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Report Template Version: V05
Report Template Revision Date: 2018-07-06

Test Report

Report No.:	CQASZ20251102540E-04
Applicant:	Shenzhen Inateck Technology Co.,Ltd.
Address of Applicant:	Rm. 2507, Bldg. 11, TianAn Cloud Park, Bantian Street, Longgang District, Shenzhen, China.

Equipment Under Test (EUT):

Product:	Handheld Terminal
Model No.:	N6029, N6030, N6031, N6032, N6033, N6034, N6035
Teat Model No.:	N6029
Brand Name:	inateck
FCC ID:	2A2T9-N6029
Standards:	47 CFR Part 15, Subpart E
	KDB 789033 D02 General UNII Test Procedures New Rules v02r01
Date of Receipt:	2025-11-05
Date of Test:	2025-11-05 to 2026-01-08
Date of Issue:	2026-1-28
Test Result:	**PASS***

*In the configuration tested, the EUT complied with the standards specified above.

Tested By: Lewis Zhou

(Lewis Zhou)

Reviewed By: Timo Lei

(Timo Lei)

Approved By:

(Jack Ai)

The test report is effective only with both signature and specialized stamp, The result(s) shown in this report refer only to the sample(s) tested. Without written approval of CQA, this report can't be reproduced except in full.

1 Version

Revision History Of Report

Report No.	Version	Description	Issue Date
CQASZ20251102540E-04	Rev.01	Initial report	2026-1-28

2 Test Summary

Test Item	Test Requirement	Test method	Result
Antenna Requirement	47 CFR Part 15 Subpart C Section 15.203	ANSI C63.10-2020; KDB789033	PASS
AC Power Line Conducted Emission	47 CFR Part 15 Subpart E Section 15.207	ANSI C63.10-2020; KDB789033	PASS
Maximum Conducted Output Power	47 CFR Part 15 Subpart C Section 15.407 (a)	ANSI C63.10-2020; KDB789033	PASS
Emission Bandwidth	47 CFR Part 15 Subpart C Section 15.407 (a)(e)	ANSI C63.10-2020; KDB789033	PASS
Maximum Power Spectral Density	47 CFR Part 15 Subpart E Section 15.407 (a)	ANSI C63.10-2020; KDB789033	PASS
Band Edge Measurements	47 CFR Part 15 Subpart C Section 15.209 &15.407(b)	ANSI C63.10-2020; KDB789033	PASS
Frequency stability	47 CFR Part 15 Subpart E Section 15.407 (g)	ANSI C63.10-2020; KDB789033	PASS
Operation in the absence of information to the transmit	47 CFR Part 15 Subpart E Section 15.407 (c)	47 CFR Part 15 Subpart E	PASS
Radiated Spurious Emissions	47 CFR Part 15 Subpart E Section 15.407 (b)	ANSI C63.10-2020; KDB789033	PASS

Remark:
The tested sample(s) and the sample information are provided by the client.
Tx: In this whole report Tx (or tx) means Transmitter.
Rx: In this whole report Rx (or rx) means Receiver.
RF: In this whole report RF means Radiated Frequency.
CH: In this whole report CH means channel.
Volt: In this whole report Volt means Voltage.
Temp: In this whole report Temp means Temperature.
Humid: In this whole report Humid means humidity.
Press: In this whole report Press means Pressure.
N/A: In this whole report not application

3 Content

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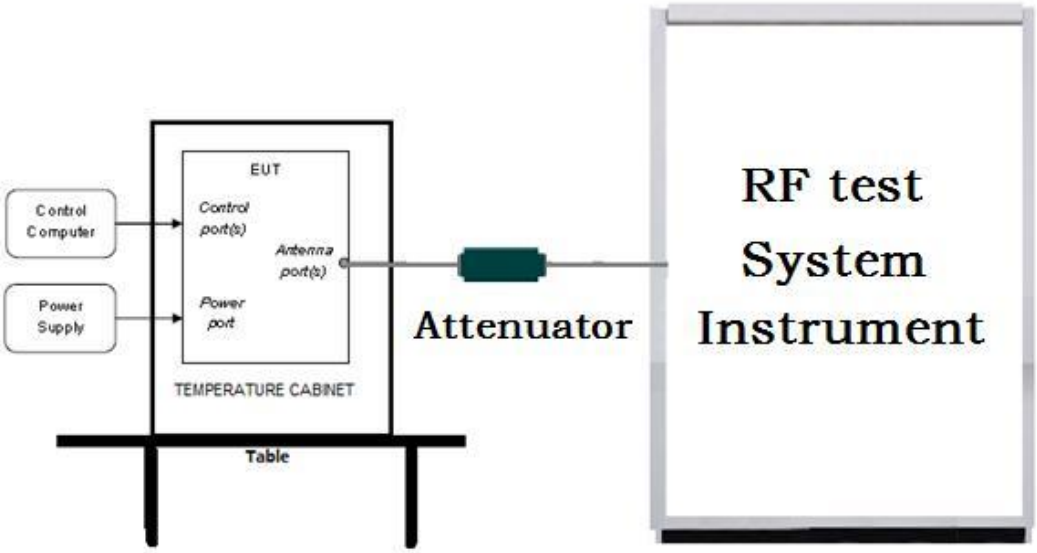
4 Test Requirement

4.1 Test setup

4.1.1 For Conducted test setup



4.1.2 For Radiated Emissions test setup

Radiated Emissions setup:

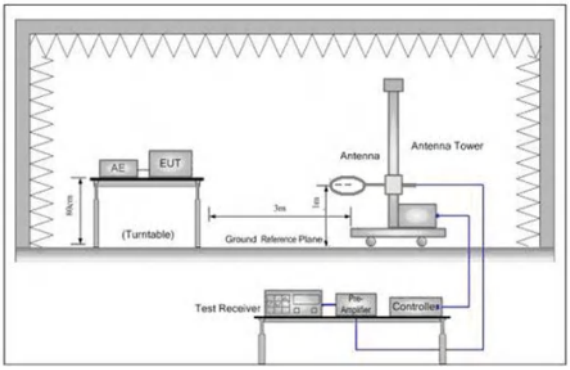


Figure 1. Below 30MHz

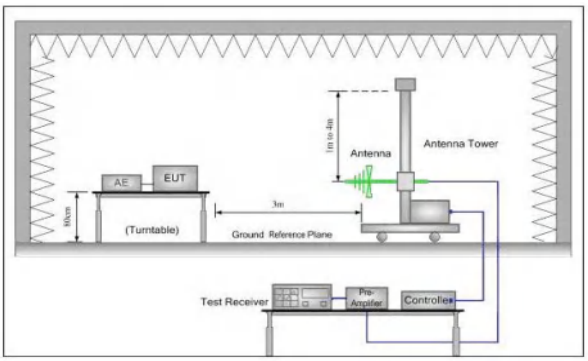


Figure 2. 30MHz to 1GHz

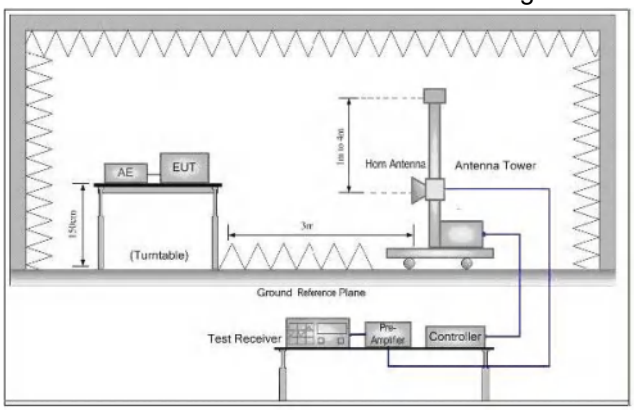
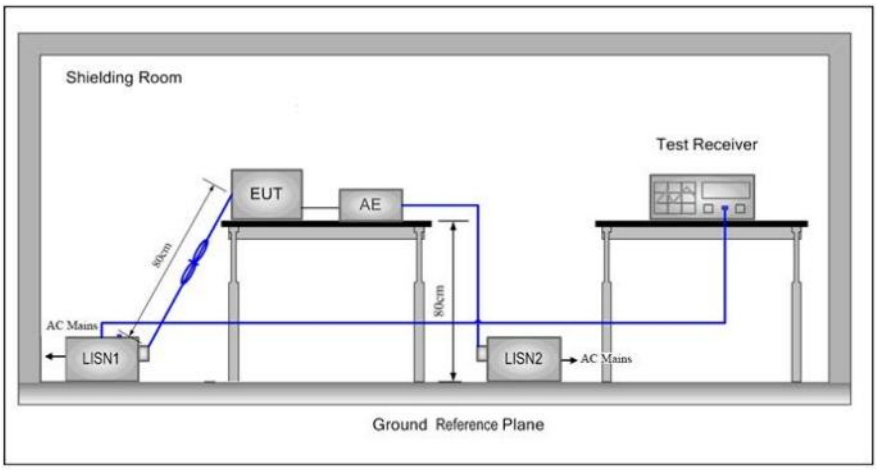


Figure 3. Above 1GHz

4.1.3 For Conducted Emissions test setup

Conducted Emissions setup



4.2 Test Environment

Operating Environment:		
Conducted Emissions:		
Temperature:	25.6 °C	
Humidity:	60 % RH	
Atmospheric Pressure:	1009 mbar	
Radiated Emissions:		
Temperature:	25.5 °C	
Humidity:	54 % RH	
Atmospheric Pressure:	1009mbar	
Radio conducted item test (RF Conducted test room):		
Temperature:	25.3 °C	
Humidity:	50 % RH	
Atmospheric Pressure:	1009 mbar	
Test Condition	Temperature (°C)	Voltage (V)
TN/VN	+15 to +35	3.85
TL/VL	-30	3.465
TH/VL	50	3.465
TL/VH	-30	4.235
TH/VH	50	4.235

Remark:

1)The EUT just work in such extreme temperature of -30 °C to 50 °C and the extreme voltage of 4.235V to 3.465V, so here the EUT is tested in the temperature of -30 °C to 50 °C and the voltage of 4.235V to 3.465V.

2)VN: Normal Voltage; TN: Normal Temperature;

TL: Low Extreme Test Temperature; TH: High Extreme Test Temperature;

VL: Low Extreme Test Voltage; VH: High Extreme Test Voltage.

4.3 Test Condition

Test channel:

Test Mode	Tx/Rx	RF Channel		
		Low(L)	Middle(M)	High(H)
802.11a/n/ac(20M)	5150MHz ~5250 MHz	Channel 36	Channel 40	Channel 48
		5180MHz	5200MHz	5240MHz
802.11a/n/ac(20M)	5725MHz ~5850 MHz	Channel 149	Channel 157	Channel 165
		5745MHz	5785MHz	5825MHz

Run Software:

Test mode:

Pre-scan under all rate at lowest channel for Ant1

Through Pre-scan, 6Mbps is the worst case of 802.11a (20M); MCS0 is the worst case of 802.11n (20M); MCS0 is the worst case of 802.11ac (20M).

5 General Information

5.1 Client Information

Applicant:	Shenzhen Inateck Technology Co.,Ltd.
Address of Applicant:	Rm. 2507, Bldg. 11, TianAn Cloud Park, Bantian Street, Longgang District, Shenzhen, China.
Manufacturer:	Shenzhen Inateck Technology Co.,Ltd.
Address of Manufacturer:	Suite 2507, Block 11 in Tian An Cloud Park, Bantian Street, Longgang District, Shenzhen, Guangdong, China.
Factory:	Shenzhen Inateck Technology Co.,Ltd.
Address of Factory:	Suite 2507, Block 11 in Tian An Cloud Park, Bantian Street, Longgang District, Shenzhen, Guangdong, China.

5.2 General Description of EUT

Product Name:	Handheld Terminal
Model No.:	N6029, N6030, N6031, N6032, N6033, N6034, N6035
Test Model No.:	N6029
Trade Mark:	inateck
Software Version:	V1.1.4
Hardware Version:	V1.0
EUT Power Supply:	Li-ion battery DC 3.85V 6700mAh 25.79Wh, Charge by DC 5V for adapter
	Adapter: Model:CY-0520A Input:110`240v,50/60Hz 0.6A Output:5V⎓ 2.0A
EUT Supports Radios application:	U-NII-1: 5.15-5.25GHz;U-NII-3: 5.725-5.850GHz
EUT Type:	Client devices

5.3 Product Specification subjective to this standard

Operation Frequency:	IEEE 802.11a/n/ac(20M): 5150MHz ~5250 MHz IEEE 802.11a/n/ac(20M): 5725MHz ~5850 MHz
Channel Numbers:	IEEE 802.11a/n/ac(20M): 5150MHz ~5250MHz/ 4 channel IEEE 802.11a/n/ac(20M): 5725MHz ~5850MHz/ 5 channel
Type of Modulation:	IEEE for 802.11a/n/ac: OFDM(256QAM, 64QAM, 16QAM, QPSK, BPSK)
Sample Type:	☐ Mobile ☒ Portable
Test Software of EUT:	Android
Antenna Type:	FPC antenna
Antenna gain:	0.96dBi
Cable loss:	1.0 dB

Operation Frequency each of channel

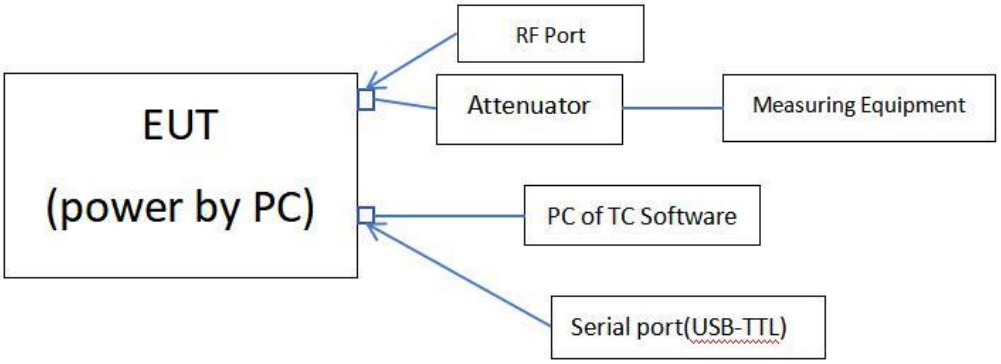
(U-NII-1) 5180MHz-5240MHz				
Bandwidth	**Channel**	**Frequency (MHz)**	**Channel**	**Frequency (MHz)**
20MHz	**36**	**5180**	**40**	**5200**
	44	**5220**	**48**	**5240**
(U-NII-3) 5745MHz-5825MHz				
Bandwidth	**Channel**	**Frequency (MHz)**	**Channel**	**Frequency (MHz)**
20MHz	**149**	**5745**	**153**	**5765**
	157	**5785**	**161**	**5805**
	165	**5825**	**/**	**/**

5.4 Description of Support Units

The EUT has been tested with associated equipment below.

Description	Manufacturer	Model No.	Certification	Supplied by
Adapter	MI	/	/	CQA

5.5 Test configuration



5.6 Test Location

All tests were performed at:

Shenzhen Huaxia Testing Technology Co., Ltd.

1F., Block A of Tongsheng Technology Building, Huahui Road, Dalang Street, Longhua New District, Shenzhen, Guangdong, China

5.7 Test Facility

- **A2LA (Certificate No. 4742.01)**

Shenzhen Huaxia Testing Technology Co., Ltd., Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 4742.01.

- **FCC Registration No.: 522263**

Shenzhen Huaxia Testing Technology Co., Ltd., Shenzhen EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration No.:522263

5.8 Deviation from Standards

None.

5.9 Abnormalities from Standard Conditions

None.

5.10 Other Information Requested by the Customer

None.

5.11 Measurement Uncertainty (95% confidence levels, k=2)

No.	Item	Measurement Uncertainty
1	Radio Frequency	3×10^{-8}
2	RF power, conducted	0.86dB
3	Radiated Spurious emission test	5.12dB (Below 1GHz)
		4.6dB (Above 1GHz)
4	Conduction emission	3.5dB (9kHz to 150kHz)
		3.1dB (150kHz to 30MHz)
5	Temperature test	0.8°C
6	Humidity test	2.0%
7	DC power voltages	0.5%

6 Equipment List

Test Equipment	Manufacturer	Model No.	Instrument No.	Calibration Date	Calibration Due Date
EMI Test Receiver	R&S	ESR7	CQA-005	2025/9/1	2026/8/31
Spectrum analyzer	R&S	FSU26	CQA-038	2025/9/1	2026/8/31
Spectrum analyzer	R&S	FSU40	CQA-075	2025/9/1	2026/8/31
Preamplifier	MITEQ	AFS4-00010300-18-10P-4	CQA-035	2025/9/1	2026/8/31
Preamplifier	MITEQ	AMF-6D-02001800-29-20P	CQA-036	2025/9/1	2026/8/31
Preamplifier	EMCI	EMC184055SE	CQA-089	2025/9/1	2026/8/31
Loop antenna	Schwarzbeck	FMZB1516	CQA-060	2023/9/8	2026/9/7
Bilog Antenna	R&S	HL562	CQA-011	2023/11/01	2026/10/31
Horn Antenna	R&S	HF906	CQA-012	2023/11/01	2026/10/31
Horn Antenna	Schwarzbeck	BBHA 9170	CQA-088	2023/9/7	2026/9/6
Coaxial Cable (Above 1GHz)	CQA	N/A	C007	2025/9/1	2026/8/31
Coaxial Cable (Below 1GHz)	CQA	N/A	C013	2025/9/1	2026/8/31
RF cable(9KHz~40GHz)	CQA	RF-01	CQA-079	2025/9/1	2026/8/31
Antenna Connector	CQA	RFC-01	CQA-080	2025/9/1	2026/8/31
Power Sensor	KEYSIGHT	U2021XA	CQA-30	2025/9/1	2026/8/31
N1918A Power Analysis Manager Power Panel	Agilent	N1918A	CQA-074	2025/9/1	2026/8/31
Power meter	R&S	NRVD	CQA-029	2025/9/1	2026/8/31
Power divider	MIDWEST	PWD-2533-02-SMA-79	CQA-067	2025/9/1	2026/8/31
EMI Test Receiver	R&S	ESR7	CQA-005	2025/9/1	2026/8/31
LISN	R&S	ENV216	CQA-003	2025/9/1	2026/8/31
Coaxial cable	CQA	N/A	CQA-C009	2025/9/1	2026/8/31
DC power	KEYSIGHT	E3631A	CQA-028	2025/9/1	2026/8/31

Test software:

	Manufacturer	Software brand	Software version
Radiated Emissions test software	Tonscend	JS1120-3	Version:8
Conducted Emissions test software	Audix	e3	Version:9
RF Conducted test software	Audix	e3	V3.5.39

7 Radio Technical Requirements Specification

Reference documents for testing:

No.	Identity	Document Title
1	FCC Part15E	Subpart C-Intentional Radiators
2	ANSI C63.10-2020	American National Standard for Testing Unlicesed Wireless Devices
3	KDB 789033 D02 General U-NII Test Procedures New Rules v02r01	Guidelines for compliance testing of unlicensed national information infrastructure (U-NII) device part 15, subpart E

Appendix A): Emission Bandwidth

26dB Emission bandwidth

Test Requirement: 47 CFR Part 15, Subpart C 15.407 (a)

Test Method: KDB 789033 D02 II C 1

6 dB bandwidth (5.725-5.85 GHz band)

Test Requirement 47 CFR Part 15, Subpart C 15.407 (e)

Test Method: KDB 789033 D02 II C 2

Limit: ≥500 kHz

Test Procedure:

a) Set RBW = approximately 1% of the emission bandwidth.

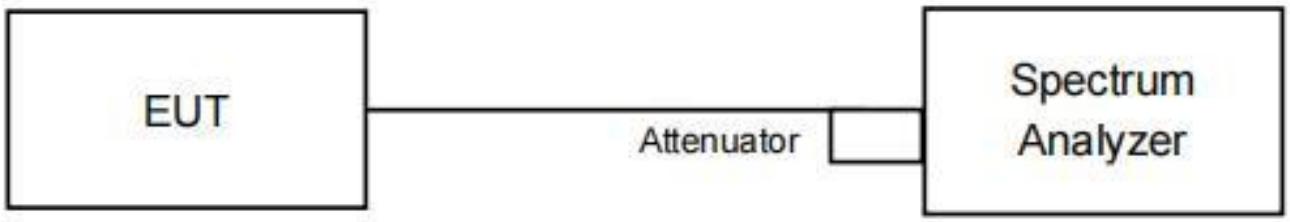
b) Set the VBW > RBW.

c) Detector = Peak.

d) Trace mode = max hold.

e) Measure the maximum width of the emission that is 26 dB down from the maximum 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%.

Test Setup Diagram



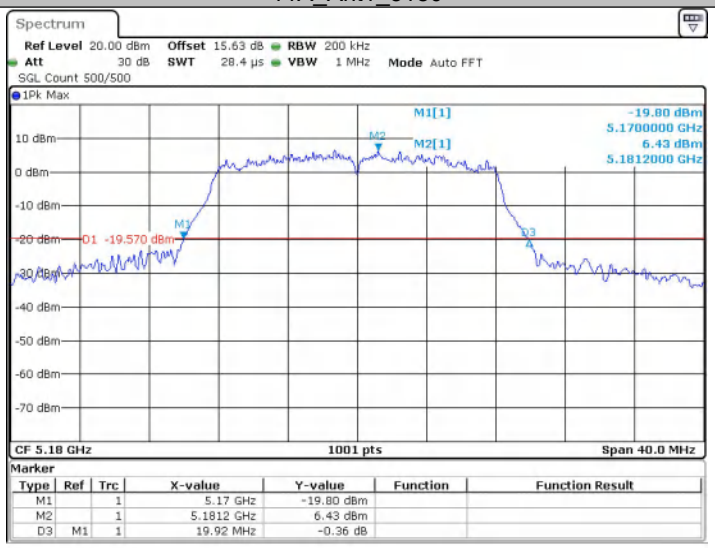
Result Table

TestMode	Freq(MHz)	26db EBW [MHz]	FL[MHz]	FH[MHz]
11A	5180	19.92	5170.00	5189.92
	5200	19.80	5189.88	5209.68
	5240	19.76	5230.24	5250.00
	5745	19.52	5735.28	5754.80
	5785	19.72	5775.32	5795.04
	5825	21.56	5813.36	5834.92
11N20SISO	5180	20.24	5169.84	5190.08
	5200	20.00	5189.92	5209.92
	5240	20.80	5229.36	5250.16
	5745	20.00	5734.96	5754.96
	5785	19.88	5775.04	5794.92
	5825	20.20	5814.80	5835.00
11AC20SISO	5180	20.52	5169.84	5190.36
	5200	20.16	5189.92	5210.08
	5240	20.72	5229.40	5250.12
	5745	20.00	5734.88	5754.88
	5785	20.00	5775.04	5795.04
	5825	20.80	5814.28	5835.08

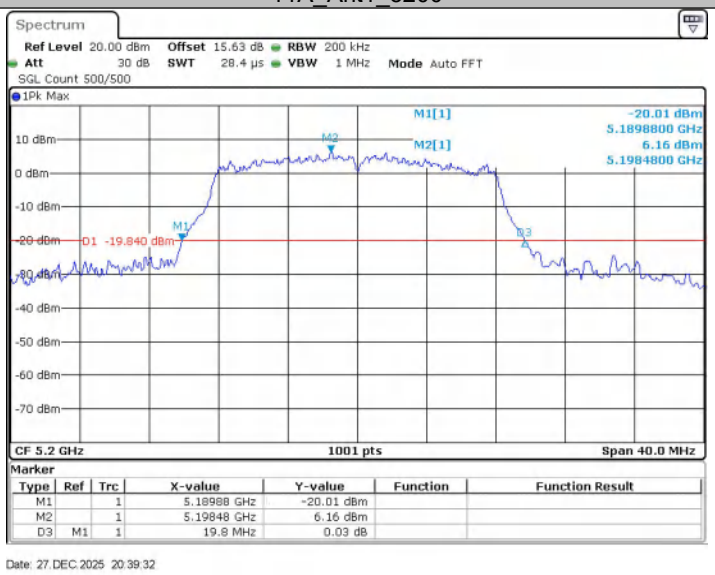
TestMode	Freq(MHz)	6db EBW [MHz]	Limit[MHz]	Verdict
11A	5745	16.04	0.5	PASS
	5785	15.04	0.5	PASS
	5825	15.08	0.5	PASS
11N20SISO	5745	15.08	0.5	PASS
	5785	15.12	0.5	PASS
	5825	15.12	0.5	PASS
11AC20SISO	5745	15.04	0.5	PASS
	5785	15.08	0.5	PASS
	5825	16.04	0.5	PASS

Test Graph

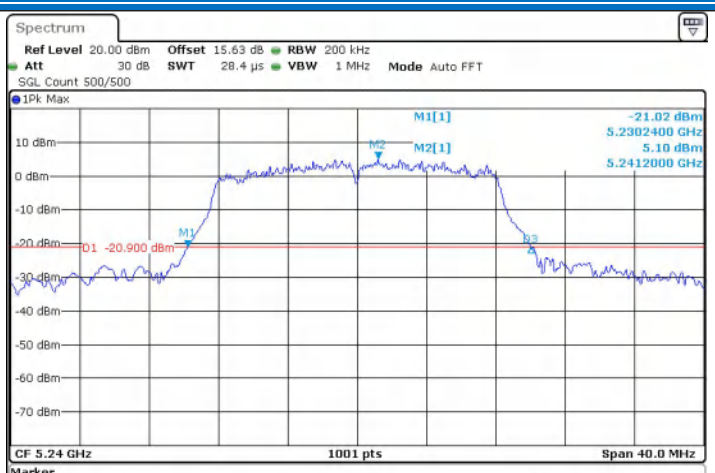
11A_Ant1_5180



11A_Ant1_5200



11A_Ant1_5240

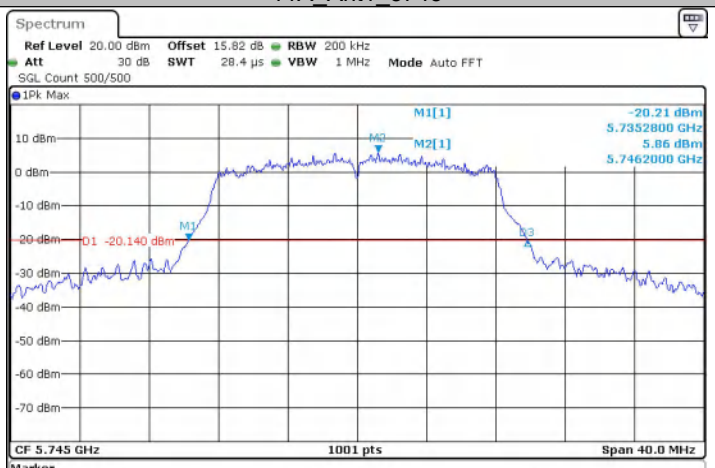


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	5.23024 GHz	-21.02 dBm		
M2		1	5.2412 GHz	5.10 dBm		
D3	M1	1	19.76 MHz	-0.08 dB		

Date: 27.DEC.2025 20:40:40

11A_Ant1_5745

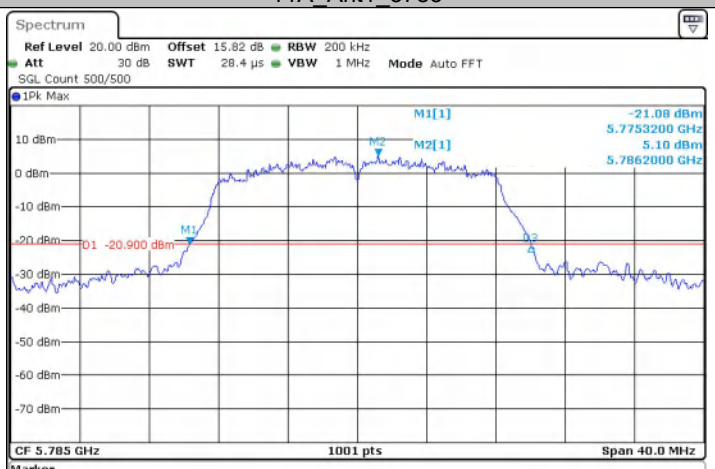


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	5.73528 GHz	-20.21 dBm		
M2		1	5.7462 GHz	5.86 dBm		
D3	M1	1	19.52 MHz	-0.02 dB		

Date: 27.DEC.2025 20:42:17

11A_Ant1_5785

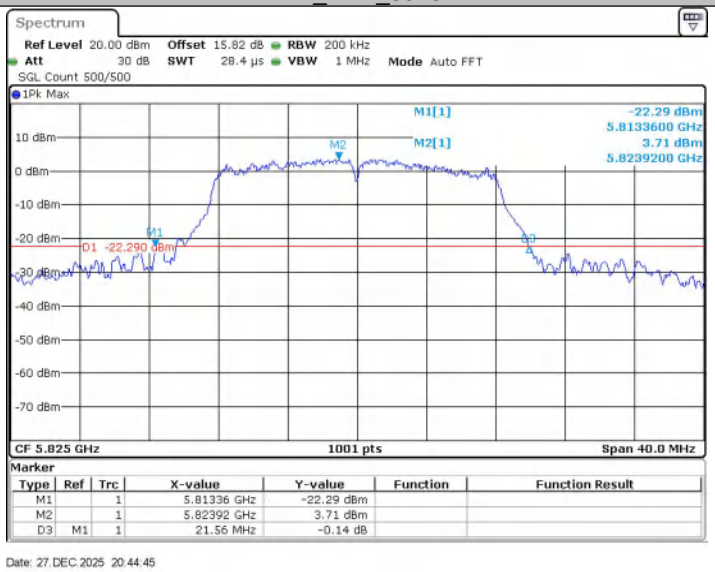


Marker

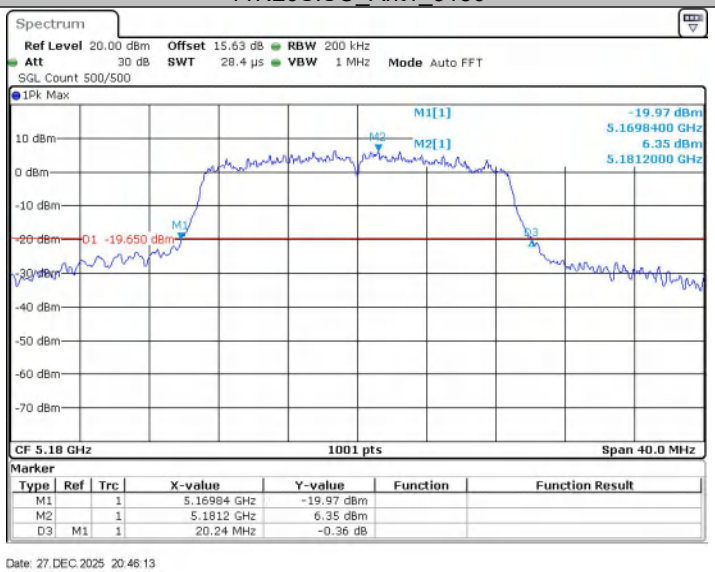
Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	5.77532 GHz	-21.08 dBm		
M2		1	5.7862 GHz	5.10 dBm		
D3	M1	1	19.72 MHz	-0.32 dB		

Date: 27.DEC.2025 20:43:39

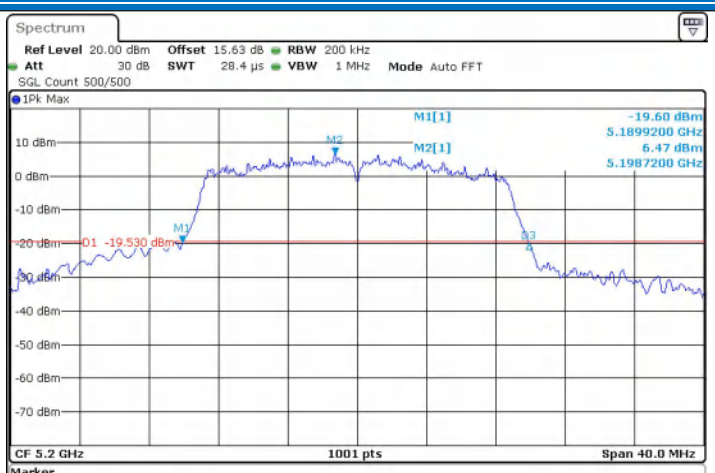
11A_Ant1_5825



11N20SISO_Ant1_5180



11N20SISO_Ant1_5200

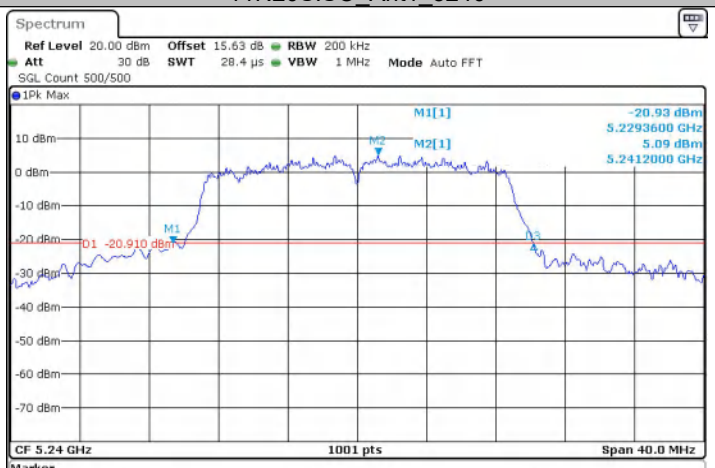


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	5.18992 GHz	-19.60 dBm		
M2		1	5.19872 GHz	6.47 dBm		
D3	M1	1	20.0 MHz	-0.29 dB		

Date: 27.DEC.2025 20:48:09

11N20SISO_Ant1_5240

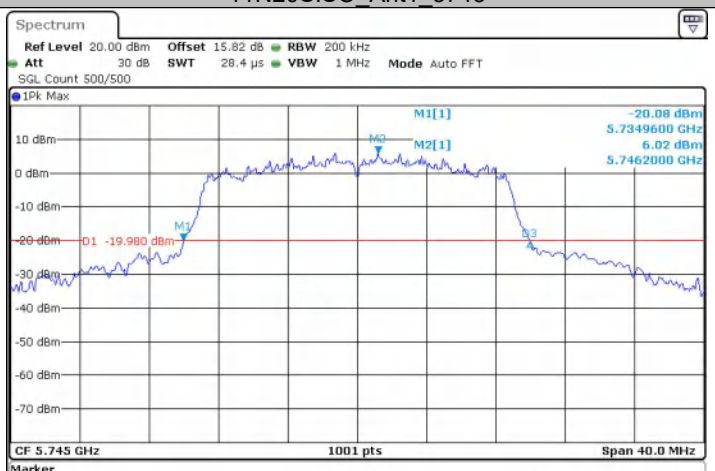


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	5.22936 GHz	-20.93 dBm		
M2		1	5.2412 GHz	5.09 dBm		
D3	M1	1	20.8 MHz	-0.41 dB		

Date: 27.DEC.2025 20:49:14

11N20SISO_Ant1_5745

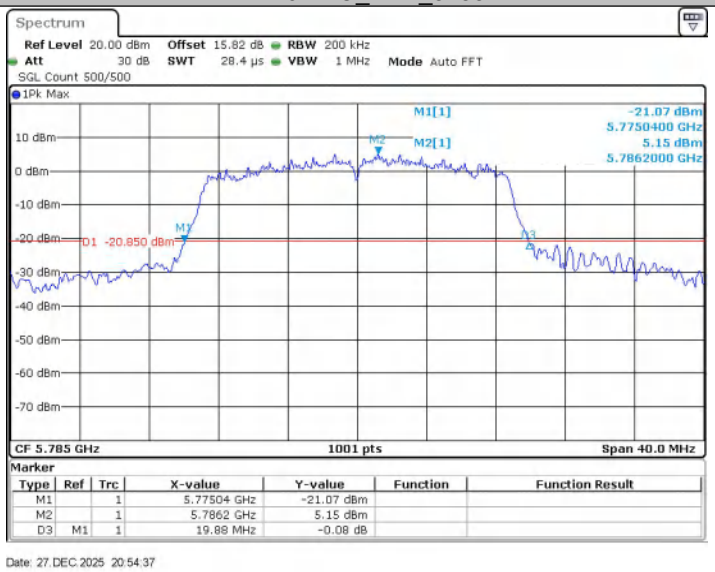


Marker

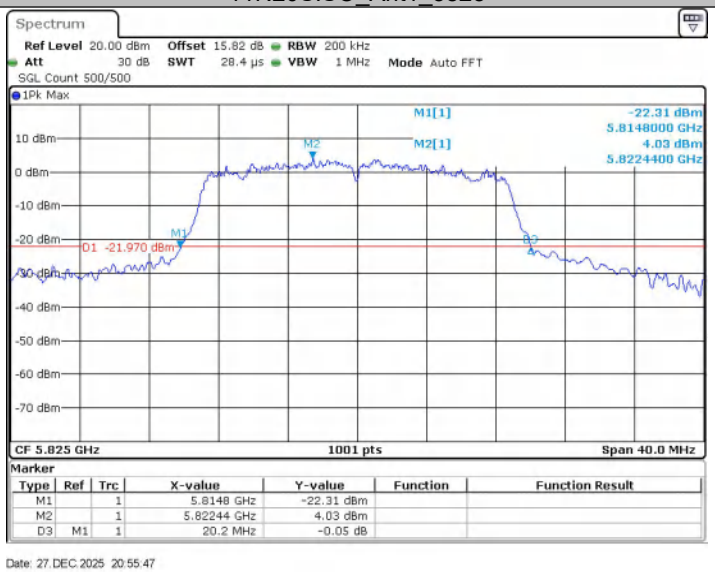
Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	5.73496 GHz	-20.08 dBm		
M2		1	5.7462 GHz	6.02 dBm		
D3	M1	1	20.0 MHz	-0.27 dB		

Date: 27.DEC.2025 20:50:55

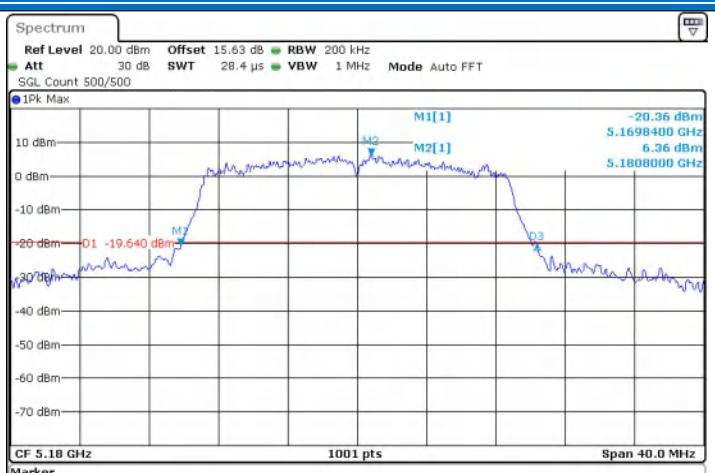
11N20SISO_Ant1_5785



11N20SISO_Ant1_5825



11AC20SISO_Ant1_5180

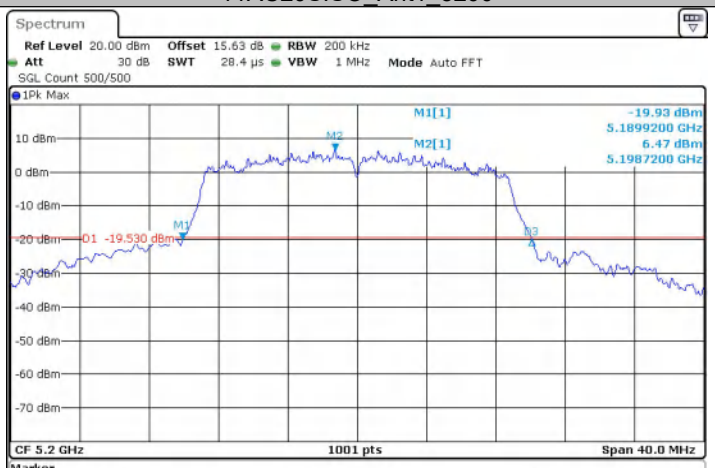


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	5.16984 GHz	-20.36 dBm		
M2		1	5.1808 GHz	6.36 dBm		
D3	M1	1	20.52 MHz	0.18 dB		

Date: 27.DEC.2025 21:00:10

11AC20SISO_Ant1_5200

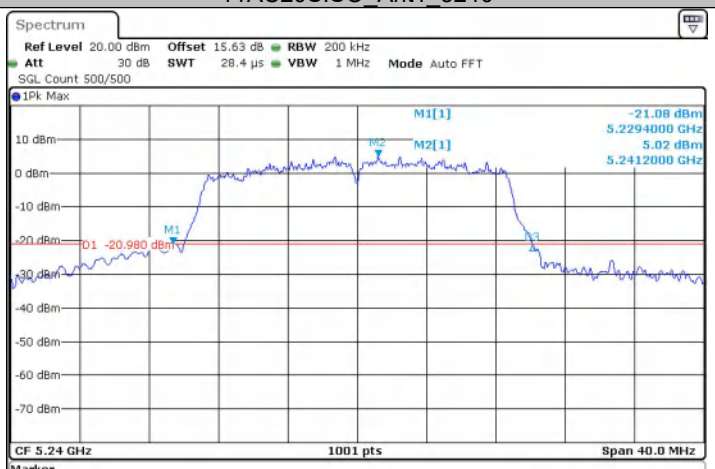


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	5.18992 GHz	-19.93 dBm		
M2		1	5.19872 GHz	6.47 dBm		
D3	M1	1	20.16 MHz	-0.05 dB		

Date: 27.DEC.2025 21:01:15

11AC20SISO_Ant1_5240

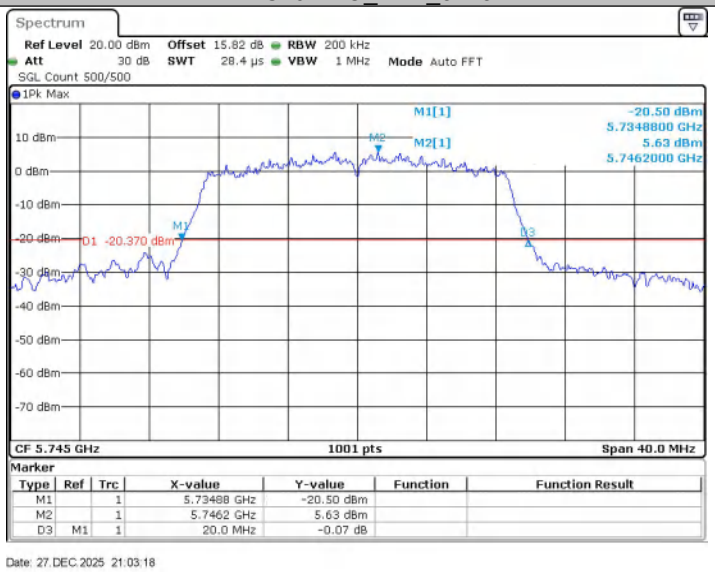


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	5.2294 GHz	-21.08 dBm		
M2		1	5.2412 GHz	5.02 dBm		
D3	M1	1	20.72 MHz	-0.09 dB		

Date: 27.DEC.2025 21:02:18

11AC20SISO_Ant1_5745



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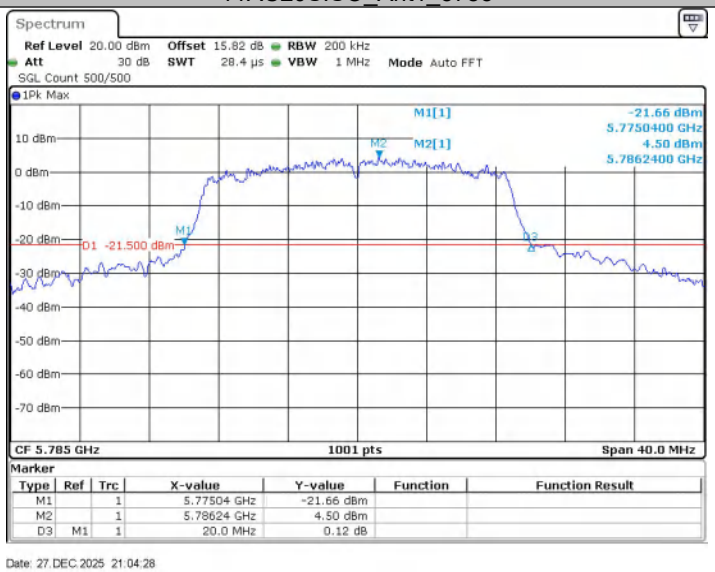

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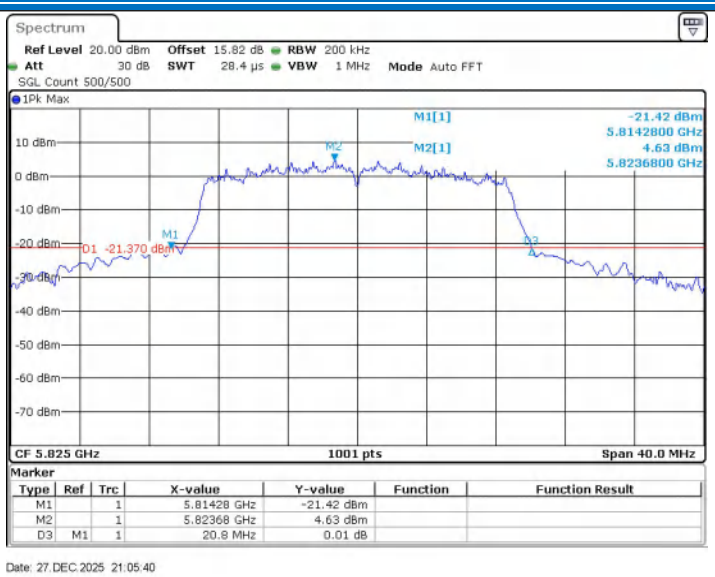
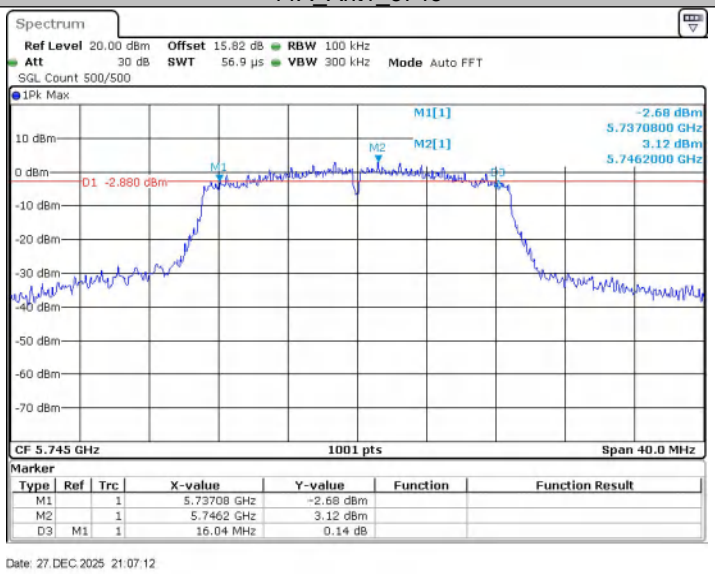
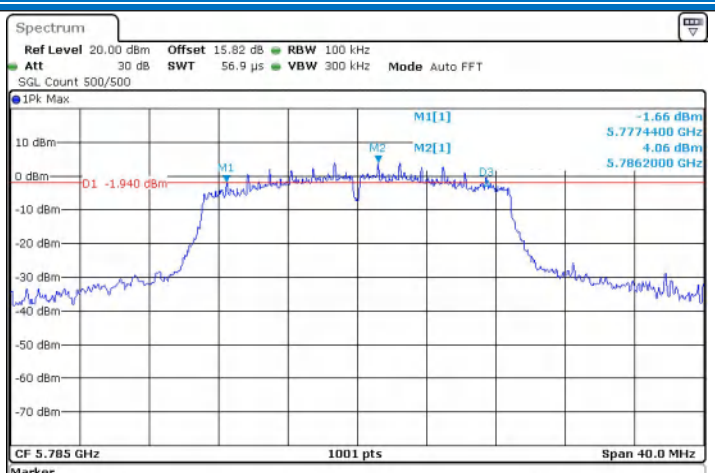


11A_Ant1_5745



11A_Ant1_5785

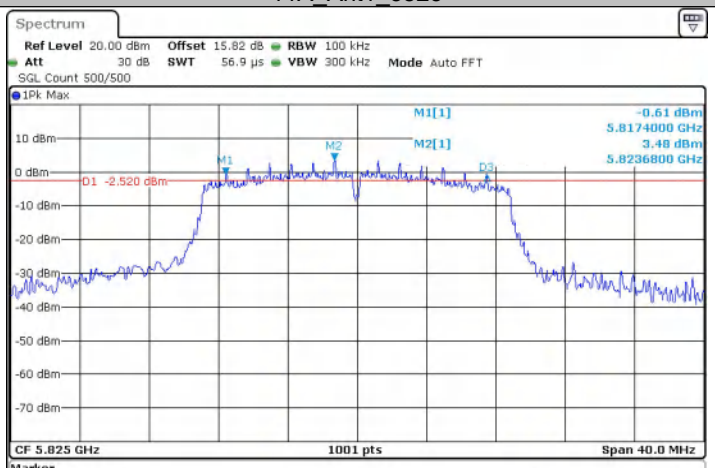


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	5.77744 GHz	-1.66 dBm		
M2		1	5.7862 GHz	4.06 dBm		
D3	M1	1	15.04 MHz	0.39 dB		

Date: 27.DEC.2025 21:07:25

11A_Ant1_5825

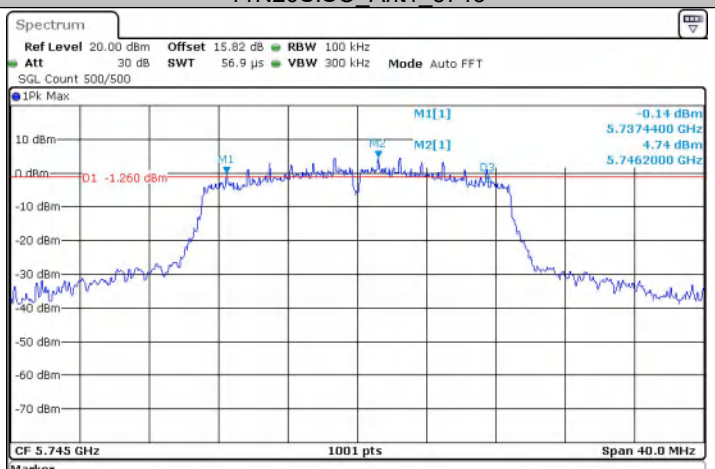


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	5.8174 GHz	-0.61 dBm		
M2		1	5.82368 GHz	3.48 dBm		
D3	M1	1	15.08 MHz	-0.28 dB		

Date: 27.DEC.2025 21:07:40

11N20SISO_Ant1_5745

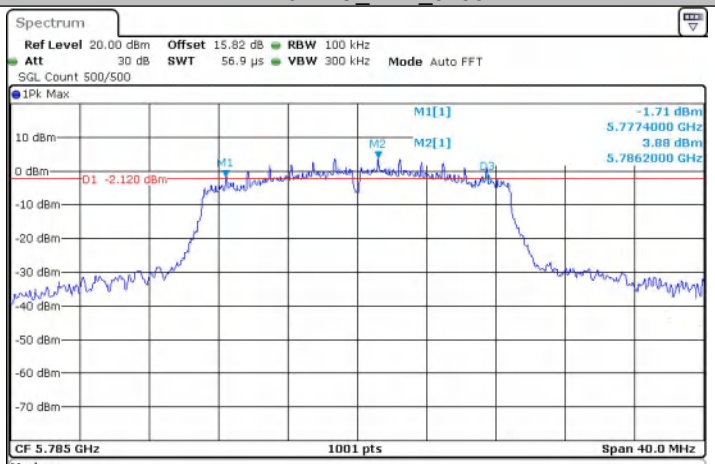


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	5.73744 GHz	-0.14 dBm		
M2		1	5.7462 GHz	4.74 dBm		
D3	M1	1	15.08 MHz	-0.60 dB		

Date: 27.DEC.2025 21:07:54

11N20SISO_Ant1_5785

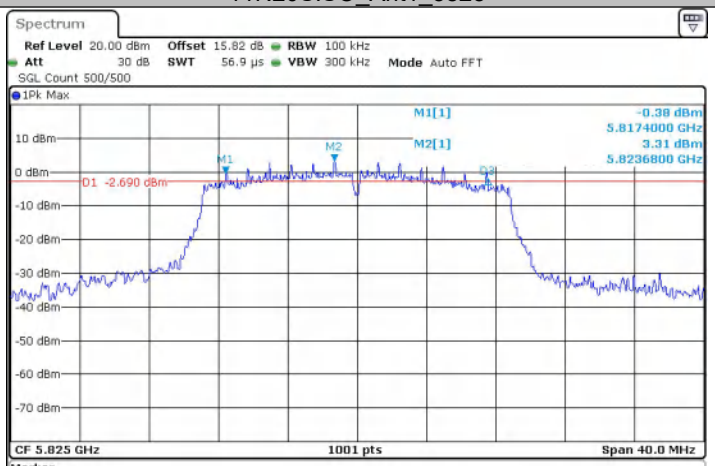


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	5.7774 GHz	-1.71 dBm		
M2		1	5.7862 GHz	3.88 dBm		
D3	M1	1	15.12 MHz	0.91 dB		

Date: 27.DEC.2025 21:08:07

11N20SISO_Ant1_5825

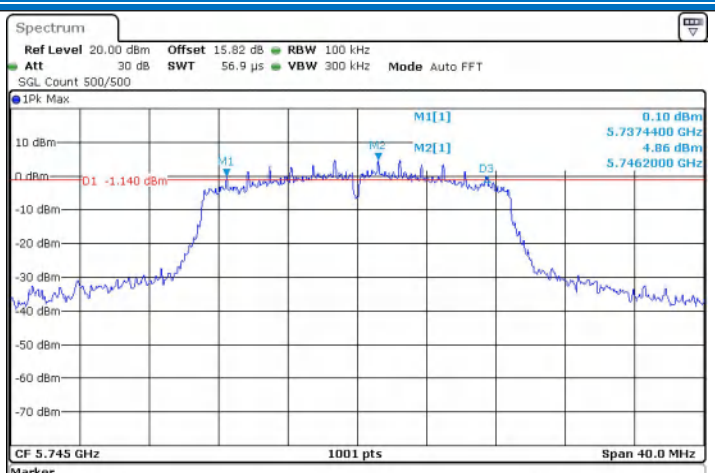


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	5.8174 GHz	-0.38 dBm		
M2		1	5.82368 GHz	3.31 dBm		
D3	M1	1	15.12 MHz	-1.46 dB		

Date: 27.DEC.2025 21:08:21

11AC20SISO_Ant1_5745

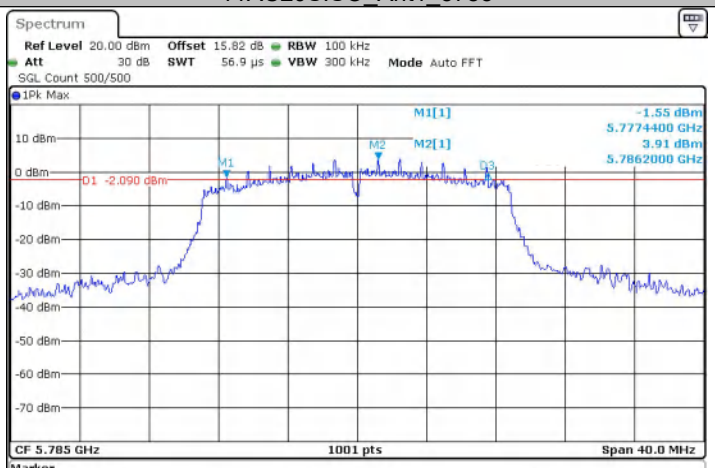


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	5.73744 GHz	0.10 dBm		
M2		1	5.7462 GHz	4.86 dBm		
D3	M1	1	15.04 MHz	-0.11 dB		

Date: 27.DEC.2025 21:08:36

11AC20SISO_Ant1_5785

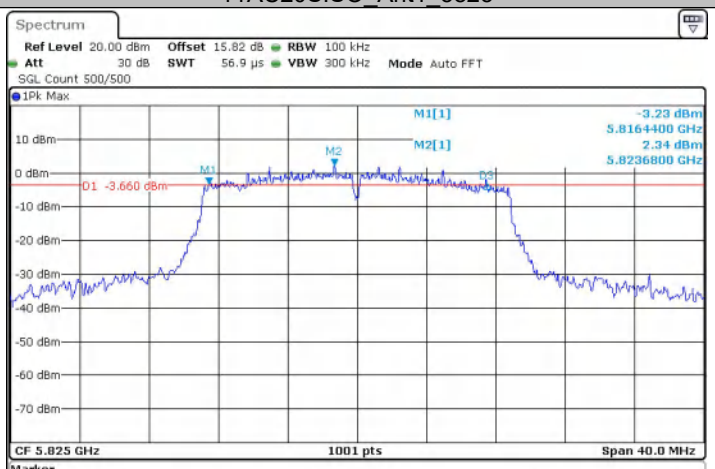


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	5.77744 GHz	-1.55 dBm		
M2		1	5.7862 GHz	3.91 dBm		
D3	M1	1	15.08 MHz	1.09 dB		

Date: 27.DEC.2025 21:08:49

11AC20SISO_Ant1_5825



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	5.81644 GHz	-3.23 dBm		
M2		1	5.82368 GHz	2.34 dBm		
D3	M1	1	16.04 MHz	0.17 dB		

Date: 27.DEC.2025 21:09:06

Appendix B): Maximum Conduct Output Power

1.Duty Cycle (x)

Test Requirement KDB 789033 D02 II B 1

Test Method: KDB 789033 II B 1

Test Procedure:

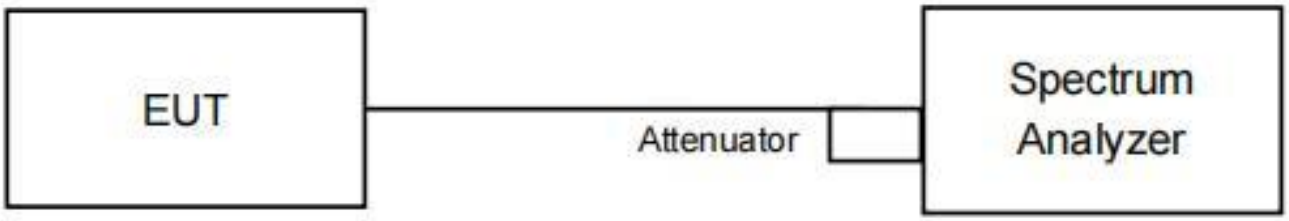
Set RBW = 20MHz

Set VBW = 40MHz

Set detector = peak.

Set span =0Hz

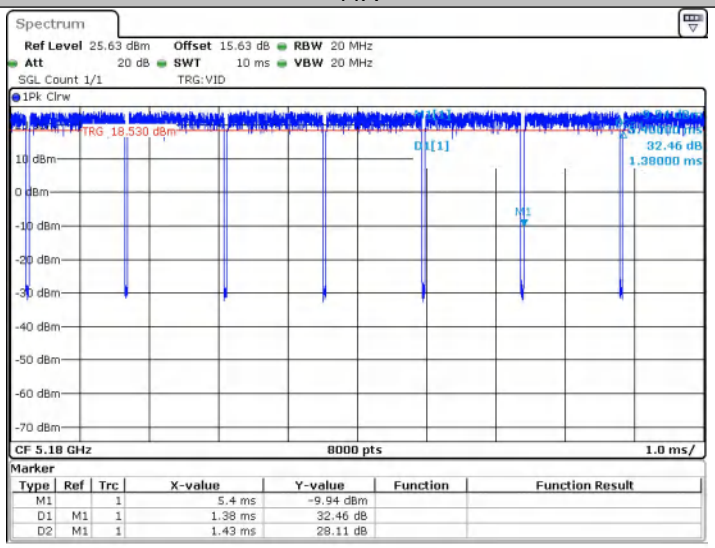
Test Setup Diagram



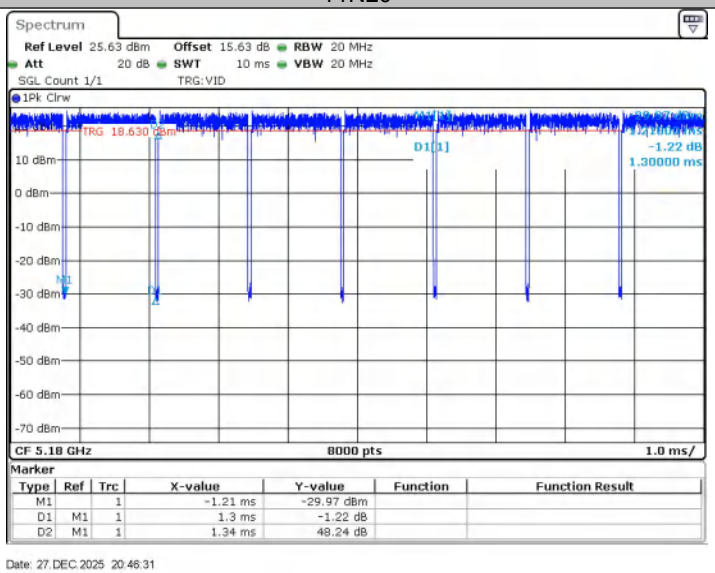
Measurement Data

Test Mode	Antenna	Duty Cycle[%]	10log(1/x) Factor[dB]
11A	Ant1	96.50	0.15
11N20	Ant1	97.01	0.13
11AC20	Ant1	97.01	0.13

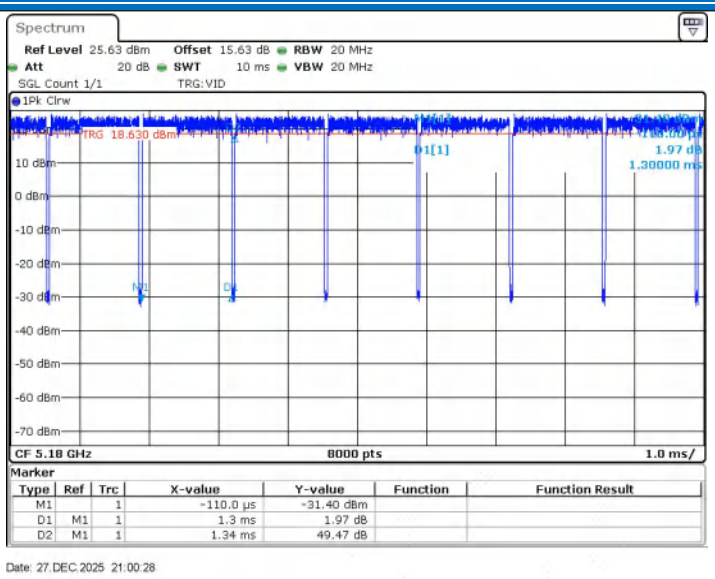
11A



11N20



11AC20


Spectrum
Ref Level 25.63 dBm Offset 15.63 dB RBW 20 MHz
Att 20 dB SWT 10 ms VBW 20 MHz
SGL Count 1/1 TRG:VID
1Pk Clrw
TRG 18.630 dBm
D1[1]
1.97 dB
1.30000 ms
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
CF 5.18 GHz
8000 pts
1.0 ms/
Marker
Type Ref Trc X-value Y-value Function Function Result
M1 1 -110.0 µs -31.40 dBm
D1 M1 1 1.3 ms 1.97 dB
D2 M1 1 1.34 ms 49.47 dB
Date: 27.DEC.2025 21:00:28

2. Maximum Conducted Output Power

Test Requirement 47 CFR Part 15, Subpart C 15.407 (a)

Test Method: KDB 789033 D02 II E

Limit:

Frequency band(MHz)	Limit
5150-5250	≤1W(30dBm) for master device
	≤250mW(24dBm) for client device
5250-5350	≤250mW(24dBm) for client device or 11dBm+10logB*
5470-5725	≤250mW(24dBm) for client device or 11dBm+10logB*
5725-5850	≤1W(30dBm)
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.

Test Procedure:

Method SA-2 (trace averaging across on and off times of the EUT transmissions, followed by duty cycle correction).

(1) Set RBW = 1 MHz.

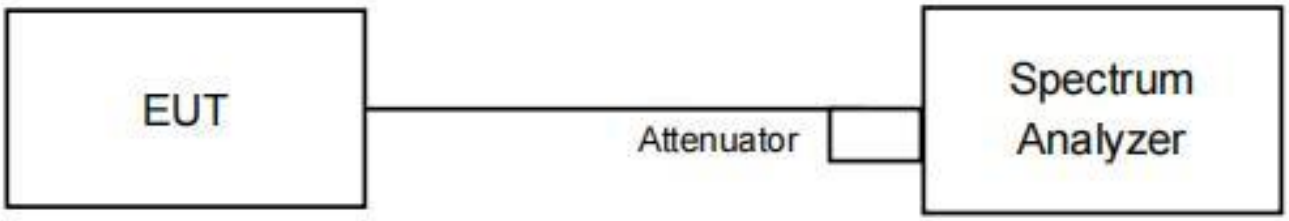
(2) Set VBW ≥ 3 MHz.

(3) Detector = power average

(4) Sweep time = auto.

(5) Add duty cycle to the measured average power.

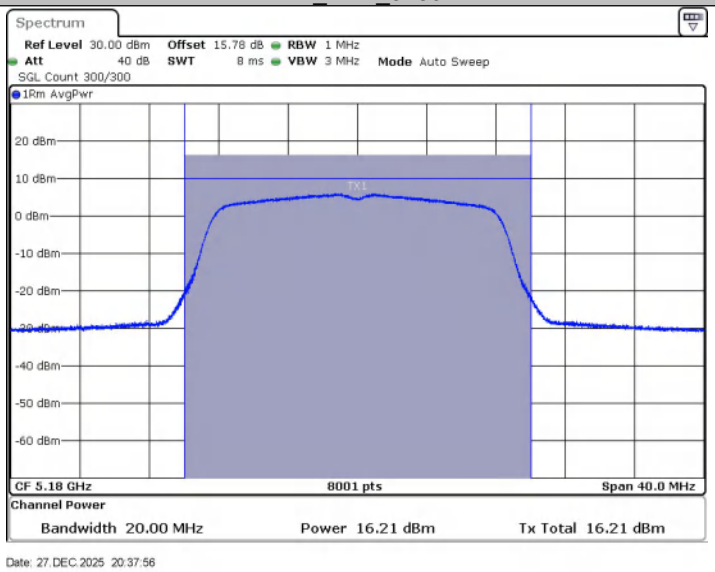
Test Setup Diagram



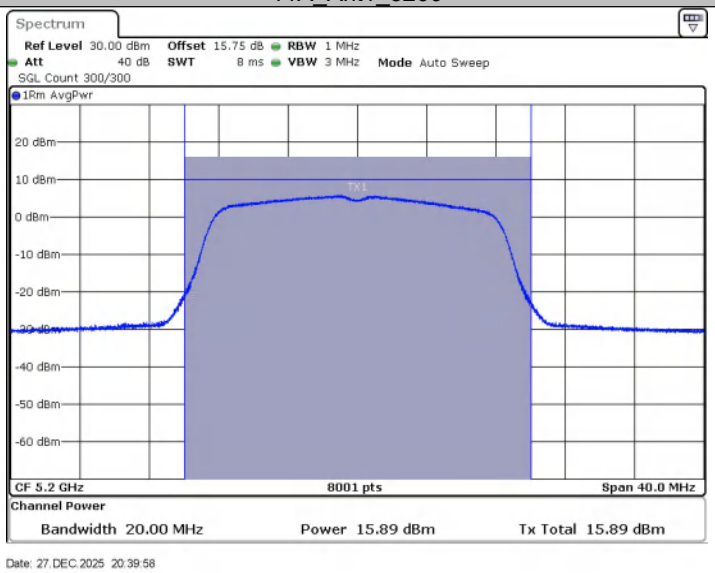
Measurement Data

Test Mode	Antenna	Freq(MHz)	Result [dBm]	Limit [dBm]	Verdict
11A	Ant1	5180	16.21	≤23.98	PASS
		5200	15.89	≤23.98	PASS
		5240	14.59	≤23.98	PASS
		5745	15.06	≤30.00	PASS
		5785	14.28	≤30.00	PASS
		5825	14.13	≤30.00	PASS
11N20SISO	Ant1	5180	16.14	≤23.98	PASS
		5200	15.92	≤23.98	PASS
		5240	14.44	≤23.98	PASS
		5745	14.83	≤30.00	PASS
		5785	14.09	≤30.00	PASS
		5825	14.00	≤30.00	PASS
11AC20SISO	Ant1	5180	16.20	≤23.98	PASS
		5200	15.89	≤23.98	PASS
		5240	14.66	≤23.98	PASS
		5745	14.86	≤30.00	PASS
		5785	14.13	≤30.00	PASS
		5825	13.96	≤30.00	PASS

11A_Ant1_5180



11A_Ant1_5200



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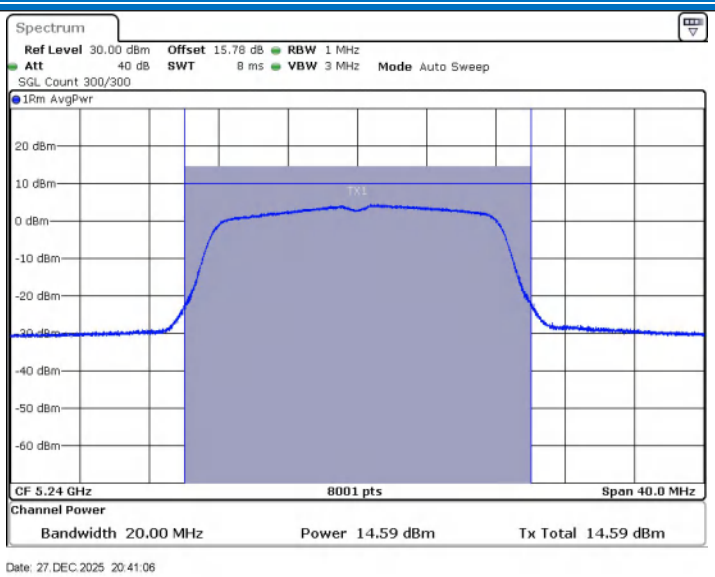

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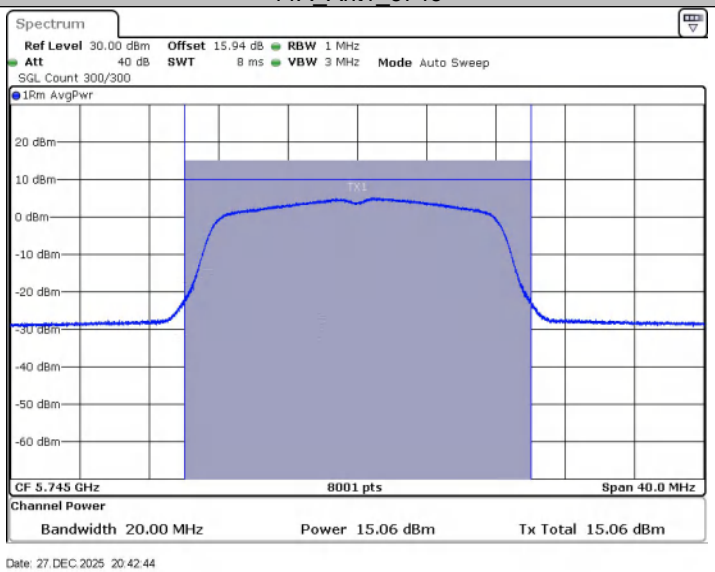

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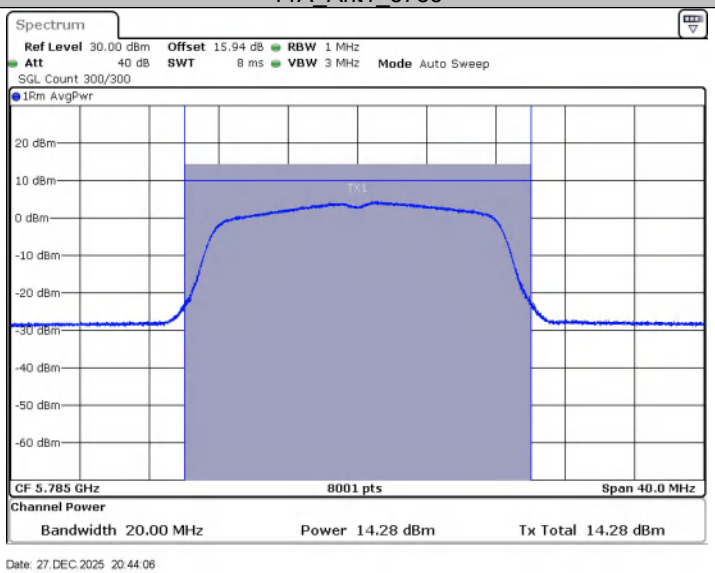

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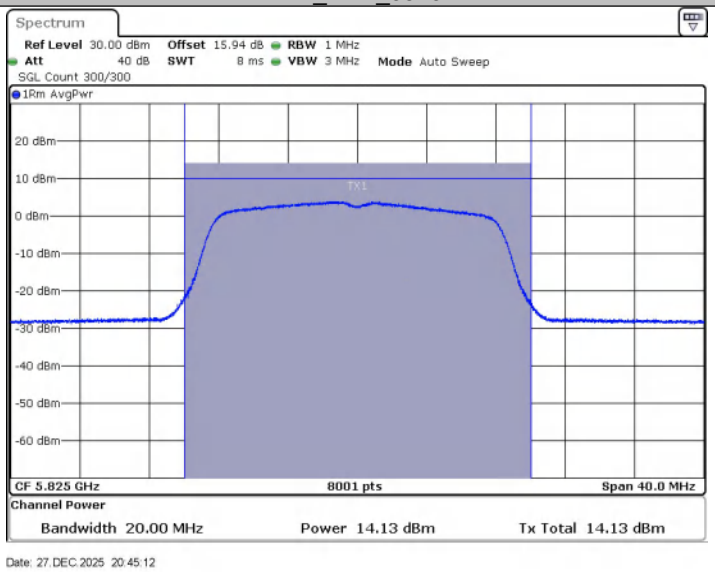

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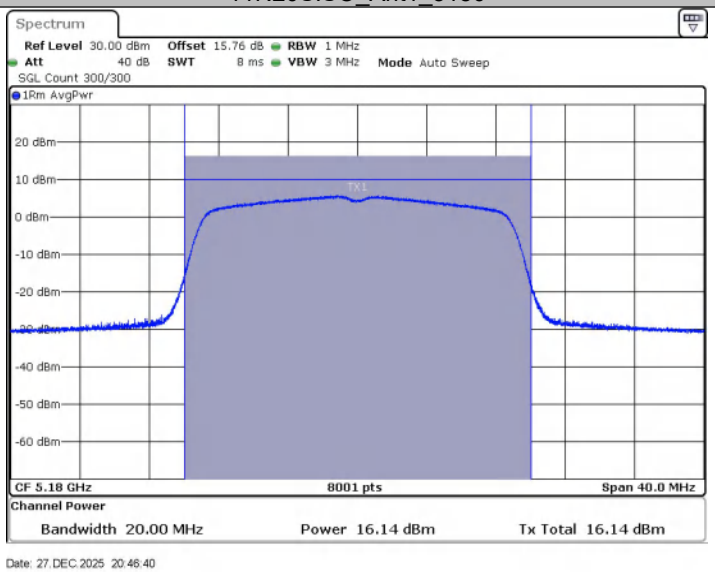

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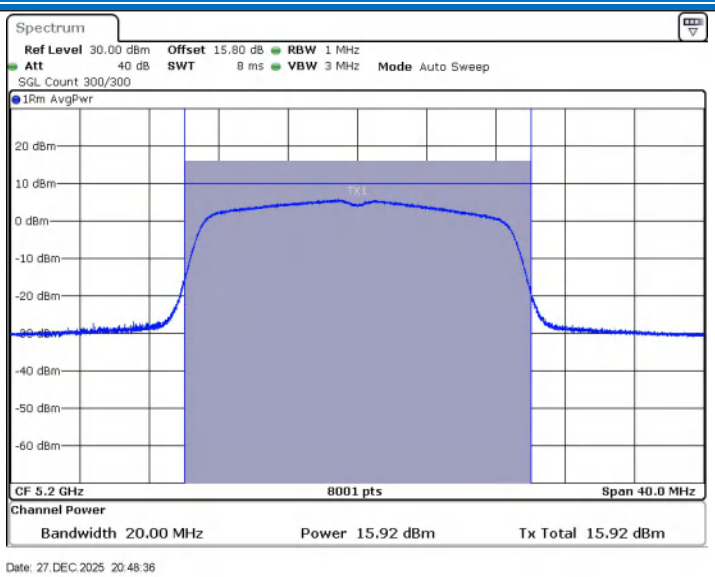

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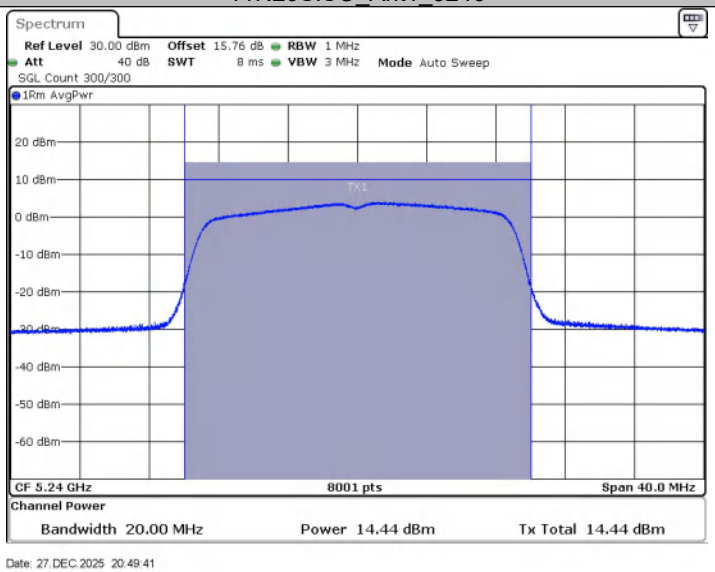

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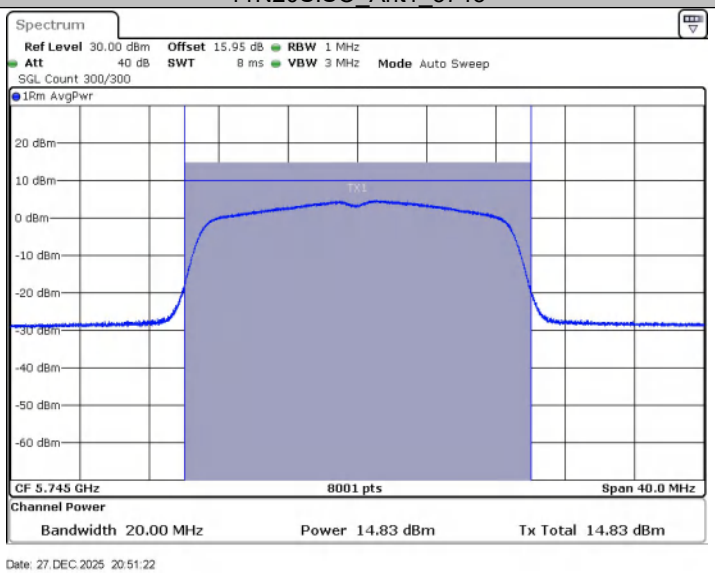

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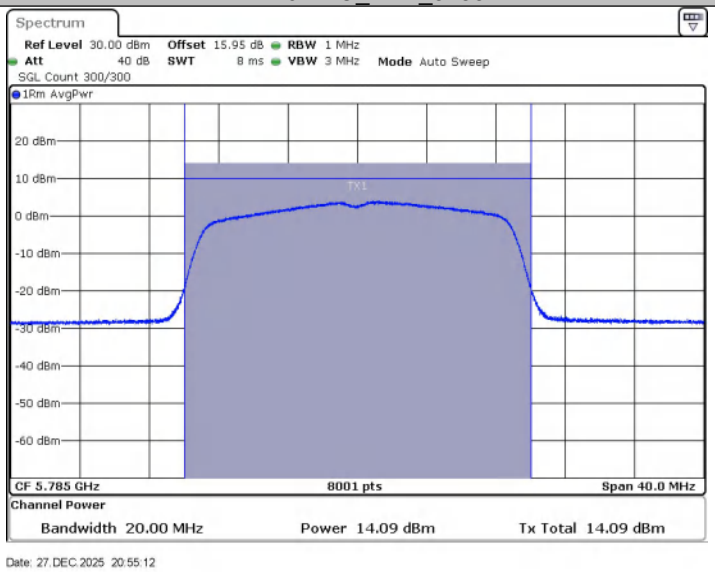

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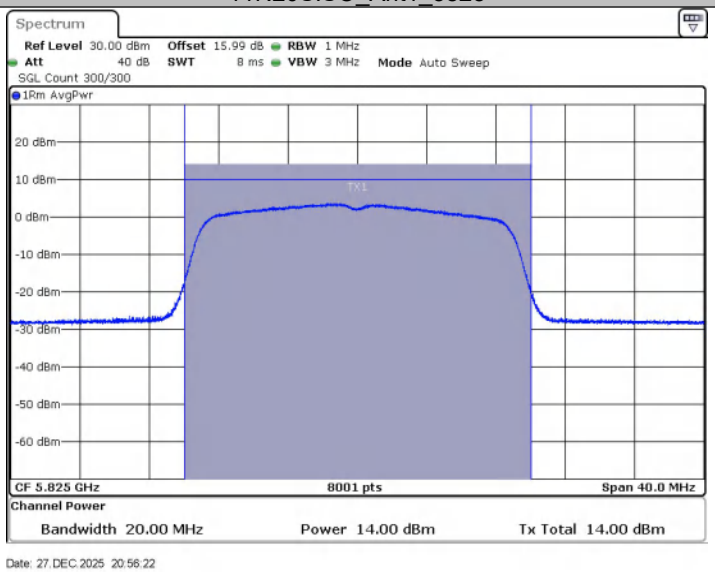

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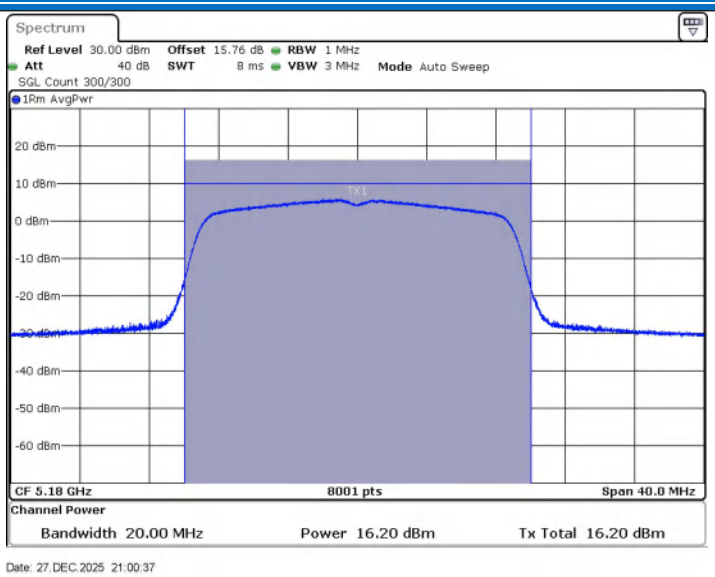

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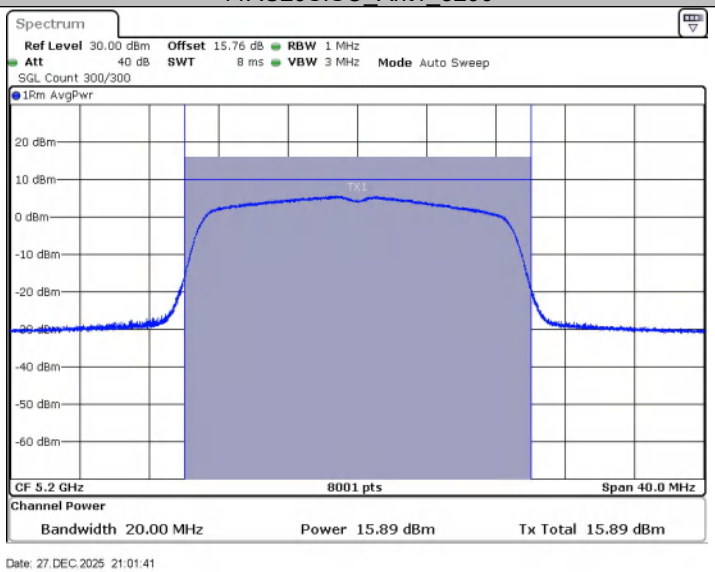

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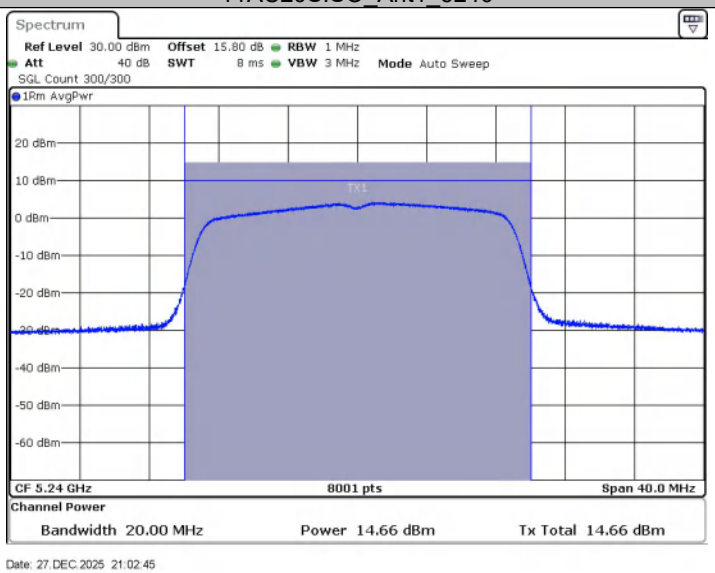
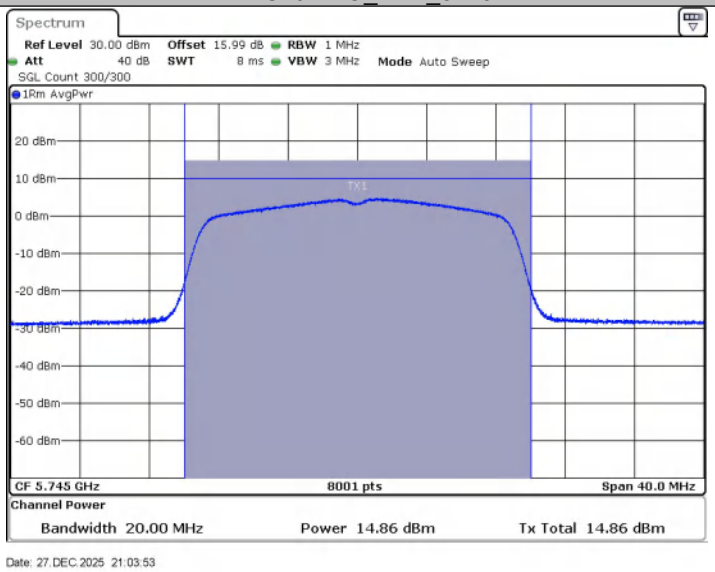
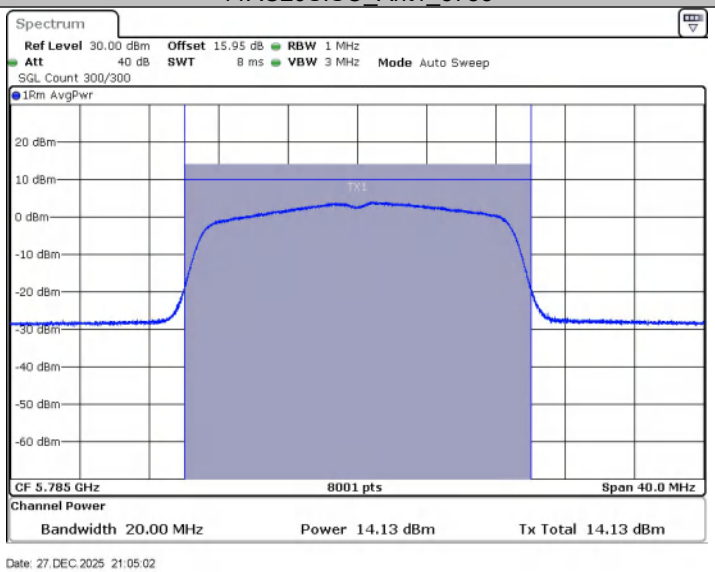


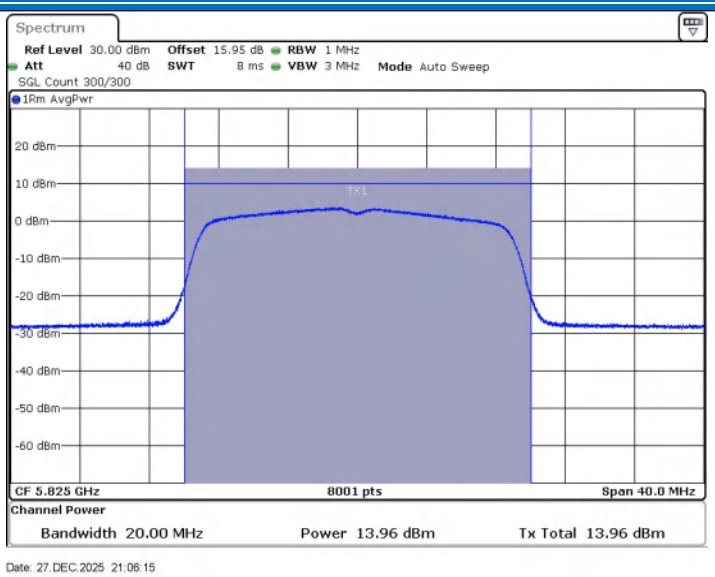
11AC20SISO_Ant1_5745



11AC20SISO_Ant1_5785



11AC20SISO_Ant1_5825



Remark:
Av.Power=Meas.Level+10 log (1/duty cycle)
E.i.r.p=Av.Power+G,
G = antenna gain in dBi.

Appendix C): Maximum Power Spectral Density

Test Requirement 47 CFR Part 15, Subpart C 15.407 (a)

Test Method: KDB 789033 D02 II F

Test Procedure:

For 5150-5725MHz:

1. Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
2. Set the EUT Work on operation frequency individually.
3. Set RBW = 1MHz.
4. Set the VBW ≥3*RBW. Detector = Peak. Trace mode = max hold.

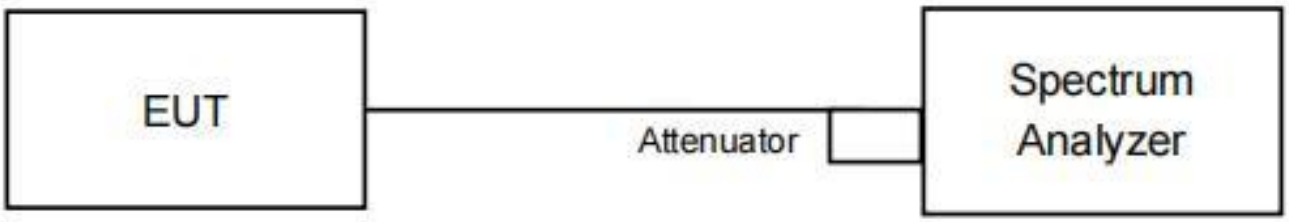
For 5725-5850MHz:

1. Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
2. Set the EUT Work on operation frequency individually.
3. Set RBW = 500KHz.
4. Set the VBW ≥3*RBW. Detector = Peak. Trace mode = max hold.

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.

Test Setup Diagram



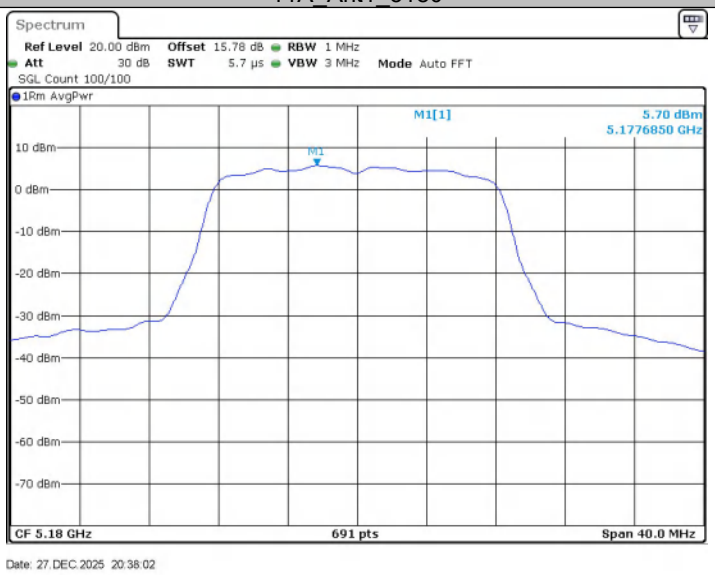
Result Table

TestMode	Freq(MHz)	Result [dBm/MHz]	Limit[dBm/MHz]	Verdict
11A	5180	5.70	≤11.00	PASS
	5200	5.54	≤11.00	PASS
	5240	4.13	≤11.00	PASS
	5745	1.80	≤30.00	PASS
	5785	1.30	≤30.00	PASS
	5825	0.87	≤30.00	PASS
11N20SISO	5180	5.20	≤11.00	PASS
	5200	5.51	≤11.00	PASS
	5240	4.11	≤11.00	PASS
	5745	1.43	≤30.00	PASS
	5785	0.97	≤30.00	PASS
	5825	0.71	≤30.00	PASS
11AC20SISO	5180	5.73	≤11.00	PASS
	5200	5.40	≤11.00	PASS
	5240	3.88	≤11.00	PASS
	5745	2.25	≤30.00	PASS
	5785	1.07	≤30.00	PASS
	5825	0.67	≤30.00	PASS

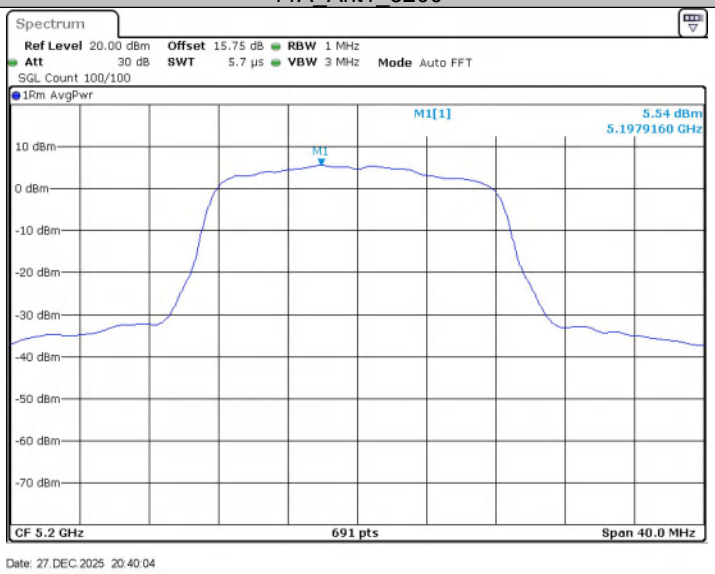
Remark:

PSD = Meas PSD + Duty Cycle Factor

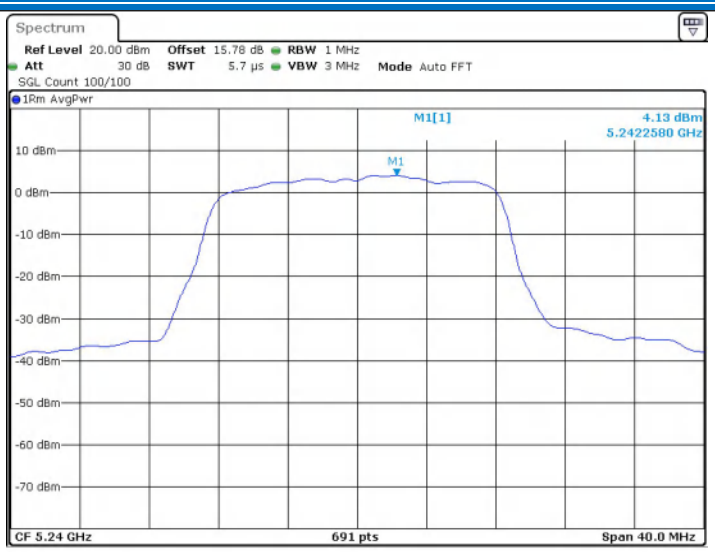
11A_Ant1_5180



11A_Ant1_5200

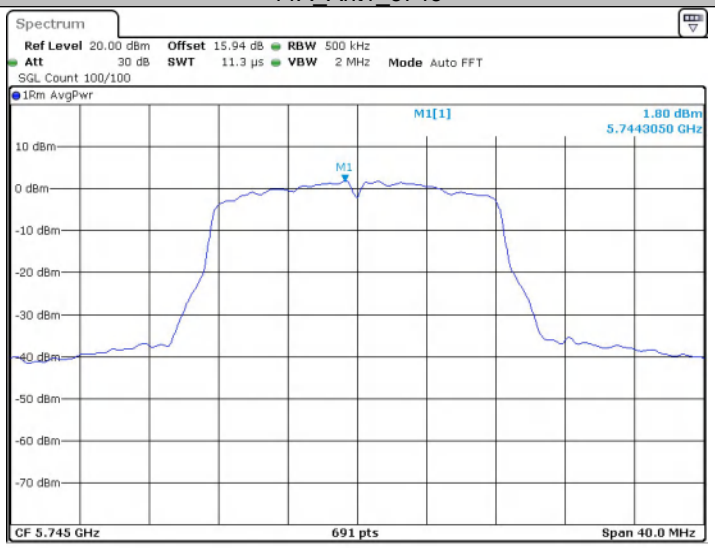


11A_Ant1_5240



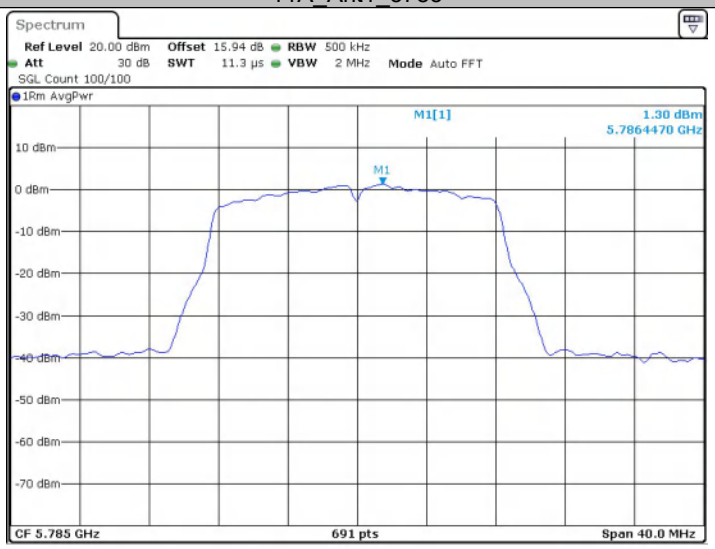
Date: 27.DEC.2025 20:41:12

11A_Ant1_5745



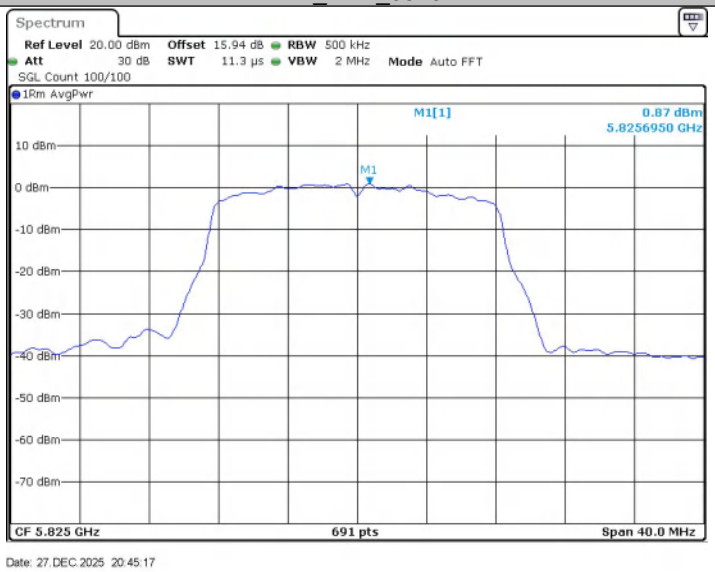
Date: 27.DEC.2025 20:42:50

11A_Ant1_5785

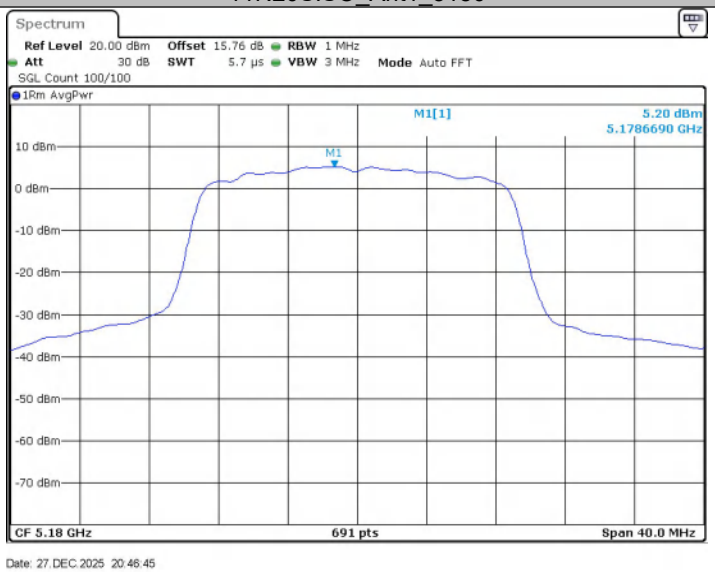


Date: 27.DEC.2025 20:44:11

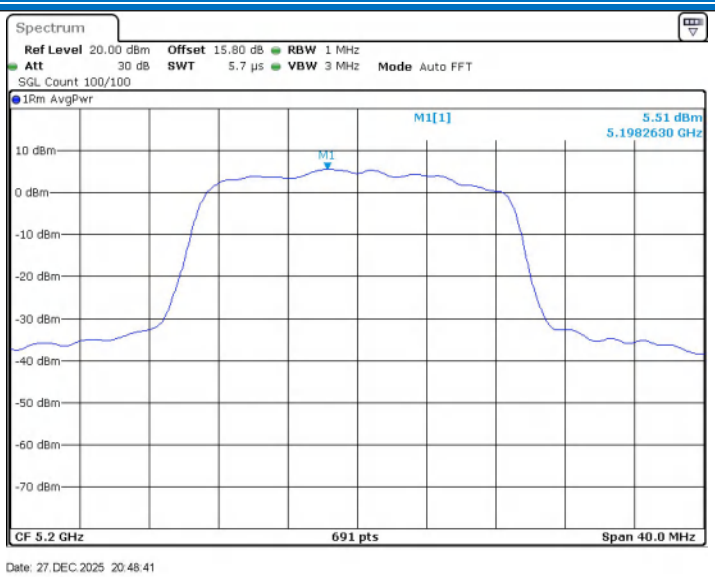
11A_Ant1_5825



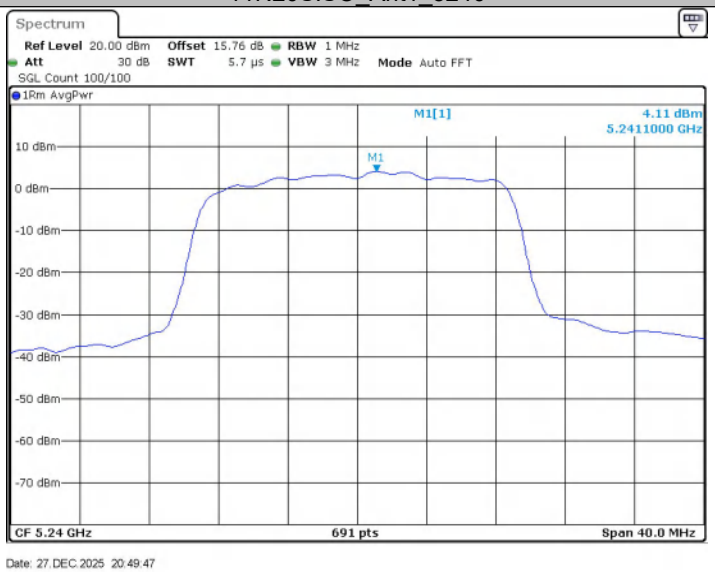
11N20SISO_Ant1_5180



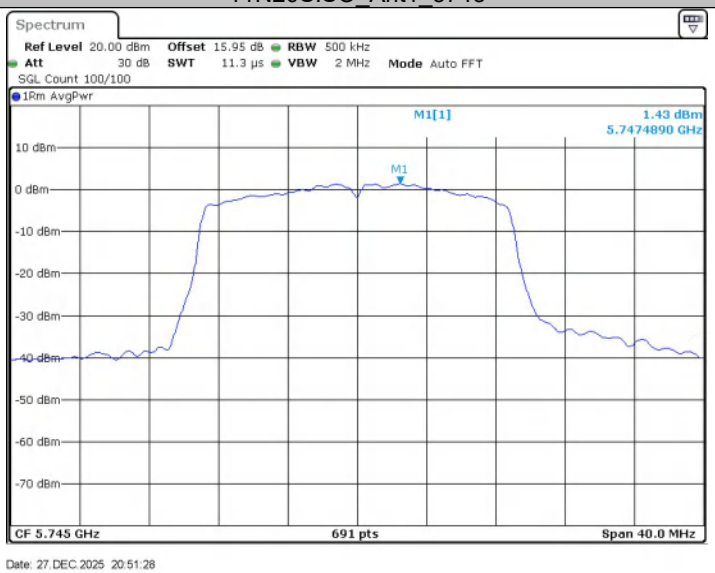
11N20SISO_Ant1_5200



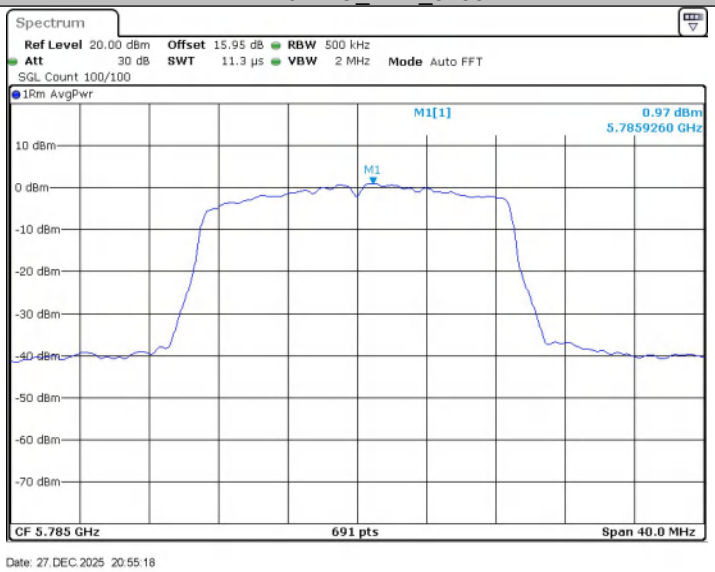
11N20SISO_Ant1_5240



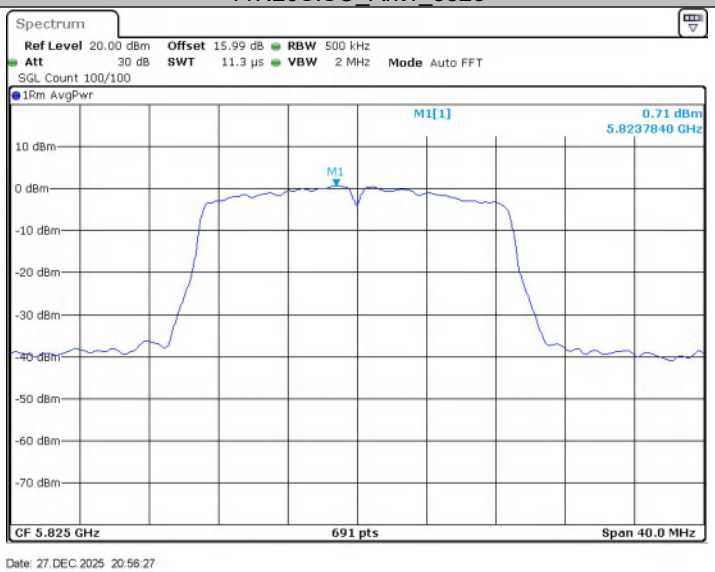
11N20SISO_Ant1_5745



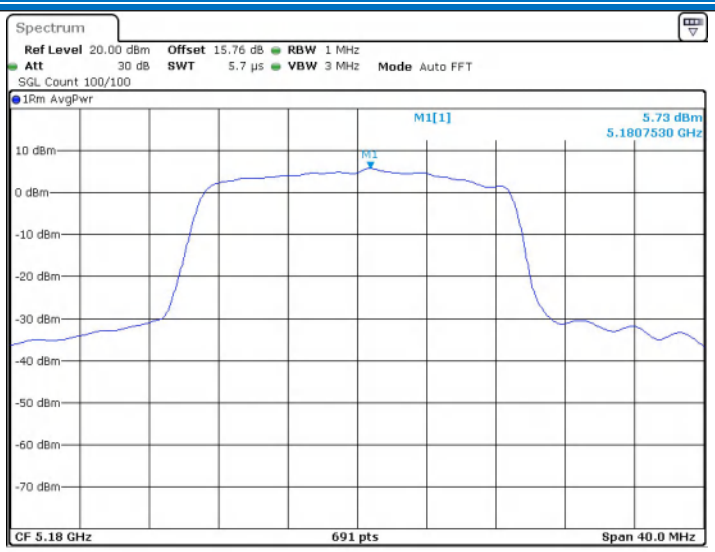
11N20SISO_Ant1_5785



11N20SISO_Ant1_5825

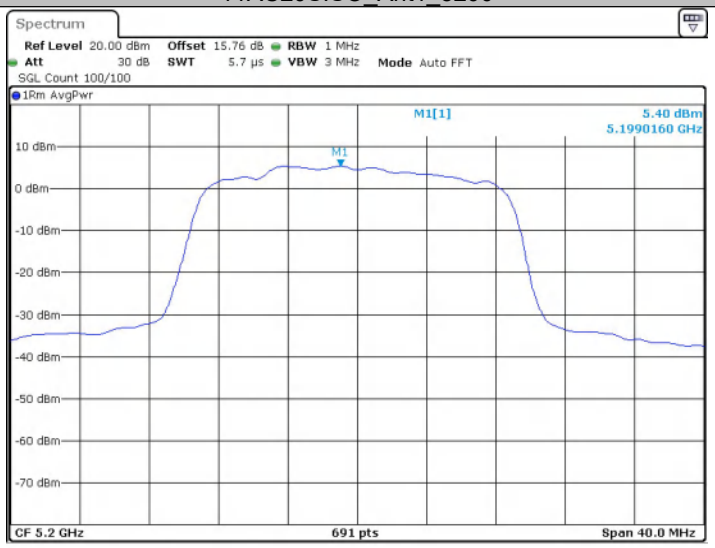


11AC20SISO_Ant1_5180



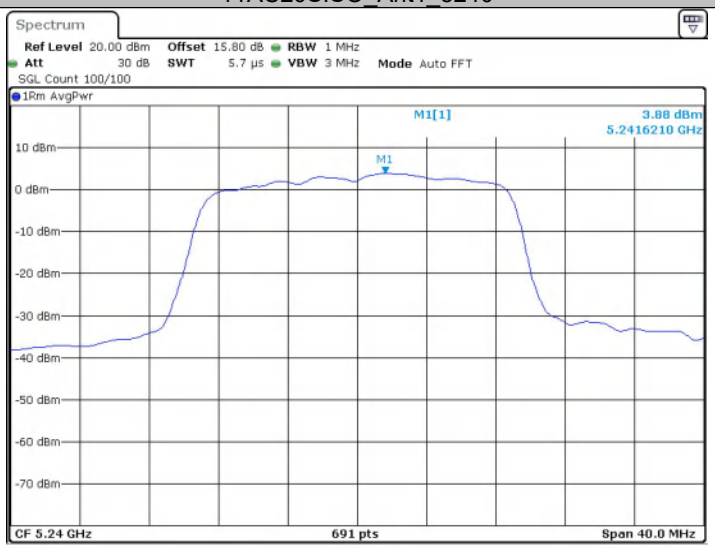
Date: 27.DEC.2025 21:00:43

11AC20SISO_Ant1_5200



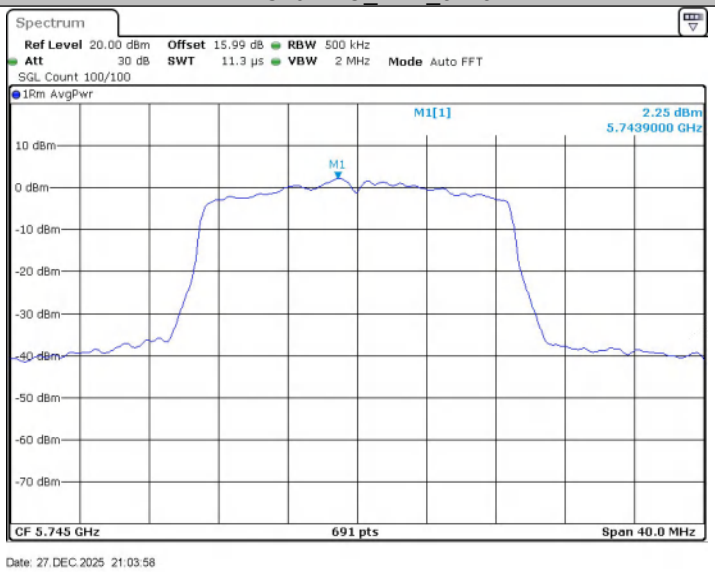
Date: 27.DEC.2025 21:01:47

11AC20SISO_Ant1_5240

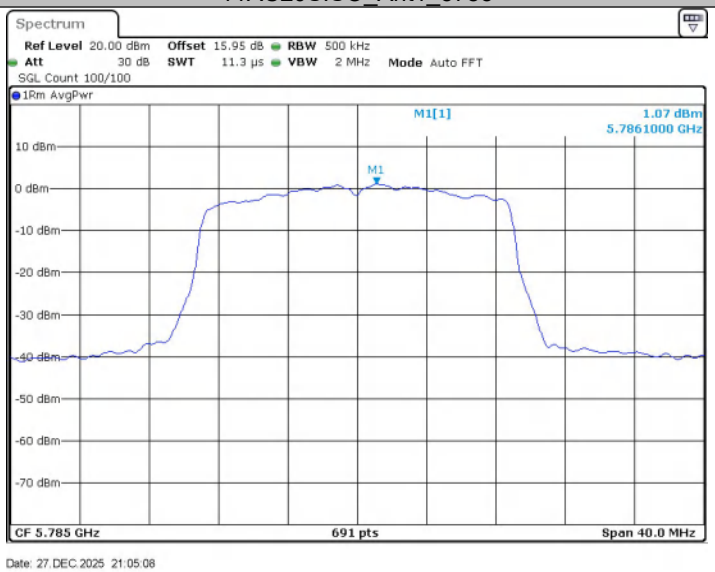


Date: 27.DEC.2025 21:02:50

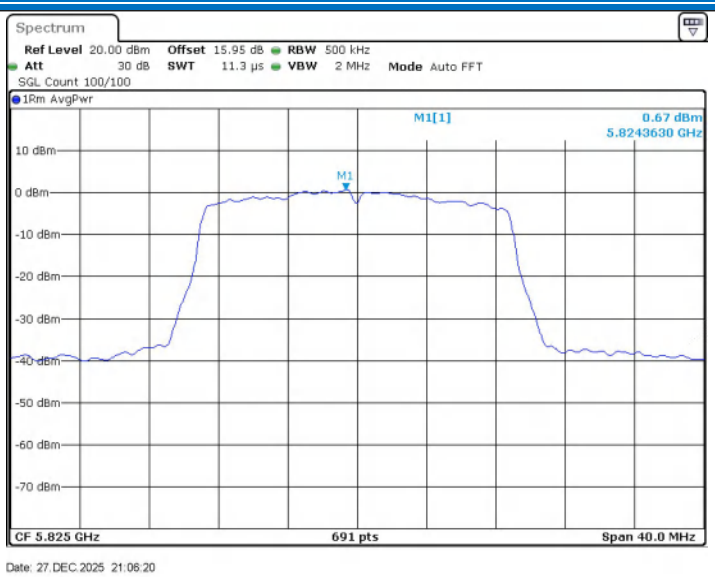
11AC20SISO_Ant1_5745



11AC20SISO_Ant1_5785



11AC20SISO_Ant1_5825


Spectrum
Ref Level 20.00 dBm Offset 15.95 dB RBW 500 kHz
Att 30 dB SWT 11.3 µs VBW 2 MHz Mode Auto FFT
SGL Count 100/100
1Rm AvgPwr
M1[1] 0.67 dBm
5.8243630 GHz
M1
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
CF 5.825 GHz
691 pts
Span 40.0 MHz
Date: 27.DEC.2025 21:06:20

Appendix D): Band Edge Measurements

Test Requirement 47 CFR Part 15, Subpart C 15.209 & 15.407(b)

Test Method: KDB 789033 D02 II G

Test Procedure:

1. The EUT operates at transmitting mode. The operate channel is tested to verify the largest transmission and spurious emissions power at the continuous transmission mode.

2. Set the spectrum analyzer in the following setting in order to capture the lower and upper band-edges of the emission:

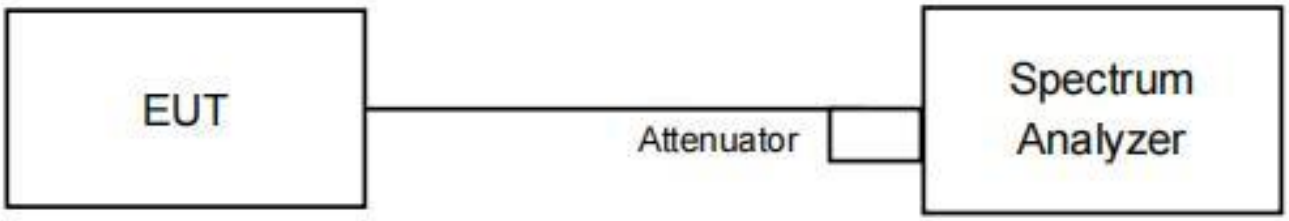
(a) PEAK: RBW=VBW=1MHz / Sweep=AUTO

(b) AVERAGE: RBW=1MHz ; VBW=1/on time(1KHz) / Sweep=AUTO

Limit:

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 dBm/MHz (68.2dBuV/m).
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 dBm/MHz (68.2dBuV/m).
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 dBm/MHz (68.2dBuV/m).
For transmitters operating in the 5.725-5.85 GHz band:	(i) All emissions shall be limited to a level of −27 dBm/MHz (68.2dBuV/m) at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz (105.2dBuV/m) 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 dBm/MHz (110.8dBuV/m) 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 dBm/MHz (122.2dBuV/m) at the band edge.

Test Setup Diagram



7.1.1 Test Result B1

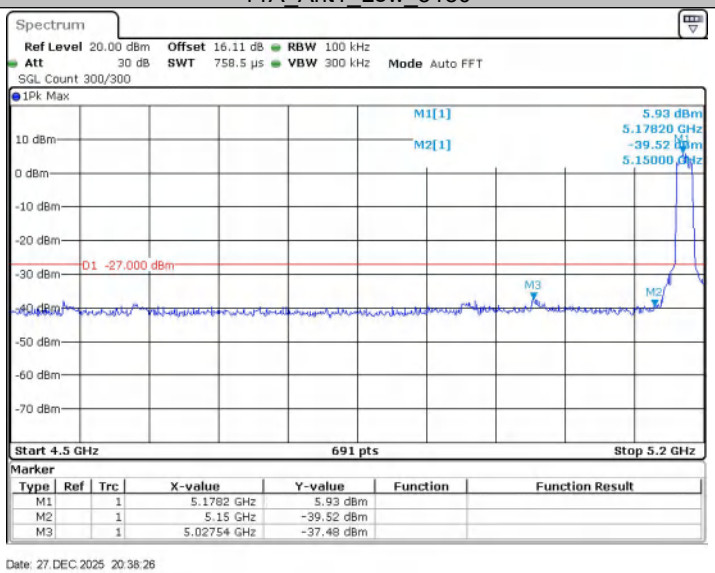
TestMode	ChName	Freq(MHz)	Result[dBm]	Limit[dBm]	Verdict
11A	Low	5180	-37.48	≤-27	PASS
	High	5240	-38.78	≤-27	PASS
11N20SISO	Low	5180	-37.55	≤-27	PASS
	High	5240	-39.16	≤-27	PASS

7.1.2 Test Result B4

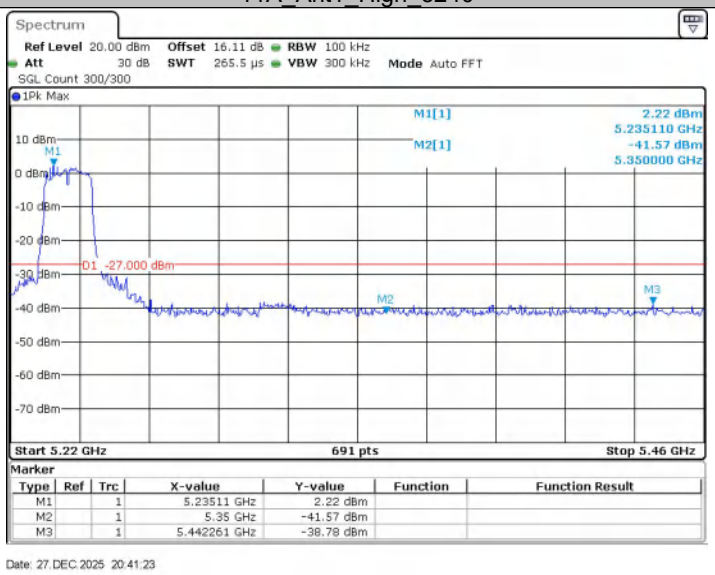
TestMode	ChName	Freq(MHz)	FreqRange [MHz]	Result [dBm]	Limit [dBm]	Verdict
11A	Low	5745	5650~5700	-40.51	≤-26.88	PASS
			5700~5720	-37.46	≤11.07	PASS
			5720~5725	-38.59	≤16.36	PASS
			5760~5650	-38.63	≤-27	PASS
	High	5825	5850~5855	-38.82	≤15.65	PASS
			5855~5875	-37.34	≤10.84	PASS
			5875~5925	-37.55	≤-26.87	PASS
			5925~5935	-37.5	≤-27	PASS
11N20SISO	Low	5745	5650~5700	-39.75	≤-26.75	PASS
			5700~5720	-39.24	≤10.28	PASS
			5720~5725	-38.47	≤17.12	PASS
			5760~5650	-39.09	≤-27	PASS

7.1.3 Test Graphs B1

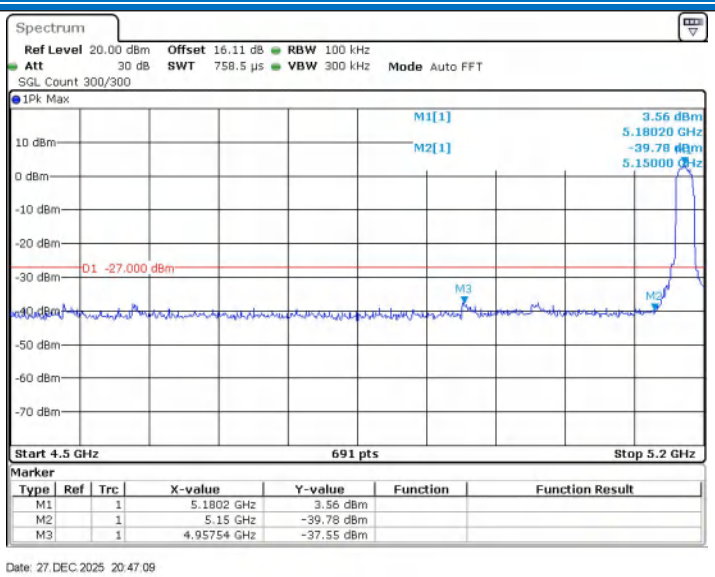
11A_Ant1_Low_5180



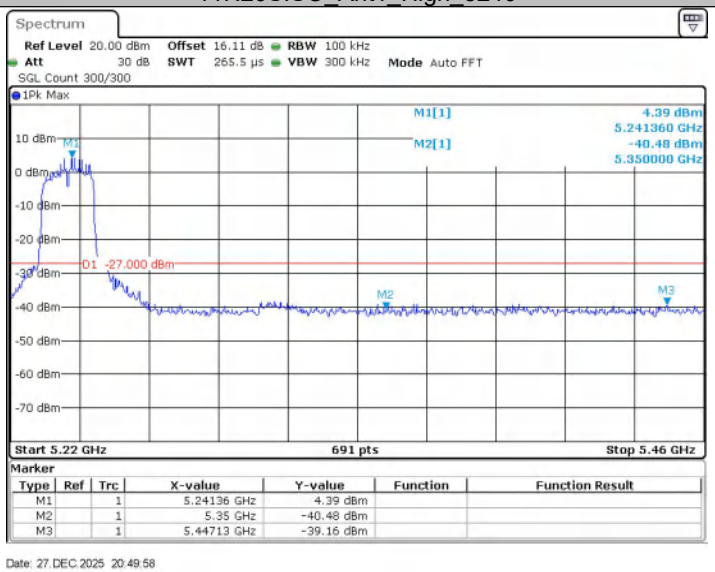
11A_Ant1_High_5240



11N20SISO_Ant1_Low_5180



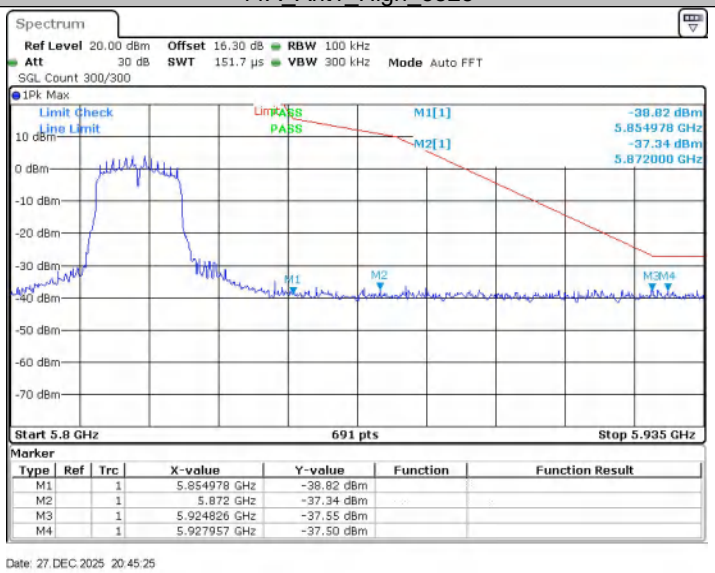
11N20SISO_Ant1_High_5240



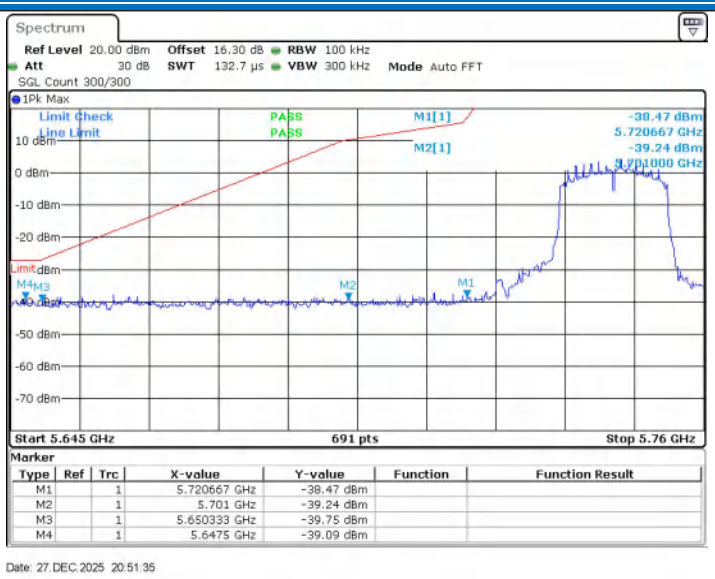
7.1.4 Test Graphs B4

11A_Ant1_Low_5745

11A_Ant1_High_5825



11N20SISO_Ant1_Low_5745


Spectrum
Ref Level 20.00 dBm Offset 16.30 dB RBW 100 kHz
Att 30 dB SWT 132.7 µs VBW 300 kHz Mode Auto FFT
SGL Count 300/300
1Pk Max
Limit Check PASS
Line Limit PASS
M1[1] -38.47 dBm 5.720667 GHz
M2[1] -39.24 dBm 5.701000 GHz
10 dBm
0 dBm
-10 dBm
-20 dBm
Limit dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
M4 M3 M2 M1
Start 5.645 GHz 691 pts Stop 5.76 GHz
Marker
Type Ref Trc X-value Y-value Function Function Result
M1 1 5.720667 GHz -38.47 dBm
M2 1 5.701 GHz -39.24 dBm
M3 1 5.650333 GHz -39.75 dBm
M4 1 5.6475 GHz -39.09 dBm
Date: 27.DEC.2025 20:51:35

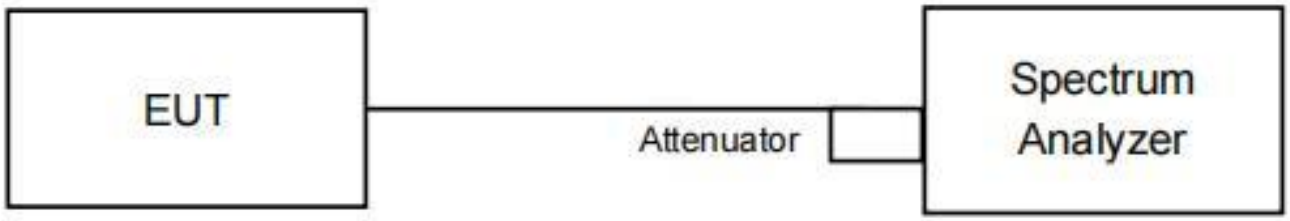
Appendix E): Frequency Stability

Test Requirement 47 CFR Part 15, Subpart C 15.407 (g)

Test Method: ANSI C63.10 (2020) Section 6.8

Limit:The frequency tolerance shall be maintained within the band of operation frequency over a temperature variation of -30 degrees to 50 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.

Test Setup Diagram



Measurement Data

Frequency Stability Versus Temp.			
Operating Frequency: 5240 MHz			
Temp (℃)	Volta ge	Measured Frequency (MHz)	Limit (MHz)
50	VN	5240.24	5150-5250
40		5240.65	5150-5250
30		5240.36	5150-5250
20		5240.47	5150-5250
10		5240.81	5150-5250
0		5240.62	5150-5250
-10		5240.56	5150-5250
-30		5240.56	5150-5250

Frequency Stability Versus Temp.			
Operating Frequency: 5240 MHz			
Temp.	Volta ge	Measured Frequency (MHz)	Limit (MHz)
TN	VL	5240.24	5150-5250
	VN	5240.47	5150-5250
	VH	5240.52	5150-5250

Note: All the modulation and channels had been tested, but only the worst data recorded in the report.

Appendix F): Antenna Requirement

15.203 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 a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

15.407(a)(1) (2) requirement:

The conducted output power limit specified in paragraph (a) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (a) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power and the peak power spectral density shall be reduced by the by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

EUT Antenna:

The antenna is FPC antenna.

The connection/connection type between the antenna to the EUT's antenna port is:

unique coupling .

This is either permanently attachment or a unique coupling that satisfies the requirement.

Appendix G): Operation in the absence of information to the transmit

15.407(c) requirement: The device shall automatically discontinue transmission in case of either absence of information to transmit or operational failure. These provisions are not intended to preclude the transmission of control or signal ling 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 a description of how this requirement is met.
Operation in the absence of information to the transmit
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 ASK message transmitting from remote device and verify whether it shall resend or discontinue transmission. (manufacturer declare)

Appendix H): AC Power Line Conducted Emission

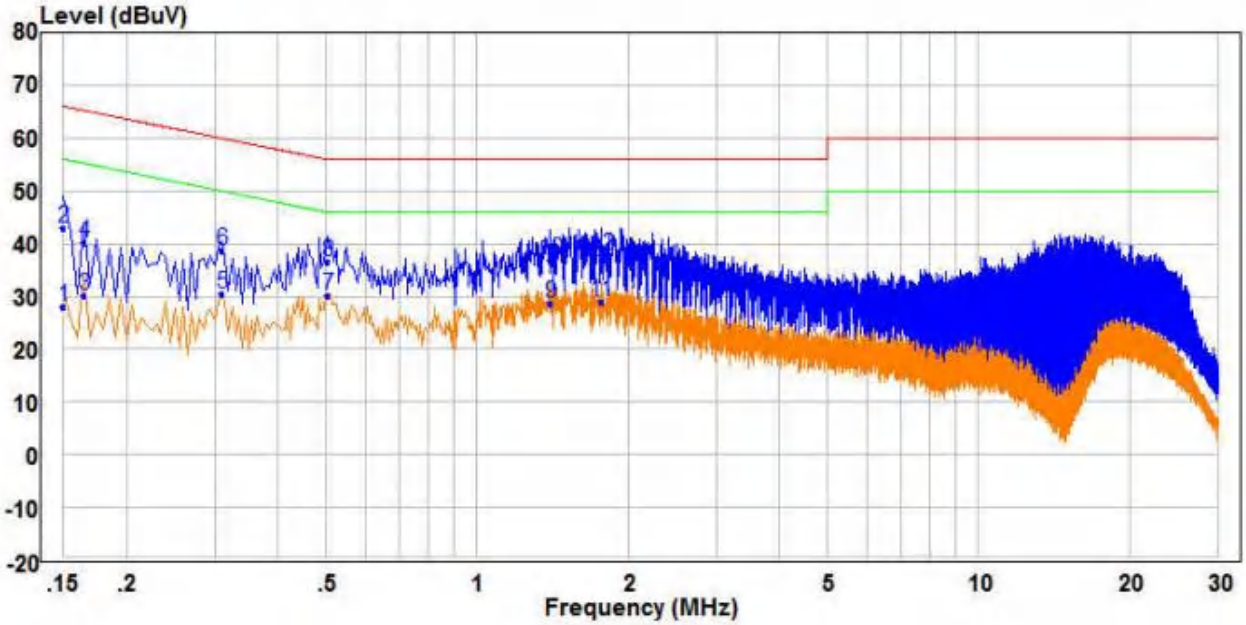
<table>
<tr><td>Test Procedure:</td><td>Test frequency range :150KHz-30MHz
1)The mains terminal disturbance voltage test was conducted in a shielded room.
2) The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a 50Ω/50μH + 5Ω linear impedance. 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.</td></tr>
<tr><td>Limit:</td><td>
<table>
<tr><td rowspan="2">Frequency range (MHz)</td><td colspan="2">Limit (dBμV)</td></tr>
<tr><td>Quasi-peak</td><td>Average</td></tr>
<tr><td>0.15-0.5</td><td>66 to 56*</td><td>56 to 46*</td></tr>
<tr><td>0.5-5</td><td>56</td><td>46</td></tr>
<tr><td>5-30</td><td>60</td><td>50</td></tr>
</table>
* The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz.
NOTE : The lower limit is applicable at the transition frequency</td></tr>
</table>

Measurement Data

An initial pre-scan was performed on the live and neutral lines with peak detector.

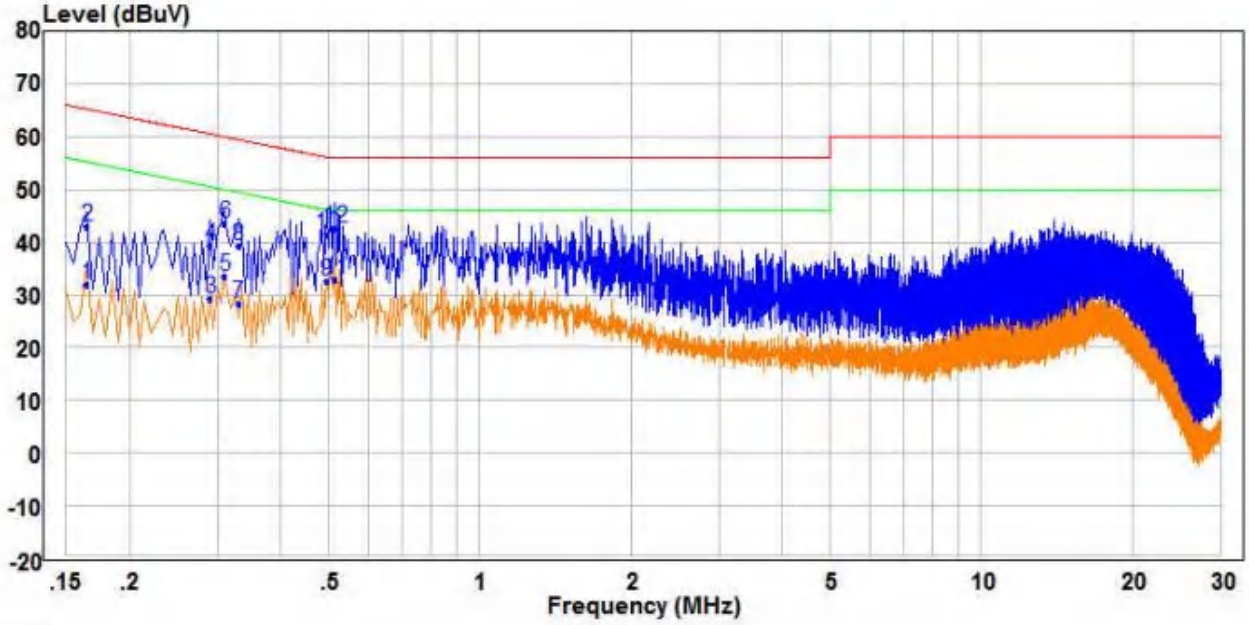
Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission were detected.

Live line:



		Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark	Pol/Phase
		MHz	dBuV	dB	dBuV	dBuV	dB		
1		0.150	18.41	9.70	28.11	56.00	-27.89	Average	Line
2		0.150	33.19	9.70	42.89	66.00	-23.11	QP	Line
3		0.165	20.59	9.67	30.26	55.21	-24.95	Average	Line
4		0.165	30.52	9.67	40.19	65.21	-25.02	QP	Line
5		0.310	20.89	9.50	30.39	49.97	-19.58	Average	Line
6		0.310	29.20	9.50	38.70	59.97	-21.27	QP	Line
7	PP	0.505	20.57	9.71	30.28	46.00	-15.72	Average	Line
8		0.505	26.95	9.71	36.66	56.00	-19.34	QP	Line
9		1.400	17.94	10.64	28.58	46.00	-17.42	Average	Line
10		1.400	26.28	10.64	36.92	56.00	-19.08	QP	Line
11		1.765	17.68	11.30	28.98	46.00	-17.02	Average	Line
12	QP	1.765	26.50	11.30	37.80	56.00	-18.20	QP	Line

Neutral line:



		Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark	Pol/Phase
		MHz	dBuV	dB	dBuV	dBuV	dB		
1		0.165	22.45	9.67	32.12	55.21	-23.09	Average	Neutral
2		0.165	33.18	9.67	42.85	65.21	-22.36	QP	Neutral
3		0.290	19.65	9.49	29.14	50.52	-21.38	Average	Neutral
4		0.290	29.70	9.49	39.19	60.52	-21.33	QP	Neutral
5		0.310	24.12	9.49	33.61	49.97	-16.36	Average	Neutral
6		0.310	34.01	9.49	43.50	59.97	-16.47	QP	Neutral
7		0.330	18.96	9.52	28.48	49.45	-20.97	Average	Neutral
8		0.330	29.66	9.52	39.18	59.45	-20.27	QP	Neutral
9		0.495	22.84	9.70	32.54	46.08	-13.54	Average	Neutral
10		0.495	31.67	9.70	41.37	56.08	-14.71	QP	Neutral
11	PP	0.515	23.32	9.72	33.04	46.00	-12.96	Average	Neutral
12	QP	0.515	33.01	9.72	42.73	56.00	-13.27	QP	Neutral

Notes:

1. The following Quasi-Peak and Average measurements were performed on the EUT:
2. Final Test Level =Receiver Reading + LISN Factor + Cable Loss.
3. The 6Mbps of rate of 802.11A_5240 is the worst case, only the worst data recorded in the report.

Appendix I): Restricted bands around fundamental frequency (Radiated Emission)

Receiver Setup:

Frequency	Detector	RBW	VBW	Remark
30MHz-1GHz	Quasi-peak	120kHz	300kHz	Quasi-peak
Above 1GHz	Peak	1MHz	3MHz	Peak
	Peak	1MHz	10Hz	Average

Test Procedure:

Below 1GHz test procedure as below:

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic camber. The table was rotated 360 degrees to determine the position of the highest radiation.
b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
c. 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.
d. 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 rotatable was turned from 0 degrees to 360 degrees to find the maximum reading.
e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
f. Place a marker at the end of the restricted band closest to the transmit frequency to show compliance. Also measure any emissions in the restricted bands. Save the spectrum analyzer plot. Repeat for each power and modulation for lowest and highest channel

Above 1GHz test procedure as below:

g. Different between above is the test site, change from Semi- Anechoic Chamber to fully Anechoic Chamber and change form table 0.8 metre to 1.5 metre(Above 18GHz the distance is 1 meter and table is 1.5 metre).
h. Test the EUT in the lowest 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 worse case.
j. Repeat above procedures until all frequencies measured was complete.

Limit:

Frequency	Limit (dBμV/m @3cm)	Remark
30MHz-88MHz	40.0	Quasi-peak Value
88MHz-216MHz	43.5	Quasi-peak Value
216MHz-960MHz	46.0	Quasi-peak Value
960MHz-1GHz	54.0	Quasi-peak Value
Above 1GHz	54.0	Average Value
	74.0	Peak Value

Test plot as follows:

Worse case mode:		802.11a		Test channel:		36			
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detector Type	Ant. Pol.	Antenna Height	Table Angle
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V	(m)	(Degree)
5150.00	58.91	-3.63	55.28	74	-18.72	peak	H	1.5	92
5150.00	44.77	-3.63	41.14	54	-12.86	AVG	H	1.5	164
5150.00	59.83	-3.63	56.20	74	-17.80	peak	V	1.5	66
5150.00	46.54	-3.63	42.91	54	-11.09	AVG	V	1.5	113

Worse case mode:		802.11a		Test channel:		48			
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detector Type	Ant. Pol.	Antenna Height	Table Angle
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V	(m)	(Degree)
5350.00	58.72	-3.59	55.13	74	-18.87	peak	H	1.5	194
5350.00	44.88	-3.59	41.29	54	-12.71	AVG	H	1.5	306
5350.00	60.19	-3.59	56.60	74	-17.40	peak	V	1.5	298
5350.00	46.05	-3.59	42.46	54	-11.54	AVG	V	1.5	49

Worse case mode:		802.11a		Test channel:		149			
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detector Type	Ant. Pol.	Antenna Height	Table Angle
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V	(m)	(Degree)
5470.00	57.49	-3.44	54.05	74	-19.95	peak	H	1.5	218
5470.00	43.67	-3.44	40.23	54	-13.77	AVG	H	1.5	315
5470.00	58.28	-3.44	54.84	74	-19.16	peak	V	1.5	155
5470.00	45.86	-3.44	42.42	54	-11.58	AVG	V	1.5	84

Worse case mode:		802.11a		Test channel:		165			
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detector Type	Ant. Pol.	Antenna Height	Table Angle
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V	(m)	(Degree)
5850.00	59.14	-3.42	55.72	74	-18.28	peak	H	1.5	178
5850.00	44.08	-3.42	40.66	54	-13.34	AVG	H	1.5	13
5850.00	59.68	-3.42	56.26	74	-17.74	peak	V	1.5	155
5850.00	46.11	-3.42	42.69	54	-11.31	AVG	V	1.5	79

Worse case mode:		802.11n(HT20)		Test channel:		36			
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detector Type	Ant. Pol.	Antenna Height	Table Angle
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V	(m)	(Degree)
5150.00	59.24	-3.63	55.61	74	-18.39	peak	H	1.5	347
5150.00	44.94	-3.63	41.31	54	-12.69	AVG	H	1.5	283
5150.00	60.18	-3.63	56.55	74	-17.45	peak	V	1.5	52
5150.00	46.59	-3.63	42.96	54	-11.04	AVG	V	1.5	215

Worse case mode:		802.11n(HT20)		Test channel:		48			
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detector Type	Ant. Pol.	Antenna Height	Table Angle
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V	(m)	(Degree)
5350.00	58.55	-3.59	54.96	74	-19.04	peak	H	1.5	120
5350.00	44.31	-3.59	40.72	54	-13.28	AVG	H	1.5	49
5350.00	59.65	-3.59	56.06	74	-17.94	peak	V	1.5	182
5350.00	46.93	-3.59	43.34	54	-10.66	AVG	V	1.5	72

Worse case mode:		802.11n(HT20)		Test channel:		149			
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detector Type	Ant. Pol.	Antenna Height	Table Angle
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V	(m)	(Degree)
5470.00	58.12	-3.44	54.68	74	-19.32	peak	H	1.5	122
5470.00	43.87	-3.44	40.43	54	-13.57	AVG	H	1.5	79
5470.00	58.38	-3.44	54.94	74	-19.06	peak	V	1.5	82
5470.00	45.66	-3.44	42.22	54	-11.78	AVG	V	1.5	83

Worse case mode:		802.11n(HT20)		Test channel:		165			
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detector Type	Ant. Pol.	Antenna Height	Table Angle
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V	(m)	(Degree)
5850.00	59.07	-3.42	55.65	74	-18.35	peak	H	1.5	125
5850.00	44.01	-3.42	40.59	54	-13.41	AVG	H	1.5	185
5850.00	60.18	-3.42	56.76	74	-17.24	peak	V	1.5	85
5850.00	46.73	-3.42	43.31	54	-10.69	AVG	V	1.5	26

Worse case mode:		802.11ac(VHT20)		Test channel:		36			
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detector Type	Ant. Pol.	Antenna Height	Table Angle
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V	(m)	(Degree)
5150.00	58.75	-3.63	55.12	74	-18.88	peak	H	1.5	202
5150.00	44.43	-3.63	40.80	54	-13.20	AVG	H	1.5	43
5150.00	59.64	-3.63	56.01	74	-17.99	peak	V	1.5	129
5150.00	46.11	-3.63	42.48	54	-11.52	AVG	V	1.5	344

Worse case mode:		802.11ac(VHT20)		Test channel:		48			
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detector Type	Ant. Pol.	Antenna Height	Table Angle
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V	(m)	(Degree)
5350.00	58.59	-3.59	55.00	74	-19.00	peak	H	1.5	158
5350.00	44.93	-3.59	41.34	54	-12.66	AVG	H	1.5	161
5350.00	59.34	-3.59	55.75	74	-18.25	peak	V	1.5	210
5350.00	46.76	-3.59	43.17	54	-10.83	AVG	V	1.5	294

Worse case mode:		802.11ac(VHT20)		Test channel:		149			
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detector Type	Ant. Pol.	Antenna Height	Table Angle
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V	(m)	(Degree)
5470.00	57.75	-3.44	54.31	74	-19.69	peak	H	1.5	50
5470.00	44.35	-3.44	40.91	54	-13.09	AVG	H	1.5	125
5470.00	58.39	-3.44	54.95	74	-19.05	peak	V	1.5	316
5470.00	46.06	-3.44	42.62	54	-11.38	AVG	V	1.5	360

Worse case mode:		802.11ac(VHT20)		Test channel:		165			
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detector Type	Ant. Pol.	Antenna Height	Table Angle
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V	(m)	(Degree)
5850.00	58.74	-3.42	55.32	74	-18.68	peak	H	1.5	346
5850.00	44.54	-3.42	41.12	54	-12.88	AVG	H	1.5	166
5850.00	59.70	-3.42	56.28	74	-17.72	peak	V	1.5	42
5850.00	46.71	-3.42	43.29	54	-10.71	AVG	V	1.5	299

Note:
1) Through Pre-scan transmitting mode with all kind of modulation and data rate, Only the worst case is recorded in the report.
2) The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:
Final Test Level =Receiver Reading - Correct Factor
Correct Factor = Preamplifier Factor– Antenna Factor–Cable Factor

Appendix J): Radiated Spurious Emissions

Receiver Setup:

Frequency	Detector	RBW	VBW	Remark
0.009MHz-0.090MHz	Peak	10kHz	30kHz	Peak
0.009MHz-0.090MHz	Average	10kHz	30kHz	Average
0.090MHz-0.110MHz	Quasi-peak	10kHz	30kHz	Quasi-peak
0.110MHz-0.490MHz	Peak	10kHz	30kHz	Peak
0.110MHz-0.490MHz	Average	10kHz	30kHz	Average
0.490MHz -30MHz	Quasi-peak	10kHz	30kHz	Quasi-peak
30MHz-1GHz	Quasi-peak	120kHz	300kHz	Quasi-peak
Above 1GHz	Peak	1MHz	3MHz	Peak
	Peak	1MHz	10Hz	Average

Test Procedure:

Below 1GHz test procedure as below:

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic camber. The table was rotated 360 degrees to determine the position of the highest radiation.
b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
c. 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.
d. 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 rota table was turned from 0 degrees to 360 degrees to find the maximum reading.
e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
f. 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.

Above 1GHz test procedure as below:

g. Different between above is the test site, change from Semi- Anechoic Chamber to fully Anechoic Chamber and change form table 0.8 metre to 1.5 metre(Above 18GHz the distance is 1 meter and table is 1.5 metre)
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 worse case.
j. Repeat above procedures until all frequencies measured was complete.

Limit:

Frequency	Field strength (microvolt/meter)	Limit (dBμV/cm)	Remark	Measurement distance (cm)
0.009MHz-0.490MHz	2400/F(kHz)	-	-	300
0.490MHz-1.705MHz	24000/F(kHz)	-	-	30
1.705MHz-30MHz	30	-	-	30
30MHz-88MHz	100	40.0	Quasi-peak	3
88MHz-216MHz	150	43.5	Quasi-peak	3
216MHz-960MHz	200	46.0	Quasi-peak	3
960MHz-1GHz	500	54.0	Quasi-peak	3
Above 1GHz	500	54.0	Average	3

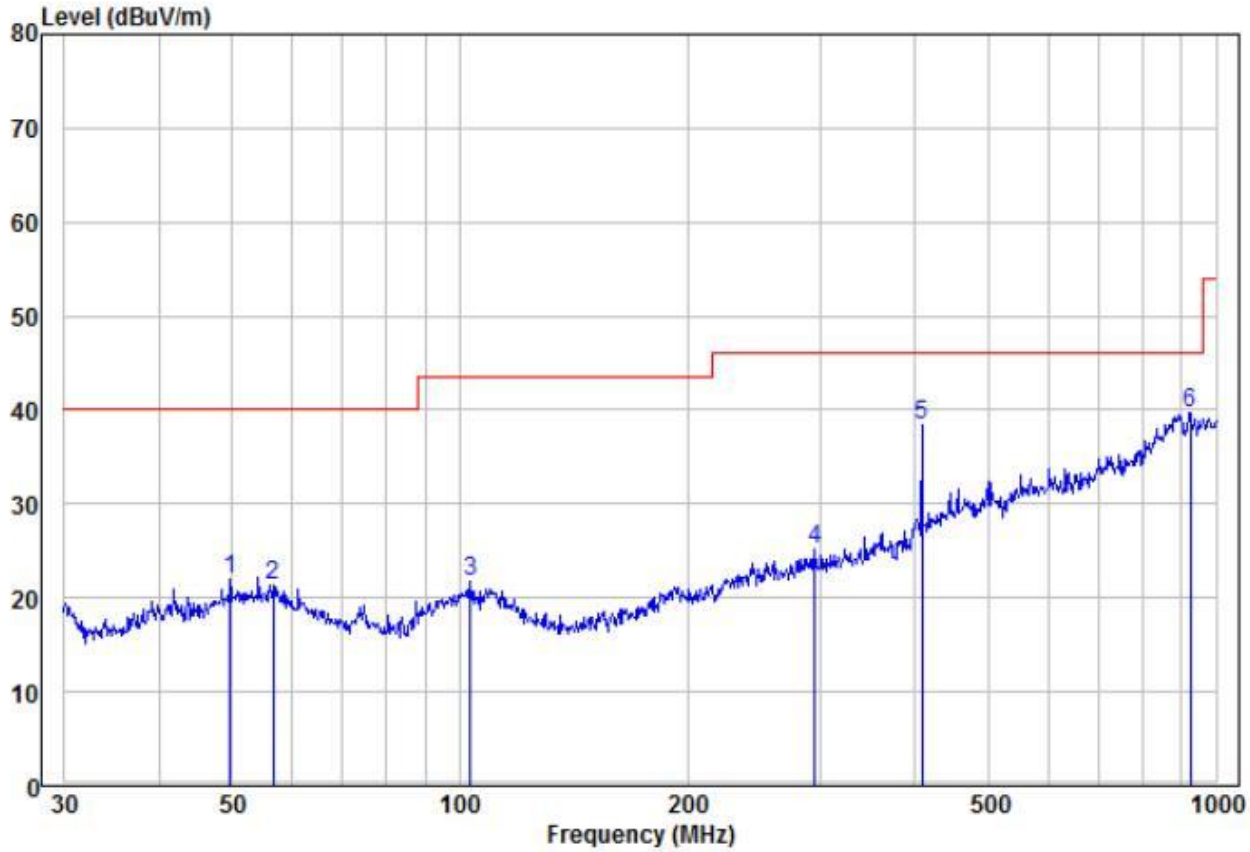
Note: 15.35(b), Unless otherwise specified, the limit on peak radio frequency emissions is 20dB above the maximum permitted average emission limit applicable to the equipment under test. This peak limit applies to the total peak emission level radiated by the device.

Test result: PASS

Test Data:

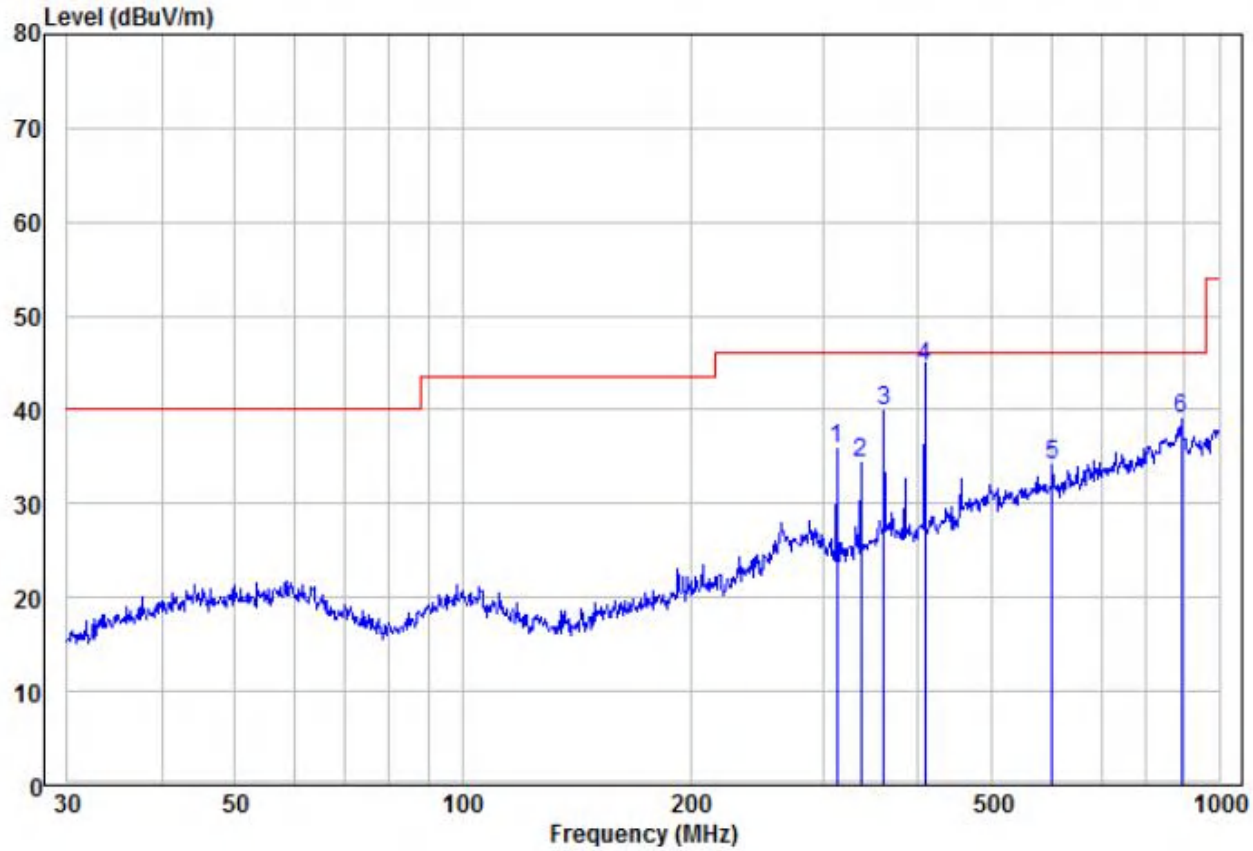
Radiated Emission below 1GHz

30MHz~1GHz		
Test mode:	Transmitting (802.11a 36CH)	Vertical



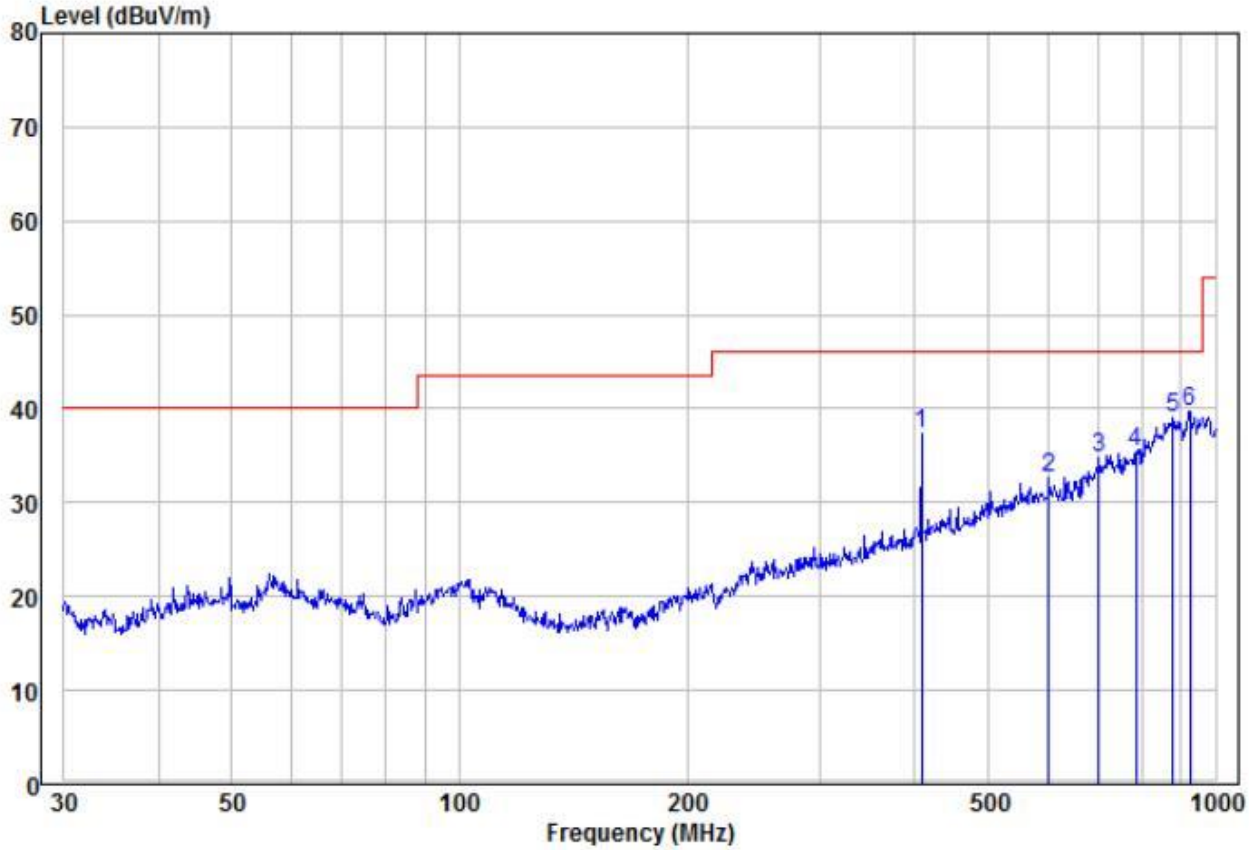
	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark	Pol/Phase	APos	TPos
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB			cm	deg
1	49.71	22.97	-1.03	21.94	40.00	-18.06	Peak	VERTICAL	100	270
2	56.59	21.23	0.00	21.23	40.00	-18.77	Peak	VERTICAL	100	143
3	103.44	21.68	0.00	21.68	43.50	-21.82	Peak	VERTICAL	100	291
4	295.15	23.22	2.00	25.22	46.00	-20.78	Peak	VERTICAL	100	95
5	408.95	37.34	1.00	38.34	46.00	-7.66	Peak	VERTICAL	100	77
6 pp	925.76	37.64	2.00	39.64	46.00	-6.36	Peak	VERTICAL	100	136

Test mode:	Transmitting (802.11a 36CH)	Horizontal



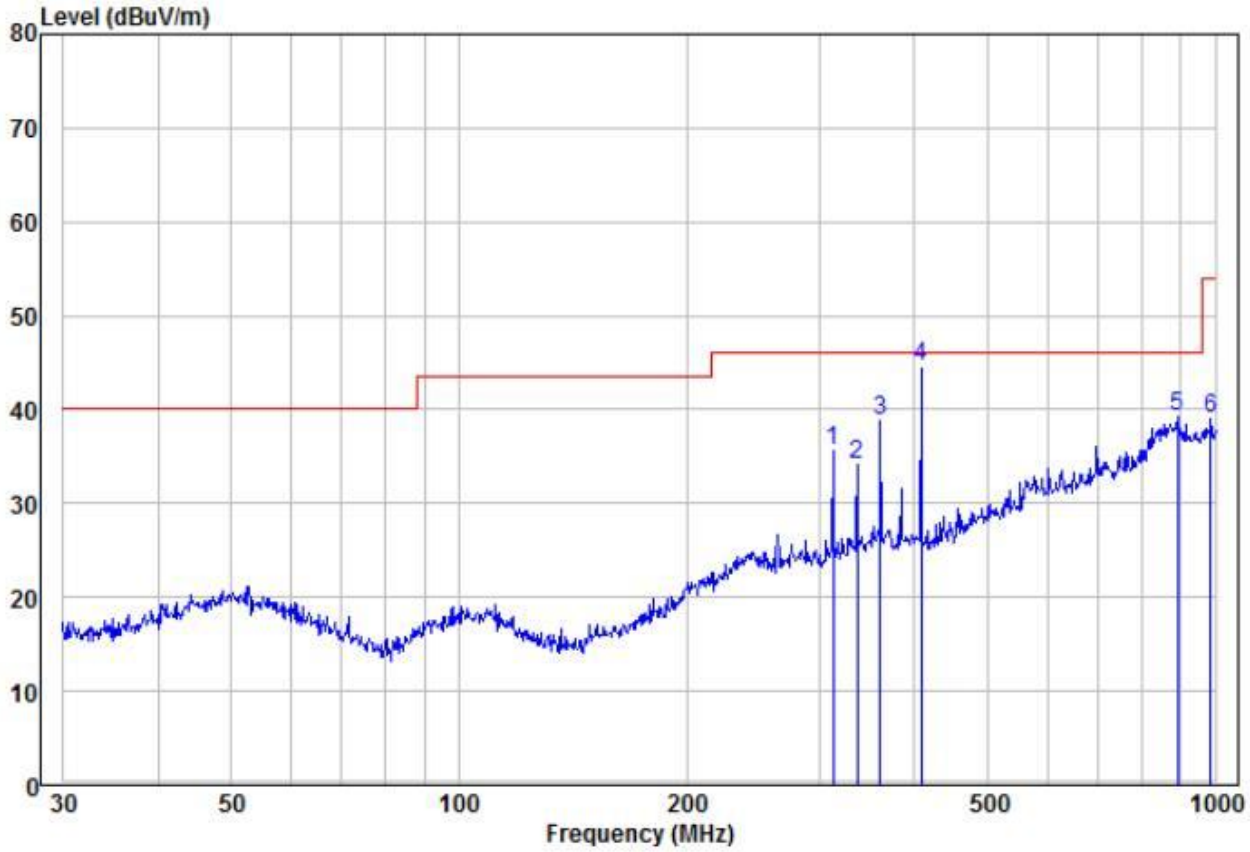
	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark	Pol/Phase	APos	TPos
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB			cm	deg
1	312.18	33.92	2.00	35.92	46.00	-10.08	Peak	HORIZONTAL	100	241
2	336.04	32.40	2.00	34.40	46.00	-11.60	Peak	HORIZONTAL	100	106
3 pk	360.45	37.84	2.00	39.84	46.00	-6.16	Peak	HORIZONTAL	100	216
4 pp	408.95	43.60	1.00	44.60	46.00	-1.40	QP	HORIZONTAL	100	311
5	601.43	33.63	0.50	34.13	46.00	-11.87	Peak	HORIZONTAL	100	95
6	890.73	35.46	3.50	38.96	46.00	-7.04	Peak	HORIZONTAL	100	236

30MHz~1GHz		
Test mode:	Transmitting (802.11a 149CH)	Vertical



	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark	Pol/Phase	APos	TPos
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB			cm	deg
1	408.95	36.34	1.00	37.34	46.00	-8.66	Peak	VERTICAL	100	84
2	601.43	32.10	0.50	32.60	46.00	-13.40	Peak	VERTICAL	100	254
3	701.76	33.80	1.00	34.80	46.00	-11.20	Peak	VERTICAL	100	184
4	785.09	33.98	1.50	35.48	46.00	-10.52	Peak	VERTICAL	100	336
5	878.32	35.63	3.50	39.13	46.00	-6.87	Peak	VERTICAL	100	119
6 pp	925.76	37.64	2.00	39.64	46.00	-6.36	Peak	VERTICAL	100	128

Test mode:	Transmitting (802.11a 149CH)	Horizontal



	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark	Pol/Phase	APos	TPos
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB			cm	deg
1	312.18	33.58	2.00	35.58	46.00	-10.42	Peak	HORIZONTAL	100	296
2	336.04	32.17	2.00	34.17	46.00	-11.83	Peak	HORIZONTAL	100	34
3	360.45	36.78	2.00	38.78	46.00	-7.22	Peak	HORIZONTAL	100	229
4 pp	408.95	43.57	1.00	44.57	46.00	-1.43	QP	HORIZONTAL	100	103
5 pk	890.73	35.80	3.50	39.30	46.00	-6.70	Peak	HORIZONTAL	100	54
6	986.07	37.00	2.00	39.00	54.00	-15.00	Peak	HORIZONTAL	100	117

Transmitter Emission above 1GHz

Test mode:	802.11a(6Mbps)			Test channel:		36 CH			
Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Over (dB)	Detect or Type	Ant. Pol. H/V	Antenna Height (m)	Table Angle (Degree)
10360	53.50	2.26	55.76	74	-18.24	peak	H	1.5	144
10360	36.78	2.26	39.04	54	-14.96	AVG	H	1.5	107
15540	51.64	3.75	55.39	74	-18.61	peak	H	1.5	355
15540	38.59	3.75	42.34	54	-11.66	AVG	H	1.5	347
10360	55.05	2.26	57.31	74	-16.69	peak	V	1.5	321
10360	39.80	2.26	42.06	54	-11.94	AVG	V	1.5	345
15540	51.19	3.75	54.94	74	-19.06	peak	V	1.5	334
15540	36.29	3.75	40.04	54	-13.96	AVG	V	1.5	302

Test mode:	802.11a(6Mbps)			Test channel:		48 CH			
Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Over (dB)	Detect or Type	Ant. Pol. H/V	Antenna Height (m)	Table Angle (Degree)
10480	52.81	2.31	55.12	74	-18.88	peak	H	1.5	331
10480	37.12	2.31	39.43	54	-14.57	AVG	H	1.5	262
15720	50.20	3.79	53.99	74	-20.01	peak	H	1.5	284
15720	36.97	3.79	40.76	54	-13.24	AVG	H	1.5	113
10480	52.65	2.31	54.96	74	-19.04	peak	V	1.5	14
10480	37.91	2.31	40.22	54	-13.78	AVG	V	1.5	218
15720	48.86	3.79	52.65	74	-21.35	peak	V	1.5	68
15720	36.71	3.79	40.50	54	-13.50	AVG	V	1.5	222

Test mode:	802.11a(6Mbps)			Test channel:		149			
Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Over (dB)	Detector Type	Ant. Pol. H/V	Antenna Height (m)	Table Angle (Degree)
11490	53.21	2.54	55.75	74	-18.25	peak	H	1.5	267
11490	38.60	2.54	41.14	54	-12.86	AVG	H	1.5	92
17235	50.92	3.94	54.86	74	-19.14	peak	H	1.5	207
17235	36.86	3.94	40.80	54	-13.20	AVG	H	1.5	287
11490	54.13	2.54	56.67	74	-17.33	peak	V	1.5	313
11490	37.93	2.54	40.47	54	-13.53	AVG	V	1.5	328
17235	49.28	3.94	53.22	74	-20.78	peak	V	1.5	338
17235	37.64	3.94	41.58	54	-12.42	AVG	V	1.5	231

Test mode:	802.11a(6Mbps)			Test channel:		165			
Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Over (dB)	Detector Type	Ant. Pol. H/V	Antenna Height (m)	Table Angle (Degree)
11650	52.14	2.58	54.72	74	-19.28	peak	H	1.5	155
11650	37.02	2.58	39.60	54	-14.40	AVG	H	1.5	12
17475	51.04	4.02	55.06	74	-18.94	peak	H	1.5	265
17475	37.32	4.02	41.34	54	-12.66	AVG	H	1.5	311
11650	53.88	2.58	56.46	74	-17.54	peak	V	1.5	226
11650	38.42	2.58	41.00	54	-13.00	AVG	V	1.5	190
17475	49.39	4.02	53.41	74	-20.59	peak	V	1.5	348
17475	36.53	4.02	40.55	54	-13.45	AVG	V	1.5	263

Remark:

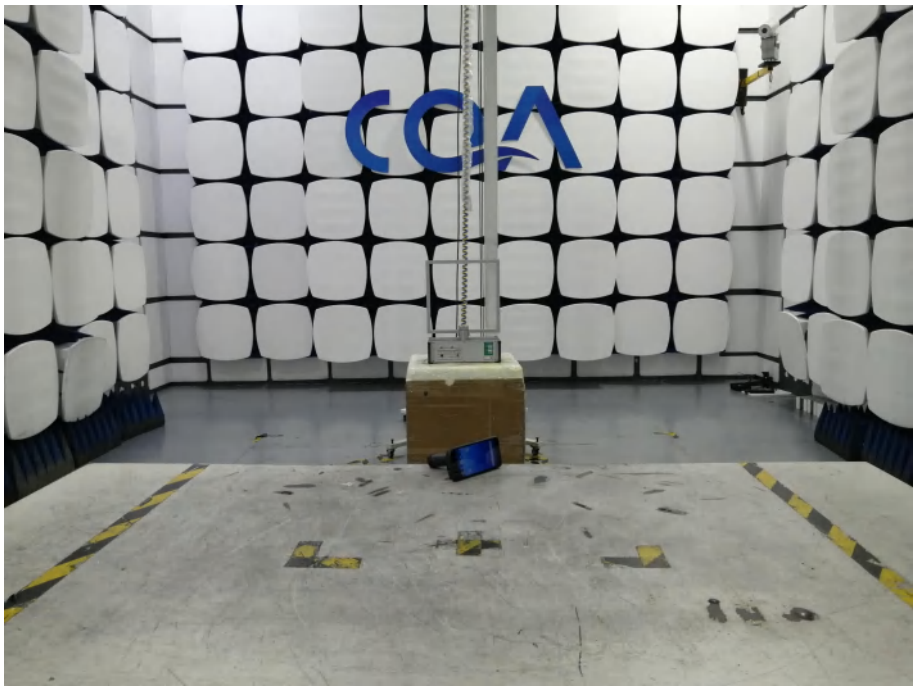
1) The 802.11a 6Mbps of rate is the worst case, only the worst data recorded in the report.
2) The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

   Final Test Level =Receiver Reading + Antenna Factor + Cable Factor – Preamplifier Factor
3) Scan from 9kHz to 40GHz,The disturbance above 18GHz and below 30MHz was very low, and the above harmonics were the highest point could be found when testing, so only the above harmonics had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.

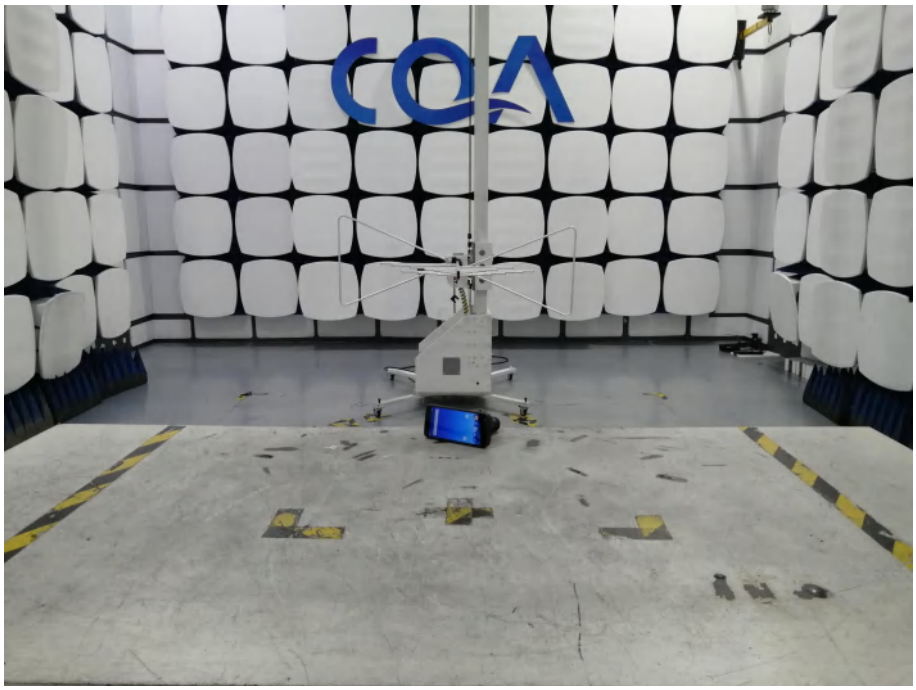
8 Photographs - EUT Test Setup

8.1 Radiated Spurious Emission

9kHz~30MHz:



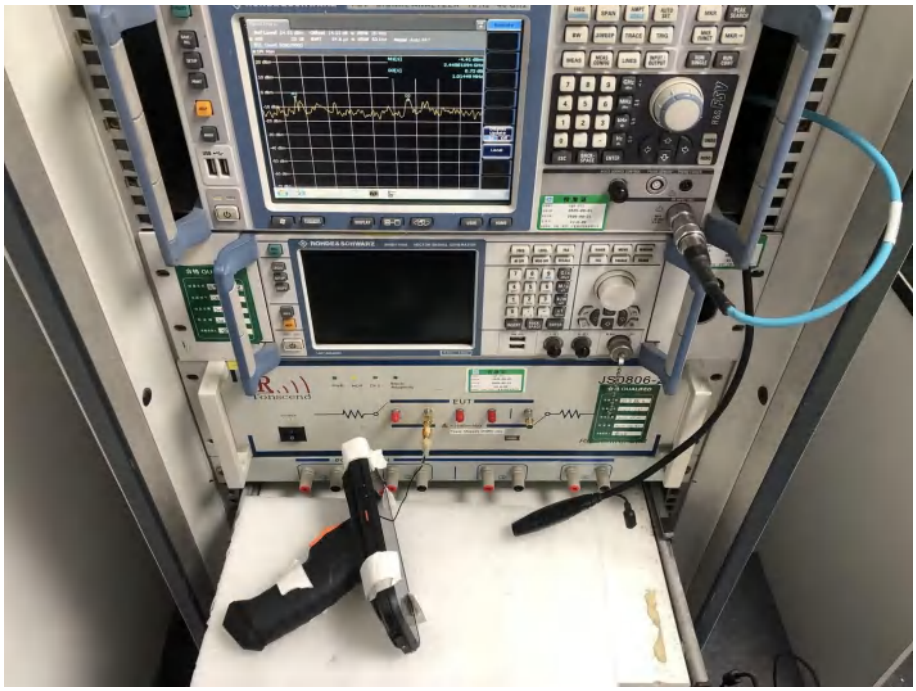
30MHz~1GHz:



Above 1GHz:

8.2 Conducted Emission

8.3 RF Conducted measurement



9 Photographs - EUT Constructional Details

Refer to PHOTOGRAPHS OF EUT for CQASZ20251102540E-01.

*** END OF REPORT ***