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TESTING
CNAS L3163

CE Radio Test Report

Project No. : 2304C059A
Equipment : Slot-in PC Module
Brand Name : ViewSonic
Test Model : VS19693
Series Model : VPC33-W33-G1, VPC35-W53-G1, VPC37-W53-G1
Applicant : ViewSonic Corporation
Address : 10 Pointe Dr. Suite 200. Brea, CA92821, USA
Manufacturer : ViewSonic Corporation
Address : 10 Pointe Dr. Suite 200. Brea, CA92821, USA
Date of Receipt : May 17, 2023
Date of Test : May 18, 2023 ~ Jul. 26, 2023
Issued Date : Aug. 18, 2023
Report Version : R01
Test Sample : Engineering Sample No.: DG2023051798
Standard(s) : ETSI EN 300 328 V2.2.2 (2019-07)

The above equipment has been tested and found compliance with the requirement of the relative standards by BTL Inc.(Dongguan).

Prepared by : Sheldon. Ou
Sheldon Ou

Approved by : Ethan Ma
Ethan Ma

No.3, Jinshagang 1st Road, Dalang, Dongguan, Guangdong, China.
Tel: +86-769-8318-3000 Web: www.newbtl.com Service mail: btl_qa@newbtl.com

Declaration

BTL represents to the client that testing is done in accordance with standard procedures as applicable and that test instruments used has been calibrated with standards traceable to international standard(s) and/or national standard(s).

BTL's reports apply only to the specific samples tested under conditions. It is manufacture’s responsibility to ensure that additional production units of this model are manufactured with the identical electrical and mechanical components. **BTL** shall have no liability for any declarations, inferences or generalizations drawn by the client or others from **BTL** issued reports.

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The information, data and test plan are provided by manufacturer which may affect the validity of results, so it is manufacturer’s responsibility to ensure that the apparatus meets the essential requirements of applied standards and in all the possible configurations as representative of its intended use.

Limitation

For the use of the authority's logo is limited unless the Test Standard(s)/Scope(s)/Item(s) mentioned in this test report is (are) included in the conformity assessment authorities acceptance respective.
Please note that the measurement uncertainty is provided for informational purpose only and are not use in determining the Pass/Fail results.

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REPORT ISSUED HISTORY

Report No.	Version	Description	Issued Date	Note
BTL-ETSP-3-2304C059A	R00	This is a copy report which referencing test data are provided from test report (BTL-ETSP-3-2304C059). The product name, brand name, model name, applicant and manufacturer information are changed which does not affect the test results, the rest are kept the same.	Aug. 14, 2023	Invalid
BTL-ETSP-3-2304C059A	R01	Modified the issued date.	Aug. 18, 2023	Valid

1. RF EMISSIONS MEASUREMENT

1.1 TEST FACILITY

The test facilities used to collect the test data in this report is **DG-CB15/TR15/TR17** at the location of No.3, Jinshagang 1st Road, Dalang, Dongguan, Guangdong, China.

1.2 MEASUREMENT UNCERTAINTY

The measurement uncertainty figures shall be calculated according the methods described in the ETSI TR 100 028 and shall correspond to an expansion factor (coverage factor) k=1.96 or k=2(which provide confidence levels of respectively 95% and 95.45% in the case where the distributions characterizing the actual measurement uncertainties are normal (Gaussian)).
Measurement Uncertainty for a Level of Confidence of 95.45%, U=2xUc(y).

The BTL measurement uncertainty as below table:

Parameter	**Uncertainty**
Output Power	±0.95 dB
Occupied Channel Bandwidth	±3.8 %
Power Spectral Density	±0.86 dB
Conducted Spurious Emission	±2.71 dB
Spurious Emissions, Radiated f ≤ 1GHz	±3.50 dB
Spurious Emissions, Radiated 1GHz < f ≤ 12.75GHz	±3.54 dB
Temperature	±0.08 °C
Time	±0.58 %
Supply voltages	±0.3 %

1.3 TEST ENVIRONMENT CONDITIONS

Test Item	Temperature	Humidity	Test Voltage	Tested By	Test Data
RF Output Power	Normal & Extreme	60-63%	DC 19V	Chen Mo	May 20, 2023~ Jul. 25, 2023
Power Spectral Density	22.5°C	54.9%	DC 19V	Jaden Kong	Jun. 03, 2023
Adaptivity	22.6°C	54.9%	DC 19V	Jaden Kong	Jun. 13, 2023
Occupied Channel Bandwidth	22.5°C	54.9%	DC 19V	Jaden Kong	May 30, 2023
Transmitter unwanted emissions in the OOB domain	22.5°C	54.9%	DC 19V	Jaden Kong	May 30, 2023
Transmitter unwanted emissions in the spurious domain	24-25°C	50-53%	DC 19V	Zack Zhang Kirito Li	May 25, 2023 Jun. 06, 2023
Receiver spurious emissions	24-25°C	50-53%	DC 19V	Zack Zhang Kirito Li	May 25, 2023 Jun. 06, 2023
Receiver Blocking	23.9°C	55.6%	DC 19V	Kirito Li	Jun. 09, 2023

1.4 TEST CHANNEL

IEEE 802.11b / IEEE 802.11g / IEEE 802.11n(HT20) / IEEE 802.11ax(HE20)		
Test Channel	EUT Channel	Test Frequency
low	CH01	2412 MHz
middle	CH07	2442 MHz
high	CH13	2472 MHz

IEEE 802.11n(HT40) / IEEE 802.11ax(HE40)		
Test Channel	EUT Channel	Test Frequency
low	CH03	2422 MHz
middle	CH07	2442 MHz
high	CH11	2462 MHz

Note:

(1) The technical requirements of the present document apply under the environmental profile for operation of the equipment, which shall be stated by the supplier.

1.5 TEST METHODOLOGY AND RESULT

Harmonised Standard ETSI EN 300 328					
Essential Requirement			**Requirement Conditionality**		**Result**
No	**Description**	**Reference: Clause No**	**U/C**	**Condition**	
1	RF Output Power	4.3.1.2 or 4.3.2 2	U	-	Pass
2	Power Spectral Density	4.3.2.3	C	Only for non-FHSS equipment	Pass
3	Duty cycle, Tx-Sequence, Tx-gap	4.3.1.3 or 4.3.2.4	C	Only for non-Adaptive equipment	N/A
4	Accumulated Transmit time, Frequency Occupation & Hopping Sequence	4.3.1.4	C	Only for FHSS equipment	N/A
5	Hopping Frequency Separation	4.3.1.5	C	Only for FHSS equipment	N/A
6	Medium Utilization	4.3.1.6 or 4.3.2.5	C	Only for non-Adaptive equipment	N/A
7	Adaptivity	4.3.1.7 or 4.3.2.6	C	Only for Adaptive equipment	Pass
8	Occupied Channel Bandwidth	4.3.1.8 or 4.3.2.7	U	-	Pass
9	Transmitter unwanted emissions in the OOB domain	4.3.1.9 or 4.3.2.8	U	-	Pass
10	Transmitter unwanted emissions in the spurious domain	4.3.1.10 or 4.3.2.9	U	-	Pass
11	Receiver spurious emissions	4.3.1.11 or 4.3.2.10	U	-	Pass
12	Receiver Blocking	4.3.1.12 or 4.3.2.11	U	-	Pass
13	Geo-location capability	4.3.1.13 or 4.3.2.12	C	Only for equipment with geo-location capability	N/A

Note:

(1) "U/C": Indicates whether the requirement is unconditionally applicable (U) or is conditional upon the manufacturer's claimed functionality of the equipment (C).

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Equipment	Slot-in PC Module
Brand Name	ViewSonic
Test Model	VS19693
Series Model	VPC33-W33-G1, VPC35-W53-G1, VPC37-W53-G1
Model Difference(s)	Only the model name is different.
Power Source	DC voltage supplied from AC adapter.(Support unit)
Power Rating	12-19V⎓8A
Operation Frequency	2412 MHz ~ 2472 MHz
Modulation Technology	IEEE 802.11b: DSSS IEEE 802.11g: OFDM IEEE 802.11n: OFDM IEEE 802.11ax: OFDMA
Bit Rate of Transmitter	IEEE 802.11b: 11/5.5/2/1 Mbps IEEE 802.11g: 54/48/36/24/18/12/9/6 Mbps IEEE 802.11n: up to 300 Mbps IEEE 802.11ax: up to 573.6 Mbps
Max. e.i.r.p.	IEEE 802.11b: 19.27 dBm (84.53 mW) IEEE 802.11g: 18.80 dBm (75.86 mW) IEEE 802.11n(HT20): 18.69 dBm (73.96 mW) IEEE 802.11n(HT40): 19.32 dBm (85.51 mW) IEEE 802.11ax(HE20): 18.53 dBm (71.29 mW) IEEE 802.11ax(HE40): 19.14 dBm (82.04 mW)
Categorization	☒Receiver category 1 ☐Receiver category 2 ☐Receiver category 3

Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.

2. Channel List:

CH01 - CH13 for IEEE 802.11b,IEEE 802.11g,IEEE 802.11n(HT20),IEEE 802.11ax(HE20) CH03 - CH11 for IEEE 802.11n(HT40),IEEE 802.11ax(HE40)					
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
01	2412	06	2437	11	2462
02	2417	07	2442	12	2467
03	2422	08	2447	13	2472
04	2427	09	2452		
05	2432	10	2457		

3. Table for Filed Antenna:

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	B&T	AG-011520-1007	Dipole	SMA-J	2
2	B&T	AG-011520-1007	Dipole	SMA-J	2

Note:

1) The EUT incorporates a CDD function. Physically, the EUT provides two completed transmitters and receivers (2T2R).
2) The antenna gain is provided by the manufacturer.

4. The worst case for 2TX as follow:

Operating Mode / TX Mode	2TX
IEEE 802.11b	V (Ant. 1+Ant. 2)
IEEE 802.11g	V (Ant. 1+Ant. 2)
IEEE 802.11n(HT20)	V (Ant. 1+Ant. 2)
IEEE 802.11n(HT40)	V (Ant. 1+Ant. 2)
IEEE 802.11ax(HE20)	V (Ant. 1+Ant. 2)
IEEE 802.11ax(HE40)	V (Ant. 1+Ant. 2)

2.2 DESCRIPTION OF TEST MODES

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

Test Items	Mode / Modulation Type	Data Rate	Channel
RF Output Power Power Spectral Density	IEEE 802.11b/CCK	1 Mbps	01/07/13
	IEEE 802.11g/BPSK	6 Mbps	01/07/13
	IEEE 802.11n(HT20)/BPSK	MCS 0	01/07/13
	IEEE 802.11n(HT40)/BPSK	MCS 0	03/07/11
	IEEE 802.11ax(HE20)/BPSK	MCS 0	01/07/13
	IEEE 802.11ax(HE40)/BPSK	MCS 0	03/07/11
Adaptivity Occupied Channel Bandwidth Transmitter unwanted emissions in the OOB domain	IEEE 802.11b/CCK	1 Mbps	01/13
	IEEE 802.11g/BPSK	6 Mbps	01/13
	IEEE 802.11n(HT20)/BPSK	MCS 0	01/13
	IEEE 802.11n(HT40)/BPSK	MCS 0	03/11
	IEEE 802.11ax(HE20)/BPSK	MCS 0	01/13
	IEEE 802.11ax(HE40)/BPSK	MCS 0	03/11
Transmitter unwanted emissions in the spurious domain (30 MHz ~ 1 GHz)	IEEE 802.11n(HT40)/BPSK	MCS 0	03/11
Transmitter unwanted emissions in the spurious domain (1 GHz ~ 12.75 GHz)	IEEE 802.11b/CCK	1 Mbps	01/13
	IEEE 802.11g/BPSK	6 Mbps	01/13
	IEEE 802.11n(HT20)/BPSK	MCS 0	01/13
	IEEE 802.11n(HT40)/BPSK	MCS 0	03/11
	IEEE 802.11ax(HE20)/BPSK	MCS 0	01/13
	IEEE 802.11ax(HE40)/BPSK	MCS 0	03/11
Receiver spurious emissions (30 MHz ~ 1 GHz)	IEEE 802.11n(HT40)/BPSK	MCS 0	03/11
Receiver spurious emissions (1 GHz ~ 12.75 GHz)	IEEE 802.11n(HT40)/BPSK	MCS 0	03/11
Receiver Blocking	IEEE 802.11b/CCK	1 Mbps	01/13

Note:

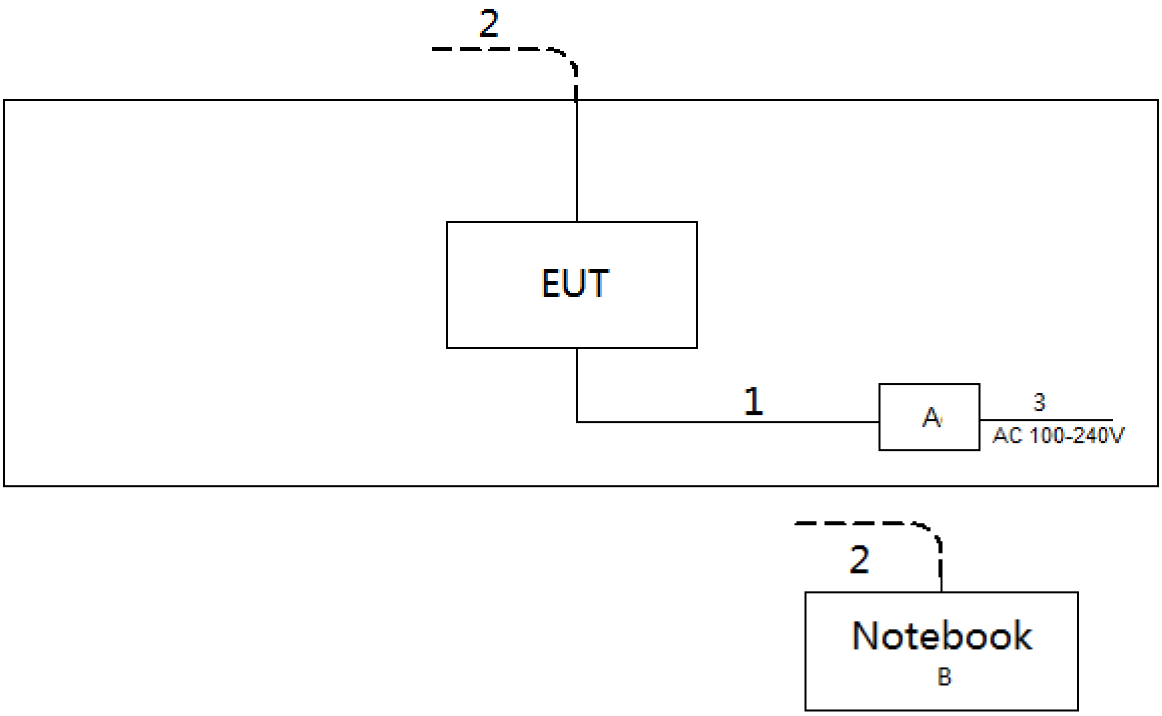
1) For radiated spurious emissions below 1 GHz and receiver spurious emissions test, the IEEE 802.11n(HT40) channel 03/11 are found to be the worst case and recorded.
2) IEEE 802.11ax mode only supports full RU, so only the full RU is evaluated and measured inside report.

2.3 TABLE OF PARAMETERS OF TEST SOFTWARE SETTING

During testing channel & power controlling software provided by the customer was used to control the operating channel as well as the output power level.

Test Software Version	DRTU V1.0		
Frequency (MHz)	2412	2442	2472
IEEE 802.11b	16	16	16
IEEE 802.11g	14	14	14
IEEE 802.11n(HT20)	14	16	14
IEEE 802.11ax(HE20)	14	16	14
Frequency (MHz)	2422	2442	2462
IEEE 802.11n(HT40)	16	16	14
IEEE 802.11ax(HE40)	16	16	14

2.4 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED



2.5 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Brand	Model No.	Series No.
A	Adapter	GangQi Electornic	GQ150-1900630-E1	N/A
B	Notebook	Dell	Inspiron 15-7559	N/A

Item	Cable Type	Shielded Type	Ferrite Core	Length
1	DC Cable	NO	NO	1.2m
2	RJ45 Cable	NO	NO	10m
3	AC Cable	NO	NO	1.5m

3. RF OUTPUT POWER

3.1 APPLIED PROCEDURES / LIMIT

Clause	4.3.2.2
Test Item	RF output power
Limit	The RF output power for non-FHSS equipment shall be equal to or less than 20 dBm. NOTE: For Non-adaptive FHSS equipment, the manufacturer may have declared a reduced RF Output Power (see clause 5.4.1 m) and associated Duty Cycle (see clause 5.4.1 e) that will ensure that the equipment meets the requirement for the Medium Utilization (MU) factor further described in clause 4.3.2.5. This is verified by the conformance test referred to in clause 4.3.2.5.4. For non-adaptive non-FHSS equipment, where the manufacturer has declared an RF output power of less than 20 dBm e.i.r.p., the RF output power shall be equal to or less than that declared value. This limit shall apply for any combination of power level and intended antenna assembly.

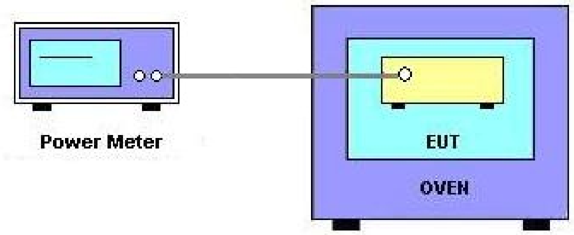
3.2 TEST PROCEDURES

Refer to ETSI EN 300 328, chapter 5.4.2.2.1.

3.3 TEST SETUP LAYOUT

Normal Condition

Extreme Condition



3.4 TEST DEVIATION

There is no deviation with the original standard.

3.5 EUT OPERATION DURING TEST

The measurements shall be performed during continuously transmitting.

3.6 TEST RESULTS

Please refer to the Appendix A.

4. POWER SPECTRAL DENSITY

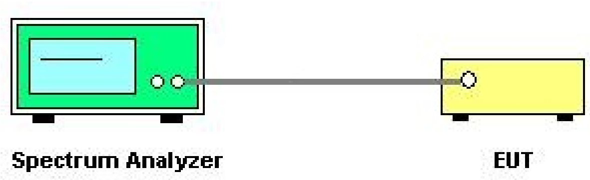
4.1 APPLIED PROCEDURES / LIMIT

Clause	4.3.2.3
Test Item	Power Spectral Density
Limit	The maximum Power Spectral Density for non-FHSS equipment is 10 dBm per MHz.

4.2 TEST PROCEDURES

Refer to ETSI EN 300 328, chapter 5.4.3.2.1.

4.3 TEST SETUP LAYOUT



4.4 TEST DEVIATION

There is no deviation with the original standard.

4.5 EUT OPERATION DURING TEST

The measurements shall be performed during continuously transmitting.

4.6 TEST RESULTS

Please refer to the Appendix B.

5. DUTY CYCLE, TX-SEQUENCE, TX-GAP

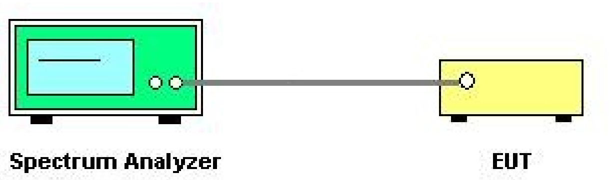
5.1 APPLIED PROCEDURES / LIMIT

Clause	4.3.2.4
Test Item	Duty Cycle, Tx-sequence, Tx-gap
Limit	Non-FHSS equipment shall comply with the following: The Duty Cycle shall be equal to or less than the maximum value declared by the manufacturer. The Tx-sequence time shall be equal to or less than 10 ms. The minimum Tx-gap time following a Tx-sequence shall be equal to the duration of that proceeding Txsequence with a minimum of 3,5 ms. NOTE: For Non-adaptive FHSS equipment, the manufacturer may have declared a reduced RF Output Power (see clause 5.4.1 m) and associated Duty Cycle (see clause 5.4.1 e) that will ensure that the equipment meets the requirement for the Medium Utilization (MU) factor further described in clause 4.3.2.5. This is verified by the conformance test referred to in clause 4.3.2.5.4.

5.2 TEST PROCEDURES

Refer to ETSI EN 300 328, chapter 5.4.2.2.1.

5.3 TEST SETUP LAYOUT



5.4 TEST DEVIATION

There is no deviation with the original standard.

5.5 EUT OPERATION DURING TEST

The measurements shall be performed during continuously transmitting.

5.6 TEST RESULTS

Please refer to the Appendix C.

6. MEDIUM UTILIZATION (MU) FACTOR

6.1 APPLIED PROCEDURES / LIMIT

Clause	4.3.2.5
Test Item	Medium Utilization (MU) factor
Limit	The maximum Medium Utilization factor for non-adaptive non-FHSS equipment shall be 10 %.

6.2 TEST PROCEDURES

Refer to ETSI EN 300 328, chapter 5.4.2.2.1.

6.3 TEST SETUP LAYOUT

6.4 TEST DEVIATION

There is no deviation with the original standard.

6.5 EUT OPERATION DURING TEST

The measurements shall be performed during continuously transmitting.

6.6 TEST RESULTS

Please refer to the Appendix D.

7. ADAPTIVITY (ADAPTIVE EQUIPMENT USING MODULATIONS OTHER THAN FHSS)

7.1 APPLIED PROCEDURES / LIMIT

<table>
<tr><td>Clause</td><td>4.3.2.6</td></tr>
<tr><td>Test Item</td><td>Adaptivity (adaptive equipment using modulations other than FHSS)</td></tr>
<tr><td>Limit</td><td><u>Adaptive non-FHSS using DAA</u>
Adaptive non-FHSS equipment using DAA shall comply with the following minimum set of requirements:
1) During normal operation, the equipment shall evaluate the presence of a signal on its current operating channel(s). If it is determined that a signal is present with a level above the detection threshold defined in step 5 that channel shall be marked as 'unavailable'.
2) The channel(s) shall remain unavailable for a minimum time equal to 1 s after which the channel may be considered again as an 'available' channel.
3) The total time during which an equipment has transmissions on a given channel without re-evaluating the availability of that channel, is defined as the Channel Occupancy Time. The Channel Occupancy Time shall be less than 40 ms. Each such transmission sequence shall be followed by an Idle Period (no transmissions) of minimum 5 % of the Channel Occupancy Time with a minimum of 100 µs. After this, the procedure as in step 1 needs to be repeated.
4) The detection threshold shall be proportional to the transmit power of the transmitter: for a 20 dBm e.i.r.p. transmitter the detection threshold level (TL) shall be equal to or less than -70 dBm/MHz at the input to the receiver assuming a 0 dBi (receive) antenna assembly. This threshold level (TL) may be corrected for the (receive) antenna assembly gain (G); however, beamforming gain (Y) shall not be taken into account. For power levels less than 20 dBm e.i.r.p., the detection threshold level may be relaxed to:
$TL = -70\ dBm/MHz + 10 \times \log_{10}(100\ mW / P_{out})$ (P_{out} in mW e.i.r.p.)
5) The equipment shall comply with the requirements defined in step 1 to step 4 of the present clause in the presence of an unwanted CW signal as defined in table 9.
Table 9: Unwanted Signal parameters
<table>
<tr><th>Wanted signal mean power from companion device (dBm)</th><th>Unwanted signal frequency (MHz)</th><th>Unwanted CW signal power (dBm)</th></tr>
<tr><td>-30
(see note 2)</td><td>2 395 or 2 488,5
(see note 1)</td><td>-35
(see note 2)</td></tr>
<tr><td colspan="3">NOTE 1: The highest frequency shall be used for testing operating channels within the range 2 400 MHz to 2 442 MHz, while the lowest frequency shall be used for testing operating channels within the range 2 442 MHz to 2 483,5 MHz. See clause 5.4.6.1.
NOTE 2: The level specified is the level at the UUT receiver input assuming a 0 dBi antenna assembly gain. In case of conducted measurements, this level has to be corrected for the (in-band) antenna assembly gain (G). In case of radiated measurements, this level is equivalent to a power flux density in front of the UUT antenna.</td></tr>
</table></td></tr>
</table>

Limit	**Adaptive non-FHSS using LBT** The present document defines two types of adaptive non-FHSS equipment that uses an LBT mechanism: Frame Based Equipment and Load Based Equipment. Adaptive non-FHSS equipment which is capable of operating as either Load Based Equipment or as Frame Based Equipment is allowed to switch dynamically between these types of operation. **a. Frame Based Equipment** Frame Based Equipment shall comply with the following requirements: 1) Before transmission, the equipment shall perform a Clear Channel Assessment (CCA) check using energy detect. The equipment shall observe the operating channel for the duration of the CCA observation time which shall be not less than 18 μs. The channel shall be considered occupied if the energy level in the channel exceeds the threshold given in step 5 below. If the equipment finds the channel to be clear, it may transmit immediately. See figure 2. 2) If the equipment finds the channel occupied, it shall not transmit on this channel during the next Frame Period. The equipment is allowed to switch to a non-adaptive mode and to continue transmissions on this channel providing it complies with the requirements applicable to non-adaptive equipment. See clause 4.3.2.6.1. Alternatively, the equipment is also allowed to continue Short Control Signalling Transmissions on this channel providing it complies with the requirements given in clause 4.3.2.6.4. 3) The total time during which an equipment has transmissions on a given channel without re-evaluating the availability of that channel, is defined as the Channel Occupancy Time. The Channel Occupancy Time shall be in the range 1 ms to 10 ms followed by an Idle Period of at least 5 % of the Channel Occupancy Time used in the equipment for the current Frame Period. See figure 2. 4) An equipment, upon correct reception of a transmission which was intended for this equipment can skip CCA and immediately (see also next paragraph) proceed with the transmission of management and control frames. A consecutive sequence of such transmissions by the equipment without a new CCA shall not exceed the maximum Channel Occupancy Time. For the purpose of multi-cast, the ACK transmissions (associated with the same data packet) of the individual devices are allowed to take place in a sequence. 5) The energy detection threshold for the CCA shall be proportional to the transmit power of the transmitter: for a 20 dBm e.i.r.p. transmitter the CCA threshold level (TL) shall be equal to or less than -70 dBm/MHz at the input to the receiver assuming a 0 dBi (receive) antenna assembly. This threshold level (TL) may be corrected for the (receive) antenna assembly gain (G); however, beamforming gain (Y) shall not be taken into account. For power levels less than 20 dBm e.i.r.p. the CCA threshold level may be relaxed to: $TL = -70\ dBm/MHz + 10 \times \log_{10} (100\ mW/P_{out})$ (P_{out} in mW e.i.r.p.)

Limit

6) The equipment shall comply with the requirements defined in step 1 to step 4 in the present clause in the presence of an unwanted CW signal as defined in table 10.

Table 10: Unwanted Signal parameters

Wanted signal mean power from companion device	Unwanted signal frequency (MHz)	Unwanted signal power (dBm)
sufficient to maintain the link (see note 2)	2 395 or 2 488,5 (see note 1)	-35 (see note 3)

NOTE 1: The highest frequency shall be used for testing operating channels within the range 2 400 MHz to 2 442 MHz, while the lowest frequency shall be used for testing operating channels within the range 2 442 MHz to 2 483,5 MHz. See clause 5.4.6.1.

NOTE 2: A typical conducted value which can be used in most cases is -50 dBm/MHz.

NOTE 3: The level specified is the level at the UUT receiver input assuming a 0 dBi antenna assembly gain. In case of conducted measurements, this level has to be corrected for the (in-band) antenna assembly gain (G). In case of radiated measurements, this level is equivalent to a power flux density in front of the UUT antenna.

b. Load Based Equipment

Load Based Equipment may implement an LBT based spectrum sharing mechanism based on the Clear Channel Assessment (CCA) mode using energy detect as described in IEEE 802.11™ [i.3], clause 10 clause 11, clause 15, clause 16, clause 18 and clause 19, or in IEEE 802.15.4™ [i.4], clause 5, clause 6 and clause 10 providing the equipment complies with the conformance requirements referred to in clause 4.3.2.6.3.4. Load Based Equipment not using any of the mechanisms referenced above shall comply with the following minimum set of requirements:

1) Before a transmission or a burst of transmissions, the equipment shall perform a Clear Channel Assessment (CCA) check using energy detect. The equipment shall observe the operating channel for the duration of the CCA observation time which shall be not less than 18 µs. The channel shall be considered occupied if the energy level in the channel exceeds the threshold given in step 5 below. If the equipment finds the channel to be clear, it may transmit immediately.

2) If the equipment finds the channel occupied, it shall not transmit on this channel (see also the next paragraph). The equipment shall perform an Extended CCA check in which the channel is observed for a random duration in the range between 18 µs and at least 160 µs. If the extended CCA check has determined the channel to be no longer occupied, the equipment may resume transmissions on this channel. If the Extended CCA time has determined the channel still to be occupied, it shall perform new Extended CCA checks until the channel is no longer occupied.

NOTE: The Idle Period in between transmissions is considered to be the CCA or the Extended CCA check as there are no transmissions during this period.

The equipment is allowed to switch to a non-adaptive mode and to continue transmissions on this channel providing it complies with the requirements applicable to non-adaptive equipment. Alternatively, the equipment is also allowed to continue Short Control Signalling Transmissions on this channel providing it complies with the requirements given in clause 4.3.2.6.4.

Limit

3) The total time that an equipment makes use of a RF channel is defined as the Channel Occupancy Time. This Channel Occupancy Time shall be less than 13 ms, after which the device shall perform a new CCA as described in step 1 above.
4) The equipment, upon correct reception of a transmission which was intended for this equipment can skip CCA and immediately (see also next paragraph) proceed with the transmission of management and control frames. A consecutive sequence of transmissions by the equipment without a new CCA shall not exceed the maximum channel occupancy time as defined in step 3 above.
   For the purpose of multi-cast, the ACK transmissions (associated with the same data packet) of the individual devices are allowed to take place in a sequence.
5) The energy detection threshold for the CCA shall be proportional to the transmit power of the transmitter: for a 20 dBm e.i.r.p. transmitter the CCA threshold level (TL) shall be equal to or less than -70 dBm/MHz at the input to the receiver assuming a 0 dBi (receive) antenna assembly. This threshold level (TL) may be corrected for the (receive) antenna assembly gain (G); however, beamforming gain (Y) shall not be taken into account. For power levels less than 20 dBm e.i.r.p., the CCA threshold level may be relaxed to:
   $TL = -70\ \text{dBm/MHz} + 10 \times \log_{10} (100\ \text{mW}/P_{out})$ (P_{out} in mW e.i.r.p).
6) The equipment shall comply with the requirements defined in step 1 to step 4 of the present clause in the presence of an unwanted CW signal as defined in table 11.

Table 11: Unwanted Signal parameters

Wanted signal mean power from companion device	Unwanted signal frequency (MHz)	Unwanted signal power (dBm)
sufficient to maintain the link (see note 2)	2 395 or 2 488,5 (see note 1)	-35 (see note 3)

NOTE 1: The highest frequency shall be used for testing operating channels within the range 2 400 MHz to 2 442 MHz, while the lowest frequency shall be used for testing operating channels within the range 2 442 MHz to 2 483,5 MHz. See clause 5.4.6.1.
NOTE 2: A typical conducted value which can be used in most cases is -50 dBm/MHz.
NOTE 3: The level specified is the level at the UUT receiver input assuming a 0 dBi antenna assembly gain. In case of conducted measurements, this level has to be corrected for the (in-band) antenna assembly gain (G). In case of radiated measurements, this level is equivalent to a power flux density (PFD) in front of the UUT antenna.

Short Control Signalling Transmissions

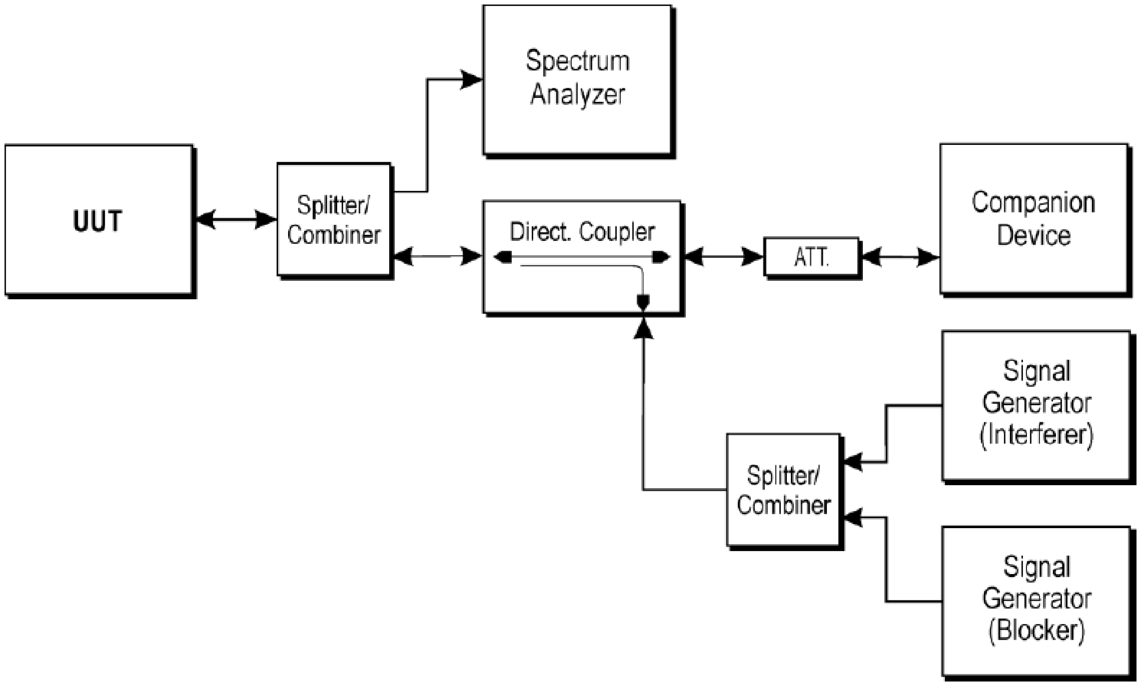
If implemented, Short Control Signalling Transmissions of adaptive non-FHSS equipment shall have a maximum TxOn / (TxOn + TxOff) ratio of 10 % within any observation period of 50 ms.

NOTE: Duty Cycle is defined in clause 4.3.2.4.2.

7.2 TEST PROCEDURES

Refer to ETSI EN 300 328, chapter 5.4.6.2.1.

7.3 TEST SETUP LAYOUT



7.4 TEST DEVIATION

There is no deviation with the original standard.

7.5 EUT OPERATION DURING TEST

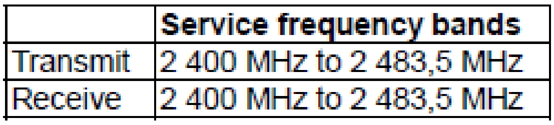
The measurements shall be performed during normal operation.

7.6 TEST RESULTS

Please refer to the Appendix E.

8. OCCUPIED CHANNEL BANDWIDTH

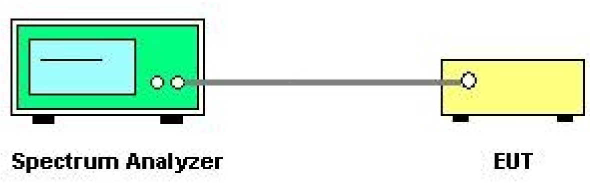
8.1 APPLIED PROCEDURES / LIMIT

<table>
<tr><td>Clause</td><td>4.3.2.7</td></tr>
<tr><td>Test Item</td><td>Occupied Channel Bandwidth</td></tr>
<tr><td>Limit</td><td>The Occupied Channel Bandwidth shall be within the band given in table 1.
Table 1: Service frequency bands

<table>
<tr><th></th><th>Service frequency bands</th></tr>
<tr><td>Transmit</td><td>2 400 MHz to 2 483,5 MHz</td></tr>
<tr><td>Receive</td><td>2 400 MHz to 2 483,5 MHz</td></tr>
</table>
In addition, for non-adaptive non-FHSS equipment with e.i.r.p. greater than 10 dBm, the Occupied Channel Bandwidth shall be equal to or less than 20 MHz.</td></tr>
</table>

8.2 TEST PROCEDURES

Refer to ETSI EN 300 328, chapter 5.4.7.2.1.

8.3 TEST SETUP LAYOUT



8.4 TEST DEVIATION

There is no deviation with the original standard.

8.5 EUT OPERATION DURING TEST

The measurements shall be performed during continuously transmitting.

8.6 TEST RESULTS

Please refer to the Appendix F.

9. TRANSMITTER UNWANTED EMISSIONS IN THE OUT-OF-BAND DOMAIN

9.1 APPLIED PROCEDURES / LIMIT

<table>
<tr><td>Clause</td><td>4.3.2.8</td></tr>
<tr><td>Test Item</td><td>Transmitter unwanted emissions in the out-of-band domain</td></tr>
<tr><td>Limit</td><td>The transmitter unwanted emissions in the out-of-band domain shall not exceed the values provided by the mask in figure 3.

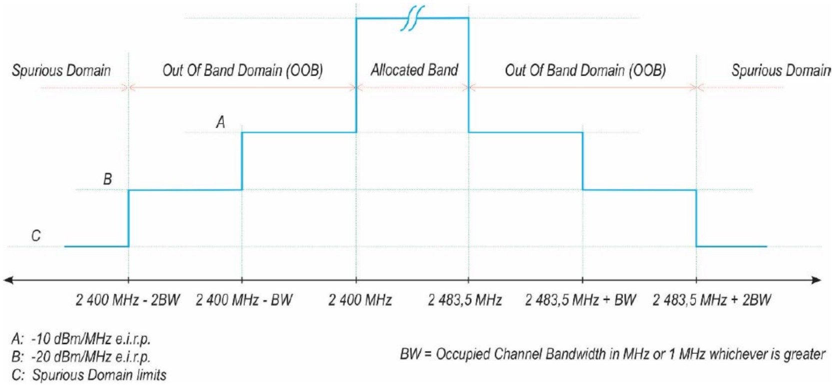


Figure 3: Transmit mask</td></tr>
</table>

9.2 TEST PROCEDURES

Refer to ETSI EN 300 328, chapter 5.4.8.2.1.

9.3 TEST SETUP LAYOUT

9.4 TEST DEVIATION

There is no deviation with the original standard.

9.5 EUT OPERATION DURING TEST

The measurements shall be performed during continuously transmitting.

9.6 TEST RESULTS

Please refer to the Appendix G.

10. TRANSMITTER UNWANTED EMISSIONS IN THE SPURIOUS DOMAIN

10.1 APPLIED PROCEDURES / LIMIT

Clause	4.3.2.9
Test Item	Transmitter unwanted emissions in the spurious domain
Limit	The transmitter unwanted emissions in the spurious domain shall not exceed the values given in table 12. In case of equipment with antenna connectors, these limits apply to emissions at the antenna port (conducted). For emissions radiated by the cabinet or emissions radiated by integral antenna equipment (without antenna connectors), these limits are e.r.p. for emissions up to 1 GHz and as e.i.r.p. for emissions above 1 GHz.

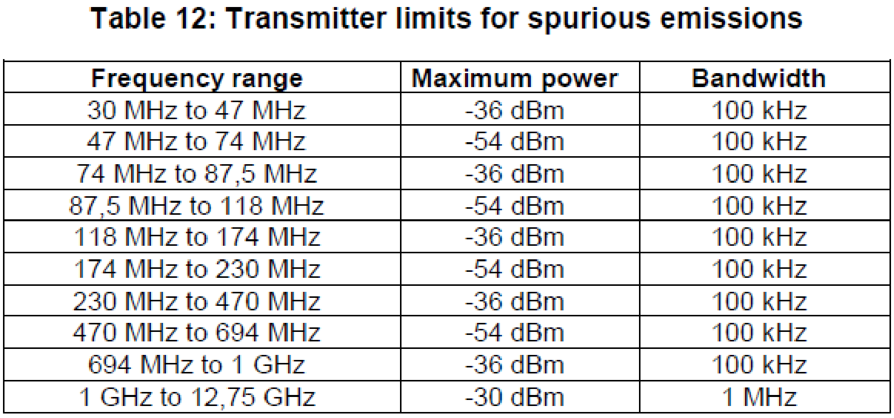


Table 12: Transmitter limits for spurious emissions

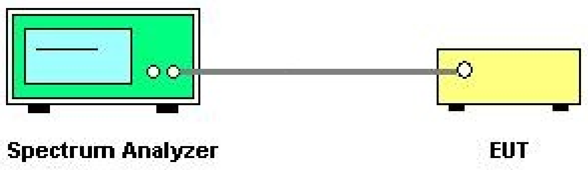
Frequency range	Maximum power	Bandwidth
30 MHz to 47 MHz	-36 dBm	100 kHz
47 MHz to 74 MHz	-54 dBm	100 kHz
74 MHz to 87,5 MHz	-36 dBm	100 kHz
87,5 MHz to 118 MHz	-54 dBm	100 kHz
118 MHz to 174 MHz	-36 dBm	100 kHz
174 MHz to 230 MHz	-54 dBm	100 kHz
230 MHz to 470 MHz	-36 dBm	100 kHz
470 MHz to 694 MHz	-54 dBm	100 kHz
694 MHz to 1 GHz	-36 dBm	100 kHz
1 GHz to 12,75 GHz	-30 dBm	1 MHz

10.2 TEST PROCEDURES

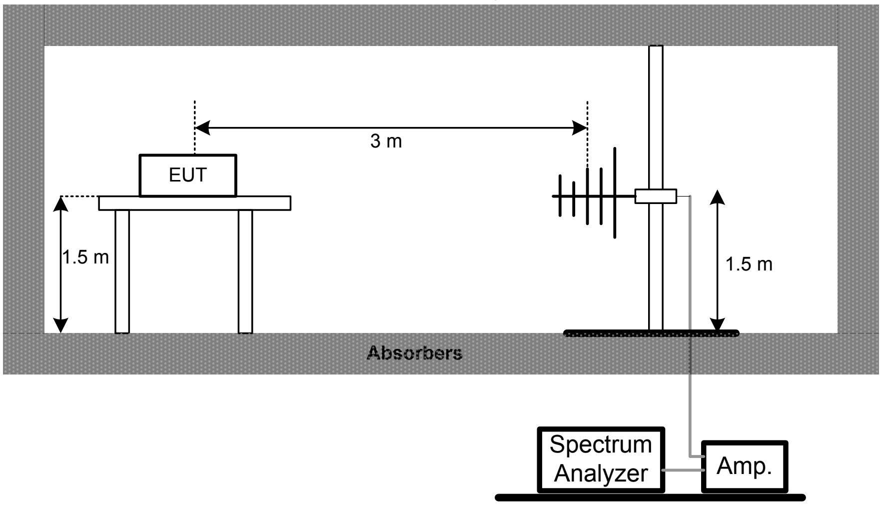
Refer to ETSI EN 300 328, chapter 5.4.9.2.1 and 5.4.9.2.2.

10.3 TEST SETUP LAYOUT

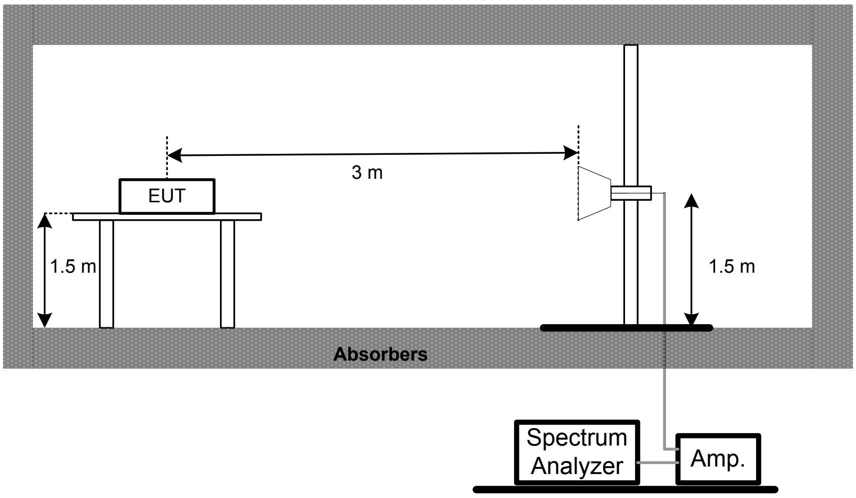
Conducted Measurement



Emission Radiated Measurement Test Set-Up Frequency Below 1 GHz



Emission Radiated Measurement Test Set-Up Frequency Above 1 GHz



10.4 TEST DEVIATION

There is no deviation with the original standard.

10.5 EUT OPERATION DURING TEST

The measurements shall be performed during continuously transmitting.

10.6 TEST RESULTS

Please refer to the Appendix H.

11. RECEIVER SPURIOUS EMISSIONS

11.1 APPLIED PROCEDURES / LIMIT

<table>
<tr><td>Clause</td><td>4.3.2.10</td></tr>
<tr><td>Test Item</td><td>Receiver spurious emissions</td></tr>
<tr><td>Limit</td><td>The spurious emissions of the receiver shall not exceed the values given in table 13.
In case of non-FHSS equipment with antenna connectors, these limits apply to emissions at the antenna port (conducted). For emissions radiated by the cabinet or for emissions radiated by integral antenna equipment (without antenna connectors), these limits are e.r.p. for emissions up to 1 GHz and e.i.r.p. for emissions above 1 GHz.
Table 13: Spurious emission limits for receivers
<table>
<tr><th>Frequency range</th><th>Maximum power</th><th>Bandwidth</th></tr>
<tr><td>30 MHz to 1 GHz</td><td>-57 dBm</td><td>100 kHz</td></tr>
<tr><td>1 GHz to 12,75 GHz</td><td>-47 dBm</td><td>1 MHz</td></tr>
</table>
</td></tr>
</table>

11.2 TEST PROCEDURES

Refer to ETSI EN 300 328, chapter 5.4.10.2.1 and 5.4.10.2.2.

11.3 TEST SETUP LAYOUT

Refer to clause 10.3.

11.4 TEST DEVIATION

There is no deviation with the original standard.

11.5 EUT OPERATION DURING TEST

The measurements shall be performed during continuously receiving.

11.6 TEST RESULTS

Please refer to the Appendix I.

12. RECEIVER BLOCKING

12.1 APPLIED PROCEDURES / LIMIT

<table>
<tr><td>Clause</td><td>4.3.2.11</td></tr>
<tr><td>Test Item</td><td>Receiver Blocking</td></tr>
<tr><td>Limit</td><td>
While maintaining the minimum performance criteria as defined in clause 4.3.2.11.3, the blocking levels at specified frequency offsets shall be equal to or greater than the limits defined for the applicable receiver category provided in table 14, table 15 or table 16.

Receiver Category 1
Table 14 contains the Receiver Blocking parameters for Receiver Category 1 equipment.
Table 14: Receiver Blocking parameters for Receiver Category 1 equipment
<table>
<tr><th>Wanted signal mean power from companion device (dBm) (see notes 1 and 4)</th><th>Blocking signal frequency (MHz)</th><th>Blocking signal power (dBm) (see note 4)</th><th>Type of blocking signal</th></tr>
<tr><td>(-133 dBm + 10 × $\log_{10}$(OCBW)) or -68 dBm whichever is less (see note 2)</td><td>2 380
2 504</td><td rowspan="2">-34</td><td rowspan="2">CW</td></tr>
<tr><td>(-139 dBm + 10 × $\log_{10}$(OCBW)) or -74 dBm whichever is less (see note 3)</td><td>2 300
2 330
2 360
2 524
2 584
2 674</td></tr>
<tr><td colspan="4">NOTE 1: OCBW is in Hz.
NOTE 2: In case of radiated measurements using a companion device and the level of the wanted signal from the companion device cannot be determined, a relative test may be performed using a wanted signal up to P_{min} + 26 dB where P_{min} is the minimum level of wanted signal required to meet the minimum performance criteria as defined in clause 4.3.1.12.3 in the absence of any blocking signal.
NOTE 3: In case of radiated measurements using a companion device and the level of the wanted signal from the companion device cannot be determined, a relative test may be performed using a wanted signal up to P_{min} + 20 dB where P_{min} is the minimum level of wanted signal required to meet the minimum performance criteria as defined in clause 4.3.1.12.3 in the absence of any blocking signal.
NOTE 4: The level specified is the level at the UUT receiver input assuming a 0 dBi antenna assembly gain. In case of conducted measurements, this level has to be corrected for the (in-band) antenna assembly gain (G). In case of radiated measurements, this level is equivalent to a power flux density (PFD) in front of the UUT antenna with the UUT being configured/positioned as recorded in clause 5.4.3.2.2.</td></tr>
</table>

Receiver Category 2
Table 15 contains the Receiver Blocking parameters for Receiver Category 2 equipment.
Table 15: Receiver Blocking parameters receiver Category 2 equipment
<table>
<tr><th>Wanted signal mean power from companion device (dBm) (see notes 1 and 3)</th><th>Blocking signal frequency (MHz)</th><th>Blocking signal power (dBm) (see note 3)</th><th>Type of blocking signal</th></tr>
<tr><td>(-139 dBm + 10 × $\log_{10}$(OCBW) + 10 dB) or (-74 dBm + 10 dB) whichever is less (see note 2)</td><td>2 380
2 504
2 300
2 584</td><td>-34</td><td>CW</td></tr>
<tr><td colspan="4">NOTE 1: OCBW is in Hz.
NOTE 2: In case of radiated measurements using a companion device and the level of the wanted signal from the companion device cannot be determined, a relative test may be performed using a wanted signal up to P_{min} + 26 dB where P_{min} is the minimum level of wanted signal required to meet the minimum performance criteria as defined in clause 4.3.1.12.3 in the absence of any blocking signal.
NOTE 3: The level specified is the level at the UUT receiver input assuming a 0 dBi antenna assembly gain. In case of conducted measurements, this level has to be corrected for the (in-band) antenna assembly gain (G). In case of radiated measurements, this level is equivalent to a power flux density (PFD) in front of the UUT antenna with the UUT being configured/positioned as recorded in clause 5.4.3.2.2.</td></tr>
</table>
</td></tr>
</table>

Limit	Receiver Category 3 Table 16 contains the Receiver Blocking parameters for Receiver Category 3 equipment. **Table 16: Receiver Blocking parameters receiver Category 3 equipment**

Wanted signal mean power from companion device (dBm) (see notes 1 and 3)	Blocking signal frequency (MHz)	Blocking signal power (dBm) (see note 3)	Type of blocking signal
(-139 dBm + 10 × $\log_{10}$(OCBW) + 20 dB) or (-74 dBm + 20 dB) whichever is less (see note 2)	2 380 2 504 2 300 2 584	-34	CW

NOTE 1: OCBW is in Hz.

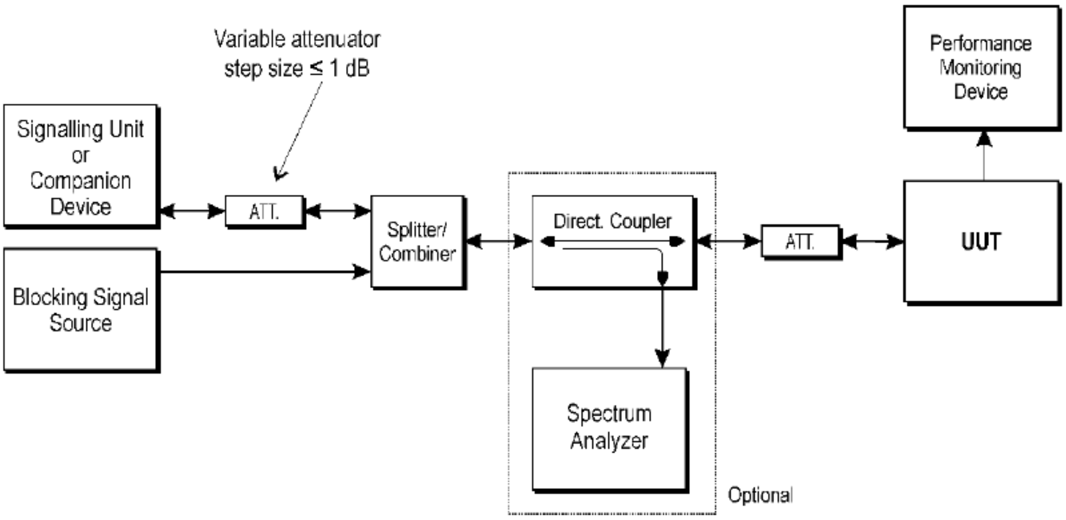
NOTE 2: In case of radiated measurements using a companion device and the level of the wanted signal from the companion device cannot be determined, a relative test may be performed using a wanted signal up to P_{min} + 30 dB where P_{min} is the minimum level of wanted signal required to meet the minimum performance criteria as defined in clause 4.3.1.12.3 in the absence of any blocking signal.

NOTE 3: The level specified is the level at the UUT receiver input assuming a 0 dBi antenna assembly gain. In case of conducted measurements, this level has to be corrected for the (in-band) antenna assembly gain (G). In case of radiated measurements, this level is equivalent to a power flux density (PFD) in front of the UUT antenna with the UUT being configured/positioned as recorded in clause 5.4.3.2.2.

12.2 TEST PROCEDURES

Refer to ETSI EN 300 328, chapter 5.4.11.2.1.

12.3 TEST SETUP LAYOUT



12.4 TEST DEVIATION

There is no deviation with the original standard.

12.5 EUT OPERATION DURING TEST

The measurements shall be performed during normal receiving.

12.6 TEST RESULTS

Please refer to the Appendix J.

13. MEASUREMENT INSTRUMENTS LIST

RF Output Power					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Table top type high and low temperature test chamber	CEPREI	CEEC-M64T-40	15-008	Jan. 08, 2024
2	Power Sensor	Agilent	U2021XA	MY53320006	Jan. 08, 2024
3	Power Sensor	Agilent	U2021XA	MY53340001	Jan. 08, 2024
4	Power Sensor	Agilent	U2021XA	MY53340005	Jan. 08, 2024
5	Power Sensor	Agilent	U2021XA	MY53340007	Jan. 08, 2024
6	Cable	Woke	20210802 001	N/A	N/A
7	Cable	Woke	60CM	N/A	N/A
8	Measurement Software	BTL	EN300328	N/A	N/A
9	Attenuator	Talent Microwave	TA10A2-S-18	N/A	N/A

Power Spectral Density & Occupied Channel Bandwidth & Transmitter Unwanted Out Of Band Domain & Transmitter and Receiver Spurious Emission (Conducted Measurement)					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	EXA Spectrum Analyzer	Agilent	N9010A	MY54200164	Jan. 08, 2024
2	Cable	RegalWay	20210802 013	N/A	N/A
3	Cable	RegalWay	20210802 021	N/A	N/A
4	Attenuator	Talent Microwave	TA10A0-S-26.5	N/A	N/A
5	Measurement Software	BTL	EN300328	N/A	N/A

Adaptivity					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	EXA Spectrum Analyzer	Agilent	N9010A	MY54200164	Jan. 08, 2024
2	EXG-B RF Vector Signal Generator	Keysight	N5171B	MY53051228	Jan. 08, 2024
3	EN 300 328 adaptivity	Keysight	AD191A	TW5451034	Jan. 08, 2024
4	Power Splitter	N/A	N/A	SZ201504789	Jan. 08, 2024
5	Power Splitter	N/A	N/A	SZ201504789	Jan. 08, 2024
6	Power Splitter	Mini-Circuits	ZFRSC-123-S+	331000910-2	Jan. 08, 2024
7	Home Gateway	HUAWEI	DG8245V	N/A	N/A
8	Cable	RegalWay	20210802 013	N/A	N/A
9	Cable	RegalWay	S02-1081212-050	N/A	N/A
10	Cable	RegalWay	202108020 004	N/A	N/A
11	Cable	RegalWay	20210802 021	N/A	N/A
12	Cable	Woke	S02-181212-272	N/A	N/A
13	Measurement Software	BTL	EN300328	N/A	N/A
14	EXG-B RF Vector Signal Generator	Keysight	N5172B	MY53051637	Jan. 08, 2024
15	Shielding box	Jiachen	JC-PB2009	200917D0184A	Jan. 08, 2024

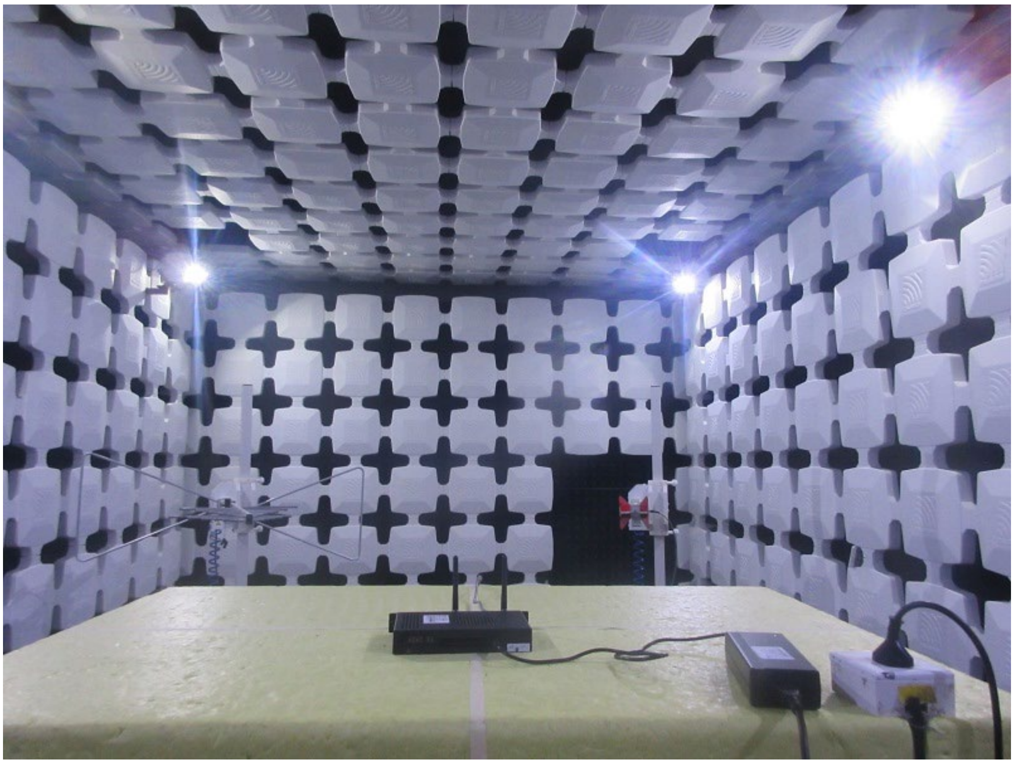
Receiver Blocking					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	wideband radio communication tester	R&S	CMW500	152372	Jan. 08, 2024
2	EXG-B RF Vector Signal Generator	Keysight	N5172B	MY53051637	Jan. 08, 2024
3	Shielding box	Jiachen	JC-PB2009	200917D0184A	Jan. 08, 2024
4	Power divider	N/A	PD-2SF-2080	N/A	Jan. 08, 2024
5	Cable	RegalWay	20210802 013	N/A	N/A
6	Cable	RegalWay	20210802 021	N/A	N/A

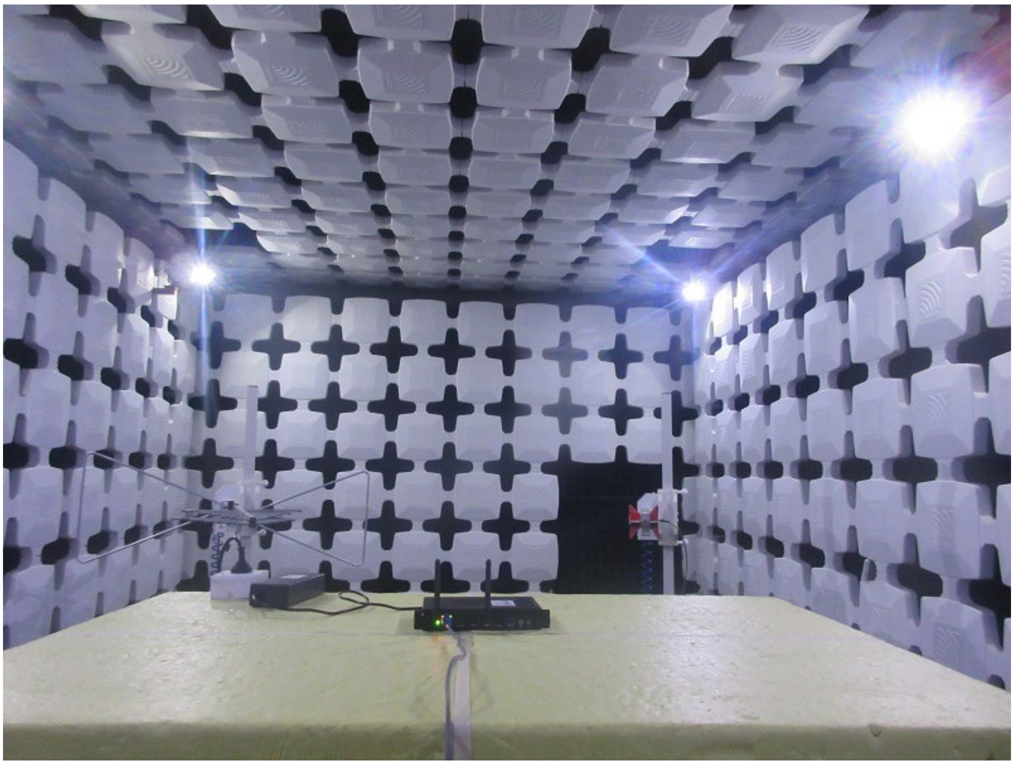
Transmitter and Receiver Spurious Emission (Radiated Measurement)					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Amplifier	HP	8447D	2944A11203	Jan. 08, 2024
2	EXA Spectrum Analyzer	Agilent	N9010A	MY50520044	Jan. 08, 2024
3	Controller	Innco Systems Gmbh	CO3000-4port	CO3000/1155/45430119/P	N/A
4	Trilog-Broadband Antenna	Schwarzbeck	VULB9160	9160-3232	Feb. 24, 2024
5	Cable	Talent microwave	L6-NMNM-10M	N/A	N/A
6	Cable	Talent microwave	S02-181212-270	N/A	N/A
7	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A
8	DRG Horn Antenna	ETS	3117-PA	221576	Mar. 04, 2024
9	Preamplifier	ETS	3117-PA	221576	Jul. 03, 2023
10	Cable	Talent microwave	A81-SMAMSMAM-12.5M	N/A	N/A
11	Cable	RegalWay	A4.0-2.9M2.9M-2.5m	N/A	Now. 30, 2023
12	Cable	Tonscend	HF160-KMKM-3M	N/A	Now. 30, 2023
13	EXA Signal Analyzer	Keysight	N9010A	MY56480488	Jan. 16, 2024
14	DRG Horn Antenna	ETS	3116C	218942	Mar. 02, 2024
15	Pre-Amplifier	EMC INSTRUMENT	EMC184045SE	980409	Jan. 08, 2024

Remark: “N/A” denotes no model name, serial no. or calibration specified.
All calibration period of equipment list is one year.

14. EUT TEST PHOTO

Radiated Emissions Test Photos





APPENDIX A - RF OUTPUT POWER

Test Mode:	TX Mode_ IEEE 802.11b Mode

Test Conditions		e.i.r.p. (dBm)			Number Of Bursts		
		CH01	CH07	CH13	CH01	CH07	CH13
T nom (°C)	24-26	19.05	19.10	19.17	13	13	13
T min (°C)	0	19.17	19.18	19.27	13	13	13
T max (°C)	45	19.09	19.12	19.18	13	13	13
Max. e.i.r.p.		19.27			Min Number		13
Limits		20dBm			≥ 10		
Result		Pass			Pass		

Test Mode:	TX Mode_ IEEE 802.11g Mode

Test Conditions		e.i.r.p. (dBm)			Number Of Bursts		
		CH01	CH07	CH13	CH01	CH07	CH13
T nom (°C)	24-26	17.64	18.74	15.01	18	17	18
T min (°C)	0	17.89	17.92	15.43	18	18	18
T max (°C)	45	17.78	18.80	15.27	18	18	18
Max. e.i.r.p.		18.80			Min Number		17
Limits		20dBm			≥ 10		
Result		Pass			Pass		

Test Mode:	TX Mode_ IEEE 802.11n(HT20) Mode

Test Conditions		e.i.r.p. (dBm)			Number Of Bursts		
		CH01	CH07	CH13	CH01	CH07	CH13
T nom (°C)	24-26	17.46	18.57	14.95	13	14	14
T min (°C)	0	17.66	18.69	15.36	13	14	14
T max (°C)	45	17.56	18.58	14.98	13	14	14
Max. e.i.r.p.		18.69			Min Number		13
Limits		20dBm			≥ 10		
Result		Pass			Pass		

Test Mode:	TX Mode_ IEEE 802.11n(HT40) Mode

Test Conditions		e.i.r.p. (dBm)			Number Of Bursts		
		CH03	CH07	CH11	CH03	CH07	CH11
T nom (°C)	24-26	19.20	19.24	16.40	14	14	14
T min (°C)	0	19.32	19.32	16.76	14	14	14
T max (°C)	45	19.22	19.17	16.45	14	14	14
Max. e.i.r.p.		19.32			Min Number		14
Limits		20dBm			≥ 10		
Result		Pass			Pass		

Test Mode:	TX Mode_ IEEE 802.11ax(HE20) Mode

Test Conditions		e.i.r.p. (dBm)			Number Of Bursts		
		CH01	CH07	CH13	CH01	CH07	CH13
T nom (°C)	24-26	17.34	18.43	14.80	14	14	14
T min (°C)	0	17.52	18.53	15.26	14	14	14
T max (°C)	45	17.37	18.43	14.81	14	14	14
Max. e.i.r.p.		18.53			Min Number		14
Limits		20dBm			≥ 10		
Result		Pass			Pass		

Test Mode:	TX Mode_ IEEE 802.11ax(HE40) Mode

Test Conditions		e.i.r.p. (dBm)			Number Of Bursts		
		CH03	CH07	CH11	CH03	CH07	CH11
T nom (°C)	24-26	19.03	19.07	16.41	14	14	14
T min (°C)	0	19.14	19.12	16.76	14	14	14
T max (°C)	45	19.08	19.02	16.36	14	14	14
Max. e.i.r.p.		19.14			Min Number		14
Limits		20dBm			≥ 10		
Result		Pass			Pass		

Note: e.i.r.p. = Conducted output power + G (Ant Gain)

APPENDIX B - POWER SPECTRAL DENSITY

Test Mode:	TX Mode_ IEEE 802.11b Mode

Frequency (MHz)	Power Spectral Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
2412	9.92	10.00	Pass
2442	9.96	10.00	Pass
2472	9.98	10.00	Pass

IEEE 802.11b Mode 2412 MHz

Power Density Result(dBm / MHz):9.92 Limit:10
Test Result:Pass

IEEE 802.11b Mode 2442 MHz

Power Density Result(dBm / MHz):9.96 Limit:10
Test Result:Pass

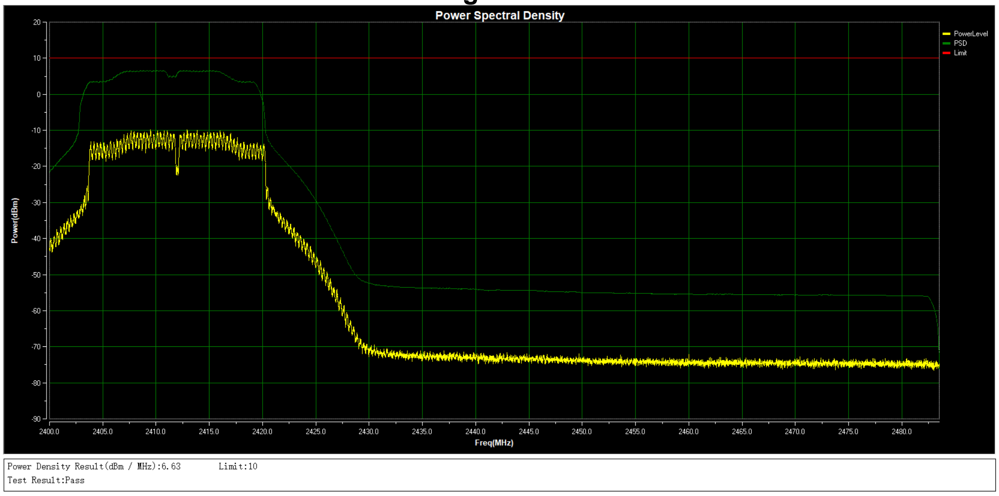
IEEE 802.11b Mode 2472 MHz

Power Density Result(dBm / MHz):9.98 Limit:10
Test Result:Pass

Test Mode:	TX Mode_ IEEE 802.11g Mode

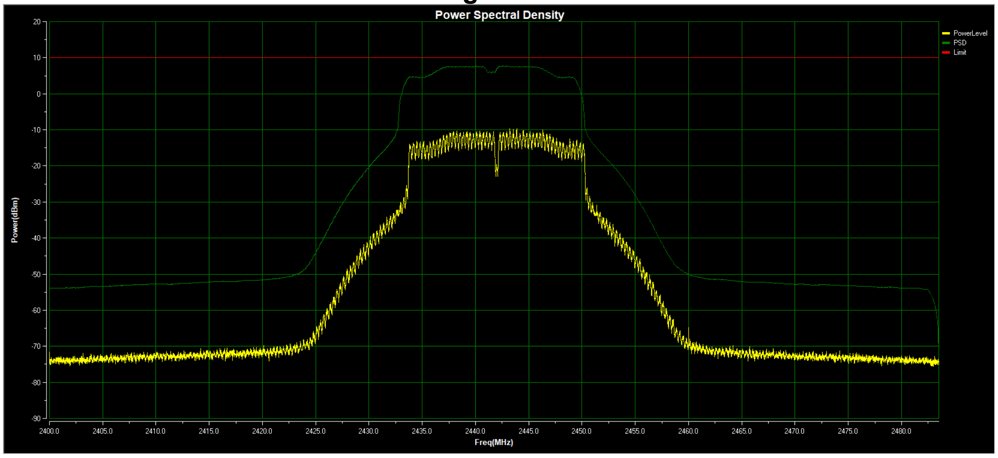
Frequency (MHz)	Power Spectral Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
2412	6.63	10.00	Pass
2442	7.75	10.00	Pass
2472	3.22	10.00	Pass

IEEE 802.11g Mode 2412 MHz



Power Density Result(dBm / MHz):6.63 Limit:10
Test Result:Pass

IEEE 802.11g Mode 2442 MHz



Power Density Result(dBm / MHz):7.75   Limit:10

Test Result:Pass

IEEE 802.11g Mode 2472 MHz

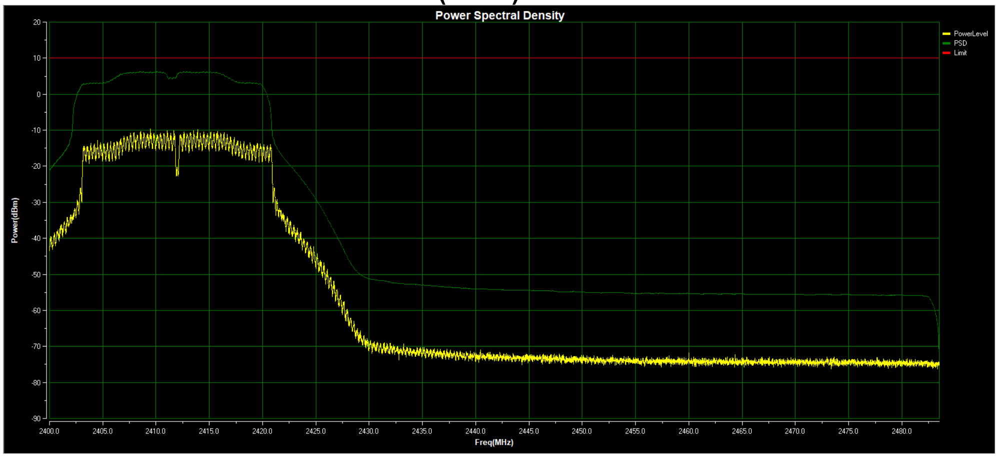
Power Density Result(dBm / MHz):3.22   Limit:10

Test Result:Pass

Test Mode:	TX Mode_ IEEE 802.11n(HT20) Mode

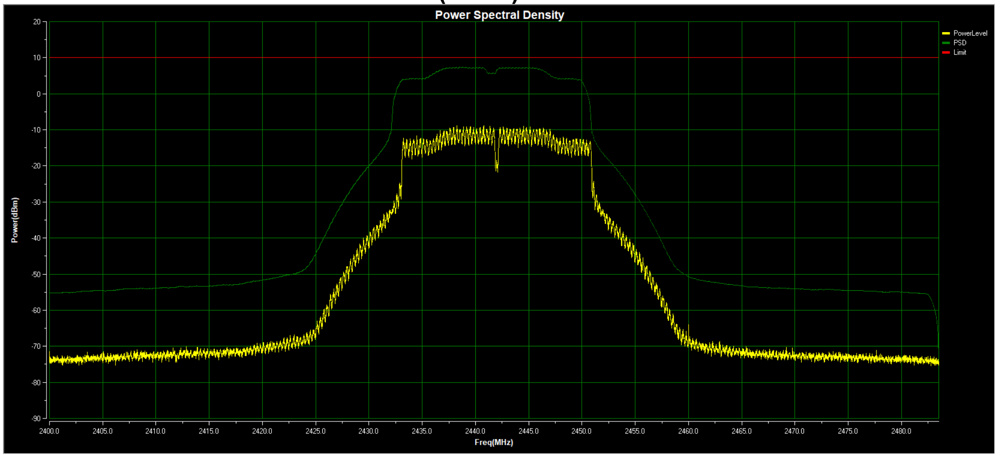
Frequency (MHz)	Power Spectral Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
2412	6.28	10.00	Pass
2442	7.39	10.00	Pass
2472	2.82	10.00	Pass

IEEE 802.11n(HT20) Mode 2412 MHz



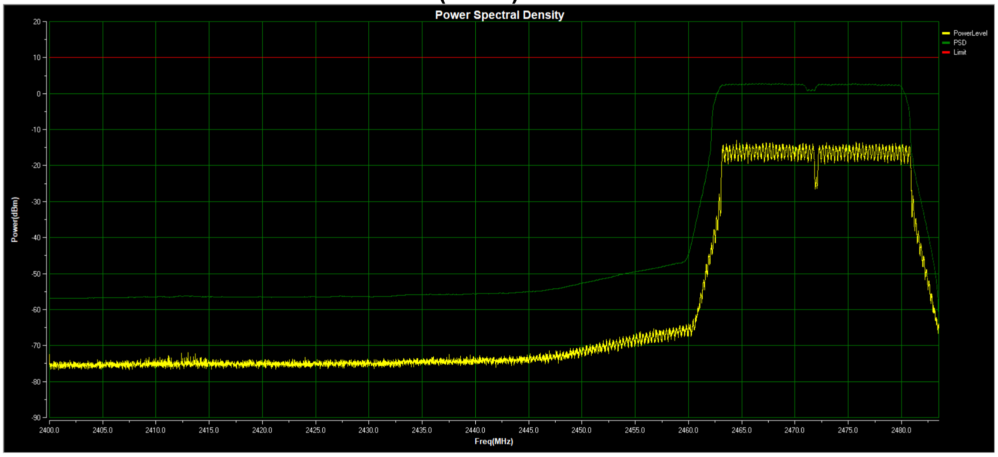
Power Density Result(dBm / MHz):6.28 Limit:10
Test Result:Pass

IEEE 802.11n(HT20) Mode 2442 MHz



```
Power Density Result(dBm / MHz):7.39        Limit:10
Test Result:Pass
```

IEEE 802.11n(HT20) Mode 2472 MHz

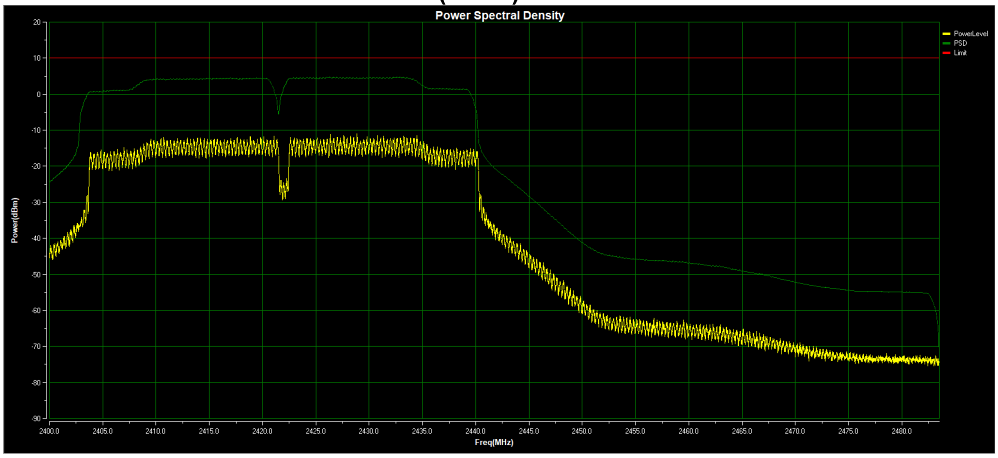


```
Power Density Result(dBm / MHz):2.82        Limit:10
Test Result:Pass
```

Test Mode:	TX Mode_ IEEE 802.11n(HT40) Mode

Frequency (MHz)	Power Spectral Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
2422	4.76	10.00	Pass
2442	4.71	10.00	Pass
2462	1.21	10.00	Pass

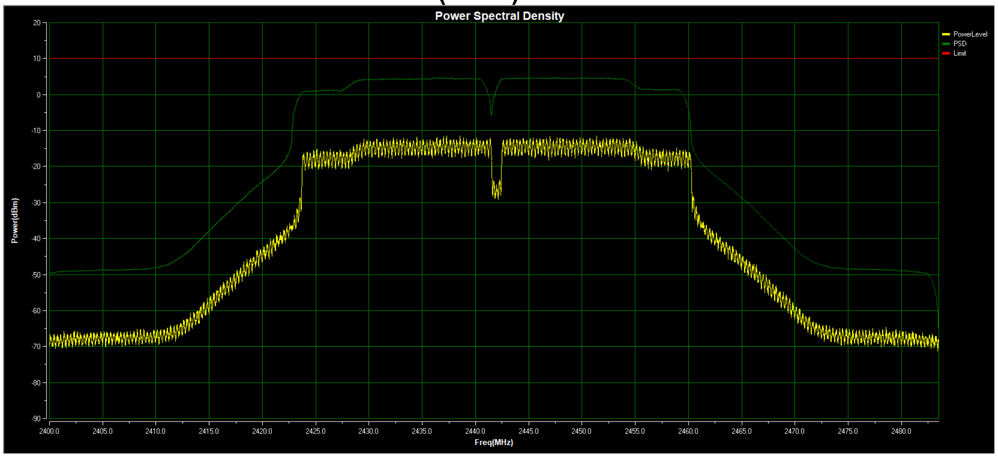
IEEE 802.11n(HT40) Mode 2422 MHz



Power Density Result(dBm / MHz):4.76 Limit:10

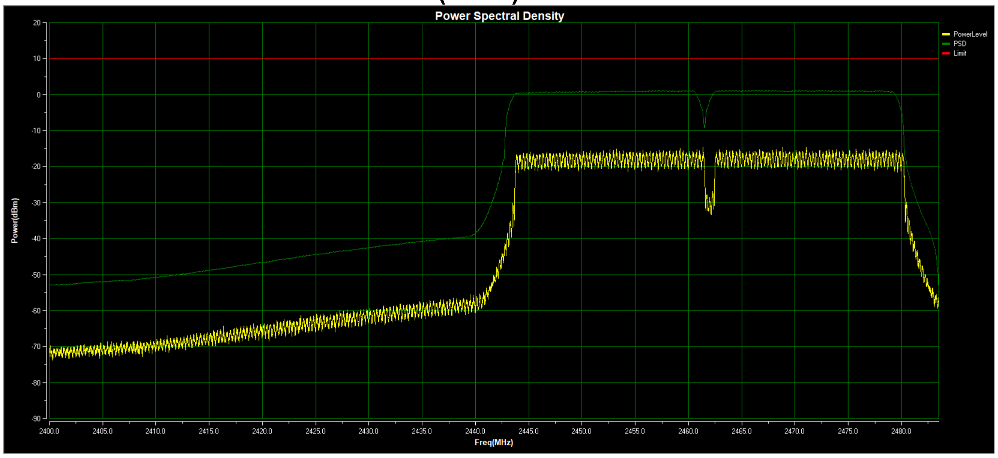
Test Result:Pass

IEEE 802.11n(HT40) Mode 2442 MHz



Power Density Result(dBm / MHz):4.71 Limit:10
Test Result:Pass

IEEE 802.11n(HT40) Mode 2462 MHz

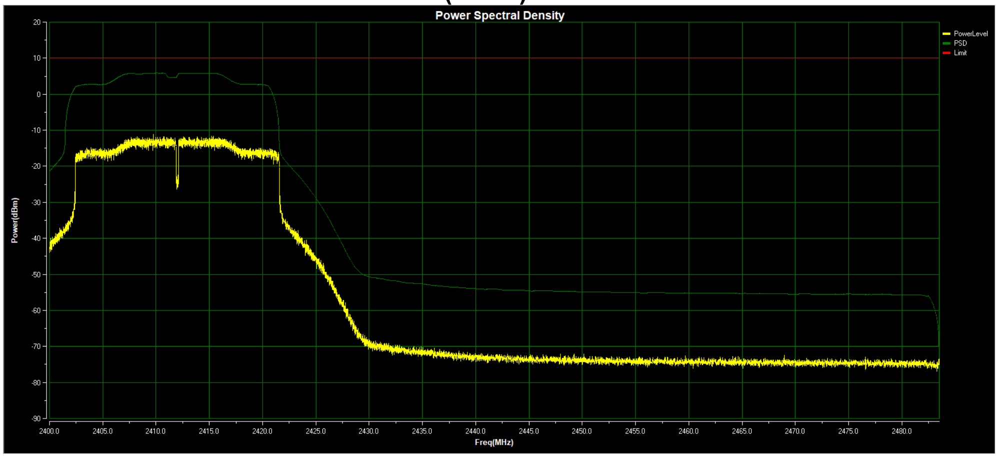


Power Density Result(dBm / MHz):1.21 Limit:10
Test Result:Pass

Test Mode:	TX Mode_ IEEE 802.11ax(HE20) Mode

Frequency (MHz)	Power Spectral Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
2412	5.87	10.00	Pass
2442	6.92	10.00	Pass
2472	2.31	10.00	Pass

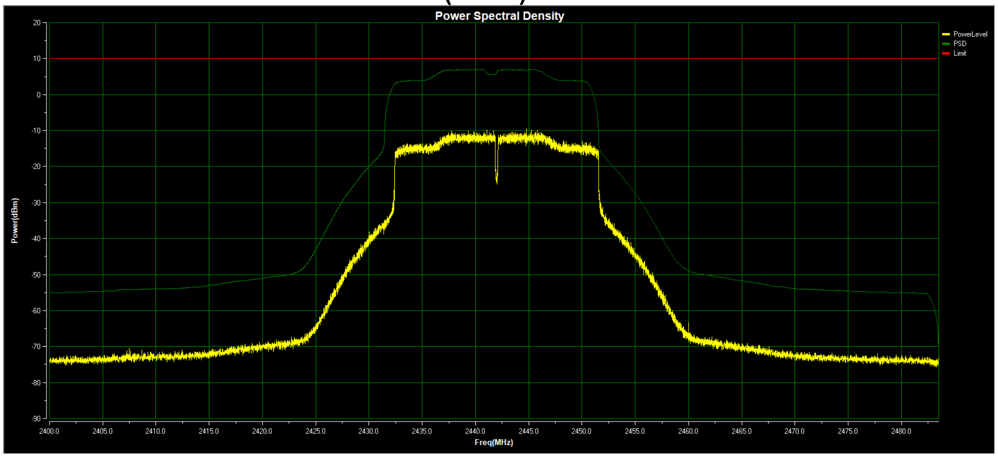
IEEE 802.11ax(HE20) Mode 2412 MHz



Power Density Result(dBm / MHz):5.87 Limit:10

Test Result:Pass

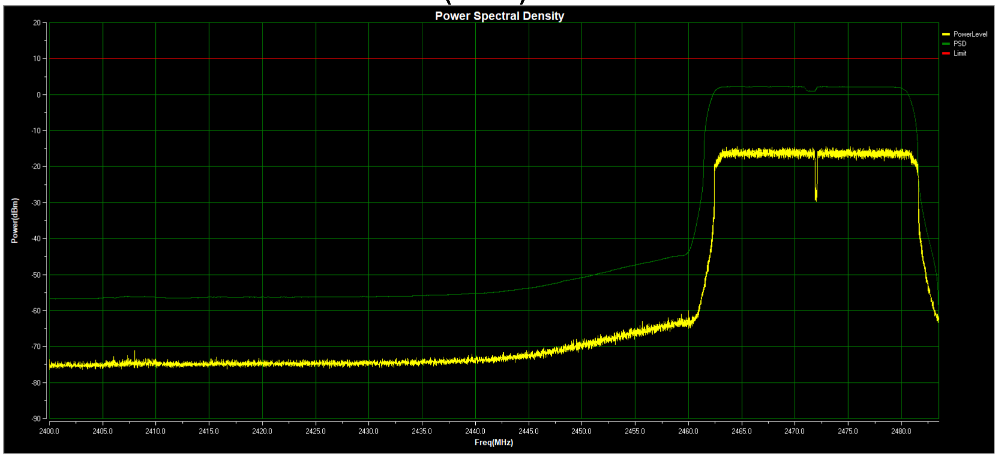
IEEE 802.11ax(HE20) Mode 2442 MHz



Power Density Result(dBm / MHz):6.92 Limit:10

Test Result:Pass

IEEE 802.11ax(HE20) Mode 2472 MHz



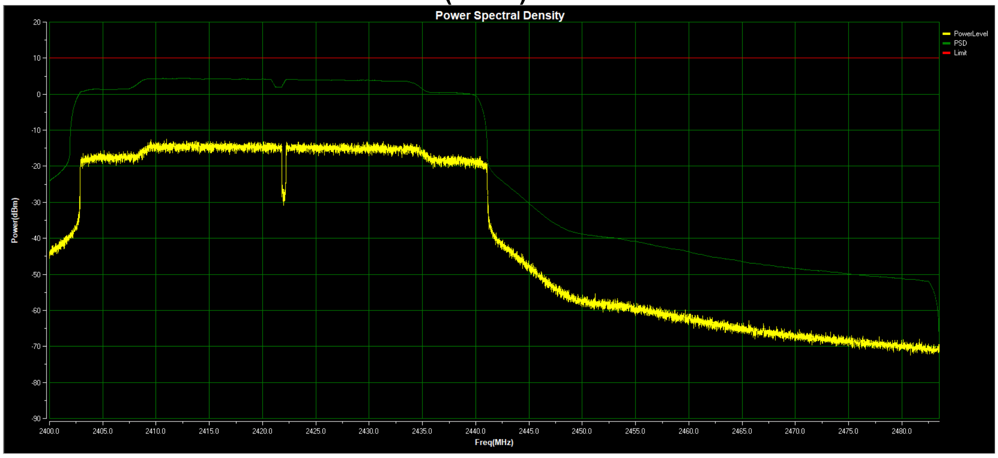
Power Density Result(dBm / MHz):2.31 Limit:10

Test Result:Pass

Test Mode:	TX Mode_ IEEE 802.11ax(HE40) Mode

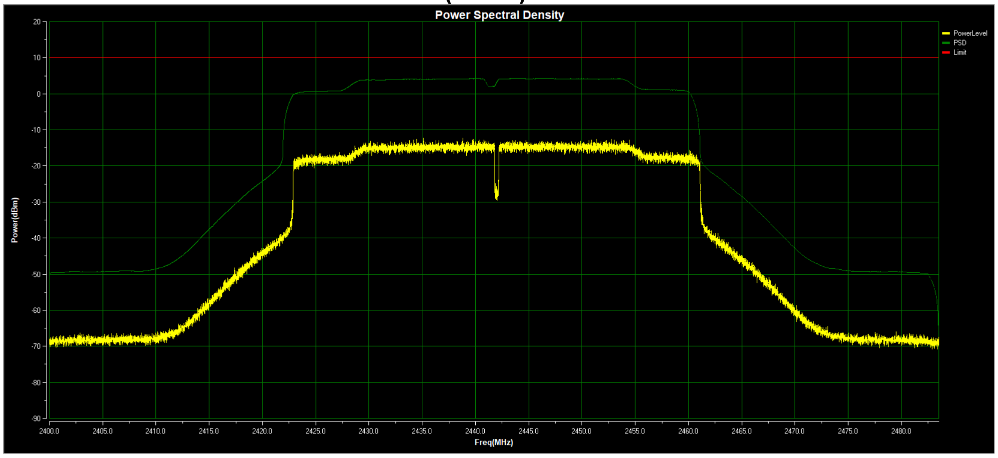
Frequency (MHz)	Power Spectral Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
2422	4.45	10.00	Pass
2442	4.31	10.00	Pass
2462	0.97	10.00	Pass

IEEE 802.11ax(HE40) Mode 2422 MHz



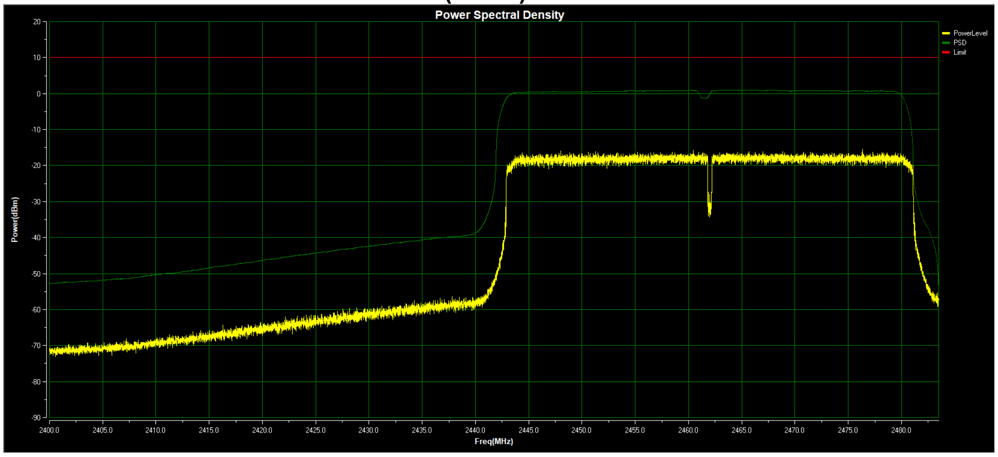
Power Density Result(dBm / MHz):4.45 Limit:10
Test Result:Pass

IEEE 802.11ax(HE40) Mode 2442 MHz



Power Density Result(dBm / MHz):4.31   Limit:10
Test Result:Pass

IEEE 802.11ax(HE40) Mode 2462 MHz



Power Density Result(dBm / MHz):0.97   Limit:10
Test Result:Pass

APPENDIX C - DUTY CYCLE, TX-SEQUENCE, TX-GAP

Test Mode: N/A

Note: “N/A” denotes test is not applicable to this device.

APPENDIX D - MEDIUM UTILIZATION (MU) FACTOR

Test Mode: N/A

Note: “N/A” denotes test is not applicable to this device.

APPENDIX E - ADAPTIVITY

UUT Operational Mode	**Frame Based Equipment**	
	Load Based Equipment (CCA using ‘energy detect’)	√
	Load Based Equipment (CCA not using any of the mechanisms referenced)	

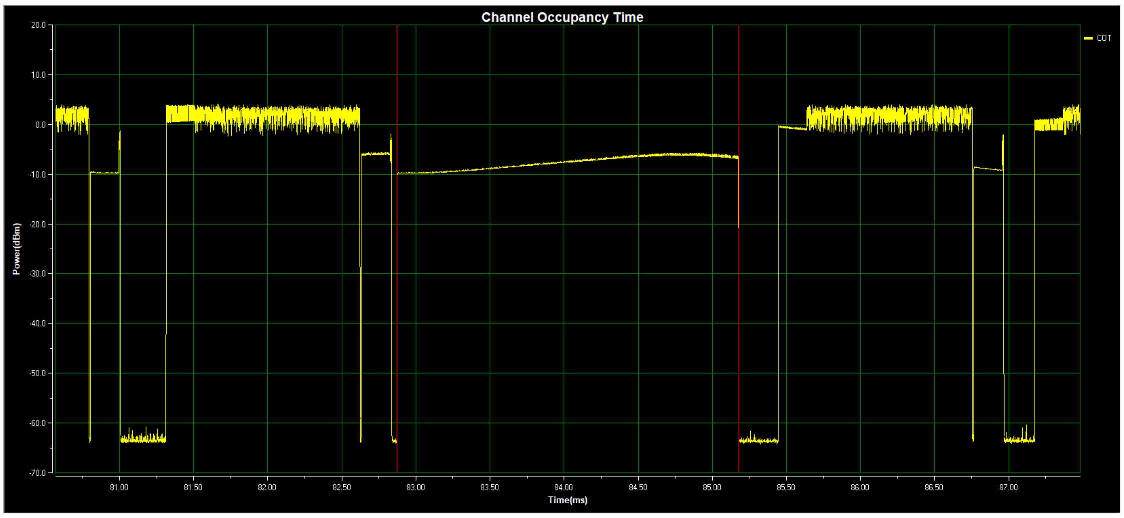
Clause	**Test Parameter**	**Remarks**	**Pass / Fail**
4.3.2.6.3.2.2	**Adaptive (Frame Based Equipment)**	**Not Applicable**	**N/A**
4.3.2.6.3.2.3	**Adaptive (Load Based Equipment)**	**Applicable**	**Pass**
4.3.2.6.4	**Short Control Signalling Transmissions**	**Applicable**	**Pass**

Test Mode:	TX Mode_ IEEE 802.11b Mode

Channel Occupancy Time and Clear Channel Assessment Measured Results		
Freq.(MHz)	Channel Occupancy Time (ms)	Clear Channel Assessment (us)
2412	2.30	151
2472	2.30	152
Limit	13	18~160
Note: Channel Occupancy Time and Clear Channel Assessment follow as IEEE Std. 802.11-2012 and IEEE 802.11n-2012 Specification without restriction.		

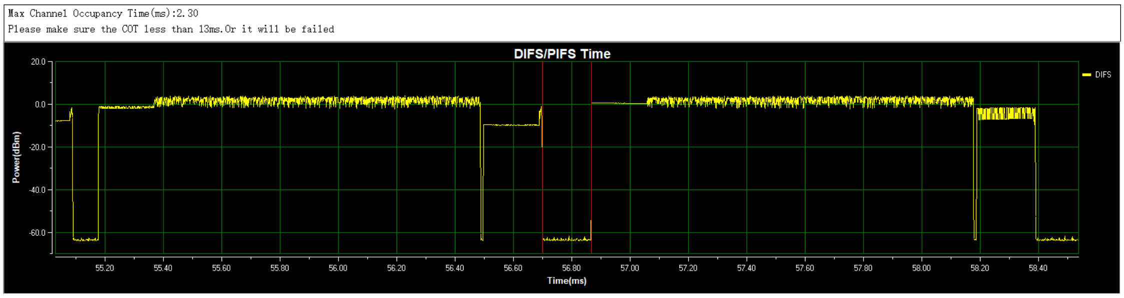
Adaptivity		
Adaptivity Detection Threshold Level	2412 MHz	-67.05 dBm/MHz
	2472 MHz	-67.17 dBm/MHz
Freq.(MHz)	Short Control Signalling Transmissions (ms)	
2412	0	
2472	2.75	
Limit	5	
Result	Pass	
Note: Threshold Level =-70 dBm/MHz + 10 x $\log_{10}$ (100 mW/P_{out}) + EUT Antenna Gain (P_{out} in mW e.i.r.p.) Short Control Signalling Transmissions = 50 (ms) * Duty cycle (%)		

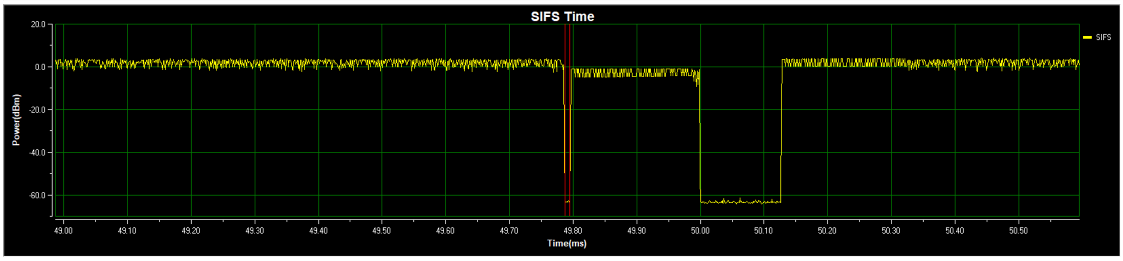
IEEE 802.11b Mode 2412 MHz



Max Channel Occupancy Time(ms):2.30

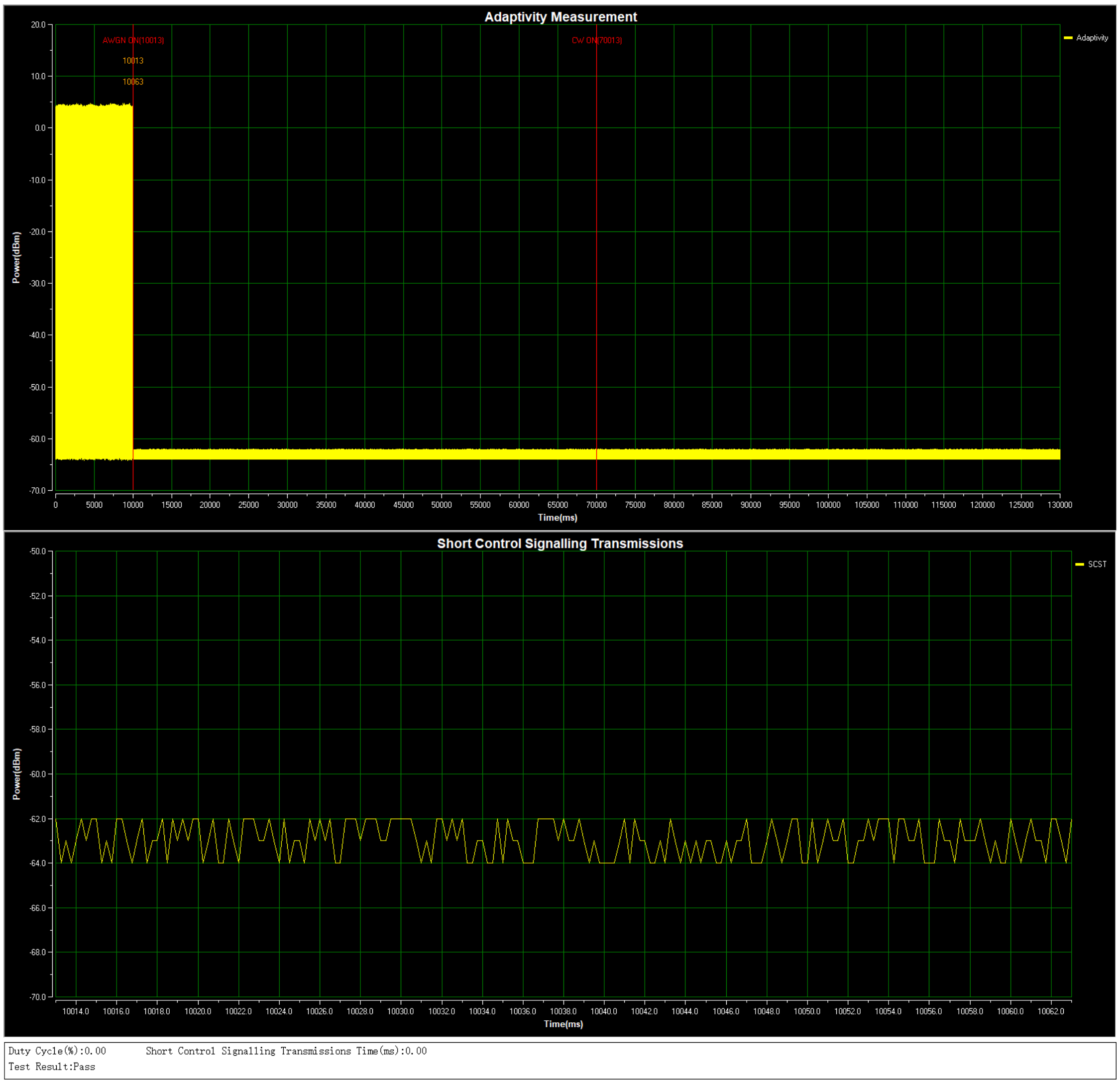
Please make sure the COT less than 13ms.Or it will be failed





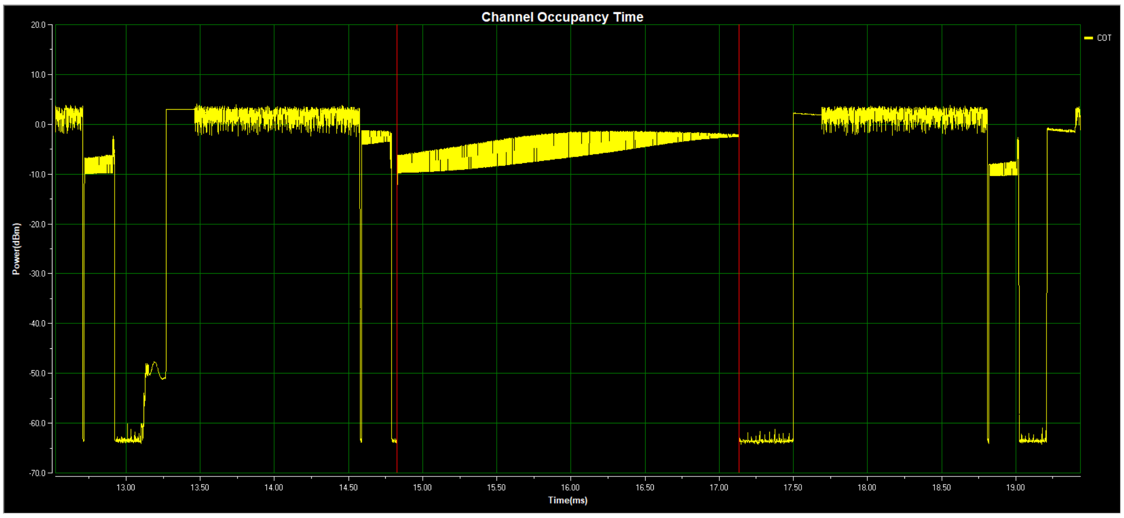
DIFS/PIFS(us):167.00 SIFS(us):8.00

Measured CCA(us):151.00 Maximum CCA time sould between 18us ~ 160us

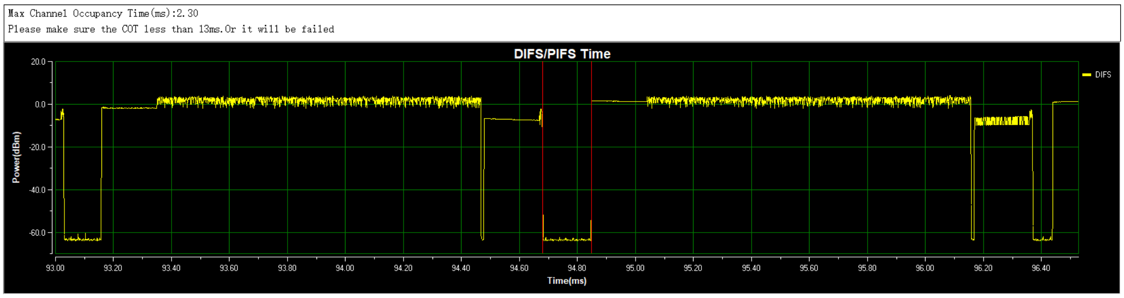


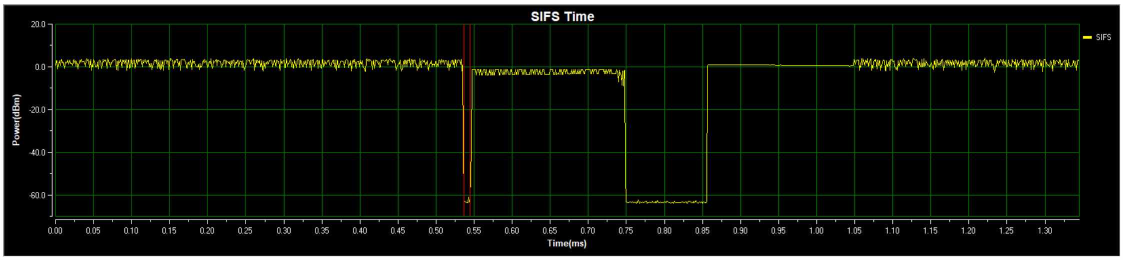
Duty Cycle(%):0.00 Short Control Signalling Transmissions Time(ms):0.00
Test Result:Pass

IEEE 802.11b Mode 2472 MHz

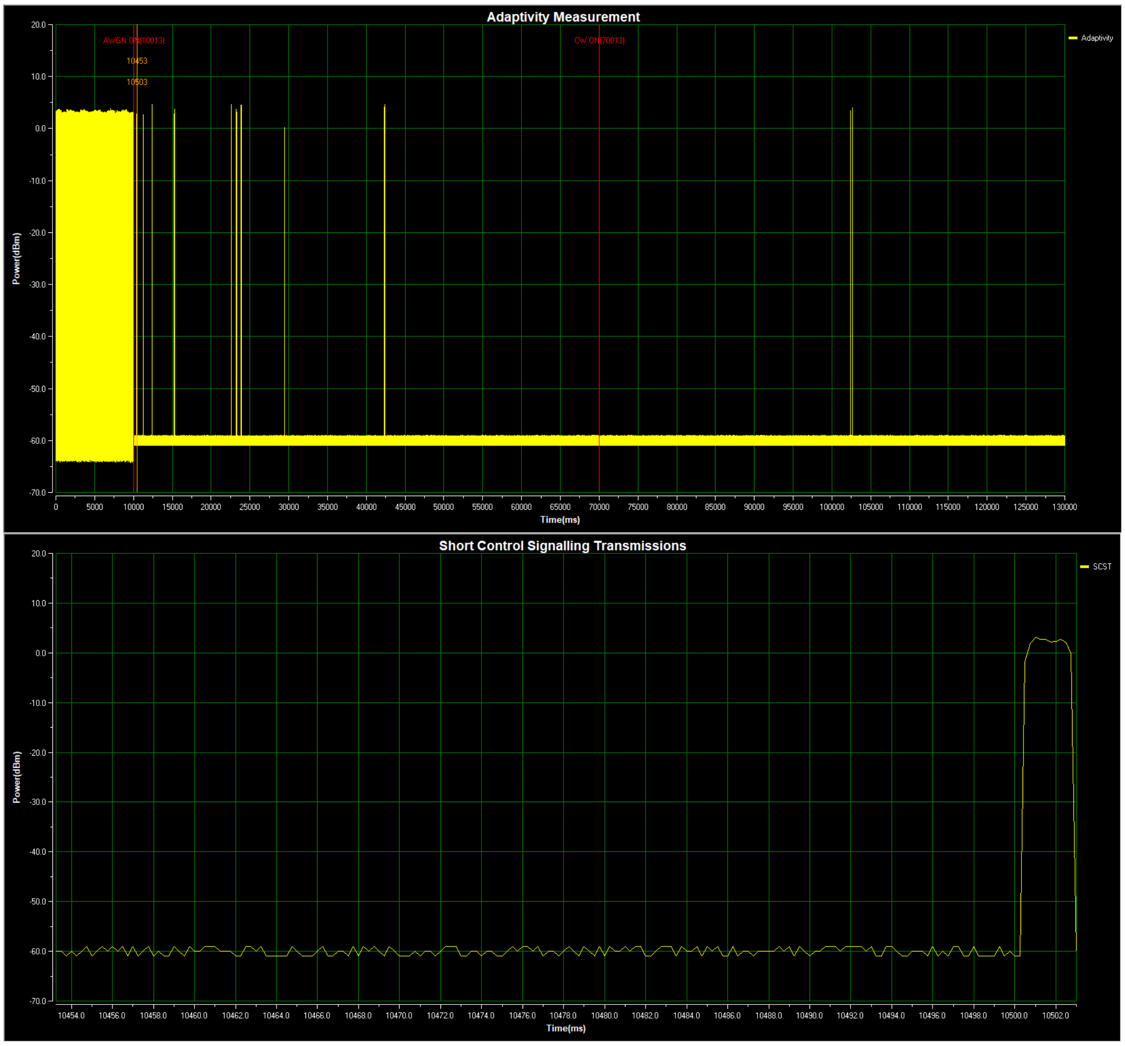


```
Max Channel Occupancy Time(ms):2.30
Please make sure the COT less than 13ms.Or it will be failed
```





```
DIFS/PIFS(us):168.00          SIFS(us):8.00
Measured CCA(us):152.00       Maximum CCA time sould between 18us ~ 160us
```



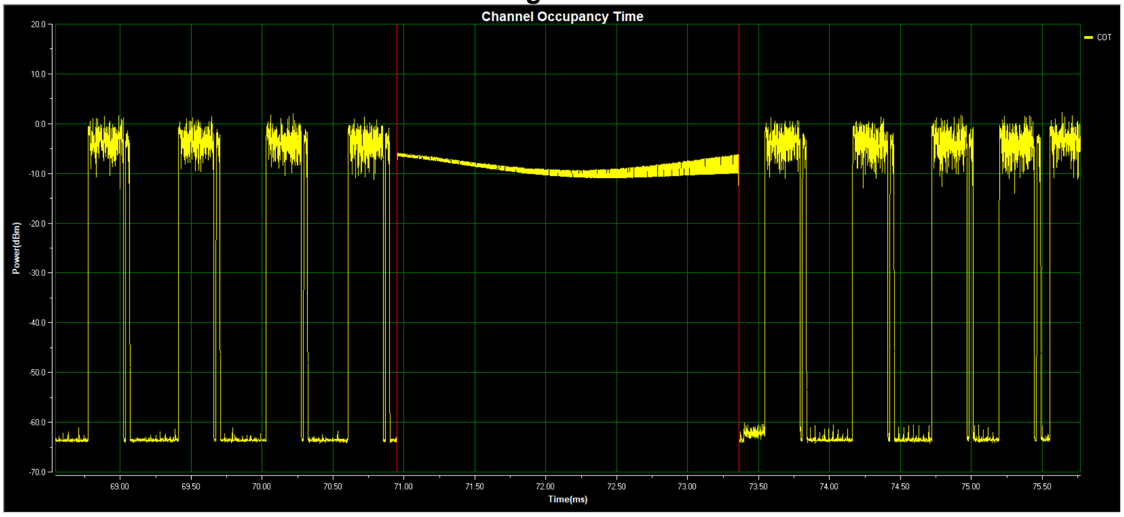
Duty Cycle(%):5.50 Short Control Signalling Transmissions Time(ms):2.75
Test Result:Pass

Test Mode:	TX Mode_ IEEE 802.11g Mode

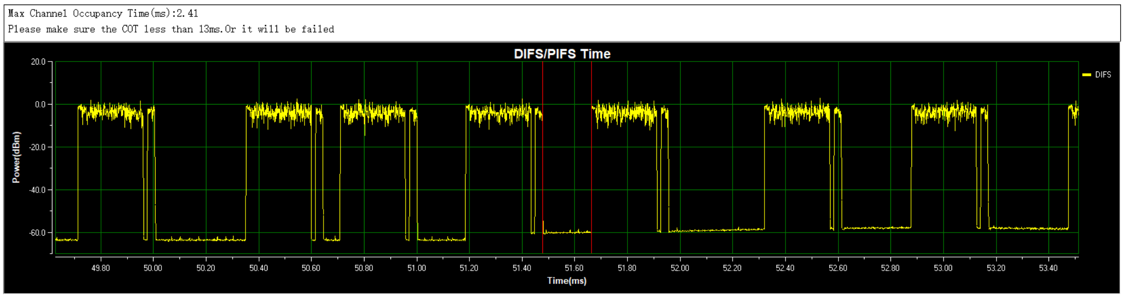
Channel Occupancy Time and Clear Channel Assessment Measured Results		
Freq.(MHz)	Channel Occupancy Time (ms)	Clear Channel Assessment (us)
2412	2.41	157
2472	2.41	157
Limit	13	18~160
Note: Channel Occupancy Time and Clear Channel Assessment follow as IEEE Std. 802.11-2012 and IEEE 802.11n-2012 Specification without restriction.		

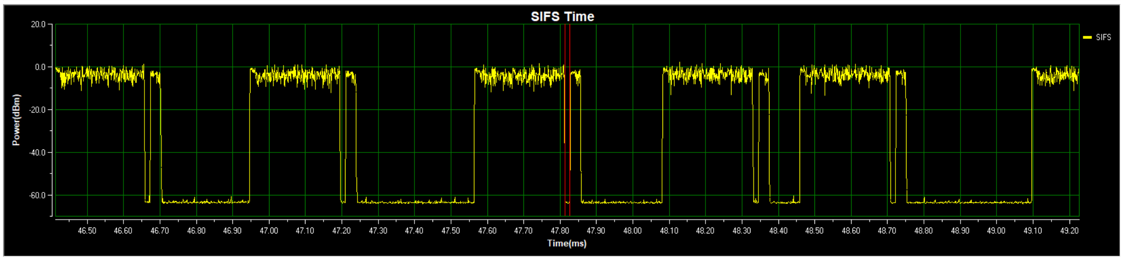
Adaptivity		
Adaptivity Detection Threshold Level	2412 MHz	-65.64 dBm/MHz
	2472 MHz	-63.01 dBm/MHz
Freq.(MHz)	Short Control Signalling Transmissions (ms)	
2412	0	
2472	3	
Limit	5	
Result	Pass	
Note: Threshold Level =-70 dBm/MHz + 10 x $\log_{10}$ (100 mW/P_{out}) + EUT Antenna Gain (P_{out} in mW e.i.r.p.) Short Control Signalling Transmissions = 50 (ms) * Duty cycle (%)		

IEEE 802.11g Mode 2412 MHz

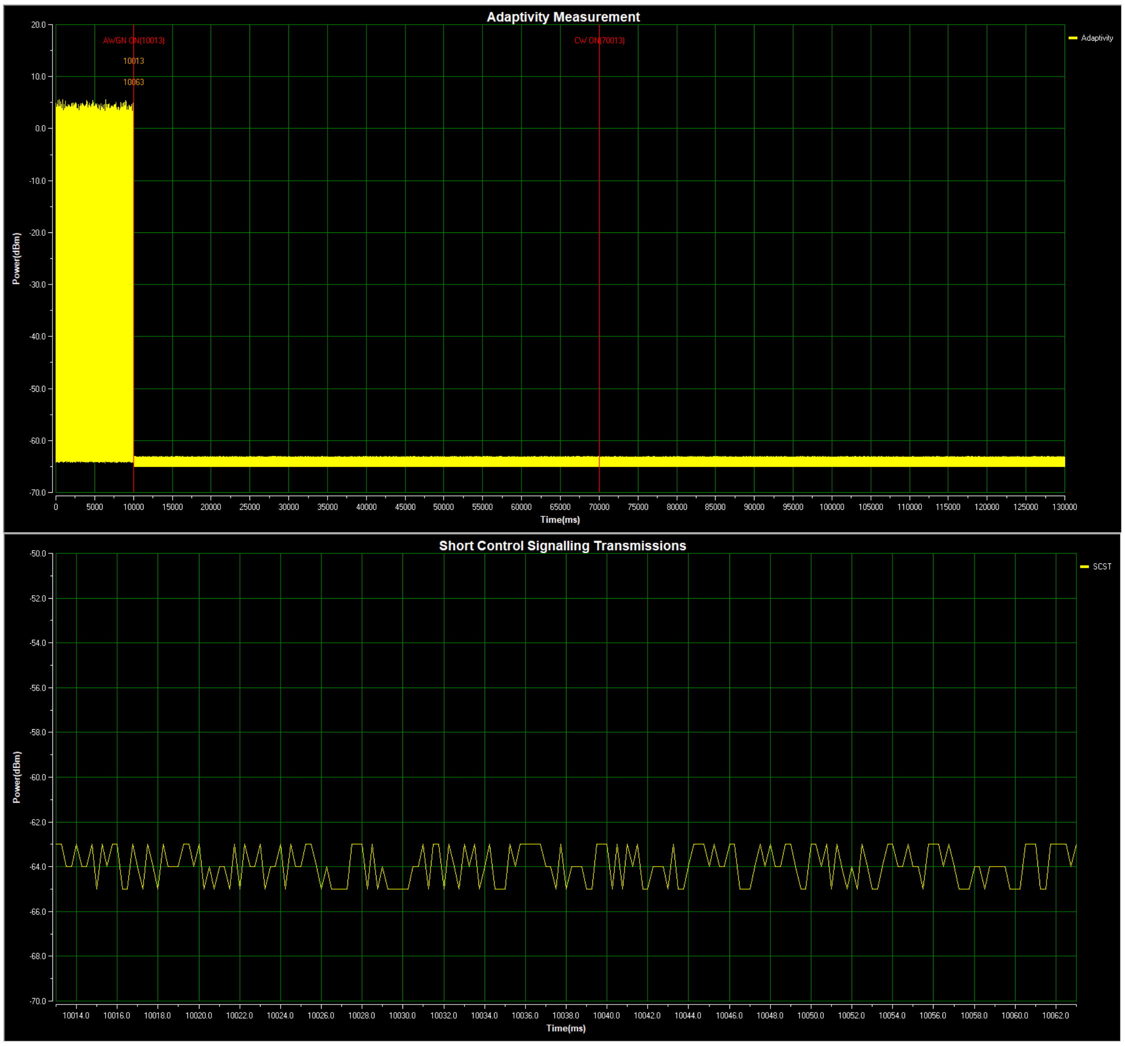


Max Channel Occupancy Time(ms):2.41
Please make sure the COT less than 13ms.Or it will be failed



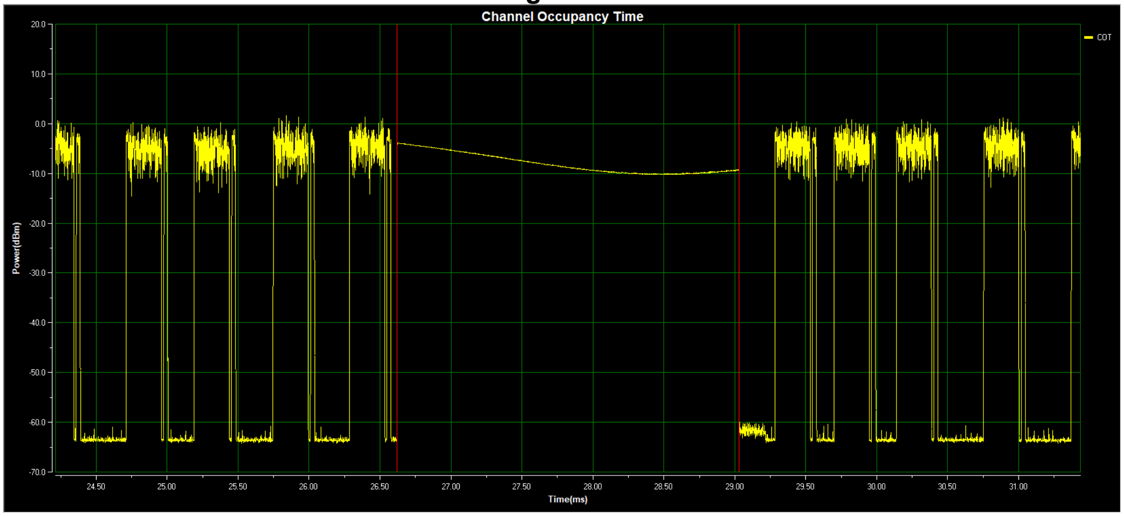


DIFS/PIFS(us):185.00 SIFS(us):14.00
Measured CCA(us):157.00 Maximum CCA time sould between 18us ~ 160us

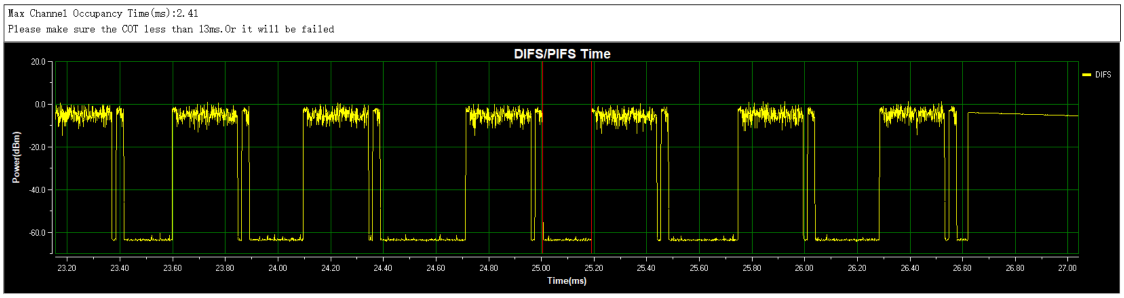


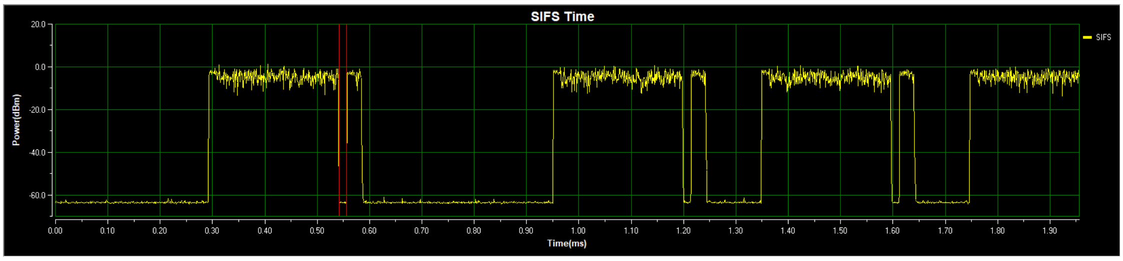
```
Duty Cycle(%):0.00       Short Control Signalling Transmissions Time(ms):0.00
Test Result:Pass
```

IEEE 802.11g Mode 2472 MHz

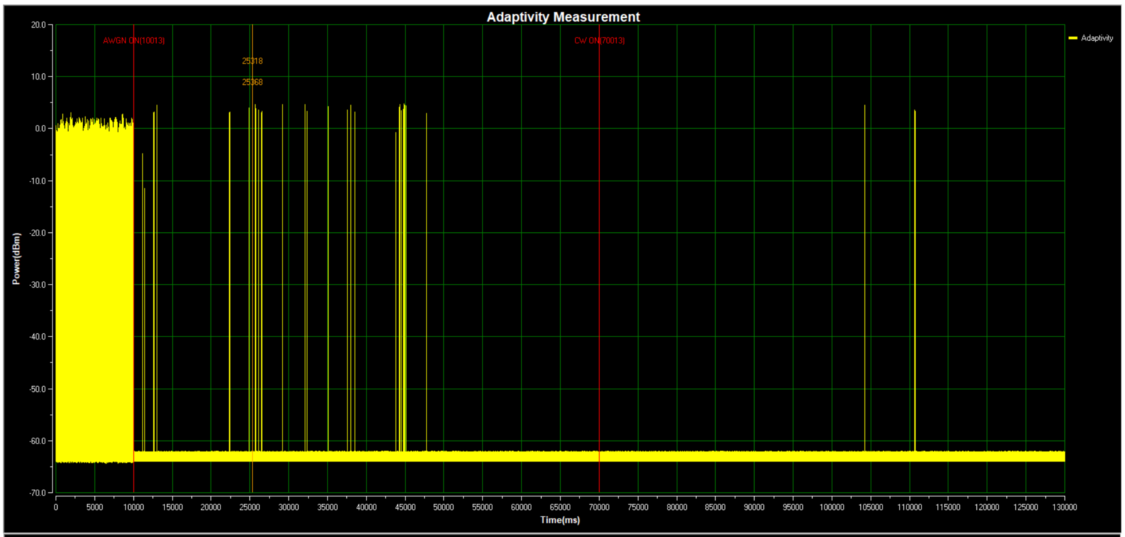


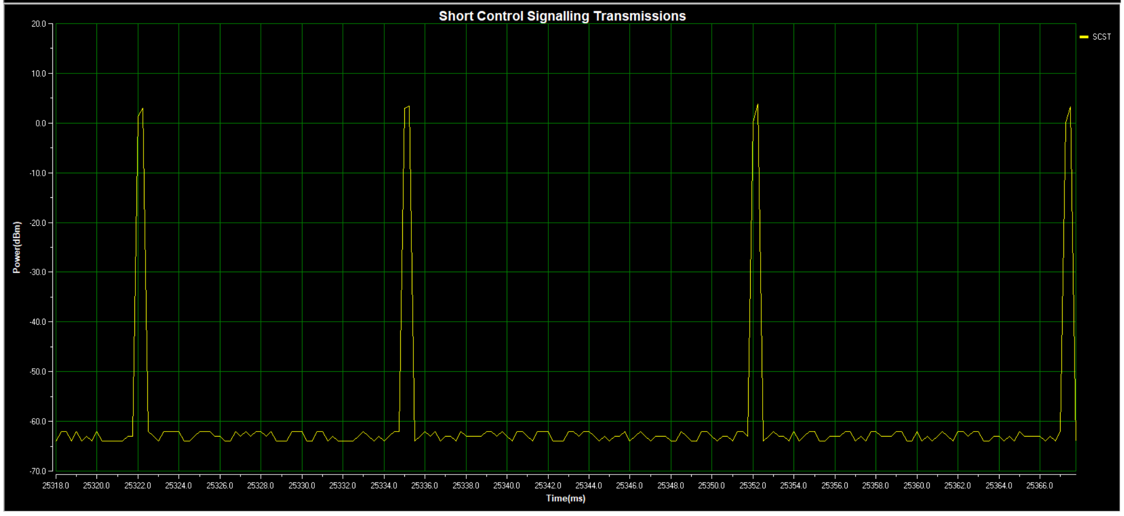
Max Channel Occupancy Time(ms):2.41
Please make sure the COT less than 13ms.Or it will be failed





DIFS/PIFS(us):185.00 SIFS(us):14.00
Measured CCA(us):157.00 Maximum CCA time sould between 18us ~ 160us





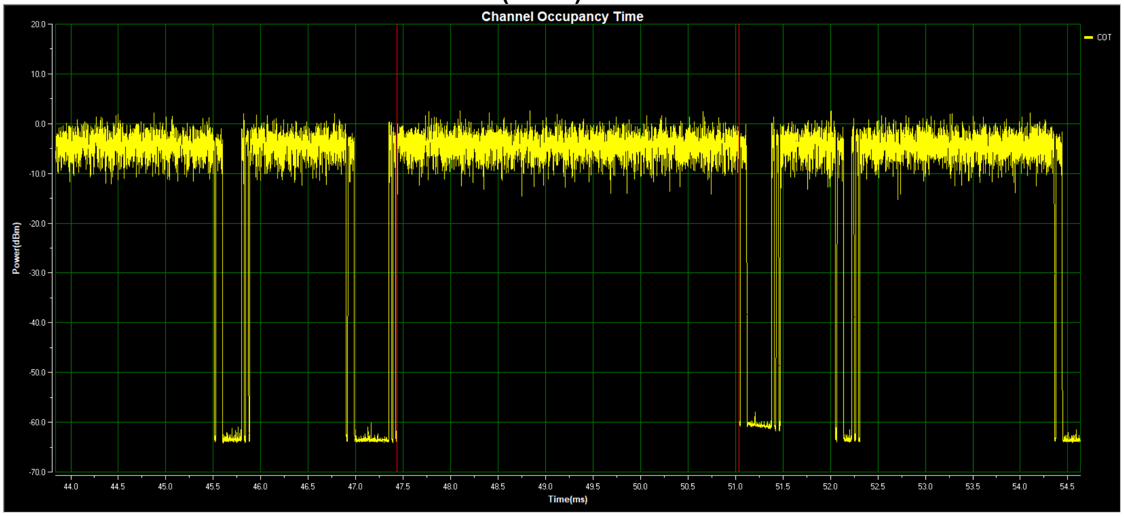
```
Duty Cycle(%):6.00       Short Control Signalling Transmissions Time(ms):3.00
Test Result:Pass
```

Test Mode:	TX Mode_ IEEE 802.11n(HT20) Mode

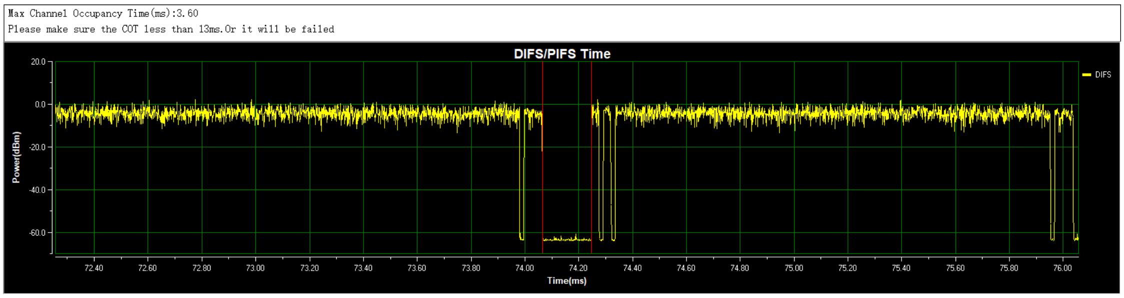
Channel Occupancy Time and Clear Channel Assessment Measured Results		
Freq.(MHz)	Channel Occupancy Time (ms)	Clear Channel Assessment (us)
2412	3.60	153
2472	3.51	154
Limit	13	18~160
Note: Channel Occupancy Time and Clear Channel Assessment follow as IEEE Std. 802.11-2012 and IEEE 802.11n-2012 Specification without restriction.		

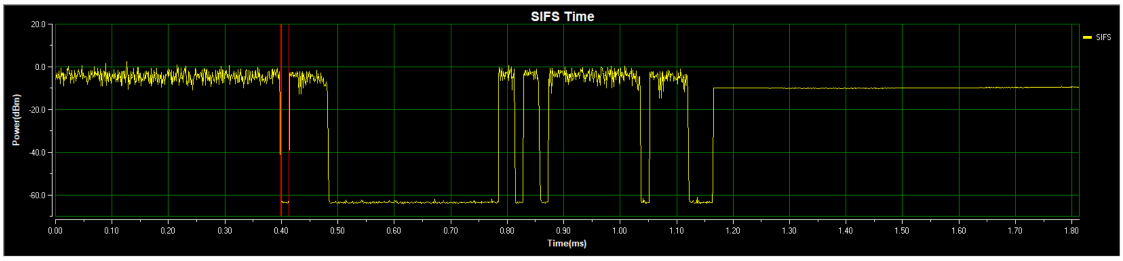
Adaptivity		
Adaptivity Detection Threshold Level	2412 MHz	-65.46 dBm/MHz
	2472 MHz	-62.95 dBm/MHz
Freq.(MHz)	Short Control Signalling Transmissions (ms)	
2412	0.75	
2472	3.75	
Limit	5	
Result	Pass	
Note: Threshold Level =-70 dBm/MHz + 10 x $\log_{10}$ (100 mW/P_{out}) + EUT Antenna Gain (P_{out} in mW e.i.r.p.) Short Control Signalling Transmissions = 50 (ms) * Duty cycle (%)		

IEEE 802.11n(HT20) Mode 2412 MHz

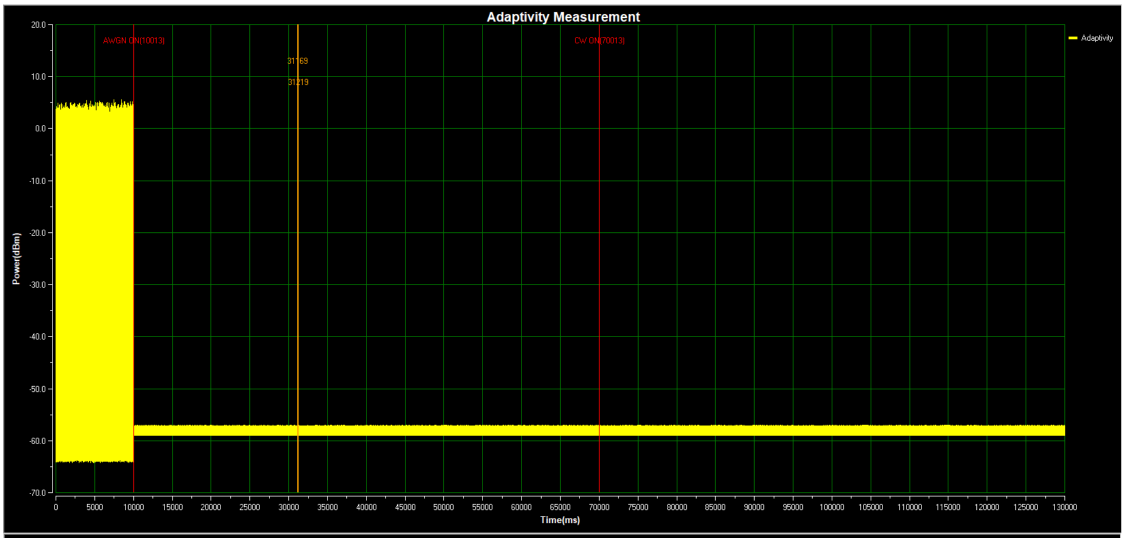


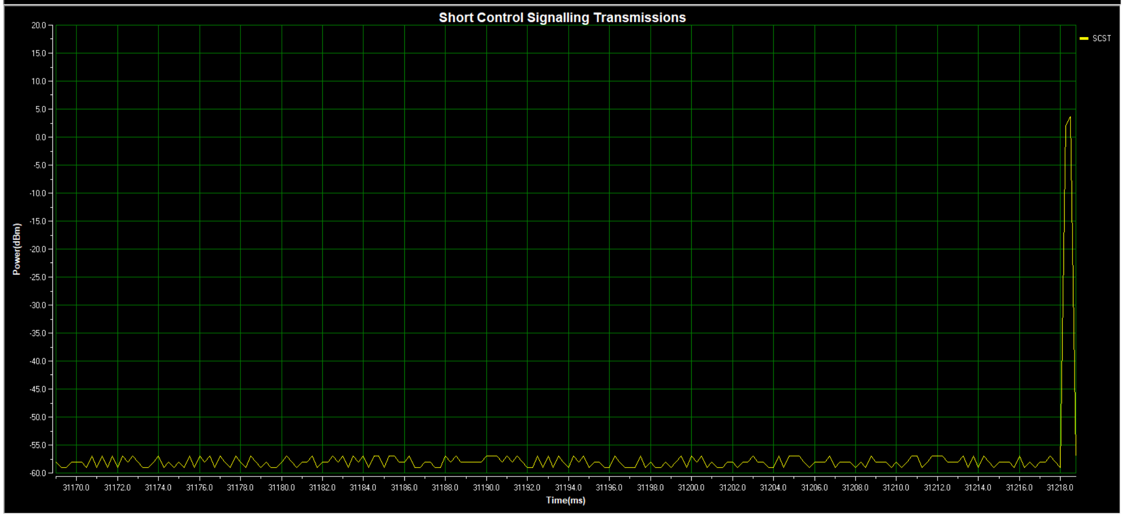
```
Max Channel Occupancy Time(ms):3.60
Please make sure the COT less than 13ms.Or it will be failed
```





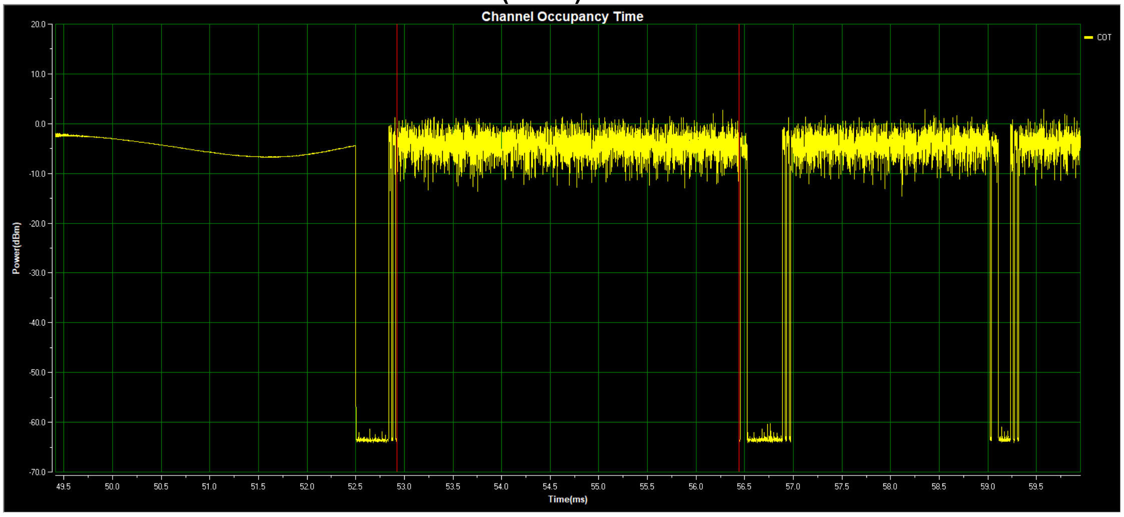
```
DIFS/PIFS(us):181.00          SIFS(us):14.00
Measured CCA(us):153.00       Maximum CCA time sould between 18us ~ 160us
```



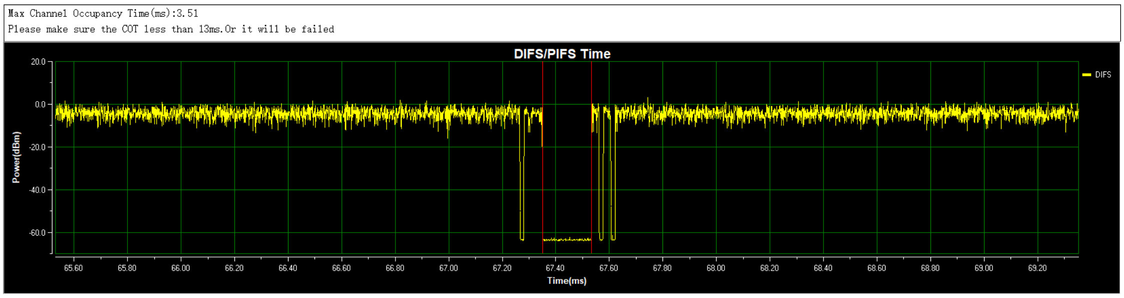


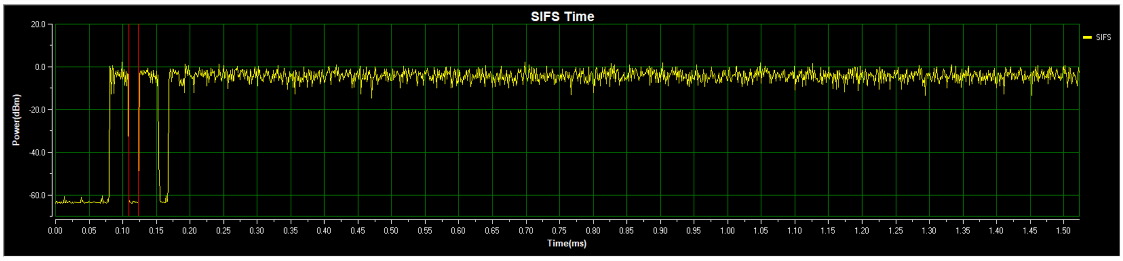
Duty Cycle(%):1.50 Short Control Signalling Transmissions Time(ms):0.75
Test Result:Pass

IEEE 802.11n(HT20) Mode 2472 MHz

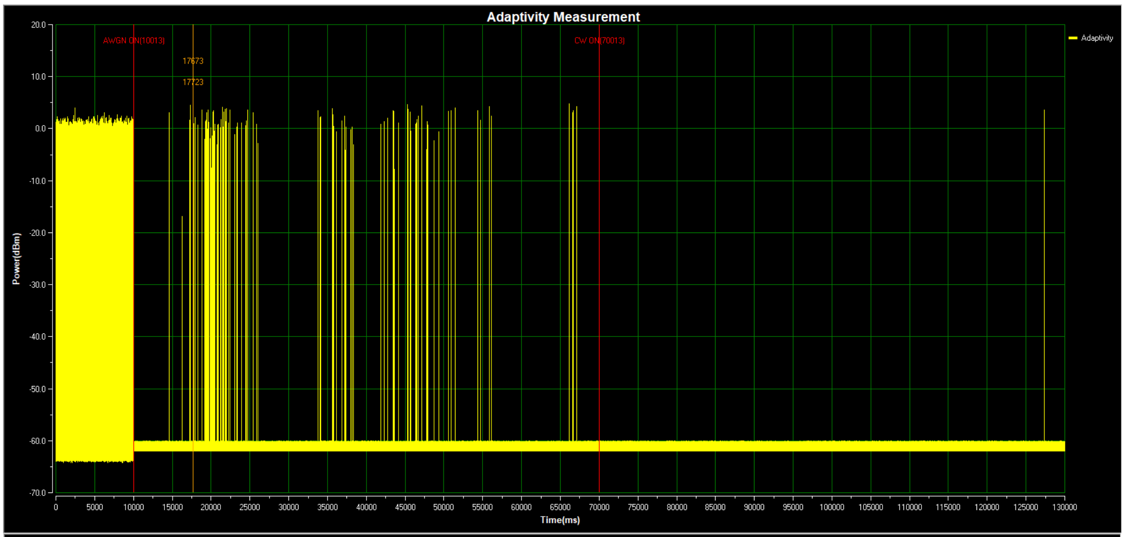


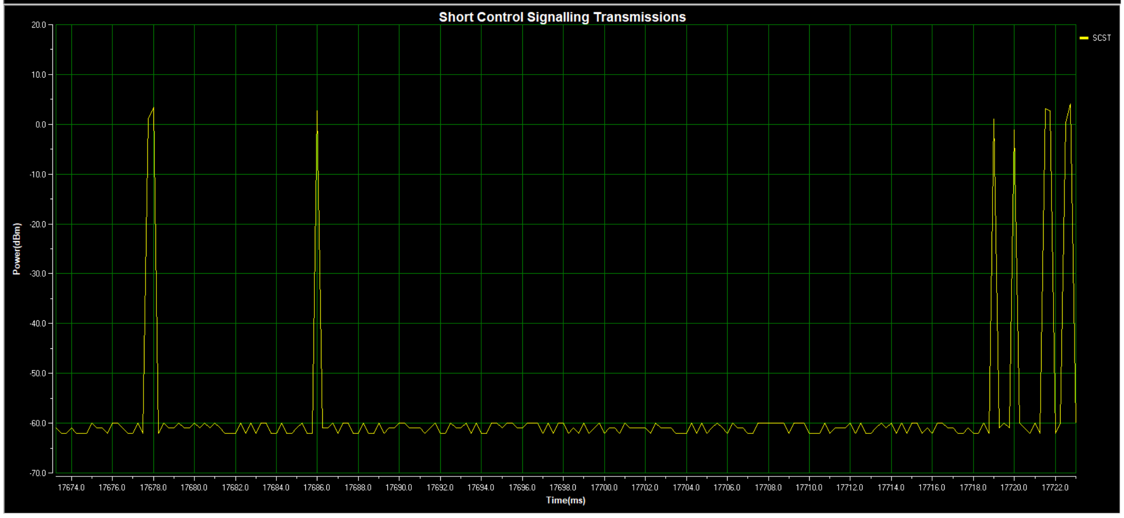
Max Channel Occupancy Time(ms):3.51
Please make sure the COT less than 13ms.Or it will be failed





DIFS/PIFS(us):182.00 SIFS(us):14.00
Measured CCA(us):154.00 Maximum CCA time sould between 18us ~ 160us





Duty Cycle(%):7.50 Short Control Signalling Transmissions Time(ms):3.75

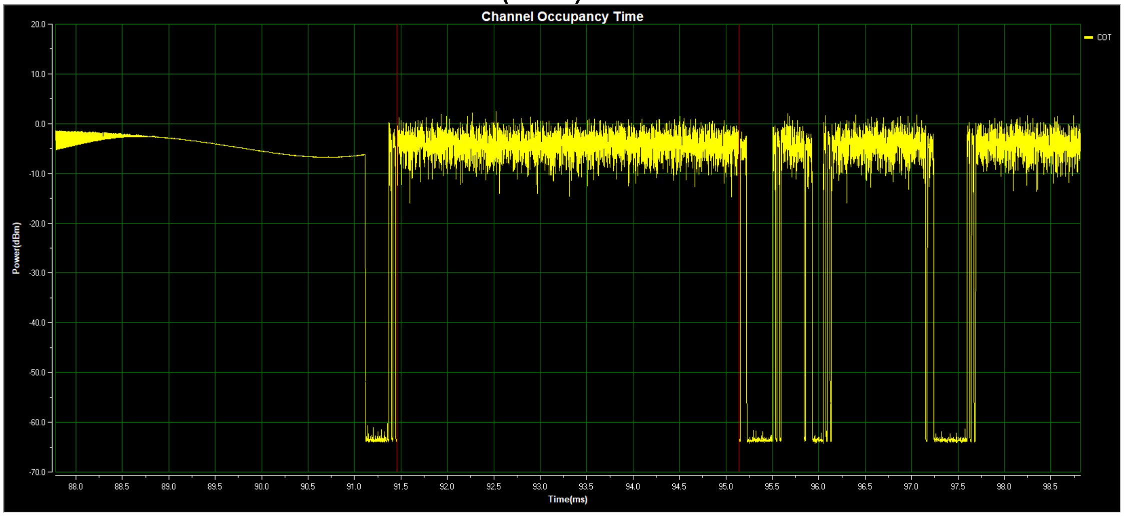
Test Result:Pass

Test Mode:	TX Mode_ IEEE 802.11n(HT40) Mode

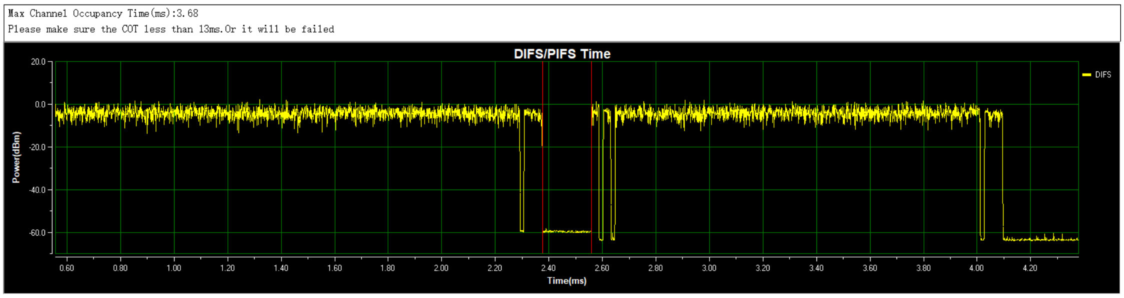
Channel Occupancy Time and Clear Channel Assessment Measured Results		
Freq.(MHz)	Channel Occupancy Time (ms)	Clear Channel Assessment (us)
2422	3.68	154
2462	3.68	153
Limit	13	18~160
Note: Channel Occupancy Time and Clear Channel Assessment follow as IEEE Std. 802.11-2012 and IEEE 802.11n-2012 Specification without restriction.		

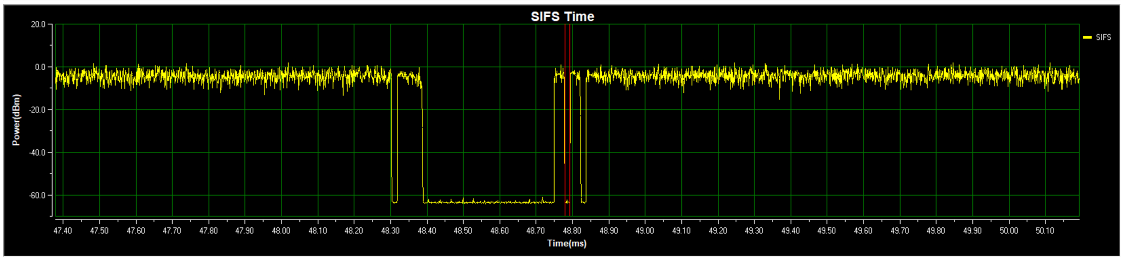
Adaptivity		
Adaptivity Detection Threshold Level	2422 MHz	-67.2 dBm/MHz
	2462 MHz	-64.4 dBm/MHz
Freq.(MHz)	Short Control Signalling Transmissions (ms)	
2422	0	
2462	0	
Limit	5	
Result	Pass	
Note: Threshold Level =-70 dBm/MHz + 10 x $\log_{10}$ (100 mW/P_{out}) + EUT Antenna Gain (P_{out} in mW e.i.r.p.) Short Control Signalling Transmissions = 50 (ms) * Duty cycle (%)		

IEEE 802.11n(HT40) Mode 2422 MHz

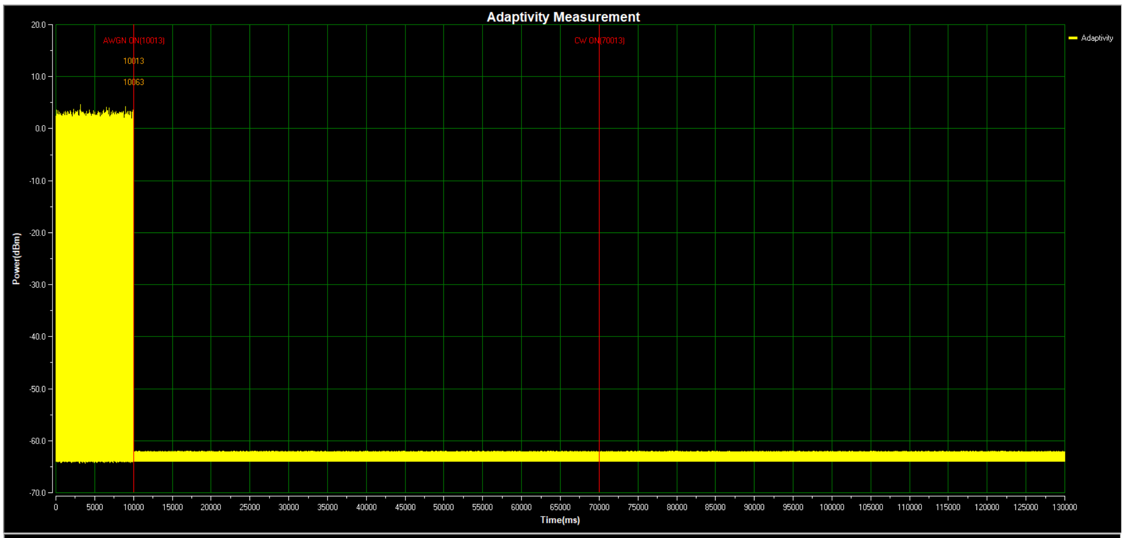


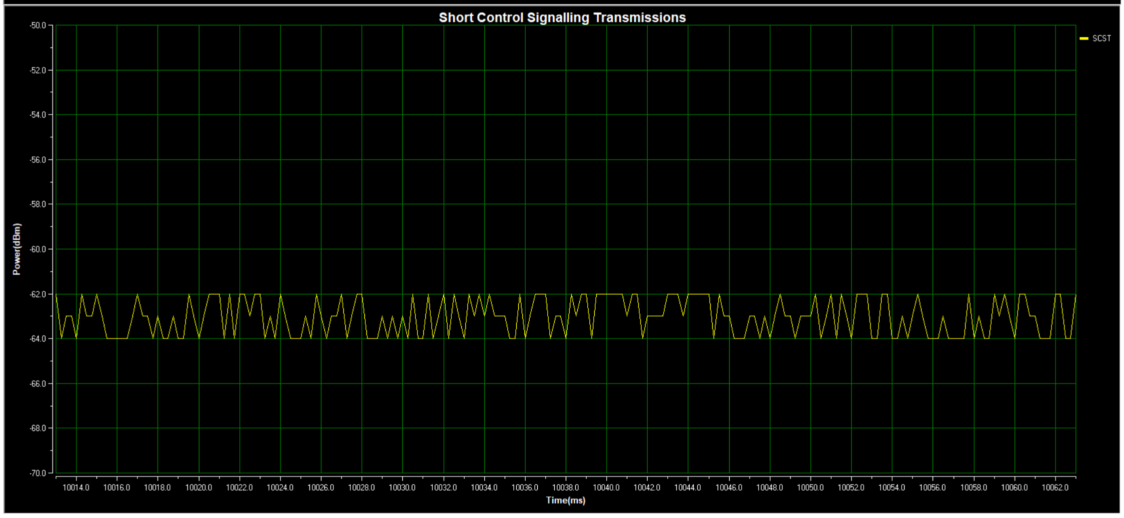
Max Channel Occupancy Time(ms):3.68
Please make sure the COT less than 13ms.Or it will be failed





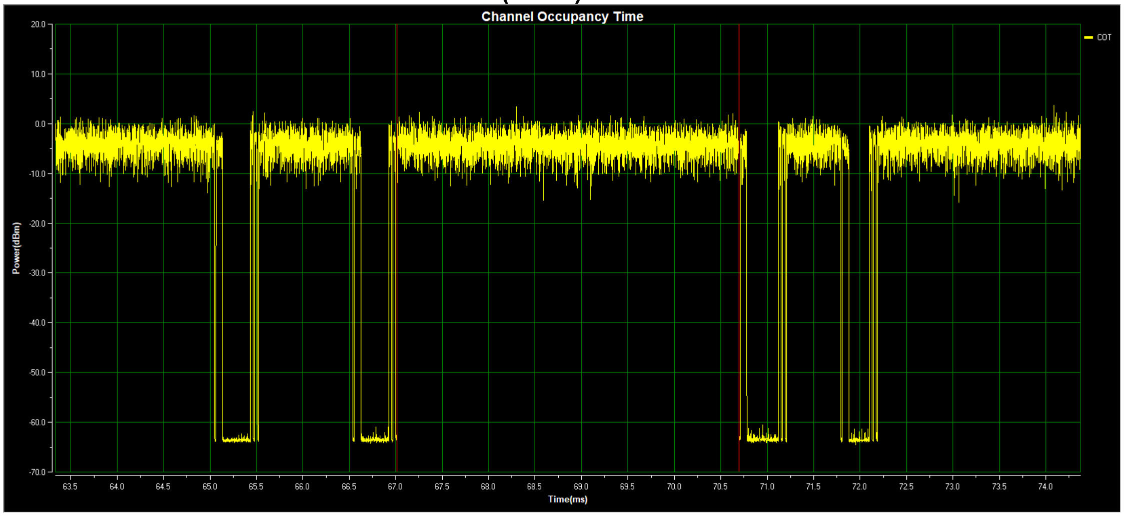
DIFS/PIFS(us):182.00 SIFS(us):14.00
Measured CCA(us):154.00 Maximum CCA time sould between 18us ~ 160us





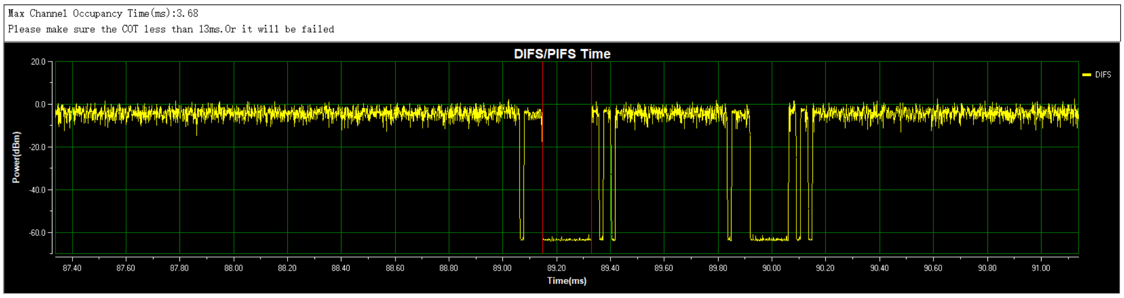
Duty Cycle(%):0.00 Short Control Signalling Transmissions Time(ms):0.00
Test Result:Pass

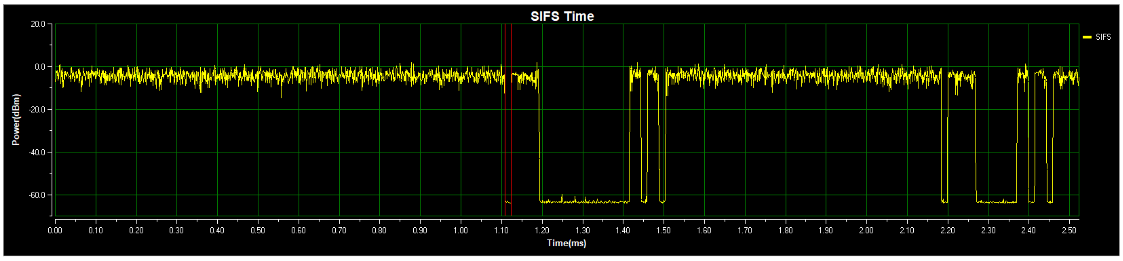
IEEE 802.11n(HT40) Mode 2462 MHz



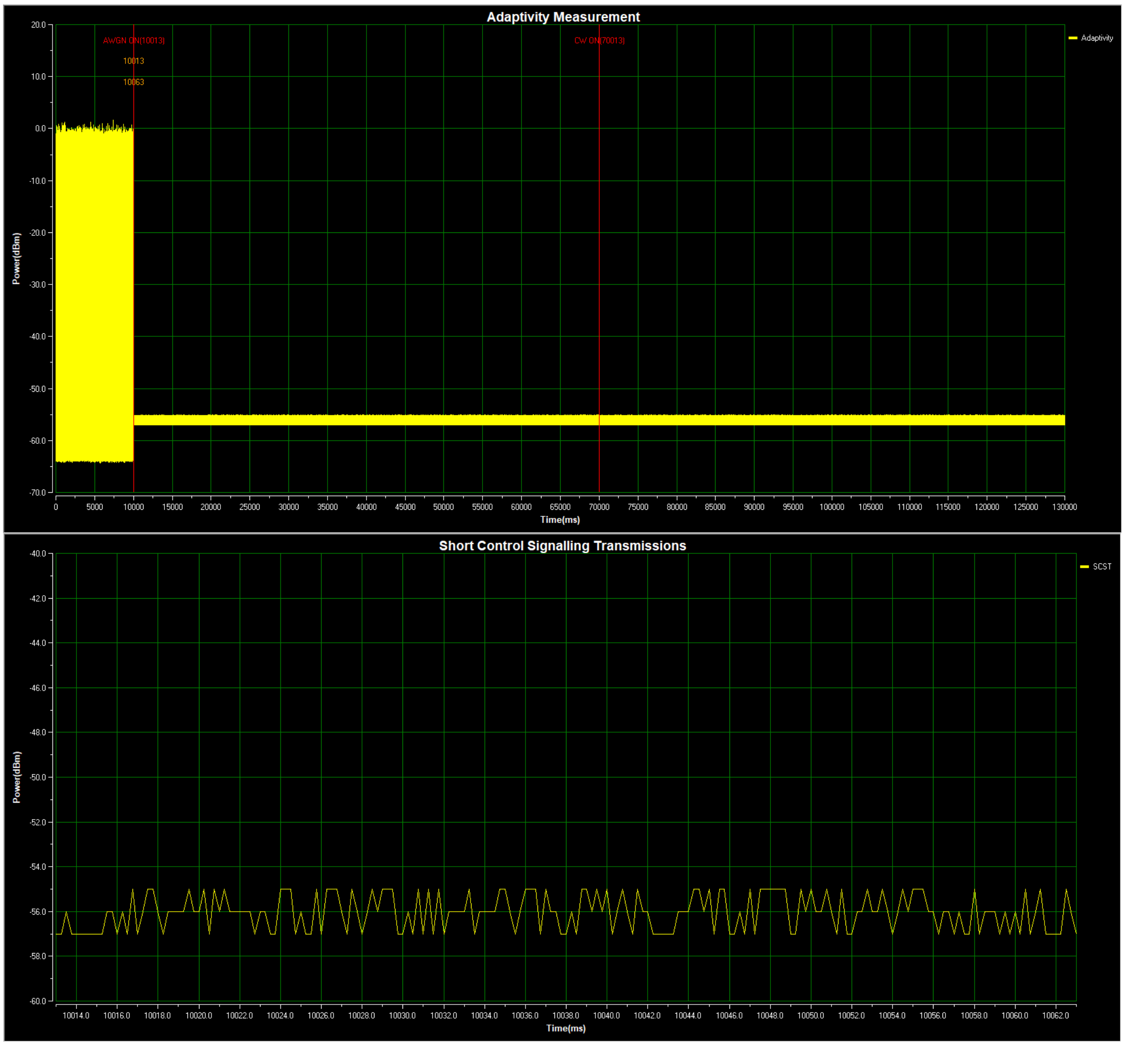
Max Channel Occupancy Time(ms):3.68

Please make sure the COT less than 13ms.Or it will be failed





DIFS/PIFS(us):181.00	SIFS(us):14.00
Measured CCA(us):153.00	Maximum CCA time sould between 18us ~ 160us



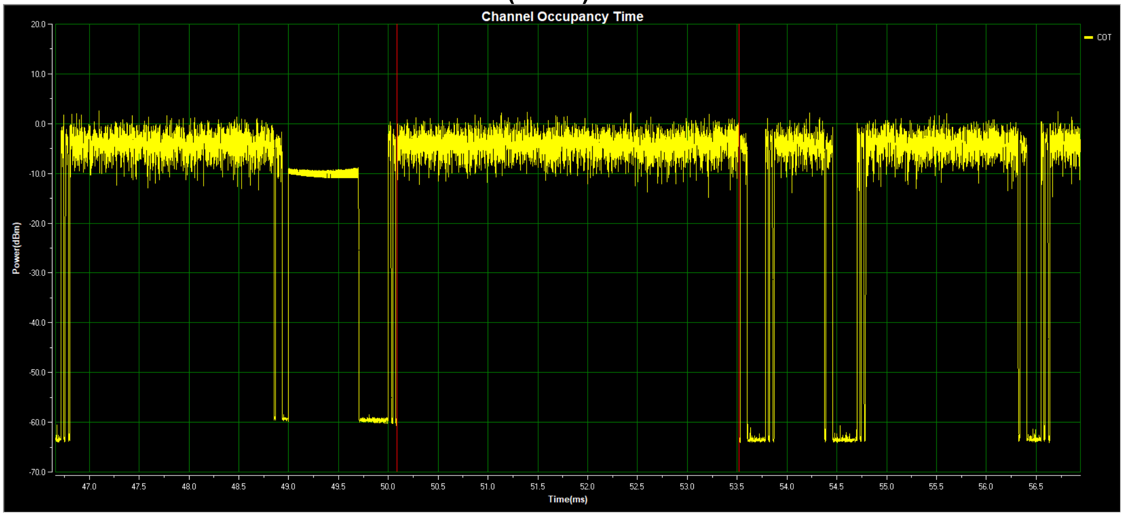
```
Duty Cycle(%):0.00       Short Control Signalling Transmissions Time(ms):0.00
Test Result:Pass
```

Test Mode:	TX Mode_ IEEE 802.11ax(HE20) Mode

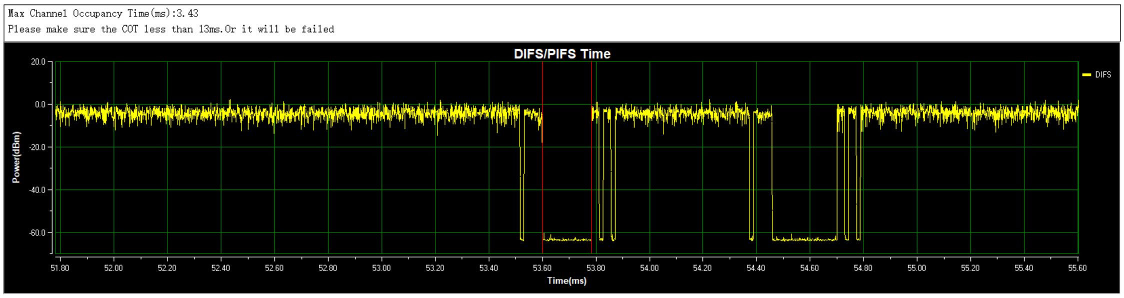
Channel Occupancy Time and Clear Channel Assessment Measured Results		
Freq.(MHz)	Channel Occupancy Time (ms)	Clear Channel Assessment (us)
2412	3.43	154
2472	3.77	154
Limit	13	18~160
Note: Channel Occupancy Time and Clear Channel Assessment follow as IEEE Std. 802.11-2012 and IEEE 802.11n-2012 Specification without restriction.		

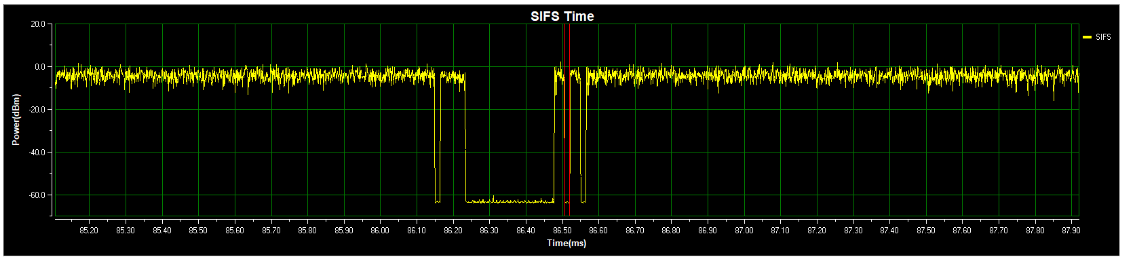
Adaptivity		
Adaptivity Detection Threshold Level	2412 MHz	-65.34 dBm/MHz
	2472 MHz	-62.8 dBm/MHz
Freq.(MHz)	Short Control Signalling Transmissions (ms)	
2412	0	
2472	2.25	
Limit	5	
Result	Pass	
Note: Threshold Level =-70 dBm/MHz + 10 x $\log_{10}$ (100 mW/P_{out}) + EUT Antenna Gain (P_{out} in mW e.i.r.p.) Short Control Signalling Transmissions = 50 (ms) * Duty cycle (%)		

IEEE 802.11ax(HE20) Mode 2412 MHz

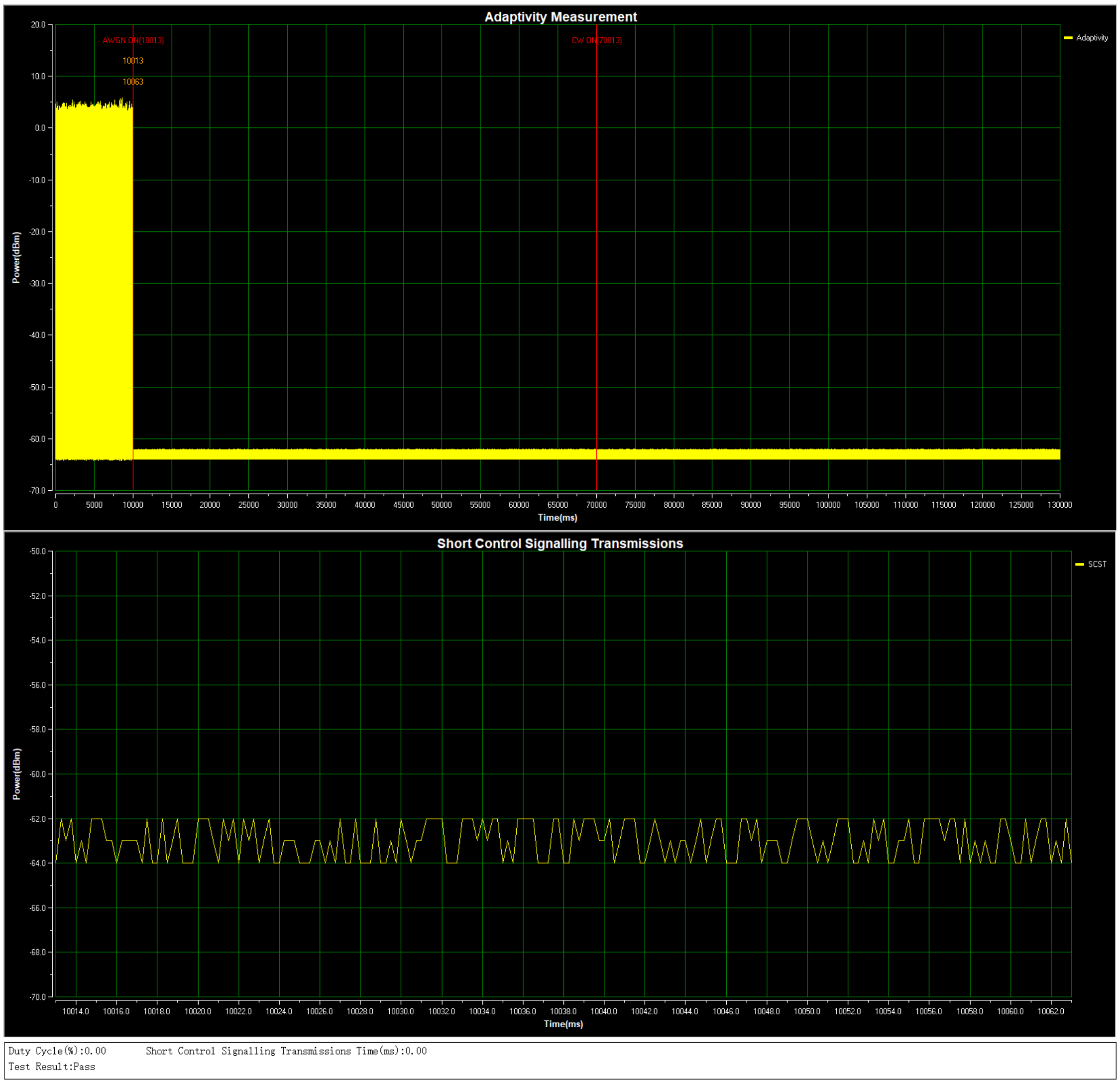


Max Channel Occupancy Time(ms):3.43
Please make sure the COT less than 13ms.Or it will be failed



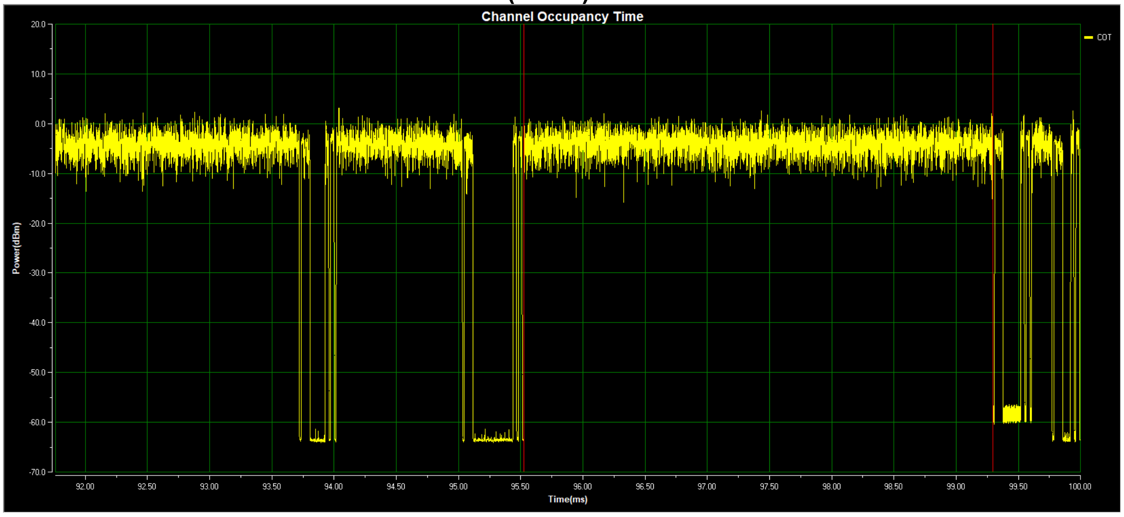


DIFS/PIFS(us):182.00 SIFS(us):14.00
Measured CCA(us):154.00 Maximum CCA time sould between 18us ~ 160us

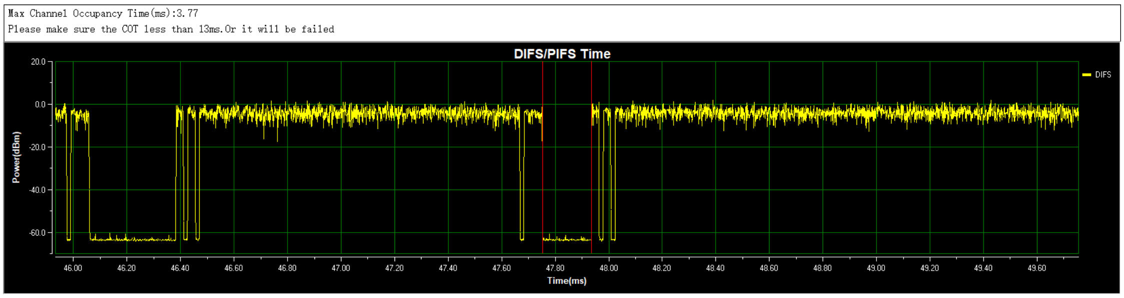


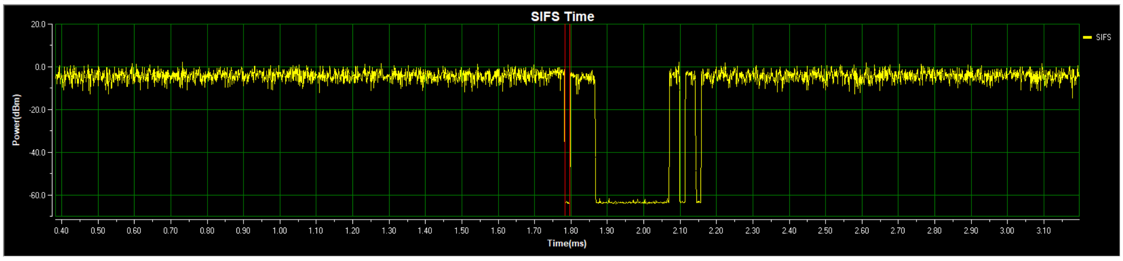
Duty Cycle(%):0.00 Short Control Signalling Transmissions Time(ms):0.00
Test Result:Pass

IEEE 802.11ax(HE20) Mode 2472 MHz

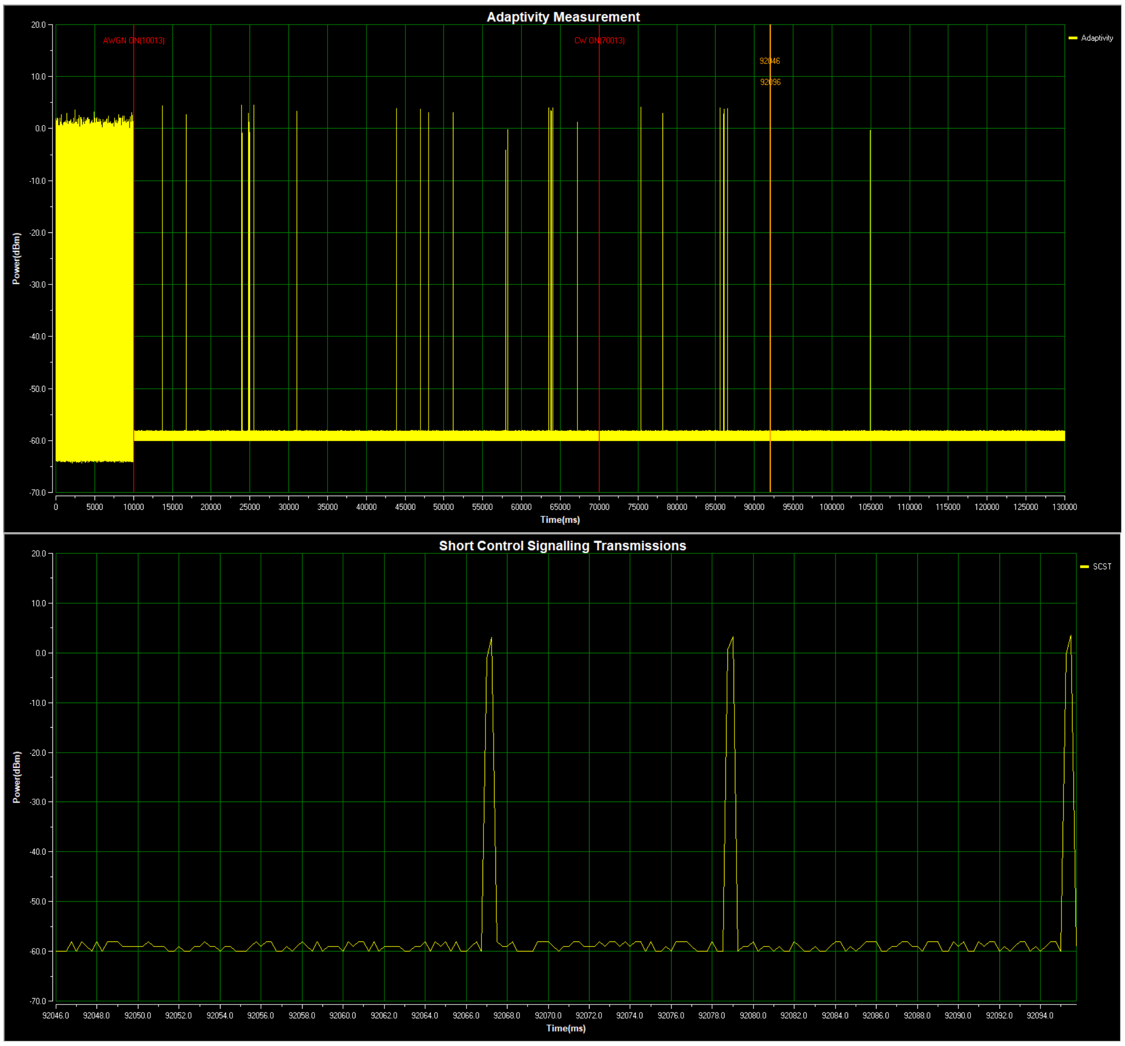


Max Channel Occupancy Time(ms):3.77
Please make sure the COT less than 13ms.Or it will be failed





DIFS/PIFS(us):182.00 SIFS(us):14.00
Measured CCA(us):154.00 Maximum CCA time sould between 18us ~ 160us



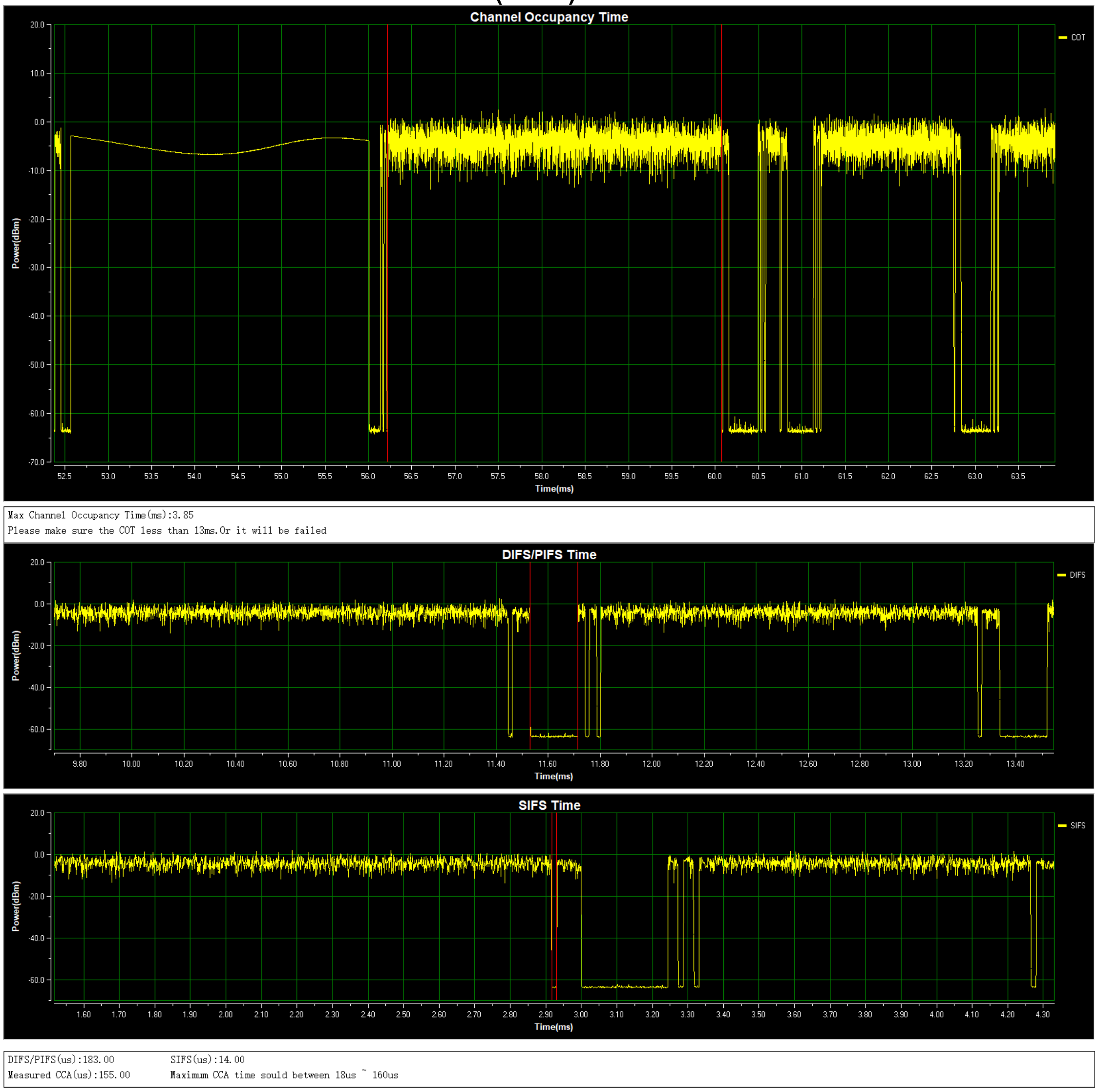
Duty Cycle(%):4.50　　Short Control Signalling Transmissions Time(ms):2.25
Test Result:Pass

Test Mode:	TX Mode_ IEEE 802.11ax(HE40) Mode

Channel Occupancy Time and Clear Channel Assessment Measured Results		
Freq.(MHz)	Channel Occupancy Time (ms)	Clear Channel Assessment (us)
2422	3.85	155
2462	3.68	153
Limit	13	18~160
Note: Channel Occupancy Time and Clear Channel Assessment follow as IEEE Std. 802.11-2012 and IEEE 802.11n-2012 Specification without restriction.		

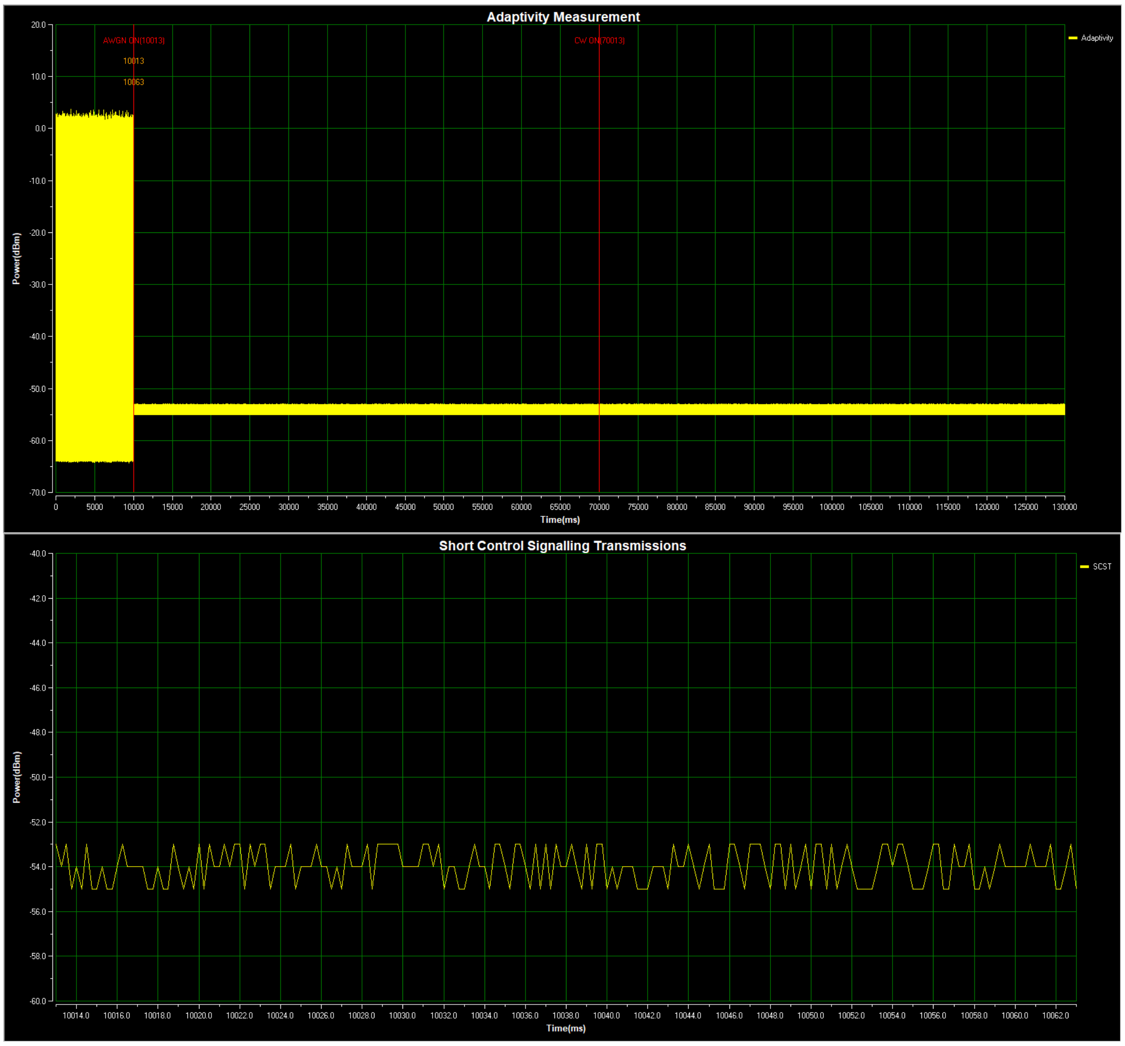
Adaptivity		
Adaptivity Detection Threshold Level	2422 MHz	-67.03 dBm/MHz
	2462 MHz	-64.41 dBm/MHz
Freq.(MHz)	Short Control Signalling Transmissions (ms)	
2422	0	
2462	0	
Limit	5	
Result	Pass	
Note: Threshold Level =-70 dBm/MHz + 10 x $\log_{10}$ (100 mW/P_{out}) + EUT Antenna Gain (P_{out} in mW e.i.r.p.) Short Control Signalling Transmissions = 50 (ms) * Duty cycle (%)		

IEEE 802.11ax(HE40) Mode 2422 MHz



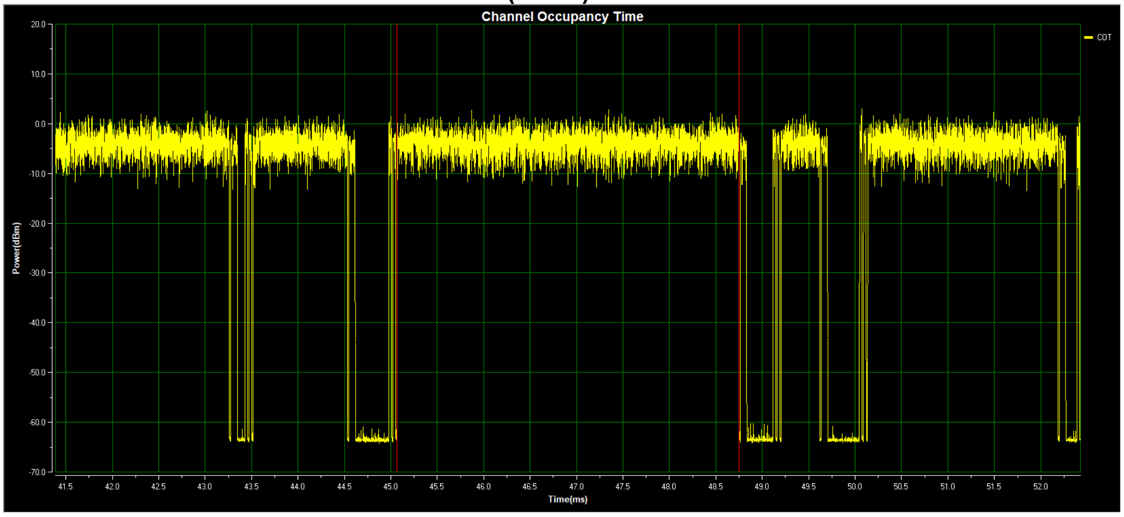
Max Channel Occupancy Time(ms):3.85
Please make sure the COT less than 13ms.Or it will be failed

DIFS/PIFS(us):183.00 SIFS(us):14.00
Measured CCA(us):155.00 Maximum CCA time sould between 18us ˜ 160us

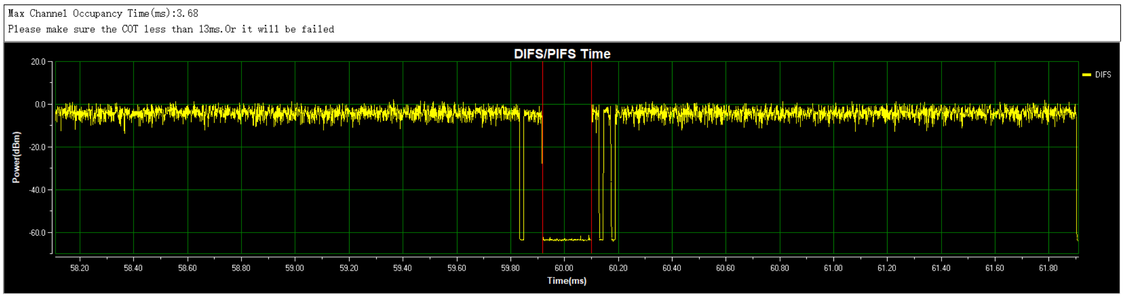


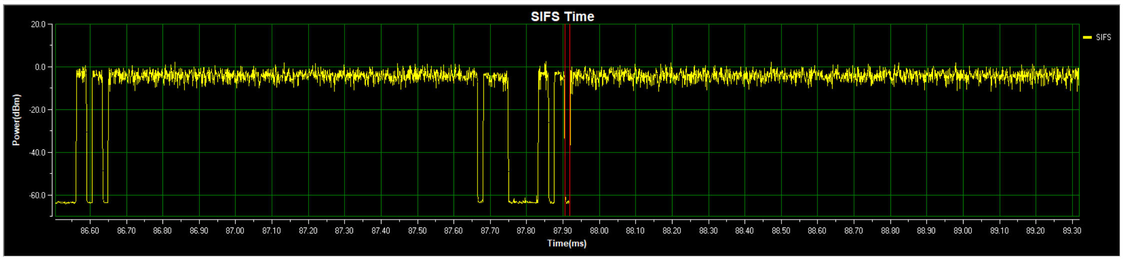
Duty Cycle(%):0.00 Short Control Signalling Transmissions Time(ms):0.00
Test Result:Pass

IEEE 802.11ax(HE40) Mode 2462 MHz

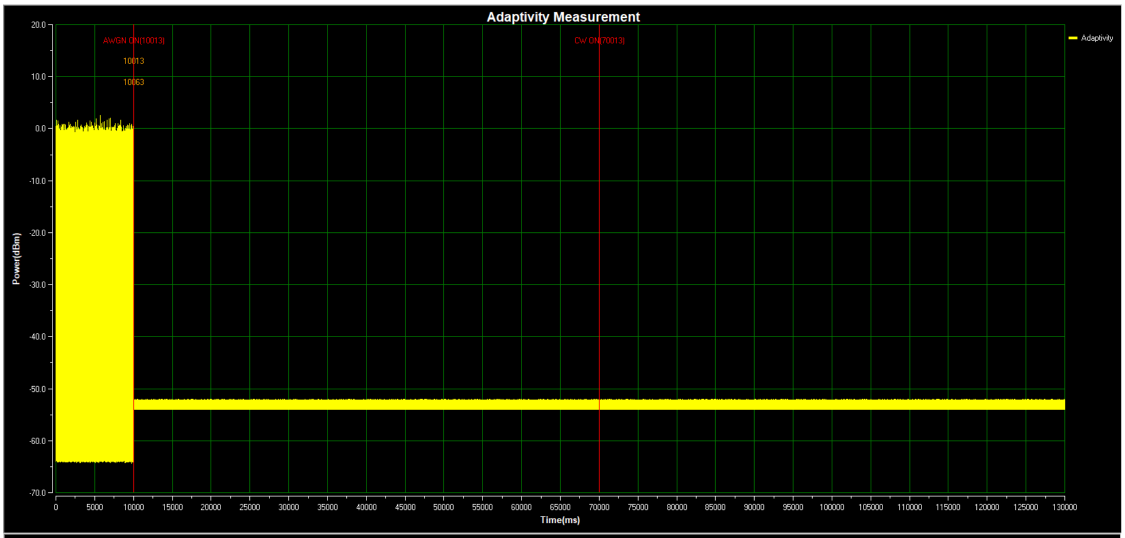


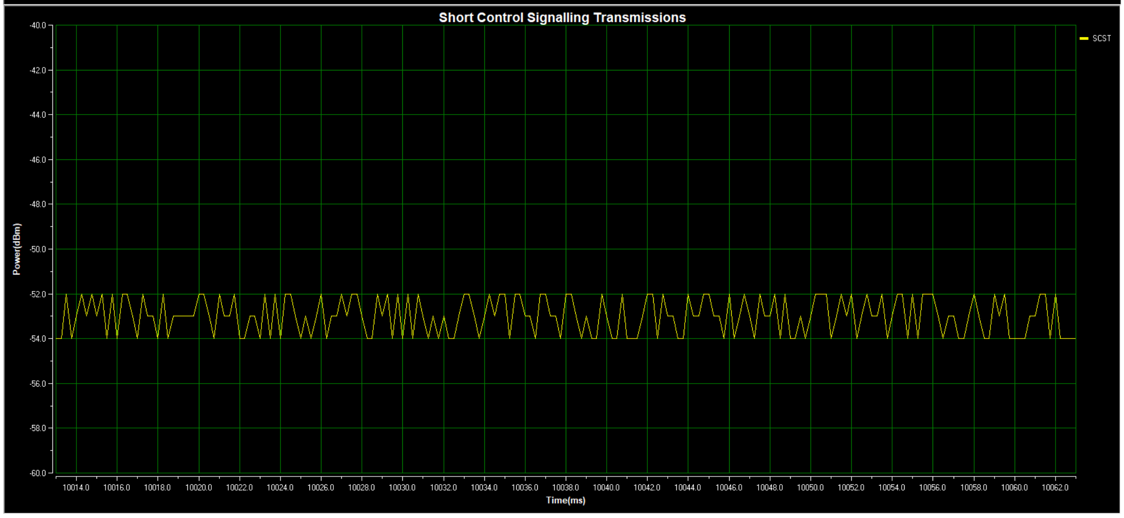
Max Channel Occupancy Time(ms):3.68
Please make sure the COT less than 13ms.Or it will be failed





DIFS/PIFS(us):181.00 SIFS(us):14.00
Measured CCA(us):153.00 Maximum CCA time sould between 18us ~ 160us





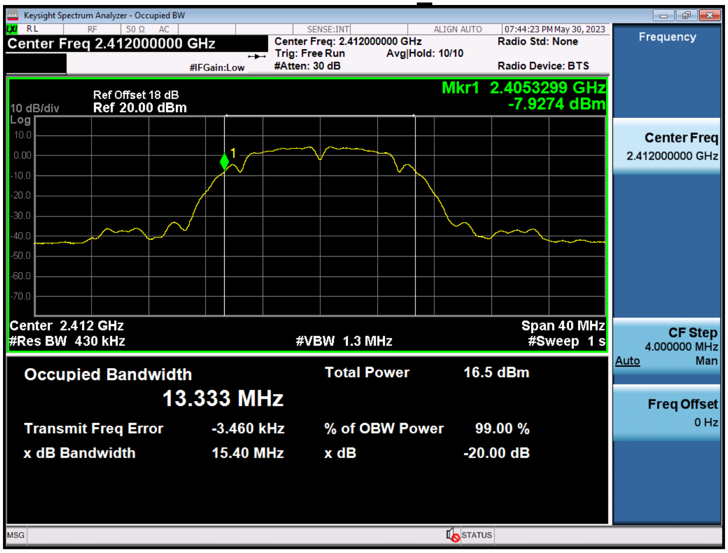
Duty Cycle(%):0.00 Short Control Signalling Transmissions Time(ms):0.00
Test Result:Pass

APPENDIX F - OCCUPIED CHANNEL BANDWIDTH

Test Mode:	TX Mode_ IEEE 802.11b Mode

Frequency (MHz)	Occupied Channel Bandwidth (MHz)	F_L at 99% BW (MHz)	F_H at 99% BW (MHz)	Result
2412	13.333	2405.33	-	Pass
2472	13.750	-	2478.86	
N/A		F_L > 2400	F_H < 2483.5	

IEEE 802.11b Mode_2412 MHz

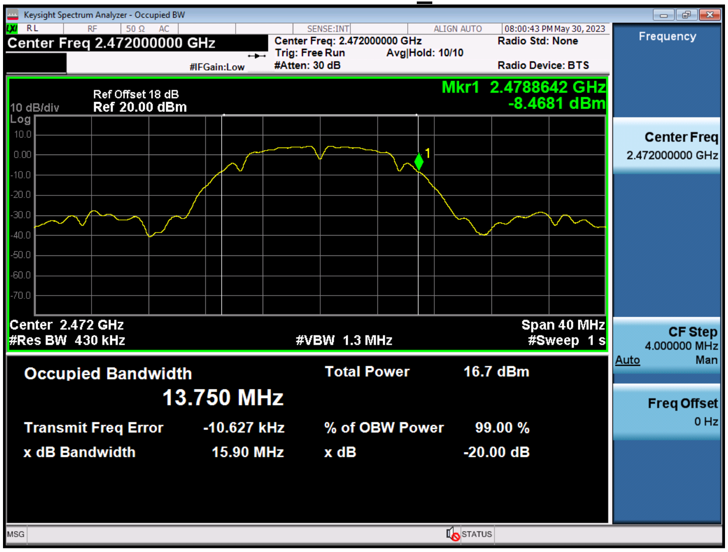


07:44:23 PM May 30, 2023
Center Freq 2.412000000 GHz
Center Freq: 2.412000000 GHz
Trig: Free Run Avg|Hold: 10/10
#Atten: 30 dB
Radio Std: None
Radio Device: BTS
Ref Offset 18 dB
Ref 20.00 dBm
Mkr1 2.4053299 GHz
-7.9274 dBm
Center 2.412 GHz
#Res BW 430 kHz
#VBW 1.3 MHz
Span 40 MHz
#Sweep 1 s
Center Freq 2.412000000 GHz
CF Step 4.000000 MHz
Freq Offset 0 Hz

Occupied Bandwidth 13.333 MHz
Total Power 16.5 dBm
Transmit Freq Error -3.460 kHz
% of OBW Power 99.00 %
x dB Bandwidth 15.40 MHz
x dB -20.00 dB

Occupied Bandwidth(MHz):13.333
Left Frequency(MHz):2405.33 Right Frequency(MHz):2418.66
Limit:>2400MHz Test Result:Pass

IEEE 802.11b Mode_2472 MHz



08:00:43 PM May 30, 2023
Center Freq 2.472000000 GHz
Center Freq: 2.472000000 GHz
Trig: Free Run Avg|Hold: 10/10
#Atten: 30 dB
Radio Std: None
Radio Device: BTS
Ref Offset 18 dB
Ref 20.00 dBm
Mkr1 2.4788642 GHz
-8.4681 dBm
Center 2.472 GHz
#Res BW 430 kHz
#VBW 1.3 MHz
Span 40 MHz
#Sweep 1 s
Center Freq 2.472000000 GHz
CF Step 4.000000 MHz
Freq Offset 0 Hz

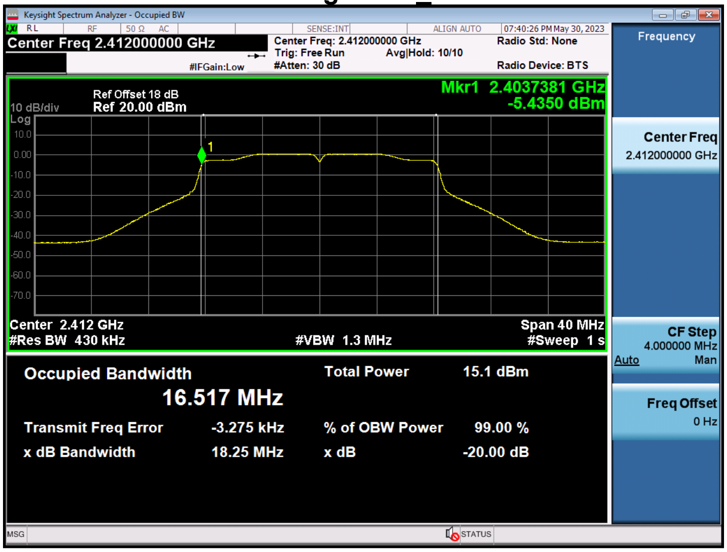
Occupied Bandwidth 13.750 MHz
Total Power 16.7 dBm
Transmit Freq Error -10.627 kHz
% of OBW Power 99.00 %
x dB Bandwidth 15.90 MHz
x dB -20.00 dB

Occupied Bandwidth(MHz):13.750
Left Frequency(MHz):2465.11 Right Frequency(MHz):2478.86
Limit: <2483.5MHz Test Result:Pass

Test Mode:	TX Mode_ IEEE 802.11g Mode

Frequency (MHz)	Occupied Channel Bandwidth (MHz)	F_L at 99% BW (MHz)	F_H at 99% BW (MHz)	Result
2412	16.517	2403.74	-	Pass
2472	16.549	-	2480.27	
N/A		$F_L > 2400$	$F_H < 2483.5$	

IEEE 802.11g Mode_2412 MHz

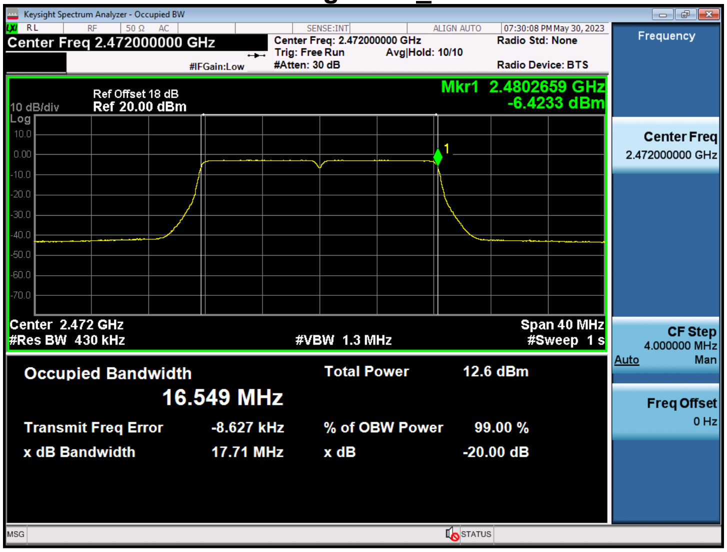


Center Freq 2.412000000 GHz
Center Freq: 2.412000000 GHz
Trig: Free Run
Avg|Hold: 10/10
#IFGain:Low
#Atten: 30 dB
Radio Std: None
Radio Device: BTS
Ref Offset 18 dB
10 dB/div Ref 20.00 dBm
Log
Mkr1 2.4037381 GHz
-5.4350 dBm
Center 2.412 GHz
#Res BW 430 kHz
#VBW 1.3 MHz
Span 40 MHz
#Sweep 1 s

Occupied Bandwidth		Total Power	15.1 dBm
	16.517 MHz		
Transmit Freq Error	-3.275 kHz	% of OBW Power	99.00 %
x dB Bandwidth	18.25 MHz	x dB	-20.00 dB

Occupied Bandwidth(MHz):16.517
Left Frequency(MHz):2403.74 Right Frequency(MHz):2420.26
Limit:>2400MHz Test Result:Pass

IEEE 802.11g Mode_2472 MHz



Center Freq 2.472000000 GHz
Center Freq: 2.472000000 GHz
Trig: Free Run
Avg|Hold: 10/10
#IFGain:Low
#Atten: 30 dB
Radio Std: None
Radio Device: BTS
Ref Offset 18 dB
10 dB/div Ref 20.00 dBm
Log
Mkr1 2.4802659 GHz
-6.4233 dBm
Center 2.472 GHz
#Res BW 430 kHz
#VBW 1.3 MHz
Span 40 MHz
#Sweep 1 s

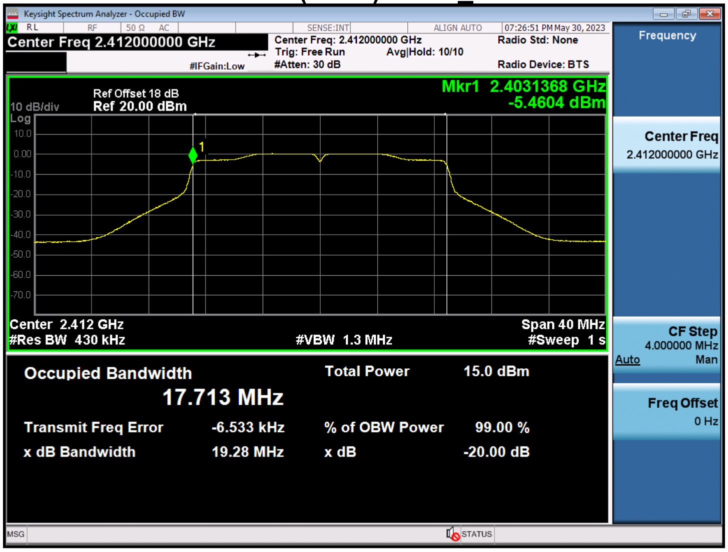
Occupied Bandwidth		Total Power	12.6 dBm
	16.549 MHz		
Transmit Freq Error	-8.627 kHz	% of OBW Power	99.00 %
x dB Bandwidth	17.71 MHz	x dB	-20.00 dB

Occupied Bandwidth(MHz):16.549
Left Frequency(MHz):2463.72 Right Frequency(MHz):2480.27
Limit: <2483.5MHz Test Result:Pass

Test Mode:	TX Mode_ IEEE 802.11n(HT20) Mode

Frequency (MHz)	Occupied Channel Bandwidth (MHz)	F_L at 99% BW (MHz)	F_H at 99% BW (MHz)	Result
2412	17.713	2403.14	-	Pass
2472	17.761	-	2480.87	
N/A		F_L > 2400	F_H < 2483.5	

IEEE 802.11n(HT20) Mode_2412 MHz



Center Freq: 2.412000000 GHz
Trig: Free Run
Avg|Hold: 10/10
#Atten: 30 dB
Radio Std: None
Radio Device: BTS

Mkr1 2.4031368 GHz
-5.4604 dBm

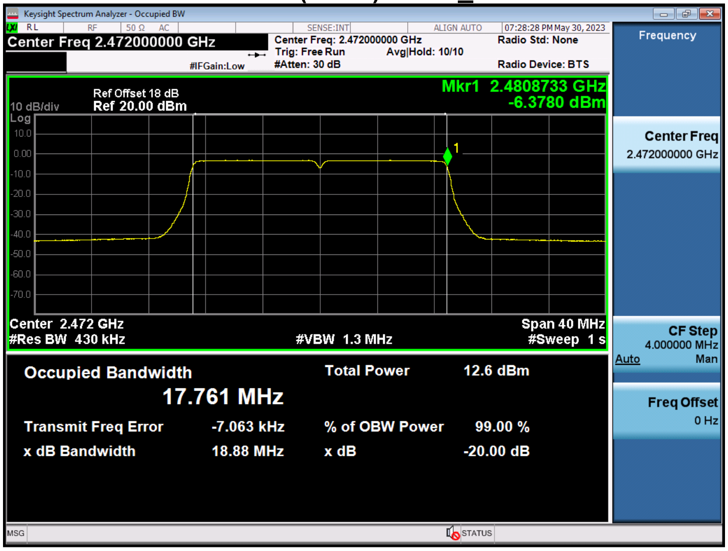
Center 2.412 GHz
#Res BW 430 kHz
#VBW 1.3 MHz
Span 40 MHz
#Sweep 1 s

Occupied Bandwidth
17.713 MHz

Total Power 15.0 dBm
Transmit Freq Error -6.533 kHz
% of OBW Power 99.00 %
x dB Bandwidth 19.28 MHz
x dB -20.00 dB

Occupied Bandwidth(MHz):17.713
Left Frequency(MHz):2403.14   Right Frequency(MHz):2420.85
Limit:>2400MHz   Test Result:Pass

IEEE 802.11n(HT20) Mode_2472 MHz



Center Freq: 2.472000000 GHz
Trig: Free Run
Avg|Hold: 10/10
#Atten: 30 dB
Radio Std: None
Radio Device: BTS

Mkr1 2.4808733 GHz
-6.3780 dBm

Center 2.472 GHz
#Res BW 430 kHz
#VBW 1.3 MHz
Span 40 MHz
#Sweep 1 s

Occupied Bandwidth
17.761 MHz

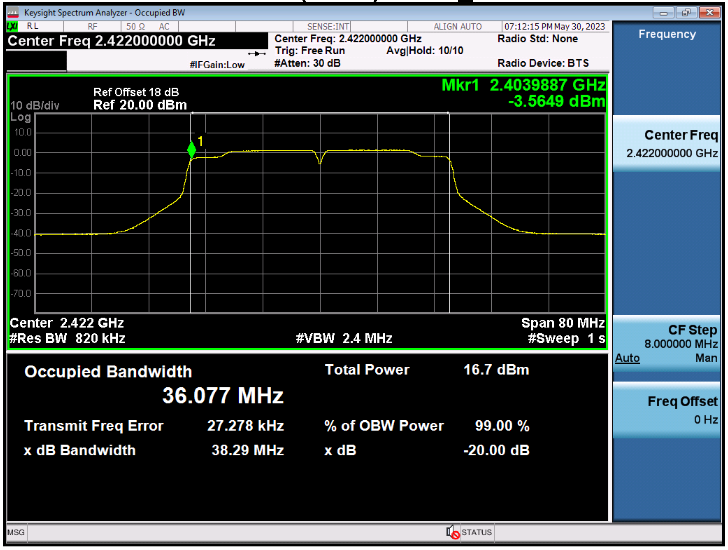
Total Power 12.6 dBm
Transmit Freq Error -7.063 kHz
% of OBW Power 99.00 %
x dB Bandwidth 18.88 MHz
x dB -20.00 dB

Occupied Bandwidth(MHz):17.761
Left Frequency(MHz):2463.11   Right Frequency(MHz):2480.87
Limit: <2483.5MHz   Test Result:Pass

Test Mode:	TX Mode_ IEEE 802.11n(HT40) Mode

Frequency (MHz)	Occupied Channel Bandwidth (MHz)	F_L at 99% BW (MHz)	F_H at 99% BW (MHz)	Result
2422	36.077	2403.99	-	Pass
2462	36.391	-	2480.20	
N/A		$F_L > 2400$	$F_H < 2483.5$	

IEEE 802.11n(HT40) Mode_2422 MHz



Center Freq 2.422000000 GHz

Center Freq: 2.422000000 GHz
Trig: Free Run Avg|Hold: 10/10
#Atten: 30 dB
Radio Std: None
Radio Device: BTS
#IFGain:Low

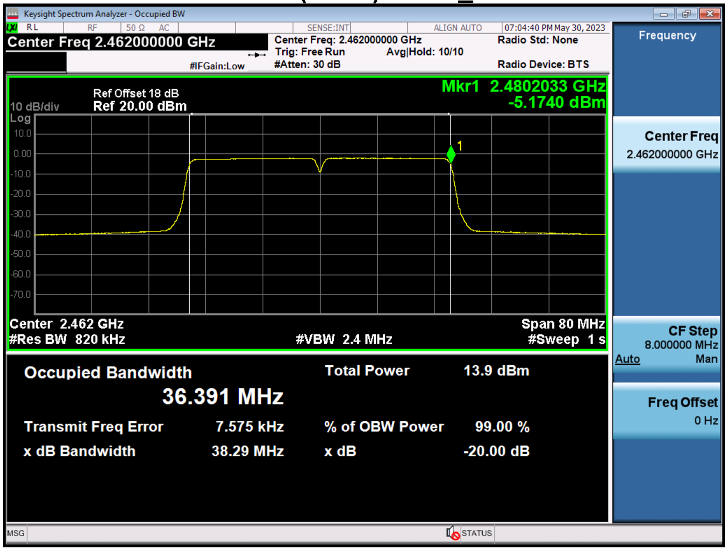
Ref Offset 18 dB
Ref 20.00 dBm
10 dB/div
Mkr1 2.4039887 GHz
-3.5649 dBm

Center 2.422 GHz
#Res BW 820 kHz
#VBW 2.4 MHz
Span 80 MHz
#Sweep 1 s

Occupied Bandwidth
36.077 MHz
Total Power 16.7 dBm
Transmit Freq Error 27.278 kHz
% of OBW Power 99.00 %
x dB Bandwidth 38.29 MHz
x dB -20.00 dB

Occupied Bandwidth(MHz):36.077
Left Frequency(MHz):2403.99 Right Frequency(MHz):2440.07
Limit:>2400MHz Test Result:Pass

IEEE 802.11n(HT40) Mode_2462 MHz



Center Freq 2.462000000 GHz

Center Freq: 2.462000000 GHz
Trig: Free Run Avg|Hold: 10/10
#Atten: 30 dB
Radio Std: None
Radio Device: BTS
#IFGain:Low

Ref Offset 18 dB
Ref 20.00 dBm
10 dB/div
Mkr1 2.4802033 GHz
-5.1740 dBm

Center 2.462 GHz
#Res BW 820 kHz
#VBW 2.4 MHz
Span 80 MHz
#Sweep 1 s

Occupied Bandwidth
36.391 MHz
Total Power 13.9 dBm
Transmit Freq Error 7.575 kHz
% of OBW Power 99.00 %
x dB Bandwidth 38.29 MHz
x dB -20.00 dB

Occupied Bandwidth(MHz):36.391
Left Frequency(MHz):2443.81 Right Frequency(MHz):2480.20
Limit: <2483.5MHz Test Result:Pass

Test Mode:	TX Mode_ IEEE 802.11ax(HE20) Mode

Frequency (MHz)	Occupied Channel Bandwidth (MHz)	F_L at 99% BW (MHz)	F_H at 99% BW (MHz)	Result
2412	18.895	2402.55	-	Pass
2472	18.805	-	2481.39	
N/A		$F_L > 2400$	$F_H < 2483.5$	

IEEE 802.11ax(HE20) Mode_2412 MHz

Center Freq 2.412000000 GHz

Center Freq: 2.412000000 GHz
Trig: Free Run
Avg|Hold: 10/10
#Atten: 30 dB
Radio Std: None
Radio Device: BTS

Ref Offset 18 dB
Ref 20.00 dBm

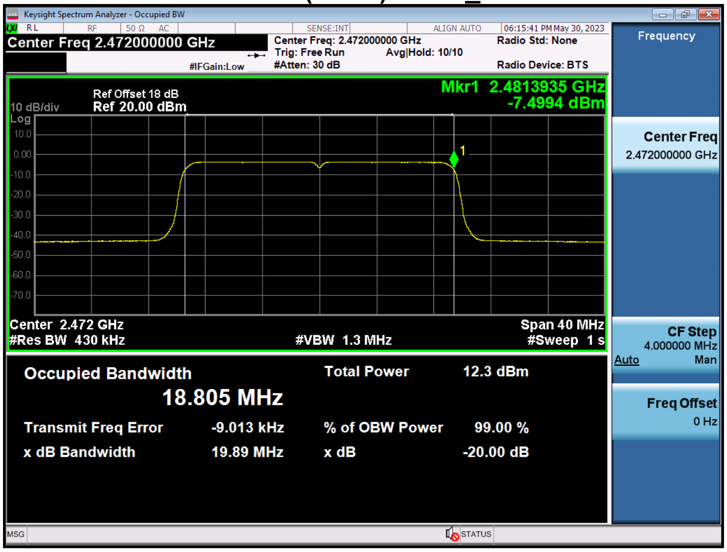
Mkr1 2.4025509 GHz
-5.5451 dBm

Center 2.412 GHz
#Res BW 430 kHz
#VBW 1.3 MHz
Span 40 MHz
#Sweep 1 s

Occupied Bandwidth
18.895 MHz
Total Power 14.5 dBm
Transmit Freq Error -1.779 kHz
% of OBW Power 99.00 %
x dB Bandwidth 20.02 MHz
x dB -20.00 dB

```
Occupied Bandwidth(MHz):18.895
Left Frequency(MHz):2402.55         Right Frequency(MHz):2421.45
Limit:>2400MHz                      Test Result:Pass
```

IEEE 802.11ax(HE20) Mode_2472 MHz



Center Freq 2.472000000 GHz

Center Freq: 2.472000000 GHz
Trig: Free Run
Avg|Hold: 10/10
#Atten: 30 dB
Radio Std: None
Radio Device: BTS

Ref Offset 18 dB
Ref 20.00 dBm

Mkr1 2.4813935 GHz
-7.4994 dBm

Center 2.472 GHz
#Res BW 430 kHz
#VBW 1.3 MHz
Span 40 MHz
#Sweep 1 s

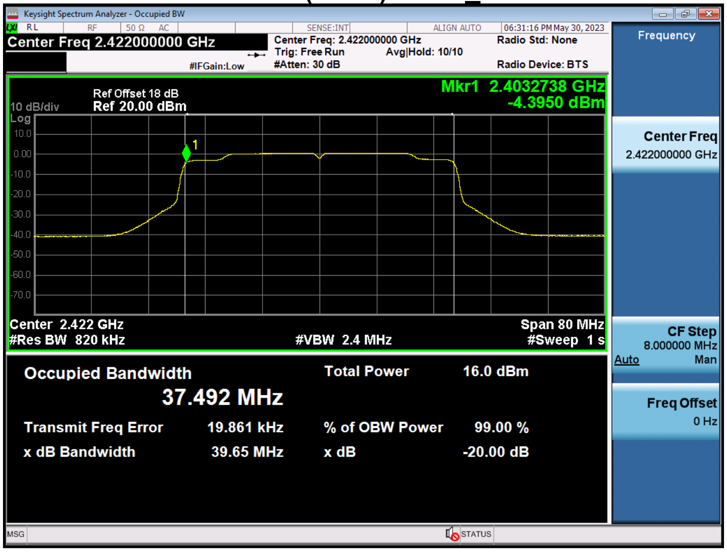
Occupied Bandwidth
18.805 MHz
Total Power 12.3 dBm
Transmit Freq Error -9.013 kHz
% of OBW Power 99.00 %
x dB Bandwidth 19.89 MHz
x dB -20.00 dB

```
Occupied Bandwidth(MHz):18.805
Left Frequency(MHz):2462.59         Right Frequency(MHz):2481.39
Limit: <2483.5MHz                   Test Result:Pass
```

Test Mode:	TX Mode_ IEEE 802.11ax(HE40) Mode

Frequency (MHz)	Occupied Channel Bandwidth (MHz)	F_L at 99% BW (MHz)	F_H at 99% BW (MHz)	Result
2422	37.492	2403.27	-	Pass
2462	37.665	-	2480.84	
N/A		$F_L > 2400$	$F_H < 2483.5$	

IEEE 802.11ax(HE40) Mode_2422 MHz



Keysight Spectrum Analyzer - Occupied BW

Center Freq 2.422000000 GHz

Center Freq: 2.422000000 GHz
Trig: Free Run
#Atten: 30 dB
Avg|Hold: 10/10
Radio Std: None
Radio Device: BTS

Mkr1 2.4032738 GHz
-4.3950 dBm

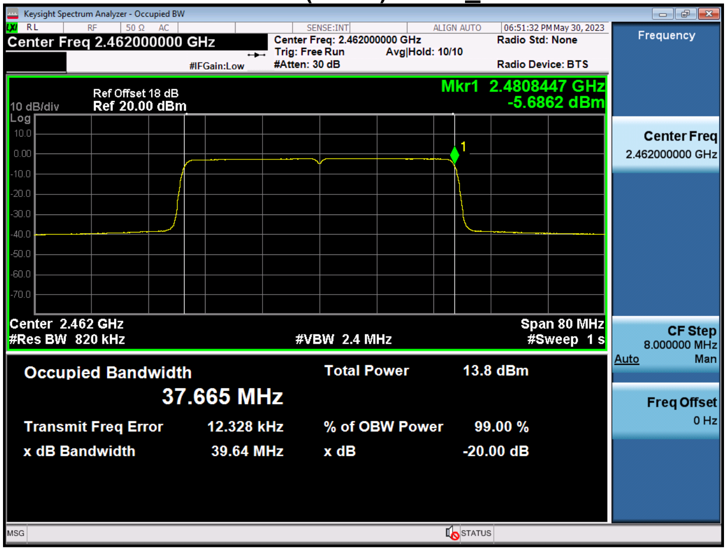
Center 2.422 GHz
#Res BW 820 kHz
#VBW 2.4 MHz
Span 80 MHz
#Sweep 1 s

Occupied Bandwidth
37.492 MHz

Total Power 16.0 dBm
Transmit Freq Error 19.861 kHz
% of OBW Power 99.00 %
x dB Bandwidth 39.65 MHz
x dB -20.00 dB

```
Occupied Bandwidth(MHz):37.492
Left Frequency(MHz):2403.27          Right Frequency(MHz):2440.77
Limit:>2400MHz                       Test Result:Pass
```

IEEE 802.11ax(HE40) Mode_2462 MHz



Keysight Spectrum Analyzer - Occupied BW

Center Freq 2.462000000 GHz

Center Freq: 2.462000000 GHz
Trig: Free Run
#Atten: 30 dB
Avg|Hold: 10/10
Radio Std: None
Radio Device: BTS

Mkr1 2.4808447 GHz
-5.6862 dBm

Center 2.462 GHz
#Res BW 820 kHz
#VBW 2.4 MHz
Span 80 MHz
#Sweep 1 s

Occupied Bandwidth
37.665 MHz

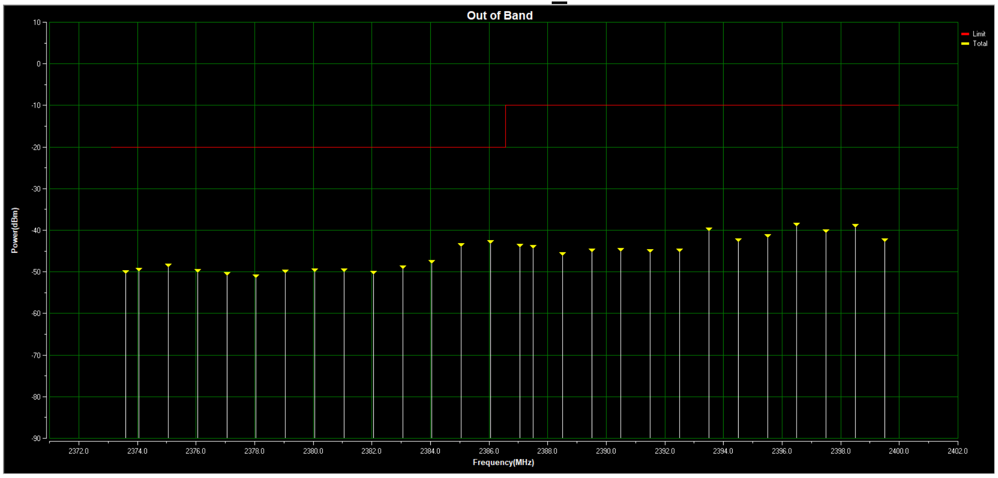
Total Power 13.8 dBm
Transmit Freq Error 12.328 kHz
% of OBW Power 99.00 %
x dB Bandwidth 39.64 MHz
x dB -20.00 dB

```
Occupied Bandwidth(MHz):37.665
Left Frequency(MHz):2443.18          Right Frequency(MHz):2480.84
Limit: <2483.5MHz                    Test Result:Pass
```

APPENDIX G - TRANSMITTER UNWANTED EMISSIONS IN THE OOB DOMAIN

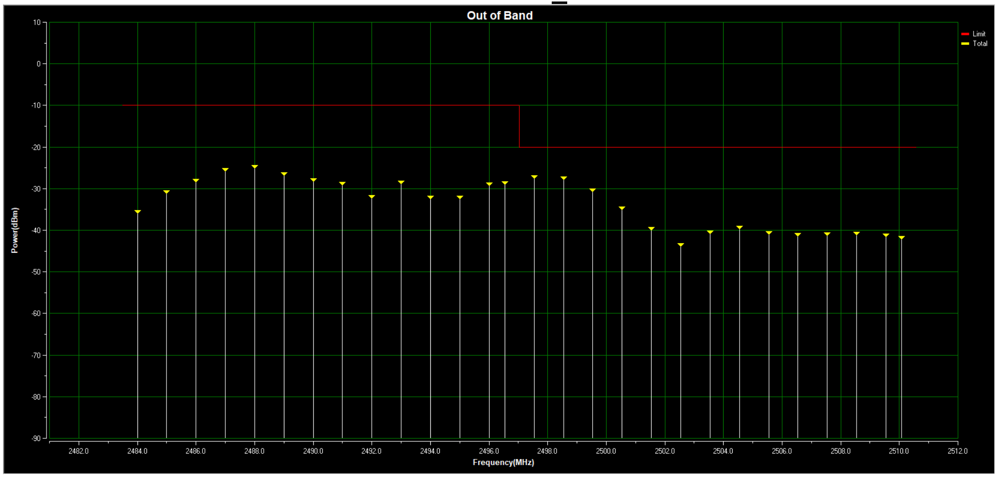
Test Mode:	TX Mode_ IEEE 802.11b Mode

IEEE 802.11b Mode_2412 MHz



Test Result:Pass

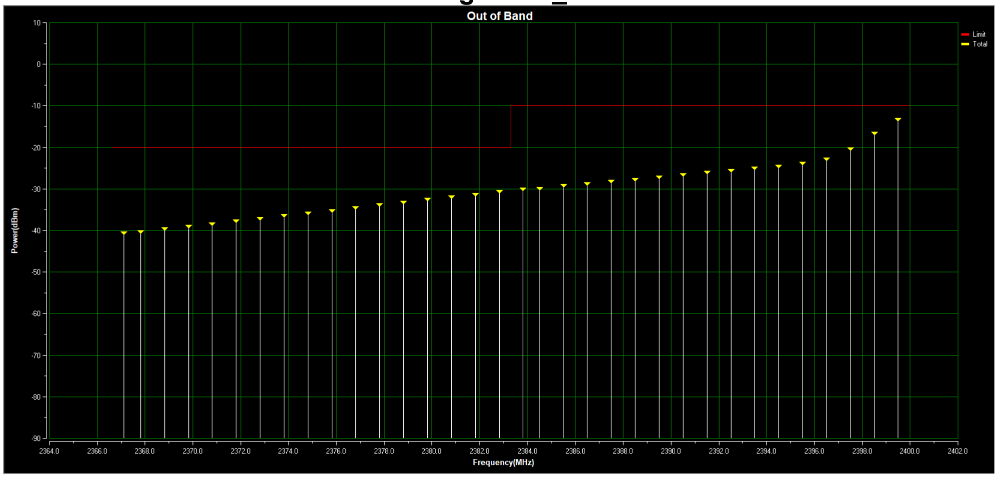
IEEE 802.11b Mode_2472 MHz



Test Result:Pass

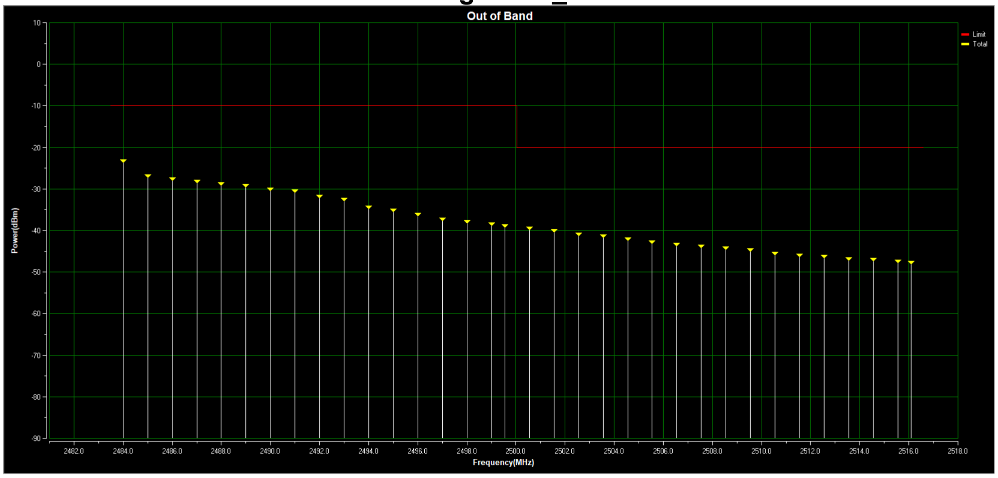
Test Mode:	TX Mode_ IEEE 802.11g Mode

IEEE 802.11g Mode_2412 MHz



Test Result:Pass

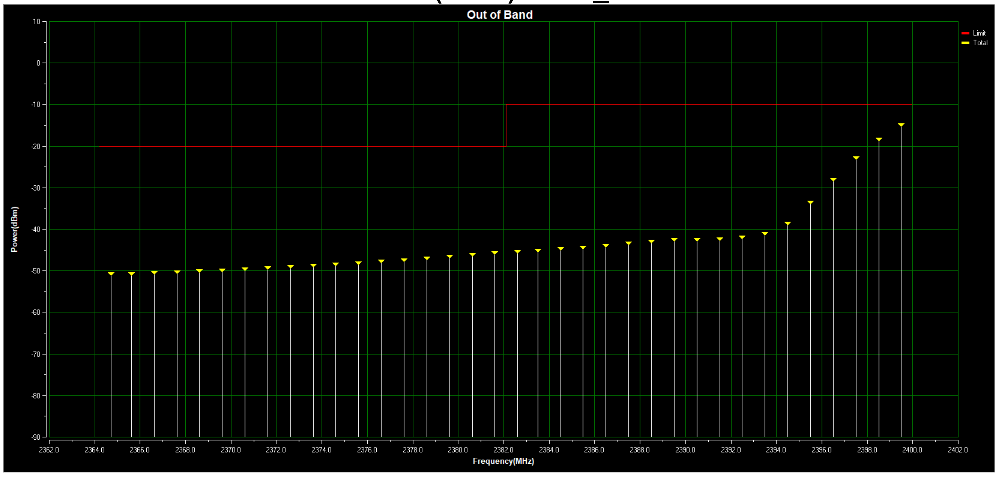
IEEE 802.11g Mode_2472 MHz



Test Result:Pass

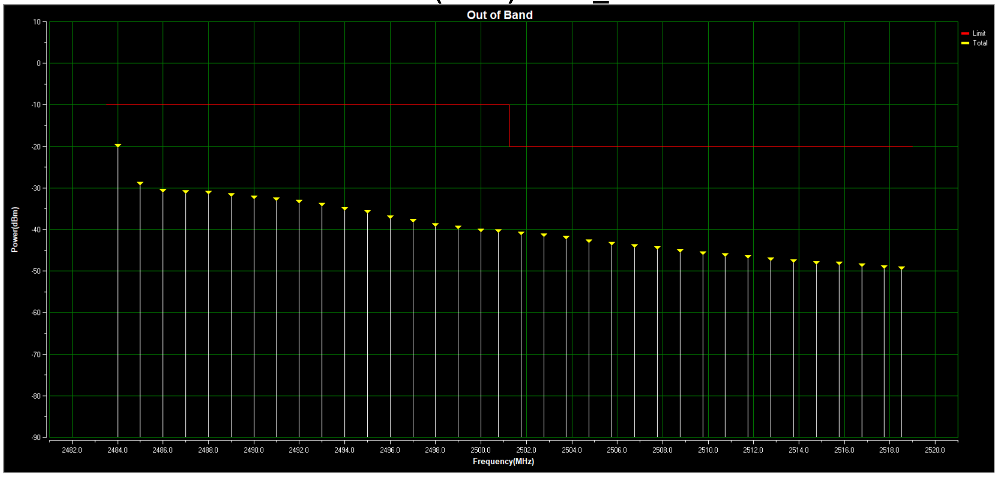
Test Mode:	TX Mode_ IEEE 802.11n(HT20) Mode

IEEE 802.11n(HT20) Mode_2412 MHz



Test Result:Pass

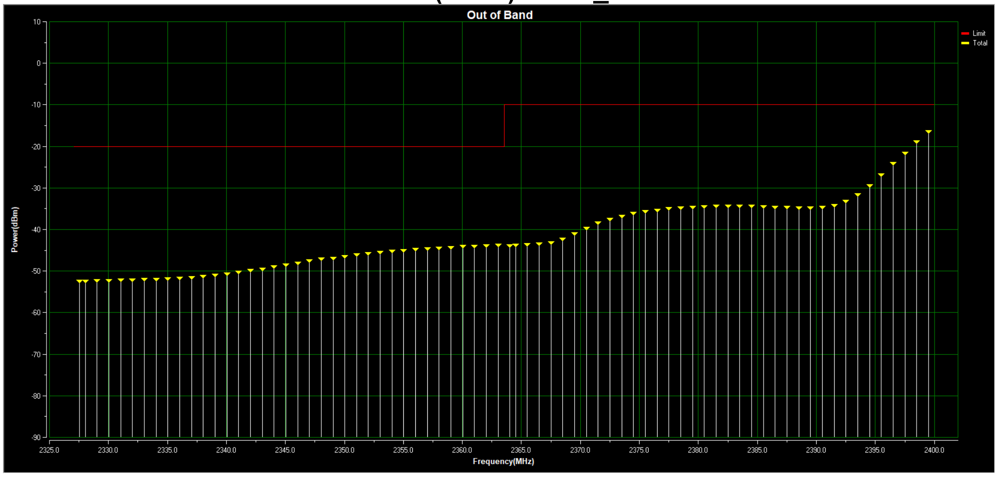
IEEE 802.11n(HT20) Mode_2472 MHz



Test Result:Pass

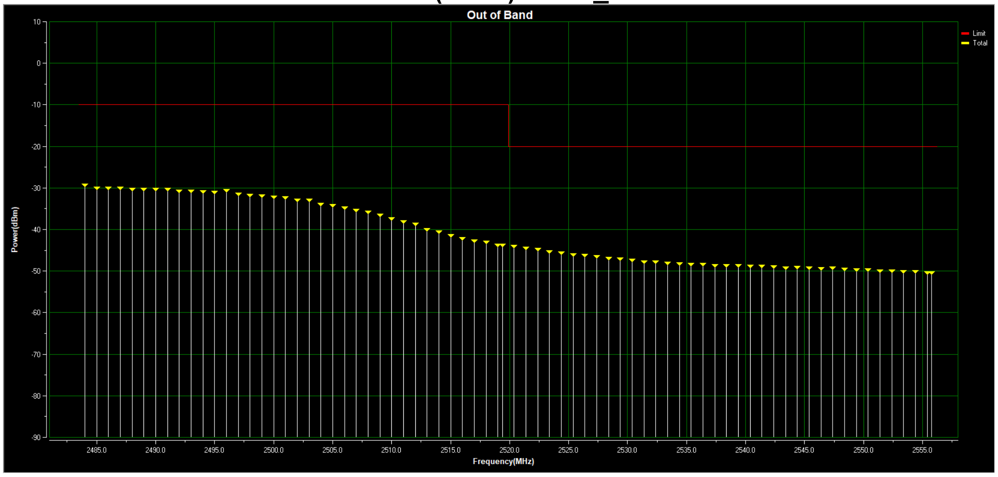
Test Mode:	TX Mode_ IEEE 802.11n(HT40) Mode

IEEE 802.11n(HT40) Mode_2422 MHz



Test Result:Pass

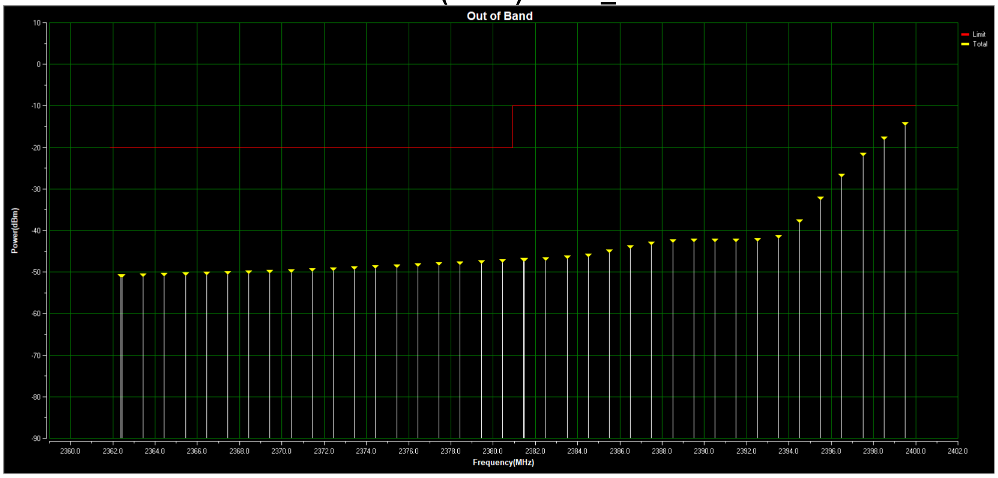
IEEE 802.11n(HT40) Mode_2462 MHz



Test Result:Pass

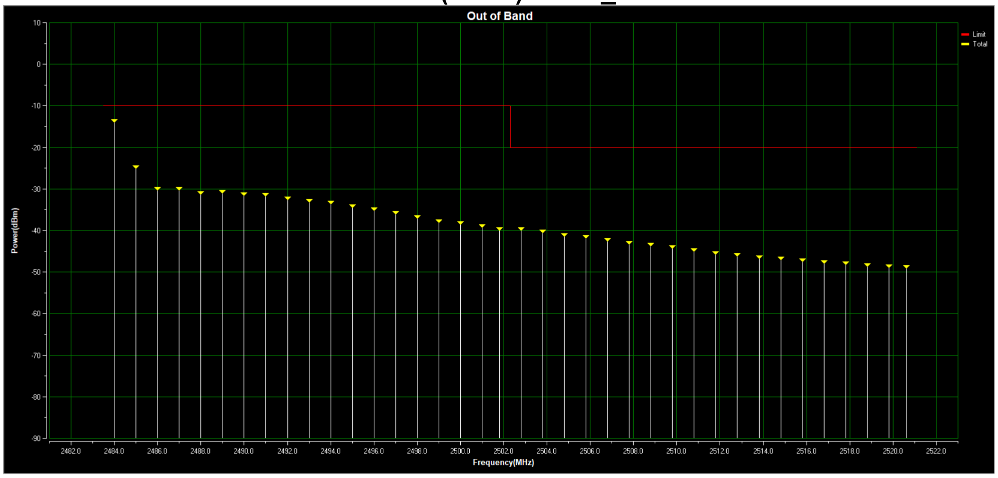
Test Mode:	TX Mode_ IEEE 802.11ax(HE20) Mode

IEEE 802.11ax(HE20) Mode_2412 MHz



Test Result:Pass

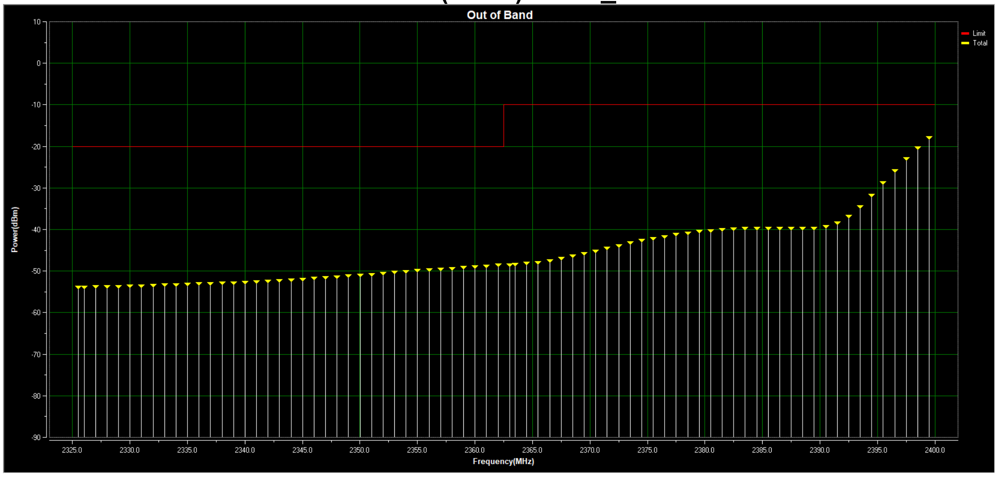
IEEE 802.11ax(HE20) Mode_2472 MHz



Test Result:Pass

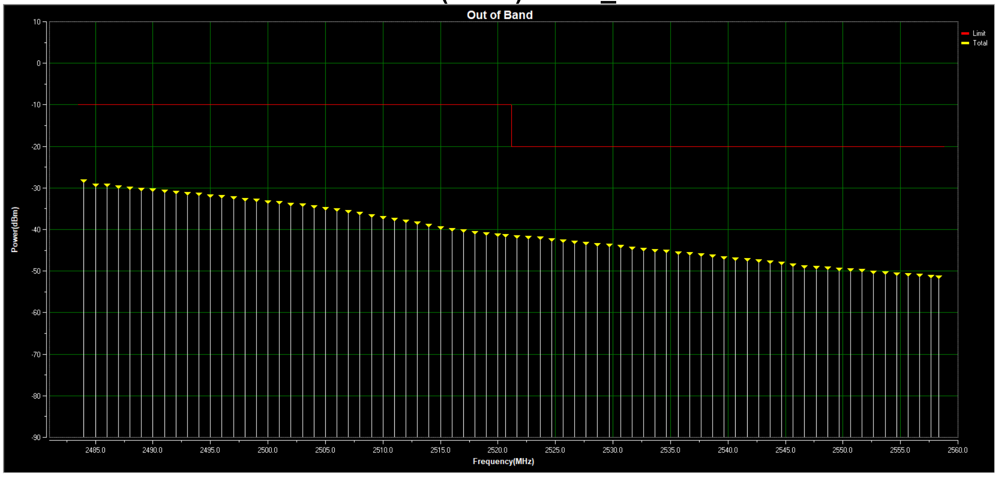
Test Mode:	TX Mode_ IEEE 802.11ax(HE40) Mode

IEEE 802.11ax(HE40) Mode_2422 MHz



Test Result:Pass

IEEE 802.11ax(HE40) Mode_2462 MHz

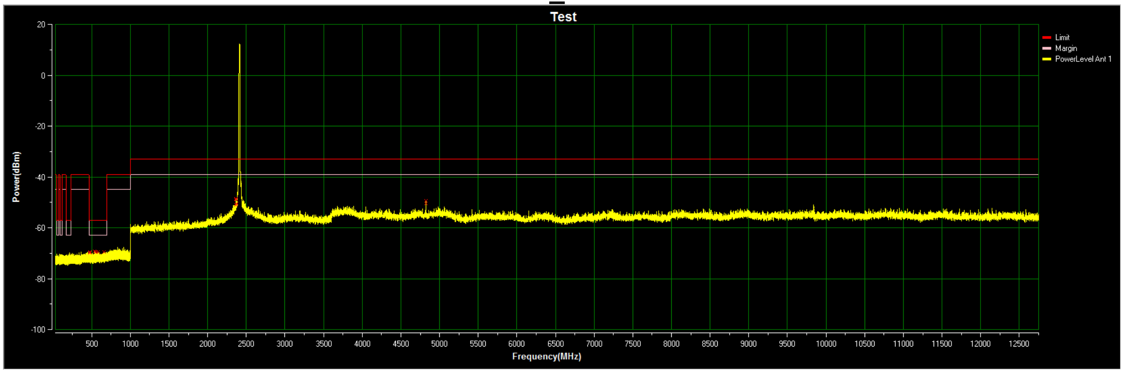


Test Result:Pass

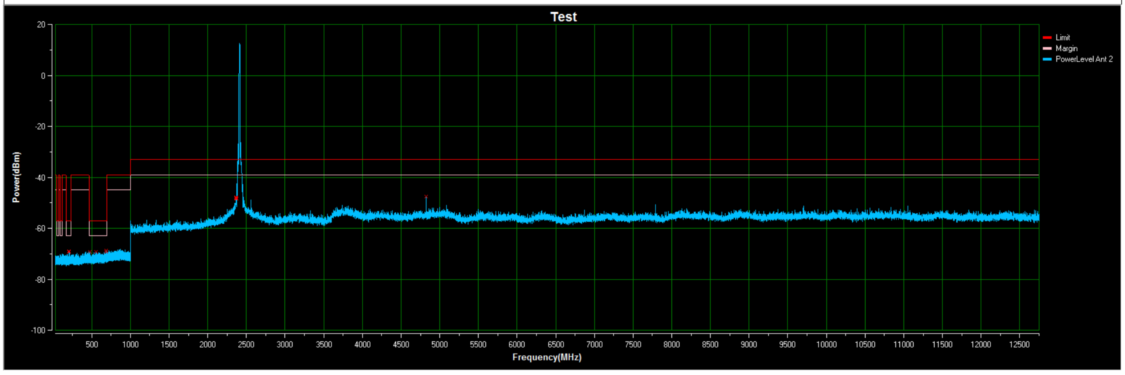
APPENDIX H - TRANSMITTER UNWANTED EMISSIONS IN THE SPURIOUS DOMAIN

Test Mode	TX Mode IEEE 802.11b

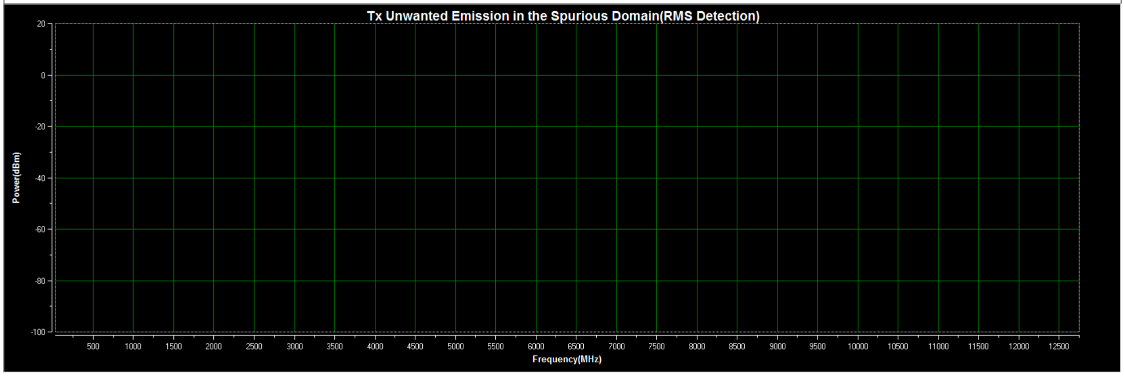
TX Mode_2412 MHz



Frequency(MHz)	Reading Level(dBm)	Limit(dBm)	Margin(dB)	Result
535	-68.99	-57.01	11.97	Pass
662.45	-69.27	-57.01	12.26	Pass
559.15	-69.32	-57.01	12.31	Pass
475.45	-69.37	-57.01	12.36	Pass
580.6	-69.39	-57.01	12.38	Pass
476.75	-69.42	-57.01	12.41	Pass
2365.5	-48.36	-33.01	15.35	Pass
2366	-48.49	-33.01	15.48	Pass
4824	-49.24	-33.01	16.23	Pass
4824.5	-50.16	-33.01	17.15	Pass
2373	-50.29	-33.01	17.28	Pass
2362	-50.71	-33.01	17.7	Pass

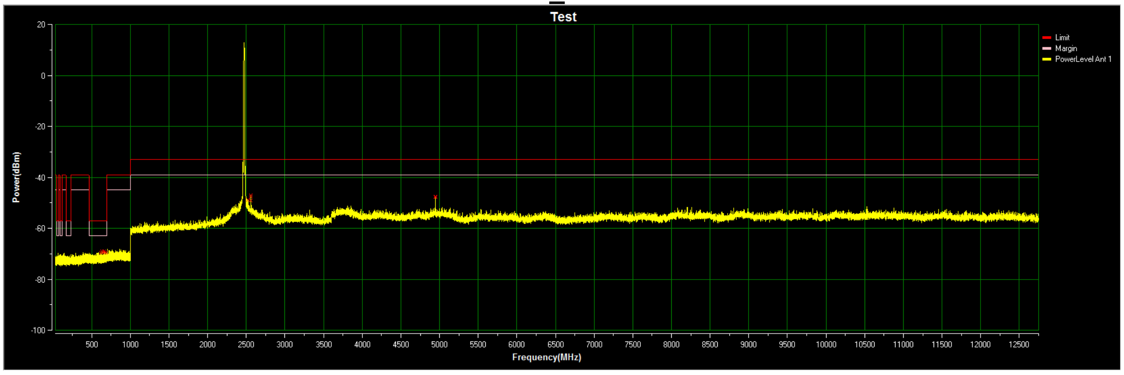


Frequency(MHz)	Reading Level(dBm)	Limit(dBm)	Margin(dB)	Result
686.65	-68.58	-57.01	11.57	Pass
205.75	-68.87	-57.01	11.86	Pass
473.9	-68.98	-57.01	11.97	Pass
553.45	-69.05	-57.01	12.04	Pass
205.7	-69.07	-57.01	12.06	Pass
686.6	-69.08	-57.01	12.07	Pass
4824	-47.27	-33.01	14.26	Pass
4824.5	-47.39	-33.01	14.38	Pass
2364.5	-47.47	-33.01	14.46	Pass
2365	-47.87	-33.01	14.86	Pass
2368.5	-48.03	-33.01	15.02	Pass
2373	-48.06	-33.01	15.05	Pass

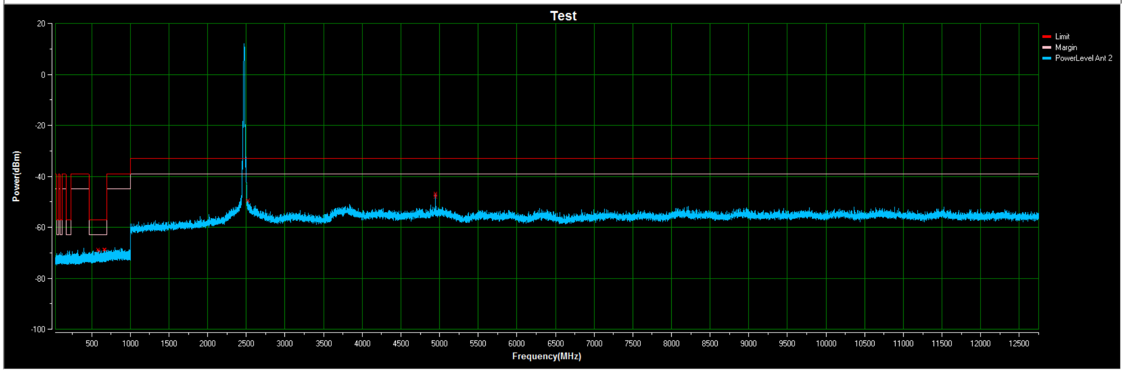


Frequency(MHz)	Reading Level(dBm)	Limit(dBm)	Margin(dB)	Result

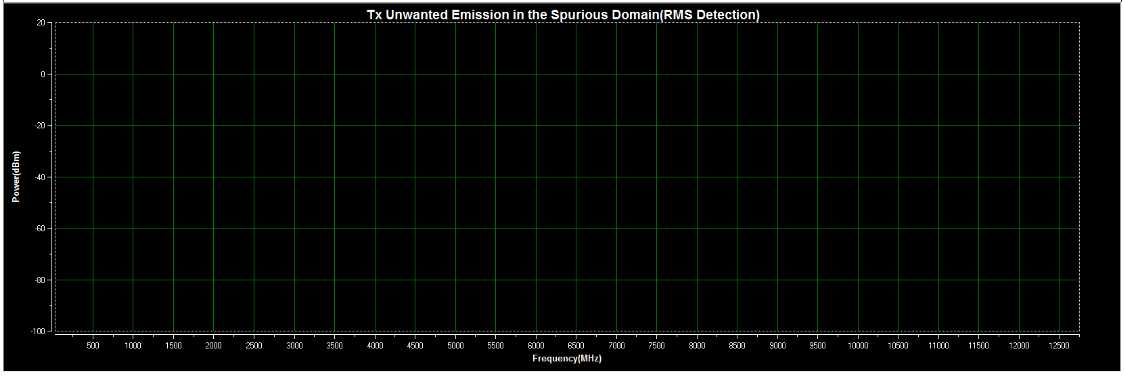
TX Mode_2472 MHz



Frequency(MHz)	Reading Level(dBm)	Limit(dBm)	Margin(dB)	Result
661.2	-68.7	-57.01	11.69	Pass
630.75	-68.85	-57.01	11.84	Pass
617.55	-69.15	-57.01	12.14	Pass
667.8	-69.23	-57.01	12.22	Pass
683.2	-69.24	-57.01	12.22	Pass
630.7	-69.33	-57.01	12.32	Pass
2560.5	-46.86	-33.01	13.85	Pass
2560	-47.19	-33.01	14.18	Pass
4944	-47.35	-33.01	14.34	Pass
4944.5	-47.48	-33.01	14.47	Pass
2521	-48.64	-33.01	15.63	Pass
2559.5	-48.91	-33.01	15.9	Pass



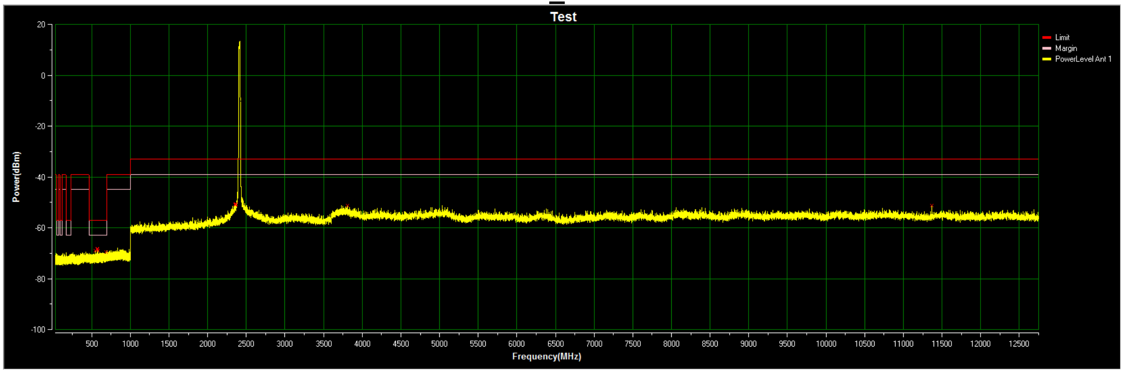
Frequency(MHz)	Reading Level(dBm)	Limit(dBm)	Margin(dB)	Result
671.6	-68.47	-57.01	11.46	Pass
584.4	-68.54	-57.01	11.53	Pass
584.35	-68.56	-57.01	11.55	Pass
658	-68.58	-57.01	11.57	Pass
587.35	-68.89	-57.01	11.88	Pass
587.4	-68.92	-57.01	11.91	Pass
4944.5	-46.53	-33.01	13.52	Pass
4944	-46.9	-33.01	13.89	Pass
4943.5	-47.77	-33.01	14.75	Pass
4945	-47.91	-33.01	14.9	Pass
2524.5	-49.12	-33.01	16.11	Pass
2512.5	-49.42	-33.01	16.41	Pass



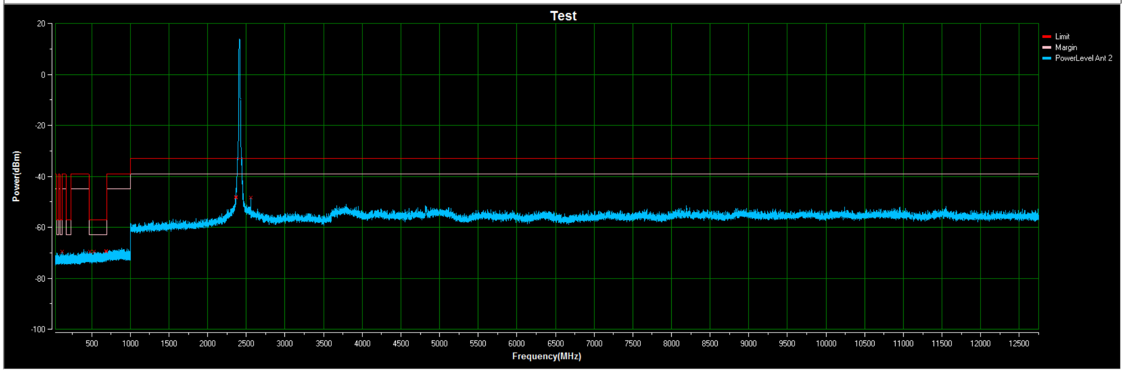
Frequency(MHz)	Reading Level(dBm)	Limit(dBm)	Margin(dB)	Result

Test Mode	TX Mode IEEE 802.11g

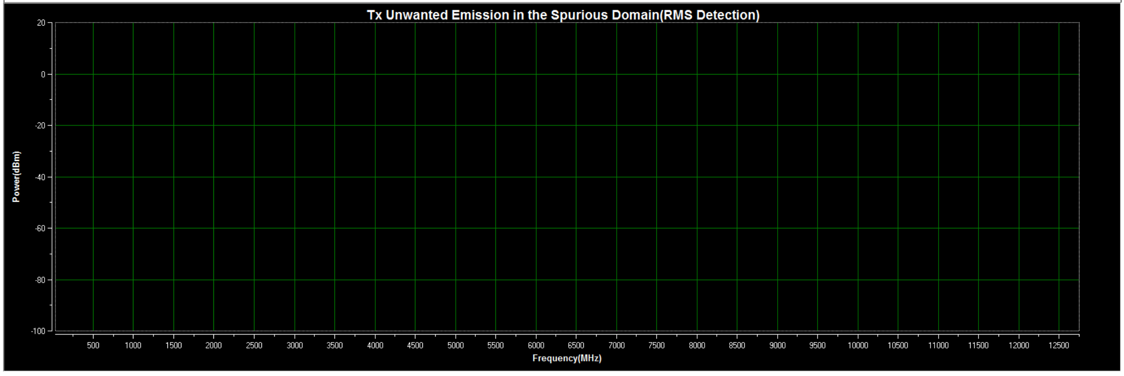
TX Mode_2412 MHz



Frequency(MHz)	Reading Level(dBm)	Limit(dBm)	Margin(dB)	Result
569.8	-67.94	-57.01	10.93	Pass
569.75	-68.21	-57.01	11.2	Pass
548.35	-68.81	-57.01	11.8	Pass
579.8	-68.81	-57.01	11.8	Pass
548.3	-68.82	-57.01	11.81	Pass
685.65	-69.36	-57.01	12.35	Pass
2362.5	-50.41	-33.01	17.4	Pass
2354.5	-50.57	-33.01	17.56	Pass
2358	-50.68	-33.01	17.67	Pass
2357.5	-50.75	-33.01	17.74	Pass
3806.5	-50.88	-33.01	17.87	Pass
11367.5	-50.95	-33.01	17.94	Pass

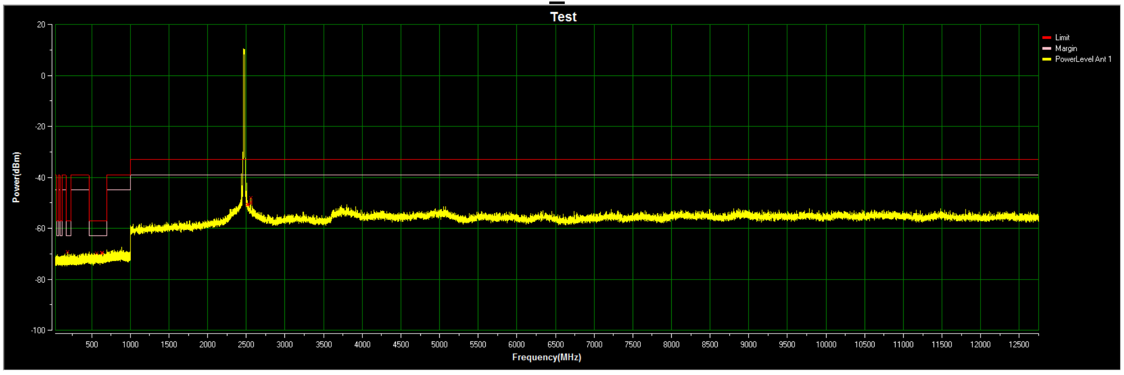


Frequency(MHz)	Reading Level(dBm)	Limit(dBm)	Margin(dB)	Result
686.65	-69.08	-57.01	12.07	Pass
475.3	-69.17	-57.01	12.16	Pass
527.45	-69.28	-57.01	12.27	Pass
688.3	-69.37	-57.01	12.36	Pass
688.35	-69.38	-57.01	12.37	Pass
116.35	-69.4	-57.01	12.39	Pass
2365	-47.7	-33.01	14.69	Pass
2365.5	-47.72	-33.01	14.71	Pass
2362	-47.76	-33.01	14.75	Pass
2560	-48	-33.01	14.99	Pass
2560.5	-48.08	-33.01	15.07	Pass
2361.5	-48.1	-33.01	15.09	Pass

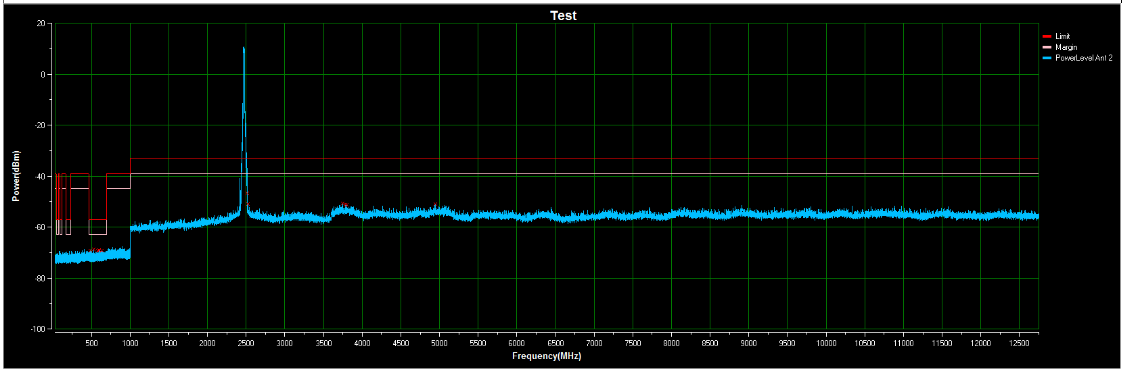


Frequency(MHz)	Reading Level(dBm)	Limit(dBm)	Margin(dB)	Result

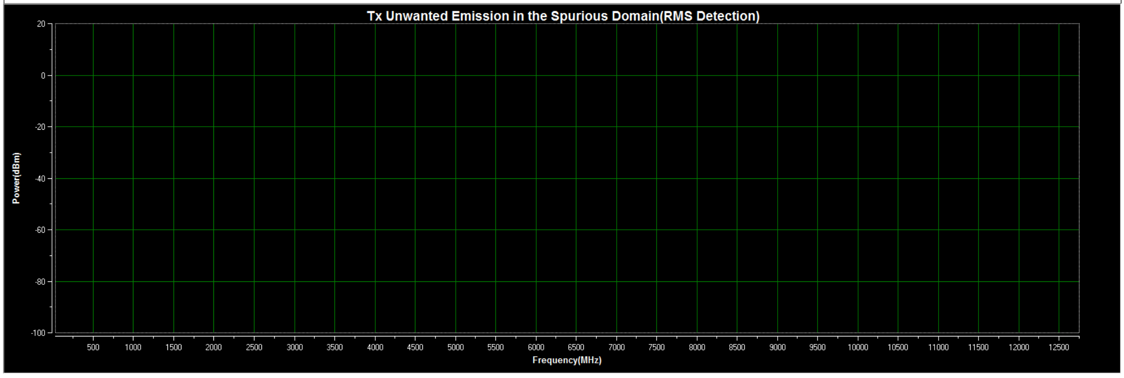
TX Mode_2472 MHz



Frequency(MHz)	Reading Level(dBm)	Limit(dBm)	Margin(dB)	Result
187.2	-69.03	-57.01	12.02	Pass
187.25	-69.06	-57.01	12.05	Pass
633.9	-69.33	-57.01	12.32	Pass
633.85	-69.43	-57.01	12.42	Pass
562.2	-69.45	-57.01	12.44	Pass
562.25	-69.46	-57.01	12.45	Pass
2560.5	-47.73	-33.01	14.72	Pass
2560	-47.82	-33.01	14.81	Pass
2559.5	-49.33	-33.01	16.32	Pass
2561	-49.89	-33.01	16.88	Pass
2517	-50.41	-33.01	17.4	Pass
2520	-50.49	-33.01	17.48	Pass



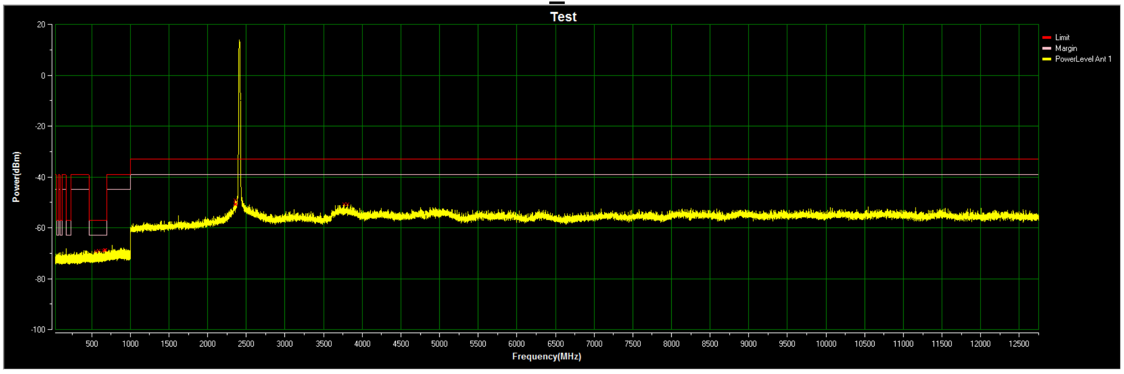
Frequency(MHz)	Reading Level(dBm)	Limit(dBm)	Margin(dB)	Result
528.5	-68.54	-57.01	11.53	Pass
600.05	-68.77	-57.01	11.76	Pass
489.25	-69.1	-57.01	12.09	Pass
630.1	-69.1	-57.01	12.09	Pass
577.2	-69.13	-57.01	12.12	Pass
577.25	-69.14	-57.01	12.13	Pass
2517	-46.61	-33.01	13.6	Pass
3746.5	-50.51	-33.01	17.5	Pass
2526	-50.73	-33.01	17.72	Pass
4949	-50.84	-33.01	17.82	Pass
3801.5	-50.94	-33.01	17.93	Pass
3781.5	-51.08	-33.01	18.07	Pass



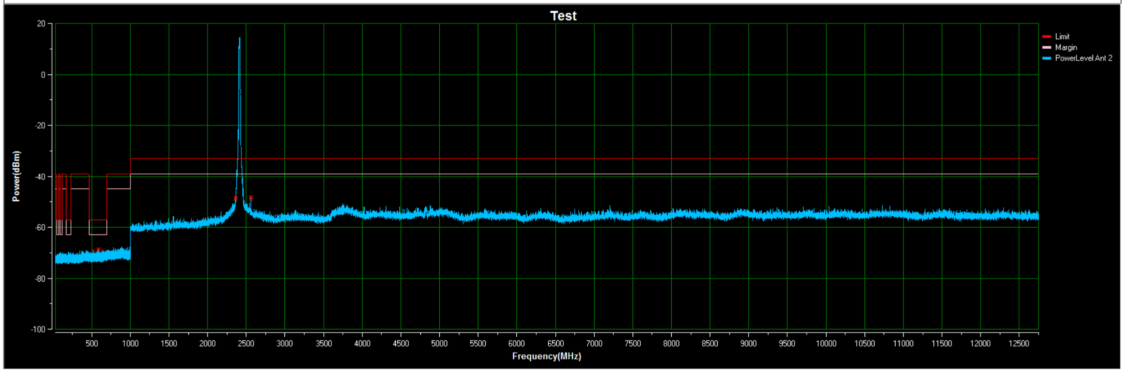
Frequency(MHz)	Reading Level(dBm)	Limit(dBm)	Margin(dB)	Result

Test Mode	TX Mode IEEE 802.11n(HT20)

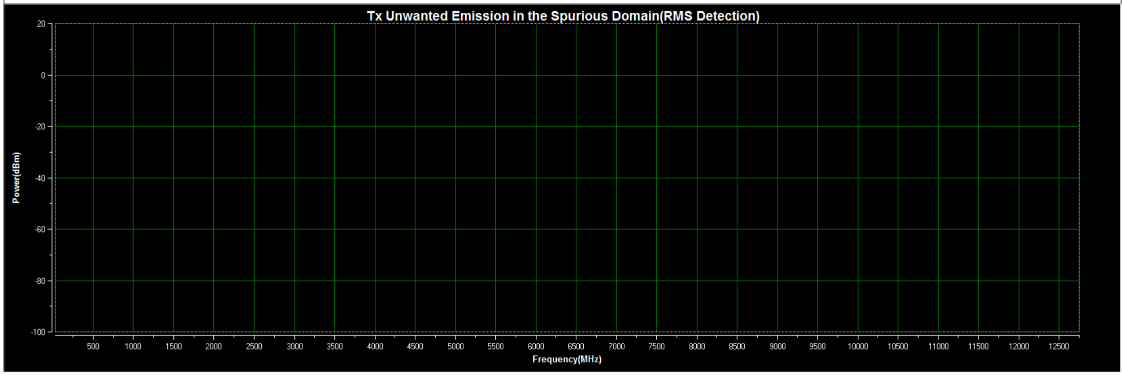
TX Mode_2412 MHz



Frequency(MHz)	Reading Level(dBm)	Limit(dBm)	Margin(dB)	Result
666.9	-68.39	-57.01	11.38	Pass
673.75	-68.49	-57.01	11.48	Pass
673.8	-68.51	-57.01	11.5	Pass
585.7	-68.71	-57.01	11.7	Pass
650.45	-68.85	-57.01	11.84	Pass
556.9	-68.9	-57.01	11.89	Pass
2356	-48.91	-33.01	15.9	Pass
3765	-50.39	-33.01	17.38	Pass
3806	-50.4	-33.01	17.39	Pass
2356.5	-50.59	-33.01	17.58	Pass
2363	-50.59	-33.01	17.58	Pass
3764.5	-50.59	-33.01	17.58	Pass

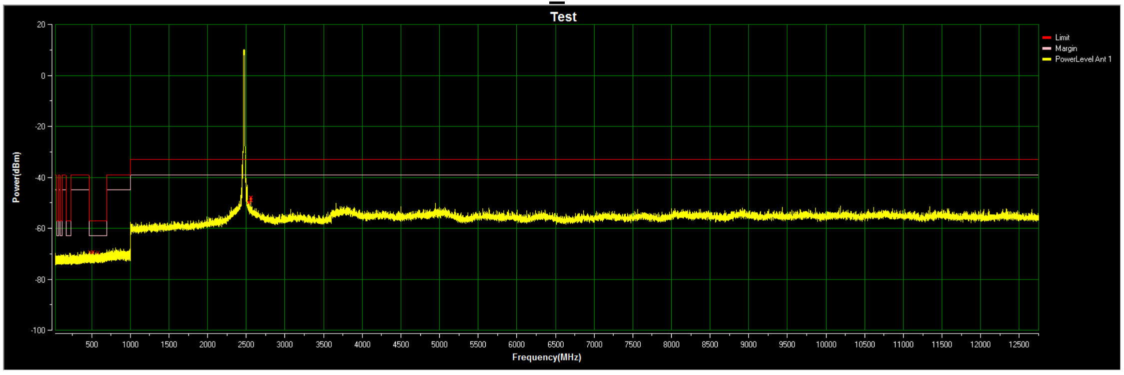


Frequency(MHz)	Reading Level(dBm)	Limit(dBm)	Margin(dB)	Result
587.95	-68.21	-57.01	11.2	Pass
588	-68.37	-57.01	11.36	Pass
584.8	-68.69	-57.01	11.68	Pass
644.2	-68.69	-57.01	11.68	Pass
518.9	-68.71	-57.01	11.7	Pass
644.25	-68.71	-57.01	11.7	Pass
2560.5	-47.82	-33.01	14.81	Pass
2362	-48.13	-33.01	15.12	Pass
2560	-48.19	-33.01	15.18	Pass
2364.5	-48.4	-33.01	15.39	Pass
2357.5	-48.73	-33.01	15.72	Pass
2559.5	-48.87	-33.01	15.86	Pass

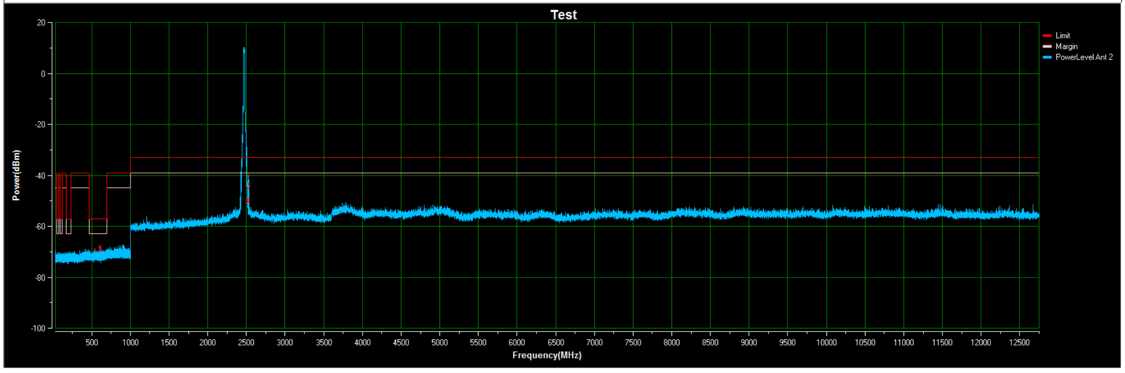


Frequency(MHz)	Reading Level(dBm)	Limit(dBm)	Margin(dB)	Result

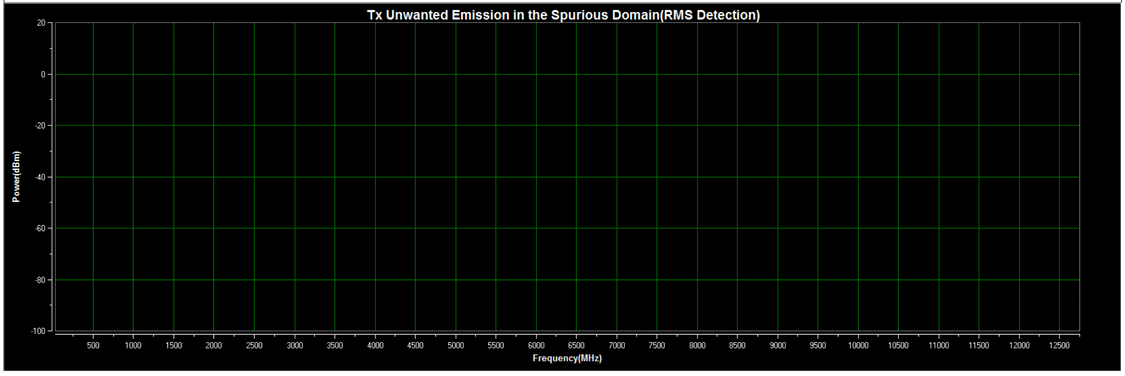
TX Mode_2472 MHz



Frequency(MHz)	Reading Level(dBm)	Limit(dBm)	Margin(dB)	Result
478.85	-69.01	-57.01	12	Pass
516.2	-69.02	-57.01	12.01	Pass
516.25	-69.03	-57.01	12.02	Pass
584.05	-69.16	-57.01	12.15	Pass
584	-69.17	-57.01	12.16	Pass
501.95	-69.21	-57.01	12.2	Pass
2560.5	-47.64	-33.01	14.63	Pass
2560	-47.87	-33.01	14.86	Pass
2559.5	-48.64	-33.01	15.63	Pass
2561	-48.95	-33.01	15.94	Pass
2529	-49.52	-33.01	16.51	Pass
2529.5	-49.56	-33.01	16.55	Pass



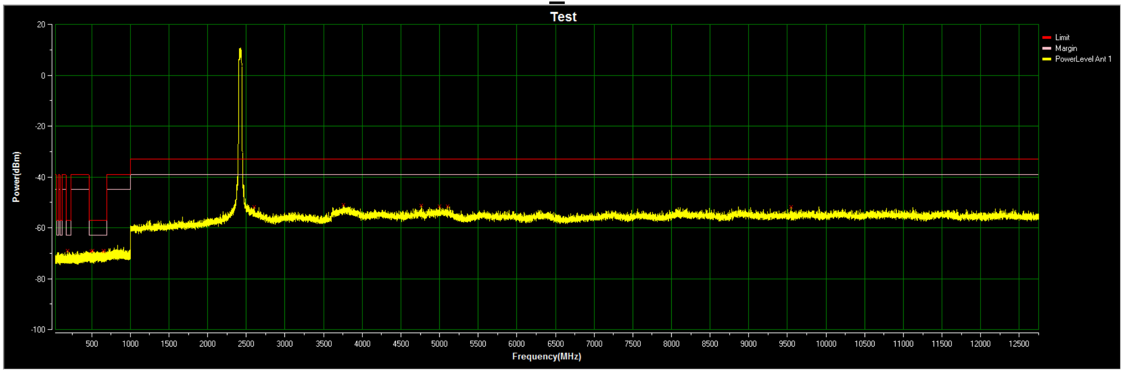
Frequency(MHz)	Reading Level(dBm)	Limit(dBm)	Margin(dB)	Result
605.8	-67.36	-57.01	10.35	Pass
605.85	-68.58	-57.01	11.57	Pass
533.25	-68.86	-57.01	11.85	Pass
607.15	-69.06	-57.01	12.05	Pass
626.5	-69.06	-57.01	12.05	Pass
626.55	-69.07	-57.01	12.06	Pass
2527.5	-39.88	-33.01	6.87	Pass
2528	-43.2	-33.01	10.19	Pass
2521.5	-44.84	-33.01	11.83	Pass
2520	-49.27	-33.01	16.26	Pass
2520.5	-49.96	-33.01	16.95	Pass
2521	-50.2	-33.01	17.19	Pass



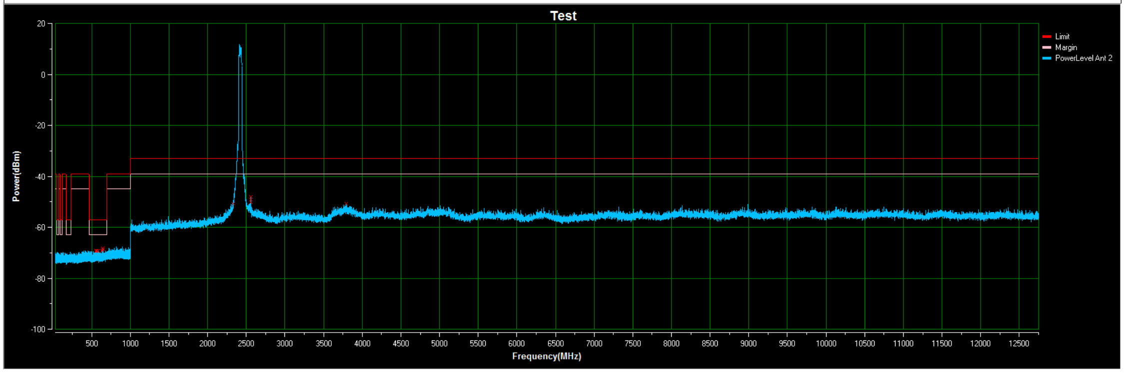
Frequency(MHz)	Reading Level(dBm)	Limit(dBm)	Margin(dB)	Result

Test Mode	TX Mode IEEE 802.11n(HT40)

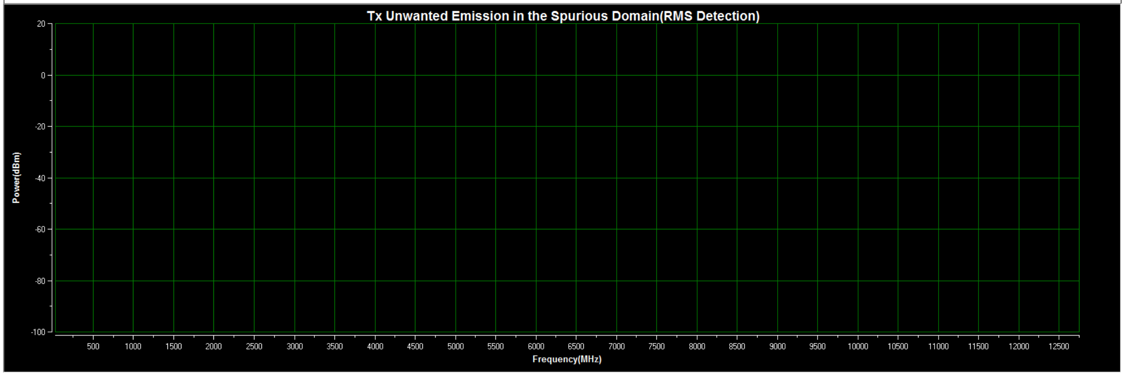
TX Mode_2422 MHz



Frequency(MHz)	Reading Level(dBm)	Limit(dBm)	Margin(dB)	Result
507.95	-68.74	-57.01	11.73	Pass
188	-68.78	-57.01	11.77	Pass
654.95	-68.8	-57.01	11.78	Pass
654.9	-68.8	-57.01	11.79	Pass
496.75	-68.87	-57.01	11.86	Pass
658	-68.91	-57.01	11.9	Pass
3756.5	-50.82	-33.01	17.81	Pass
4758.5	-51.05	-33.01	18.04	Pass
5000	-51.13	-33.01	18.12	Pass
5100.5	-51.36	-33.01	18.35	Pass
2602	-51.4	-33.01	18.39	Pass
9548	-51.49	-33.01	18.48	Pass

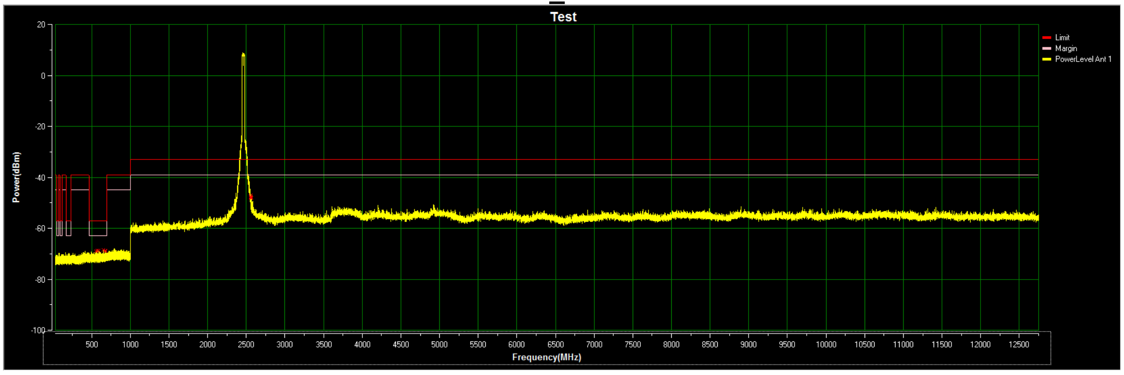


Frequency(MHz)	Reading Level(dBm)	Limit(dBm)	Margin(dB)	Result
640.25	-67.93	-57.01	10.92	Pass
640.2	-68.4	-57.01	11.39	Pass
563.95	-68.96	-57.01	11.95	Pass
556.75	-69.1	-57.01	12.09	Pass
635	-69.13	-57.01	12.12	Pass
581.6	-69.14	-57.01	12.13	Pass
2560	-47.86	-33.01	14.85	Pass
2560.5	-47.92	-33.01	14.91	Pass
2561	-48.98	-33.01	15.97	Pass
2559.5	-49.86	-33.01	16.85	Pass
3795.5	-50.33	-33.01	17.32	Pass
2327.5	-50.43	-33.01	17.42	Pass

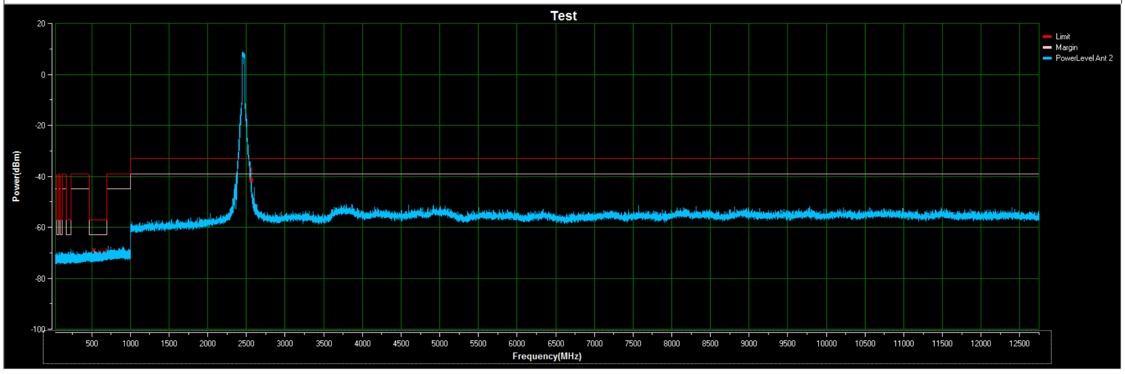


Frequency(MHz)	Reading Level(dBm)	Limit(dBm)	Margin(dB)	Result

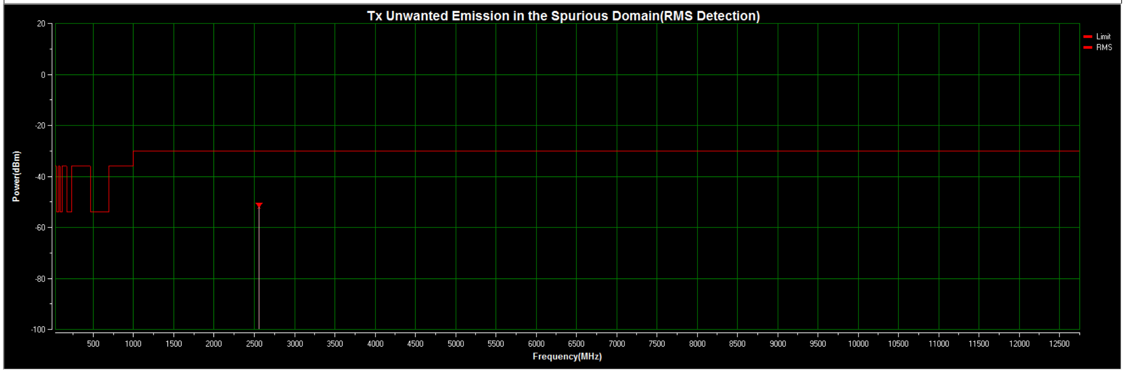
TX Mode_2462 MHz



Frequency(MHz)	Reading Level(dBm)	Limit(dBm)	Margin(dB)	Result
649.75	-68.34	-57.01	11.33	Pass
678.95	-68.43	-57.01	11.42	Pass
587.15	-68.45	-57.01	11.44	Pass
569.95	-68.51	-57.01	11.5	Pass
678.75	-68.82	-57.01	11.81	Pass
550.9	-68.86	-57.01	11.85	Pass
2560	-46.84	-33.01	13.83	Pass
2560.5	-47.2	-33.01	14.19	Pass
2556.5	-47.53	-33.01	14.52	Pass
2558.5	-47.54	-33.01	14.53	Pass
2563	-47.9	-33.01	14.89	Pass
2561	-47.91	-33.01	14.9	Pass



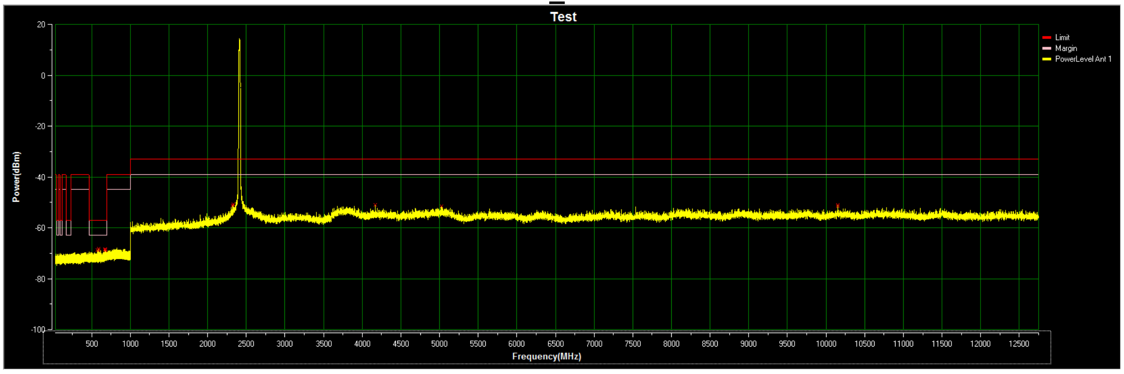
Frequency(MHz)	Reading Level(dBm)	Limit(dBm)	Margin(dB)	Result
693.8	-68.36	-57.01	11.35	Pass
693.85	-68.37	-57.01	11.36	Pass
532.3	-68.49	-57.01	11.48	Pass
532.25	-68.86	-57.01	11.85	Pass
648.45	-68.9	-57.01	11.89	Pass
596.5	-69.07	-57.01	12.06	Pass
2557	-36.52	-33.01	3.51	Pass
2557.5	-37.9	-33.01	4.89	Pass
2559	-40.33	-33.01	7.32	Pass
2567.5	-41.19	-33.01	8.18	Pass
2558.5	-41.24	-33.01	8.23	Pass
2560.5	-41.65	-33.01	8.64	Pass



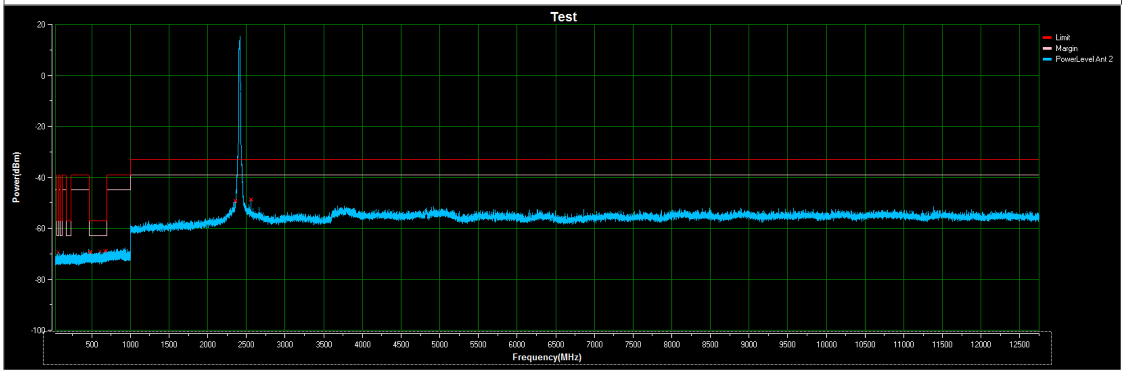
Frequency(MHz)	Reading Level(dBm)	Limit(dBm)	Margin(dB)	Result
2557	-51.87	-30	21.87	Pass
2557.5	-51.79	-30	21.79	Pass

Test Mode	TX Mode IEEE 802.11ax(HE20)

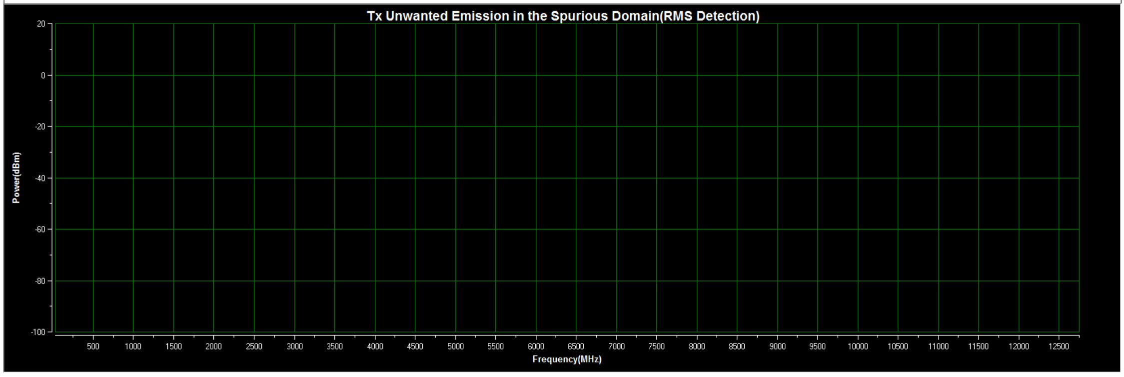
TX Mode_2412 MHz



Frequency(MHz)	Reading Level(dBm)	Limit(dBm)	Margin(dB)	Result
593.65	-67.95	-57.01	10.94	Pass
664.45	-68.16	-57.01	11.15	Pass
680.25	-68.28	-57.01	11.27	Pass
575	-68.41	-57.01	11.4	Pass
593.6	-68.42	-57.01	11.41	Pass
680.2	-68.73	-57.01	11.72	Pass
2329.5	-50.39	-33.01	17.38	Pass
10154	-50.61	-33.01	17.6	Pass
4166	-50.8	-33.01	17.79	Pass
2321.5	-51.06	-33.01	18.05	Pass
10154.5	-51.14	-33.01	18.13	Pass
5022.5	-51.19	-33.01	18.18	Pass

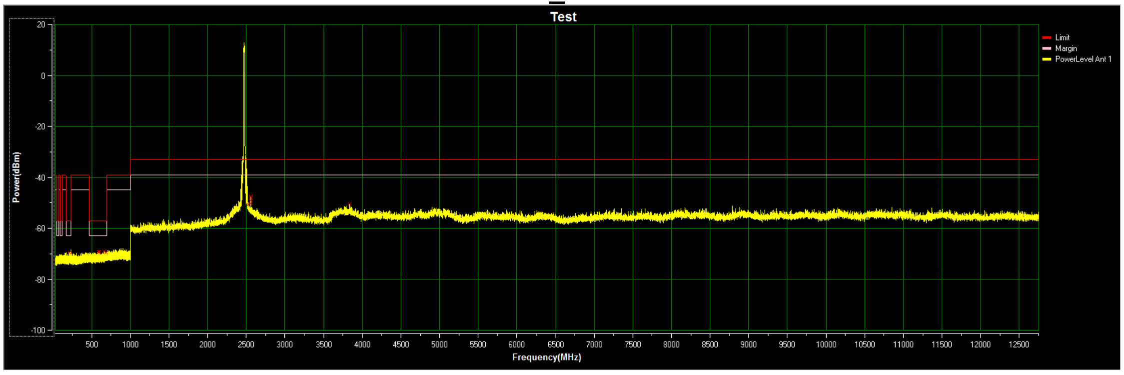


Frequency(MHz)	Reading Level(dBm)	Limit(dBm)	Margin(dB)	Result
681.75	-68.54	-57.01	11.53	Pass
608.8	-68.67	-57.01	11.66	Pass
671.65	-68.81	-57.01	11.8	Pass
481.7	-69.06	-57.01	12.05	Pass
62.6	-69.07	-57.01	12.06	Pass
480.35	-69.09	-57.01	12.08	Pass
2560.5	-48.32	-33.01	15.31	Pass
2560	-48.54	-33.01	15.53	Pass
2359.5	-48.79	-33.01	15.78	Pass
2357	-49.03	-33.01	16.02	Pass
2358.5	-49.12	-33.01	16.11	Pass
2359	-49.26	-33.01	16.25	Pass

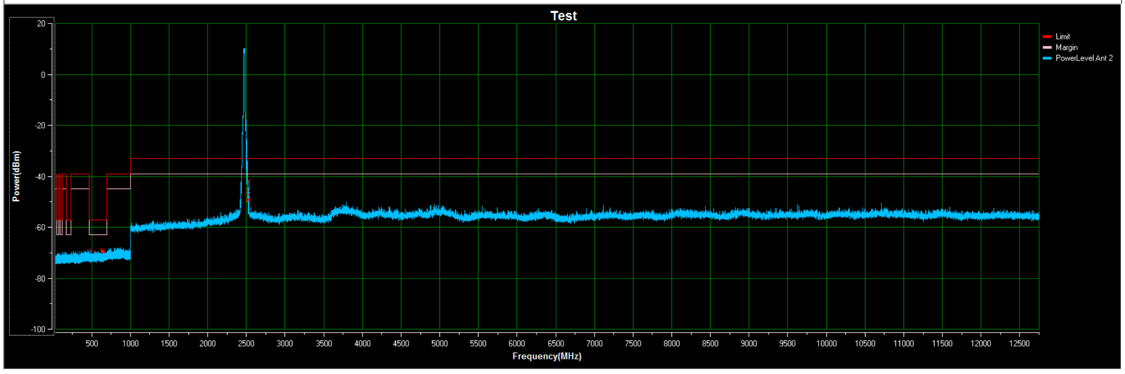


Frequency(MHz)	Reading Level(dBm)	Limit(dBm)	Margin(dB)	Result

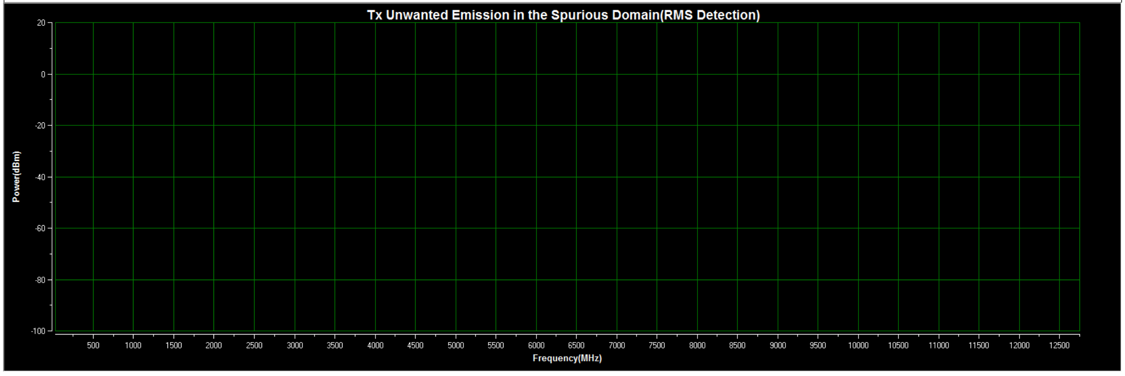
TX Mode_2472 MHz



Frequency(MHz)	Reading Level(dBm)	Limit(dBm)	Margin(dB)	Result
663.45	-68.81	-57.01	11.8	Pass
596.2	-69.08	-57.01	12.07	Pass
587	-69.09	-57.01	12.08	Pass
596.25	-69.1	-57.01	12.09	Pass
685.8	-69.14	-57.01	12.13	Pass
209.5	-69.15	-57.01	12.14	Pass
2560.5	-47.4	-33.01	14.39	Pass
2560	-47.72	-33.01	14.71	Pass
2559.5	-48.97	-33.01	15.96	Pass
2561	-49.93	-33.01	16.92	Pass
3836.5	-50.08	-33.01	17.07	Pass
2525.5	-50.49	-33.01	17.48	Pass



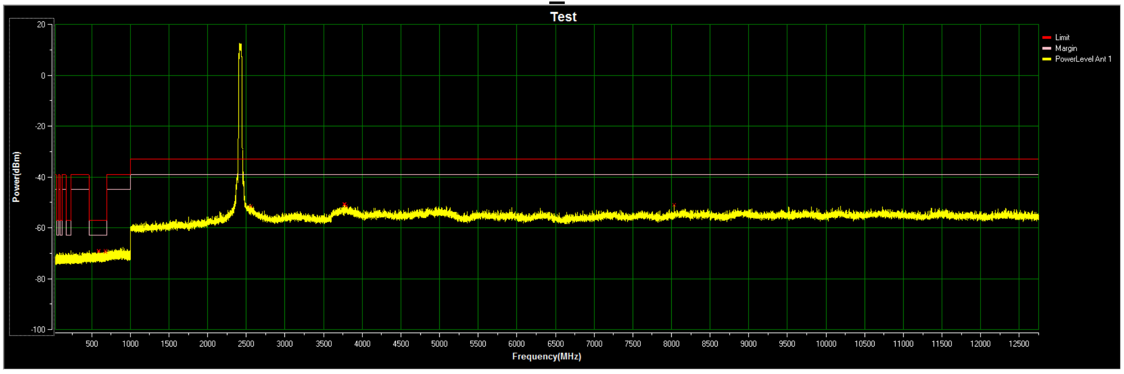
Frequency(MHz)	Reading Level(dBm)	Limit(dBm)	Margin(dB)	Result
625.9	-68.35	-57.01	11.34	Pass
483.45	-68.78	-57.01	11.77	Pass
643.25	-69.11	-57.01	12.1	Pass
643.3	-69.19	-57.01	12.18	Pass
658.8	-69.27	-57.01	12.26	Pass
535.95	-69.33	-57.01	12.32	Pass
2528	-41.49	-33.01	8.47	Pass
2522.5	-45.45	-33.01	12.44	Pass
2522	-46.91	-33.01	13.9	Pass
2533	-48.74	-33.01	15.73	Pass
2527.5	-48.75	-33.01	15.74	Pass
2526	-49.05	-33.01	16.04	Pass



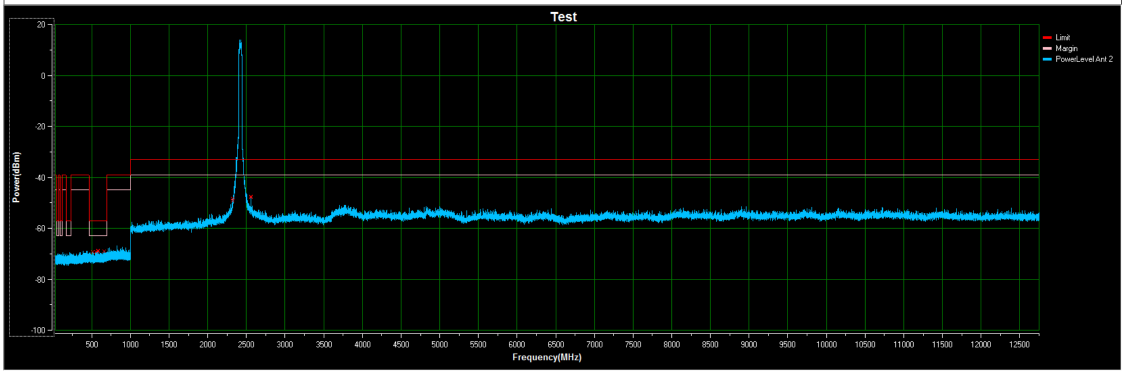
Frequency(MHz)	Reading Level(dBm)	Limit(dBm)	Margin(dB)	Result

Test Mode	TX Mode IEEE 802.11ax(HE40)

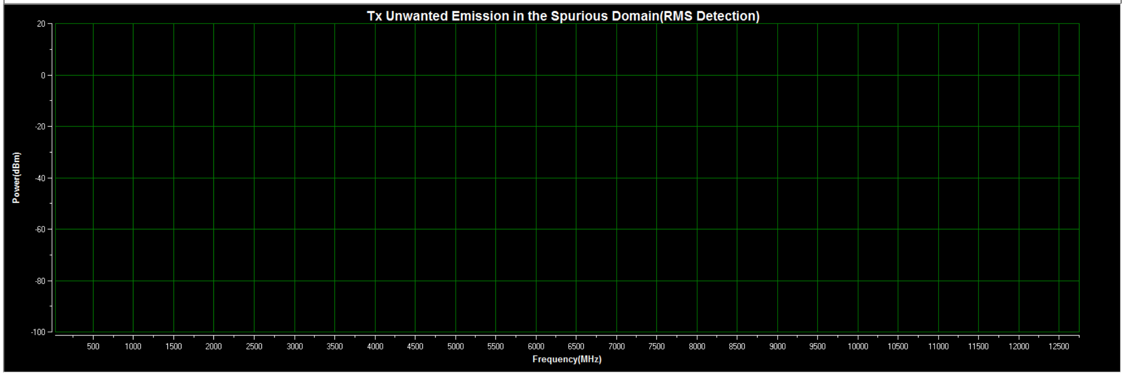
TX Mode_2422 MHz



Frequency(MHz)	Reading Level(dBm)	Limit(dBm)	Margin(dB)	Result
673.85	-68.69	-57.01	11.68	Pass
589.05	-68.78	-57.01	11.77	Pass
673.8	-68.79	-57.01	11.78	Pass
678.05	-68.84	-57.01	11.83	Pass
589.35	-69.06	-57.01	12.05	Pass
674.7	-69.27	-57.01	12.26	Pass
3768.5	-50.38	-33.01	17.37	Pass
3778.5	-50.5	-33.01	17.49	Pass
3769	-50.59	-33.01	17.57	Pass
8036.5	-50.79	-33.01	17.78	Pass
3792.5	-51.21	-33.01	18.19	Pass
2560.5	-51.23	-33.01	18.22	Pass

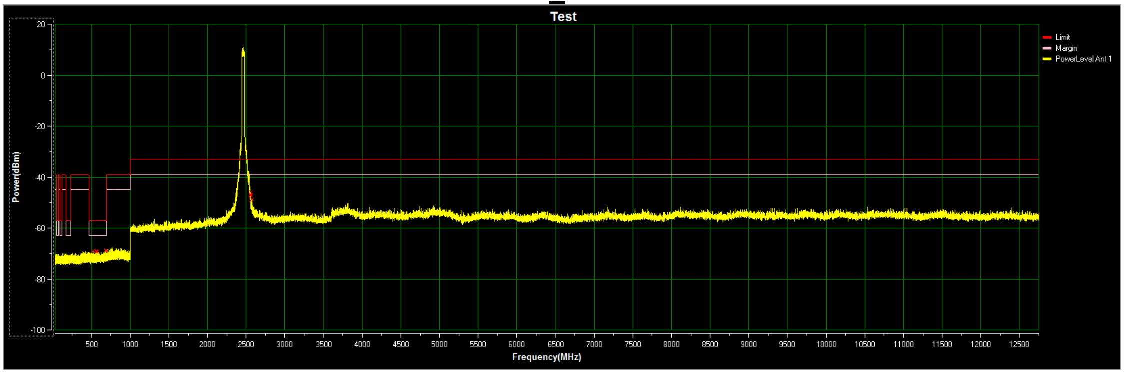


Frequency(MHz)	Reading Level(dBm)	Limit(dBm)	Margin(dB)	Result
581.05	-68.55	-57.01	11.54	Pass
581.1	-68.7	-57.01	11.69	Pass
655.95	-68.77	-57.01	11.76	Pass
552.95	-68.88	-57.01	11.87	Pass
509.65	-68.94	-57.01	11.93	Pass
553	-69	-57.01	11.99	Pass
2560.5	-47.41	-33.01	14.4	Pass
2560	-47.68	-33.01	14.67	Pass
2320	-48.18	-33.01	15.17	Pass
2320.5	-48.83	-33.01	15.82	Pass
2322	-48.91	-33.01	15.9	Pass
2321.5	-48.99	-33.01	15.98	Pass

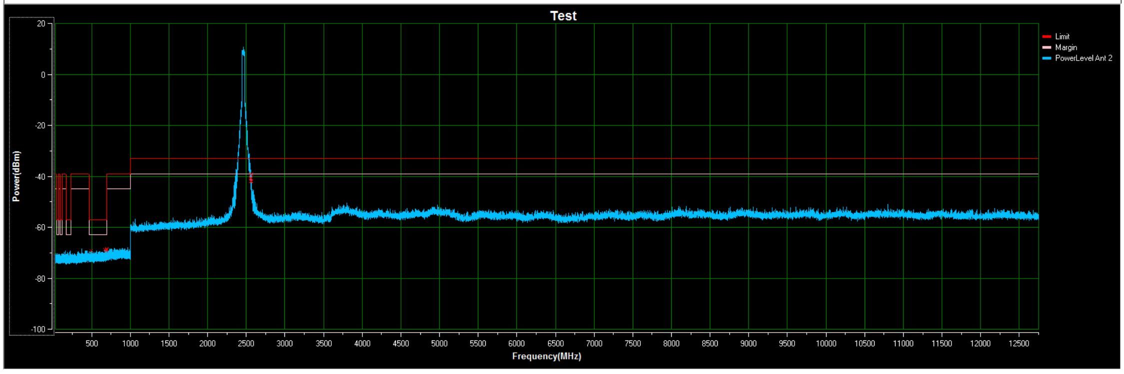


Frequency(MHz)	Reading Level(dBm)	Limit(dBm)	Margin(dB)	Result

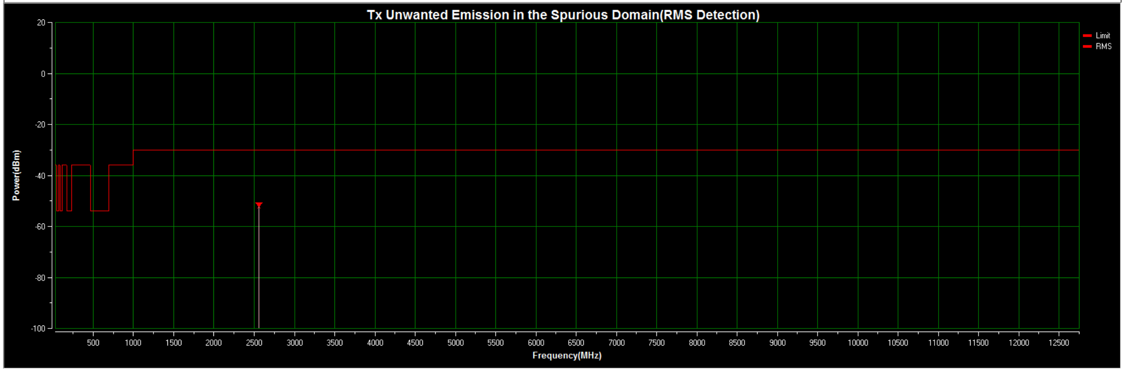
TX Mode_2462 MHz



Frequency(MHz)	Reading Level(dBm)	Limit(dBm)	Margin(dB)	Result
689.05	-68.38	-57.01	11.37	Pass
566.8	-68.66	-57.01	11.65	Pass
689	-68.83	-57.01	11.82	Pass
517.05	-68.85	-57.01	11.84	Pass
560.95	-68.9	-57.01	11.89	Pass
568.65	-68.95	-57.01	11.94	Pass
2560	-45.75	-33.01	12.74	Pass
2560.5	-46.39	-33.01	13.37	Pass
2559.5	-46.7	-33.01	13.69	Pass
2561	-47.14	-33.01	14.13	Pass
2576.5	-48.47	-33.01	15.46	Pass
2561.5	-48.93	-33.01	15.92	Pass

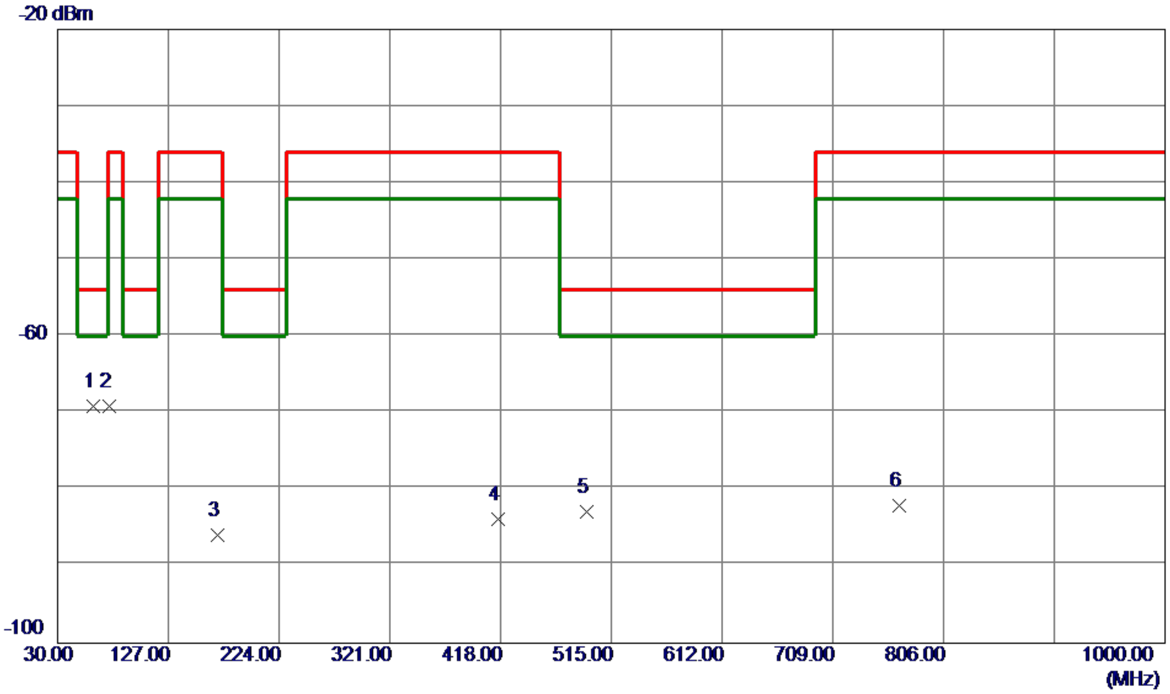


Frequency(MHz)	Reading Level(dBm)	Limit(dBm)	Margin(dB)	Result
691.25	-68.29	-57.01	11.28	Pass
691.3	-68.43	-57.01	11.42	Pass
667.8	-68.61	-57.01	11.6	Pass
689.3	-69	-57.01	11.99	Pass
494.1	-69.03	-57.01	12.02	Pass
689.25	-69.03	-57.01	12.02	Pass
2563	-38.72	-33.01	5.71	Pass
2559	-39.12	-33.01	6.11	Pass
2560.5	-40.41	-33.01	7.4	Pass
2559.5	-40.57	-33.01	7.56	Pass
2564	-41.67	-33.01	8.66	Pass
2561	-41.84	-33.01	8.83	Pass



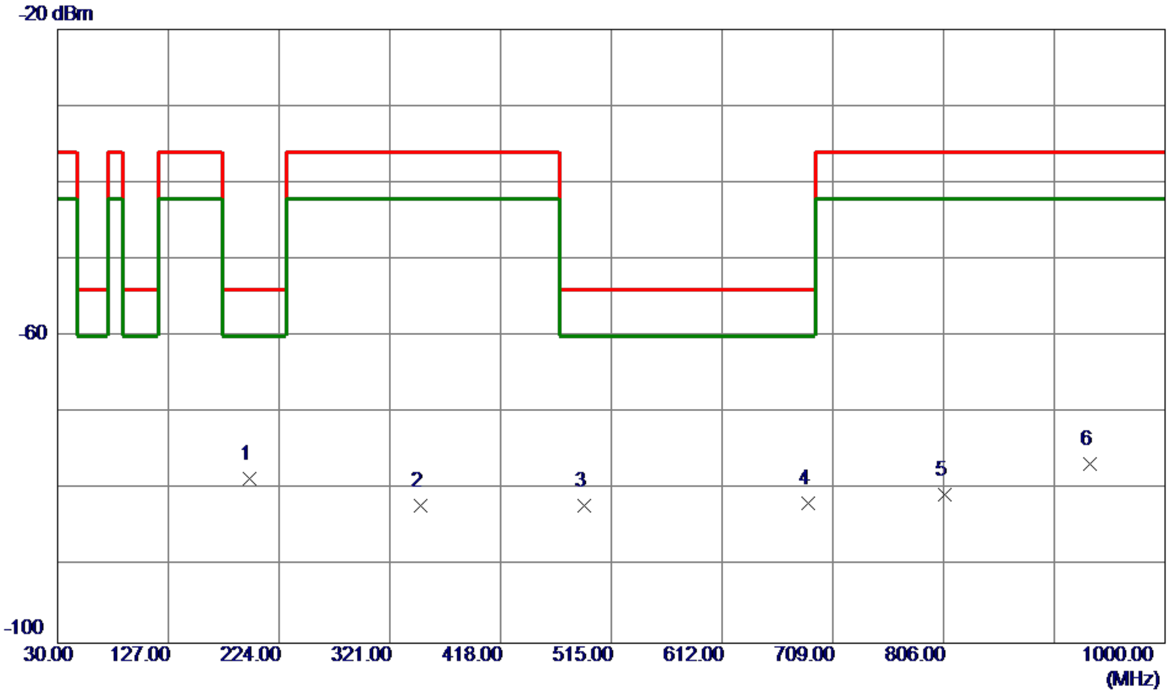
Frequency(MHz)	Reading Level(dBm)	Limit(dBm)	Margin(dB)	Result
2563	-52.09	-30	22.09	Pass

Test Mode	TX Mode IEEE 802.11n(HT40)_2422 MHz	Polarization	Vertical



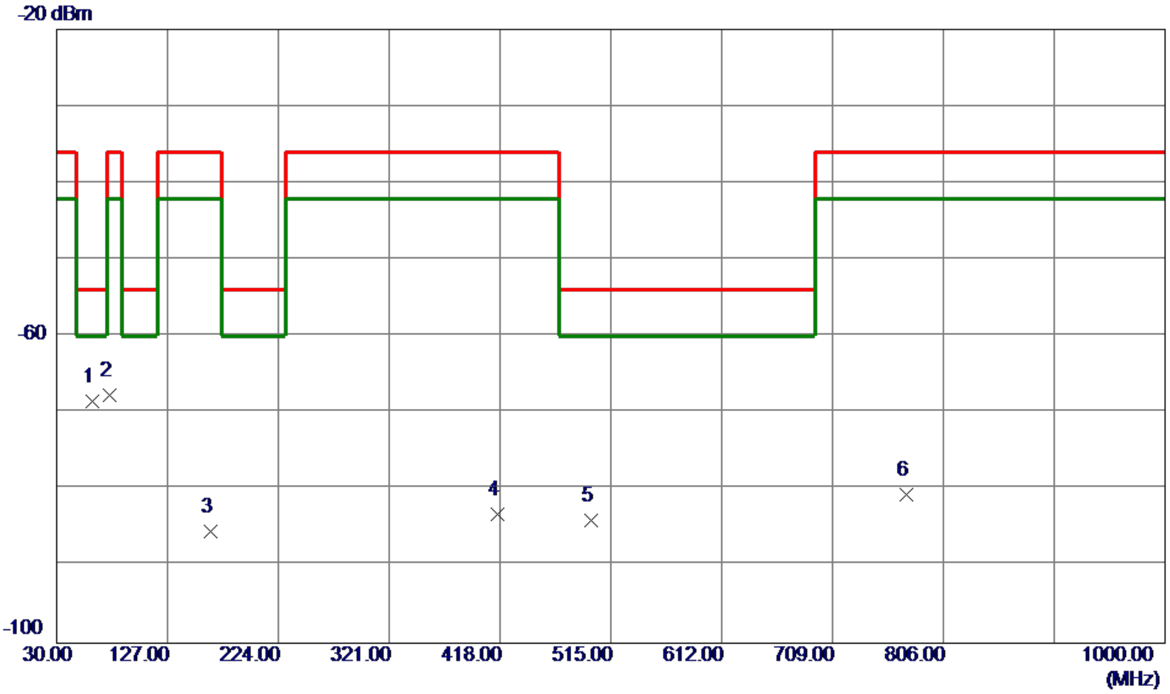
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1 *	60. 7490	-65. 65	-3. 48	-69. 13	-54. 00	-15. 13	RMS	
2	75. 6870	-70. 02	0. 85	-69. 17	-36. 00	-33. 17	RMS	
3	169. 7770	-77. 68	-8. 31	-85. 99	-36. 00	-49. 99	RMS	
4	415. 9630	-76. 55	-7. 30	-83. 85	-36. 00	-47. 85	RMS	
5	493. 9510	-76. 14	-6. 79	-82. 93	-54. 00	-28. 93	RMS	
6	767. 0060	-80. 08	-1. 97	-82. 05	-36. 00	-46. 05	RMS	

Test Mode	TX Mode IEEE 802.11n(HT40)_2422 MHz	Polarization	Horizontal



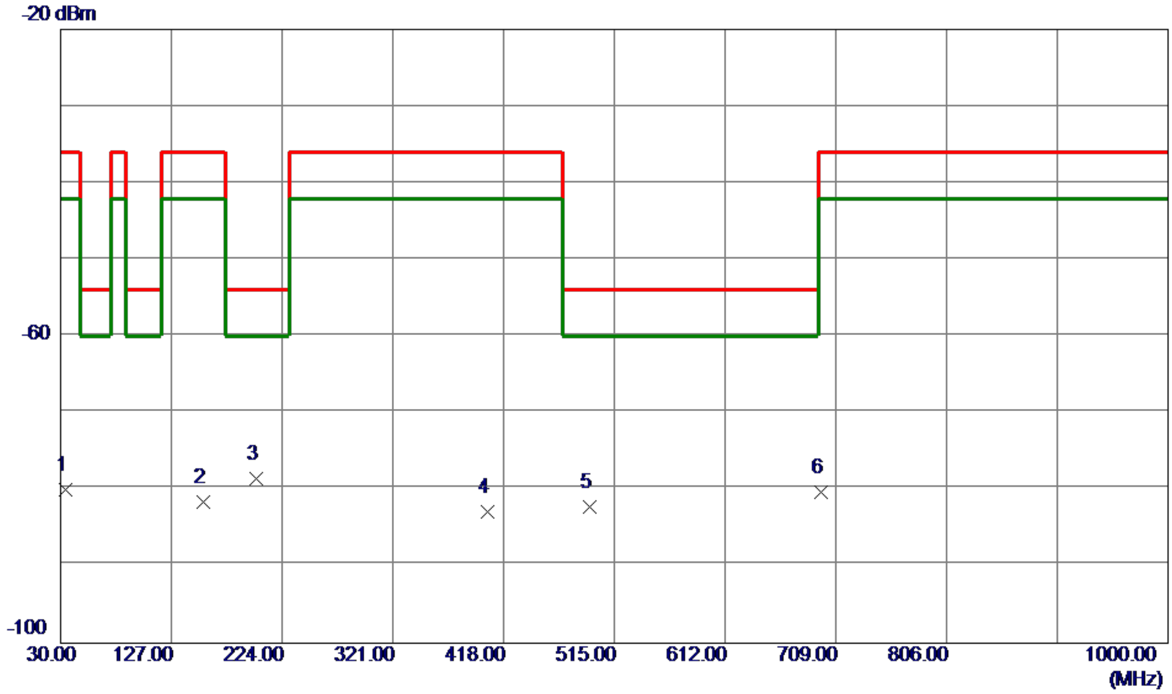
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1 *	197.7130	-66.75	-11.74	-78.49	-54.00	-24.49	RMS	
2	348.3540	-74.06	-7.96	-82.02	-36.00	-46.02	RMS	
3	491.7200	-75.90	-6.16	-82.06	-54.00	-28.06	RMS	
4	687.9510	-79.18	-2.56	-81.74	-54.00	-27.74	RMS	
5	806.5820	-79.37	-1.20	-80.57	-36.00	-44.57	RMS	
6	934.2340	-77.77	1.14	-76.63	-36.00	-40.63	RMS	

Test Mode	TX Mode IEEE 802.11n(HT40)_2462 MHz	Polarization	Vertical



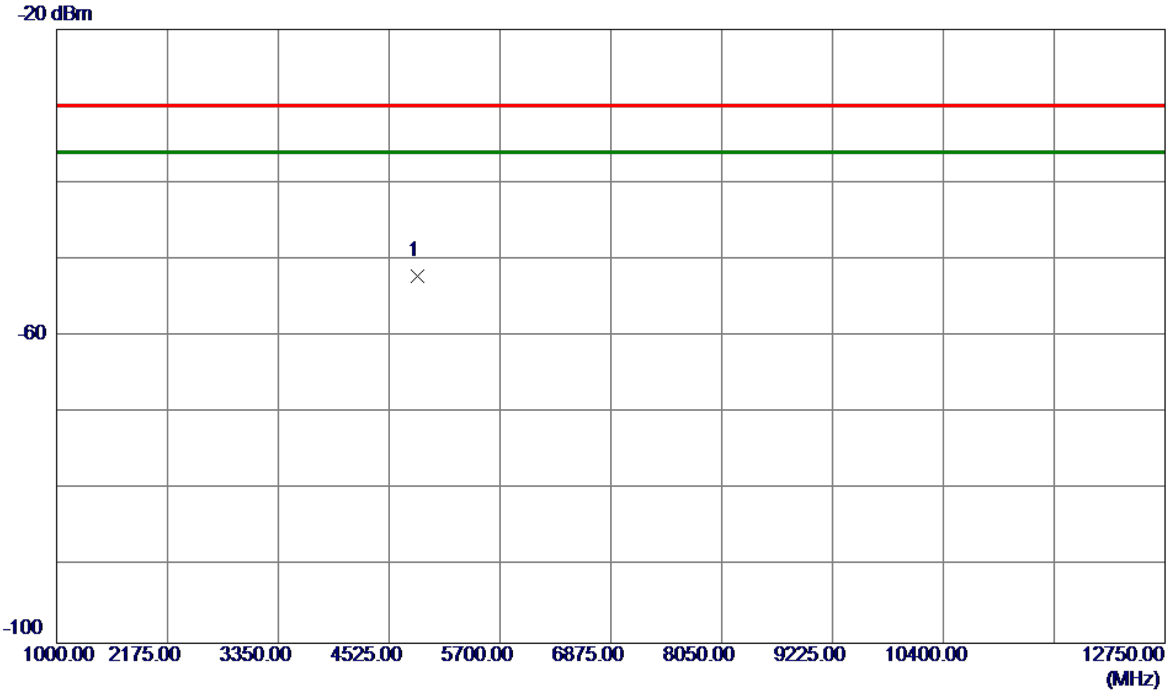
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1 *	60. 8460	-64. 96	-3. 58	-68. 54	-54. 00	-14. 54	RMS	
2	76. 0750	-68. 46	0. 74	-67. 72	-36. 00	-31. 72	RMS	
3	165. 2180	-77. 96	-7. 48	-85. 44	-36. 00	-49. 44	RMS	
4	415. 9630	-75. 86	-7. 30	-83. 16	-36. 00	-47. 16	RMS	
5	498. 1220	-77. 36	-6. 69	-84. 05	-54. 00	-30. 05	RMS	
6	773. 4079	-78. 64	-1. 99	-80. 63	-36. 00	-44. 63	RMS	

Test Mode	TX Mode IEEE 802.11n(HT40)_2462 MHz	Polarization	Horizontal



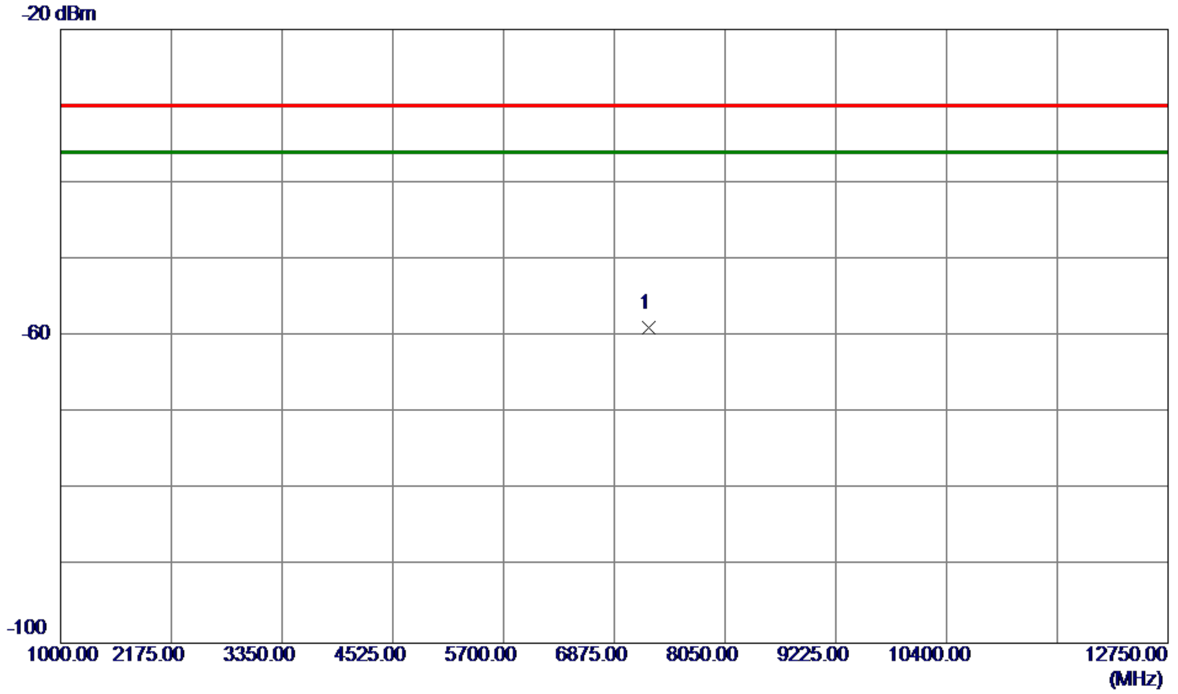
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1	34.5590	-72.29	-7.64	-79.93	-36.00	-43.93	RMS	
2	155.5180	-72.65	-8.93	-81.58	-36.00	-45.58	RMS	
3 *	201.8839	-67.17	-11.43	-78.60	-54.00	-24.60	RMS	
4	403.8380	-75.65	-7.31	-82.96	-36.00	-46.96	RMS	
5	493.9510	-76.11	-6.10	-82.21	-54.00	-28.21	RMS	
6	695.8080	-77.96	-2.33	-80.29	-36.00	-44.29	RMS	

Test Mode	TX Mode IEEE 802.11b_2412 MHz	Polarization	Vertical



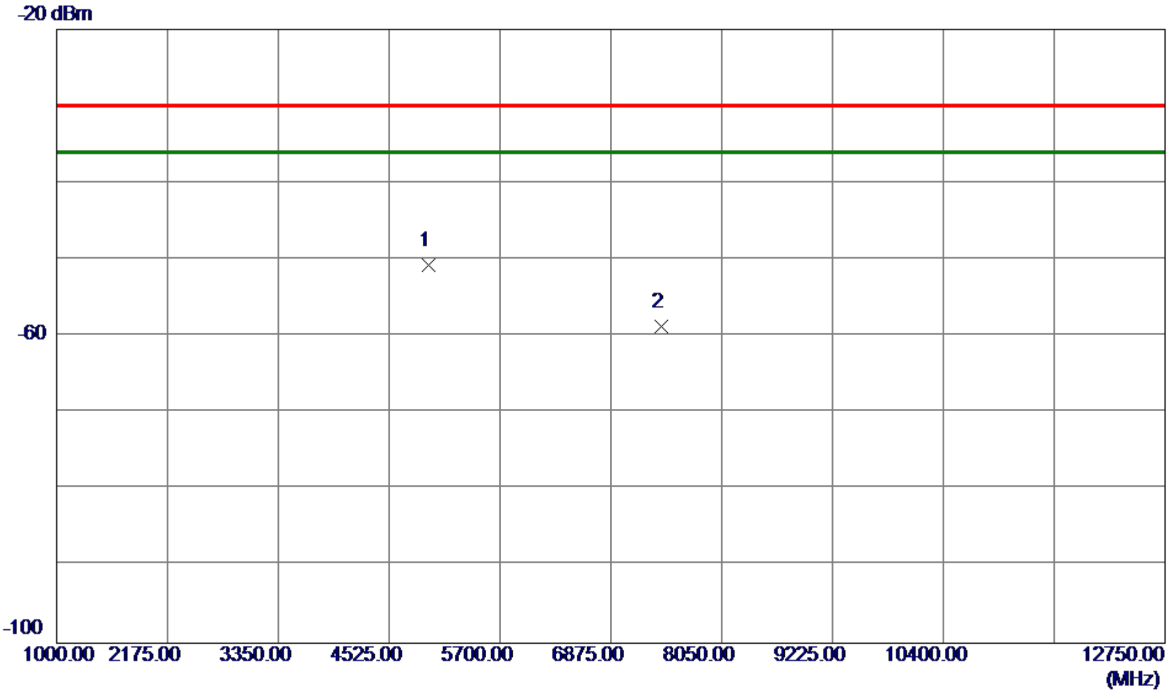
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1 *	4824.0379	-53.33	1.25	-52.08	-30.00	-22.08	RMS	

Test Mode	TX Mode IEEE 802.11b_2412 MHz	Polarization	Horizontal



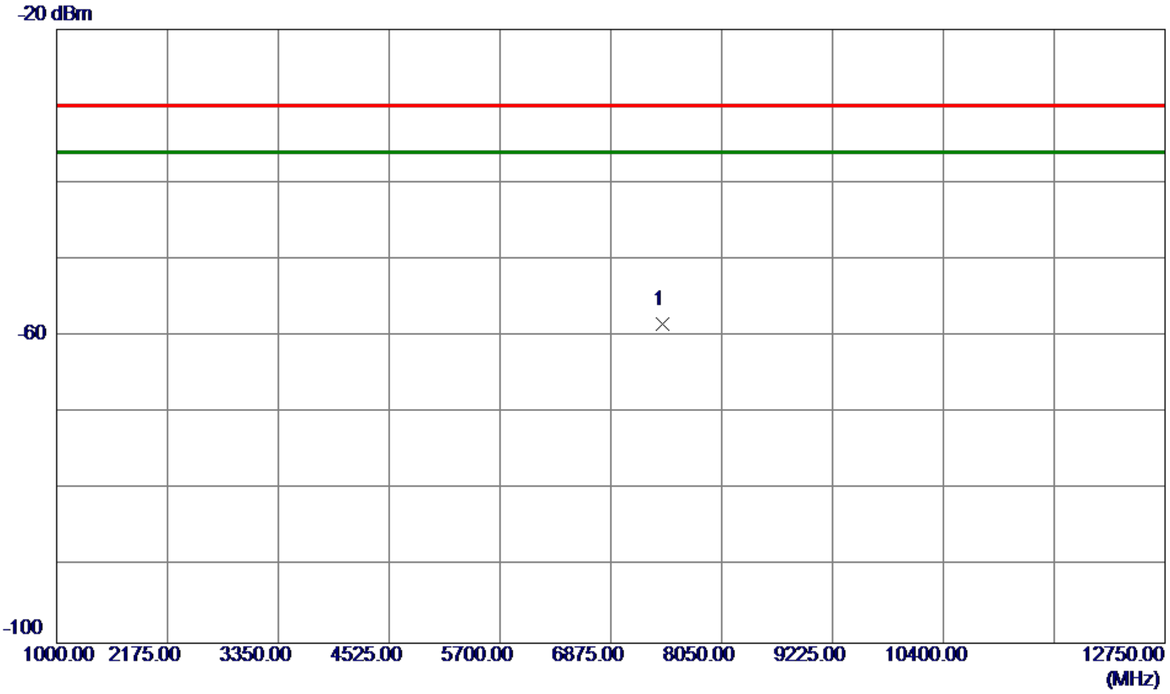
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin	Detector	Comment
	MHz	dBm	dB	dBm	dBm	dB		
1 *	7237.4880	-61.67	2.76	-58.91	-30.00	-28.91	RMS	

Test Mode	TX Mode IEEE 802.11b_2472 MHz	Polarization	Vertical



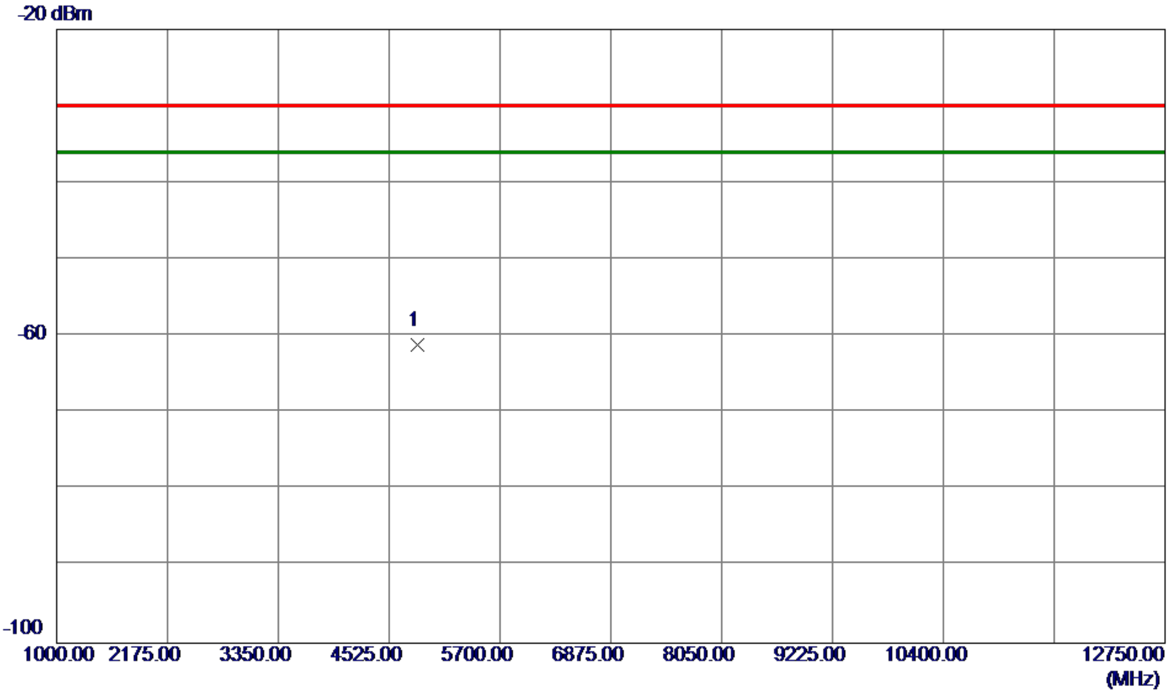
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1 *	4943.8870	-52.27	1.62	-50.65	-30.00	-20.65	RMS	
2	7416.6750	-61.61	2.96	-58.65	-30.00	-28.65	RMS	

Test Mode	TX Mode IEEE 802.11b_2472 MHz	Polarization	Horizontal



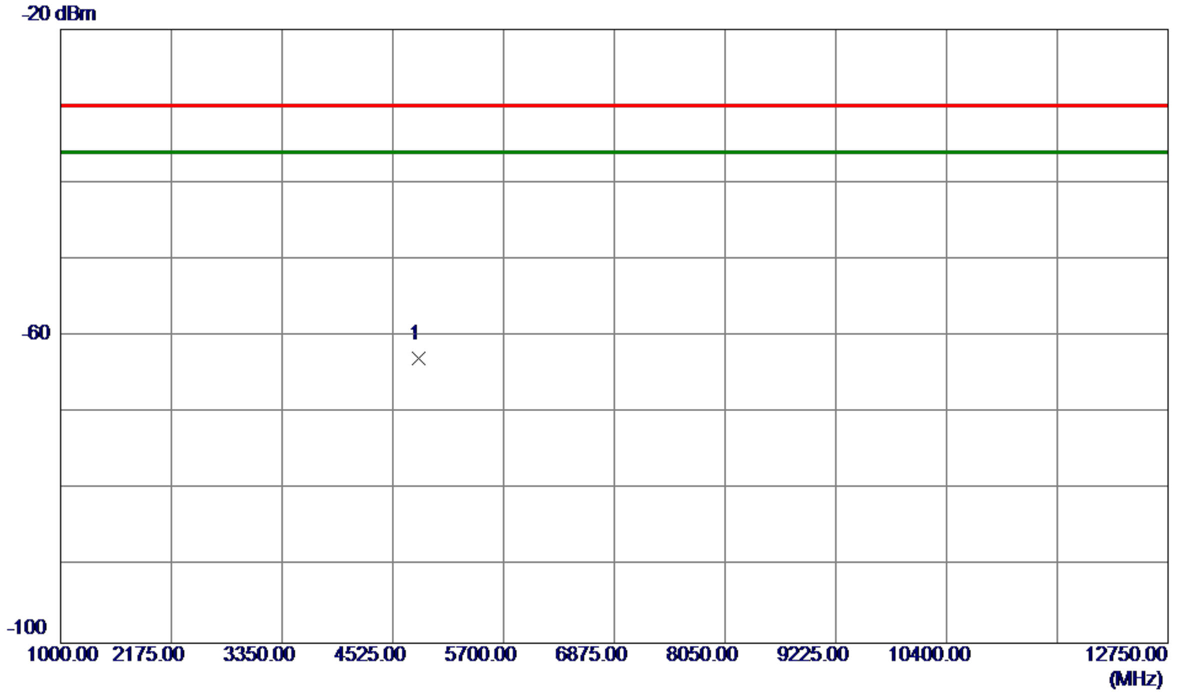
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1 *	7417.2620	-61.29	2.94	-58.35	-30.00	-28.35	RMS	

Test Mode	TX Mode IEEE 802.11g_2412 MHz	Polarization	Vertical



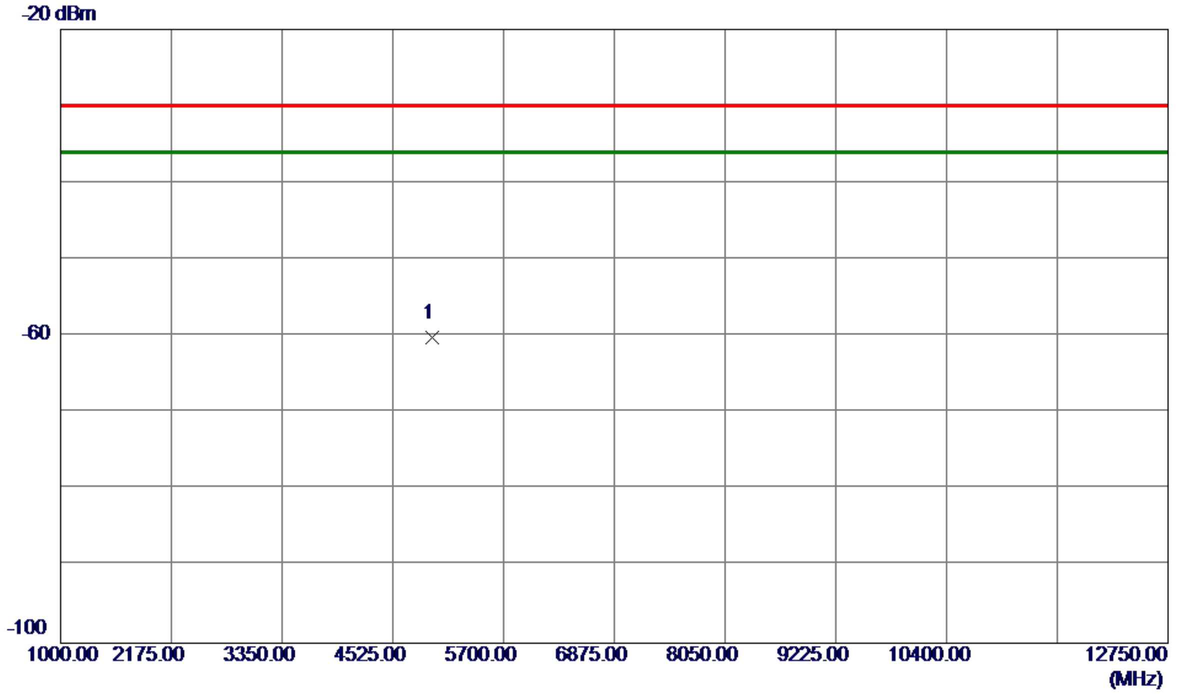
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1 *	4824.0379	-62.44	1.25	-61.19	-30.00	-31.19	RMS	

Test Mode	TX Mode IEEE 802.11g_2412 MHz	Polarization	Horizontal



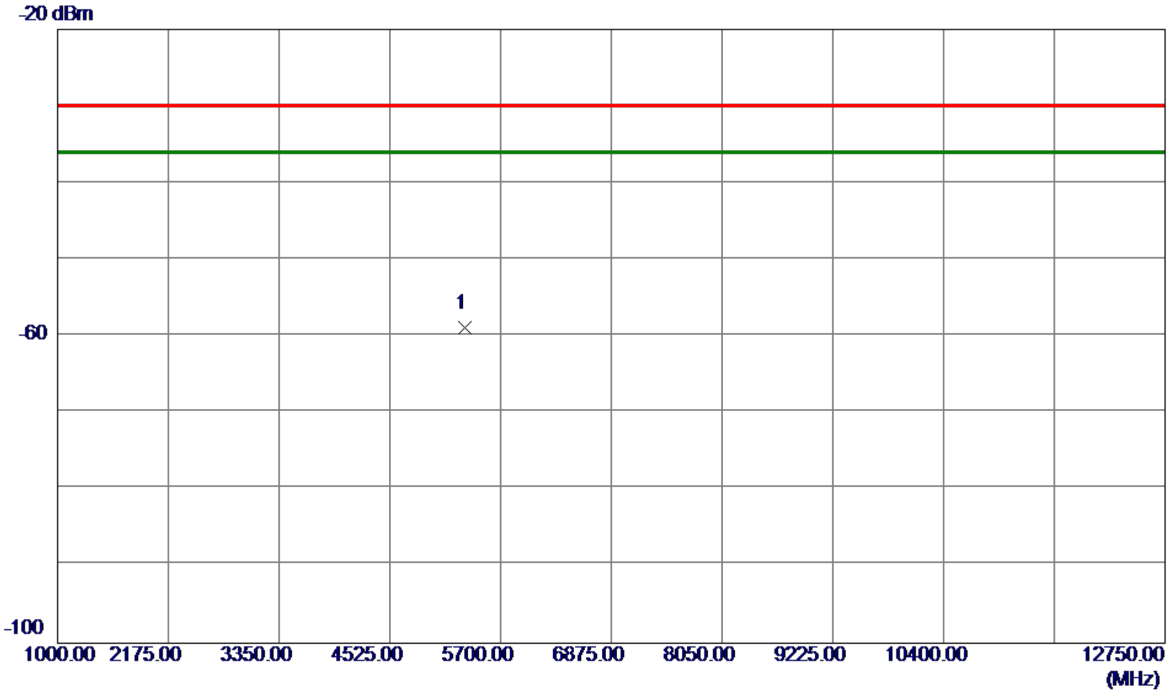
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1 *	4801.1250	-63.83	0.99	-62.84	-30.00	-32.84	RMS	

Test Mode	TX Mode IEEE 802.11g_2472 MHz	Polarization	Vertical



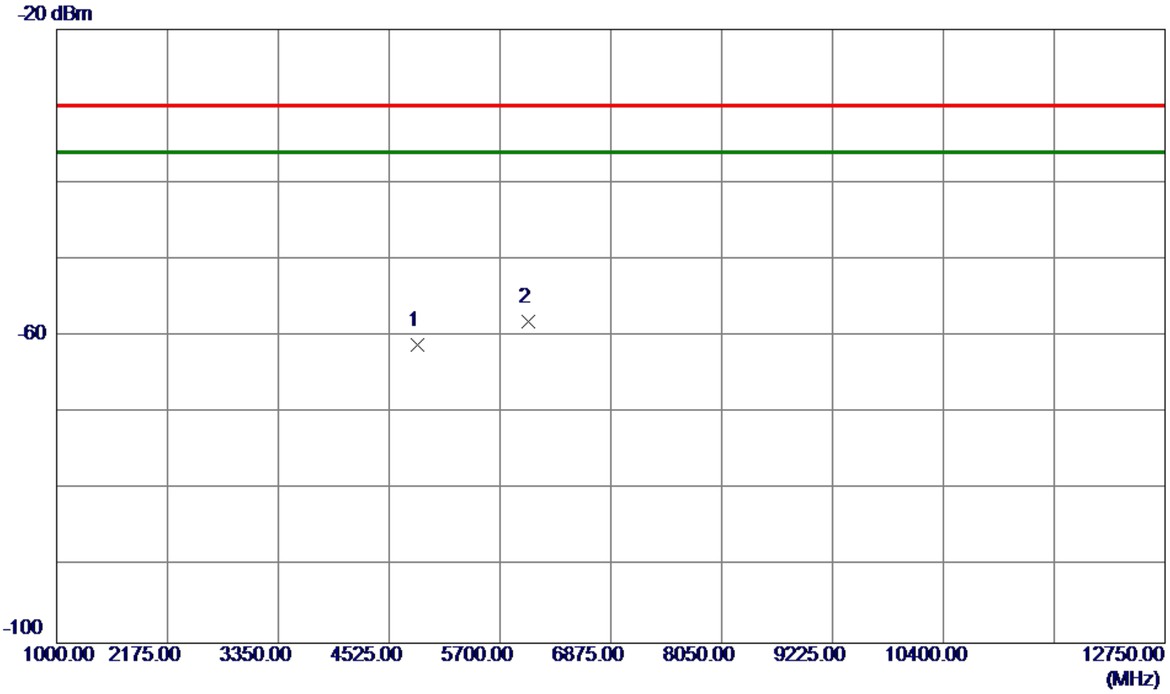
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1 *	4943.3000	-61.76	1.62	-60.14	-30.00	-30.14	RMS	

Test Mode	TX Mode IEEE 802.11g_2472 MHz	Polarization	Horizontal



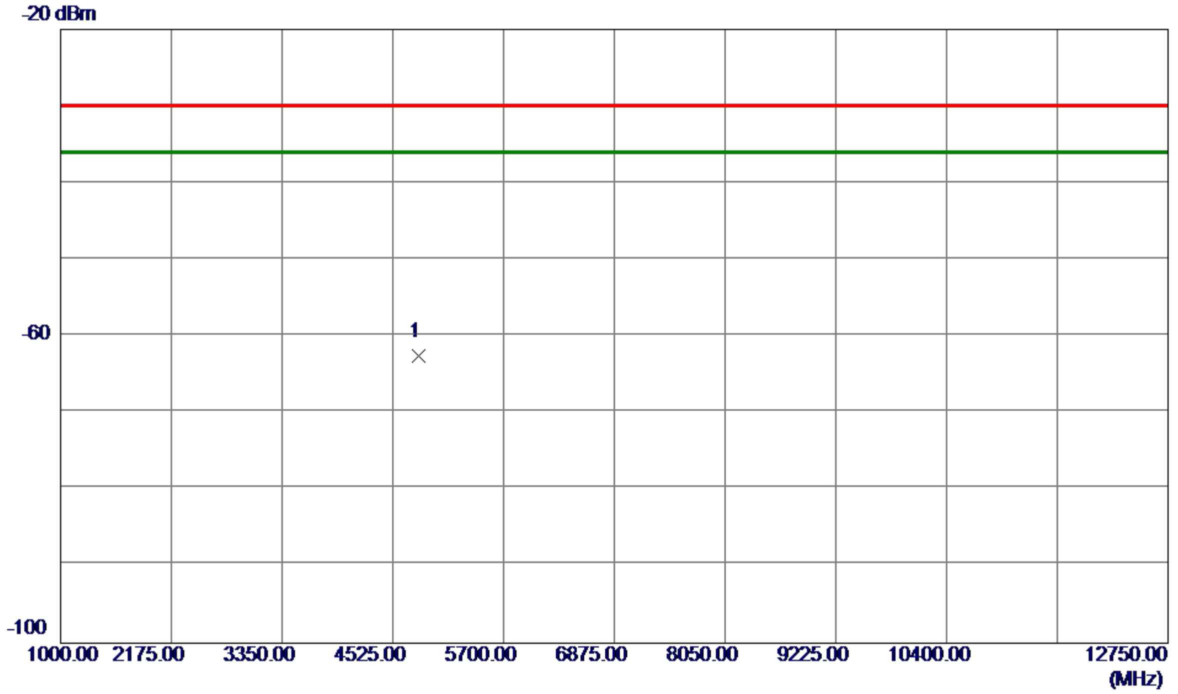
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1 *	5315.7750	-59.77	0.85	-58.92	-30.00	-28.92	RMS	

Test Mode	TX Mode IEEE 802.11n(HT20)_2412 MHz	Polarization	Vertical



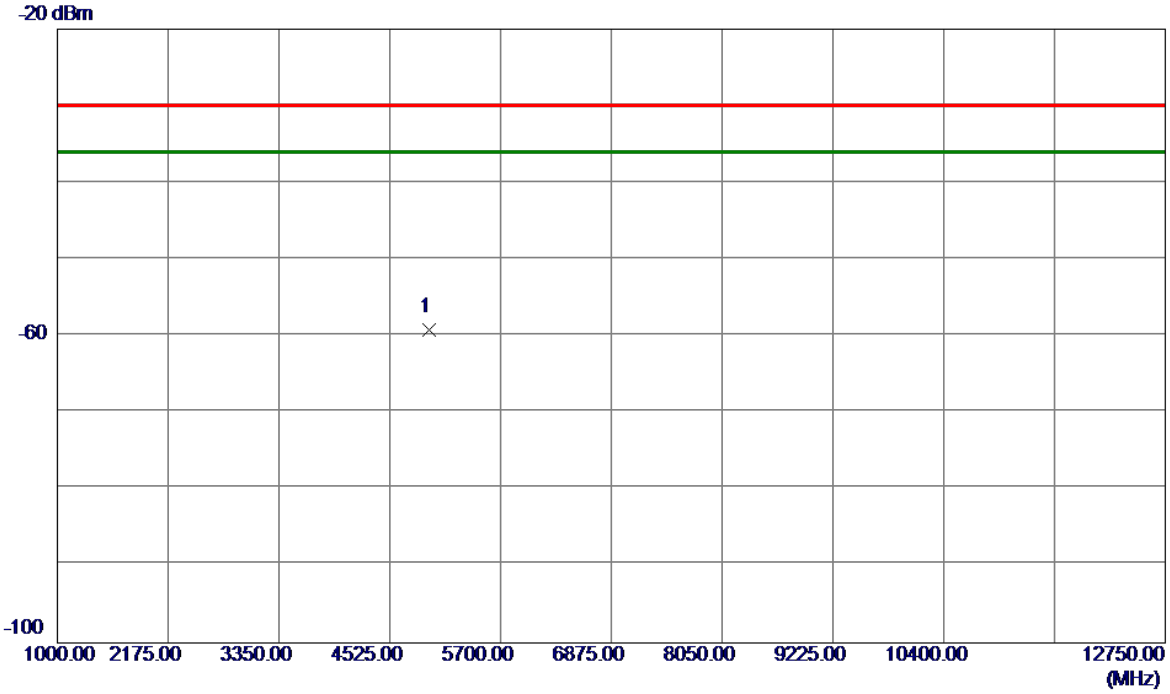
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1	4824.0379	-62.41	1.25	-61.16	-30.00	-31.16	RMS	
2 *	6000.2120	-60.43	2.31	-58.12	-30.00	-28.12	RMS	

Test Mode	TX Mode IEEE 802.11n(HT20)_2412 MHz	Polarization	Horizontal



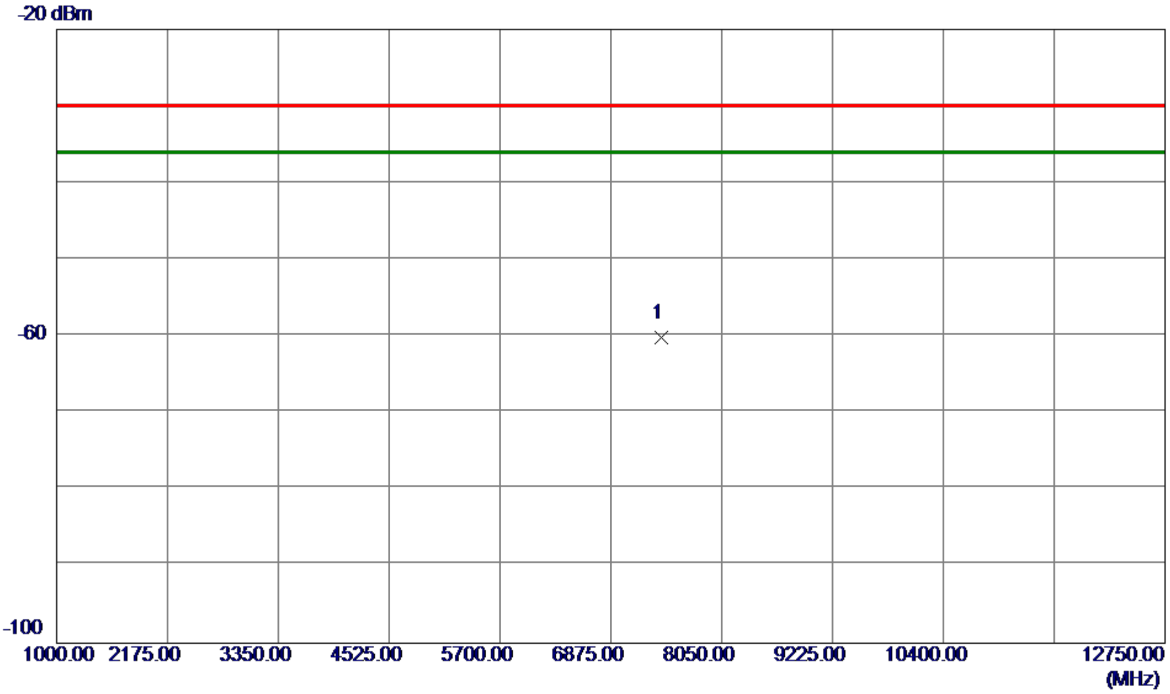
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1 *	4794.0750	-63.51	0.98	-62.53	-30.00	-32.53	RMS	

Test Mode	TX Mode IEEE 802.11n(HT20)_2472 MHz	Polarization	Vertical



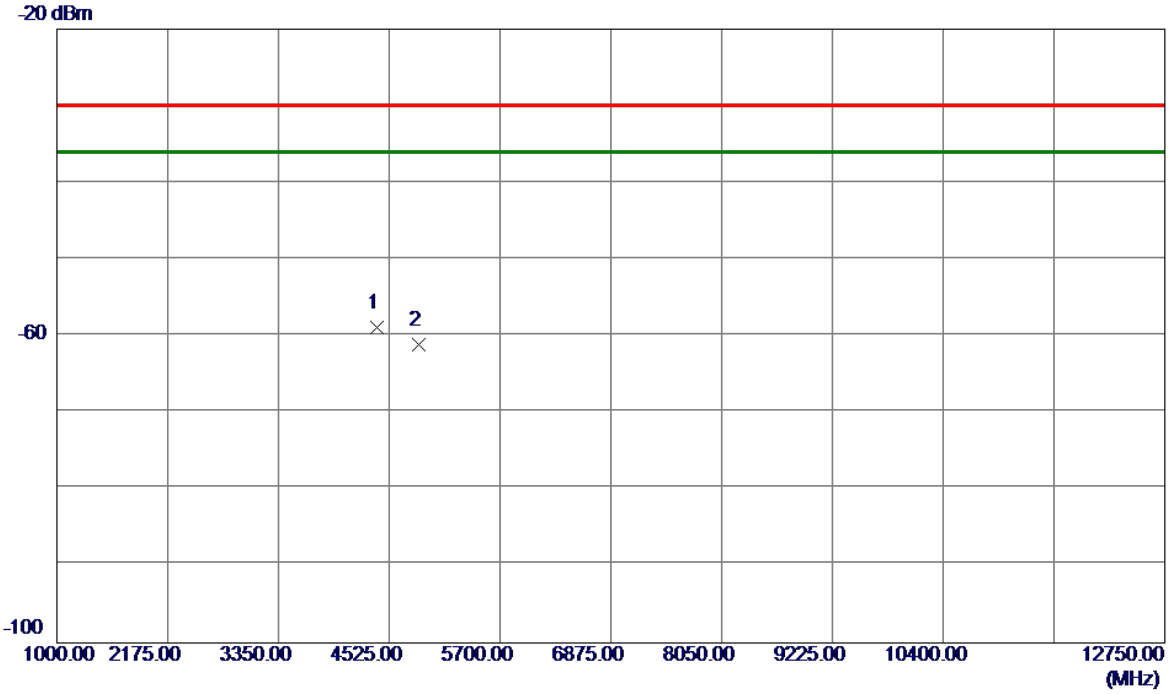
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1 *	4948. 5870	-60. 91	1. 63	-59. 28	-30. 00	-29. 28	RMS	

Test Mode	TX Mode IEEE 802.11n(HT20)_2472 MHz	Polarization	Horizontal



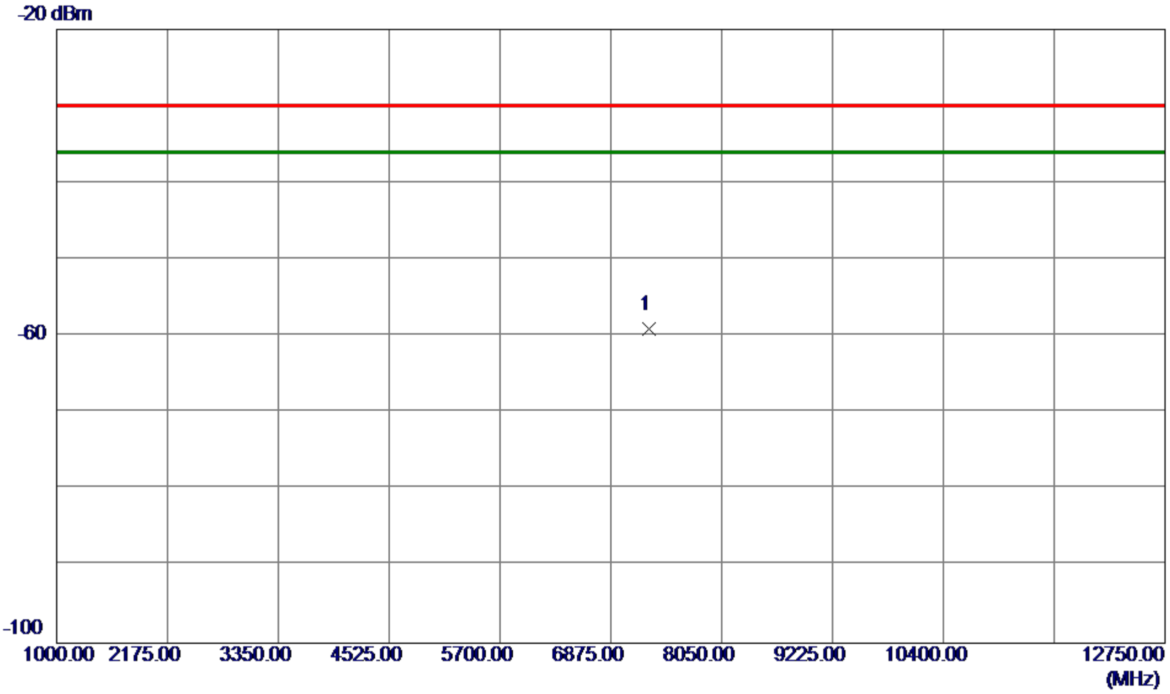
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin	Detector	Comment
	MHz	dBm	dB	dBm	dBm	dB		
1 *	7411. 9750	-63. 17	2. 94	-60. 23	-30. 00	-30. 23	RMS	

Test Mode	TX Mode IEEE 802.11n(HT40)_2422 MHz	Polarization	Vertical



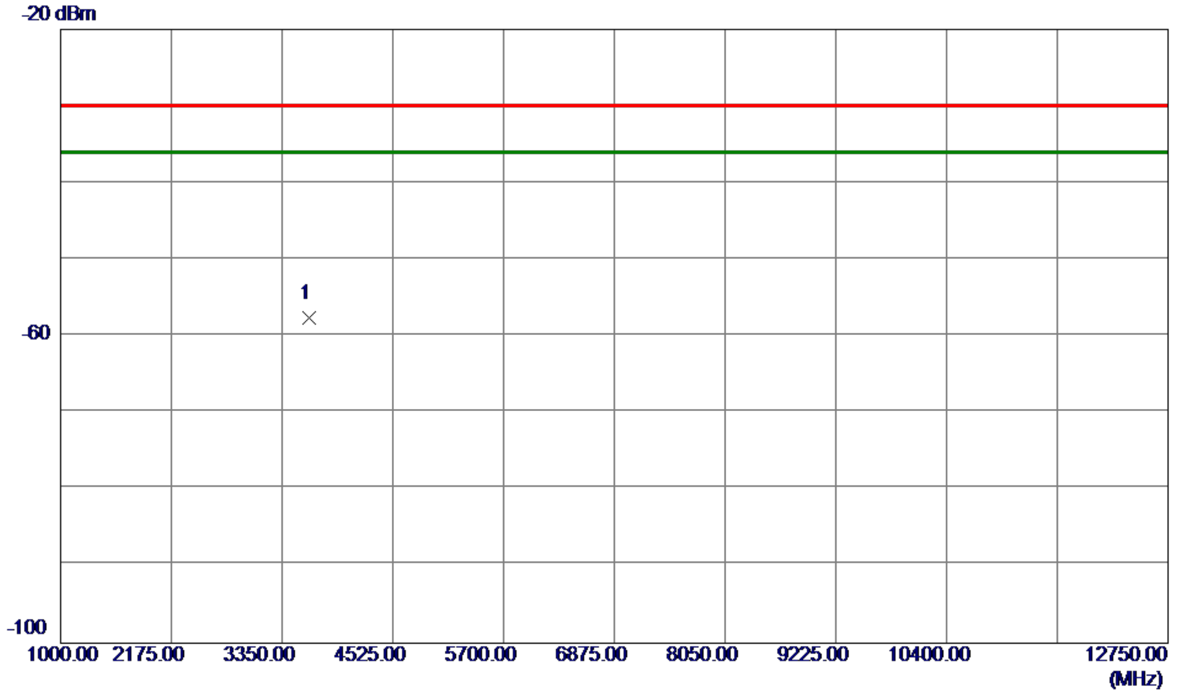
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1 *	4395.7500	-58.98	0.10	-58.88	-30.00	-28.88	RMS	
2	4841.6629	-62.36	1.31	-61.05	-30.00	-31.05	RMS	

Test Mode	TX Mode IEEE 802.11n(HT40)_2422 MHz	Polarization	Horizontal



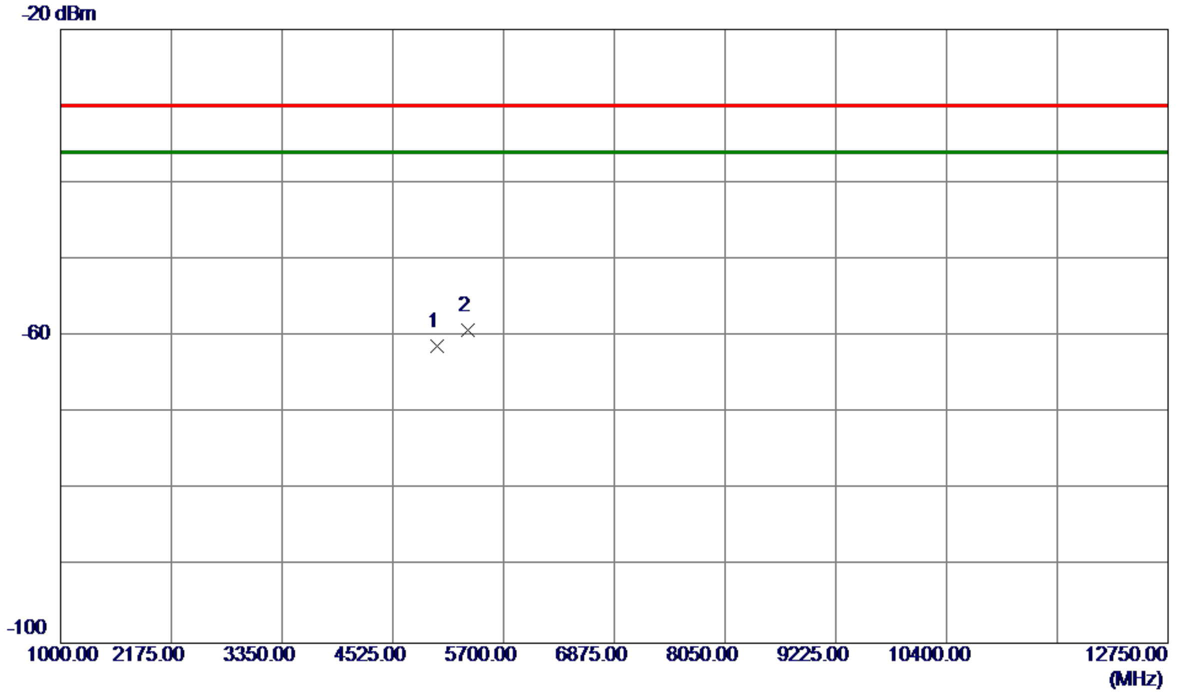
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin	Detector	Comment
	MHz	dBm	dB	dBm	dBm	dB		
1 *	7278.0250	-61.77	2.80	-58.97	-30.00	-28.97	RMS	

Test Mode	TX Mode IEEE 802.11n(HT40)_2462 MHz	Polarization	Vertical



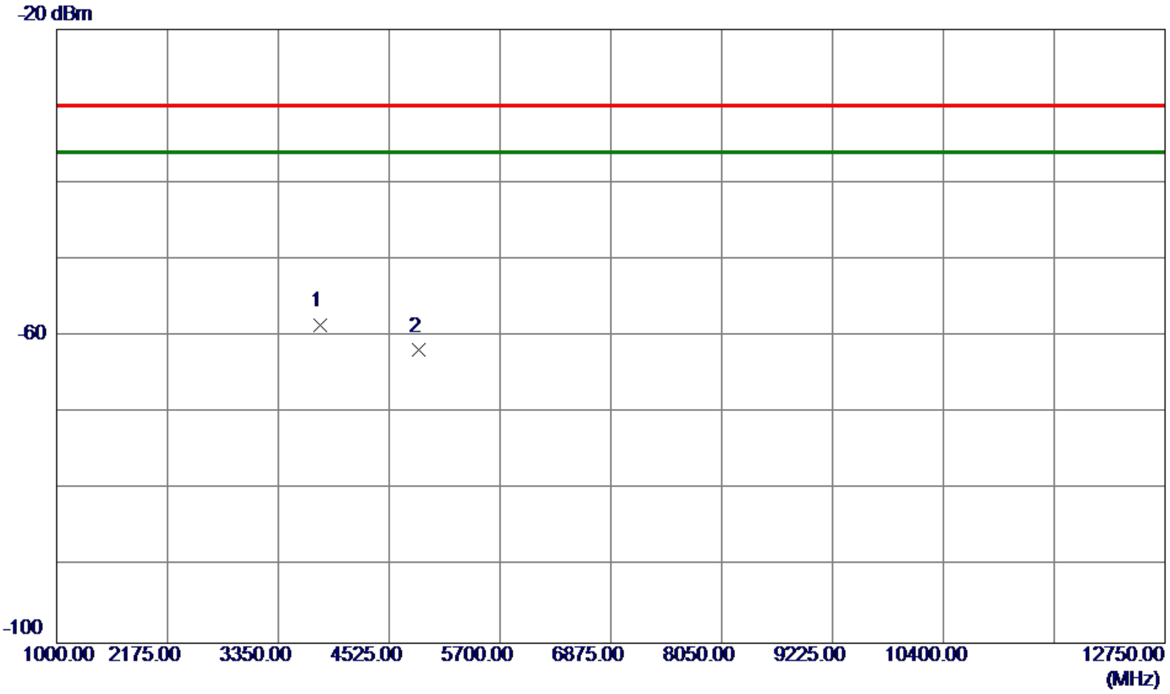
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1 *	3634. 9380	-58. 16	0. 57	-57. 59	-30. 00	-27. 59	RMS	

Test Mode	TX Mode IEEE 802.11n(HT40)_2462 MHz	Polarization	Horizontal



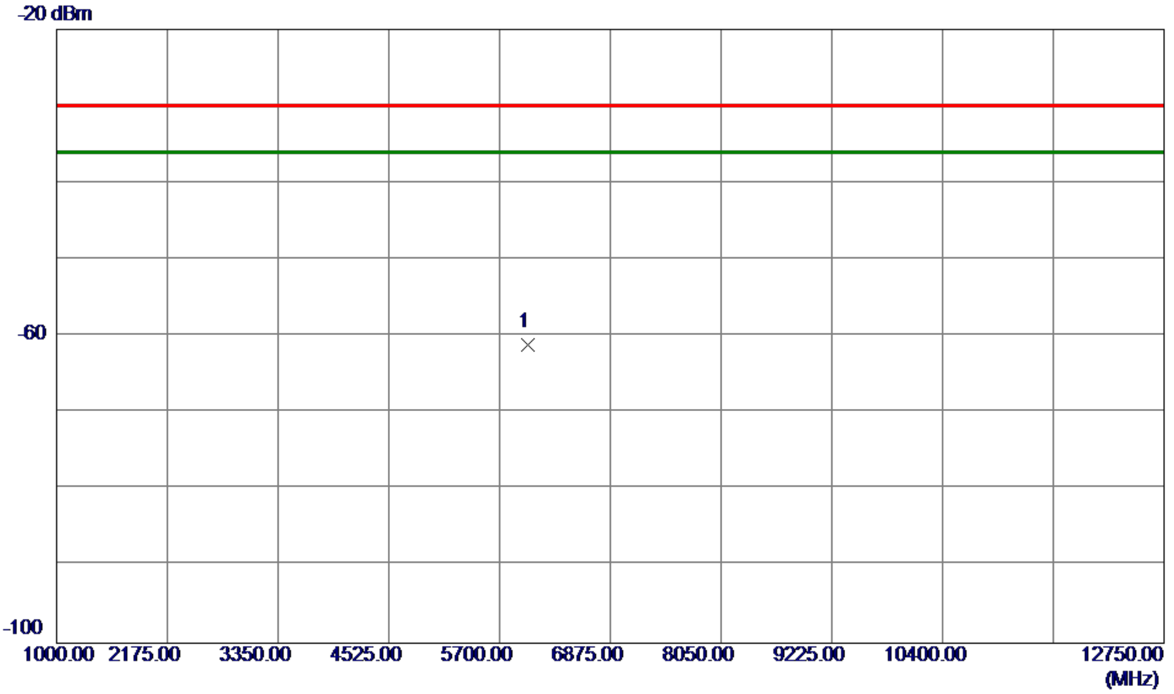
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1	4996. 1750	-62. 67	1. 33	-61. 34	-30. 00	-31. 34	RMS	
2 *	5315. 7750	-60. 02	0. 85	-59. 17	-30. 00	-29. 17	RMS	

Test Mode	TX Mode IEEE 802.11ax(HE20)_2412 MHz	Polarization	Vertical



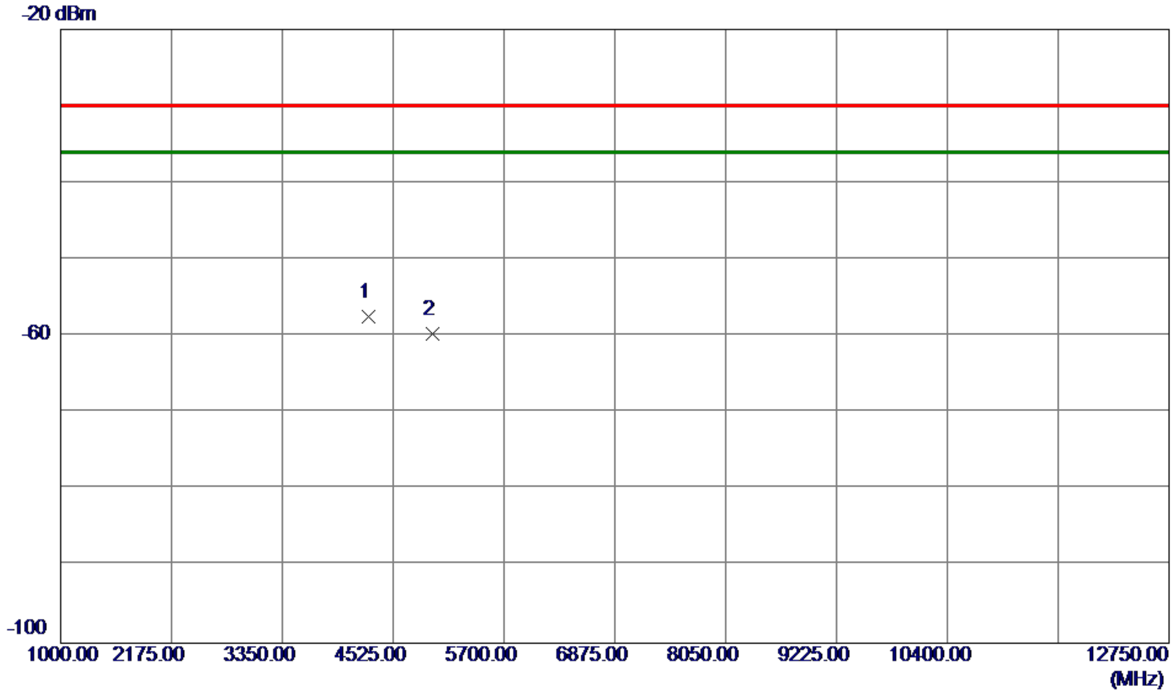
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1 *	3798. 2620	-58. 59	0. 08	-58. 51	-30. 00	-28. 51	RMS	
2	4832. 2620	-63. 12	1. 28	-61. 84	-30. 00	-31. 84	RMS	

Test Mode	TX Mode IEEE 802.11ax(HE20)_2412 MHz	Polarization	Horizontal



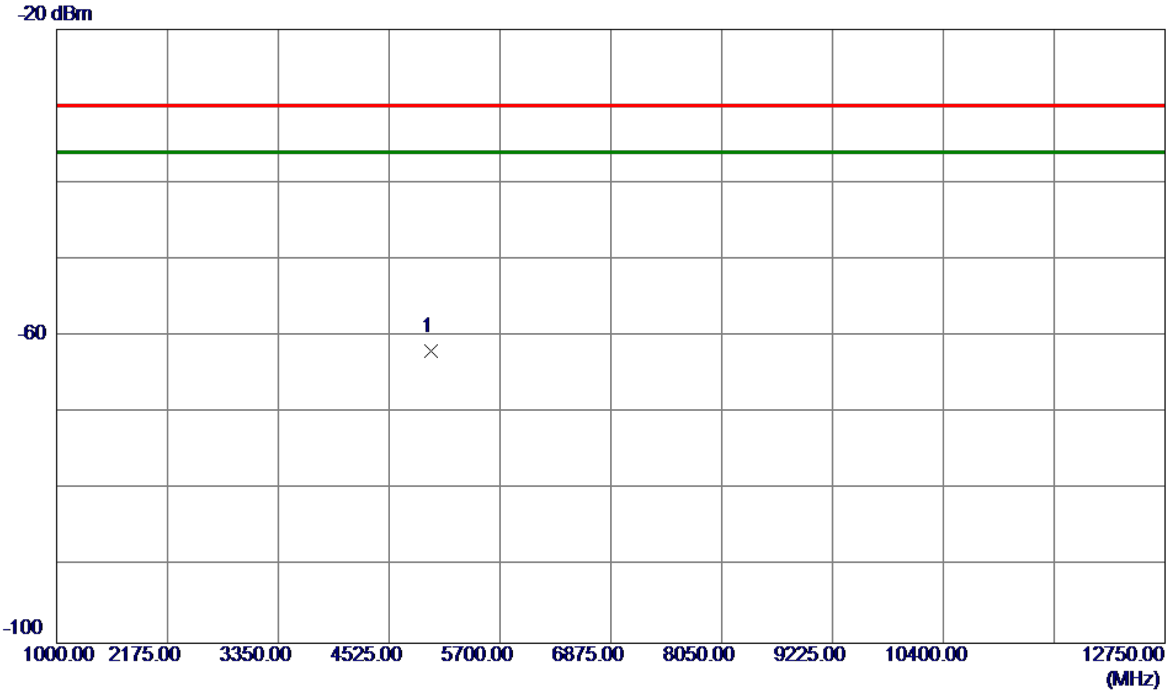
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1 *	6003.1500	-63.39	2.19	-61.20	-30.00	-31.20	RMS	

Test Mode	TX Mode IEEE 802.11ax(HE20)_2472 MHz	Polarization	Vertical



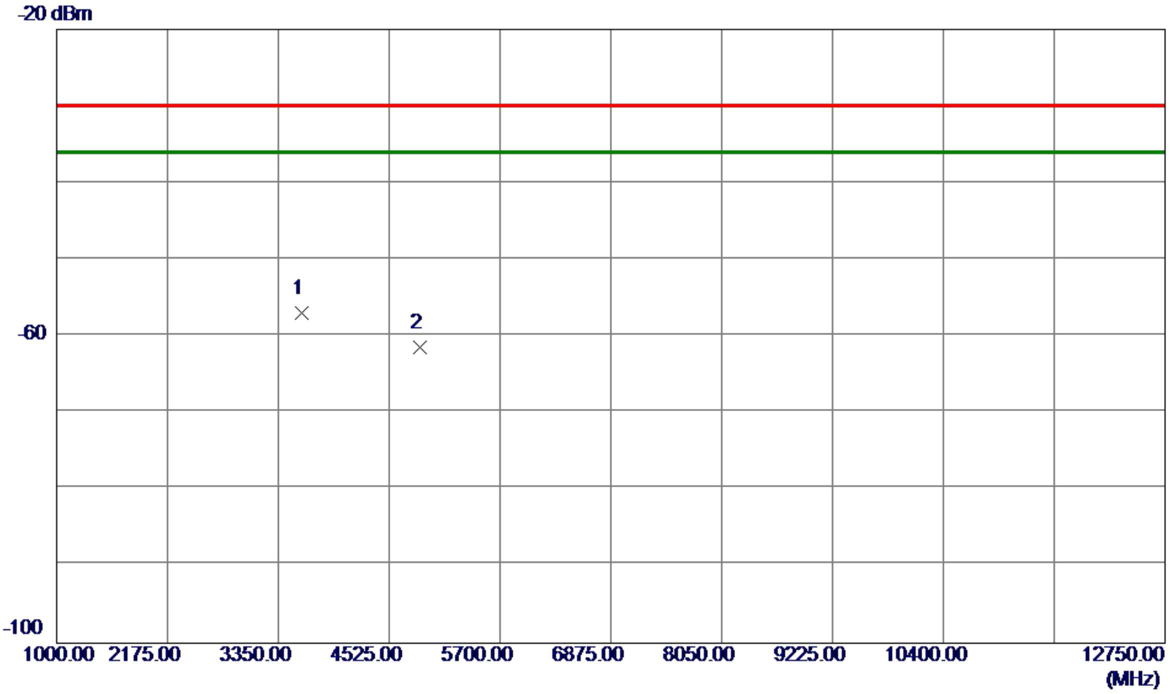
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1 *	4259.4500	-57.26	-0.12	-57.38	-30.00	-27.38	RMS	
2	4944.4750	-61.31	1.62	-59.69	-30.00	-29.69	RMS	

Test Mode	TX Mode IEEE 802.11ax(HE20)_2472 MHz	Polarization	Horizontal



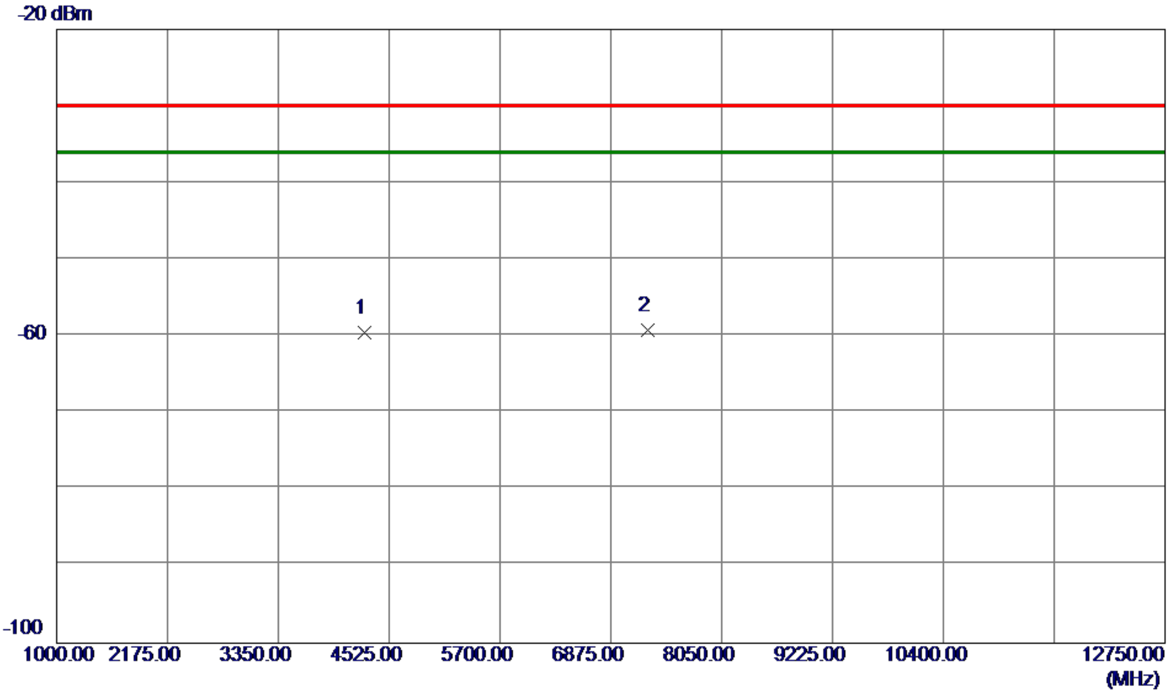
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1 *	4964.4500	-63.27	1.28	-61.99	-30.00	-31.99	RMS	

Test Mode	TX Mode IEEE 802.11ax(HE40)_2422 MHz	Polarization	Vertical



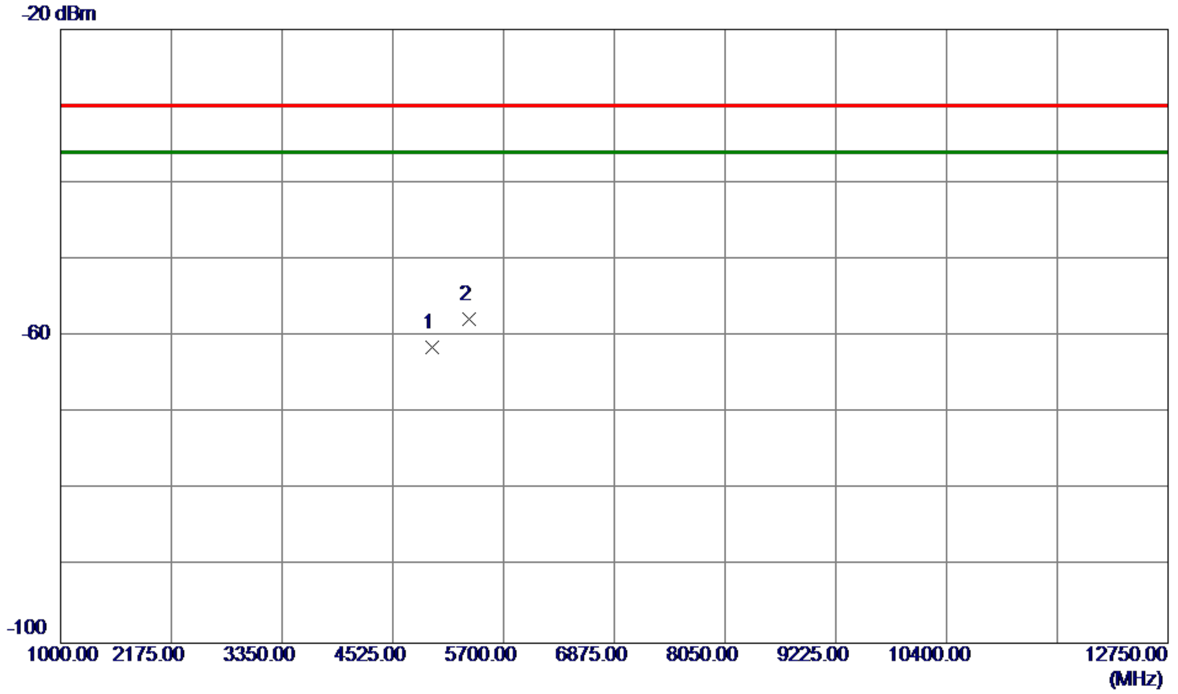
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1 *	3592.6370	-57.73	0.70	-57.03	-30.00	-27.03	RMS	
2	4848.1250	-62.79	1.33	-61.46	-30.00	-31.46	RMS	

Test Mode	TX Mode IEEE 802.11ax(HE40)_2422 MHz	Polarization	Horizontal



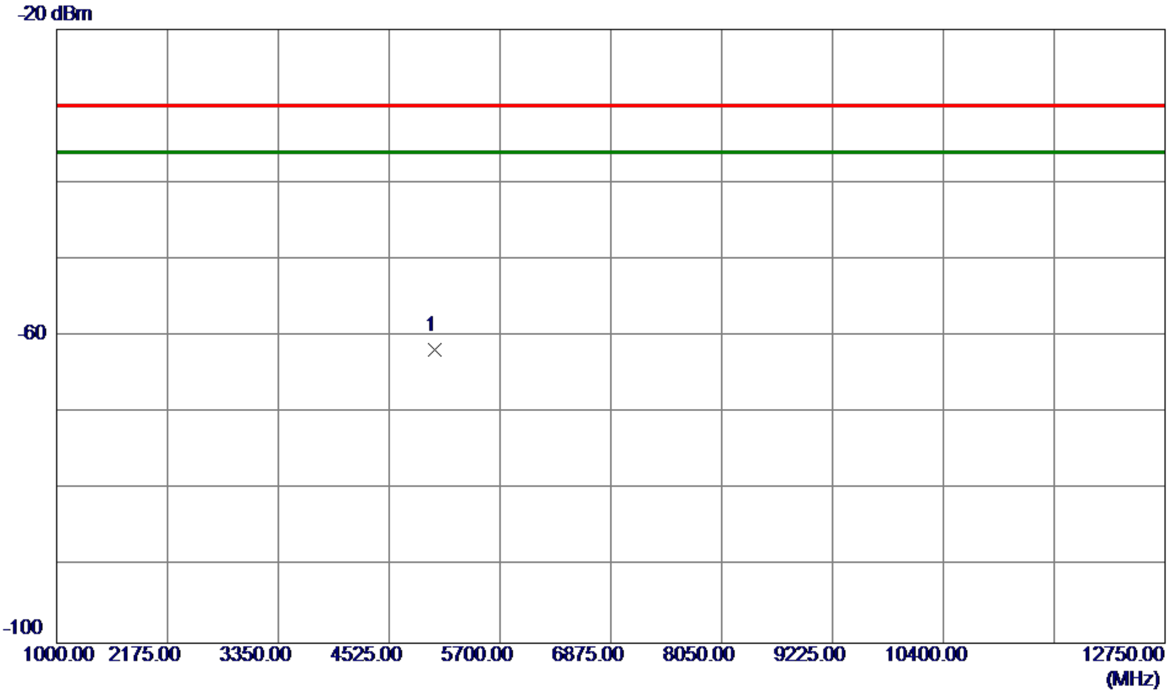
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1	4261.2120	-59.59	0.02	-59.57	-30.00	-29.57	RMS	
2 *	7262.1630	-62.03	2.78	-59.25	-30.00	-29.25	RMS	

Test Mode	TX Mode IEEE 802.11ax(HE40)_2462 MHz	Polarization	Vertical



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1	4946.8250	-63.12	1.63	-61.49	-30.00	-31.49	RMS	
2 *	5330.4620	-58.86	1.14	-57.72	-30.00	-27.72	RMS	

Test Mode	TX Mode IEEE 802.11ax(HE40)_2462 MHz	Polarization	Horizontal

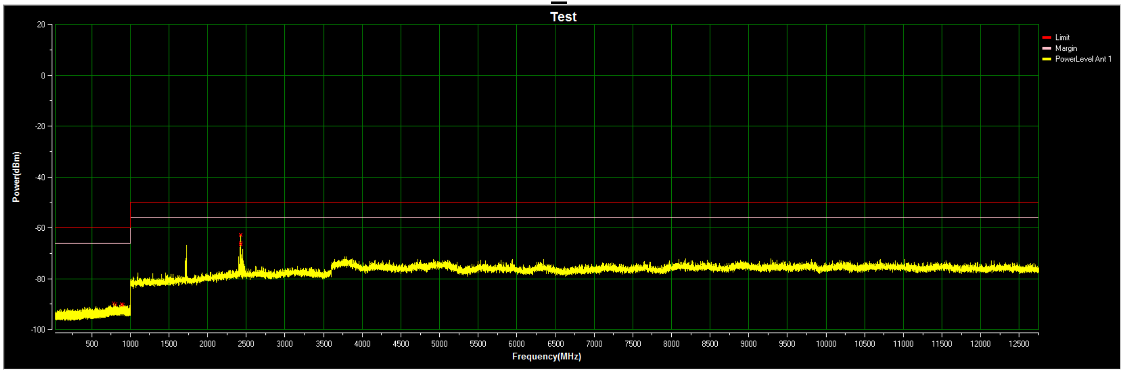


No.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin	Detector	Comment
	MHz	dBm	dB	dBm	dBm	dB		
1 *	5009. 6880	-63. 03	1. 33	-61. 70	-30. 00	-31. 70	RMS	

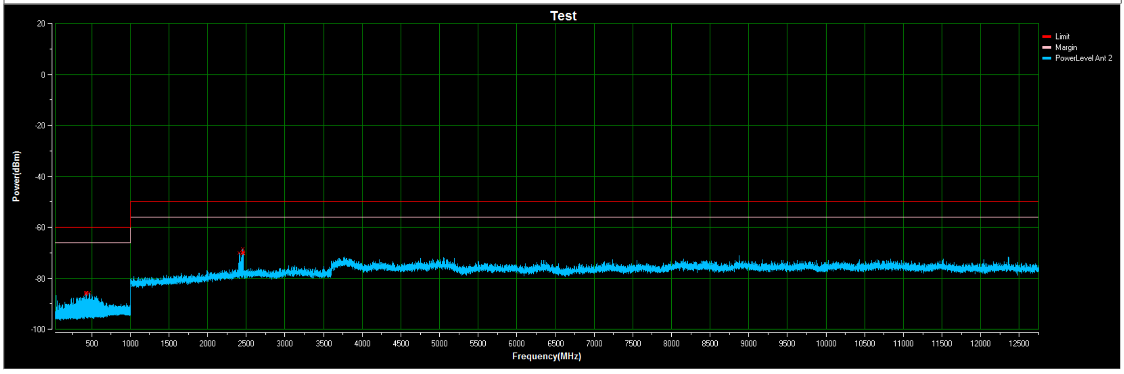
APPENDIX I - RECEIVER SPURIOUS EMISSIONS

Test Mode	RX Mode IEEE 802.11n(HT40)

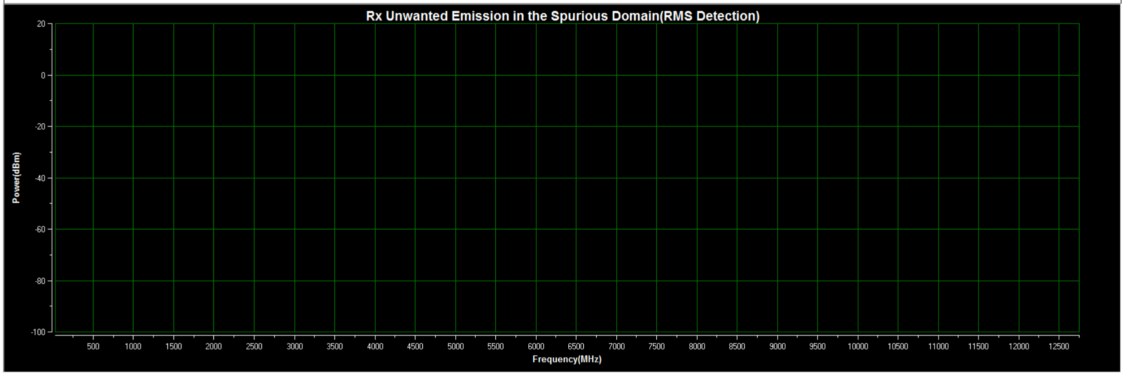
RX Mode_2422 MHz



Frequency(MHz)	Reading Level(dBm)	Limit(dBm)	Margin(dB)	Result
779.85	-89.36	-60.01	29.35	Pass
805.15	-89.58	-60.01	29.57	Pass
889.35	-89.59	-60.01	29.58	Pass
796.3	-89.84	-60.01	29.83	Pass
906.6	-89.94	-60.01	29.93	Pass
889.3	-90.07	-60.01	30.06	Pass
2428	-62.51	-50.01	12.5	Pass
2428.5	-62.57	-50.01	12.56	Pass
2429	-65.44	-50.01	15.43	Pass
2423	-65.98	-50.01	15.97	Pass
2424	-66.3	-50.01	16.29	Pass
2423.5	-66.33	-50.01	16.32	Pass

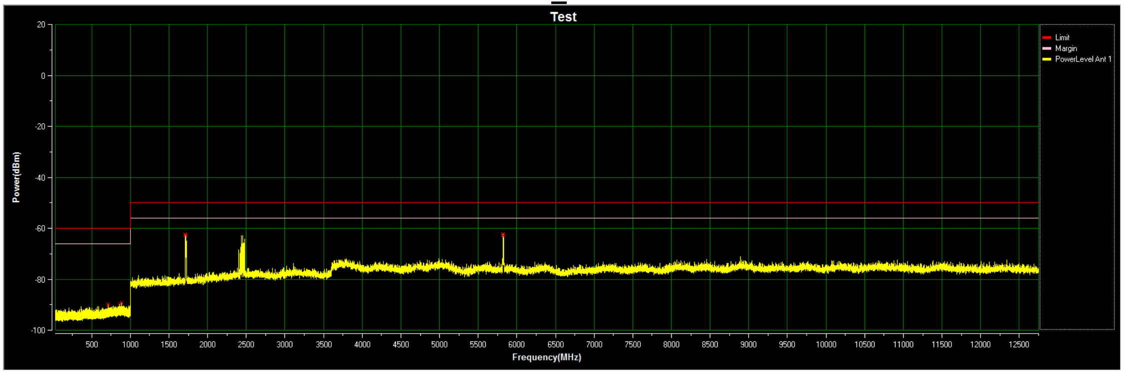


Frequency(MHz)	Reading Level(dBm)	Limit(dBm)	Margin(dB)	Result
428.5	-85.42	-60.01	25.41	Pass
465.95	-85.46	-60.01	25.45	Pass
465.9	-85.48	-60.01	25.47	Pass
420.15	-85.55	-60.01	25.54	Pass
428.45	-85.66	-60.01	25.65	Pass
420.2	-86.03	-60.01	26.02	Pass
2452	-68.13	-50.01	18.12	Pass
2449	-69.26	-50.01	19.25	Pass
2449.5	-69.52	-50.01	19.51	Pass
2458.5	-69.73	-50.01	19.72	Pass
2412	-69.77	-50.01	19.76	Pass
2458	-69.97	-50.01	19.96	Pass

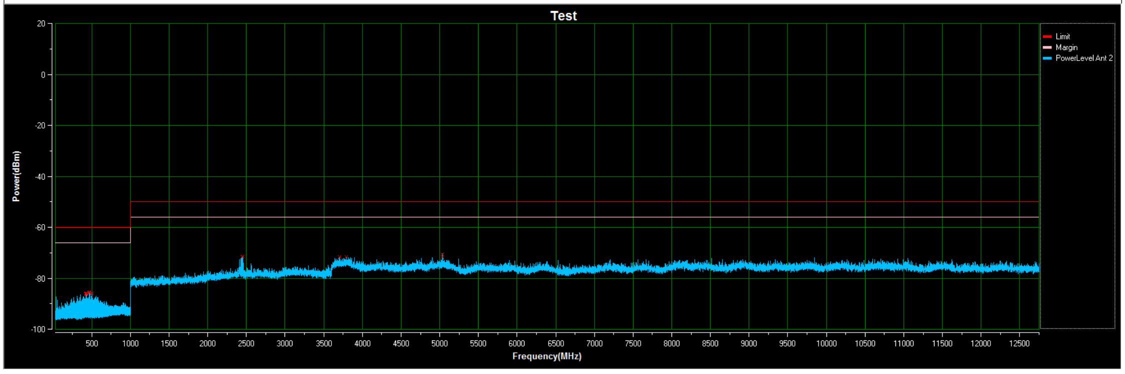


Frequency(MHz)	Reading Level(dBm)	Limit(dBm)	Margin(dB)	Result

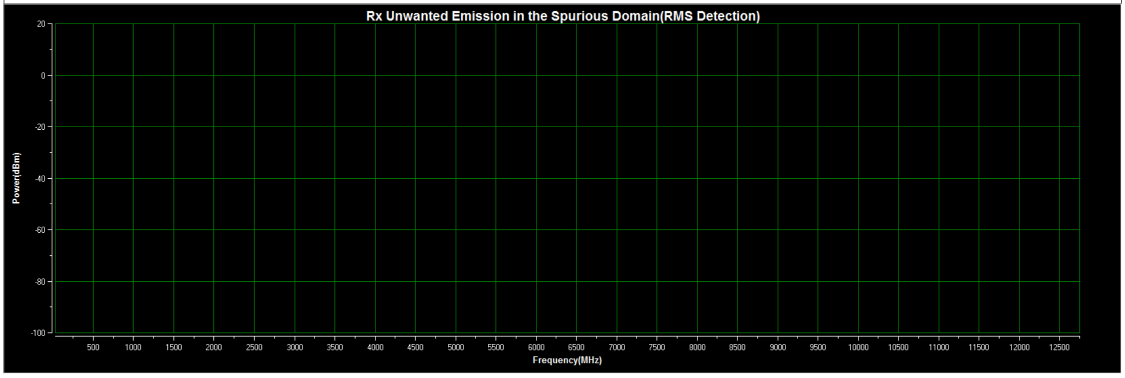
RX Mode_2462 MHz



Frequency(MHz)	Reading Level(dBm)	Limit(dBm)	Margin(dB)	Result
883.5	-88.77	-60.01	28.76	Pass
883.45	-88.92	-60.01	28.91	Pass
861	-89.33	-60.01	29.31	Pass
711.9	-89.34	-60.01	29.33	Pass
861.05	-89.39	-60.01	29.38	Pass
711.85	-89.84	-60.01	29.83	Pass
5818	-61.91	-50.01	11.9	Pass
1711.5	-62.17	-50.01	12.16	Pass
5821.5	-62.37	-50.01	12.36	Pass
1711	-62.43	-50.01	12.42	Pass
1717	-62.61	-50.01	12.6	Pass
5822	-62.61	-50.01	12.6	Pass

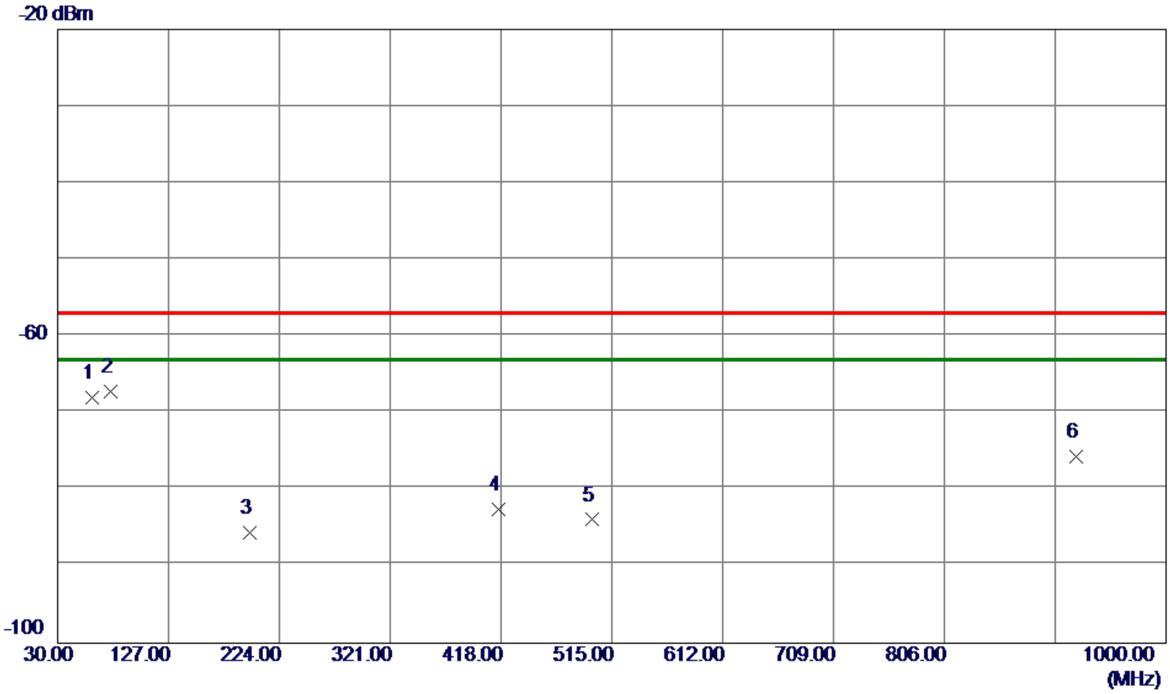


Frequency(MHz)	Reading Level(dBm)	Limit(dBm)	Margin(dB)	Result
465.95	-85.28	-60.01	25.27	Pass
465.9	-85.52	-60.01	25.51	Pass
499.2	-85.71	-60.01	25.7	Pass
428.5	-85.79	-60.01	25.78	Pass
420.15	-85.83	-60.01	25.82	Pass
420.2	-85.87	-60.01	25.86	Pass
5038	-70.45	-50.01	20.44	Pass
2456	-71.26	-50.01	21.25	Pass
3700	-71.32	-50.01	21.31	Pass
2445	-71.33	-50.01	21.32	Pass
5037.5	-71.39	-50.01	21.38	Pass
3791	-71.49	-50.01	21.48	Pass



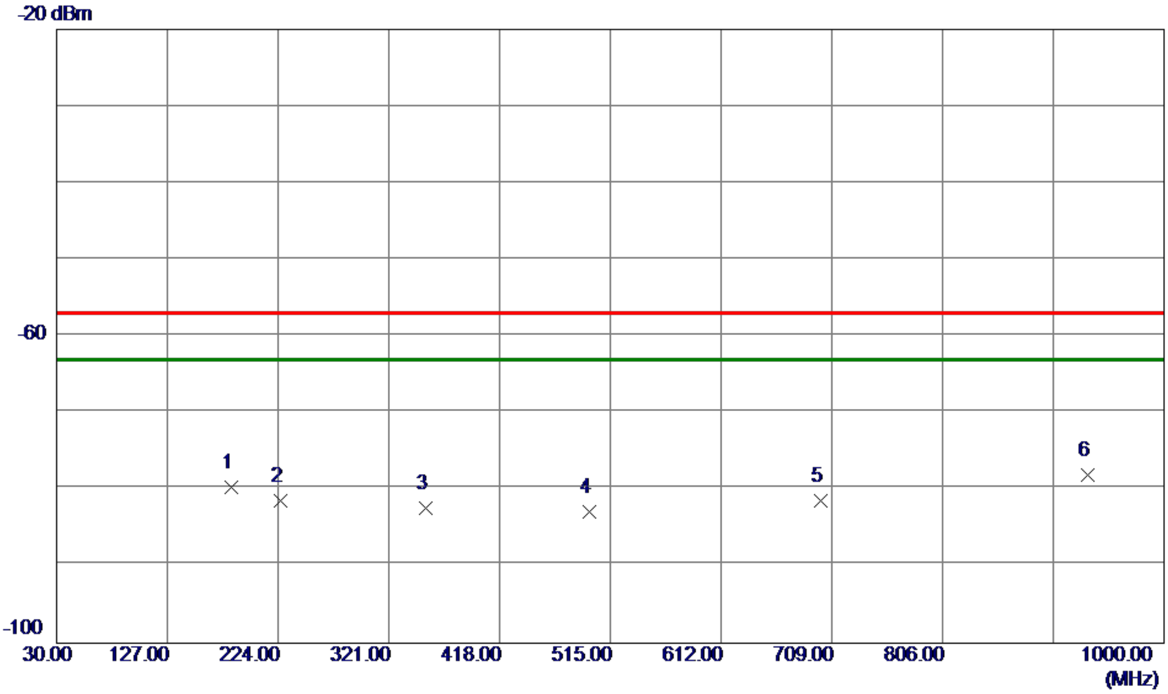
Frequency(MHz)	Reading Level(dBm)	Limit(dBm)	Margin(dB)	Result

Test Mode	RX Mode IEEE 802.11n(HT40)_2422 MHz	Polarization	Vertical



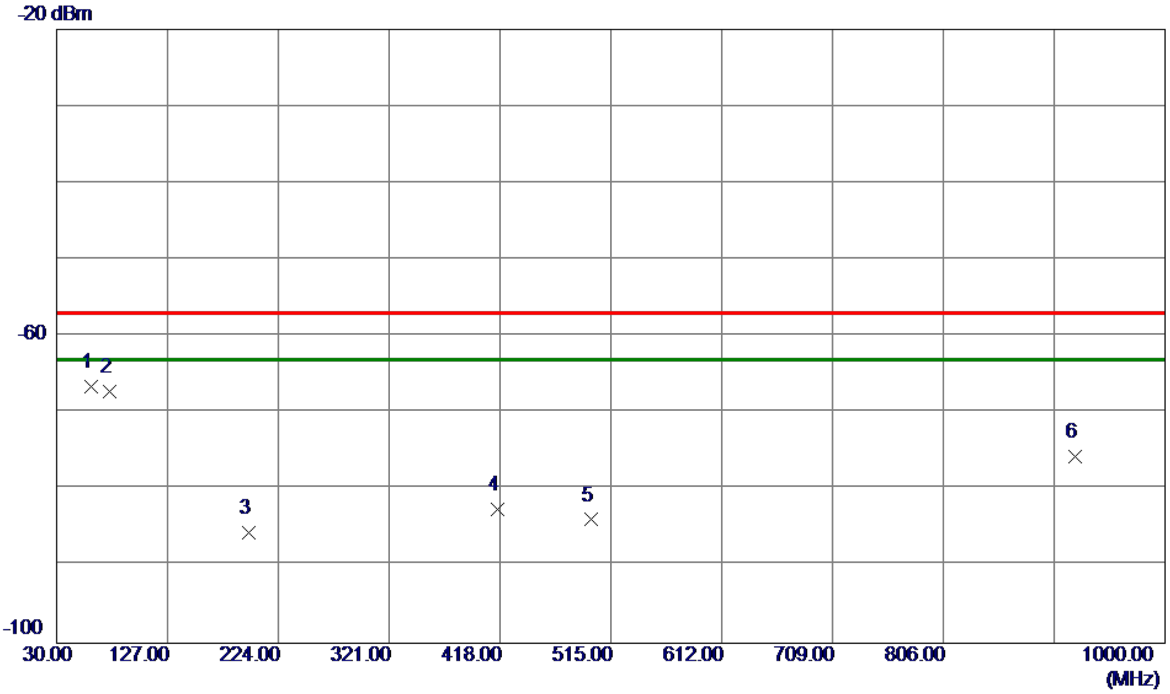
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1	60. 2640	-64. 97	-3. 01	-67. 98	-57. 00	-10. 98	RMS	
2 *	76. 1720	-67. 94	0. 71	-67. 23	-57. 00	-10. 23	RMS	
3	197. 7130	-72. 65	-12. 98	-85. 63	-57. 00	-28. 63	RMS	
4	415. 9630	-75. 25	-7. 30	-82. 55	-57. 00	-25. 55	RMS	
5	497. 3460	-77. 22	-6. 70	-83. 92	-57. 00	-26. 92	RMS	
6	921. 0420	-76. 21	0. 52	-75. 69	-57. 00	-18. 69	RMS	

Test Mode	RX Mode IEEE 802.11n(HT40)_2422 MHz	Polarization	Horizontal



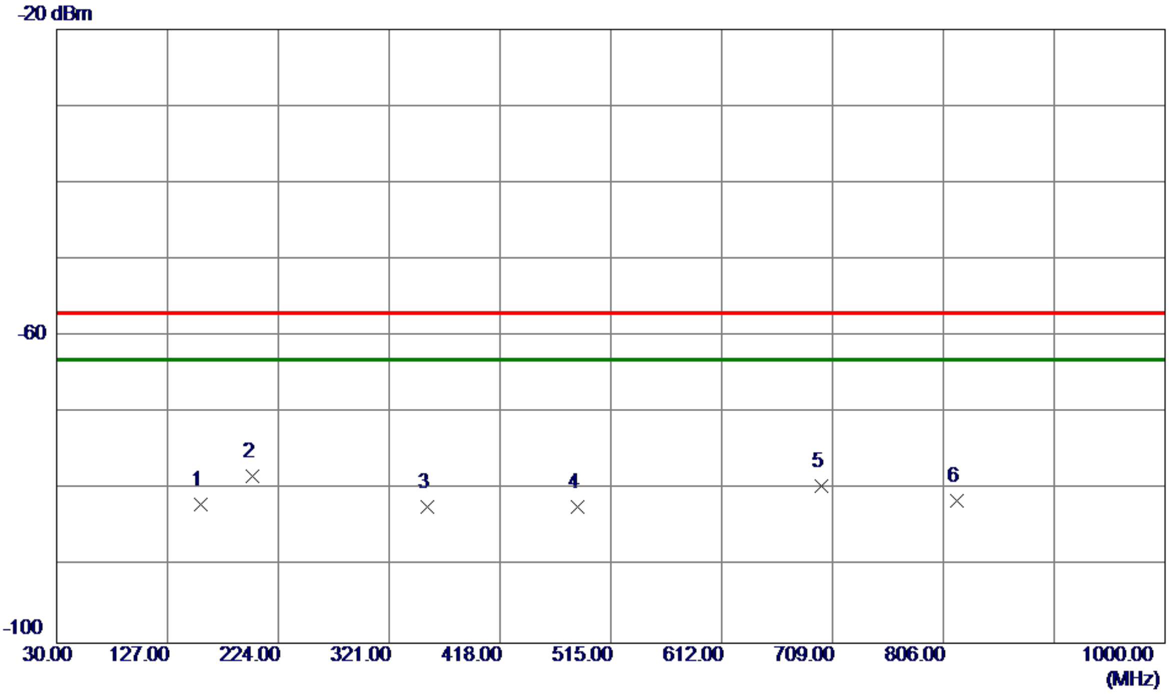
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1	183.3570	-68.23	-11.52	-79.75	-57.00	-22.75	RMS	
2	225.6490	-71.11	-10.27	-81.38	-57.00	-24.38	RMS	
3	353.1070	-74.52	-7.94	-82.46	-57.00	-25.46	RMS	
4	496.5700	-76.86	-6.02	-82.88	-57.00	-25.88	RMS	
5	699.1060	-79.26	-2.24	-81.50	-57.00	-24.50	RMS	
6 *	932.6820	-79.18	1.11	-78.07	-57.00	-21.07	RMS	

Test Mode	RX Mode IEEE 802.11n(HT40)_2462 MHz	Polarization	Vertical



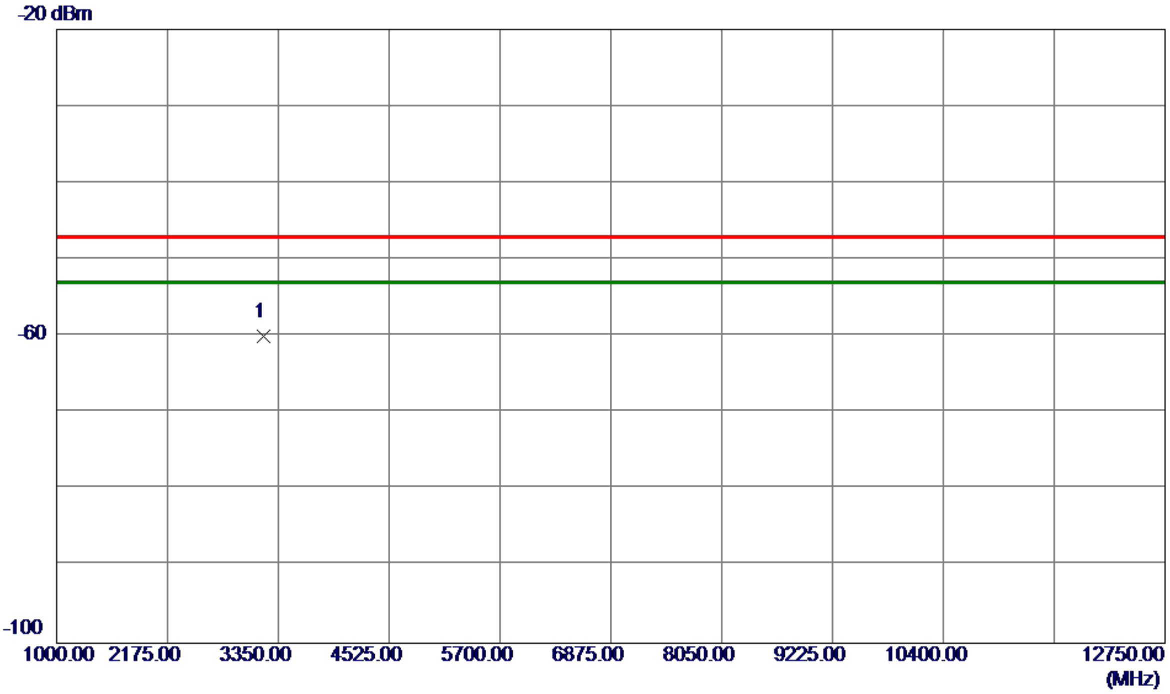
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1 *	60. 4580	-63. 35	-3. 20	-66. 55	-57. 00	-9. 55	RMS	
2	76. 1720	-67. 94	0. 71	-67. 23	-57. 00	-10. 23	RMS	
3	197. 7130	-72. 65	-12. 98	-85. 63	-57. 00	-28. 63	RMS	
4	415. 9630	-75. 25	-7. 30	-82. 55	-57. 00	-25. 55	RMS	
5	497. 3460	-77. 22	-6. 70	-83. 92	-57. 00	-26. 92	RMS	
6	921. 0420	-76. 21	0. 52	-75. 69	-57. 00	-18. 69	RMS	

Test Mode	RX Mode IEEE 802.11n(HT40)_2462 MHz	Polarization	Horizontal



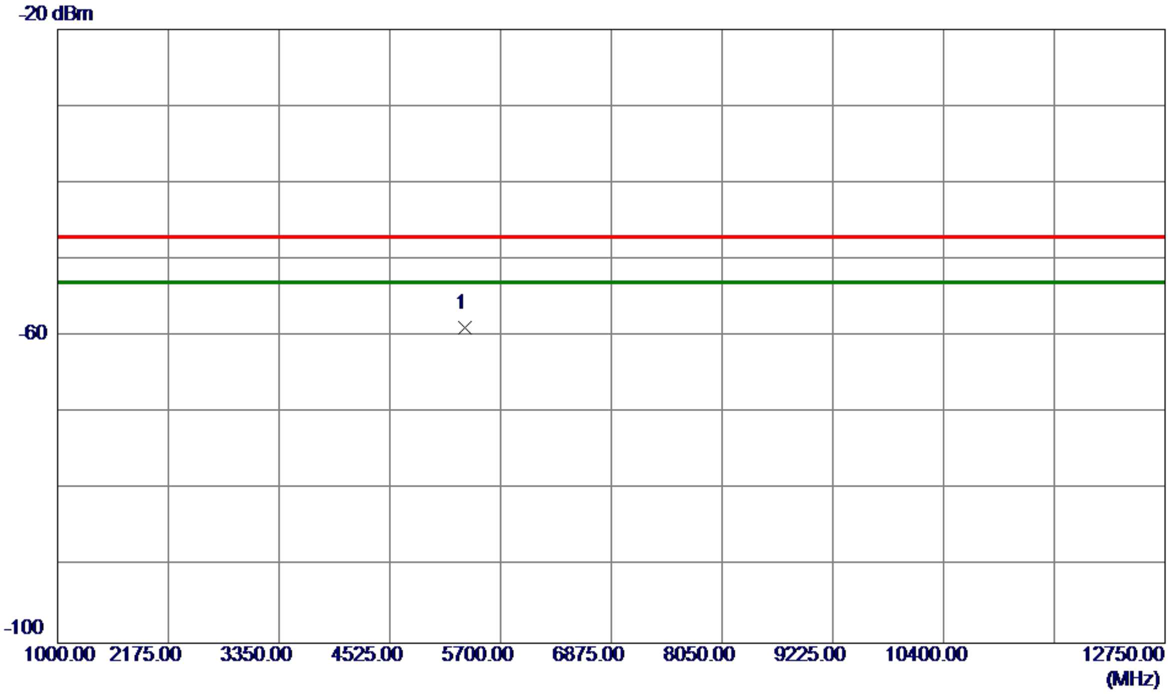
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1	156.0030	-72.94	-8.98	-81.92	-57.00	-24.92	RMS	
2 *	201.5930	-66.70	-11.47	-78.17	-57.00	-21.17	RMS	
3	354.0770	-74.28	-7.94	-82.22	-57.00	-25.22	RMS	
4	486.2880	-75.91	-6.32	-82.23	-57.00	-25.23	RMS	
5	699.3970	-77.29	-2.23	-79.52	-57.00	-22.52	RMS	
6	818.3190	-80.44	-0.96	-81.40	-57.00	-24.40	RMS	

Test Mode	RX Mode IEEE 802.11n(HT40)_2422 MHz	Polarization	Vertical



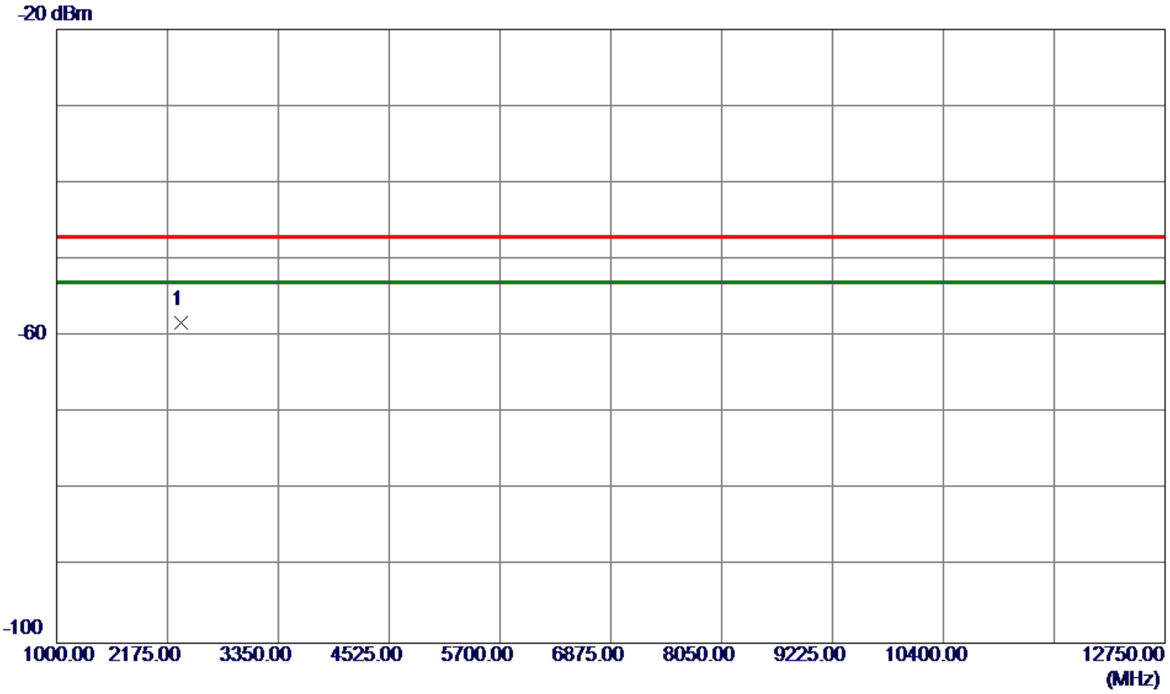
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1 *	3190. 7870	-60. 06	0. 08	-59. 98	-47. 00	-12. 98	RMS	

Test Mode	RX Mode IEEE 802.11n(HT40)_2422 MHz	Polarization	Horizontal



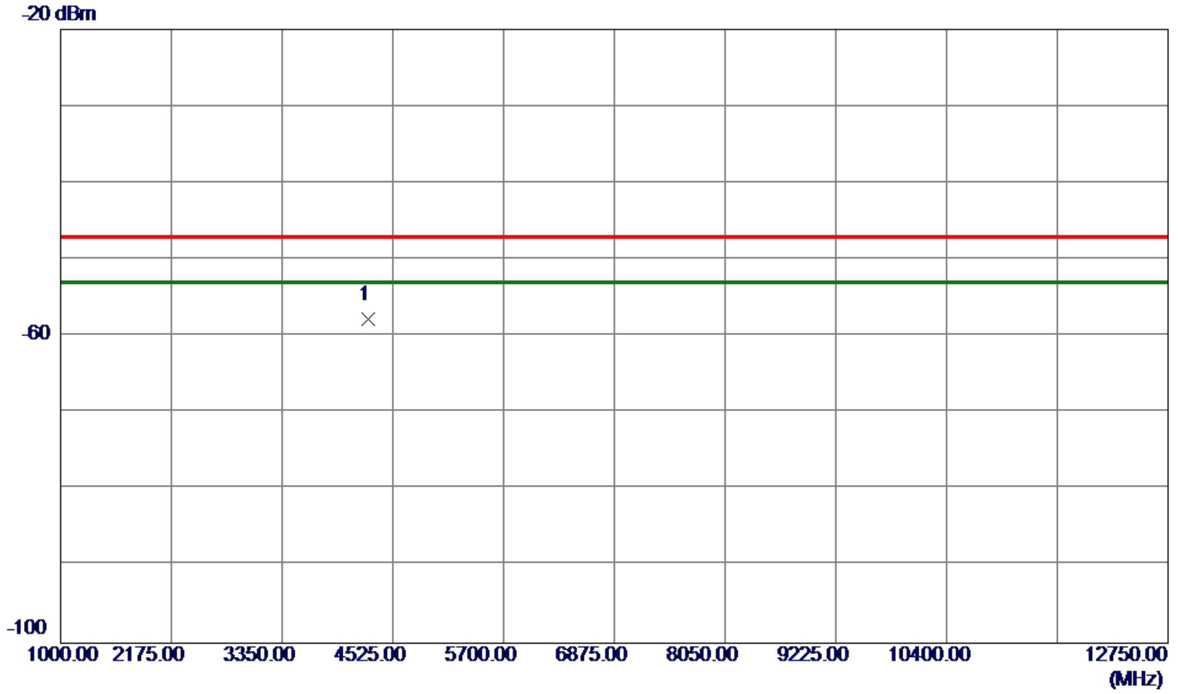
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1 *	5323.4129	-59.69	0.84	-58.85	-47.00	-11.85	RMS	

Test Mode	RX Mode IEEE 802.11n(HT40)_2462 MHz	Polarization	Vertical



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin	Detector	Comment
	MHz	dBm	dB	dBm	dBm	dB		
1 *	2314.2380	-56.48	-1.84	-58.32	-47.00	-11.32	RMS	

Test Mode	RX Mode IEEE 802.11n(HT40)_2462 MHz	Polarization	Horizontal



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1 *	4259. 4500	-57. 77	0. 01	-57. 76	-47. 00	-10. 76	RMS	

APPENDIX J - RECEIVER BLOCKING

Receiver Blocking Result						
Modulation Mode	Operation Freq. (MHz)	Wanted Signal Mean Power from Companion Device (dBm) **(See Note 1)**	Blocking Signal Freq. (MHz) **(See Note 2)**	Blocking Signal Power (dBm) **(See Note 1)**	Blocking Signal Power + Max. Ant. Gain (dBm)	PER (%)
802.11b Mode	2412	-66.00	2380	-34	-32	0.60
		-72.00	2300	-34	-32	1.80
			2330	-34	-32	2.80
			2360	-34	-32	2.40
	2472	-66.00	2504	-34	-32	1.60
		-72.00	2524	-34	-32	3.40
			2584	-34	-32	3.20
			2674	-34	-32	2.20
Limit	PER(Packet Error Rate) ≤ 10%					
Result	Pass					

Note:
1) The levels had been corrected by the actual antenna assembly gain.
2) The test report did not use the shift of blocking frequencies with the standard Clause 5.4.11.2.1 Step 5.

APPENDIX K - INFORMATION AS REQUIRED BY EN 300 328 V2.2.2, CLAUSE 5.4.1

In accordance with ETSI EN 300 328, clause 5.4.1, the following information is provided by the manufacturer.

a) The type of wideband data transmission equipment:

☐ FHSS

☒ non-FHSS

b) In case of FHSS:

(1) In case of non-Adaptive FHSS equipment:

The number of Hopping Frequencies: N/A

(2) In case of Adaptive FHSS equipment:

The maximum number of Hopping Frequencies: N/A

The minimum number of Hopping Frequencies: N/A

(3) The (average) dwell time: N/A

c) Adaptive / non-adaptive equipment:

☐ non-adaptive Equipment

☒ adaptive Equipment without the possibility to switch to a non-adaptive mode

☐ adaptive Equipment which can also operate in a non-adaptive mode

d) In case of adaptive equipment:

The maximum Channel Occupancy Time implemented by the equipment: 3.85 ms

☒ The equipment has implemented an LBT mechanism

* In case of non-FHSS equipment:

☐ The equipment is Frame Based equipment

☒ The equipment is Load Based equipment

☐ The equipment can switch dynamically between Frame Based and Load Based equipment

The CCA time implemented by the equipment: 157 μs

☐ The equipment has implemented a DAA mechanism

☐ The equipment can operate in more than one adaptive mode

f) The worst case operational mode for each of the following tests:

(1) RF Output Power: 19.32 dBm

(2) Power Spectral Density: 9.98 dBm/MHz

(3) Duty cycle, Tx-Sequence, Tx-gap: N/A

(4) Accumulated Transmit time, Frequency Occupation & Hopping Sequence (only for FHSS equipment): N/A

(5) Hopping Frequency Separation (only for FHSS equipment): N/A

(6) Medium Utilization: N/A

(7) Adaptivity: 3.75 ms, Receiver Blocking: 3.40 %

(8) Nominal Channel Bandwidth: 40 MHz

(9) Transmitter unwanted emissions in the OOB domain: -13.72 dBm

(10) Transmitter unwanted emissions in the spurious domain: -68.54 dBm

(11) Receiver spurious emissions: -66.55 dBm

g) The different transmit operating modes (tick all that apply):

☐ Operating mode 1: Single Antenna Equipment
  ☐ Equipment with only one antenna
  ☐ Equipment with two diversity antennas but only one antenna active at any moment in time
  ☐ Smart Antenna Systems with two or more antennas, but operating in a (legacy) mode where only one antenna is used. (e.g. IEEE 802.11™ legacy mode in smart antenna systems)

☒ Operating mode 2: Smart Antenna Systems - Multiple Antennas without beam forming
  ☒ Single spatial stream / Standard throughput (e.g. IEEE 802.11™ legacy mode)
  ☒ High Throughput (> 1 spatial stream) using Nominal Channel Bandwidth 1
  ☒ High Throughput (> 1 spatial stream) using Nominal Channel Bandwidth 2

NOTE 1: Add more lines if more channel bandwidths are supported.

☐ Operating mode 3: Smart Antenna Systems - Multiple Antennas with beam forming
  ☐ Single spatial stream / Standard throughput (e.g. IEEE 802.11™ legacy mode)
  ☐ High Throughput (> 1 spatial stream) using Nominal Channel Bandwidth 1
  ☐ High Throughput (> 1 spatial stream) using Nominal Channel Bandwidth 2

NOTE 2: Add more lines if more channel bandwidths are supported.

h) In case of Smart Antenna Systems:

(1) The number of Receive chains: 2

(2) The number of Transmit chains: 2

☒ symmetrical power distribution

☐ asymmetrical power distribution

In case of beam forming, the maximum (additional) beam forming gain: N/A dB

NOTE: The additional beam forming gain does not include the basic gain of a single antenna.

i) Operating Frequency Range(s) of the equipment:

(1) Operating Frequency Range 1: 2412 MHz to 2472 MHz

NOTE: Add more lines if more Frequency Ranges are supported.

j) Nominal Channel Bandwidth(s):

(1) Nominal Channel Bandwidth 1: 20 MHz

(2) Nominal Channel Bandwidth 2: 40 MHz

NOTE: Add more lines if more channel bandwidths are supported.

k) Type of Equipment (stand-alone, combined, plug-in radio device, etc.):

☒ Stand-alone

☐ Combined Equipment

☐ Plug-in radio device

☐ Other ______________________________

l) The extreme operating conditions that apply to the equipment:

Operating temperature range: 0 ° C to 45 ° C

Details provided are for the: ☒ stand-alone equipment

☐ combined equipment

☐ test jig

n) The nominal voltages of the stand-alone radio equipment or the nominal voltages of the combined equipment or test jig in case of plug-in devices:

Details provided are for the: ☒ stand-alone equipment
☐ combined equipment
☐ test jig

Supply Voltage ☐ AC mains State AC voltage ____ V
☒ DC State DC voltage __19__ V

In case of DC, indicate the type of power source
☐ Internal Power Supply
☒ External Power Supply or AC/DC adapter
☐ Battery
☐ Other: _______

o) Describe the test modes available which can facilitate testing:

The measurements shall be performed during continuously transmitting and normal operation.

p) The equipment type (e.g. Bluetooth®, IEEE 802.11™, IEEE 802.15.4™, proprietary, etc.):

IEEE 802.11™

s) Geo-location capability supported by the equipment:

☐ Yes
  ☐ The geographical location determined by the equipment as defined in clause 4.3.1.13.2 or clause 4.3.2.12.2 is not accessible to the user
☒ No

End of Test Report