

Test Report

Applicant : Shenzhen Lingchuangxun Technology Co., Ltd
Address : 6th floor, building C, ideemonto Industrial Park, 7002 Songbai RoadGuangming District, ShenZhen
Product Name : WIFI REPEATER
Brand Mark : N/A
Model : LCX-ZJ1200-003
Series model : LCX-ZJ1200-003-01, LCX-ZJ1200-003-02, LCX-ZJ1200-003-03, LCX-ZJ1200-003-04, LCX-ZJ1200-003-05, LCX-ZJ1200-003-06, LCX-ZJ1200-003-07, LCX-ZJ1200-003-08
FCC ID : 2A4AOLCX-ZJ1200003
Report Number : BLA-EMC-202503-A3502
Date of Receipt : Mar. 14, 2025
Date of Test : Mar. 14, 2025 to Mar. 26, 2025
Test Standard : 47 CFR Part 15, Subpart E 15.407
Test Result : Pass

Compiled by: Mark Chen

Review by: Sweels



Approved by:

Issued Date: Apr. 01, 2025

BlueAsia of Technical Services(Shenzhen) Co.,Ltd.

Address: Building C, No. 107, Shihuan Road, Shiyan Sub-District, Baoan District,
Shenzhen, Guangdong Province, China



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Revise Record

Version No.	Date	Description
01	Apr. 01, 2025	Original

1 General information

1.1 General information

Applicant	Shenzhen Lingchuangxun Technology Co., Ltd
Address	6th floor, building C, ideemonto Industrial Park, 7002 Songbai RoadGuangming District, ShenZhen
Manufacturer	Shenzhen Lingchuangxun Technology Co., Ltd
Address	6th floor, building C, ideemonto Industrial Park, 7002 Songbai RoadGuangming District, ShenZhen
Factory	Shenzhen Lingchuangxun Technology Co., Ltd
Address	6th floor, building C, ideemonto Industrial Park, 7002 Songbai RoadGuangming District, ShenZhen

1.2 General description of EUT

Product Name	WIFI REPEATER
Model No.	LCX-ZJ1200-003
Series model	LCX-ZJ1200-003-01, LCX-ZJ1200-003-02, LCX-ZJ1200-003-03, LCX-ZJ1200-003-04, LCX-ZJ1200-003-05, LCX-ZJ1200-003-06, LCX-ZJ1200-003-07, LCX-ZJ1200-003-08
Differences of Series model	The above models are identical in PCB layout,internal structure and components.only model no, the appearance color and shape is different.
Operation Frequency	5150MHz-5250MHz
Channel numbers	802.11a/802.11n(HT20)/802.11ac(HT20): 4, 802.11n(HT40)/802.11ac(HT40):2, 802.11ac(HT80): 1
Modulation Type	IEEE 802.11a: OFDM (BPSK, QPSK, 16QAM, 64QAM) IEEE 802.11n(HT20/HT40): OFDM (BPSK, QPSK, 16QAM, 64QAM) IEEE for 802.11ac: OFDM(256QAM, 64QAM, 16QAM, QPSK, BPSK)
Transmit Data Rate	IEEE 802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps IEEE 802.11n HT20: up to 216.7 Mbps, HT40: up to 450 Mbps IEEE 802.11ac VHT20: up to 346.7 Mbps, VHT40: up to 800 Mbps, VHT80: up to 1733.3 Mbps

Antenna Type	FPC Antenna
Antenna Gain	WIFI Ant 1: -0.52dBi WIFI Ant 2: -0.52dBi
Device type	Master device
Power supply	Input:AC 100-240V Output: DC 5V $\approx$ 1A
Test voltage	AC 120V
Hardware Version	N/A
Software Version	N/A
<i>Note: For a more detailed description, please refer to Specification or User's Manual supplied by the applicant and/or manufacturer.</i>	

2 Test summary

No.	Test item	FCC standard	Test Method (Clause)	Result
1	Antenna Requirement	§15.203	N/A	Pass
2	Conducted Emissions at AC Power Line (150kHz-30MHz)	§15.207	ANSI C63.10-2013 Clause 6.2	Pass
3	Frequency Stability	§15.407 (g)	ANSI C63.10-2013 Clause 6.8	Pass
4	Maximum Conducted output power	§15.407 (a)	KDB 789033 D02 II E	Pass
5	Transmitter Power Control	§15.407 (h)(1)	KDB 789033 D02 II E	N/A
6	Peak Power spectrum density	§15.407 (a)	KDB 789033 D02 II F	Pass
7	Minimum 6 dB bandwidth (5.725-5.85 GHz band)	§15.407 (e)	KDB 789033 D02 II C 2	N/A
8	26dB Emission bandwidth	§15.407 (a)	KDB 789033 D02 II C 1	Pass
9	99% Bandwidth	N/A	KDB 789033 II D	Pass
10	Duty Cycle	KDB 789033 D02 II B 1	KDB 789033 II B 1	Pass
11	Conducted Band Edges Measurement	§15.407 (b)(4)	ANSI C63.10-2013 Clause 11.13	Pass
12	Conducted spurious emissions	§15.407(b)	ANSI C63.10-2013 Clause 11.11	Pass
13	Radiated Emissions which fall in the restricted bands	§15.209 §15.407(b)	KDB 789033 D02 II G	Pass
14	Radiated Emissions	§15.209 §15.407(b)	KDB 789033 D02 II G	Pass
15	DFS: Channel Closing Transmission Time	§15.407((h)(2)	KDB 905462 D02 Clause 7.8.3	N/A
16	DFS: Non-occupancy period	§15.407((h)(2)	KDB 905462 D02 Clause 7.8.3	N/A

N/A: Not Applicable

3 Test Configuration

3.1 Test mode

Test Mode ^{Note 1}	Description
TX	Keep the EUT in continuously transmitting mode with modulation. (Duty cycle>98%)

Note 1: The EUT was configured to measure its highest possible emission and/or immunity level. The test modes were adapted according to the operation manual for use; the EUT was operated in the engineering mode ^{Note 2} to fix the TX frequency that was for the purpose of the measurements.

Note 2: Special software is used. The software provided by client to enable the EUT under transmission condition continuously at specific channel frequencies individually.

Note 3: When test RE and RSE, 802.11a is in SISO mode (ANT 1 and 2 all have been tested, only report worse case); and 802.11n20/n40/ac20/ac40/ac80 is in MIMO mode.

Power level setup in software			
Test Software Name	MT76xxE_AP		
Mode	Channel	Frequency (MHz)	Soft Set
802.11a/n20/ac20	CH36	5180	TX level : Default
	CH40	5200	
	CH44	5220	
	CH48	5240	
802.11n40/ac40	CH38	5190	TX level : Default
	CH46	5230	
802.11ac80	CH42	5210	TX level : Default

3.2 Operation frequency and test channel

5150-5250MHz					
802.11a/n20/ac20		802.11n40/ac40		802.11ac80	
Channel	Frequency	Channel	Frequency	Channel	Frequency
36	5180MHz	38	5190MHz	42	5210MHz
40	5200MHz	46	5230MHz		
44	5220MHz				
48	5240MHz				

3.3 Auxiliary equipment

Device Type	Manufacturer	Model Name	Serial No.	Remark
PC	Lenovo	E460C	N/A	From lab (No.BLA-ZC-BS-2022005)

Note:

--" mean no any auxiliary device during testing.

3.4 Test environment

Environment	Temperature	
	NT(Normal Temperature)	25 °C
	LT(Low Temperature)	-10 °C
	HT(High Temperature)	50 °C
	Working Voltage of the EUT	
	NV(Normal Voltage)	AC 120V
	LV(Low Voltage)	AC 100V
	HV(High Voltage)	AC 240V

4 Laboratory information

4.1 Laboratory and accreditations

The test facility is recognized, certified, or accredited by the following organizations:

Company name:	BlueAsia of Technical Services(Shenzhen) Co., Ltd.
Address:	Building C, No. 107, Shihuan Road, Shiyan Sub-District, Baoan District, Shenzhen, Guangdong Province, China
CNAS accredited No.:	L9788
A2LA Cert. No.:	5071.01
FCC Designation No.:	CN1252
ISED CAB identifier No.:	CN0028
Telephone:	+86-755-28682673
FAX:	+86-755-28682673

4.2 Measurement uncertainty

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k=1.96$.

Parameter	Expanded Uncertainty
Radiated Emission(9kHz-30MHz)	$\pm 4.34\text{dB}$
Radiated Emission(30Mz-1000MHz)	$\pm 4.24\text{dB}$
Radiated Emission(1GHz-18GHz)	$\pm 4.68\text{dB}$
AC Power Line Conducted Emission(150kHz-30MHz)	$\pm 3.45\text{dB}$
Occupied Channel Bandwidth	$\pm 5\%$
RF output power, conducted	$\pm 1.5\text{ dB}$
Power Spectral Density, conducted	$\pm 3.0\text{ dB}$
Unwanted Emissions, conducted	$\pm 3.0\text{ dB}$
Temperature	$\pm 3\text{ }^{\circ}\text{C}$
Supply voltages	$\pm 3\%$
Time	$\pm 5\%$

5 Test equipment

Radiated Spurious Emissions (Below 1GHz)

Equipment	Name	Model	Manufacture	S/N	Cal. Date	Due. Date
BLA-EMC-002-01	Anechoic chamber	9*6*6 chamber	SKET	N/A	2024/3/27	2027/3/26
BLA-EMC-002-02	Control room	966 control room	SKET	N/A	2024/3/27	2027/3/26
BLA-EMC-009	EMI receiver	ESR7	R&S	101199	2024/08/08	2025/08/07
BLA-EMC-043	Loop antenna	FMZB1519B	Schwarzbeck	00102	2024/06/29	2026/06/28
BLA-EMC-065	Broadband antenna	VULB9168	Schwarzbeck	01065P	2024/06/29	2026/06/27
BLA-XC-01	Coaxial Cable	N/A	BlueAsia	V01	N/A	N/A
BLA-XC-02	Coaxial Cable	N/A	BlueAsia	V02	N/A	N/A

Radiated Spurious Emissions (Above 1GHz)

Equipment	Name	Model	Manufacture	S/N	Cal. Date	Due. Date
BLA-EMC-001-01	Anechoic chamber	9*6*6 chamber	SKET	N/A	2023/11/16	2026/11/15
BLA-EMC-001-02	Control Room	966 control room	SKET	N/A	2023/11/16	2025/11/15
BLA-EMC-008	Spectrum	FSP40	R&S	100817	2024/08/08	2025/08/07
BLA-EMC-012	Broadband antenna	VULB9168	Schwarzbeck	00836 P:00227	2022/10/12	2025/10/11
BLA-EMC-013	Horn Antenna	BBHA9120D	Schwarzbeck	01892	2024/06/29	2026/06/28
BLA-EMC-014	Amplifier	PA_000318G-45	SKET	PA201804 3003	2024/08/08	2025/08/07
BLA-EMC-046	Filter bank	2.4G/5G Filter bank	SKET	N/A	2024/06/28	2025/06/27
BLA-EMC-061	Receiver	ESPI7	R&S	101477	2024/06/28	2025/06/27
BLA-EMC-066	Amplifier	LNPA_30M01 G-30	SKET	SK202106 0801	2024/06/28	2025/06/27
BLA-EMC-086	Amplifier	LNPA_18G40 G-50dB	SKET	SK202207 1301	2024/06/28	2025/06/27
BLA-EMC-087	Horn Antenna	BBHA 9170	Schwarzbeck	1106	2024/06/29	2026/06/28

BLA-XC-03	Coaxial Cable	N/A	BlueAsia	V03	N/A	N/A
BLA-XC-04	Coaxial Cable	N/A	BlueAsia	V04	N/A	N/A

Conducted Emissions

Equipment	Name	Model	Manufacture	S/N	Cal. Date	Due. Date
BLA-EMC-003-001	Shield room	8*3*3	SKET	N/A	2023/11/16	2025/11/15
BLA-EMC-009	EMI receiver	ESR7	R&S	101199	2024/08/08	2025/08/07
BLA-EMC-011	LISN	ENV216	R&S	101372	2024/08/08	2025/08/07
BLA-EMC-033	Impedance transformer	DC-2GHz	DFXP	N/A	2024/06/28	2025/06/27
BLA-EMC-041	LISN	AT166-2	ATTEN	AKK180600003	2024/08/08	2025/08/07
BLA-EMC-045	Impedance stable network	ISNT8-cat 6	TESEQ	53580	2024/08/08	2025/08/07
BLA-EMC-095	Single-channel vehicle artificial power network	NNBM 8124	Schwarzbeck	01045	2024/06/28	2025/06/27
BLA-EMC-096	Single-channel vehicle artificial power network	NNBM 8124	Schwarzbeck	01075	2024/06/28	2025/06/27
BLA-XC-05	Coaxial Cable	N/A	BlueAsia	V05	N/A	N/A

RF conducted

Equipment	Name	Model	Manufacture	S/N	Cal. Date	Due. Date
BLA-EMC-003-003	Shield room	5*3*3	SKET	N/A	2023/11/16	2025/11/15
BLA-EMC-016	Signal Generator	N5182A	Agilent	MY52420567	2024/06/28	2025/06/27
BLA-EMC-038	Spectrum	N9020A	Agilent	MY49100060	2024/08/08	2025/08/07
BLA-EMC-042	Power sensor	RPR3006W	DARE	14I00889SN042	2024/08/08	2025/08/07
BLA-EMC-044	Radio communication tester	CMW500	R&S	132429	2024/08/08	2025/08/07
BLA-EMC-064	Signal Generator	N5182B	KEYSIGHT	MY58108892	2024/06/28	2025/06/27
BLA-EMC-079	Spectrum	N9020A	Agilent	MY54420161	2024/08/08	2025/08/07
BLA-EMC-088	Audio Analyzer	ATS-1	Audio	ATS141094	2024/06/28	2025/06/27

Precision

Test software

Software No.	Software Name	Manufacture	Software version	Test site
BLA-EMC-S001	EZ-EMC	EZ	EEMC-3A1+	RE(Below 1GHz)
BLA-EMC-S002	EZ-EMC	EZ	EEMC-3A1+	RE(Above 1GHz)
BLA-EMC-S003	EZ-EMC	EZ	EEMC-3A1+	CE
BLA-EMC-S010	MTS 8310	MW	2.0.0.0	RF

6 Test result

6.1 Antenna requirement

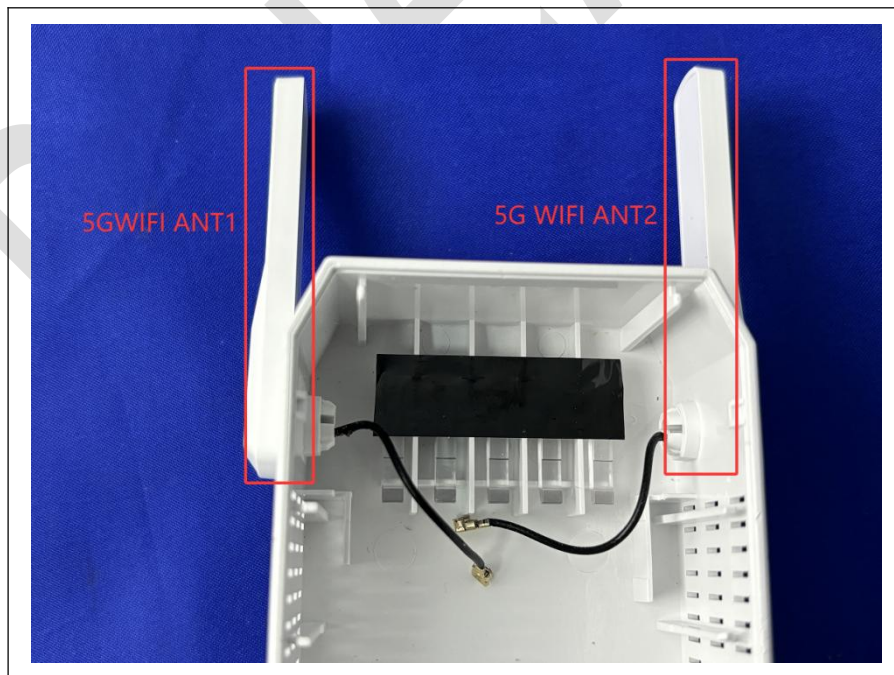
Test Standard	47 CFR Part 15, Subpart C 15.203
Test Method	N/A

6.1.1 Requirement

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit permanently attached antenna or of a so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

EUT antenna:

The antenna is FPC antenna. The best case gain of the antenna is WIFI Ant1: -0.52dBi and WIFI Ant2: -0.52dBi.



6.2 Conducted emissions at AC power line (150 kHz-30 MHz)

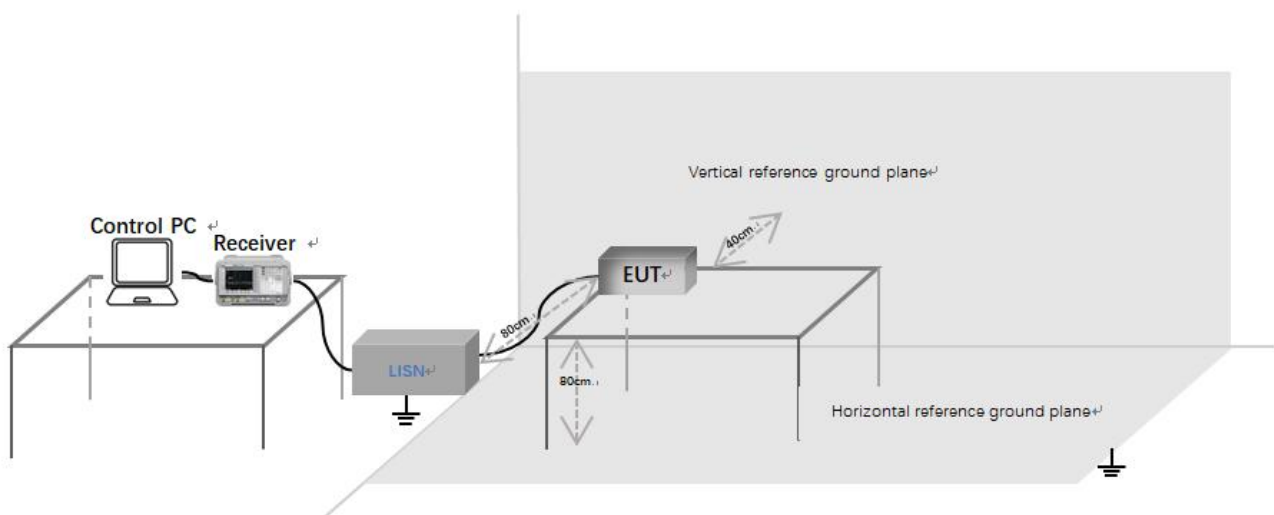
Test Standard	47 CFR Part 15, Subpart C 15.207
Test Method	ANSI C63.10-2013 Cluase6.2
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX

6.2.1 Limit

Frequency of emission(MHz)	Conducted limit(dB μ V)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

*Decreases with the logarithm of the frequency.

6.2.2 Test setup



Description of test setup connection:

- Connect the control PC to the receiver through a USB to GPIB cable;
- The receiver is connected to the LISN through a coaxial line;
- Connect the power port of LISN to the EUT.

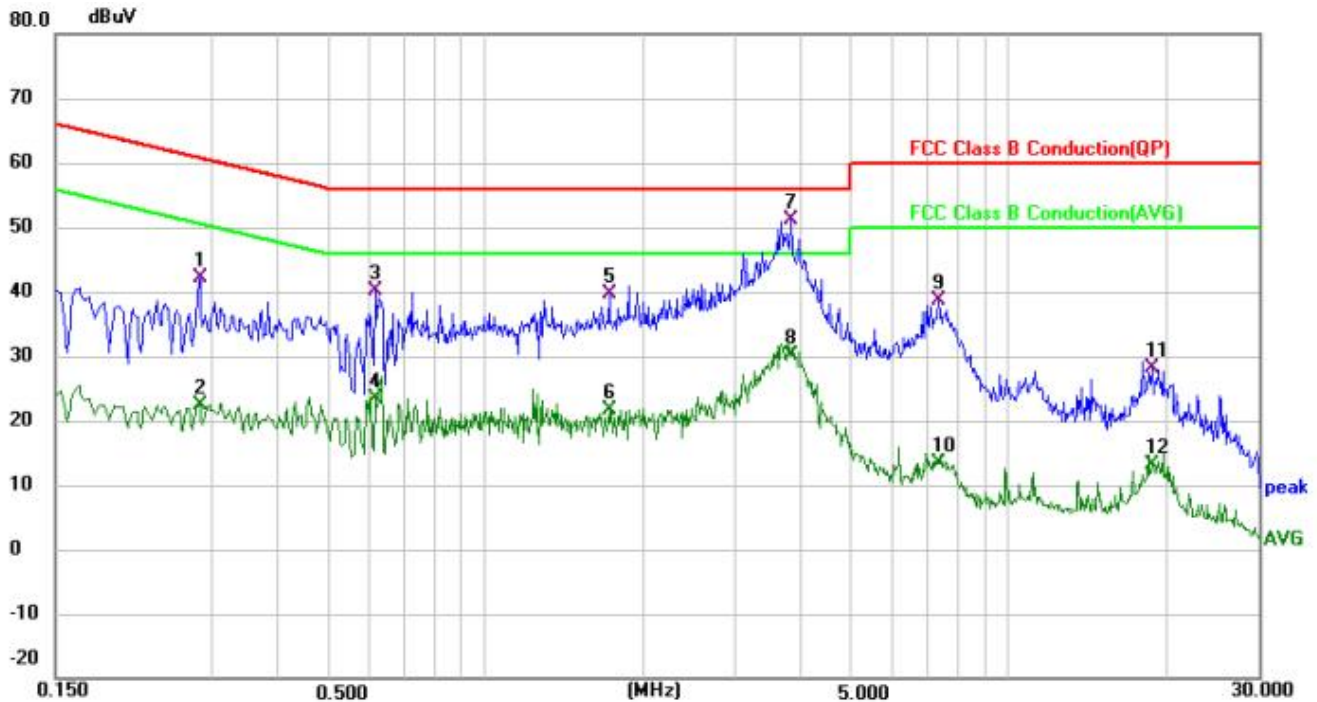
6.2.3 Procedure

- 1) The mains terminal disturbance voltage test was conducted in a shielded room.
- 2) The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a 50ohm/50H + 5ohm linear impedance. The power cables of all other units of the EUT were connected to a second LISN 2, which was bonded to the ground reference plane in the same way as the LISN 1 for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not exceeded.
- 3) The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane,
- 4) The test was performed with a vertical ground reference plane. The rear of the EUT shall be 0.4 m from the vertical ground reference plane. The vertical ground reference plane was bonded to the horizontal ground reference plane. The LISN 1 was placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane for LISNs mounted on top of the ground reference plane. This distance was between the closest points of the LISN 1 and the EUT. All other units of the EUT and associated equipment was at least 0.8 m from the LISN 2.
- 5) In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10 on conducted measurement.

LISN=Read Level+ Cable Loss+ LISN Factor

6.2.4 Test data

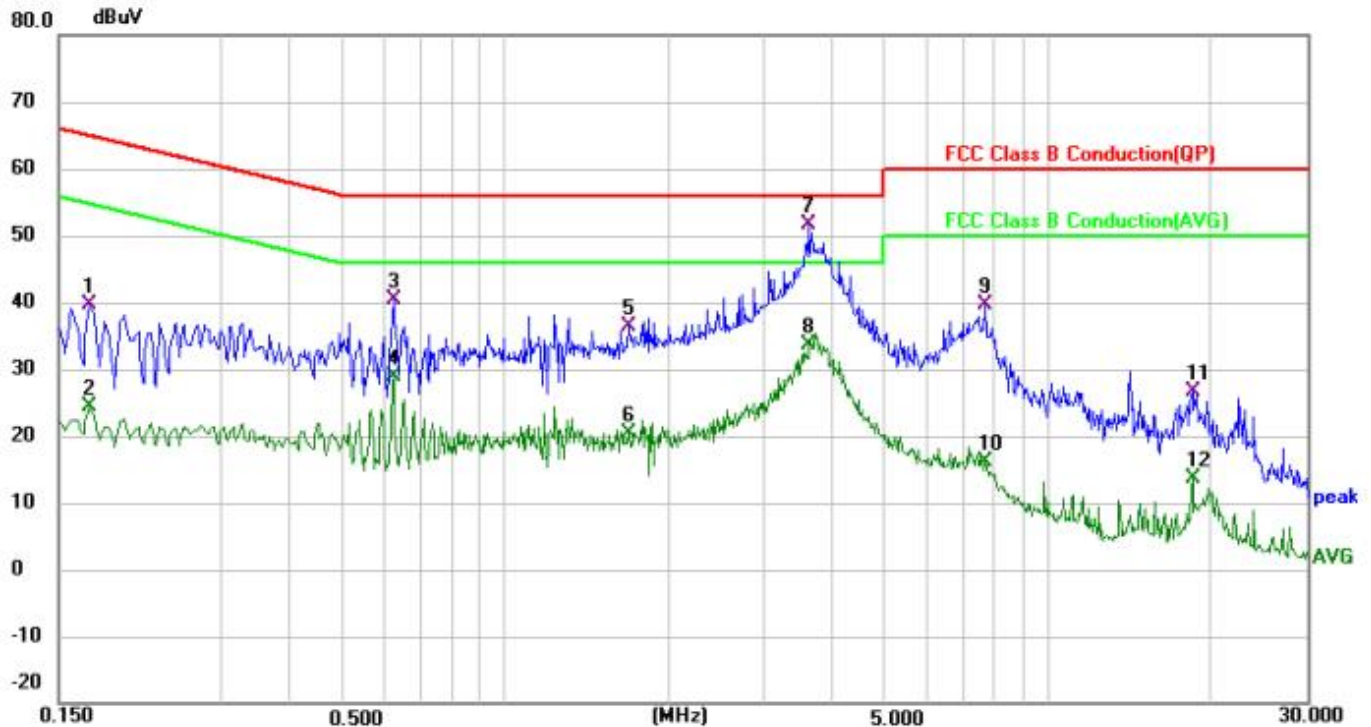
[Test mode: TX]; [Line: Line]; [Power: AC120V/60Hz]



No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector
1	0.2819	32.11	9.90	42.01	60.76	-18.75	QP
2	0.2819	12.39	9.90	22.29	50.76	-28.47	AVG
3	0.6140	30.28	9.75	40.03	56.00	-15.97	QP
4	0.6140	13.65	9.75	23.40	46.00	-22.60	AVG
5	1.7180	29.63	9.89	39.52	56.00	-16.48	QP
6	1.7180	11.64	9.89	21.53	46.00	-24.47	AVG
7 *	3.8220	40.93	10.12	51.05	56.00	-4.95	QP
8	3.8220	20.10	10.12	30.22	46.00	-15.78	AVG
9	7.3540	28.24	10.29	38.53	60.00	-21.47	QP
10	7.3540	2.99	10.29	13.28	50.00	-36.72	AVG
11	18.8060	15.27	12.77	28.04	60.00	-31.96	QP
12	18.8060	0.27	12.77	13.04	50.00	-36.96	AVG

Test Result: Pass

[Test mode: TX]; [Line: Neutral];[Power:AC120V/60Hz]



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector
1		0.1700	29.32	10.20	39.52	64.96	-25.44	QP
2		0.1700	14.07	10.20	24.27	54.96	-30.69	AVG
3		0.6220	30.74	9.70	40.44	56.00	-15.56	QP
4		0.6220	19.26	9.70	28.96	46.00	-17.04	AVG
5		1.6900	26.69	9.80	36.49	56.00	-19.51	QP
6		1.6900	10.48	9.80	20.28	46.00	-25.72	AVG
7	*	3.6300	41.51	10.00	51.51	56.00	-4.49	QP
8		3.6300	23.51	10.00	33.51	46.00	-12.49	AVG
9		7.6580	29.17	10.36	39.53	60.00	-20.47	QP
10		7.6580	5.86	10.36	16.22	50.00	-33.78	AVG
11		18.4660	14.09	12.61	26.70	60.00	-33.30	QP
12		18.4660	1.06	12.61	13.67	50.00	-36.33	AVG

Test Result: Pass

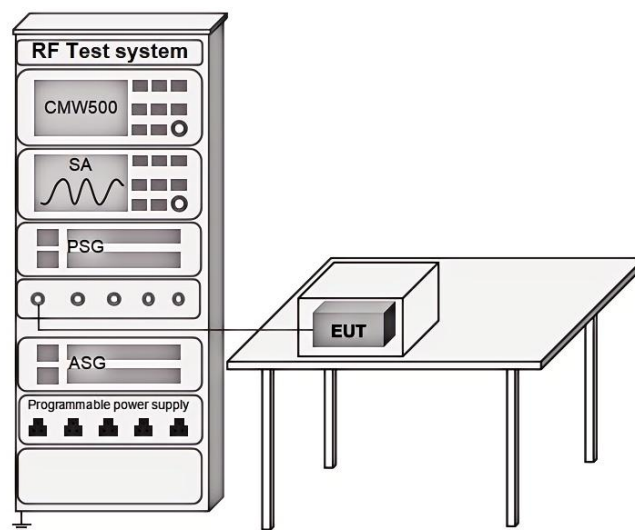
6.3 Frequency Stability

Test Standard	47 CFR Part 15, Subpart E 15.407(g)
Test Method	ANSI C63.10-2013 Cluase6.8
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX

6.3.1 Limit

The frequency tolerance shall be maintained within the band of operation frequency over a temperature variation of 0 degrees to 35 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C.

6.3.2 Test setup



6.3.3 Test data

Pass: Please refer to appendix A for details

6.4 Maximum conducted output Power

Test Standard	47 CFR Part 15, Subpart E 15.407 (a)
Test Method	KDB 789033 D02 II E
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX

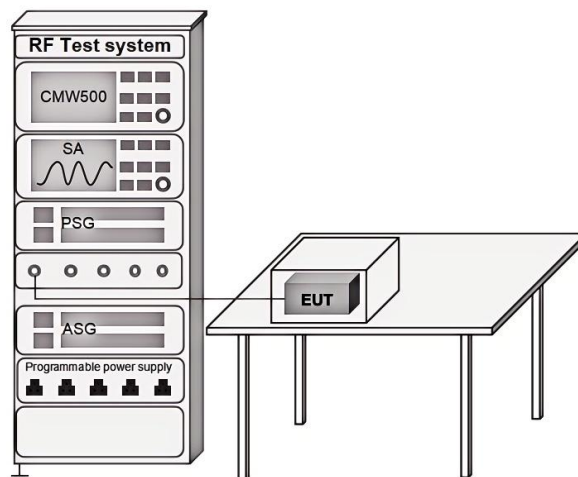
6.4.1 Limit

Frequency band(MHz)	Limit
5150-5250	$\leq 1\text{W}(30\text{dBm})$ for master device
	$\leq 250\text{mW}(24\text{dBm})$ for client device
5250-5350	$\leq 250\text{mW}(24\text{dBm})$ for client device or $11\text{dBm}+10\log B^*$
5470-5725	$\leq 250\text{mW}(24\text{dBm})$ for client device or $11\text{dBm}+10\log B^*$
5725-5850	$\leq 1\text{W}(30\text{dBm})$

Remark:* Where B is the 26dB emission bandwidth in MHz.

The maximum conducted output power must be measured over any interval of continuous transmission using instrumentation calibrated in terms of an rms-equivalent voltage.

6.4.2 Test setup



6.4.3 Test data

Pass: Please refer to appendix A for details

BlueAsia of Technical Services (Shenzhen) Co., Ltd.

Tel: +86-755-23059481

Email: marketing@cblueasia.com www.cblueasia.com

Report version : V1.3

6.5 Peak power spectrum density

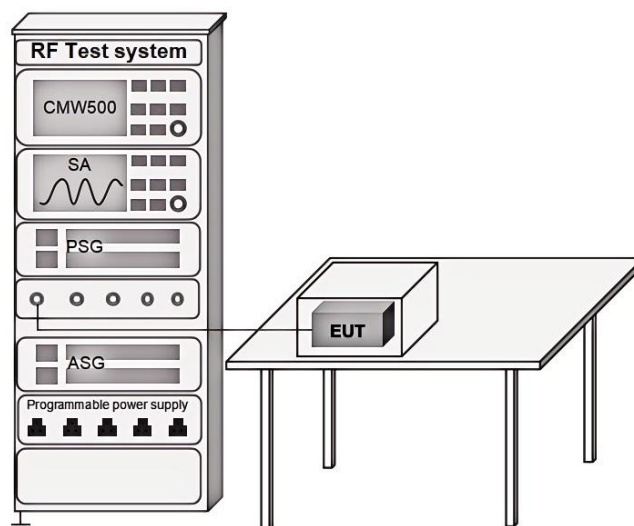
Test Standard	47 CFR Part 15, Subpart E 15.407 (a)
Test Method	KDB 789033 D02 II F
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX

6.5.1 Limit

Frequency band(MHz)	Limit
5150-5250	≤17dBm in 1MHz for master device
	≤11dBm in 1MHz for client device
5250-5350	≤11dBm in 1MHz for client device
5470-5725	≤11dBm in 1MHz for client device
5725-5850	≤30dBm in 500 kHz

Remark: The maximum power spectral density is measured as a conducted emission by direct connection of a calibrated test instrument to the equipment under test.

6.5.2 Test setup



6.5.3 Test data

Pass: Please refer to appendix A for details

BlueAsia of Technical Services (Shenzhen) Co., Ltd.

Tel: +86-755-23059481

Email: marketing@cblueasia.com www.cblueasia.com

Report version: V1.3

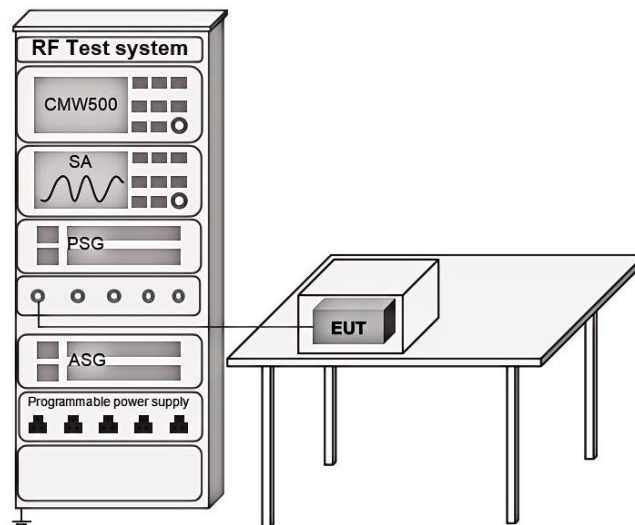
6.6 Minimum 6dB bandwidth (5.725-5.85 GHz band)

Test Standard	47 CFR Part 15, Subpart E 15.407 (e)
Test Method	KDB 789033 D02 II C 2
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX

6.6.1 Limit

≥500 kHz

6.6.2 Test setup



6.6.3 Test data

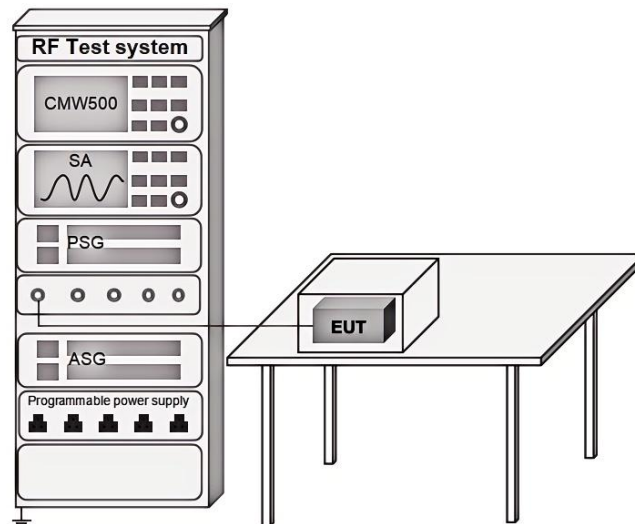
N/A: Not Applicable

6.7 26dB Emission bandwidth

Test Standard	47 CFR Part 15, Subpart E 15.407 (a)
Test Method	KDB 789033 D02 II C 1
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX

6.7.1 Limit

6.7.2 Test setup



6.7.3 Test data

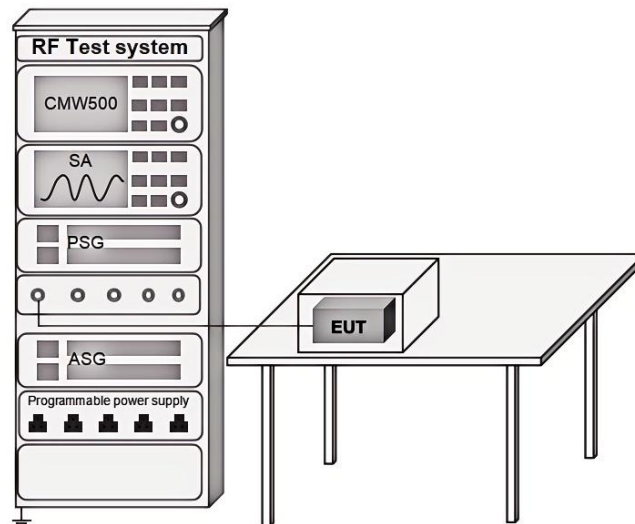
Pass: Please refer to appendix A for details

6.8 99% Bandwidth

Test Standard	N/A
Test Method	KDB 789033 II D
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX

6.8.1 Limit

6.8.2 Test setup



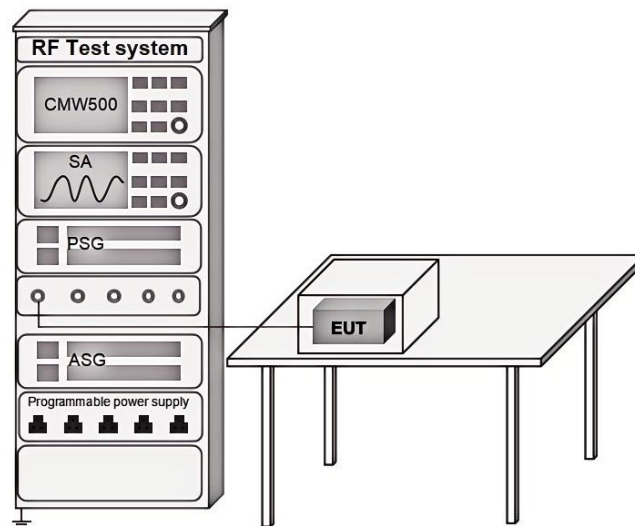
6.8.3 Test data

Pass: Please refer to appendix A for details

6.9 Duty Cycle

Test Standard	47 CFR Part 15, Subpart E 15.407
Test Method	KDB 789033 II B 1
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX

6.9.1 Test setup



6.9.2 Test data

Pass: Please refer to appendix A for details

6.10 Conducted Band Edges Measurement

Test Standard	47 CFR Part 15, Subpart C 15.407(b)(4)
Test Method	ANSI C63.10-2013 Cluase7.8.8 & Section 11.13.3.2
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX

6.10.1 Limit

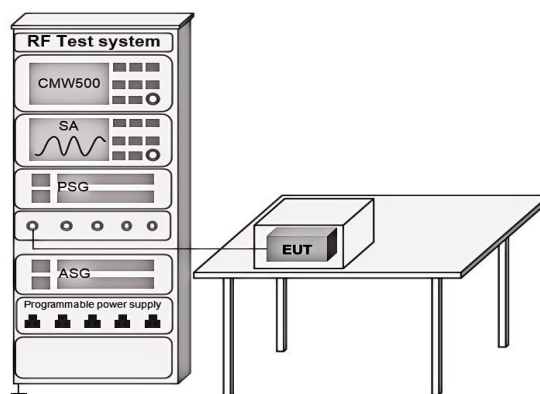
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits.

If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20dB.

Attenuation below the general limits specified in §15.209(a) is not required.

In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

6.10.2 Test setup



6.10.3 Test data

Pass: Please refer to appendix A for details

BlueAsia of Technical Services (Shenzhen) Co., Ltd.

Tel: +86-755-23059481

Email: marketing@cblueasia.com www.cblueasia.com

Report version : V1.3

6.11 Conducted spurious emissions

Test Standard	47 CFR Part 15, Subpart C 15.407
Test Method	ANSI C63.10-2013 Cluase7.8.6 & Section 11.11
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX

6.11.1 Limit

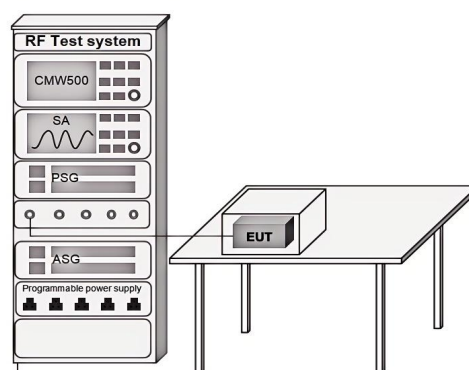
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits.

If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20dB.

Attenuation below the general limits specified in §15.209(a) is not required.

In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

6.11.2 Test setup



6.11.3 Test data

Pass: Please refer to appendix A for details

BlueAsia of Technical Services (Shenzhen) Co., Ltd.

Tel: +86-755-23059481

Email: marketing@cblueasia.com www.cblueasia.com

Report version : V1.3

6.12 Radiated emissions

Test Standard	47 CFR Part 15, Subpart E 15.407
Test Method	KDB 789033 D02 II G
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX

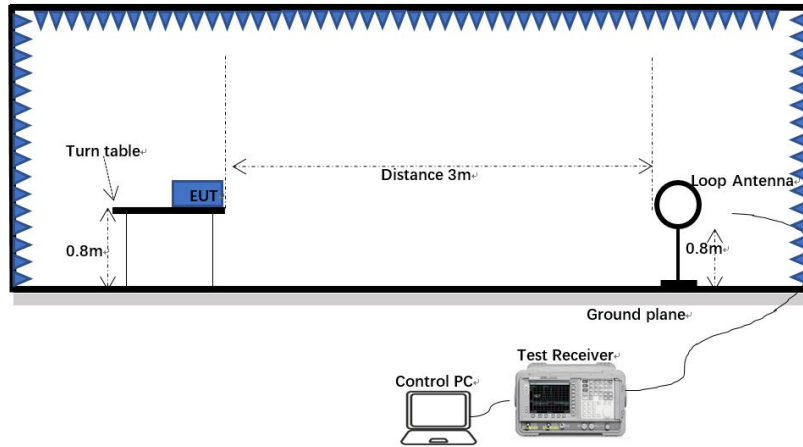
6.12.1 Limit

Frequency(MHz)	Field strength(microvolts/meter)	Measurement distance(meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/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

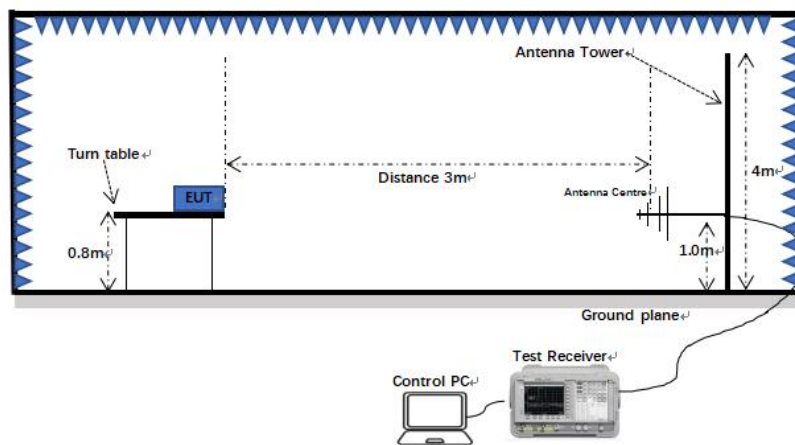
Remark: The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90kHz, 110-490kHz and above 1000MHz. Radiated emission limits in these three bands are based on measurements employing an average detector, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.

6.12.2 Test setup

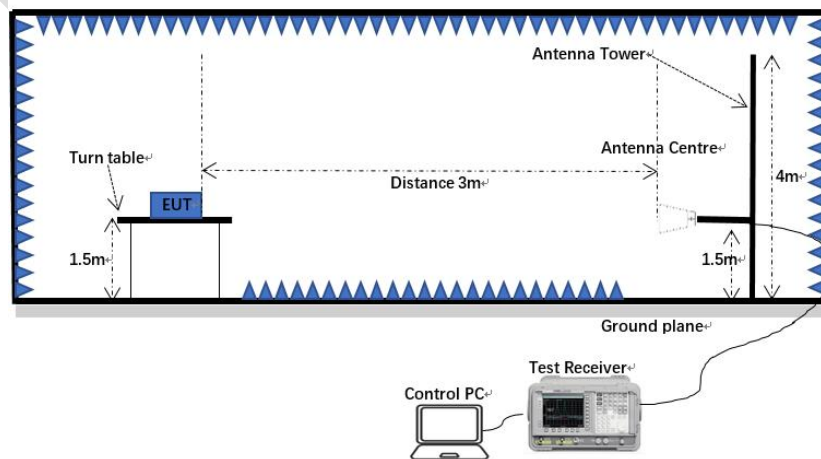
Below 1GHz:



30MHz-1GHz:



Above 1GHz:



6.12.3 Procedure

- a) For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b) For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- c) The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- d) The antenna 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.
- e) 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 (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- f) The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- g) If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.
- h) Test the EUT in the lowest channel, the middle channel, the highest channel.
- i) The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.
- j) Repeat above procedures until all frequencies measured was complete.

Note 1: Scan from 9 kHz to 40GHz, the disturbance above 12.75GHz and below 30MHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only above points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported. Fundamental frequency is blocked by filter, and only spurious emission is shown.

Note 2: For frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For the emissions whose peak level is lower than the average limit, only the peak measurement is shown in the report.

Note 3: The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

$$\text{Level (dBuV)} = \text{Reading (dBuV)} + \text{Factor (dB/m)}$$

6.12.4 Test data

Remark: During the test, pre-scan the 802.11a/n(HT20/40)/ac(VHT20/40/80) mode, and found the 802.11a mode which it is worse case, only the worse case lowest channel of 6Mbps for 802.11a was recorded in the report.

Below 1GHz

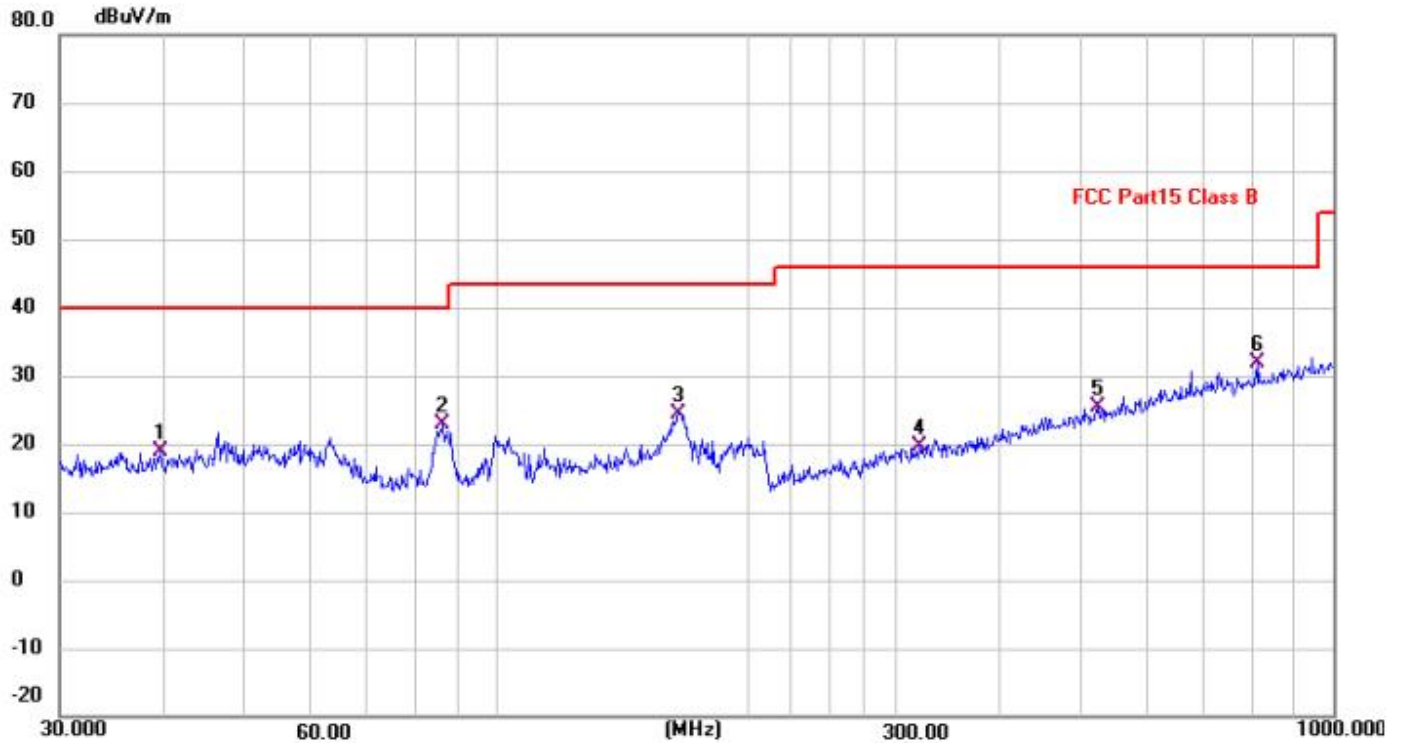
[Test mode: TX]; [Polarity: Horizontal]



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	36.0007	0.28	18.93	19.21	40.00	-20.79	QP
2	59.0251	-1.42	18.48	17.06	40.00	-22.94	QP
3	158.6677	-1.65	20.51	18.86	43.50	-24.64	QP
4	283.9791	-1.08	19.50	18.42	46.00	-27.58	QP
5	449.5558	0.25	24.28	24.53	46.00	-21.47	QP
6 *	774.1584	3.42	29.28	32.70	46.00	-13.30	QP

Test Result: Pass

[Test mode: TX]; [Polarity: Vertical]



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	39.5757	-0.42	19.30	18.88	40.00	-21.12	QP
2	86.2001	7.30	15.59	22.89	40.00	-17.11	QP
3	164.9075	4.20	20.24	24.44	43.50	-19.06	QP
4	319.9370	-1.30	20.82	19.52	46.00	-26.48	QP
5	522.7180	-0.26	25.71	25.45	46.00	-20.55	QP
6 *	813.1115	1.86	30.03	31.89	46.00	-14.11	QP

Test Result: Pass

Remark: During the test, pre-scan the 802.11a/n(HT20/40)/ac(VHT20/40/80) mode, and found the 802.11a mode which it is worse case, only the worse case 6Mbps for 802.11a was recorded in the report.

Above 1GHz:

[Test mode: TX low channel]; [Polarity: Horizontal]



No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Over	
		MHz	Level	Factor	ment			
			dBuV	dB	dBuV/m	dBuV/m	dB	Detector
1		5300.500	39.73	7.65	47.38	74.00	-26.62	peak
2		6252.250	38.91	7.05	45.96	74.00	-28.04	peak
3		8038.250	39.07	11.68	50.75	74.00	-23.25	peak
4		9765.500	37.98	13.76	51.74	74.00	-22.26	peak
5		10646.75	36.27	13.24	49.51	74.00	-24.49	peak
6	*	11586.75	37.63	14.79	52.42	74.00	-21.58	peak

Test Result: Pass

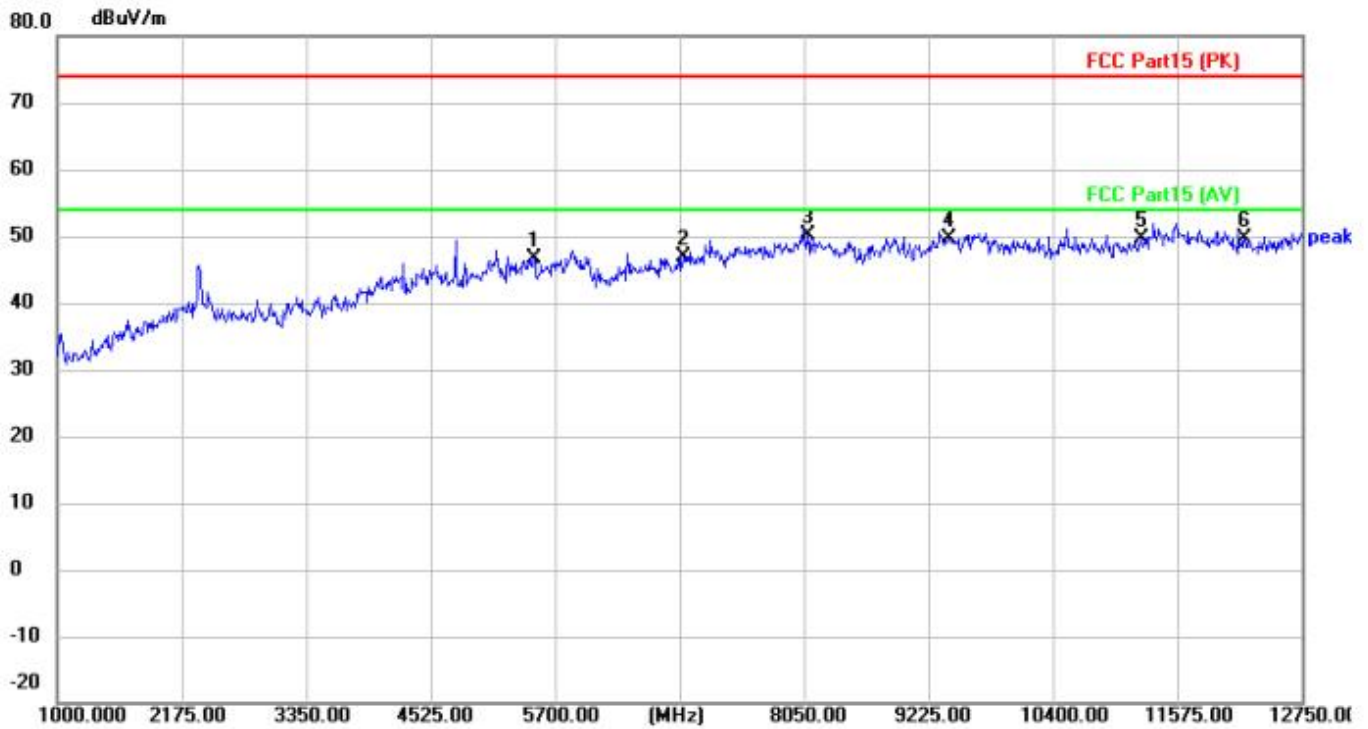
[Test mode: TX low channel]; [Polarity: Vertical]



No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Over	
		MHz	Level	Factor	ment			Detector
			dBuV	dB	dBuV/m	dBuV/m	dB	
1		5147.750	39.43	8.08	47.51	74.00	-26.49	peak
2		6158.250	38.05	6.67	44.72	74.00	-29.28	peak
3		7791.500	37.72	10.67	48.39	74.00	-25.61	peak
4		9683.250	37.66	13.52	51.18	74.00	-22.82	peak
5	*	11410.50	37.04	14.33	51.37	74.00	-22.63	peak
6		11962.75	37.03	14.02	51.05	74.00	-22.95	peak

Test Result: Pass

[Test mode: TX middle channel]; [Polarity: Horizontal]



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1		5500.250	38.06	8.48	46.54	74.00	-27.46	peak
2		6910.250	37.68	9.21	46.89	74.00	-27.11	peak
3	*	8085.250	38.35	11.77	50.12	74.00	-23.88	peak
4		9424.750	36.77	12.91	49.68	74.00	-24.32	peak
5		11234.25	36.37	13.23	49.60	74.00	-24.40	peak
6		12209.50	36.41	13.26	49.67	74.00	-24.33	peak

Test Result: Pass

[Test mode: TX middle channel]; [Polarity: Vertical]



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1		5241.750	39.21	7.41	46.62	74.00	-27.38	peak
2		7145.250	39.81	10.64	50.45	74.00	-23.55	peak
3		8461.250	37.33	11.47	48.80	74.00	-25.20	peak
4		9683.250	36.93	13.52	50.45	74.00	-23.55	peak
5		10964.00	35.84	13.06	48.90	74.00	-25.10	peak
6	*	11962.75	37.37	14.02	51.39	74.00	-22.61	peak

Test Result: Pass

[Test mode: TX High channel]; [Polarity: Horizontal]



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1		5371.000	37.79	7.86	45.65	74.00	-28.35	peak
2		6945.500	38.51	9.74	48.25	74.00	-25.75	peak
3		8661.000	36.86	11.79	48.65	74.00	-25.35	peak
4		10024.00	36.88	13.24	50.12	74.00	-23.88	peak
5		11116.75	36.83	13.27	50.10	74.00	-23.90	peak
6	*	11915.75	37.32	13.68	51.00	74.00	-23.00	peak

Test Result: Pass

[Test mode: TX High channel]; [Polarity: Vertical]



No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Over	
		MHz	Level	Factor	ment			Detector
			dBuV	dB	dBuV/m	dBuV/m	dB	
1		5312.250	39.18	7.61	46.79	74.00	-27.21	peak
2		6757.500	38.28	9.01	47.29	74.00	-26.71	peak
3		8285.000	38.56	11.06	49.62	74.00	-24.38	peak
4		9342.500	36.99	13.35	50.34	74.00	-23.66	peak
5		10811.25	36.43	13.00	49.43	74.00	-24.57	peak
6	*	12374.00	37.58	12.79	50.37	74.00	-23.63	peak

Test Result: Pass

6.13 Radiated emissions which fall in the restricted bands

Test Standard	47 CFR Part 15, Subpart E 15.407
Test Method	KDB 789033 D02 II G
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX

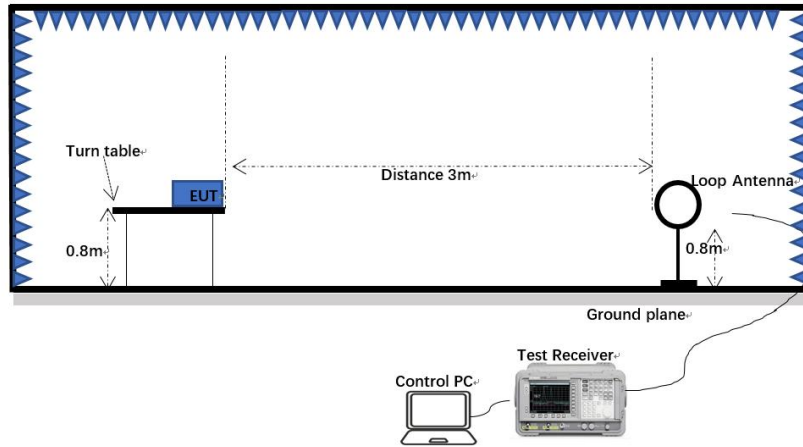
6.13.1 Limit

Frequency(MHz)	Field strength(microvolts/meter)	Measurement distance(meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/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

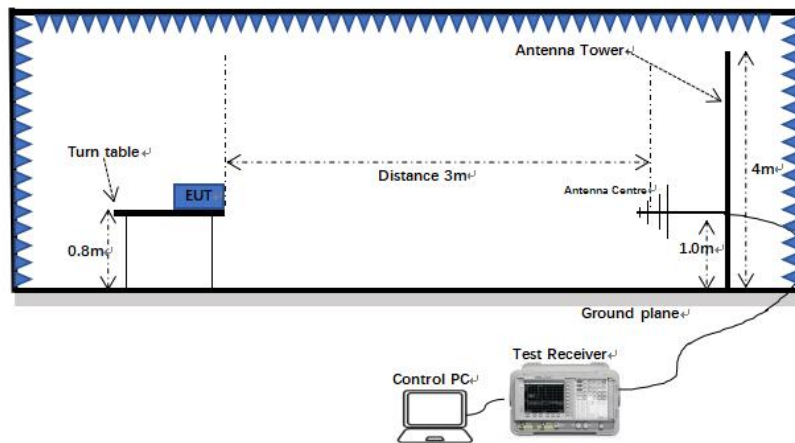
Remark: The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90kHz, 110-490kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.

6.13.2 Test setup

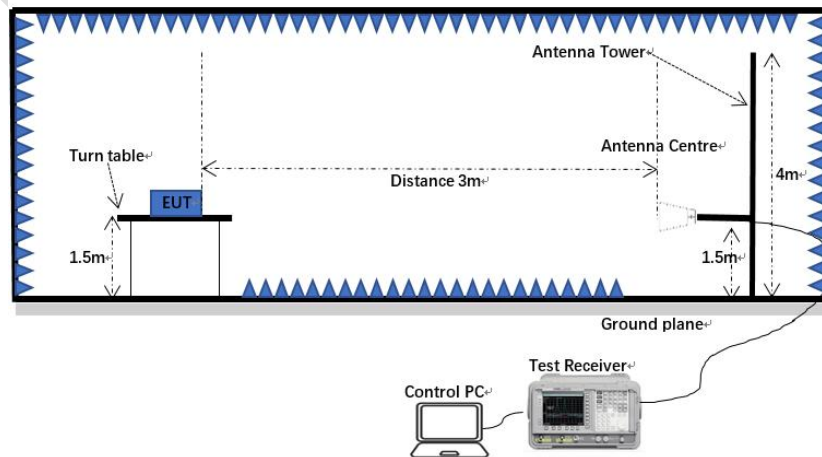
Below 1GHz:



30MHz-1GHz:



Above 1GHz:



6.13.3 Procedure

- a) For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b) For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- c) The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- d) The antenna 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.
- e) 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 (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- f) The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- g) If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.
- h) Test the EUT in the lowest channel, the middle channel, the highest channel.
- i) The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.
- j) Repeat above procedures until all frequencies measured was complete.

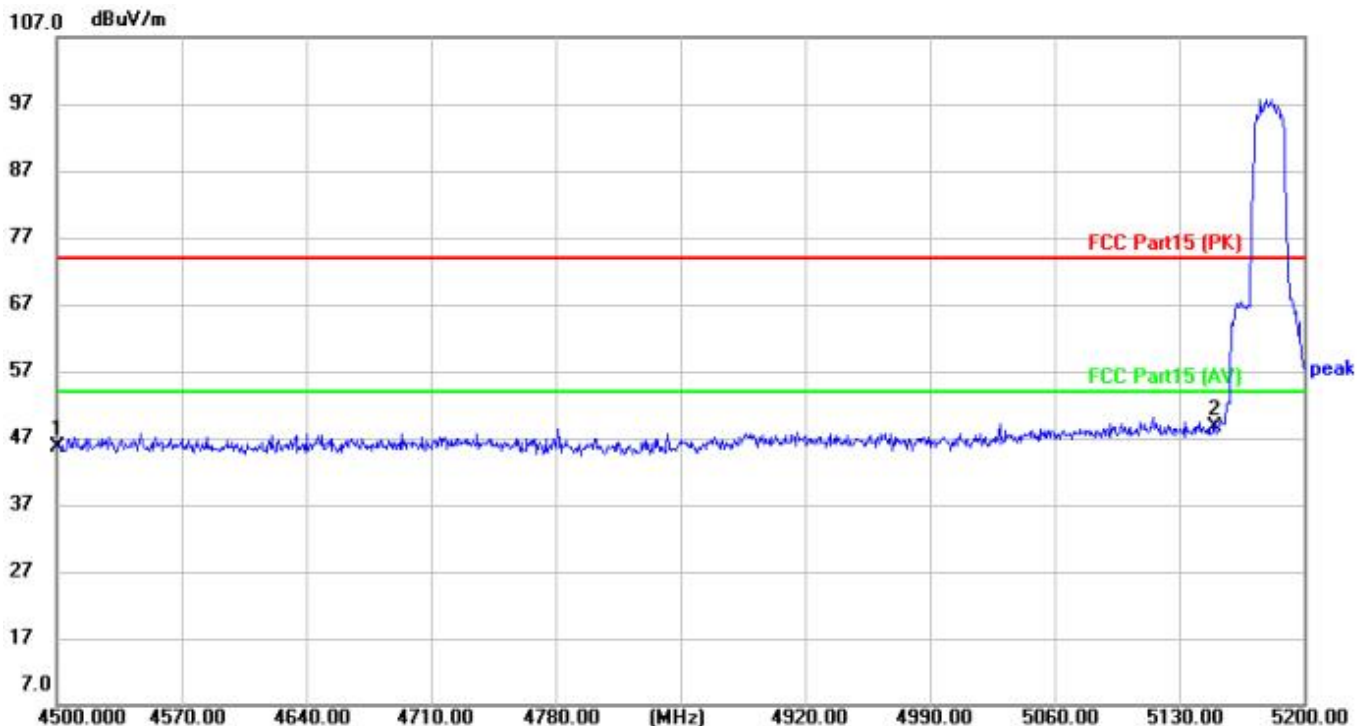
Note 1: Level (dBuV) = Reading (dBuV) + Factor (dB/m)

Note 2: For frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For the emissions whose peak level is lower than the average limit, only the peak measurement is shown in the report.

6.13.4 Test data

Remark: During the test, pre-scan the 802.11a/n(HT20/40)/ac(VHT20/40/80) mode, and found 20MHz for the 802.11a mode which it is worse case, and found 40MHz for the 802.11n40 mode and found 80MHz for the 802.11ac80 mode which it is worse case, only the worse case was recorded in the report.

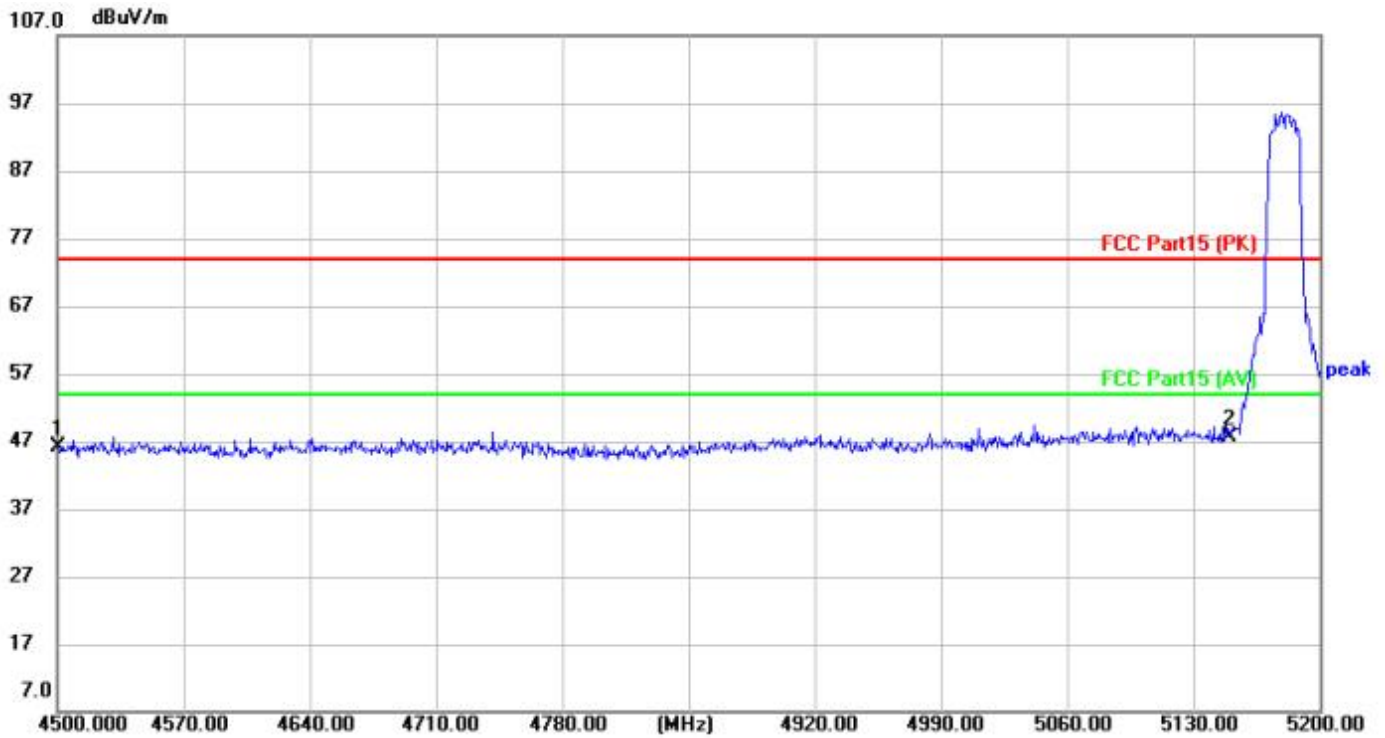
[Test mode: 802.11a 5180MHz TX low channel]; [Polarity: Horizontal]



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector
1		4500.000	42.49	3.02	45.51	74.00	-28.49	peak
2	*	5150.000	42.64	5.93	48.57	74.00	-25.43	peak

Test Result: Pass

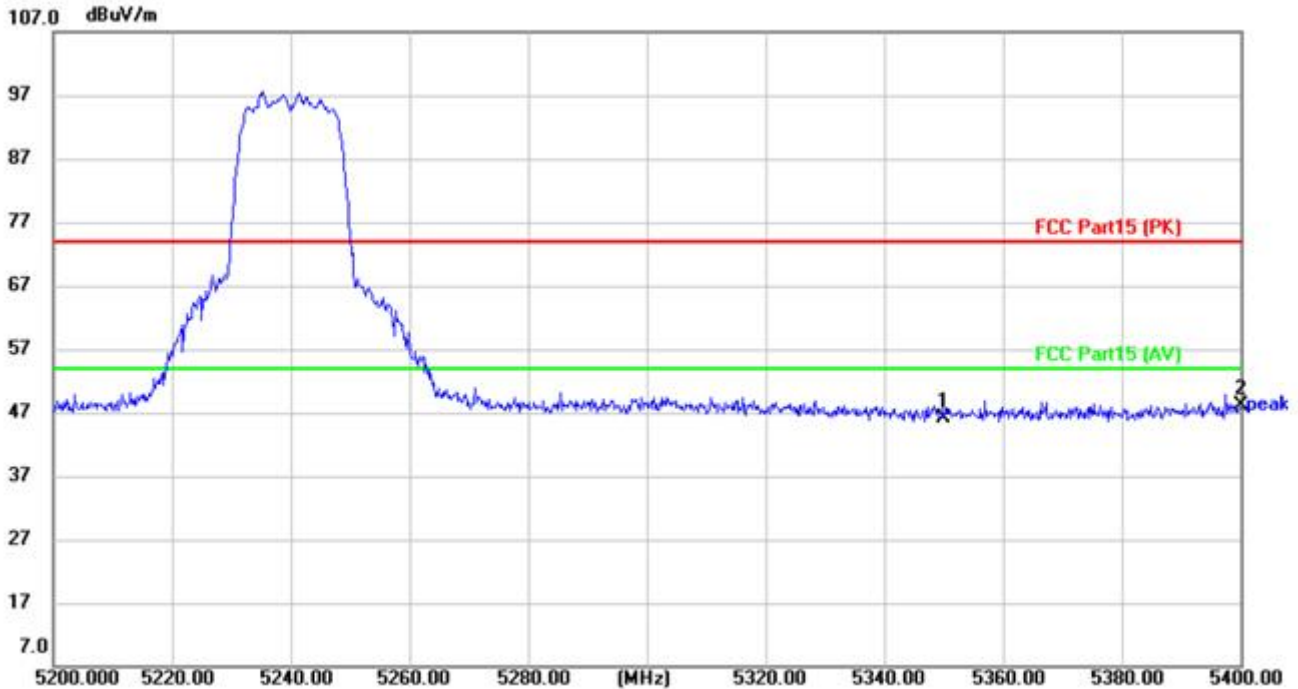
[Test mode:802.11a 5180MHz TX low channel]; [Polarity: Vertical]



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1		4500.000	43.12	3.02	46.14	74.00	-27.86	peak
2	*	5150.000	41.82	5.93	47.75	74.00	-26.25	peak

Test Result: Pass

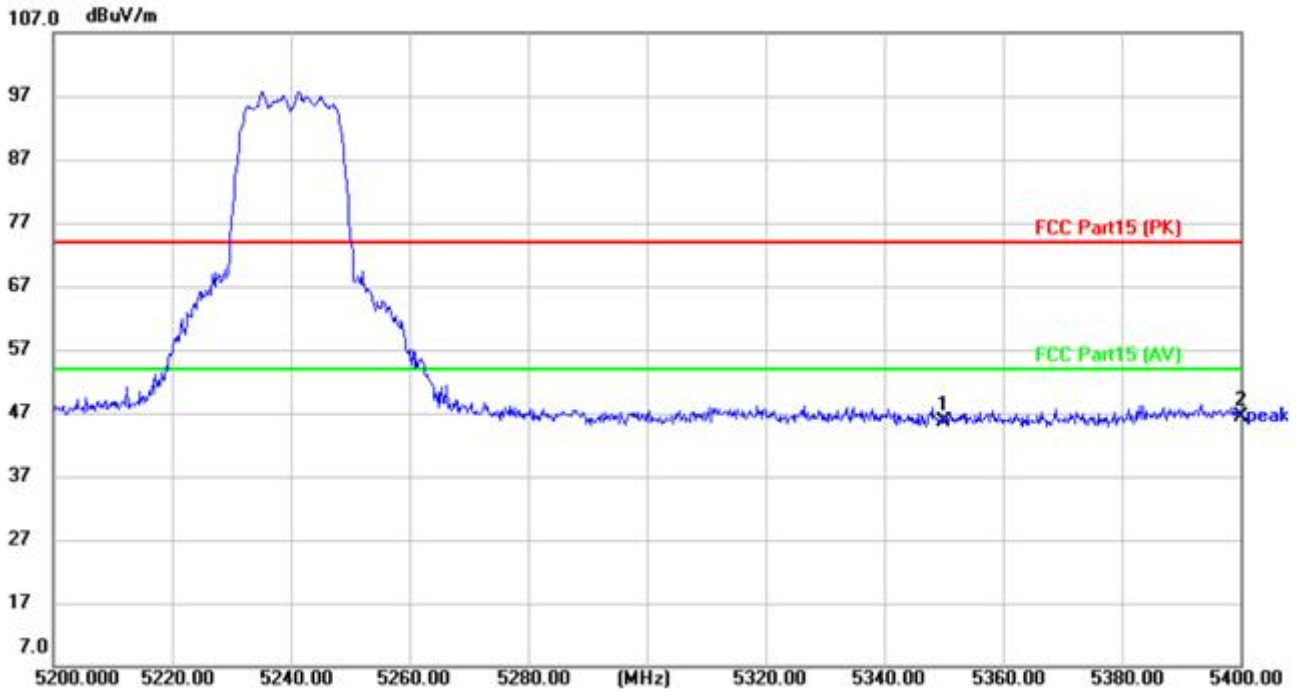
[Test mode: 802.11a 5240MHz TX high channel]; [Polarity: Horizontal]



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1		5350.000	40.85	5.21	46.06	74.00	-27.94	peak
2	*	5400.000	42.29	5.93	48.22	74.00	-25.78	peak

Test Result: Pass

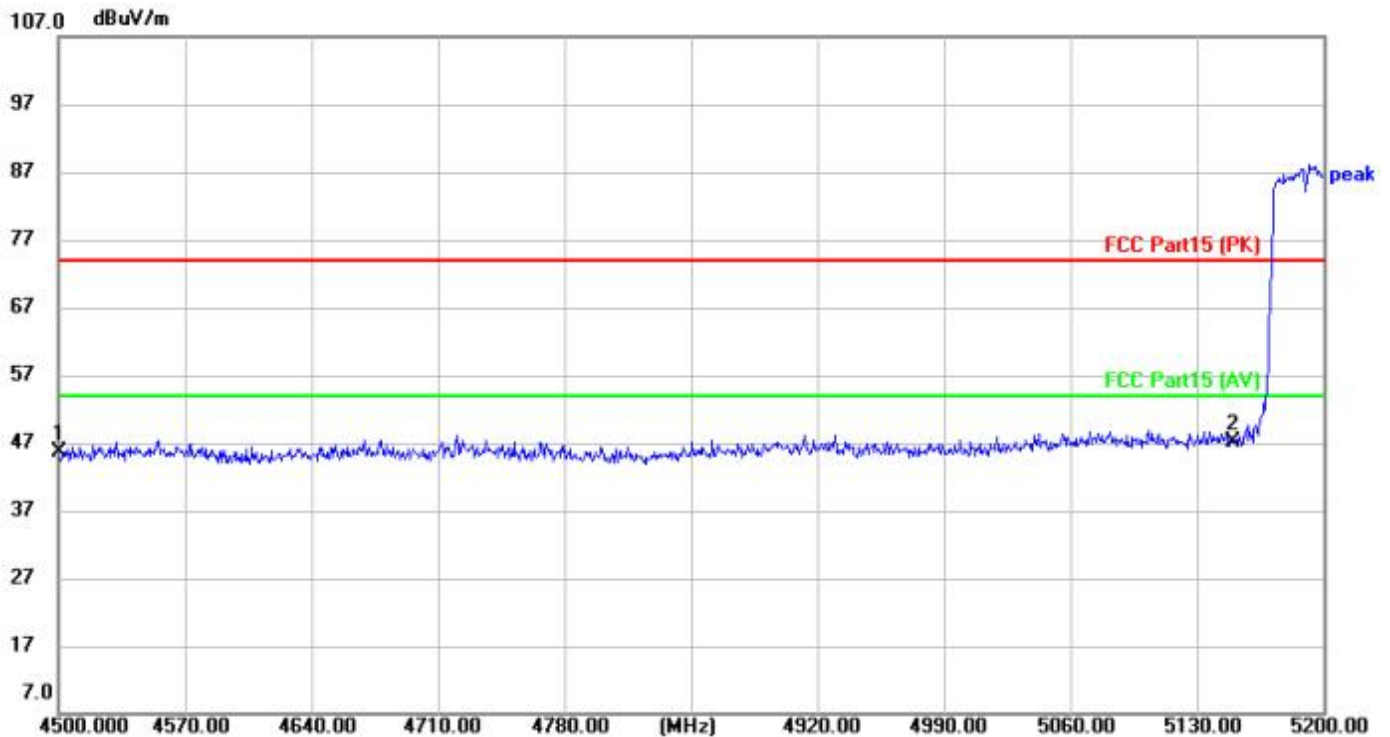
[Test mode:802.11a 5240MHz TX high channel]; [Polarity: Vertical]



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1		5350.000	40.48	5.21	45.69	74.00	-28.31	peak
2	*	5400.000	40.55	5.93	46.48	74.00	-27.52	peak

Test Result: Pass

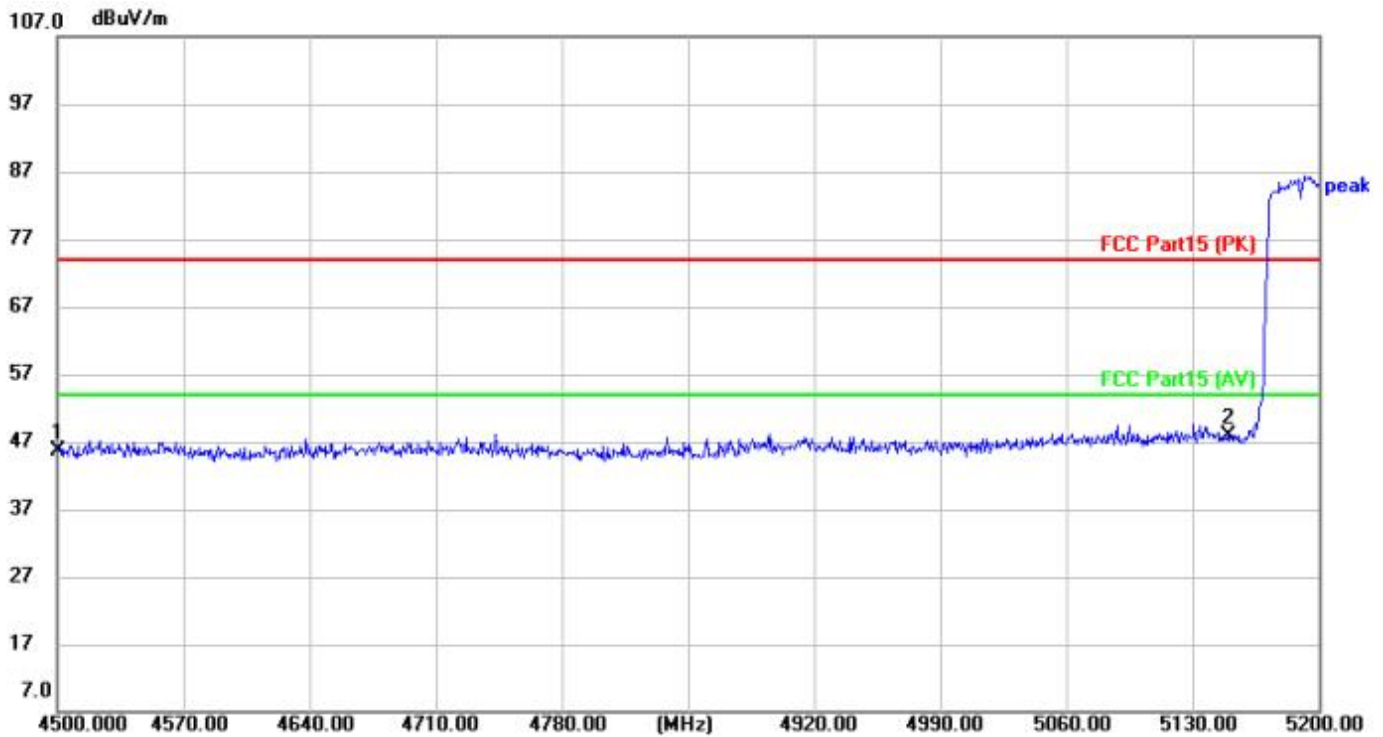
[Test mode: 802.11n40 5190MHz TX low channel]; [Polarity: Horizontal]



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1		4500.000	42.59	3.02	45.61	74.00	-28.39	peak
2	*	5150.000	41.14	5.93	47.07	74.00	-26.93	peak

Test Result: Pass

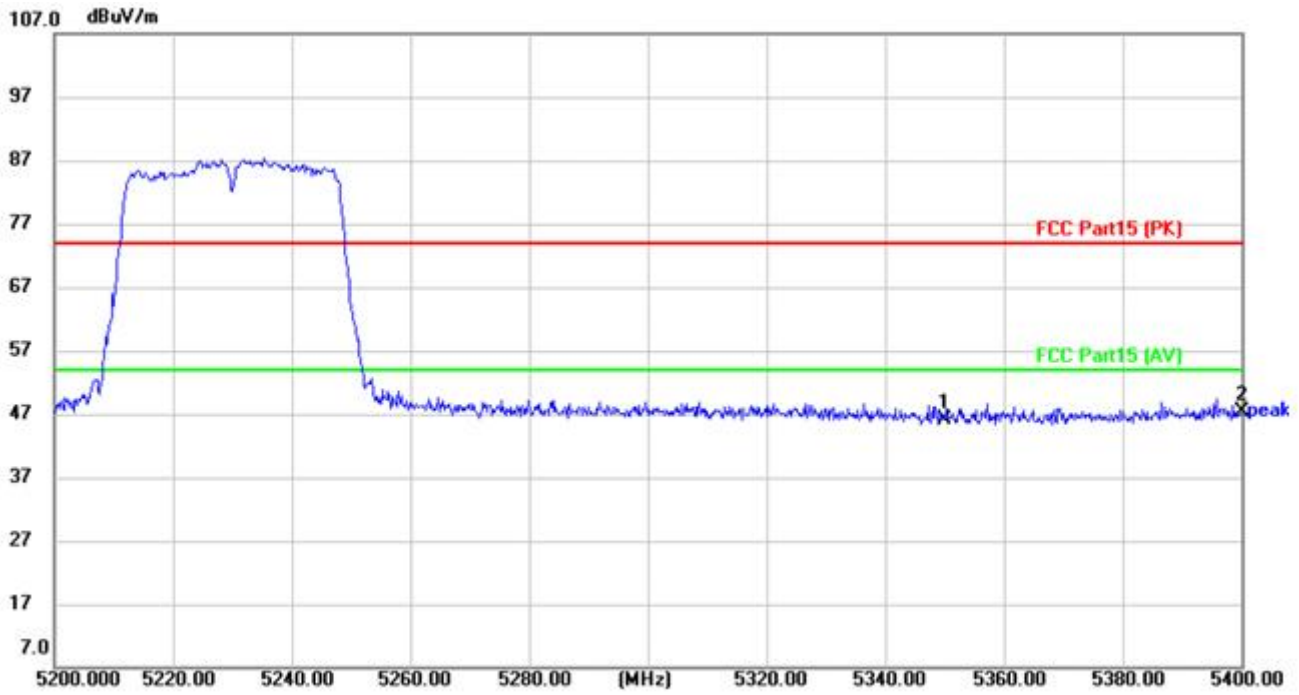
[Test mode: 802.11n40 5190MHz TX low channel]; [Polarity: Vertical]



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1		4500.000	42.69	3.02	45.71	74.00	-28.29	peak
2	*	5150.000	41.95	5.93	47.88	74.00	-26.12	peak

Test Result: Pass

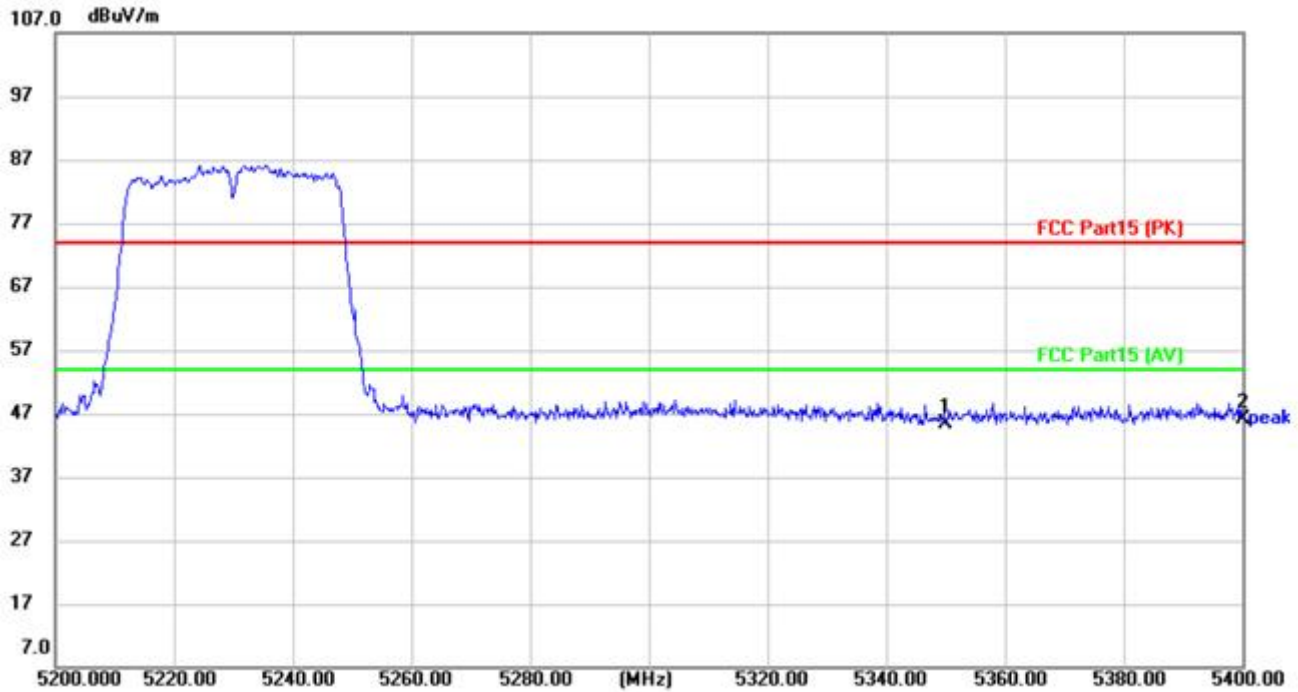
[Test mode: 802.11n40 5230MHz TX high channel]; [Polarity: Horizontal]



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1		5350.000	40.89	5.21	46.10	74.00	-27.90	peak
2	*	5400.000	41.41	5.93	47.34	74.00	-26.66	peak

Test Result: Pass

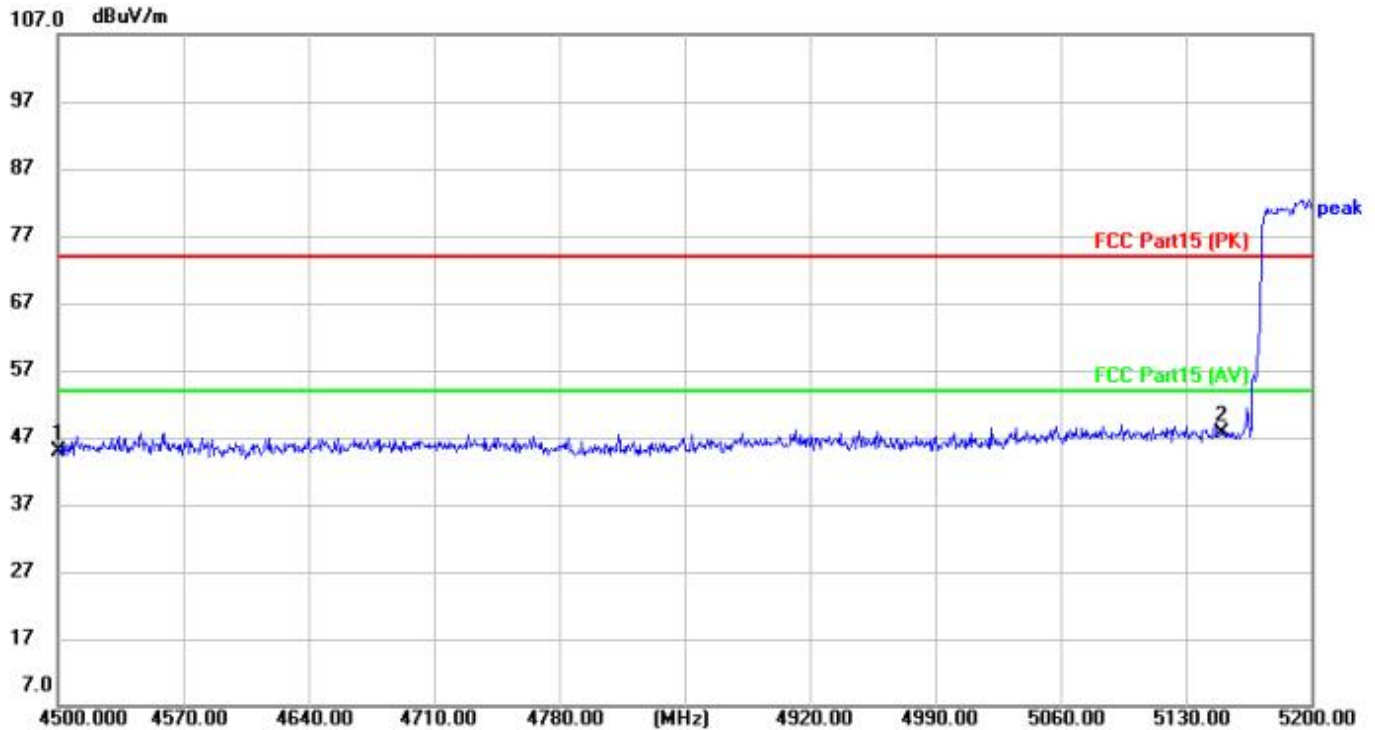
[Test mode: 802.11n40 5230MHz TX high channel]; [Polarity: Vertical]



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1		5350.000	40.22	5.21	45.43	74.00	-28.57	peak
2	*	5400.000	40.20	5.93	46.13	74.00	-27.87	peak

Test Result: Pass

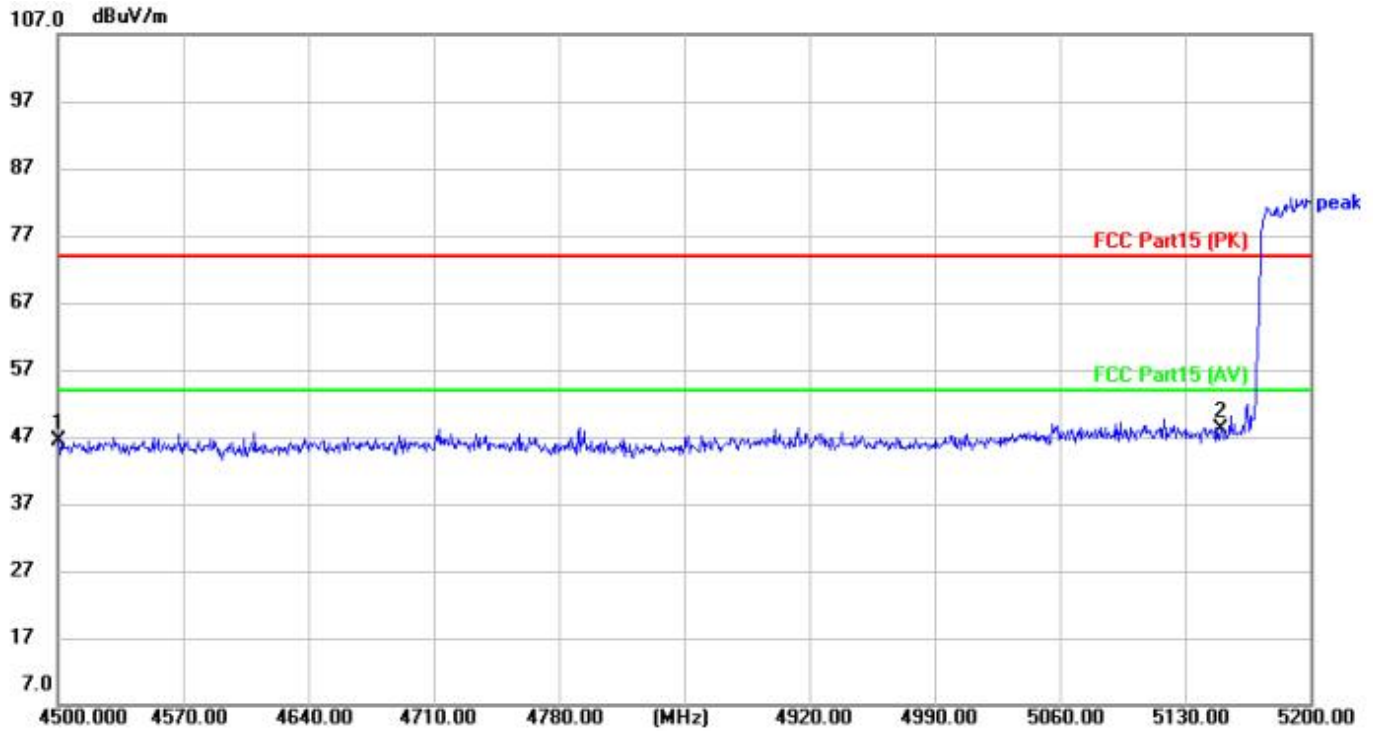
[Test mode: 802.11ac 80 5210MHz TX low channel]; [Polarity: Horizontal]



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1		4500.000	41.93	3.02	44.95	74.00	-29.05	peak
2	*	5150.000	41.59	5.93	47.52	74.00	-26.48	peak

Test Result: Pass

[Test mode: 802.11ac 80 5210MHz TX low channel]; [Polarity: Vertical]



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1		4500.000	43.30	3.02	46.32	74.00	-27.68	peak
2	*	5150.000	42.32	5.93	48.25	74.00	-25.75	peak

Test Result: Pass

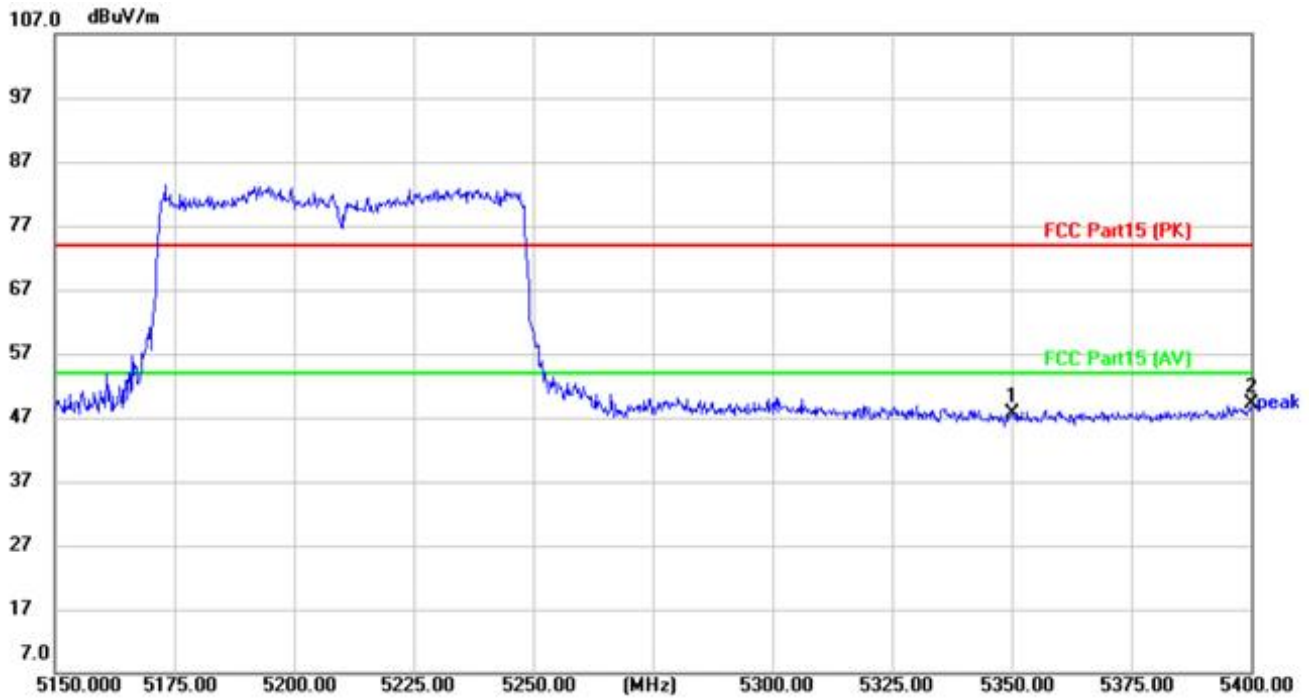
[Test mode: 802.11ac 80 5210MHz TX low channel]; [Polarity: Horizontal]



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1	*	5350.000	42.28	5.21	47.49	74.00	-26.51	peak
2		5400.000	41.42	5.93	47.35	74.00	-26.65	peak

Test Result: Pass

[Test mode: 802.11ac 80 5210MHz TX low channel]; [Polarity: Vertical]



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1		5350.000	42.42	5.21	47.63	74.00	-26.37	peak
2	*	5400.000	43.19	5.93	49.12	74.00	-24.88	peak

Test Result: Pass

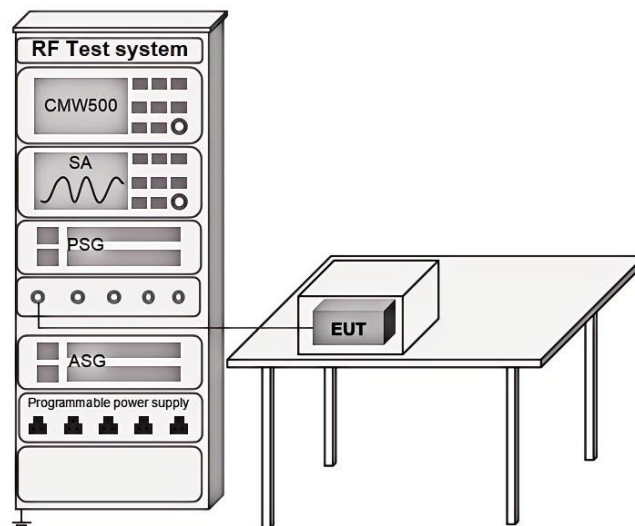
6.14 DFS: Channel Closing Transmission Time

Test Standard	47 CFR Part 15, Subpart E 15.407(h)(2)
Test Method	KDB 905462 D02 Section 7.8.3
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX

6.14.1 Limit

200 milliseconds + an aggregate of 60 milliseconds over remaining 10 second period (should be performed with Radar Type 0. The measurement timing begins at the end of the Radar Type 0 burst. It is comprised of 200 milliseconds starting at the beginning of the Channel Move Time plus any additional intermittent control signals required facilitating a Channel move (an aggregate of 60 milliseconds) during the remainder of the 10 second period. The aggregate duration of control signals will not count quiet periods in between transmissions)

6.14.2 Test setup



6.14.3 Procedure

- 1) The radar pulse generator is setup to provide a pulse at frequency that the master and client are operating. A type 0 radar pulse with a 1us pulse width and a 1428us PRI is used for the testing.
- 2) The vector signal generator is adjusted to provide the radar burst (18 pulses) at the level of approximately -61dBm at the antenna port of the master device.

- 3) A trigger is provided from the pulse generator to the DFS monitoring system in order to capture the traffic and the occurrence of the radar pulse.
- 4) EUT will associate with the master at channel. The file `iperf.exe` specified by the FCC is streamed from the PC 2 through the master and the client device to the PC 1 and played in full motion video using Media Player Classic Ver. 6.4.8.6 in order to properly load the network for the entire period of the test.
- 5) When radar burst with a level equal to the DFS Detection Threshold +1dB is generated on the operating channel of the U-NII device. At time T0 the radar waveform generator sends a burst of pulse of the radar waveform at Detection Threshold +1dB.
- 6) Observe the transmissions of the EUT at the end of the radar Burst on the Operating Channel. Measure and record the transmissions from the UUT during the observation time (Channel Move Time). One 15 seconds plot is reported for the Short Pulse Radar Type 0. The plot for the Short Pulse Radar Types start at the end of the radar burst. The Channel Move Time will be calculated based on the zoom in 600ms plot of the Short Pulse Radar Type.
- 7) Measurement of the aggregate duration of the Channel Closed Transmission Time method. With the spectrum analyzer set to zero span tuned to the center frequency of the EUT operating channel at the radar simulated frequency, peak detection, and max hold, the dwell time per bin is given by: $Dwell (0.3ms) = S (12000ms) / B (4000)$; where Dwell is the dwell time per spectrum analyzer sampling bin, S is sweep time and B is the number of spectrum analyzer sampling bins. An upper bound of the aggregate duration of the intermittent control signals of Channel Closing Transmission Time is calculated by: $C (ms) = N \times Dwell (0.3ms)$; where C is the Closing Time, N is the number of spectrum analyzer sampling bins (intermittent control signals) showing a U-NII transmission and Dwell is the dwell time per bin.
- 8) Measurement the EUT for more than 30 minutes following the channel move time to verify that no transmission or beacons occur on this channel.

6.14.4 Test data

N/A: Not Applicable

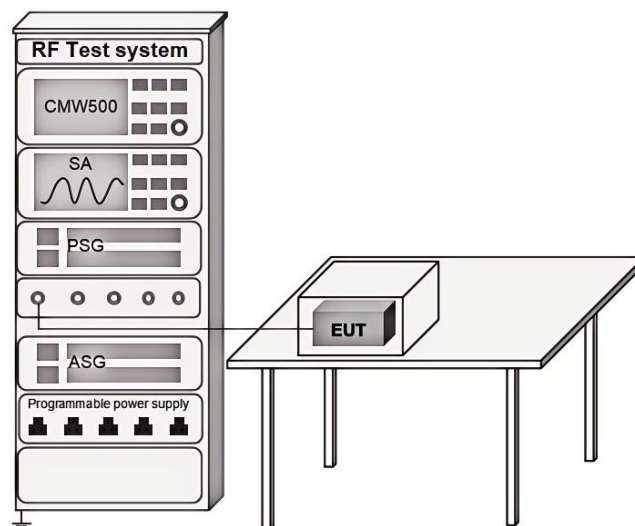
6.15 DFS: Non-occupancy period

Test Standard	47 CFR Part 15, Subpart E 15.407(h)(2)
Test Method	KDB 905462 D02 Section 7.8.3
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX

6.15.1 Limit

Minimum 30 minutes

6.15.2 Test setup



6.15.3 Procedure

- 1)The radar pulse generator is setup to provide a pulse at frequency that the master and client are operating. A type 0 radar pulse with a 1us pulse width and a 1428us PRI is used for the testing.
- 2)The vector signal generator is adjusted to provide the radar burst (18 pulses) at the level of approximately -61dBm at the antenna port of the master device.
- 3)A trigger is provided from the pulse generator to the DFS monitoring system in order to capture the traffic and the occurrence of the radar pulse.
- 4)EUT will associate with the master at channel. The file `iperf.exe` specified by the FCC is streamed from the PC 2 through the master and the client device to the PC 1 and played in full motion video using Media Player Classic Ver. 6.4.8.6 in order to properly load the network for the entire period of the test.

- 5) When radar burst with a level equal to the DFS Detection Threshold +1dB is generated on the operating channel of the U-NII device. At time T0 the radar waveform generator sends a burst of pulse of the radar waveform at Detection Threshold +1dB.
- 6) Observe the transmissions of the EUT at the end of the radar Burst on the Operating Channel. Measure and record the transmissions from the UUT during the observation time (Channel Move Time). One 15 seconds plot is reported for the Short Pulse Radar Type 0. The plot for the Short Pulse Radar Types start at the end of the radar burst. The Channel Move Time will be calculated based on the zoom in 600ms plot of the Short Pulse Radar Type.
- 7) Measurement of the aggregate duration of the Channel Closed Transmission Time method. With the spectrum analyzer set to zero span tuned to the center frequency of the EUT operating channel at the radar simulated frequency, peak detection, and max hold, the dwell time per bin is given by: $Dwell (0.3ms) = S (12000ms) / B (4000)$; where Dwell is the dwell time per spectrum analyzer sampling bin, S is sweep time and B is the number of spectrum analyzer sampling bins. An upper bound of the aggregate duration of the intermittent control signals of Channel Closing Transmission Time is calculated by: $C (ms) = N \times Dwell (0.3ms)$; where C is the Closing Time, N is the number of spectrum analyzer sampling bins (intermittent control signals) showing a U-NII transmission and Dwell is the dwell time per bin.
- 8) Measurement the EUT for more than 30 minutes following the channel move time to verify that no transmission or beacons occur on this channel.

6.15.4 Test data

N/A: Not Applicable

7 Appendix A

7.1 Frequency Stability

Condition	Mode	Frequency (MHz)	Antenna	Measured Frequency (MHz)	Frequency Error (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
25°C 120V	a	5180	Ant1	5180.02	20000	3.86	25	Pass
25°C 102V	a	5180	Ant1	5180.04	44000.00	8.49	25	Pass
25°C 138V	a	5180	Ant1	5180.01	9500.00	1.83	25	Pass
-30°C 120V	a	5180	Ant1	5180.03	30500.00	5.89	25	Pass
-20°C 120V	a	5180	Ant1	5180.02	20000	3.86	25	Pass
-10°C 120V	a	5180	Ant1	5180.04	44000.00	8.49	25	Pass
0°C 120V	a	5180	Ant1	5180.01	9500.00	1.83	25	Pass
10°C 120V	a	5180	Ant1	5180.03	30500.00	5.89	25	Pass
20°C 120V	a	5180	Ant1	5180.02	20000	3.86	25	Pass
30°C 120V	a	5180	Ant1	5180.04	44000.00	8.49	25	Pass
40°C 120V	a	5180	Ant1	5180.01	9500.00	1.83	25	Pass
50°C 120V	a	5180	Ant1	5180.03	30500.00	5.89	25	Pass
25°C 120V	a	5200	Ant1	5200.02	20000	3.85	25	Pass
25°C 102V	a	5200	Ant1	5200.05	46500.00	8.94	25	Pass
25°C 138V	a	5200	Ant1	5200.01	10000.00	1.92	25	Pass
-30°C 120V	a	5200	Ant1	5200.03	33500.00	6.44	25	Pass
-20°C 120V	a	5200	Ant1	5200.03	33500.00	6.44	25	Pass
-10°C 120V	a	5200	Ant1	5200.05	46500.00	8.94	25	Pass
0°C 120V	a	5200	Ant1	5200.01	10000.00	1.92	25	Pass
10°C 120V	a	5200	Ant1	5200.03	33500.00	6.44	25	Pass
20°C 120V	a	5200	Ant1	5200.03	33500.00	6.44	25	Pass
30°C 120V	a	5200	Ant1	5200.05	46500.00	8.94	25	Pass
40°C 120V	a	5200	Ant1	5200.01	10000.00	1.92	25	Pass
50°C 120V	a	5200	Ant1	5200.05	46500.00	8.94	25	Pass
25°C 120V	a	5240	Ant1	5240.04	40000	7.63	25	Pass
25°C 102V	a	5240	Ant1	5240.03	28000.00	5.34	25	Pass
25°C 138V	a	5240	Ant1	5240.03	28000.00	5.34	25	Pass
-30°C 120V	a	5240	Ant1	5240.01	12500.00	2.39	25	Pass

-20°C 120V	a	5240	Ant1	5240.04	40000	7.63	25	Pass
-10°C 120V	a	5240	Ant1	5240.03	28000.00	5.34	25	Pass
0°C 120V	a	5240	Ant1	5240.03	28000.00	5.34	25	Pass
10°C 120V	a	5240	Ant1	5240.01	12500.00	2.39	25	Pass
20°C 120V	a	5240	Ant1	5240.04	40000	7.63	25	Pass
30°C 120V	a	5240	Ant1	5240.03	28000.00	5.34	25	Pass
40°C 120V	a	5240	Ant1	5240.03	28000.00	5.34	25	Pass
50°C 120V	a	5240	Ant1	5240.01	12500.00	2.39	25	Pass
25°C 120V	a	5180	Ant2	5180	0	0	25	Pass
25°C 102V	a	5180	Ant2	5180.01	11500.00	2.22	25	Pass
25°C 138V	a	5180	Ant2	5180.04	42500.00	8.20	25	Pass
-30°C 120V	a	5180	Ant2	5180	0	0	25	Pass
-20°C 120V	a	5180	Ant2	5180.01	11500.00	2.22	25	Pass
-10°C 120V	a	5180	Ant2	5180.04	42500.00	8.20	25	Pass
0°C 120V	a	5180	Ant2	5180	0	0	25	Pass
10°C 120V	a	5180	Ant2	5180.01	11500.00	2.22	25	Pass
20°C 120V	a	5180	Ant2	5180.04	42500.00	8.20	25	Pass
30°C 120V	a	5180	Ant2	5180.01	11500.00	2.22	25	Pass
40°C 120V	a	5180	Ant2	5180.04	42500.00	8.20	25	Pass
50°C 120V	a	5180	Ant2	5180.01	11500.00	2.22	25	Pass
25°C 120V	a	5200	Ant2	5200.04	40000	7.69	25	Pass
25°C 102V	a	5200	Ant2	5200.00	4500.00	0.87	25	Pass
25°C 138V	a	5200	Ant2	5200.00	4000.00	0.77	25	Pass
-30°C 120V	a	5200	Ant2	5200.04	40000	7.69	25	Pass
-20°C 120V	a	5200	Ant2	5200.00	4500.00	0.87	25	Pass
-10°C 120V	a	5200	Ant2	5200.00	4000.00	0.77	25	Pass
0°C 120V	a	5200	Ant2	5200.04	40000	7.69	25	Pass
10°C 120V	a	5200	Ant2	5200.00	4500.00	0.87	25	Pass
20°C 120V	a	5200	Ant2	5200.00	4000.00	0.77	25	Pass
30°C 120V	a	5200	Ant2	5200.04	40000	7.69	25	Pass
40°C 120V	a	5200	Ant2	5200.00	4500.00	0.87	25	Pass
50°C 120V	a	5200	Ant2	5200.00	4000.00	0.77	25	Pass
25°C 120V	a	5240	Ant2	5240.02	20000	3.82	25	Pass
25°C 102V	a	5240	Ant2	5240.02	15000.00	2.86	25	Pass
25°C 138V	a	5240	Ant2	5240.03	27500.00	5.25	25	Pass

-30°C 120V	a	5240	Ant2	5240.03	26500.00	5.06	25	Pass
-20°C 120V	a	5240	Ant2	5240.02	20000	3.82	25	Pass
-10°C 120V	a	5240	Ant2	5240.02	15000.00	2.86	25	Pass
0°C 120V	a	5240	Ant2	5240.03	27500.00	5.25	25	Pass
10°C 120V	a	5240	Ant2	5240.03	26500.00	5.06	25	Pass
20°C 120V	a	5240	Ant2	5240.02	20000	3.82	25	Pass
30°C 120V	a	5240	Ant2	5240.02	15000.00	2.86	25	Pass
40°C 120V	a	5240	Ant2	5240.03	27500.00	5.25	25	Pass
50°C 120V	a	5240	Ant2	5240.03	26500.00	5.06	25	Pass
25°C 120V	n20	5180	Sum	5180.04	40000	7.72	25	Pass
25°C 102V	n20	5180	Sum	5180.05	47000.00	9.07	25	Pass
25°C 138V	n20	5180	Sum	5180.02	22500.00	4.34	25	Pass
-30°C 120V	n20	5180	Sum	5180.01	10000.00	1.93	25	Pass
-20°C 120V	n20	5180	Sum	5180.04	40000	7.72	25	Pass
-10°C 120V	n20	5180	Sum	5180.05	47000.00	9.07	25	Pass
0°C 120V	n20	5180	Sum	5180.02	22500.00	4.34	25	Pass
10°C 120V	n20	5180	Sum	5180.01	10000.00	1.93	25	Pass
20°C 120V	n20	5180	Sum	5180.04	40000	7.72	25	Pass
30°C 120V	n20	5180	Sum	5180.05	47000.00	9.07	25	Pass
40°C 120V	n20	5180	Sum	5180.02	22500.00	4.34	25	Pass
50°C 120V	n20	5180	Sum	5180.01	10000.00	1.93	25	Pass
25°C 120V	n20	5200	Sum	5200.02	20000	3.85	25	Pass
25°C 102V	n20	5200	Sum	5200.04	43000.00	8.27	25	Pass
25°C 138V	n20	5200	Sum	5200.01	10500.00	2.02	25	Pass
-30°C 120V	n20	5200	Sum	5200.02	20000	3.85	25	Pass
-20°C 120V	n20	5200	Sum	5200.04	43000.00	8.27	25	Pass
-10°C 120V	n20	5200	Sum	5200.01	10500.00	2.02	25	Pass
0°C 120V	n20	5200	Sum	5200.02	20000	3.85	25	Pass
10°C 120V	n20	5200	Sum	5200.04	43000.00	8.27	25	Pass
20°C 120V	n20	5200	Sum	5200.01	10500.00	2.02	25	Pass
30°C 120V	n20	5200	Sum	5200.02	20000	3.85	25	Pass
40°C 120V	n20	5200	Sum	5200.04	43000.00	8.27	25	Pass
50°C 120V	n20	5200	Sum	5200.00	500.00	0.10	25	Pass
25°C 120V	n20	5240	Sum	5240.06	60000	11.45	25	Pass
25°C 102V	n20	5240	Sum	5240.02	18500.00	3.53	25	Pass

25°C 138V	n20	5240	Sum	5240.04	42500.00	8.11	25	Pass
-30°C 120V	n20	5240	Sum	5240.05	46500.00	8.87	25	Pass
-20°C 120V	n20	5240	Sum	5240.06	60000	11.45	25	Pass
-10°C 120V	n20	5240	Sum	5240.02	18500.00	3.53	25	Pass
0°C 120V	n20	5240	Sum	5240.04	42500.00	8.11	25	Pass
10°C 120V	n20	5240	Sum	5240.05	46500.00	8.87	25	Pass
20°C 120V	n20	5240	Sum	5240.04	42500.00	8.11	25	Pass
30°C 120V	n20	5240	Sum	5240.05	46500.00	8.87	25	Pass
40°C 120V	n20	5240	Sum	5240.04	42500.00	8.11	25	Pass
50°C 120V	n20	5240	Sum	5240.05	46500.00	8.87	25	Pass
25°C 120V	n40	5190	Sum	5190	0	0	25	Pass
25°C 102V	n40	5190	Sum	5190.02	15500.00	2.99	25	Pass
25°C 138V	n40	5190	Sum	5190.05	48000.00	9.25	25	Pass
-30°C 120V	n40	5190	Sum	5190.02	21000.00	4.05	25	Pass
-20°C 120V	n40	5190	Sum	5190.02	15500.00	2.99	25	Pass
-10°C 120V	n40	5190	Sum	5190.05	48000.00	9.25	25	Pass
0°C 120V	n40	5190	Sum	5190.02	21000.00	4.05	25	Pass
10°C 120V	n40	5190	Sum	5190.02	15500.00	2.99	25	Pass
20°C 120V	n40	5190	Sum	5190.05	48000.00	9.25	25	Pass
30°C 120V	n40	5190	Sum	5190.02	21000.00	4.05	25	Pass
40°C 120V	n40	5190	Sum	5190	0	0	25	Pass
50°C 120V	n40	5190	Sum	5190.02	21000.00	4.05	25	Pass
25°C 120V	n40	5230	Sum	5230	0	0	25	Pass
25°C 102V	n40	5230	Sum	5230.01	7500.00	1.43	25	Pass
25°C 138V	n40	5230	Sum	5230.01	9000.00	1.72	25	Pass
-30°C 120V	n40	5230	Sum	5230.04	41500.00	7.93	25	Pass
-20°C 120V	n40	5230	Sum	5230	0	0	25	Pass
-10°C 120V	n40	5230	Sum	5230.01	7500.00	1.43	25	Pass
0°C 120V	n40	5230	Sum	5230.01	9000.00	1.72	25	Pass
10°C 120V	n40	5230	Sum	5230.04	41500.00	7.93	25	Pass
20°C 120V	n40	5230	Sum	5230	0	0	25	Pass
30°C 120V	n40	5230	Sum	5230.01	7500.00	1.43	25	Pass
40°C 120V	n40	5230	Sum	5230.01	9000.00	1.72	25	Pass
50°C 120V	n40	5230	Sum	5230.04	41500.00	7.93	25	Pass
25°C 120V	ac20	5180	Sum	5180.02	20000	3.86	25	Pass

25°C 102V	ac20	5180	Sum	5180.02	19000.00	3.67	25	Pass
25°C 138V	ac20	5180	Sum	5180.00	4000.00	0.77	25	Pass
-30°C 120V	ac20	5180	Sum	5180.00	3500.00	0.68	25	Pass
-20°C 120V	ac20	5180	Sum	5180.02	19000.00	3.67	25	Pass
-10°C 120V	ac20	5180	Sum	5180.00	4000.00	0.77	25	Pass
0°C 120V	ac20	5180	Sum	5180.00	3500.00	0.68	25	Pass
10°C 120V	ac20	5180	Sum	5180.02	19000.00	3.67	25	Pass
20°C 120V	ac20	5180	Sum	5180.00	4000.00	0.77	25	Pass
30°C 120V	ac20	5180	Sum	5180.00	3500.00	0.68	25	Pass
40°C 120V	ac20	5180	Sum	5180.00	4000.00	0.77	25	Pass
50°C 120V	ac20	5180	Sum	5180.00	3500.00	0.68	25	Pass
25°C 120V	ac20	5200	Sum	5200.02	20000	3.85	25	Pass
25°C 102V	ac20	5200	Sum	5200.01	8500.00	1.63	25	Pass
25°C 138V	ac20	5200	Sum	5200.02	24000.00	4.62	25	Pass
-30°C 120V	ac20	5200	Sum	5200.02	20000	3.85	25	Pass
-20°C 120V	ac20	5200	Sum	5200.01	8500.00	1.63	25	Pass
-10°C 120V	ac20	5200	Sum	5200.02	24000.00	4.62	25	Pass
0°C 120V	ac20	5200	Sum	5200.02	20000	3.85	25	Pass
10°C 120V	ac20	5200	Sum	5200.01	8500.00	1.63	25	Pass
20°C 120V	ac20	5200	Sum	5200.02	24000.00	4.62	25	Pass
30°C 120V	ac20	5200	Sum	5200.03	34000.00	6.54	25	Pass
40°C 120V	ac20	5200	Sum	5200.03	34000.00	6.54	25	Pass
50°C 120V	ac20	5200	Sum	5200.01	8500.00	1.63	25	Pass
25°C 120V	ac20	5240	Sum	5240.02	20000	3.82	25	Pass
25°C 102V	ac20	5240	Sum	5240.01	11500.00	2.19	25	Pass
25°C 138V	ac20	5240	Sum	5240.05	48000.00	9.16	25	Pass
-30°C 120V	ac20	5240	Sum	5240.03	29000.00	5.53	25	Pass
-20°C 120V	ac20	5240	Sum	5240.04	40500.00	7.73	25	Pass
-10°C 120V	ac20	5240	Sum	5240.03	29000.00	5.53	25	Pass
0°C 120V	ac20	5240	Sum	5240.04	40500.00	7.73	25	Pass
10°C 120V	ac20	5240	Sum	5240.01	11500.00	2.19	25	Pass
20°C 120V	ac20	5240	Sum	5240.05	48000.00	9.16	25	Pass
30°C 120V	ac20	5240	Sum	5240.03	29000.00	5.53	25	Pass
40°C 120V	ac20	5240	Sum	5240.05	48000.00	9.16	25	Pass
50°C 120V	ac20	5240	Sum	5240.03	29000.00	5.53	25	Pass

25°C 120V	ac40	5190	Sum	5190.04	40000	7.71	25	Pass
25°C 102V	ac40	5190	Sum	5190.01	10000.00	1.93	25	Pass
25°C 138V	ac40	5190	Sum	5190.05	48500.00	9.34	25	Pass
-30°C 120V	ac40	5190	Sum	5190.01	7500.00	1.45	25	Pass
-20°C 120V	ac40	5190	Sum	5190.04	40000	7.71	25	Pass
-10°C 120V	ac40	5190	Sum	5190.01	10000.00	1.93	25	Pass
0°C 120V	ac40	5190	Sum	5190.05	48500.00	9.34	25	Pass
10°C 120V	ac40	5190	Sum	5190.01	7500.00	1.45	25	Pass
20°C 120V	ac40	5190	Sum	5190.04	40000	7.71	25	Pass
30°C 120V	ac40	5190	Sum	5190.01	10000.00	1.93	25	Pass
40°C 120V	ac40	5190	Sum	5190.05	48500.00	9.34	25	Pass
50°C 120V	ac40	5190	Sum	5190.01	7500.00	1.45	25	Pass
25°C 120V	ac40	5230	Sum	5230.04	40000	7.65	25	Pass
25°C 102V	ac40	5230	Sum	5230.03	25500.00	4.88	25	Pass
25°C 138V	ac40	5230	Sum	5230.01	7000.00	1.34	25	Pass
-30°C 120V	ac40	5230	Sum	5230.01	7000.00	1.34	25	Pass
-20°C 120V	ac40	5230	Sum	5230.04	40500.00	7.74	25	Pass
-10°C 120V	ac40	5230	Sum	5230.04	40000	7.65	25	Pass
0°C 120V	ac40	5230	Sum	5230.03	25500.00	4.88	25	Pass
10°C 120V	ac40	5230	Sum	5230.01	7000.00	1.34	25	Pass
20°C 120V	ac40	5230	Sum	5230.01	7000.00	1.34	25	Pass
30°C 120V	ac40	5230	Sum	5230.04	40500.00	7.74	25	Pass
40°C 120V	ac40	5230	Sum	5230.03	25500.00	4.88	25	Pass
50°C 120V	ac40	5230	Sum	5230.01	7000.00	1.34	25	Pass
25°C 120V	ac80	5210	Sum	5210.08	80000	15.36	25	Pass
25°C 102V	ac80	5210	Sum	5210.01	10000.00	1.92	25	Pass
25°C 138V	ac80	5210	Sum	5210.03	32500.00	6.24	25	Pass
-30°C 120V	ac80	5210	Sum	5210.02	15000.00	2.88	25	Pass
-20°C 120V	ac80	5210	Sum	5210.00	4500.00	0.86	25	Pass
-10°C 120V	ac80	5210	Sum	5210.08	80000	15.36	25	Pass
0°C 120V	ac80	5210	Sum	5210.01	10000.00	1.92	25	Pass
10°C 120V	ac80	5210	Sum	5210.03	32500.00	6.24	25	Pass
20°C 120V	ac80	5210	Sum	5210.02	15000.00	2.88	25	Pass
30°C 120V	ac80	5210	Sum	5210.00	4500.00	0.86	25	Pass
40°C 120V	ac80	5210	Sum	5210.02	15000.00	2.88	25	Pass

50°C 120V	ac80	5210	Sum	5210.00	4500.00	0.86	25	Pass
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7.2 Maximum Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	a	5180	Ant1	16.865	30	Pass
NVNT	a	5200	Ant1	17.299	30	Pass
NVNT	a	5240	Ant1	17.311	30	Pass
NVNT	a	5180	Ant2	15.471	30	Pass
NVNT	a	5200	Ant2	15.938	30	Pass
NVNT	a	5240	Ant2	16.75	30	Pass
NVNT	n20	5180	Ant1	13.572	30	Pass
NVNT	n20	5180	Ant2	12.388	30	Pass
NVNT	n20	5180	Sum	16.031	30	Pass
NVNT	n20	5200	Ant1	14.152	30	Pass
NVNT	n20	5200	Ant2	12.757	30	Pass
NVNT	n20	5200	Sum	16.521	30	Pass
NVNT	n20	5240	Ant1	14.006	30	Pass
NVNT	n20	5240	Ant2	13.056	30	Pass
NVNT	n20	5240	Sum	16.567	30	Pass
NVNT	n40	5190	Ant1	13.911	30	Pass
NVNT	n40	5190	Ant2	12.481	30	Pass
NVNT	n40	5190	Sum	16.265	30	Pass
NVNT	n40	5230	Ant1	14.192	30	Pass
NVNT	n40	5230	Ant2	13.111	30	Pass
NVNT	n40	5230	Sum	16.695	30	Pass
NVNT	ac20	5180	Ant1	13.002	30	Pass
NVNT	ac20	5180	Ant2	12.292	30	Pass
NVNT	ac20	5180	Sum	15.672	30	Pass
NVNT	ac20	5200	Ant1	13.637	30	Pass
NVNT	ac20	5200	Ant2	12.766	30	Pass
NVNT	ac20	5200	Sum	16.234	30	Pass
NVNT	ac20	5240	Ant1	13.995	30	Pass
NVNT	ac20	5240	Ant2	13.148	30	Pass
NVNT	ac20	5240	Sum	16.602	30	Pass
NVNT	ac40	5190	Ant1	13.553	30	Pass
NVNT	ac40	5190	Ant2	13.321	30	Pass

NVNT	ac40	5190	Sum	16.449	30	Pass
NVNT	ac40	5230	Ant1	14.105	30	Pass
NVNT	ac40	5230	Ant2	13.188	30	Pass
NVNT	ac40	5230	Sum	16.681	30	Pass
NVNT	ac80	5210	Ant1	13.818	30	Pass
NVNT	ac80	5210	Ant2	12.898	30	Pass
NVNT	ac80	5210	Sum	16.393	30	Pass

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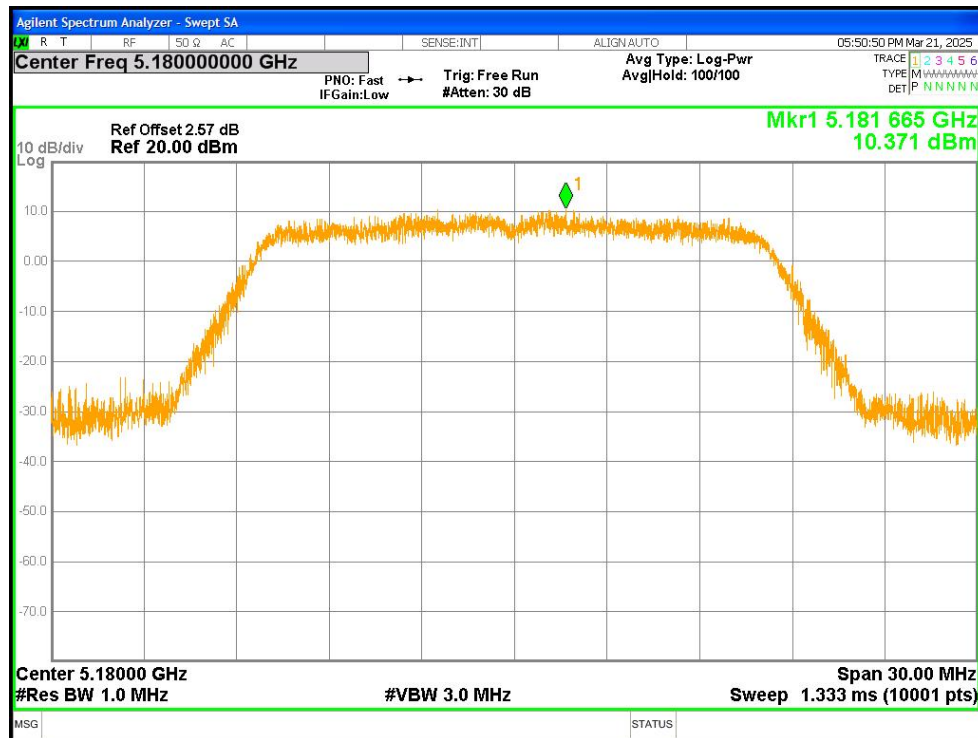
7.3 Maximum Power Spectral Density Level

Condition	Mode	Frequency (MHz)	Antenna	Max PSD (dBm)	Limit (dBm)	Verdict
NVNT	a	5180	Ant1	10.371	17	Pass
NVNT	a	5200	Ant1	10.836	17	Pass
NVNT	a	5240	Ant1	10.908	17	Pass
NVNT	a	5180	Ant2	8.834	17	Pass
NVNT	a	5200	Ant2	9.59	17	Pass
NVNT	a	5240	Ant2	10.254	17	Pass
NVNT	n20	5180	Ant1	7.167	17	Pass
NVNT	n20	5180	Ant2	6.042	17	Pass
NVNT	n20	5180	Sum	9.651	17	Pass
NVNT	n20	5200	Ant1	7.659	17	Pass
NVNT	n20	5200	Ant2	6.154	17	Pass
NVNT	n20	5200	Sum	9.982	17	Pass
NVNT	n20	5240	Ant1	8.138	17	Pass
NVNT	n20	5240	Ant2	6.544	17	Pass
NVNT	n20	5240	Sum	10.424	17	Pass
NVNT	n40	5190	Ant1	3.848	17	Pass
NVNT	n40	5190	Ant2	2.267	17	Pass
NVNT	n40	5190	Sum	6.139	17	Pass
NVNT	n40	5230	Ant1	4.343	17	Pass
NVNT	n40	5230	Ant2	3.979	17	Pass
NVNT	n40	5230	Sum	7.175	17	Pass
NVNT	ac20	5180	Ant1	6.295	17	Pass
NVNT	ac20	5180	Ant2	5.846	17	Pass
NVNT	ac20	5180	Sum	9.087	17	Pass
NVNT	ac20	5200	Ant1	7.442	17	Pass
NVNT	ac20	5200	Ant2	6.111	17	Pass
NVNT	ac20	5200	Sum	9.838	17	Pass
NVNT	ac20	5240	Ant1	7.505	17	Pass
NVNT	ac20	5240	Ant2	6.626	17	Pass
NVNT	ac20	5240	Sum	10.098	17	Pass
NVNT	ac40	5190	Ant1	3.932	17	Pass
NVNT	ac40	5190	Ant2	2.94	17	Pass

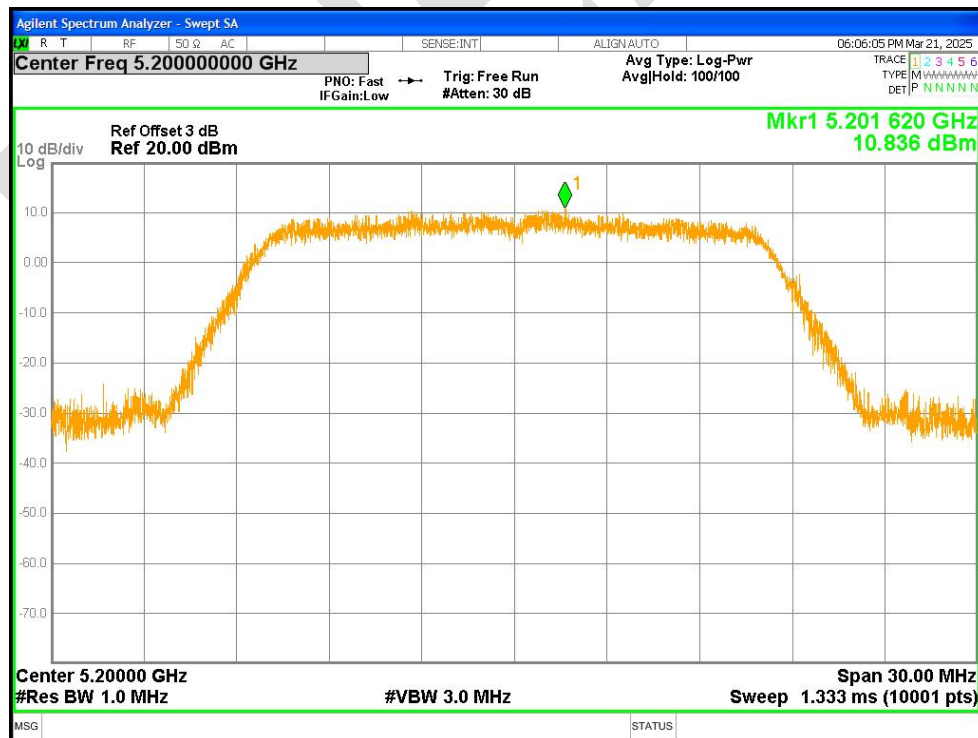
NVNT	ac40	5190	Sum	6.475	17	Pass
NVNT	ac40	5230	Ant1	4.387	17	Pass
NVNT	ac40	5230	Ant2	3.477	17	Pass
NVNT	ac40	5230	Sum	6.966	17	Pass
NVNT	ac80	5210	Ant1	1.47	17	Pass
NVNT	ac80	5210	Ant2	0.6	17	Pass
NVNT	ac80	5210	Sum	4.067	17	Pass

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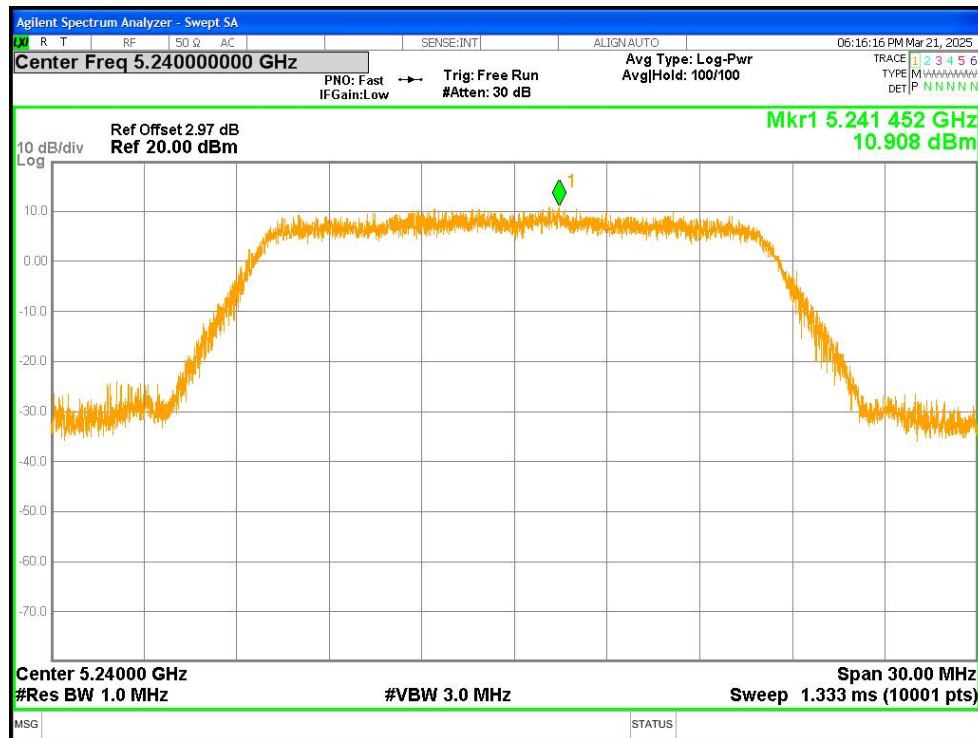
PSD NVNT a 5180MHz Ant1



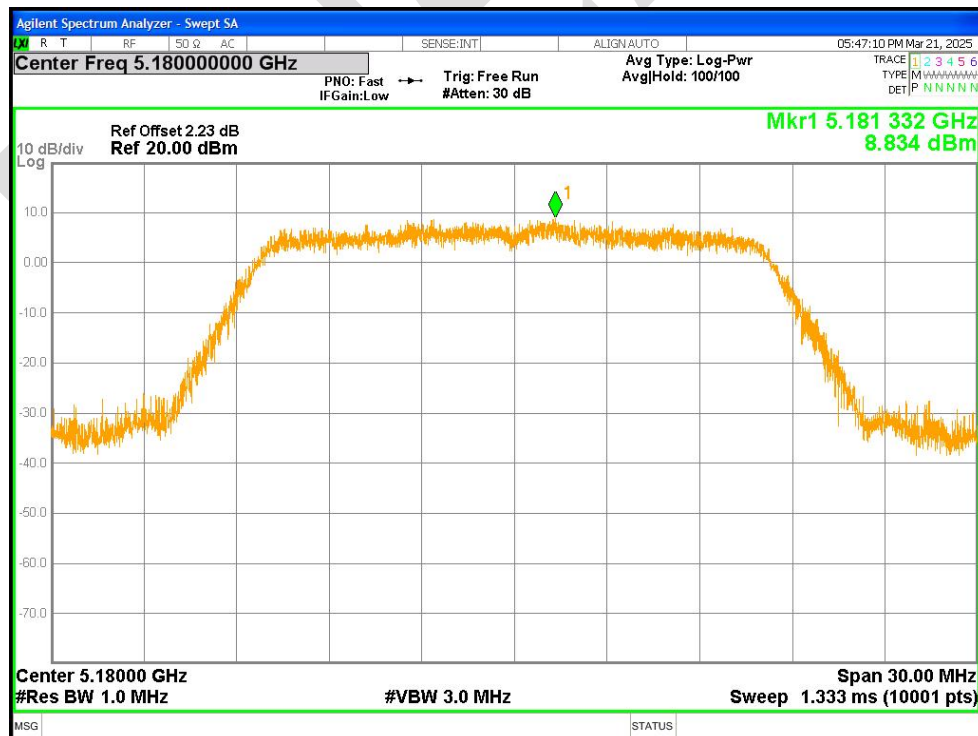
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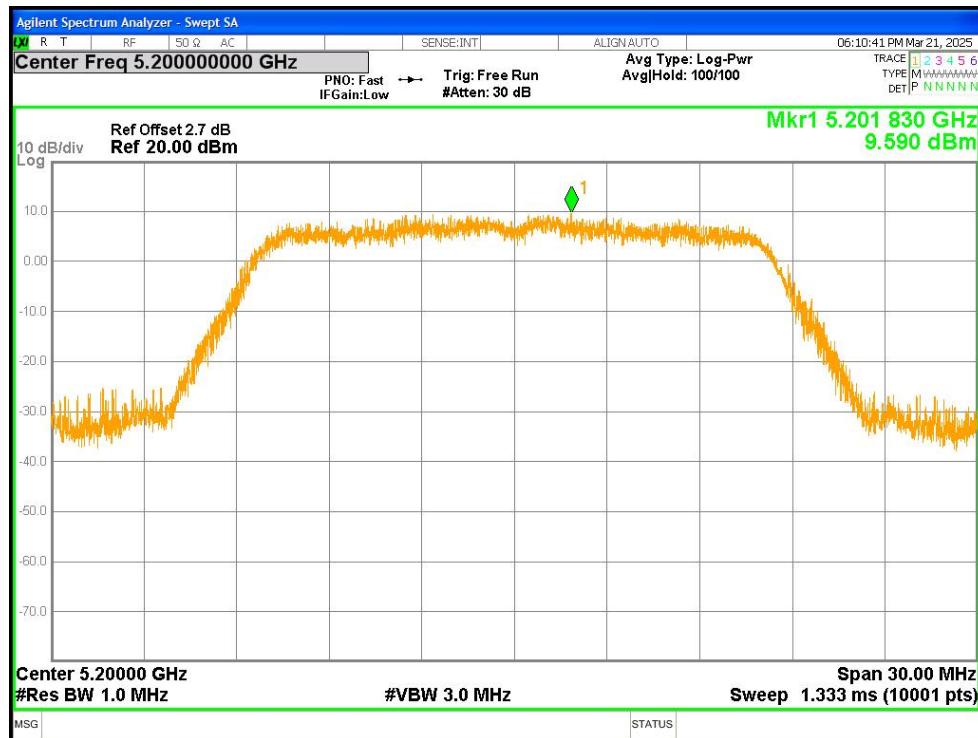
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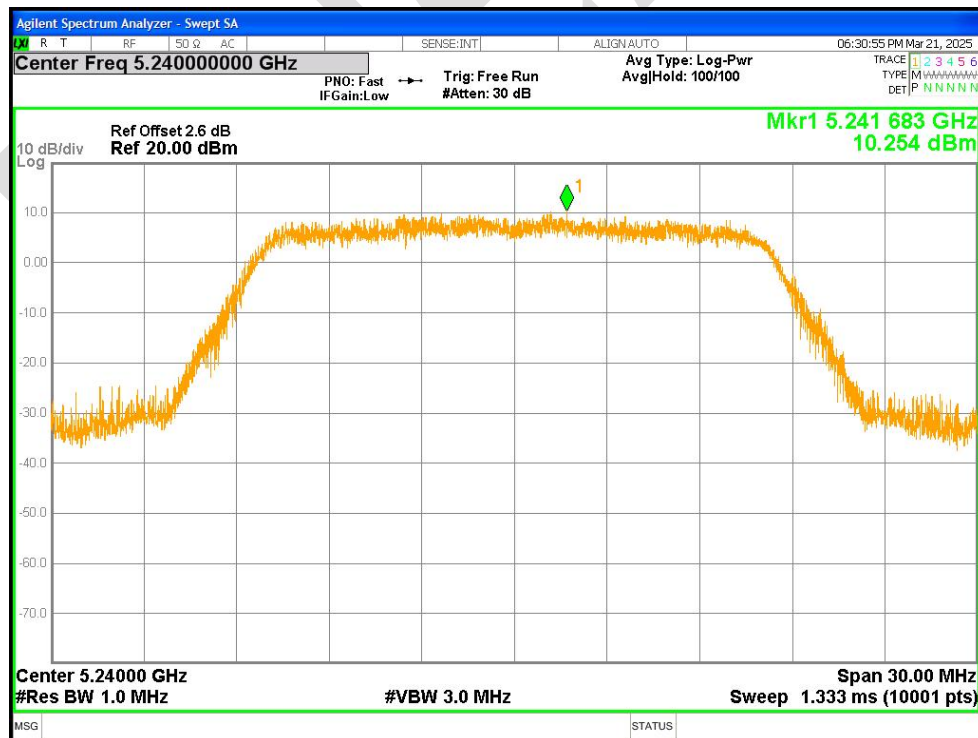
PSD NVNT a 5180MHz Ant2



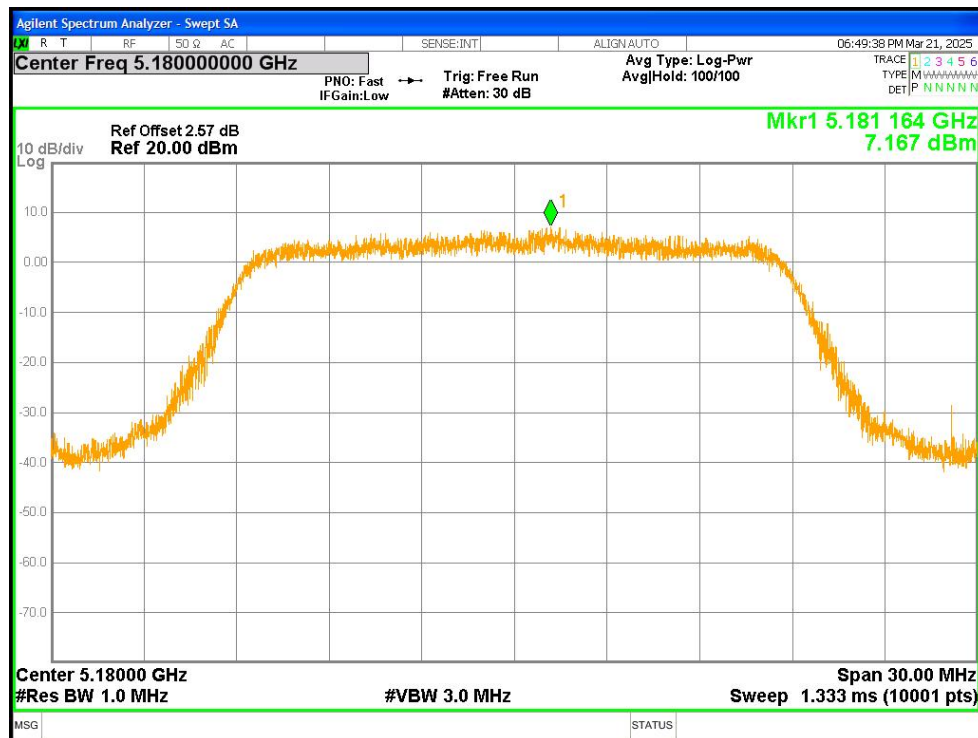
PSD NVNT a 5200MHz Ant2



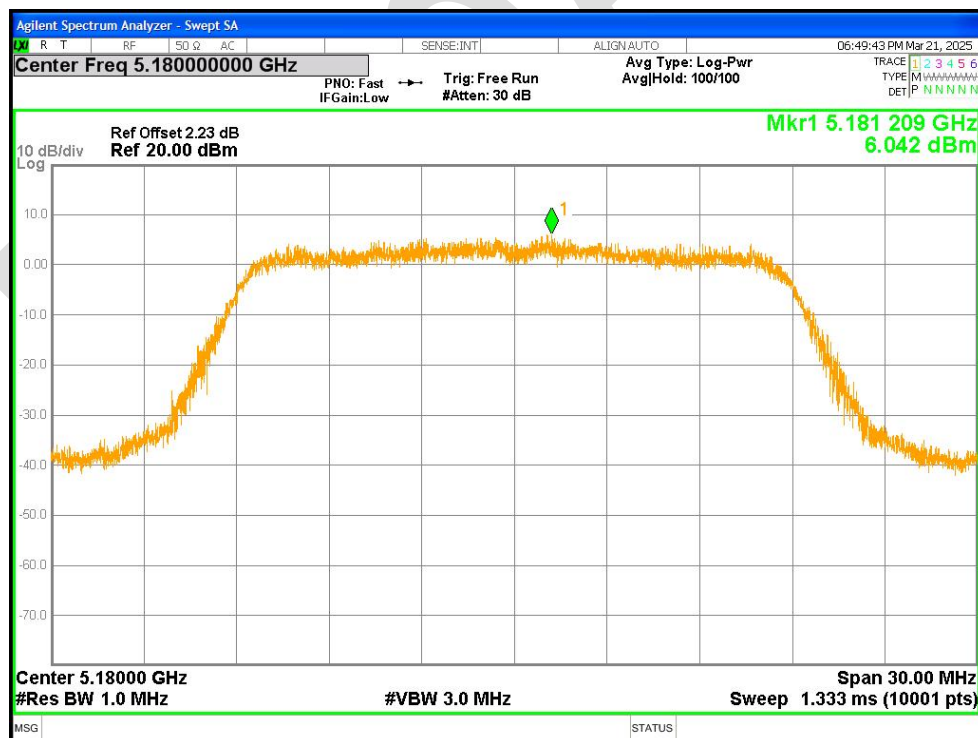
PSD NVNT a 5240MHz Ant2



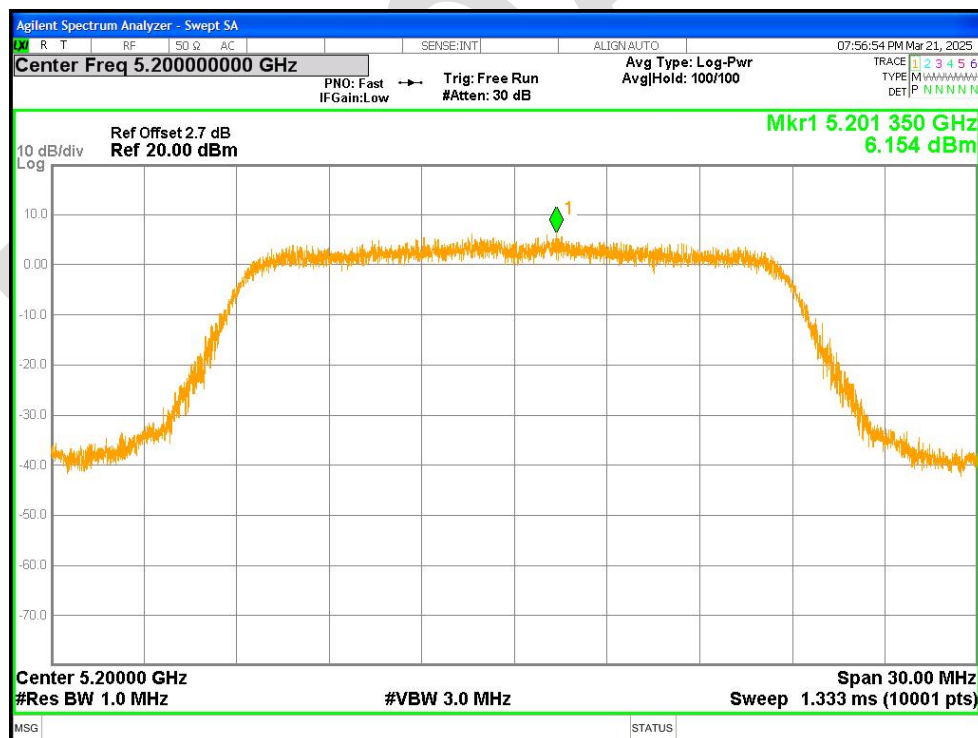
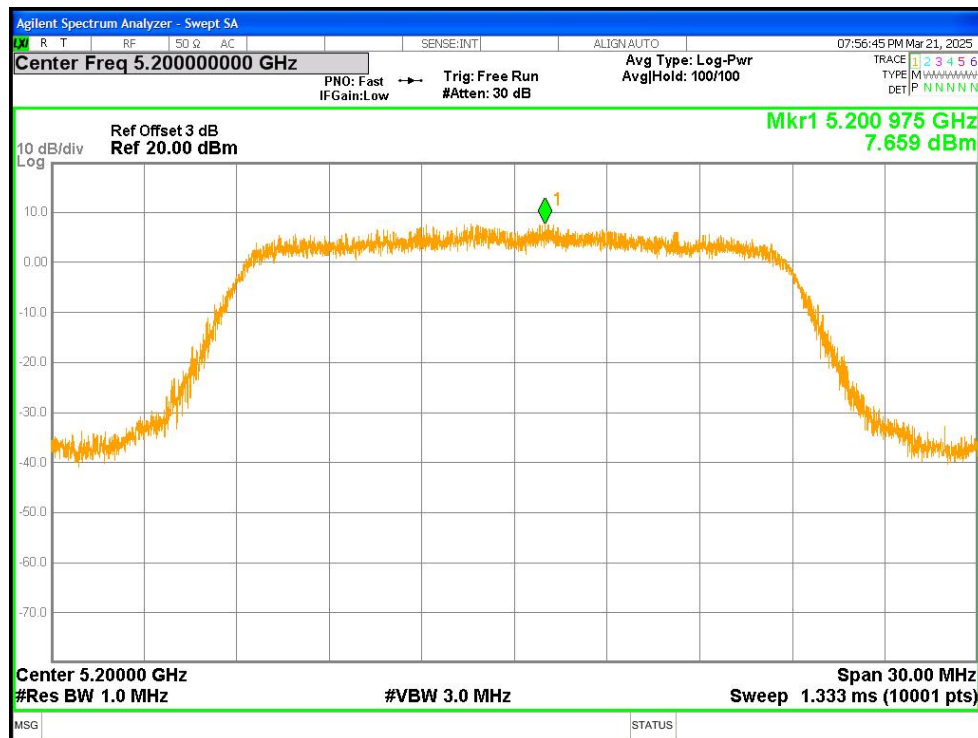
PSD NVNT n20 5180MHz Ant1

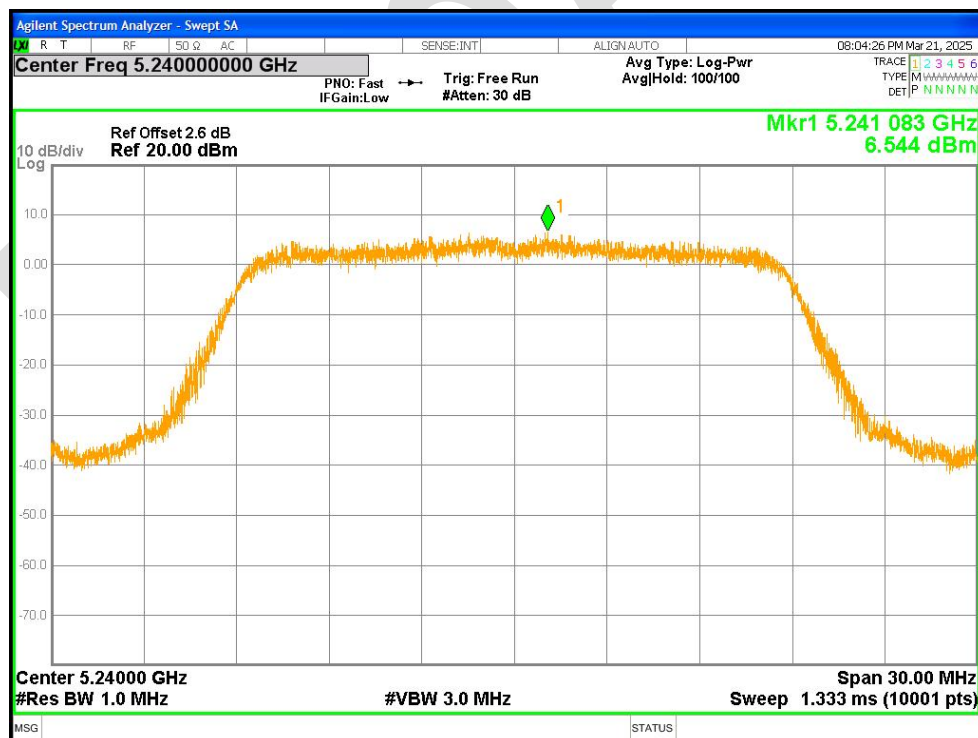
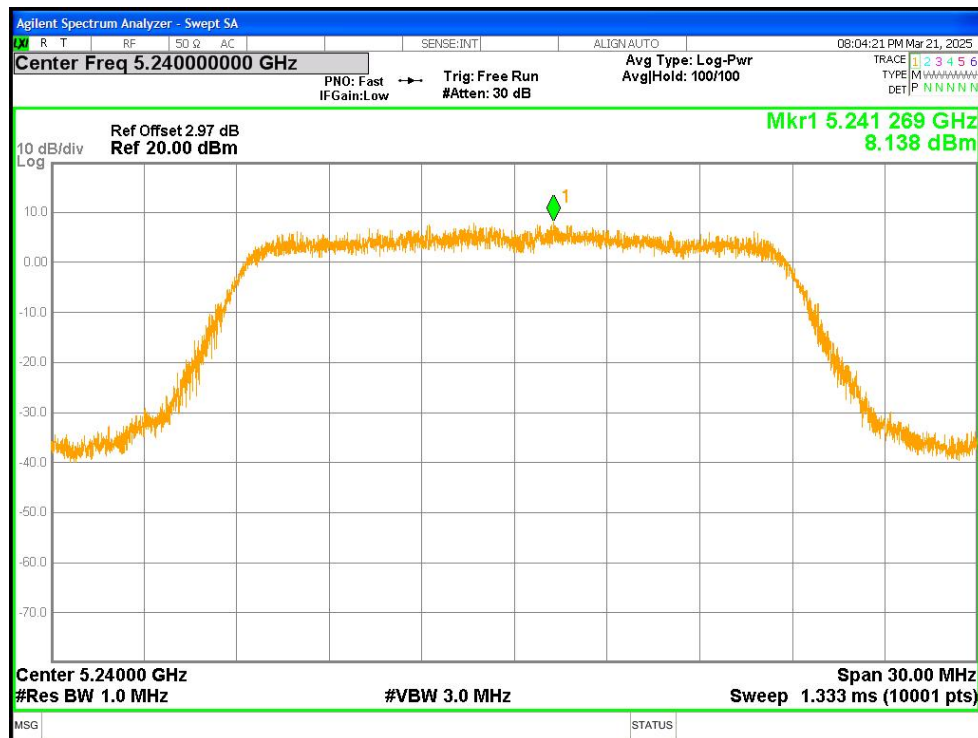


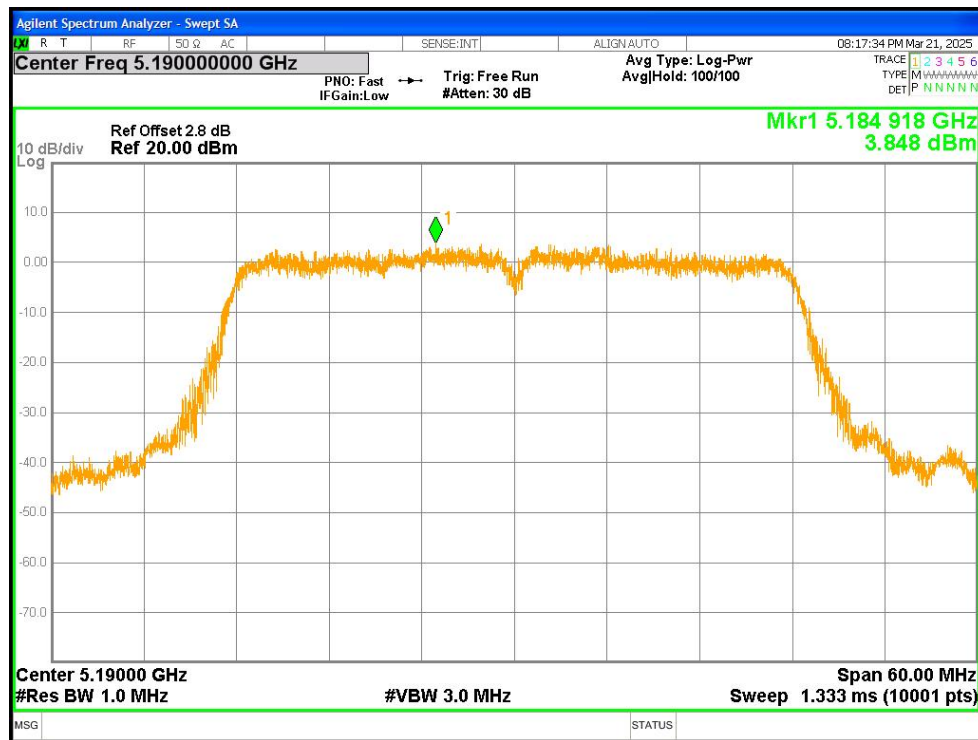
PSD NVNT n20 5180MHz Ant2



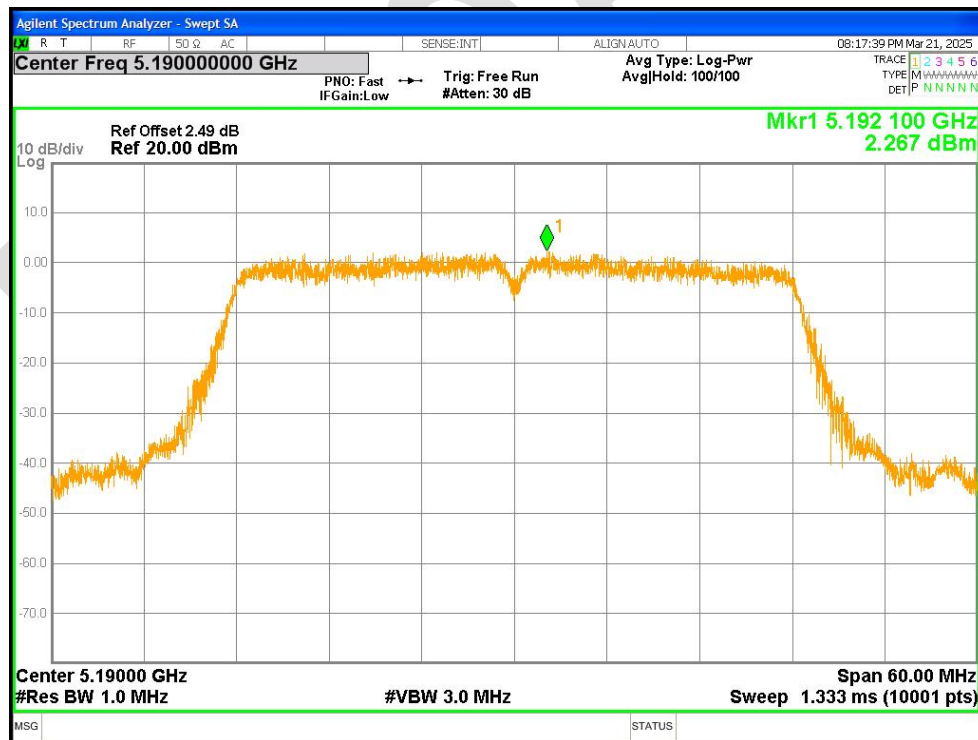
PSD NVNT n20 5200MHz Ant1



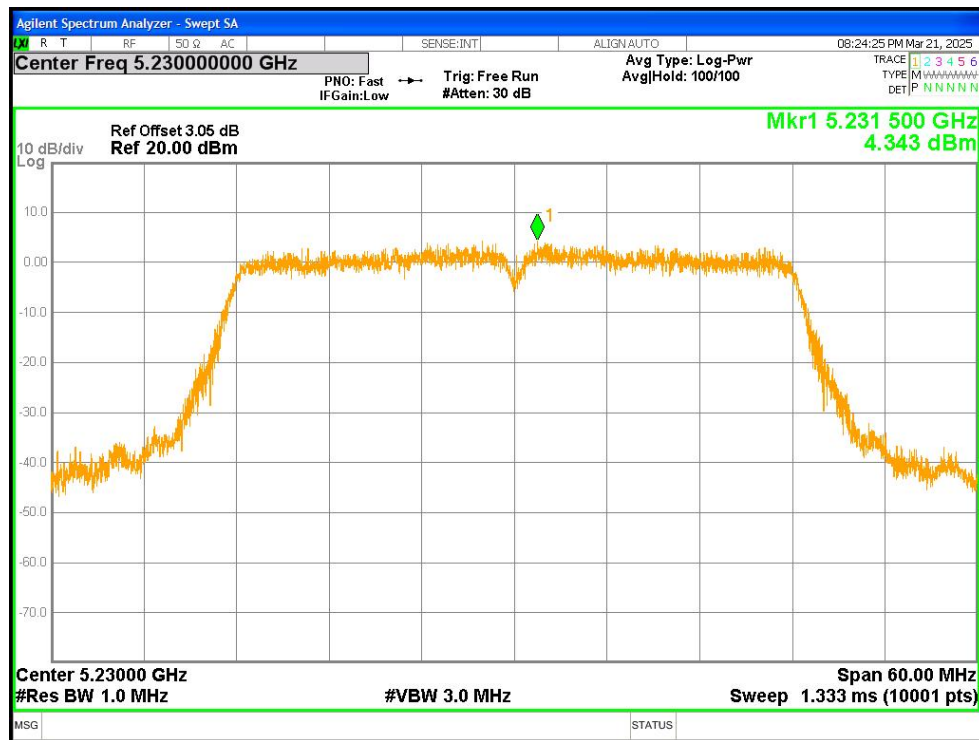




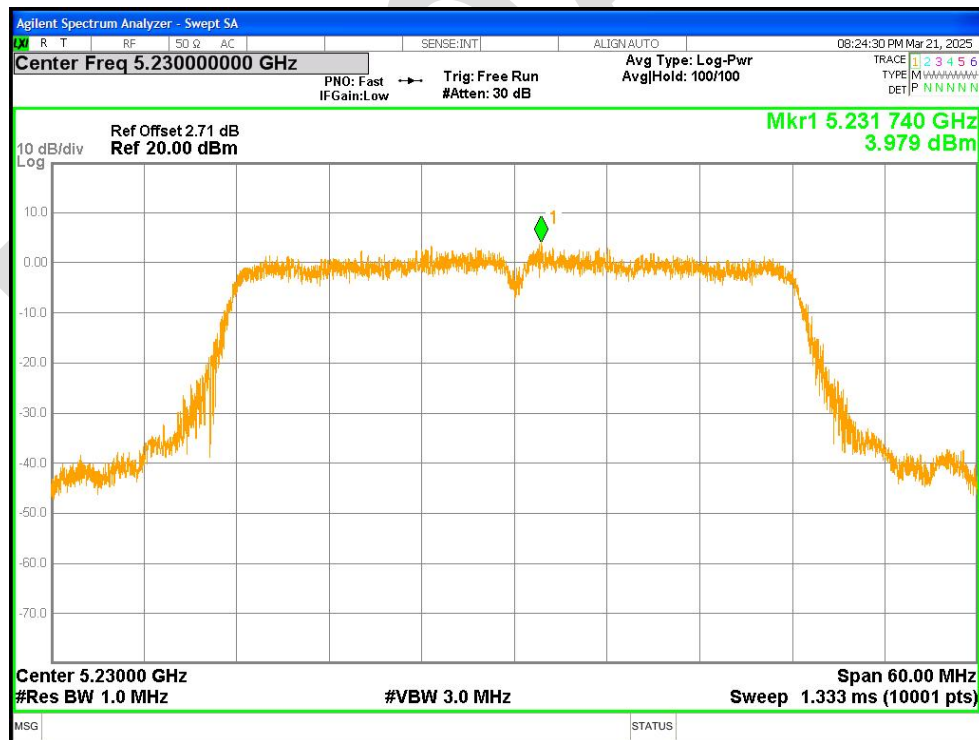
PSD NVNT n40 5190MHz Ant2



PSD NVNT n40 5230MHz Ant1



PSD NVNT n40 5230MHz Ant2



PSD NVNT ac20 5180MHz Ant1