

TEST REPORT

of

FCC Part 15 Subpart E §15.407
IC RSS-247 Issue 2 and RSS-Gen Issue 5

FCC ID: A3LSMT870
IC Certification: 649E-SMT870

1. Equipment Under Test : Portable Tablet
2. Model Name : SM-T870
3. Variant Model Name(s) : -
4. Applicant : Samsung Electronics Co., Ltd.
5. Date of Receipt : 2020.06.12
6. Date of Test(s) : 2020.06.05 ~ 2020.07.16
7. Date of Issue : 2020.07.27

In the configuration tested, the EUT complied with the standards specified above. This test report does not assure KOLAS accreditation.

- 1) The results of this test report are effective only to the items tested.
- 2) The SGS Korea is not responsible for the sampling, the results of this test report apply to the sample as received.

Tested by:



Nancy Park

Technical
Manager:



Jungmin Yang

SGS Korea Co., Ltd. Gunpo Laboratory



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1. General Information

1.1. Testing Laboratory

SGS Korea Co., Ltd. (Gunpo Laboratory)

- 10-2, LS-ro 182beon-gil, Gunpo-si, Gyeonggi-do, Korea, 15807
- 4, LS-ro 182beon-gil, Gunpo-si, Gyeonggi-do, Korea, 15807
- Designation number: KR0150

All SGS services are rendered in accordance with the applicable SGS conditions of service available on request and accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx>.

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1.2. Details of Applicant

Applicant : Samsung Electronics Co., Ltd.

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Contact Person : Seo, Deok-ho

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1.3. Description of EUT

Kind of Product	Potable Tablet	
Model Name	SM-T870	
Serial Number	R32N60011ZB, R32N60012YN	
Power Supply	DC 3.86 V	
Frequency Range	5 180 MHz ~ 5 240 MHz (Band 1: 11a/n_HT20, 11ac_VHT20) 5 190 MHz ~ 5 230 MHz (Band 1: 11n_HT40, 11ac_VHT40) 5 210 MHz (Band 1: 11ac_VHT80) 5 260 MHz ~ 5 320 MHz (Band 2A: 11a/n_HT20, 11ac_VHT20) 5 270 MHz ~ 5 310 MHz (Band 2A: 11n_HT40, 11ac_VHT40) 5 290 MHz (Band 2A: 11ac_VHT80) 5 500 MHz ~ 5 720 MHz (Band 2C: 11a/n_HT20, 11ac_VHT20) 5 510 MHz ~ 5 710 MHz (Band 2C: 11n_HT40, 11ac_VHT40) 5 530 MHz ~ 5 690 MHz (Band 2C: 11ac_VHT80) 5 745 MHz ~ 5 825 MHz (Band 3: 11a/n_HT20, 11ac_VHT20) 5 755 MHz ~ 5 795 MHz (Band 3: 11n_HT40, 11ac_VHT40) 5 775 MHz (Band 3: 11ac_VHT80)	
Modulation Technique	OFDM	
Number of Channels	4 channels (Band 1: 11a/n_HT20, 11ac_VHT20) 2 channels (Band 1: 11n_HT40, 11ac_VHT40) 1 channel (Band 1: 11ac_VHT80) 4 channels (Band 2A: 11a/n_HT20, 11ac_VHT20) 2 channels (Band 2A: 11n_HT40, 11ac_VHT40) 1 channel (Band 2A: 11ac_VHT80) 12 channels (Band 2C: 11a/n_HT20, 11ac_VHT20) 6 channels (Band 2C: 11n_HT40, 11ac_VHT40) 3 channels (Band 2C: 11ac_VHT80) 5 channels (Band 3: 11a/n_HT20, 11ac_VHT20) 2 channels (Band 3: 11n_HT40, 11ac_VHT40) 1 channel (Band 3: 11ac_VHT80)	
Antenna Type	Metal Frame Antenna	
Antenna Gain	Ant.1	5 150 MHz ~ 5 250 MHz: -6.20 dB i 5 250 MHz ~ 5 350 MHz: -5.30 dB i 5 470 MHz ~ 5 725 MHz: -4.20 dB i 5 725 MHz ~ 5 850 MHz: -4.35 dB i
	Ant.2	5 150 MHz ~ 5 250 MHz: -7.20 dB i 5 250 MHz ~ 5 350 MHz: -6.80 dB i 5 470 MHz ~ 5 725 MHz: -6.90 dB i 5 725 MHz ~ 5 850 MHz: -7.90 dB i
H/W Version	REV1.0	
S/W Version	T870.001	
Test S/W Version	T870XXE0ATF7	

1.4. Introduction of Test Data Reuse

This report referenced from the FCC ID: A3LSMT875 WLAN 5 GHz(802.11a/n/ac).

The applicant takes full responsibility that the test data as referenced in this report represent compliance for this FCC ID.

1.5. Difference

The FCC ID: A3LSMT870 shares the same enclosure and circuit board as FCC ID: A3LSMT875.
 The BT antennas and surrounding circuitry and layout are identical between these two units.

After confirming through preliminary radiated emissions and conducted power that the performance of the FCC ID: A3LSMT875 remains representative of FCC ID: A3LSMT870.

The test data of FCC ID: A3LSMT875 being submitted for this application to cover WLAN 5 GHz features.

1.6. Spot Check Data

Band	Test item	Mode	Frequency (MHz)	Limit	Original model	Spot check model	Deviation (dB)	Remark
					SM-T875	SM-T870		
					FCC ID: A3LSMT875	FCC ID: A3LSMT870 IC Certification: 649E-SMT870		
WLAN 5 GHz	Conducted power	11a_MIMO	5 220	23.98 dB m	20.30 dB m	20.49 dB m	0.19	-
	Band edge	11n_HT40_MIMO	5 190	54 dB μ V/m	51.87 dB μ V/m	51.74 dB μ V/m	-0.13	-
	Spurious	11a_MIMO	5 240	68.23 dB μ V/m	31.19 dB μ V/m	32.34 dB μ V/m	1.15	Noise floor level
	Conducted power	11a_MIMO	5 300	23.98 dB m	20.42 dB m	20.49 dB m	0.07	-
	Band edge	11n_HT40_MIMO	5 310	54 dB μ V/m	51.94 dB μ V/m	51.93 dB μ V/m	-0.01	-
	Spurious	11a_MIMO	5 300	74 dB μ V/m	32.59 dB μ V/m	31.98 dB μ V/m	-0.61	Noise floor level
	Conducted power	11a_MIMO	5 580	23.98 dB m	20.63 dB m	20.37 dB m	-0.27	-
	Band edge	11ac_VHT80_MIMO	5 530	54 dB μ V/m	50.74 dB μ V/m	51.68 dB μ V/m	0.94	-
	Spurious	11a_MIMO	5 580	74 dB μ V/m	30.56 dB μ V/m	32.28 dB μ V/m	1.72	Noise floor level
	Conducted power	11a_MIMO	5 785	30 dB m	20.67 dB m	19.96 dB m	-0.71	-
	Band edge	11ac_VHT80_MIMO	5 775	68.23 dB μ V/m	48.23 dB μ V/m	48.30 dB μ V/m	0.07	-
	Spurious	11a_MIMO	5 785	74 dB μ V/m	33.39 dB μ V/m	33.09 dB μ V/m	-0.30	Noise floor level

Note;

Comparison of two models, upper deviation is within 3 dB range and all test results are under FCC/IC technical limits.

1.7. Reference Detail

Reference applicant that contains the reused reference data in the individual test reports:

Equipment class	Reference FCC ID	Application type	Reference test report number	Exhibit type	Variant test report number	Data reuse
DSS	A3LSMT875	Original grant	F690501-RF-RTL000913 (BT)	Test report	F690501-RF-RTL000959	All
DTS			F690501-RF-RTL000914 (LE)		F690501-RF-RTL000960	
			F690501-RF-RTL000916 (802.11b/g/n/ac)		F690501-RF-RTL000961	
NII			F690501-RF-RTL000917 (802.11ax)		F690501-RF-RTL000962	
			F690501-RF-RTL000919 (802.11a/n/ac)		F690501-RF-RTL000963	
			F690501-RF-RTL000921 (802.11ax)		F690501-RF-RTL000964	
			F690501-RF-RTL000922 (802.11a/n/ac/ax_DFS)		F690501-RF-RTL000965	
DCD			F690501-RF-RTL000925 (WPT)		F690501-RF-RTL000966	

1.8. Declaration by the Manufacturer

- The EUT is a slave without radar detection and TPC.

1.9. Automatically Discontinue Transmission

1.9.1. Limit of Automatically Discontinue Transmission

The device shall automatically discontinue transmission in case of either absence of information to transmit or operating failure. These provisions are not intended to preclude the transmission of control or signaling information or the use of repetitive codes used by certain digital technologies to complete frame or burst intervals. Applicants shall include in their application for equipment authorization to describe how this requirement is met.

1.9.2. Test Result of Automatically Discontinue Transmission

While the EUT is not transmitting any information, the EUT can automatically discontinue transmission and become standby mode for power saving. The EUT can detect the controlling signal of ACK message transmitting from remote device and verify whether it shall resend or discontinue transmission.

1.10. Test Equipment List

Equipment	Manufacturer	Model	S/N	Cal. Date	Cal. Interval	Cal. Due
Signal Generator	Agilent	E8257D	MY51501169	Nov. 21, 2019	Annual	Nov. 21, 2020
Signal Generator	Agilent	8648D	3847M00534	Mar. 03, 2020	Annual	Mar. 03, 2021
Spectrum Analyzer	R&S	FSV30	100768	Mar. 04, 2020	Annual	Mar. 04, 2021
Spectrum Analyzer	Agilent	N9030A	US51350132	Nov. 15, 2019	Annual	Nov. 15, 2020
Power Meter	Anritsu	ML2495A	1223004	Jun. 01, 2020	Annual	Jun. 01, 2021
Power Sensor	Anritsu	MA2411B	1207272	Jun 01, 2020	Annual	Jun 01, 2021
Attenuator	AEROFLEX / INMET	40AH2W-10	40G-3	Jun. 16, 2020	Annual	Jun. 16, 2021
Low Pass Filter	Mini-Circuits	NLP-1200+	V 9500401023-3	Jun. 01, 2020	Annual	Jun. 01, 2021
High Pass Filter	Wainwright Instrument GmbH	WHKX6.0/18G-10SS	51	Jun. 07, 2020	Annual	Jun. 07, 2021
High Pass Filter	Wainwright Instrument GmbH	WHNX7.5/26.5G-6SS	11	May 18, 2020	Annual	May 18, 2021
DC Power Supply	Agilent	U8002A	MY50060028	Mar. 03, 2020	Annual	Mar. 03, 2021
Preamplifier	H.P.	8447F	2944A03909	Aug. 07, 2019	Annual	Aug. 07, 2020
Signal Conditioning Unit	R&S	SCU-18	10117	Jun. 10, 2020	Annual	Jun. 10, 2021
Preamplifier	MITEQ Inc.	JS44-18004000-35-8P	1546891	May 08, 2020	Annual	May 08, 2021
Loop Antenna	Schwarzbeck Mess-Elektronik	FMZB 1519	1519-039	Aug. 22, 2019	Biennial	Aug. 22, 2021
Bilog Antenna	Schwarzbeck Mess-Elektronik	VULB 9163	396	Mar. 21, 2019	Biennial	Mar. 21, 2021
Horn Antenna	R&S	HF906	100326	Feb. 14, 2020	Annual	Feb. 14, 2021
Horn Antenna	Schwarzbeck Mess-Elektronik	BBHA 9170	BBHA9170431	Sep. 10, 2018	Biennial	Sep. 10, 2020
Test Receiver	R&S	ESU26	100109	Feb. 18, 2020	Annual	Feb. 18, 2021
Test Receiver	R&S	ESCI 7	100911	Feb. 19, 2020	Annual	Feb. 19, 2021
Two-Line V-Network	R&S	ENV216	100190	May 08, 2020	Annual	May 08, 2021
Turn Table	Innco systems GmbH	DS 1200 S	N/A	N.C.R.	N/A	N.C.R.
Controller	Innco systems GmbH	CONTROLLER CO3000-4P	CO3000/963/383 30516/L	N.C.R.	N/A	N.C.R.
Antenna Mast	Innco systems GmbH	MA4640-XP-ET	MA4640/536/383 30516/L	N.C.R.	N/A	N.C.R.
Shield Room	SY Corporation	L x W x H (6.5 m x 3.5 m x 3.5 m)	N/A	N.C.R.	N/A	N.C.R.
Anechoic Chamber	SY Corporation	L x W x H (9.6 m x 6.4 m x 6.6 m)	N/A	N.C.R.	N/A	N.C.R.
Coaxial Cable	RFONE	PL520-NMNM-4M (4 m)	20200324001	May 06, 2020	Semi-annual	Nov. 06, 2020
Coaxial Cable	RFONE	PL520-NMNM-10M (10 m)	20200324001	May 06, 2020	Semi-annual	Nov. 06, 2020
Coaxial Cable	Rosenberger	LA1-C006-1500	131014 07/20	Feb. 23, 2020	Semi-annual	Aug. 23, 2020

1.11. Summary of Test Result

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC Part 15 Subpart E, IC RSS-247 Issue 2, RSS-Gen Issue 5			
Section in FCC	Section in IC	Test Item(s)	Result
15.205(a) 15.209(a) 15.407(b)(1)	RSS-Gen Issue 5 8.9 RSS-247 Issue 2 6.2.1.2 RSS-247 Issue 2 6.2.2.2 RSS-247 Issue 2 6.2.3.2 RSS-247 Issue 2 6.2.4.2	Transmitter Radiated Spurious Emissions	Complied
15.407(a)	RSS-Gen Issue 5 6.7	26 dB Bandwidth & 99 % Bandwidth	Complied
15.407(e)	RSS-247 Issue 2 6.2.4.1	6 dB Bandwidth	Complied
15.407(a)(1) 15.407(a)(2)	RSS-247 Issue 2 6.2.1.1 RSS-247 Issue 2 6.2.2.1 RSS-247 Issue 2 6.2.3.1 RSS-247 Issue 2 6.2.4.1	Maximum Conducted Output Power	Complied
15.407(a)(1) 15.407(a)(2) 15.407(a)(3)	RSS-247 Issue 2 6.2.1.1 RSS-247 Issue 2 6.2.2.1 RSS-247 Issue 2 6.2.3.1 RSS-247 Issue 2 6.2.4.1	Power Spectral Density	Complied
15.207	RSS-Gen Issue 5 8.8	AC Power Line Conducted Emission	Complied

1.12. Test Report Revision

Revision	Report Number	Date of Issue	Description
0	F690501-RF-RTL000963	2020.07.17	Initial
1	F690501-RF-RTL000963-1	2020.07.27	Modified reference test report number of 1.7. reference detail.

1.13. Test Procedure(s)

The measurement procedures described in the American National Standard of Procedures for Compliance Testing of unlicensed Wireless Devices (ANSI C63.10-2013) and the guidance provided in KDB 789033 D02 General UNII Test Procedures New Rules v02r01 were used in the measurement of the DUT.

1.14. Sample Calculation

Where relevant, the following sample calculation is provided:

1.14.1. Conducted Test

Offset value (dB) = Attenuator (dB) + Cable loss (dB)

1.14.2. Radiation Test

Field strength level (dB μ V/m) = Measured level (dB μ V) + Antenna factor (dB) + Cable loss (dB) - Amplifier gain (dB) + Duty Factor (dB)

1.15. Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

Parameter	Uncertainty
Conducted Disturbance	± 3.45 dB
Radiated Disturbance, 9 kHz to 30 MHz	± 3.59 dB
Radiated Disturbance, below 1 GHz	± 5.88 dB
Radiated Disturbance, above 1 GHz	± 5.94 dB

Uncertainty figures are valid to a confidence level of 95 %.

1.16. Simultaneous Condition

2.4G		5G		BT		Test Case
Chain 0 (Ant.1)	Chain 1 (Ant.2)	Chain 0 (Ant.1)	Chain 1 (Ant.2)	Chain 0 (Ant.1)	Chain 1 (Ant.2)	
V	V	-	-	-	-	-
-	-	V	V	V	-	-
-	-	V	V	-	V	-
-	-	V	V	-	-	-
-	-	V	-	-	-	-
-	-	-	V	-	-	-
-	V	-	-	-	-	-
V	V	V	V	-	-	V
-	V	V	V	V	-	V
-	V	-	-	V	-	-

Remark;

- Spurious emissions for Simultaneous transmission were reported on the UNII 802.11ax test report (F690501-RF-RTL000921) section 2.4.3.

1.17. Worst Case Configuration and Mode

Radiated emission below 1 GHz and power line conducted emission were performed with the EUT set to transmit at the channel with highest output power as worst case scenario.

Radiated emission above 1 GHz was performed with the EUT set to transmit low/mid/high channels.

The test was performed for both SISO and MIMO mode and it was determined that the MIMO mode is worst than SISO mode.

The test was performed for both 11n_HT20/HT40 and 11ac_VHT20/VHT40 mode and it was determined that the 11ac_VHT20, 11n_HT40 mode is worst than 11n_HT20, 11ac_VHT40 mode as below table.

Modulation	Bandwidth	Antenna	Mode	RF Output Power (dBm)
OFDM	20 MHz	Ant.1	11n_HT20	16.30
			11ac_VHT20	16.30
		Ant.2	11n_HT20	16.32
			11ac_VHT20	16.35
		MIMO	11n_HT20	19.43
			11ac_VHT20	19.50
	40 MHz	Ant.1	11n_HT40	16.52
			11ac_VHT40	14.50
		Ant.2	11n_HT40	16.58
			11ac_VHT40	14.70
		MIMO	11n_HT40	19.79
			11ac_VHT40	17.67

1.18. Duty Cycle of EUT

Regarding to KDB 789033 D02 General UNII Test Procedures New Rules v02r01, II.B, the maximum duty cycles of all modes were investigated and set the spectrum analyzer as below.
 Set RBW ≥ EBW if possible; otherwise, set RBW to the largest available value, Set VBW ≥ RBW.
 Set detector = peak or average. The zero-span measurement method shall not be used unless both RBW and VBW are > 50/T and the number of sweep points across duration T exceeds 100.

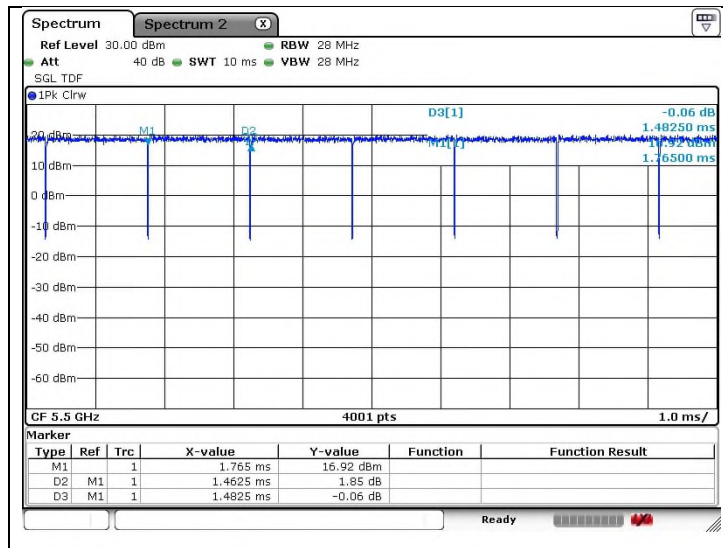
Mode	Data Rate (Mbps)	Duty Cycle (%)	Correction Factor (dB)
11a	6	98.65	0.06
11ac_VHT20	MCS0	99.54	0.02
11n_HT40	MCS0	99.67	0.01
11ac_VHT80	MCS0	99.67	0.01

Remark;

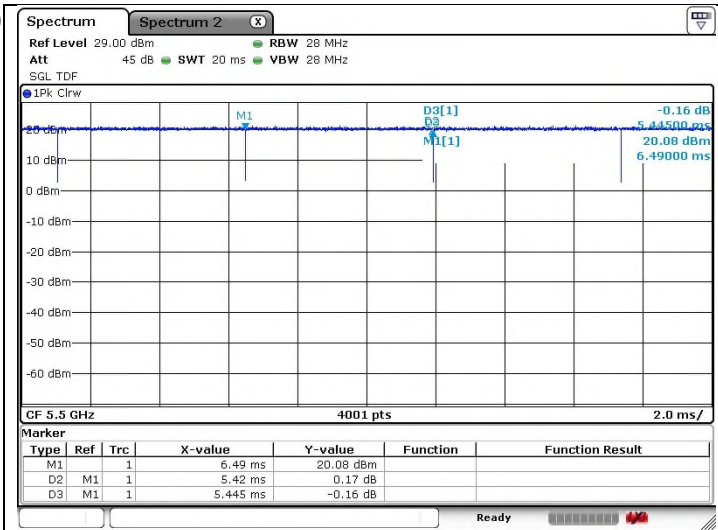
- As measured duty cycles of EUT, all of mode and data rate keep constant period and are converted to log scale (power averaging) to compensate correction factor to result of average test items.
- Duty Cycle (%) = (Tx on time / Tx on + off time) x 100
- Correction Factor (dB) = 10 log (1 / Duty Cycle)

- Test plots

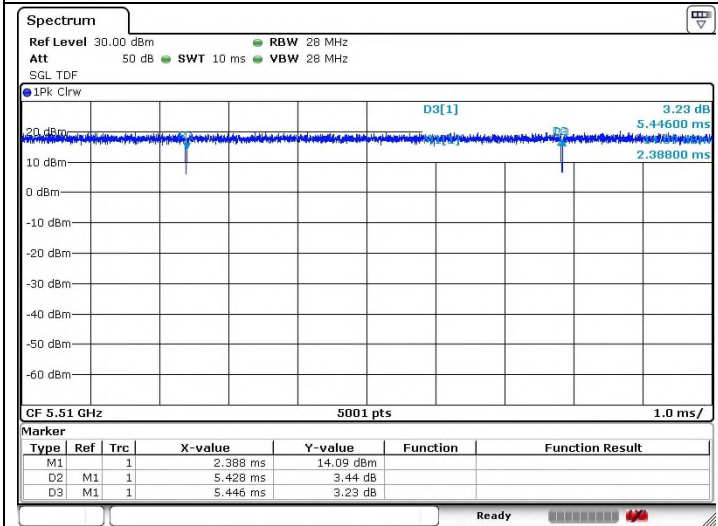
802.11a



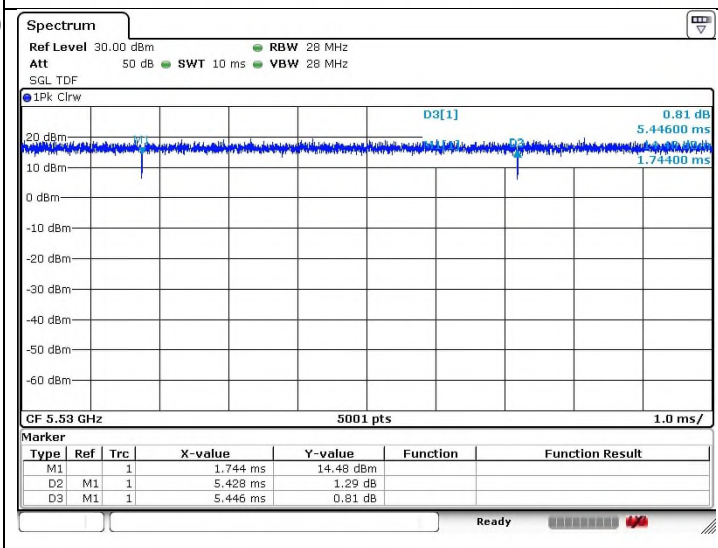
802.11ac_VHT20



802.11n_HT40



802.11ac_VHT80

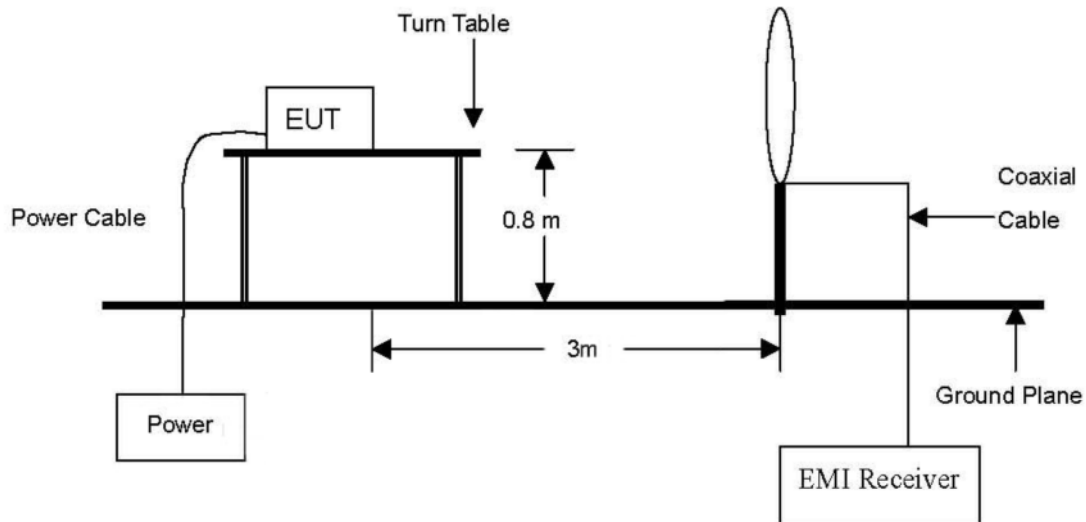


2. Transmitter Radiated Spurious Emissions

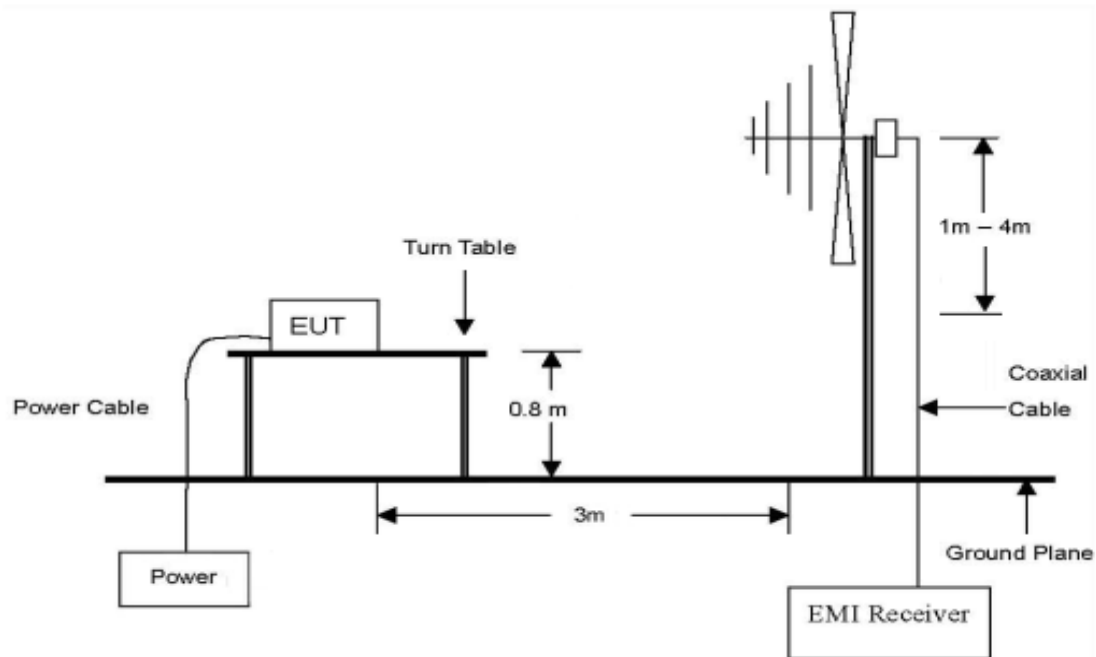
2.1. Test Setup

2.1.1. Transmitter radiated spurious emissions

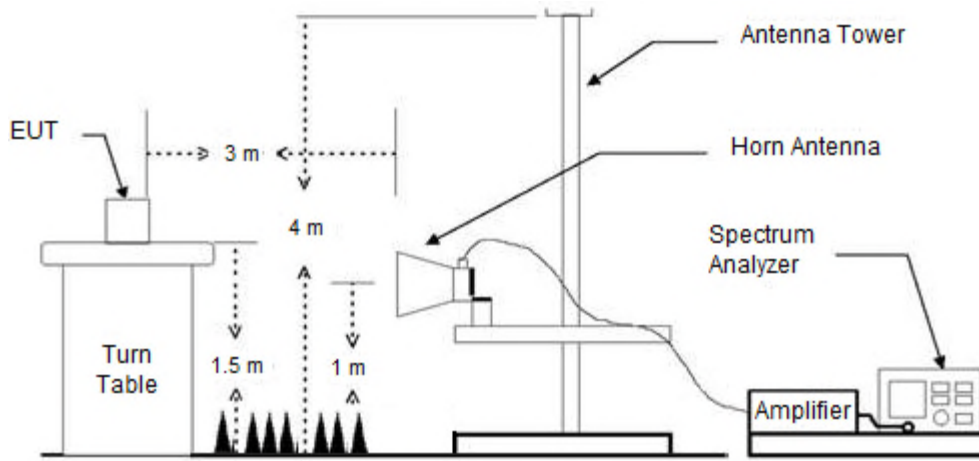
The diagram below shows the test setup that is utilized to make the measurements for emission from 9 kHz to 30 MHz emissions.



The diagram below shows the test setup that is utilized to make the measurements for emission from 30 MHz to 1 GHz emissions.



The diagram below shows the test setup that is utilized to make the measurements for emission. The spurious emissions were investigated from 1 GHz to the 10th harmonic of the highest fundamental frequency or 40 GHz, whichever is lower.



2.2. Limit

2.2.1. FCC

According to § 15.407(b)

- (1) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dB m/MHz.
- (2) For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dB m/MHz.
- (3) For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of -27 dB m/MHz.
- (4) For transmitters operating in the 5.725-5.85 GHz band:
 - (i) All emissions shall be limited to a level of -27 dB m/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dB m/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dB m/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dB m/MHz at the band edge.

According to § 15.209(a), except as provided elsewhere in this Subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field Strength ($\mu\text{V}/\text{m}$)	Measurement Distance (Meters)
0.009-0.490	2 400/F(kHz)	300
0.490-1.705	24 000/F(kHz)	30
1.705-30.0	30	30
30-88	100**	3
88-216	150**	3
216-960	200**	3
Above 960	500	3

** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§15.231 and 15.241.

2.2.2. IC

According to RSS-247 Issue 2,

6.2.1.2 Frequency band 5 150-5 250 MHz

For transmitters with operating frequencies in the band 5 150-5 250 MHz, all emissions outside the band 5 150-5 350 MHz shall not exceed -27 dB m/MHz e.i.r.p. Any unwanted emissions that fall into the band 5 250-5 350 MHz shall be attenuated below the channel power by at least 26 dB, when measured using a resolution bandwidth between 1 and 5 % of the occupied bandwidth (i.e. 99% bandwidth), above 5 250 MHz. The 26 dB bandwidth may fall into the 5 250-5 350 MHz band; however, if the occupied bandwidth also falls within the 5 250- 5350 MHz band, the transmission is considered as intentional and the devices shall comply with all requirements in the band 5 250-5 350 MHz including implementing dynamic frequency selection (DFS) and TPC, on the portion of the emission that resides in the 5 250-5 350 MHz band.

6.2.2.2 Frequency band 5 250-5 350 MHz

Devices shall comply with the following:

a) All emissions outside the band 5 250-5 350 MHz shall not exceed -27 dBm/MHz e.i.r.p.; or

b) All emissions outside the band 5 150-5 350 MHz shall not exceed -27 dBm/MHz e.i.r.p. and its power shall comply with the spectral power density for operation within the band 5 150-5 250 MHz. The device, except devices installed in vehicles, shall be labelled or include in the user manual the following text "for indoor use only."

6.2.3.2 Frequency band 5 470-5 600 MHz and 5 650-5 725 MHz

Emissions outside the band 5 470-5 725 MHz shall not exceed -27 dB m/MHz e.i.r.p. However, devices with bandwidth overlapping the band edge of 5 725 MHz can meet the emission limit of -27 dB m/MHz e.i.r.p. at 5 850 MHz instead of 5 725 MHz.

6.2.4.2 Frequency band 5 725-5 850 MHz

Devices operating in the band 5 725-5 850 MHz with antenna gain greater than 10 dBi can have unwanted emissions that comply with either the limits in this section or in section 5.5 until six (6) months after the publication date of this standard for certification. Certified devices that do not comply with emission limits in this section shall not be manufactured, imported, distributed, leased, offered for sale or sold after April 1, 2018.

Devices operating in the band 5 725-5 850 MHz with antenna gain of 10 dBi or less can have unwanted emissions that comply with either the limits in this section or in section 5.5 until April 1, 2018 for certification. Certified devices that do not comply with emission limits in this section shall not be manufactured, imported, distributed, leased, offered for sale or sold after April 1, 2020.

Devices operating in the band 5 725-5 850 MHz shall have e.i.r.p. of unwanted emissions comply with the following:

a) 27 dBm/MHz at frequencies from the band edges decreasing linearly to 15.6 dBm/MHz at 5 MHz above or below the band edges;

b) 15.6 dBm/MHz at 5 MHz above or below the band edges decreasing linearly to 10 dBm/MHz at 25 MHz above or below the band edges;

c) 10 dBm/MHz at 25 MHz above or below the band edges decreasing linearly to -27 dBm/MHz at 75 MHz above or below the band edges; and

d) -27 dBm/MHz at frequencies more than 75 MHz above or below the band edges.

2.3. Test Procedures

Radiated spurious emissions from the EUT were measured according to the dictates in section G of KDB 789033 D02 General UNII Test Procedures New Rules v02r01 and ANSI C63.10-2013.

All data rates and modes were investigated for radiated spurious emissions. Only the radiated emissions of the configuration that produced the worst case emissions are reported in this section.

2.3.1. Test Procedures for emission below 30 MHz

1. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter anechoic chamber test site. The table was rotated 360 degrees to determine the position of the highest radiation.
2. Then antenna is a loop antenna is fixed at one meter above the ground to determine the maximum value of the field strength. Both parallel and perpendicular of the antenna are set to make the measurement.
3. For each suspected emission, the EUT was arranged to its worst case and then the table was turned from 0 degrees to 360 degrees to find the maximum reading.
4. The test-receiver system was set to average or quasi peak detect function and Specified Bandwidth with Maximum Hold Mode.

Note;

Although these tests were performed other than open field test site, adequate comparison measurements were confirmed against 30 meter open field test site. Therefore sufficient tests were made to demonstrate that the alternative site produces results that correlate with the ones of tests made in an open field based on KDB 414788 D01 Radiated Test Site v01r01.

2.3.2. Test Procedures for emission from above 30 MHz

1. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter anechoic chamber test site below 1 GHz and 1.5 meter above the ground at a 3 meter anechoic chamber test site above 1 GHz. The table was rotated 360 degrees to determine the position of the highest radiation.
2. During performing radiated emission below 1 GHz, the EUT was set 3 meters away from the interference receiving antenna, which was mounted on the top of a variable-height antenna tower. During performing radiated emission above 1 GHz, the EUT was set 3 meter away from the interference-receiving antenna.
3. The antenna is a bi-log antenna, a horn antenna and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the table was turned from 0 degrees to 360 degrees to find the maximum reading.
5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

Note;

- II.G.4. Unwanted emissions measurements below 1 GHz.

Compliance shall be demonstrated using CISPR quasi-peak detection; however, peak detection is permitted as an alternative to quasi-peak detection.

- II.G.5. Unwanted maximum emissions measurements above 1 GHz.

Peak emission levels are measured by setting the analyzer as follows:

Set to RBW = 1 MHz, VBW \geq 3 MHz, Detector = Peak, Sweep time = auto, Trace mode= Max hold.

- II.G.6. Average unwanted emissions measurements above 1 GHz.

Set to RBW = 1 MHz, VBW \geq 3 MHz, Detector = power averaging (rms), Averaging type = power averaging (rms), Sweep time = auto, Perform a trace average of at least 100 traces. If the transmission is continuous, If the transmission is not continuous, the number of traces shall be increased by a factor of 1/x, where x is the duty cycle. For example, with 50 % duty cycle, at least 200 traces shall be averaged.

If tests are performed with the EUT transmitting at a duty cycle less than 98 %, a correction factor shall be added to the measurement results prior to comparing to the emission limit in order to compute the emission level that would have been measured had the test been performed at 100 % duty cycle. The correction factor is computed as follows:

- If a specific emission is demonstrated to be continuous (100 % duty cycle) rather than turning on and off with the transmit cycle, no duty cycle correction is required for that emission.

- Definition of the test orthogonal plan for EUT was described in the test setup photo.

The test orthogonal plan of EUT is **Z – axis** during radiation test.

2.4. Test Result

Ambient temperature : (23 ± 1) °C
 Relative humidity : 47 % R.H.

2.4.1. Radiated Spurious Emission below 1 000 MHz

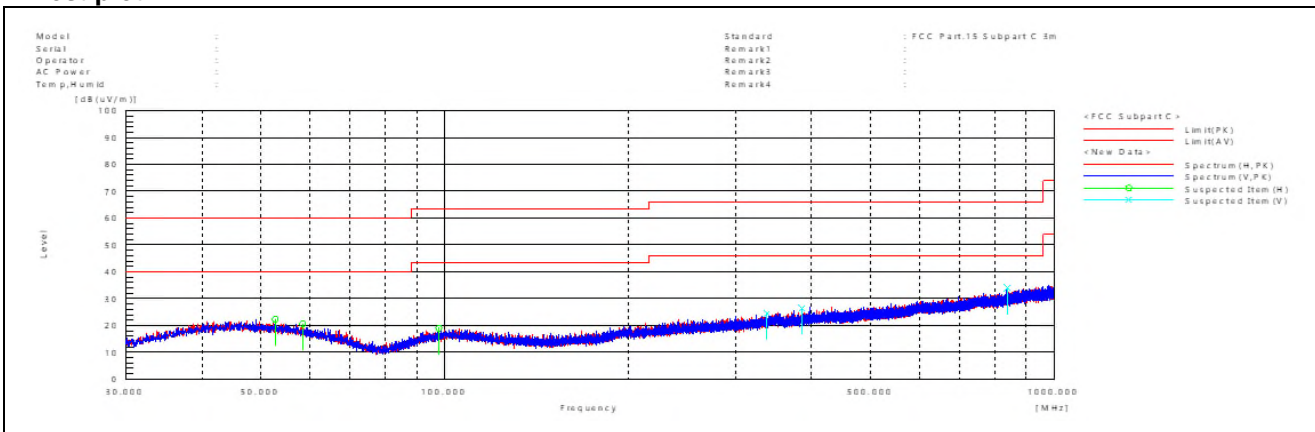
The frequency spectrum from 9 kHz to 1 000 MHz was investigated. All reading values are peak values.

Radiated Emissions			Ant.	Correction Factors		Total	Limit	
Frequency (MHz)	Reading (dBμV)	Detect Mode	Pol.	AF (dB/m)	AMP + CL (dB)	Actual (dBμV/m)	Limit (dBμV/m)	Margin (dB)
52.71	29.90	Peak	H	19.83	-27.38	22.35	40.00	17.65
58.49	29.50	Peak	H	18.45	-27.22	20.73	40.00	19.27
837.00	31.90	Peak	V	27.30	-24.80	34.40	46.00	11.60
Above 900.00	Not detected	-	-	-	-	-	-	-

Remark;

- Spurious emissions for all channels and modes were investigated and almost the same below 1 GHz.
- Reported spurious emissions are in **11a MIMO(Band 3) / 6 Mbps / Middle channel** as worst case among other modes.
- Radiated spurious emission measurement as below.
 (Actual = Reading + AF + AMP + CL)
- According to §15.31(o), emission levels are not report much lower than the limits by over 20 dB.

- Test plot



2.4.2. Radiated Spurious Emission above 1 000 MHz

The frequency spectrum above 1 000 MHz was investigated. All reading values are peak and average values.

- Band-edge

OFDM: 802.11a (6 Mbps) Band 1_Ant.1+Ant.2

A. Low Channel (5 180 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dBμV)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dBμV/m)	Limit (dBμV/m)	Margin (dB)
*4 500.00	44.48	Peak	H	32.10	-36.65	-	39.93	74.00	34.07
*4 500.00	36.00	Average	H	32.10	-36.65	-	31.45	54.00	22.55
*5 149.94	64.15	Peak	H	33.50	-35.71	-	61.94	74.00	12.06
*5 149.94	53.85	Average	H	33.50	-35.71	-	51.64	54.00	2.36
*5 150.00	64.15	Peak	H	33.50	-35.71	-	61.94	74.00	12.06
*5 150.00	53.85	Average	H	33.50	-35.71	-	51.64	54.00	2.36

OFDM: 802.11a (6 Mbps) Band 2A_Ant.1+Ant.2

A. High Channel (5 320 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dBμV)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dBμV/m)	Limit (dBμV/m)	Margin (dB)
*5 350.00	54.62	Peak	H	33.90	-35.31	-	53.21	74.00	20.79
*5 350.00	45.12	Average	H	33.90	-35.31	-	43.71	54.00	10.29
*5 351.20	56.11	Peak	H	33.90	-35.31	-	54.70	74.00	19.30
*5 350.72	44.36	Average	H	33.90	-35.31	-	42.95	54.00	11.05
*5 460.00	45.77	Peak	H	33.90	-35.29	-	44.38	74.00	29.62
*5 460.00	36.36	Average	H	33.90	-35.29	-	34.97	54.00	19.03

OFDM: 802.11a (6 Mbps) Band 2C_Ant.1+Ant.2

A. Low Channel (5 500 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dB μ V)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
*5 350.00	40.75	Peak	H	33.90	-35.31	-	39.34	74.00	34.66
*5 350.00	31.69	Average	H	33.90	-35.31	-	30.28	54.00	23.72
*5 458.34	52.11	Peak	H	33.90	-35.29	-	50.72	74.00	23.28
*5 459.12	39.19	Average	H	33.90	-35.29	-	37.80	54.00	16.20
*5 460.00	48.78	Peak	H	33.90	-35.29	-	47.39	74.00	26.61
*5 460.00	39.00	Average	H	33.90	-35.29	-	37.61	54.00	16.39

B. High Channel (5 700 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dB μ V)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
5 725.00	58.92	Peak	H	34.05	-35.15	-	57.82	68.23	10.41
5 725.77	60.20	Peak	H	34.05	-35.15	-	59.10	68.23	9.13

OFDM: 802.11a (6 Mbps) Band 3_Ant.1+Ant.2

A. Low Channel (5 745 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dB μ V)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
5 619.35	46.88	Peak	H	34.00	-35.24	-	45.64	68.23	22.59
5 653.55	47.61	Peak	H	34.01	-35.22	-	46.40	70.85	24.45
5 720.00	63.04	Peak	H	34.06	-35.16	-	61.94	110.83	48.89
5 724.21	75.32	Peak	H	34.05	-35.15	-	74.22	120.43	46.21

B. High Channel (5 825 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dB μ V)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
5 851.04	54.27	Peak	H	34.30	-34.83	-	53.74	119.86	66.12
5 856.55	52.81	Peak	H	34.31	-34.84	-	52.28	110.39	58.11
5 883.90	47.14	Peak	H	34.37	-34.87	-	46.64	98.64	52.00
5 967.53	47.55	Peak	H	34.60	-34.70	-	47.45	68.43	20.98

OFDM: 802.11ac_VHT20 (MCS0) Band 1_Ant.1+Ant.2

A. Low Channel (5 180 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dB μ V)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
*4 500.00	46.74	Peak	H	32.10	-36.65	-	42.19	74.00	31.81
*4 500.00	35.93	Average	H	32.10	-36.65	-	31.38	54.00	22.62
*5 147.27	61.24	Peak	H	33.49	-35.71	-	59.02	74.00	14.98
*5 148.06	49.06	Average	H	33.50	-35.71	-	46.85	54.00	7.15
*5 150.00	60.83	Peak	H	33.50	-35.71	-	58.62	74.00	15.38
*5 150.00	50.31	Average	H	33.50	-35.71	-	48.10	54.00	5.90

OFDM: 802.11ac_VHT20 (MCS0) Band 2A_Ant.1+Ant.2

A. High Channel (5 320 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dB μ V)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
*5 350.00	58.20	Peak	H	33.90	-35.31	-	56.79	74.00	17.21
*5 350.00	48.30	Average	H	33.90	-35.31	-	46.89	54.00	7.11
*5 350.99	58.75	Peak	H	33.90	-35.31	-	57.34	74.00	16.66
*5 350.27	48.45	Average	H	33.90	-35.31	-	47.04	54.00	6.96
*5 460.00	44.87	Peak	H	33.90	-35.29	-	43.48	74.00	30.52
*5 460.00	36.23	Average	H	33.90	-35.29	-	34.84	54.00	19.16

OFDM: 802.11ac_VHT20 (MCS0) Band 2C_Ant.1+Ant.2

A. Low Channel (5 500 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dB μ V)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
*5 350.00	41.05	Peak	H	33.90	-35.31	-	39.64	74.00	34.36
*5 350.00	31.63	Average	H	33.90	-35.31	-	30.22	54.00	23.78
*5 458.86	48.93	Peak	H	33.90	-35.29	-	47.54	74.00	26.46
*5 459.12	36.00	Average	H	33.90	-35.29	-	34.61	54.00	19.39
*5 460.00	47.62	Peak	H	33.90	-35.29	-	46.23	74.00	27.77
*5 460.00	35.58	Average	H	33.90	-35.29	-	34.19	54.00	19.81

B. High Channel (5 700 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dB μ V)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
5 725.00	61.69	Peak	H	34.05	-35.15	-	60.59	68.23	7.64
5 725.77	59.33	Peak	H	34.05	-35.15	-	58.23	68.23	10.00

OFDM: 802.11ac_VHT20 (MCS0) Band 3_Ant.1+Ant.2

A. Low Channel (5 745 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dB μ V)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
5 636.97	48.38	Peak	H	34.00	-35.22	-	47.16	68.23	21.07
5 693.49	47.06	Peak	H	34.09	-35.21	-	45.94	100.41	54.47
5 720.00	61.60	Peak	H	34.06	-35.16	-	60.50	110.83	50.33
5 725.00	72.04	Peak	H	34.05	-35.15	-	70.94	122.23	51.29

A. High Channel (5 825 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dB μ V)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
5 850.58	58.61	Peak	H	34.30	-34.83	-	58.08	120.91	62.83
5 855.63	48.64	Peak	H	34.31	-34.84	-	48.11	110.65	62.54
5 923.65	47.44	Peak	H	34.49	-34.82	-	47.11	69.23	22.12
5 941.57	48.19	Peak	H	34.57	-34.77	-	47.99	68.23	20.24

OFDM: 802.11n_HT40 (MCS0) Band 1_Ant.1+Ant.2

A. Low Channel (5 190 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dB μ V)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
*4 500.00	45.02	Peak	H	32.10	-36.65	-	40.47	74.00	33.53
*4 500.00	36.52	Average	H	32.10	-36.65	-	31.97	54.00	22.03
*5 149.94	66.22	Peak	H	33.50	-35.71	-	64.01	74.00	9.99
*5 149.94	54.08	Average	H	33.50	-35.71	-	51.87	54.00	2.13
*5 150.00	66.22	Peak	H	33.50	-35.71	-	64.01	74.00	9.99
*5 150.00	54.08	Average	H	33.50	-35.71	-	51.87	54.00	2.13

OFDM: 802.11n_HT40 (MCS0) Band 2A_Ant.1+Ant.2

A. High Channel (5 310 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dB μ V)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
*5 350.00	66.04	Peak	H	33.90	-35.31	-	64.63	74.00	9.37
*5 350.00	53.35	Average	H	33.90	-35.31	-	51.94	54.00	2.06
*5 353.84	67.10	Peak	H	33.91	-35.30	-	65.71	74.00	8.29
*5 354.08	53.06	Average	H	33.91	-35.30	-	51.67	54.00	2.33
*5 460.00	45.43	Peak	H	33.90	-35.29	-	44.04	74.00	29.96
*5 460.00	36.43	Average	H	33.90	-35.29	-	35.04	54.00	18.96

OFDM: 802.11n_HT40 (MCS0) Band 2C_Ant.1+Ant.2

A. Low Channel (5 510 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dB μ V)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
*5 350.00	42.54	Peak	H	33.90	-35.31	-	41.13	74.00	32.87
*5 350.00	32.08	Average	H	33.90	-35.31	-	30.67	54.00	23.33
*5 458.34	64.31	Peak	H	33.90	-35.29	-	62.92	74.00	11.08
*5 453.40	45.55	Average	H	33.90	-35.28	-	44.17	54.00	9.83
*5 460.00	62.56	Peak	H	33.90	-35.29	-	61.17	74.00	12.83
*5 460.00	49.08	Average	H	33.90	-35.29	-	47.69	54.00	6.31

B. High Channel (5 670 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dB μ V)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
5 725.00	55.87	Peak	H	34.05	-35.15	-	54.77	68.23	13.46
5 726.73	56.54	Peak	H	34.05	-35.15	-	55.44	68.23	12.79

OFDM: 802.11n_HT40 (MCS0) Band 3_Ant.1+Ant.2

A. Low Channel (5 755 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dB μ V)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
5 631.23	48.66	Peak	H	34.00	-35.23	-	47.43	68.23	20.80
5 695.74	48.24	Peak	H	34.09	-35.21	-	47.12	102.08	54.96
5 719.09	74.86	Peak	H	34.06	-35.17	-	73.75	110.57	36.82
5 721.75	75.13	Peak	H	34.06	-35.16	-	74.03	114.82	40.79

B. High Channel (5 795 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dB μ V)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
5 851.96	49.99	Peak	H	34.30	-34.83	-	49.46	117.76	68.30
5 857.01	49.66	Peak	H	34.31	-34.84	-	49.13	110.26	61.13
5 888.49	47.88	Peak	H	34.38	-34.89	-	47.37	95.24	47.87
5 947.31	47.26	Peak	H	34.59	-34.75	-	47.10	68.23	21.13

802.11ac_VHT80 (MCS0) Band 1_Ant.1+Ant.2

A. Middle Channel (5 210 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dB μ V)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
*4 500.00	46.51	Peak	H	32.10	-36.65	-	41.96	74.00	32.04
*4 500.00	36.46	Average	H	32.10	-36.65	-	31.91	54.00	22.09
*5 149.94	65.27	Peak	H	33.50	-35.71	-	63.06	74.00	10.94
*5 149.94	53.93	Average	H	33.50	-35.71	-	51.72	54.00	2.28
*5 150.00	65.27	Peak	H	33.50	-35.71	-	63.06	74.00	10.94
*5 150.00	53.93	Average	H	33.50	-35.71	-	51.72	54.00	2.28

802.11ac_VHT80 (MCS0) Band 2A_Ant.1+Ant.2

A. Middle Channel (5 290 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dB μ V)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
*5 350.00	65.45	Peak	H	33.90	-35.31	-	64.04	74.00	9.96
*5 350.00	52.68	Average	H	33.90	-35.31	-	51.27	54.00	2.73
*5 351.44	67.03	Peak	H	33.90	-35.31	-	65.62	74.00	8.38
*5 352.64	53.03	Average	H	33.91	-35.30	-	51.64	54.00	2.36
*5 460.00	46.60	Peak	H	33.90	-35.29	-	45.21	74.00	28.79
*5 460.00	36.21	Average	H	33.90	-35.29	-	34.82	54.00	19.18

802.11ac_VHT80 (MCS0) Band 2C_Ant.1+Ant.2

A. Low Channel (5 530 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dB μ V)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
*5 350.00	41.67	Peak	H	33.90	-35.31	-	40.26	74.00	33.74
*5 350.00	31.21	Average	H	33.90	-35.31	-	29.80	54.00	24.20
*5 456.26	65.30	Peak	H	33.90	-35.29	-	63.91	74.00	10.09
*5 453.92	52.12	Average	H	33.90	-35.28	-	50.74	54.00	3.26
*5 460.00	62.96	Peak	H	33.90	-35.29	-	61.57	74.00	12.43
*5 460.00	51.48	Average	H	33.90	-35.29	-	50.09	54.00	3.91

802.11ac_VHT80 (MCS0) Band 3_Ant.1+Ant.2

A. Middle Channel (5 775 MHz)

Radiated Emissions			Ant.	Correction Factors		Total	Limit	
Frequency (MHz)	Reading (dB μ V)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	Actual (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
5 639.83	47.45	Peak	H	34.00	-35.23	46.22	68.23	22.01
5 698.61	63.41	Peak	H	34.10	-35.21	62.30	104.20	41.90
5 718.68	65.52	Peak	H	34.06	-35.17	64.41	110.46	46.05
5 722.57	67.14	Peak	H	34.05	-35.16	66.03	116.69	50.66
5 851.27	62.96	Peak	H	34.30	-34.83	62.43	119.33	56.90
5 855.00	60.85	Peak	H	34.31	-34.83	60.33	110.83	50.50
5 875.62	54.67	Peak	H	34.35	-34.87	54.15	104.77	50.62
5 974.66	48.36	Peak	H	34.60	-34.68	48.28	68.51	20.23

- Spurious

OFDM: 802.11a (6 Mbps) Band 1_Ant.1+Ant.2

A. Low Channel (5 180 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dB μ V)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
Above 1 000.00	Not detected	-	-	-	-	-	-	-	-

B. Middle Channel (5 220 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dB μ V)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
Above 1 000.00	Not detected	-	-	-	-	-	-	-	-

C. High Channel (5 240 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dB μ V)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
Above 1 000.00	Not detected	-	-	-	-	-	-	-	-

OFDM: 802.11a (6 Mbps) Band 2A_Ant.1+Ant.2

A. Low Channel (5 260 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dB μ V)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
Above 1 000.00	Not detected	-	-	-	-	-	-	-	-

B. Middle Channel (5 300 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dB μ V)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
Above 1 000.00	Not detected	-	-	-	-	-	-	-	-

C. High Channel (5 320 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dB μ V)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
Above 1 000.00	Not detected	-	-	-	-	-	-	-	-

OFDM: 802.11a (6 Mbps) Band 2C_Ant.1+Ant.2

A. Low Channel (5 500 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dB μ V)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
Above 1 000.00	Not detected	-	-	-	-	-	-	-	-

B. Middle Channel (5 580 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dB μ V)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
Above 1 000.00	Not detected	-	-	-	-	-	-	-	-

C. High Channel (5 700 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dB μ V)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
Above 1 000.00	Not detected	-	-	-	-	-	-	-	-

OFDM: 802.11a (6 Mbps) Band 3_Ant.1+Ant.2

A. Low Channel (5 745 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dB μ V)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
Above 1 000.00	Not detected	-	-	-	-	-	-	-	-

B. Middle Channel (5 785 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dB μ V)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
Above 1 000.00	Not detected	-	-	-	-	-	-	-	-

C. High Channel (5 825 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dB μ V)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
Above 1 000.00	Not detected	-	-	-	-	-	-	-	-

OFDM: 802.11ac_VHT20 (MCS0) Band 1_Ant.1+Ant.2

A. Low Channel (5 180 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dB μ V)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
Above 1 000.00	Not detected	-	-	-	-	-	-	-	-

B. Middle Channel (5 220 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dB μ V)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
Above 1 000.00	Not detected	-	-	-	-	-	-	-	-

C. High Channel (5 240 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dB μ V)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
Above 1 000.00	Not detected	-	-	-	-	-	-	-	-

OFDM: 802.11ac_VHT20 (MCS0) Band 2A_Ant.1+Ant.2

A. Low Channel (5 260 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dB μ V)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
Above 1 000.00	Not detected	-	-	-	-	-	-	-	-

B. Middle Channel (5 300 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dB μ V)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
Above 1 000.00	Not detected	-	-	-	-	-	-	-	-

C. High Channel (5 320 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dB μ V)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
Above 1 000.00	Not detected	-	-	-	-	-	-	-	-

OFDM: 802.11ac_VHT20 (MCS0) Band 2C_Ant.1+Ant.2

A. Low Channel (5 500 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dB μ V)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
Above 1 000.00	Not detected	-	-	-	-	-	-	-	-

B. Middle Channel (5 580 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dB μ V)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
Above 1 000.00	Not detected	-	-	-	-	-	-	-	-

C. High Channel (5 700 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dB μ V)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
Above 1 000.00	Not detected	-	-	-	-	-	-	-	-

OFDM: 802.11ac_VHT20 (MCS0) Band 3_Ant.1+Ant.2

A. Low Channel (5 745 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dB μ V)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
Above 1 000.00	Not detected	-	-	-	-	-	-	-	-

B. Middle Channel (5 785 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dB μ V)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
Above 1 000.00	Not detected	-	-	-	-	-	-	-	-

C. High Channel (5 825 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dB μ V)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
Above 1 000.00	Not detected	-	-	-	-	-	-	-	-

OFDM: 802.11n_HT40 (MCS0) Band 1_Ant.1+Ant.2

A. Low Channel (5 190 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dB μ V)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
Above 1 000.00	Not detected	-	-	-	-	-	-	-	-

B. High Channel (5 230 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dB μ V)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
Above 1 000.00	Not detected	-	-	-	-	-	-	-	-

OFDM: 802.11n_HT40 (MCS0) Band 2A_Ant.1+Ant.2

A. Low Channel (5 270 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dB μ V)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
Above 1 000.00	Not detected	-	-	-	-	-	-	-	-

B. High Channel (5 310 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dB μ V)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
Above 1 000.00	Not detected	-	-	-	-	-	-	-	-

OFDM: 802.11n_HT40 (MCS0) Band 2C_Ant.1+Ant.2

A. Low Channel (5 510 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dB μ V)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
Above 1 000.00	Not detected	-	-	-	-	-	-	-	-

B. Middle Channel (5 590 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dB μ V)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
Above 1 000.00	Not detected	-	-	-	-	-	-	-	-

C. High Channel (5 670 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dB μ V)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
Above 1 000.00	Not detected	-	-	-	-	-	-	-	-

OFDM: 802.11n_HT40 (MCS0) Band 3_Ant.1+Ant.2

A. Low Channel (5 755 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dB μ V)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
Above 1 000.00	Not detected	-	-	-	-	-	-	-	-

B. High Channel (5 795 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dB μ V)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
Above 1 000.00	Not detected	-	-	-	-	-	-	-	-

OFDM: 802.11ac_VHT80 (MCS0) Band 1_Ant.1+Ant.2

A. Middle Channel (5 210 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dB μ V)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
Above 1 000.00	Not detected	-	-	-	-	-	-	-	-

OFDM: 802.11ac_VHT80 (MCS0) Band 2A_Ant.1+Ant.2

A. Middle Channel (5 290 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dB μ V)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
Above 1 000.00	Not detected	-	-	-	-	-	-	-	-

OFDM: 802.11ac_VHT80 (MCS0) Band 2C_Ant.1+Ant.2

A. Low Channel (5 530 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dB μ V)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
Above 1 000.00	Not detected	-	-	-	-	-	-	-	-

B. High Channel (5 610 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dB μ V)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
Above 1 000.00	Not detected	-	-	-	-	-	-	-	-

OFDM: 802.11ac_VHT80 (MCS0) Band 3_Ant.1+Ant.2

A. Middle Channel (5 775 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dB μ V)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
Above 1 000.00	Not detected	-	-	-	-	-	-	-	-

Remark;

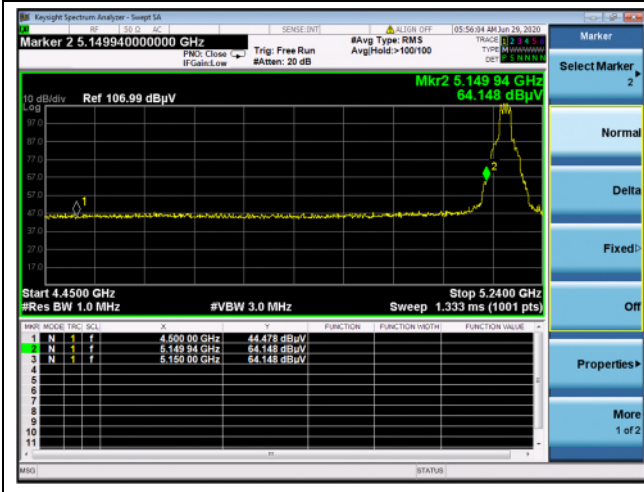
1. “*” means the restricted band.
2. Radiated emissions measured in frequency above 1 000 MHz were made with an instrument using Peak / average detector mode if frequency was in restricted band. Otherwise the frequency was out of restricted band, only peak detector should be used.
3. Actual = Reading + AF + AMP + CL + (DF).
4. If frequency was out of restricted band, the calculation method for peak limit is same as below.

$$68.23 \text{ dB}\mu\text{V/m} = \text{EIRP} - 20 \log (d) + 104.77 = -27 - 20 \log (3) + 104.77$$
5. In case of the emissions within $\pm 75 \text{ MHz}$ from band edge of band 3, limit should be adjusted to emission mask of 15.407(4)(i).
6. According to § 15.31(o), emission levels are not reported much lower than the limits by over 20 dB.
7. The maximized peak measured value complies with the average limit, to perform an average measurement is unnecessary.

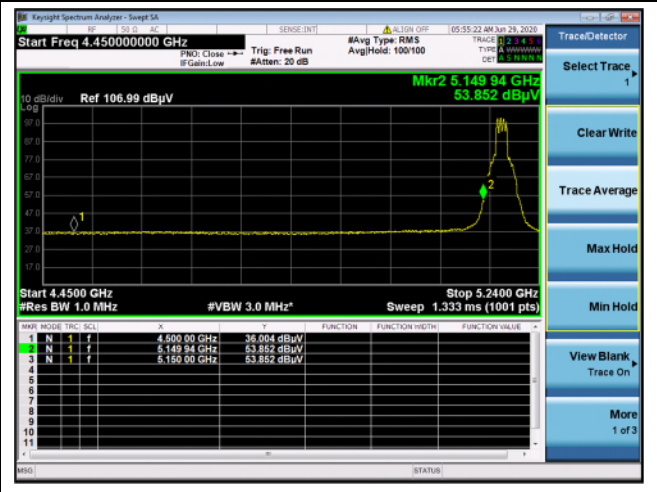
- Test plots (Band-edge)

OFDM: 802.11a (6 Mbps)_Ant.1+Ant.2

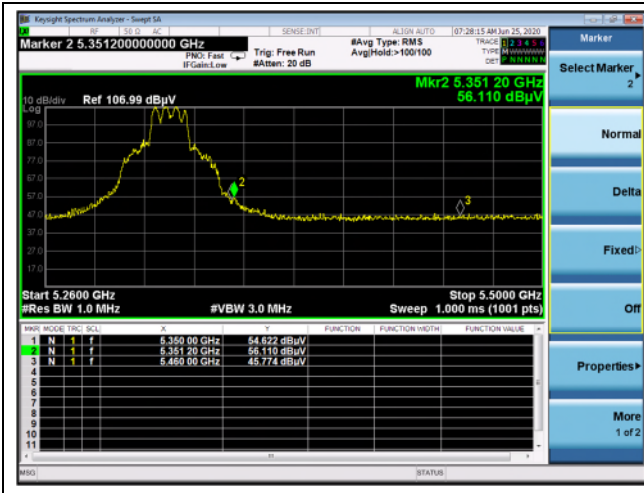
Low channel Band edge (Peak) - Band 1



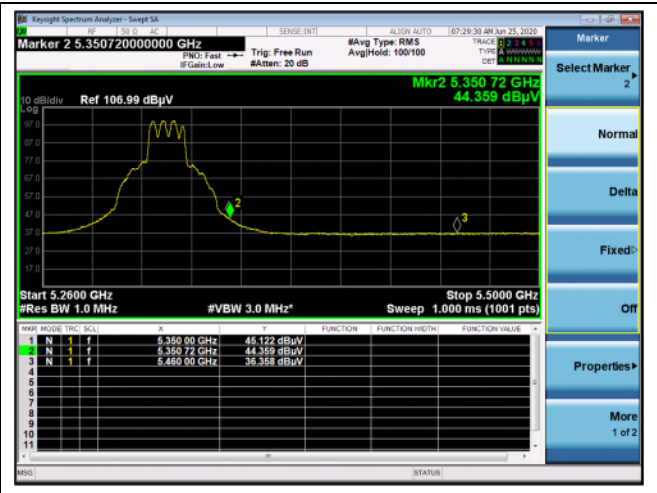
Low channel Band edge (Average) - Band 1



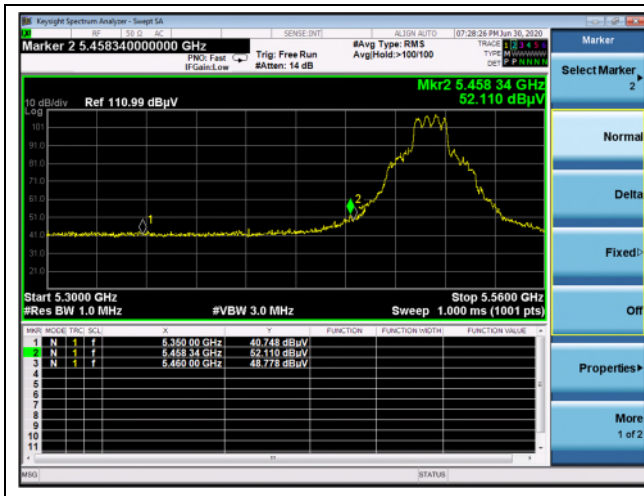
High channel Band edge (Peak) - Band 2A



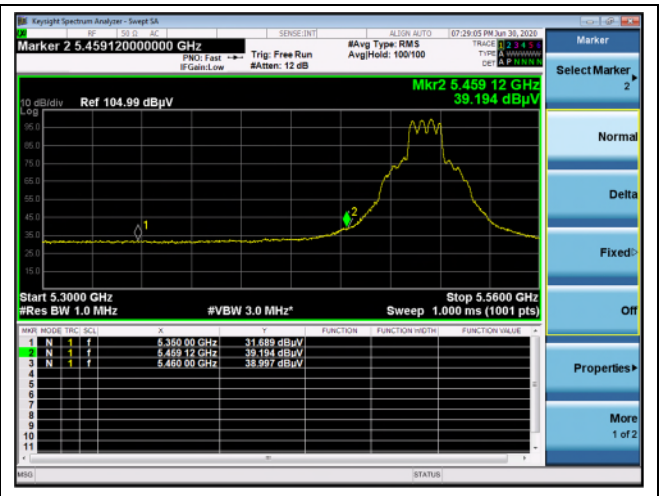
High channel Band edge (Average) - Band 2A



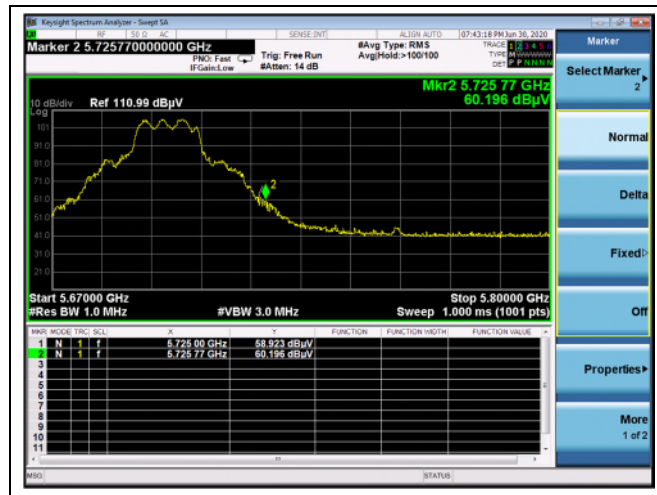
Low channel Band edge (Peak) - Band 2C



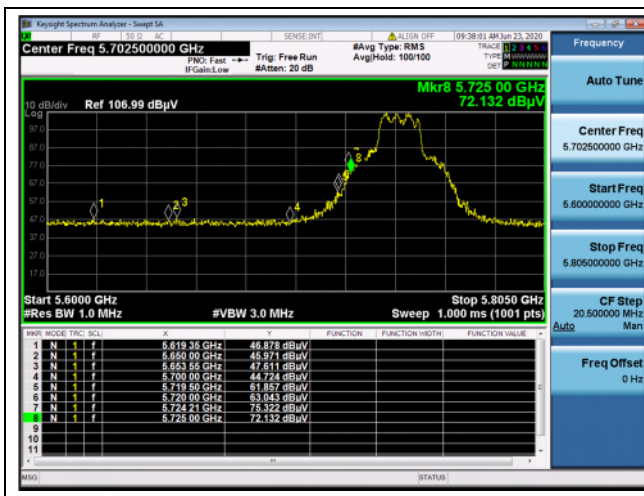
Low channel Band edge (Average) - Band 2C



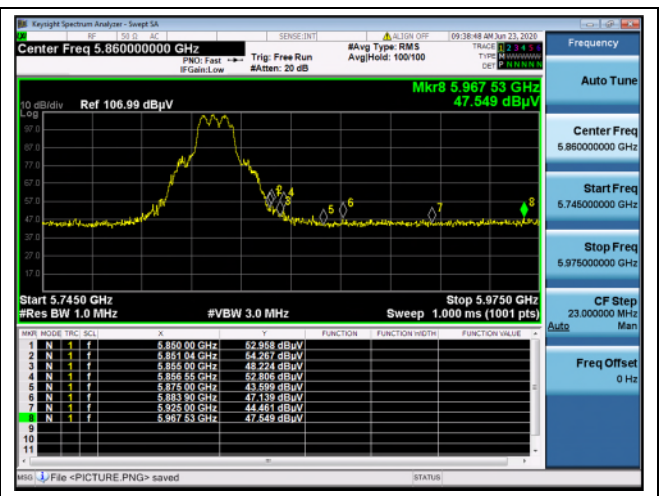
High channel Band edge (Peak) - Band 2C



Low channel Band edge (Peak) - Band 3

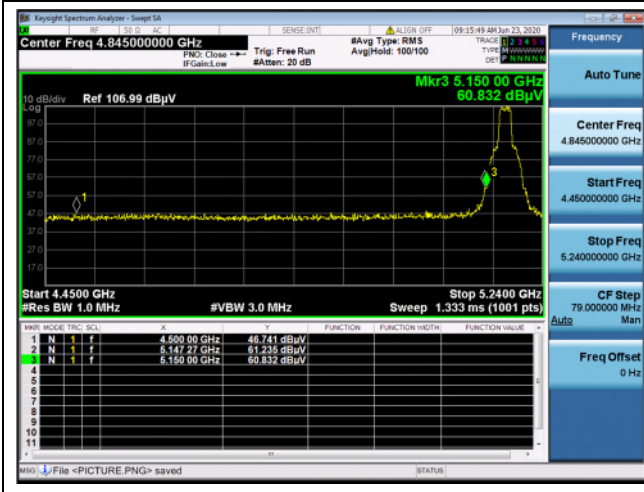


High channel Band edge (Peak) - Band 3

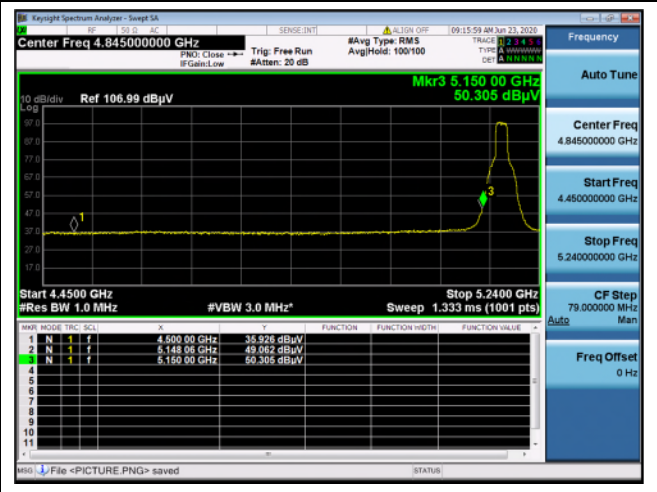


OFDM: 802.11ac_VHT20 (MCS0)_Ant.1+Ant.2

Low channel Band edge (Peak) - Band 1



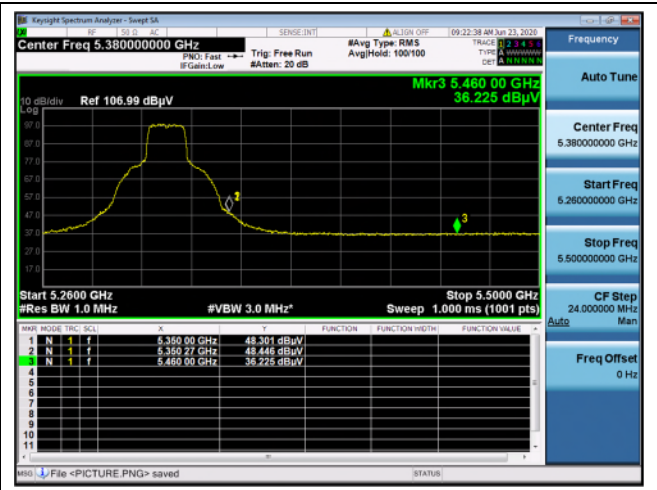
Low channel Band edge (Average) - Band 1



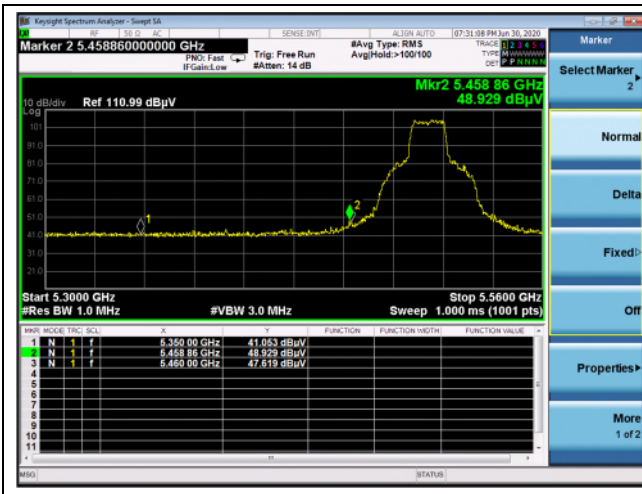
High channel Band edge (Peak) - Band 2A



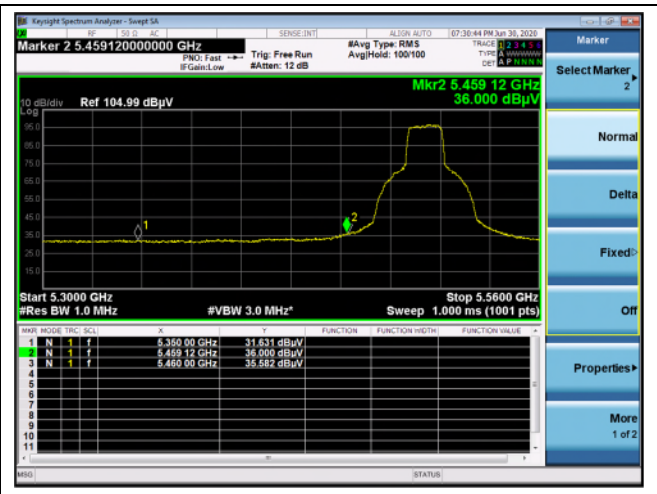
High channel Band edge (Average) - Band 2A



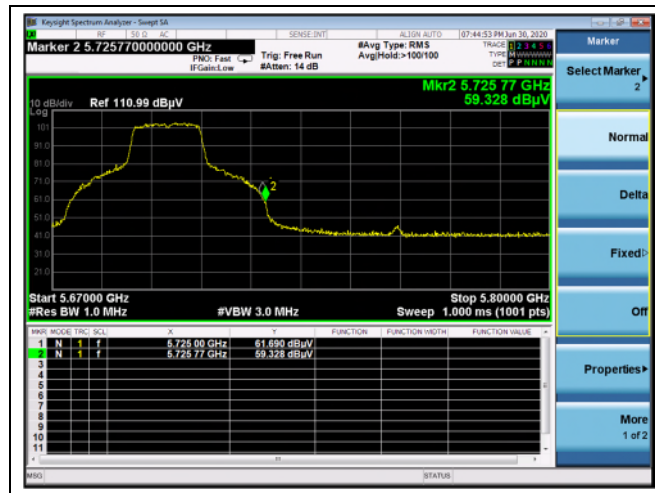
Low channel Band edge (Peak) - Band 2C



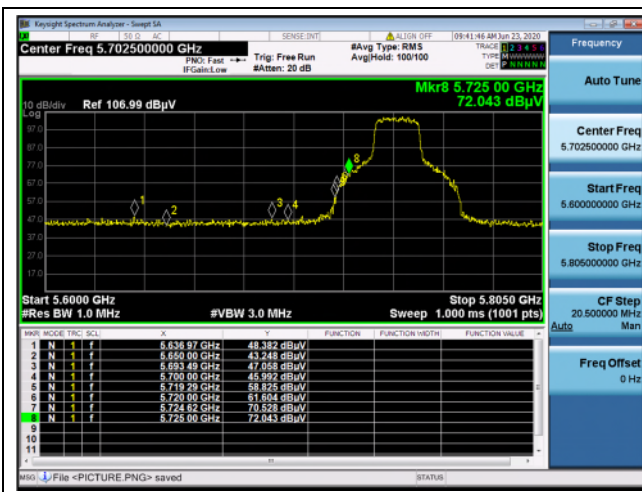
Low channel Band edge (Average) - Band 2C



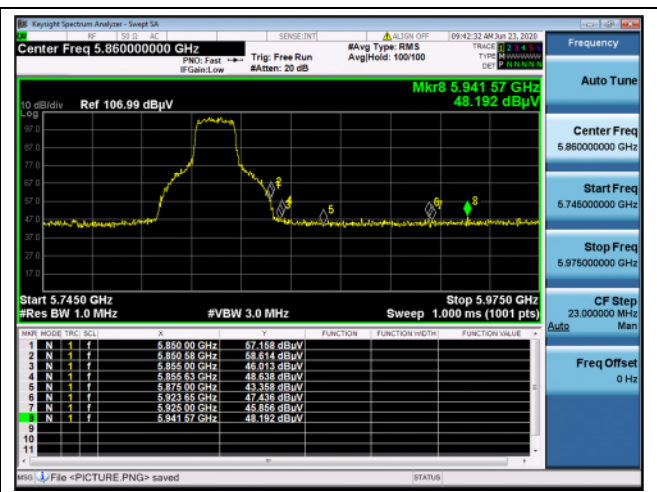
High channel Band edge (Peak) - Band 2C



Low channel Band edge (Peak) - Band 3

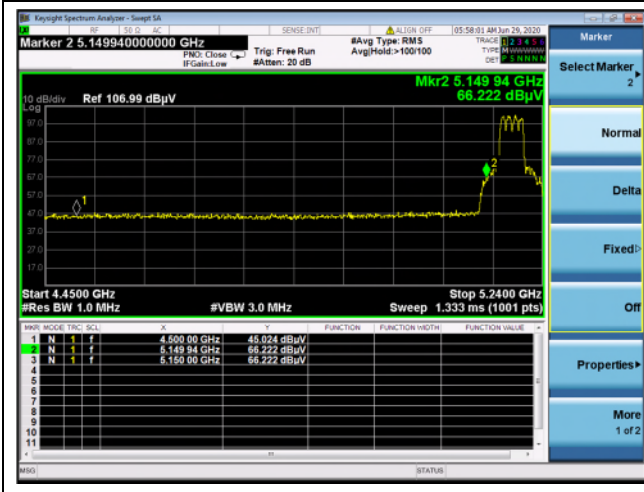


High channel Band edge (Peak) - Band 3

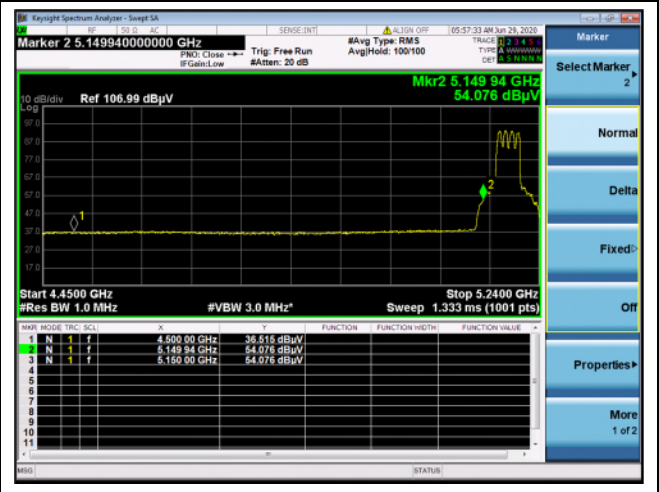


OFDM: 802.11n_HT40 (MCS0)_Ant.1+Ant.2

Low channel Band edge (Peak) - Band 1



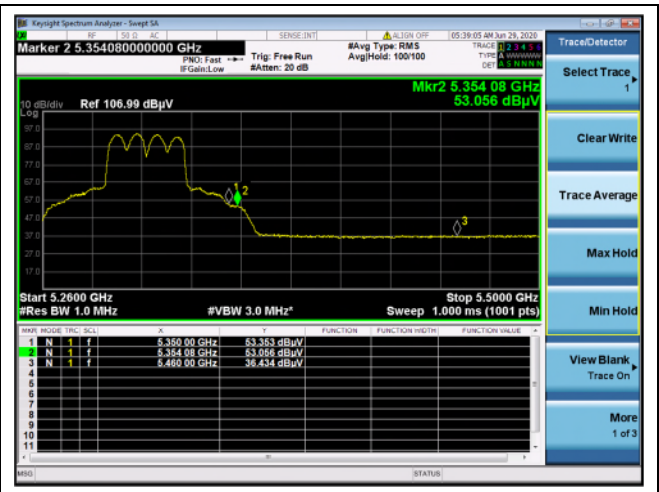
Low channel Band edge (Average) - Band 1



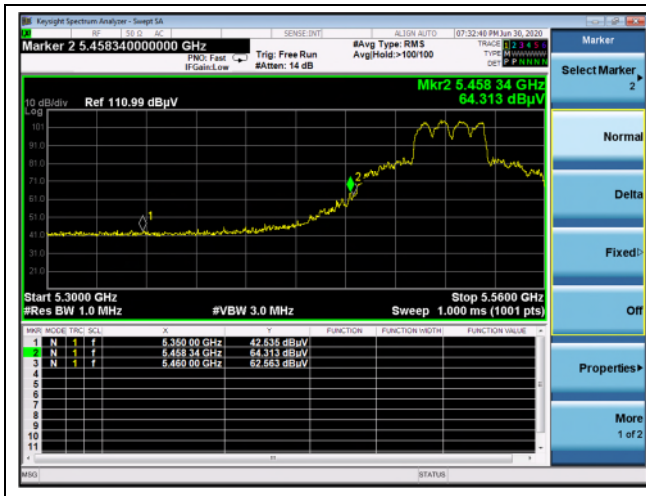
High channel Band edge (Peak) - Band 2A



High channel Band edge (Average) - Band 2A



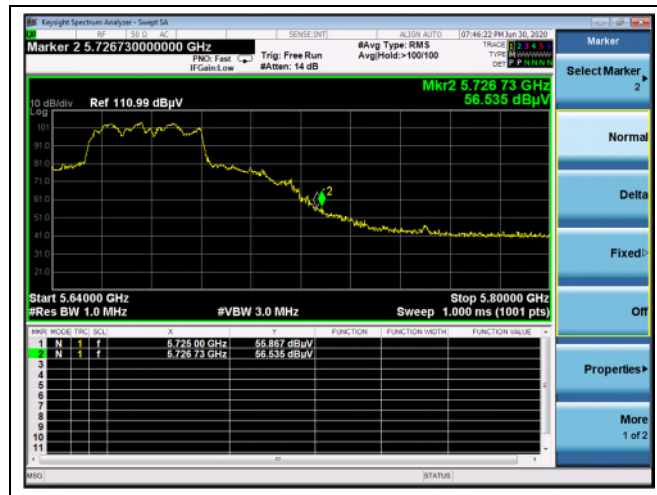
Low channel Band edge (Peak) - Band 2C



Low channel Band edge (Average) - Band 2C



High channel Band edge (Peak) - Band 2C



Low channel Band edge (Peak) - Band 3

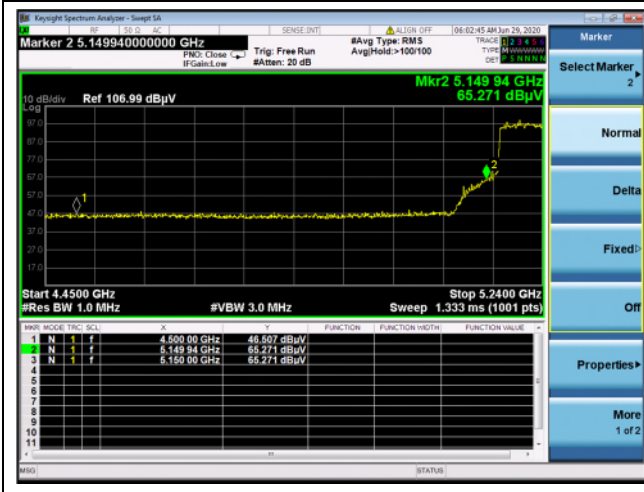


High channel Band edge (Peak) - Band 3



OFDM: 802.11ac_VHT80 (MCS0)_Ant.1+Ant.2

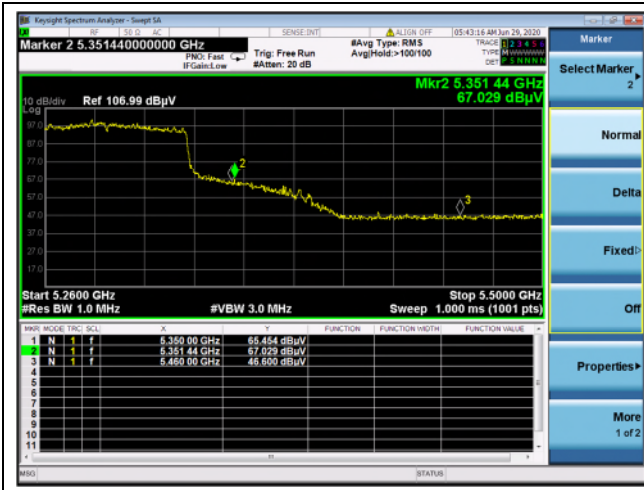
Middle channel Band edge (Peak) - Band 1



Middle channel Band edge (Average) - Band 1



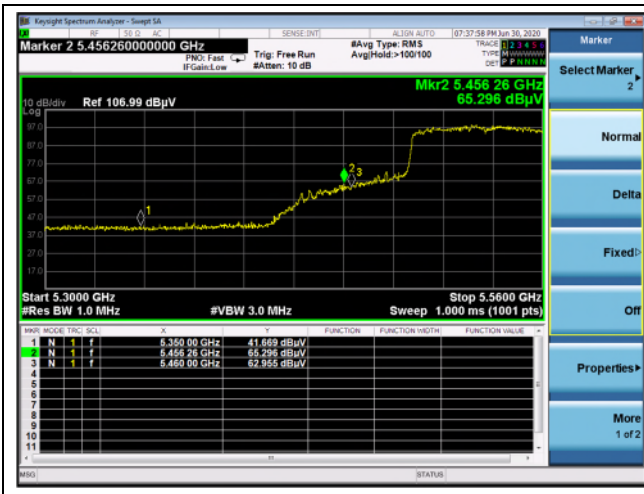
Middle channel Band edge (Peak) - Band 2A



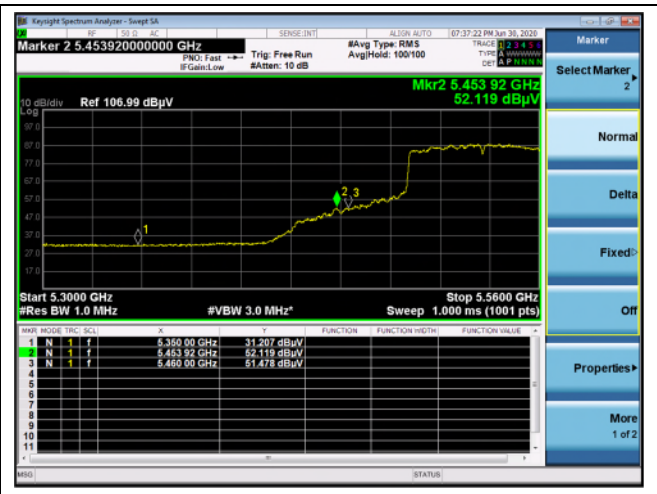
Middle channel Band edge (Average) - Band 2A



Low channel Band edge (Peak) - Band 2C



Low channel Band edge (Average) - Band 2C



Middle channel Band edge (Peak) - Band 3



Middle channel Band edge (Peak) - Band 3



3. 26 dB Bandwidth & 99 % Bandwidth

3.1. Test Setup



3.2. Limit

None; for reporting purpose only.

3.3. Test Procedure

All data rates and modes were investigated for this test. The full data for the worst case data rate are reported in this section.

3.3.1. 26 dB Bandwidth

1. This measurement settings are specified in section II.C.1 of KDB 789033 D02 General UNII Test Procedures New Rules v02r01.
2. Set RBW = approximately 1 % of the emission bandwidth.
3. Set the VBW > RBW.
4. Detector = Peak.
5. Trace mode = max hold.
6. Measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1 %.

Remark;

In case of band crossing channels 138, 142 and 144, the measurement is complied with section III.A of KDB 789033 D02 General UNII Test Procedures New Rules v02r01.

3.3.2. 99 % Bandwidth

The following conditions shall be observed for measuring the occupied bandwidth and x dB bandwidth:

- The transmitter shall be operated at its maximum carrier power measured under normal test condition.
- The span of the spectrum analyzer shall be set large enough to capture all products of the modulation process, including the emission skirts, around the carrier frequency, but small enough to avoid having other emissions (e.g. on adjacent channels) within the span.
- The detector of the spectrum analyzer shall be set to "Sample". However, a peak, or peak hold, may be used in place of the sampling detector since this usually produces a wider bandwidth than the actual bandwidth (worst-case measurement). Use of a peak hold (or "Max Hold") may be necessary to determine the occupied / x dB bandwidth if the device is not transmitting continuously.
- The resolution bandwidth (RBW) shall be in the range of 1 % to 5 % of the actual occupied / x dB bandwidth and the video bandwidth (VBW) shall not be smaller than three times the RBW value. Video averaging is not permitted.

Note: It may be necessary to repeat the measurement a few times until the RBW and VBW are in compliance with the above requirement.

For the 99 % emission bandwidth, the trace data points are recovered and directly summed in linear power level terms. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5 % of the total is reached, and that frequency recorded. The process is repeated for the highest frequency data points (starting at the highest frequency, at the right side of the span, and going down in frequency). This frequency is then recorded. The difference between the two recorded frequencies is the occupied bandwidth (or the 99 % emission bandwidth).

3.4. Test Result

Ambient temperature : (23 ± 1) °C
 Relative humidity : 47 % R.H.

- 26 dB Bandwidth

Mode	Band	Data Rate (Mbps)	Channel	Frequency (MHz)	26 dB Bandwidth (MHz)	
					Ant.1	Ant.2
11a	U-NII 1	6	Low	5 180	21.939	20.492
			Middle	5 220	21.013	20.261
			High	5 240	20.724	20.550
	U-NII 2A		Low	5 260	20.782	20.608
			Middle	5 300	20.550	21.071
			High	5 320	20.550	21.129
	U-NII 2C		Low	5 500	20.492	22.634
			Middle	5 580	21.187	20.220
			High	5 700	21.823	22.344
	U-NII 3		Low	5 745	22.402	21.766
			Middle	5 785	22.634	22.344
			High	5 825	22.518	22.402

Mode	Band	Data Rate (Mbps)	Channel	Frequency (MHz)	26 dB Bandwidth (MHz)	
					Ant.1	Ant.2
11ac_VHT20	U-NII 1	MCS0	Low	5 180	20.318	20.492
			Middle	5 220	20.029	20.550
			High	5 240	20.145	20.839
	U-NII 2A		Low	5 260	20.839	20.029
			Middle	5 300	20.955	20.839
			High	5 320	20.434	20.608
	U-NII 2C		Low	5 500	20.897	20.839
			Middle	5 580	21.187	22.344
			High	5 700	20.955	21.650
	U-NII 3		Low	5 745	20.666	20.724
			Middle	5 785	21.187	20.550
			High	5 825	21.013	20.550

Mode	Band	Data Rate (Mbps)	Channel	Frequency (MHz)	26 dB Bandwidth (MHz)	
					Ant.1	Ant.2
11n_HT40	U-NII 1	MCS0	Low	5 190	40.637	40.521
			High	5 230	40.868	40.289
	U-NII 2A		Low	5 270	40.637	40.289
			High	5 310	40.521	40.405
	U-NII 2C		Low	5 510	40.521	42.258
			Middle	5 590	40.174	40.521
			High	5 670	42.373	41.447
	U-NII 3		Low	5 755	42.026	40.170
High		5 795	42.721	40.868		

Mode	Band	Data Rate (Mbps)	Channel	Frequency (MHz)	26 dB Bandwidth (MHz)	
					Ant.1	Ant.2
11ac_VHT80	U-NII 1	MCS0	Middle	5 210	82.663	82.431
	U-NII 2A		Middle	5 290	83.126	82.431
	U-NII 2C		Low	5 530	82.894	82.431
			High	5 610	83.357	83.357
	U-NII 3		Middle	5 775	83.357	84.052

- Straddle channels

Mode	Band	Data Rate (Mbps)	Channel	Frequency (MHz)	26 dB Bandwidth (MHz)	
					Ant.1	Ant.2
11a	U-NII 2C	6	Straddle	5 720	16.346	16.346
11ac_VHT20		MCS0		5 720	15.304	15.362
11n_HT40		MCS0		5 710	36.302	35.260
11ac_VHT80		MCS0		5 690	76.910	76.447

- 99 % Bandwidth

Mode	Band	Data Rate (Mbps)	Channel	Frequency (MHz)	99 % Bandwidth (MHz)	
					Ant.1	Ant.2
11a	U-NII 1	6	Low	5 180	16.671	16.498
			Middle	5 220	16.614	16.498
			High	5 240	16.614	16.498
	U-NII 2A		Low	5 260	16.614	16.498
			Middle	5 300	16.498	16.498
			High	5 320	16.498	16.498
	U-NII 2C		Low	5 500	16.498	16.614
			Middle	5 580	16.498	16.440
			High	5 700	16.556	16.556
	U-NII 3		Low	5 745	16.614	16.556
			Middle	5 785	16.787	16.556
			High	5 825	16.671	16.556

Mode	Band	Data Rate (Mbps)	Channel	Frequency (MHz)	99 % Bandwidth (MHz)	
					Ant.1	Ant.2
11ac_VHT20	U-NII 1	MCS0	Low	5 180	17.598	17.598
			Middle	5 220	17.598	17.598
			High	5 240	17.598	17.598
	U-NII 2A		Low	5 260	17.598	17.598
			Middle	5 300	17.598	17.598
			High	5 320	17.598	17.598
	U-NII 2C		Low	5 500	17.598	17.598
			Middle	5 580	17.598	17.656
			High	5 700	17.598	17.598
	U-NII 3		Low	5 745	17.598	17.598
			Middle	5 785	17.713	17.598
			High	5 825	17.656	17.598

Mode	Band	Data Rate (Mbps)	Channel	Frequency (MHz)	99 % Bandwidth (MHz)	
					Ant.1	Ant.2
11n_HT40	U-NII 1	MCS0	Low	5 190	36.122	36.122
			High	5 230	36.122	36.006
	U-NII 2A		Low	5 270	36.122	36.122
			High	5 310	36.122	36.122
	U-NII 2C		Low	5 510	36.122	36.237
			Middle	5 590	35.890	36.122
			High	5 670	36.237	36.237
	U-NII 3		Low	5 755	36.237	36.353
High		5 795	36.353	36.006		

Mode	Band	Data Rate (Mbps)	Channel	Frequency (MHz)	99 % Bandwidth (MHz)	
					Ant.1	Ant.2
11ac_VHT80	U-NII 1	MCS0	Middle	5 210	75.485	75.253
	U-NII 2A		Middle	5 290	75.485	75.485
	U-NII 2C		Low	5 530	75.253	75.485
			High	5 610	75.485	75.485
	U-NII 3		Middle	5 775	75.485	75.253

- Test plots

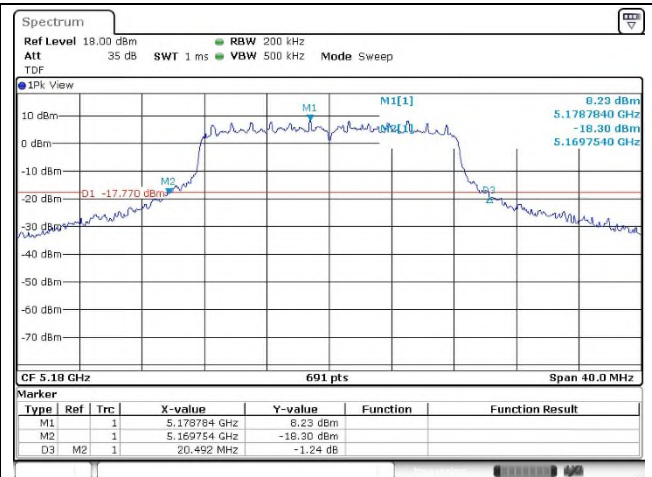
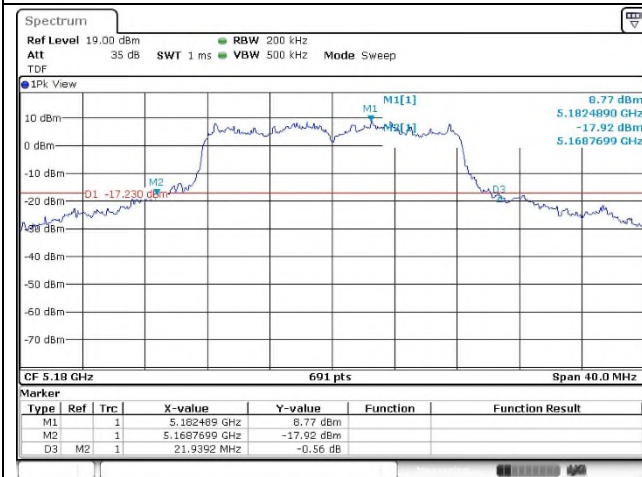
- 26 dB Bandwidth

OFDM: 802.11a (Band 1)

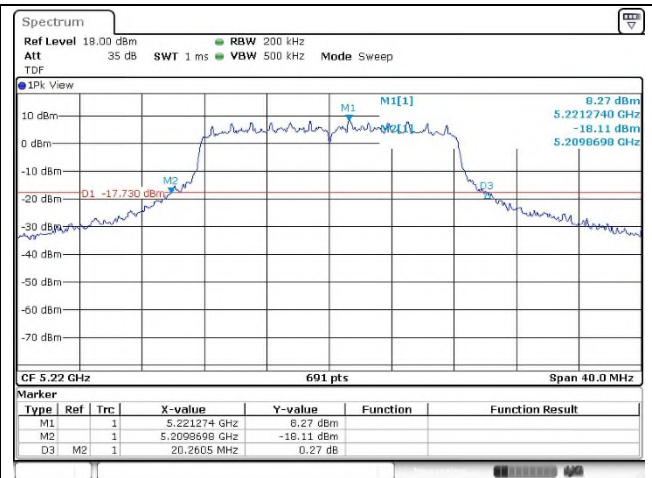
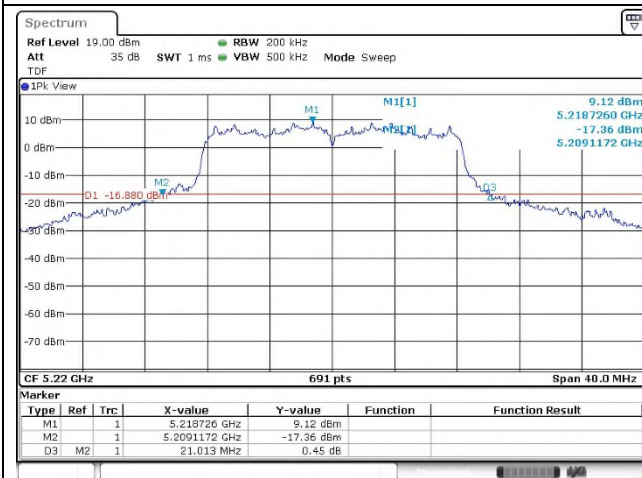
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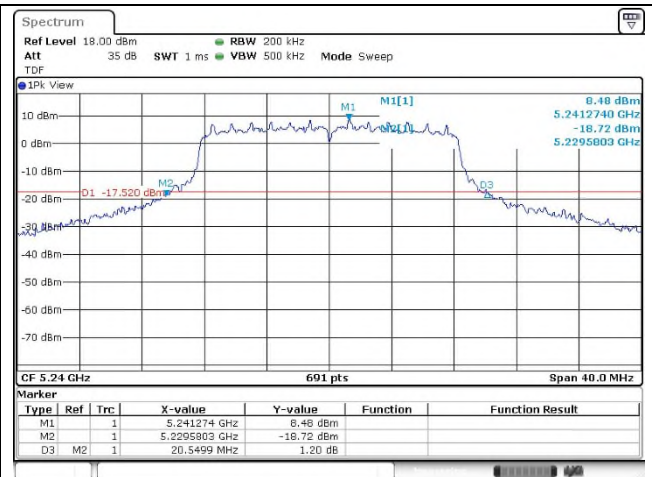
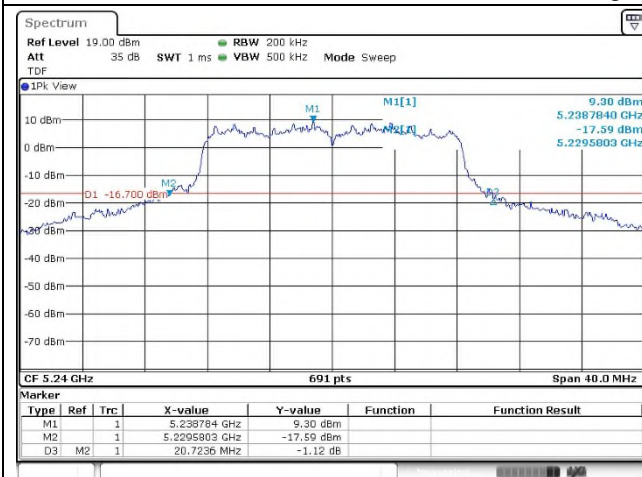
Low channel



Middle channel



High channel

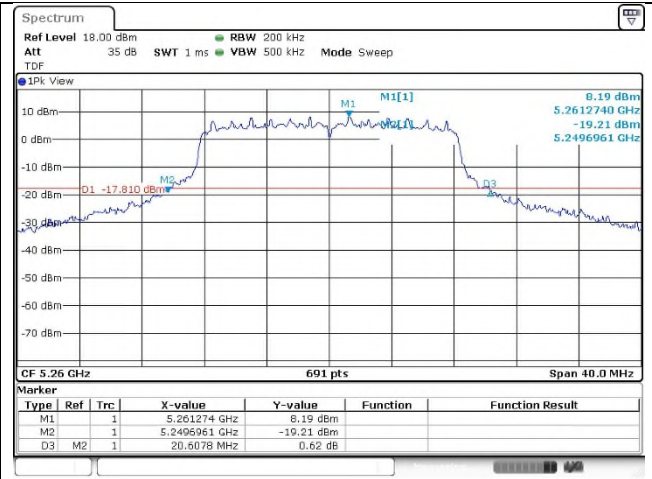
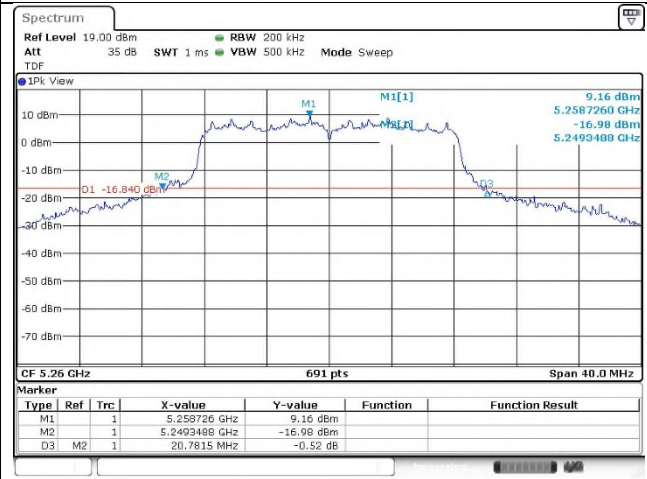


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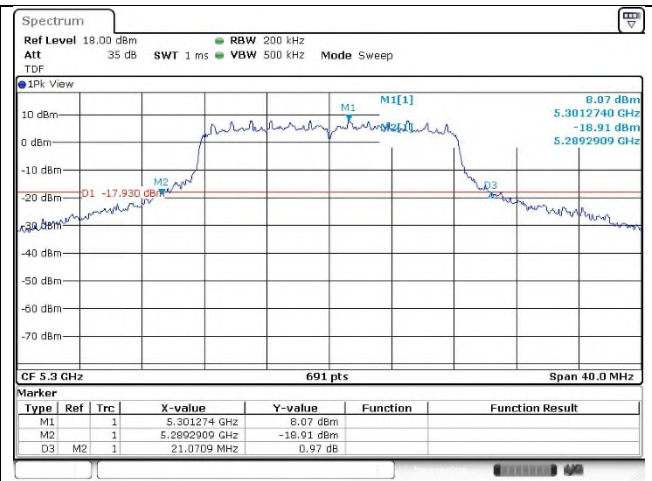
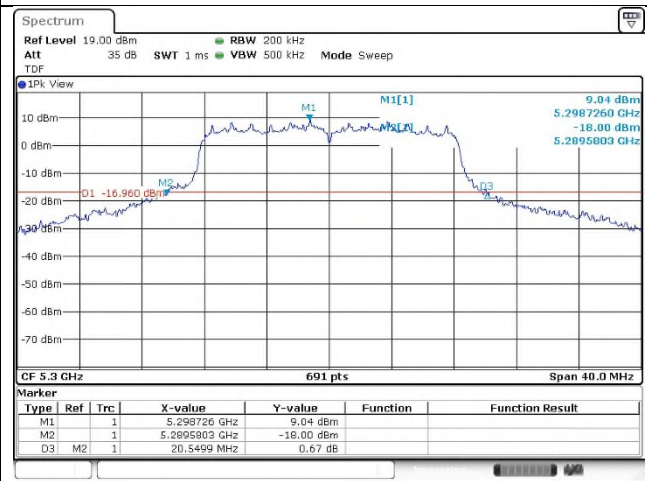
Ant.1

Ant.2

Low channel



Middle channel



High channel

