

RF TEST REPORT

FCC ID: 2BXGA-EC14

Product Name: Wireless Carplay adapter

Brand Name: JuneHome, Eoibeik

Model Name: EC14

Report No.: N26050608034E

Prepared for

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Prepared by

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Table of Contents

1	REVISION HISTORY	4
2	TEST SUMMARY	5
3	TEST RESULT CERTIFICATION	7
4	FACILITIES AND ACCREDITATIONS.....	8
	4.1 FACILITIES.....	8
	4.2 LABORATORY ACCREDITATIONS AND LISTINGS	8
	4.3 MEASUREMENT UNCERTAINTY	8
5	GENERAL DESCRIPTION OF EUT	9
	5.1 DETAILS OF E.U.T.....	9
	5.2 EUT FEATURE AND SPECIFICATION	9
	5.3 ANTENNA SPECIFICATIONS	9
	5.4 DEVIATION FROM STANDARDS	10
	5.5 ABNORMALITIES FROM STANDARD CONDITION	10
6	DESCRIPTION OF TEST MODES AND OPERATION CONFIGURATION OF EUT	11
	6.1 DESCRIPTION OF TEST MODES	11
	6.2 OPERATION CONFIGURATION OF EUT	11
7	SETUP OF EQUIPMENT UNDER TEST	12
	7.1 BLOCK DIAGRAM CONFIGURATION OF TEST SYSTEM	12
	7.2 SUPPORT EQUIPMENT	13
8	EQUIPMENT LIST	14
9	EVALUATION RESULTS (EVALUATION)	16
	9.1 ANTENNA REQUIREMENT	16
	9.1.1 Conclusion:	16
10	RADIO SPECTRUM MATTER TEST RESULTS (RF)	17
	10.1 CONDUCTED EMISSION AT AC POWER LINE	17
	10.1.1 Test Setup Diagram:.....	18
	10.1.2 E.U.T. Operation:	18
	10.1.3 Test Data:	18
	10.2 DUTY CYCLE	19
	10.2.1 Test Setup Diagram:.....	19
	10.2.2 E.U.T. Operation:	19
	10.2.3 Test Data:	19
	10.3 99% BANDWIDTH.....	20
	10.3.1 Test Setup Diagram:.....	20
	10.3.2 E.U.T. Operation:	20
	10.3.3 Test Data:	20
	10.4 EMISSION BANDWIDTH	21
	10.4.1 Test Setup Diagram:.....	21
	10.4.2 E.U.T. Operation:	21
	10.4.3 Test Data:	22
	10.5 MAXIMUM CONDUCTED OUTPUT POWER.....	23
	10.5.1 Test Setup Diagram:.....	23
	10.5.2 E.U.T. Operation:	23
	10.5.3 Test Data:	23
	10.6 POWER SPECTRAL DENSITY	24
	10.6.1 Test Setup Diagram:.....	25
	10.6.2 E.U.T. Operation:	25
	10.6.3 Test Data:	25
	10.7 FREQUENCY STABILITY	26
	10.7.1 Test Setup Diagram:.....	26
	10.7.2 E.U.T. Operation:	26
	10.7.3 Test Data:	26

10.8	BAND EDGE EMISSIONS (RADIATED)	27
10.8.1	Test Setup Diagram:	28
10.8.2	E.U.T. Operation:	28
10.8.3	Test Data:	29
10.9	UNWANTED EMISSIONS (BELOW 30MHZ)	45
10.9.1	Test Setup Diagram:	46
10.9.2	E.U.T. Operation:	46
10.9.3	Test Data:	46
10.10	UNWANTED EMISSIONS (30M - 1GHZ)	47
10.10.1	Test Setup Diagram:	47
10.10.2	E.U.T. Operation:	48
10.10.3	Test Data:	48
10.11	UNWANTED EMISSIONS (1GHZ - 18GHZ)	51
10.11.1	Test Setup Diagram:	52
10.11.2	E.U.T. Operation:	52
10.11.3	Test Data:	53
10.12	UNWANTED EMISSIONS (ABOVE 18GHZ)	65
10.12.1	Test Setup Diagram:	66
10.12.2	E.U.T. Operation:	66
10.12.3	Test Data:	67
11	TEST SETUP PHOTOS	71
12	EUT CONSTRUCTIONAL DETAILS (EUT PHOTOS)	72
A1	DUTY CYCLE	74
A2	MAXIMUM CONDUCTED OUTPUT POWER	84
A3	-26DB BANDWIDTH	85
A4	OCCUPIED CHANNEL BANDWIDTH	95
A5	MAXIMUM POWER SPECTRAL DENSITY LEVEL	105
A6	DUTY CYCLE	115
A7	MAXIMUM CONDUCTED OUTPUT POWER	125
A8	-6DB BANDWIDTH	126
A9	OCCUPIED CHANNEL BANDWIDTH	136
A10	MAXIMUM POWER SPECTRAL DENSITY LEVEL	146

1 Revision History

Revision History			
Report No.	Version	Description	Issued Date
N26050608034E	Rev.01	Initial issue of report	Jul. 29, 2026

2 Test Summary

FCC Rule	Test Item	Method	Tested By	Result
47 CFR Part 15.203	Antenna requirement	---	Abel Chen	Pass
47 CFR 15.207	Conducted Emission at AC power line	ANSI C63.10-2020+Cor.1-2023+C63.10a-2024+Errata to C63.10a-2024, section 6.2	---	N/A
47 CFR Part 15.407(a)	26dB Bandwidth	ANSI C63.10-2020 + Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024, section 12.5 KDB 789033 D02, Clause II. C. 1.	Yuqiang Xiao	Pass
47 CFR Part 15.407(e)	6dB Bandwidth	ANSI C63.10-2020 + Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024, section 12.5 KDB 789033 D02, Clause II. C. 2.	Yuqiang Xiao	Pass
47 CFR Part 15.407(a)(1)(iv) 47 CFR Part 15.407(a)(3)(i)	Maximum conducted output power	ANSI C63.10-2020 + Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024, section 12.4.3.2 KDB 789033 D02, Clause II. E. 3. b)	Yuqiang Xiao	Pass
47 CFR Part 15.407(a)(1)(iv) 47 CFR Part 15.407(a)(3)(i)	Power spectral density	ANSI C63.10-2020 + Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024, section 12.6 KDB 789033 D02, Clause II. F.	Yuqiang Xiao	Pass
47 CFR Part 15.407(b)(1) 47 CFR Part 15.407(b)(4) 47 CFR Part 15.407(b)(10) 47 CFR Part 15.205, 15.209	Band edge emissions (Radiated)	ANSI C63.10-2020 + Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024, section 12.7.4, 12.7.6, 12.7.7 KDB 789033 D02, Clause II.G.3., II.G.5., II.G.6.	Harry Huang	Pass
47 CFR Part 15.407(b)(9), 15.205, 15.209	Unwanted Emissions (below 30MHz)	ANSI C63.10-2020 + Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024, section 12.7.4, 12.7.5 KDB 789033 D02, Clause II.G.3., II.G.4.	Pass Qiu	Pass
47 CFR Part 15.407(b)(9), 15.205, 15.209	Unwanted Emissions (30M - 1GHz)	ANSI C63.10-2020 + Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024, section 12.7.4, 12.7.5 KDB 789033 D02, Clause II.G.3., II.G.4.	Pass Qiu	Pass
47 CFR Part 15.407(b)(1) 47 CFR Part 15.407(b)(4) 47 CFR Part 15.407(b)(10) 47 CFR Part 15.205, 15.209	Unwanted Emissions (1G - 18GHz)	ANSI C63.10-2020 + Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024, section 12.7.4, 12.7.6, 12.7.7 KDB 789033 D02, Clause II.G.3., II.G.5., II.G.6.	Harry Huang	Pass
47 CFR Part 15.407(b)(1)	Unwanted Emissions (above	ANSI C63.10-2020 + Cor. 1-2023+C63.10a-2024 + Errata	Harry Huang	Pass

47 CFR Part 15.407(b)(4) 47 CFR Part 15.407(b)(10) 47 CFR Part 15.205, 15.209	18GHz)	to C63.10a-2024, section 12.7.4, 12.7.6, 12.7.7 KDB 789033 D02, Clause II.G.3., II.G.5., II.G.6.		
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Remark:

1. "N/A" denotes test is not applicable in this Test Report.
2. All test items were verified and recorded according to the standards and without any deviation during the test.
3. The antenna gain provided by customer. NTEK is not responsible for the accuracy of antenna gain parameter.

3 Test Result Certification

CLIENT INFORMATION

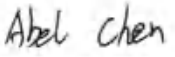
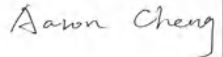
Applicant:	Yixinwang(Shenzhen)Trading Co., Ltd
Address of Applicant:	A-10D, Shennan Garden, No. 11, Kexing Road, Technology Park Community, Yuehai Street, Nanshan District, Shenzhen
Manufacturer:	JuneHome (ShenZhen) Technology Co.,Ltd
Address of Manufacturer:	204, BLDG 5, Ganglian Village Liantang Aavenue, Luohu District Shenzhen, Guangdong China

EUT INFORMATION

Product Name:	Wireless Carplay adapter
Brand Name:	JuneHome, Eoibeik
Model Name:	EC14
Sample Received Date:	May. 12, 2026
Sample Number:	S2605090344-1#
Applicable Standards	47 CFR Part 15E
Measurement Procedures	ANSI C63.10-2020+Cor.1-2023+C63.10a-2024+Errata to C63.10a-2024 KDB 789033 D02 General UNII Test Procedures New Rules v02r01

This device described above has been tested by Shenzhen NTEK Testing Technology Co., Ltd. The test results demonstrate that the Equipment Under Test (EUT) complies with the requirements of the applicable standards listed in this report. This validity applies solely to the tested sample identified in the report. No part of this report may be reproduced except in full without the written approval of Shenzhen NTEK Testing Technology Co., Ltd. This document may only be revised by personnel of Shenzhen NTEK Testing Technology Co., Ltd., and any revisions shall be recorded within the document revision records.

Date of Test:	May. 12, 2026 to Jul. 25, 2026
Issue Date:	Jul. 29, 2026
Test Result:	Pass

Prepared By:		Reviewed by:		Approved By:	
	Abel Chen (Project Engineer)		Aaron Cheng (Supervisor)		Alex Li (Manager)

4 Facilities and Accreditations

4.1 Facilities

All measurement facilities used to collect the measurement data are located at

Building 1/2/11/12, No. 24 Xinfu East Road, Xiangshan Community, Xinqiao Street, Bao'an District, Shenzhen, Guangdong, China.

The sites are constructed in conformance with the requirements of ANSI C63.7, ANSI C63.10 and CISPR Publication 16-1-4.

4.2 Laboratory Accreditations And Listings

Site Description	
CNAS-Lab.	: Registration Code L5516
A2LA-Lab.	: Certificate Number 4298.01
FCC-Accredited	: Test Firms Registration Number: 463705 Designation Number: CN1184
ISED Wireless Device Testing Laboratories	: The ISED Company Number is 9270A CAB identifier:CN0074

4.3 Measurement Uncertainty

The reported uncertainty of measurement $y \pm U$, where the expanded uncertainty U is obtained by multiplying the standard uncertainty by a coverage factor $k=2$, corresponding to a confidence level of approximately 95%.

Item	Uncertainty
Power Spectral Density, conducted	0.91dB
Radiated Spurious Emissions(1GHz ~ 18GHz)	4.9dB
Radiated Spurious Emissions(9kHz ~ 30MHz)	5.26dB
Radiated Spurious Emissions(30MHz ~ 1GHz)	5.1dB
Radiated Spurious Emissions(18GHz ~ 40GHz)	5.76dB
RF power, conducted	1.34dB
Spurious emissions, conducted	2.71dB
Occupied Bandwidth	1.00%
Radio Frequency	0.2ppm
Time	5%
Temperature	1°C
Humidity	5%

5 General Description of EUT

5.1 Details of E.U.T.

Product Name	Wireless Carplay adapter
Brand Name	JuneHome, Eoibeik
Model Name	EC14
Family Model	EC12, EC13, EC15, EC16, EC17, EC18, EC19, EC20, EC21, EC22, EC23, EC24, EC25, EC26, B1, B3, B6, B8, B9, C1, C3, C6, C8, C9, U3, U6, U8, U9, U10, U11, U12, U13, U14
Model Difference	All Model have the same circuitry and RF module, different in appearance and Model name.
Note 1: The above information was declared by manufacturer.	

5.2 EUT Feature And Specification

Operation Frequency	802.11a/n(HT20)/ac(VHT20)/ax(HE20): U-NII Band 1: 5180MHz to 5240MHz; U-NII Band 3: 5745MHz to 5825MHz; 802.11n(HT40)/ac(VHT40)/ax(HE40): U-NII Band 1: 5190MHz to 5230MHz; U-NII Band 3: 5755MHz to 5795MHz;			
Modulation	802.11a: OFDM(BPSK, QPSK, 16QAM, 64QAM); 802.11n: OFDM (BPSK, QPSK, 16QAM, 64QAM); 802.11ac: OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM); 802.11ax: OFDMA (BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM)			
Number of Channels	802.11a/n(HT20)/ac(VHT20)/ax(HE20): U-NII Band 1: 4; U-NII Band 3: 5; 802.11n(HT40)/ac(VHT40)/ax(HE40): U-NII Band 1: 2; U-NII Band 3: 2;			
Power Supply	☒ DC supply: DC 5V			
	☐ Adapter supply:			
Hardware Version	V1.0			
Firmware Version	N/A			
Software Version	V1.0			
Frequency and Channel list:				
Bandwidth(MHz)	Channel	Frequency(MHz)	Channel	Frequency(MHz)
20	36	5180	149	5745
20	40	5200	153	5765
20	44	5220	157	5785
20	48	5240	161	5805
20	-	-	165	5825
40	38	5190	151	5755
40	46	5230	159	5795

Note 1: The above information was declared by manufacturer.

Note 2: 802.11ax only support full RU

5.3 Antenna Specifications

Antenna system	SISO
Antenna 1:	
Antenna Manufacturer	ShenZhen Huaxinwei communication technology Co.,Ltd.
Antenna Model	N/A

Antenna Connector	N/A
Antenna Type	PCB antenna
Antenna Gain	5.2G: -1.82 dBi; 5.8G: -1.17 dBi;
Note: The above information was declared by manufacturer.	

5.4 Deviation from Standards

None

5.5 Abnormalities from Standard Condition

None

6 Description of Test Modes and Operation Configuration of EUT

6.1 Description of Test Modes

- The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: conduction emission (150 kHz to 30 MHz), radiation emission (9 kHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower). For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases were recorded in this report.
- AC power line Conducted Emission was tested under maximum output power.
- The measurements are performed at the highest, middle, lowest available channels.
- The measurements are performed at all Bit Rate of Transmitter, the worst data was reported

The following summary table is showing all test modes to demonstrate in compliance with the standard

No	Title	Description
TM1	802.11a mode	Keep the EUT in continuously transmitting mode with 802.11a modulation type at lowest, middle and highest channel. All data rates has been tested and found the data rate @ 6Mbps is the worst case. Only the data of worst case is recorded in the report.
TM2	802.11n mode	Keep the EUT in continuously transmitting mode with 802.11n modulation type at lowest, middle and highest channel. All bandwidth and data rates has been tested and found the data rate @ MCS0 is the worst case. Only the data of worst case is recorded in the report.
TM3	802.11ac mode	Keep the EUT in continuously transmitting mode with 802.11ac modulation type at lowest, middle and highest channel. All bandwidth and data rates has been tested and found the data rate @ MCS0 is the worst case. Only the data of worst case is recorded in the report.
TM4	802.11ax mode	Keep the EUT in continuously transmitting mode with 802.11ax modulation type at lowest, middle and highest channel. All bandwidth and data rates has been tested and found the data rate @ MCS0 is the worst case. Only the data of worst case is recorded in the report.

Note: Model EC14 selected as representative model for the test and its data was recorded in this report.

6.2 Operation Configuration of EUT

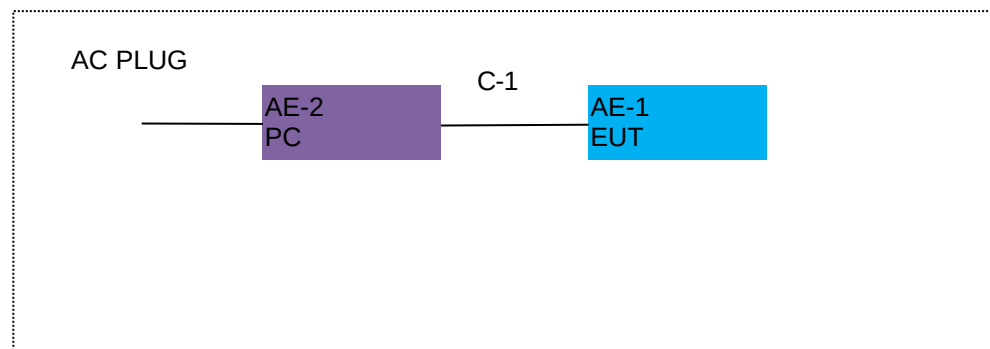
Test Software		ADB command									
RF Power Setting as following:											
Antenna Configur ation	Mode	CH36 (5180M Hz)	CH40 (5200M Hz)	CH48 (5240M Hz)	CH38 (5190M Hz)	CH46 (5230M Hz)	CH149 (5745M Hz)	CH157 (5785M Hz)	CH165 (5825M Hz)	CH151 (5755M Hz)	CH159 (5795M Hz)
SISO Chain 1	802.11a	12	12	13	---	---	13	13	14	---	---
SISO Chain 1	802.11n(HT 20)	12	12	13	---	---	13	13	14	---	---
SISO Chain 1	802.11n(HT 40)	---	---	---	12	13	---	---	---	13	14
SISO Chain 1	802.11ac(V HT20)	12	12	13	---	---	13	13	14	---	---
SISO Chain 1	802.11ac(V HT40)	---	---	---	12	13	---	---	---	13	14
SISO Chain 1	802.11ax(H E20)	12	12	13	---	---	13	13	14	---	---
SISO Chain 1	802.11ax(H E40)	---	---	---	12	13	---	---	---	13	14

Note: The above information was declared by manufacturer.

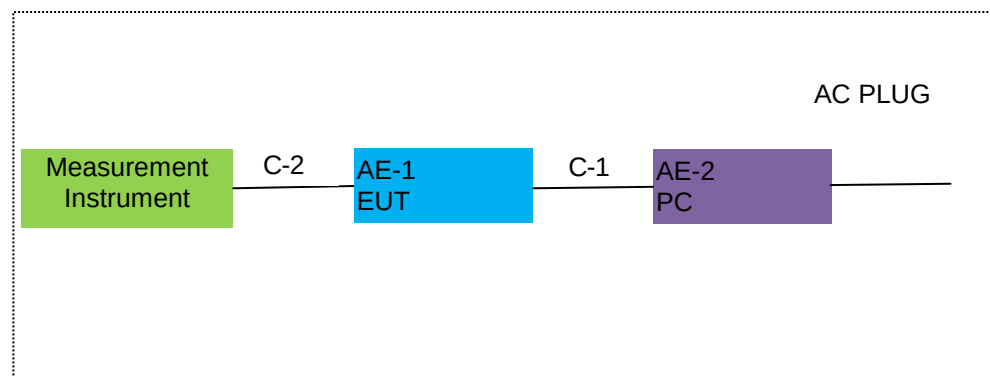
7 Setup Of Equipment Under Test

7.1 Block Diagram Configuration Of Test System

For Radiated Test Cases



For Conducted Test Cases



Note: 1. The temporary antenna connector is soldered on the PCB board in order to perform conducted tests.

7.2 Support Equipment

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

Item	Equipment	Model/Type No.	Series No.	Note
AE-1	Wireless Carplay adapter	EC14	N/A	EUT
AE-2	ASUS	S5506MA155-0ECBXHRJ20	SBN0KD007514467	AE
Item	Cable Type	Shielded Type	Ferrite Core	Length
C-1	USB cable	NO	NO	100cm
C-2	RF cable	YES	NO	10cm

8 Equipment List

Conducted measurements at antenna port					
Equipment	Manufacturer	Model No	Serial No.	Cal Date	Cal Due Date
Power meter	MWRFTest	MW100-PSB	N/A	2025-09-16	2026-09-15
Power meter	MWRFTest	MW100-PSB	N/A	2025-09-16	2026-09-15
Power meter	MWRFTest	MW100-PSB	N/A	2025-09-16	2026-09-15
Power meter	MWRFTest	MW100-PSB	N/A	2025-09-16	2026-09-15
Spread spectrum device	MWRFTest	MW100-7UD	N/A	2025-09-16	2026-09-15
Spectrum Analyzer	R&S	FSV40	101417	2026-04-08	2027-04-07
MXG Vector Signal Generator	Agilent	N5182A	MY47070317	2026-04-08	2027-04-07
Shielding Room	Taihe Mao Rui Electronic	743	N/A	2025-01-03	2028-01-02
USB RF Power Sensor	DARE	RPR3006 W	15I00041SNO84	2026-04-08	2027-04-07

Radiated spurious emissions

Equipment	Manufacturer	Model No	Serial No.	Cal Date	Cal Due Date
Low Noise Amplifier	EMC Solutions	TRLA-180400G50	25102901	2026-04-08	2027-04-07
Wideband Radio Communication Tester	R&S	CMW500	153336	2026-04-08	2027-04-07
Spectrum Analyzer	Keysight	N9020B	MY60112710	2025-12-25	2026-12-24
Semi Anechoic Chamber	N/A	855	N/A	2024-05-20	2027-05-19
Spectrum Analyzer	Keysight	N9020A	MY53280244	2026-04-15	2027-04-14
Broadband Horn Antenna	SCHWARZBEC K	BBHA 9120 D	2816	2024-05-18	2027-05-17
AMPLIFIER	Sonoma	310N	186604	2026-04-08	2027-04-07
Broadband Horn Antenna	SCHWARZBEC K	BBHA 9170	803	2024-05-12	2027-05-11
Active Loop Antenna	SCHWARZBEC K	FMZB 1519 B	055	2024-05-17	2027-05-16
Spectrum Analyzer	R&S	FSV40	101417	2026-04-08	2027-04-07
Low Noise Amplifier	B&Z	BZ-P540-550850-452727	16476-11729	2026-04-16	2027-04-15
Pre-Amplifier	EMC	EMC05183 5SE	980246	2026-04-08	2027-04-07
Broadband Horn Antenna	EM	EM-AH-10180	2011071402	2024-05-12	2027-05-11

Measurement Software

Manufacturer	Software Name	Software Version	Description
MWRFTtest	MTS 8310 2.4GHz/5GHz	2.0	RF Conducted Test
Farad	EZ-EMC_RE	AIT-03A	Radiated Test

9 Evaluation Results (Evaluation)

9.1 Antenna requirement

Test Requirement:	Refer to 47 CFR Part 15.203, 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 shall be considered sufficient to comply with the provisions of this section.
Test Method:	---

9.1.1 Conclusion:

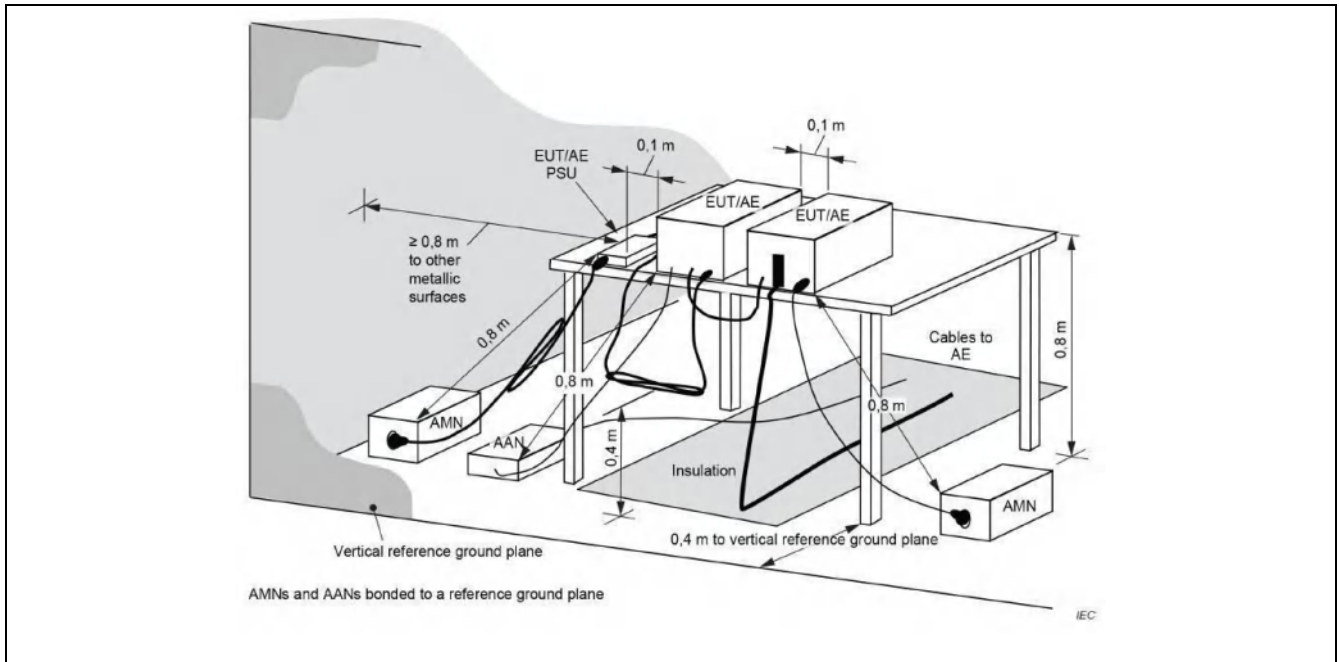
The EUT uses a PCB antenna, the max antenna gain is 5.2G: -1.82 dBi, 5.8G: -1.17 dBi, which is deemed to comply with the antenna requirement.

10 Radio Spectrum Matter Test Results (RF)

10.1 Conducted Emission at AC power line

Test Requirement:	Refer to 47 CFR 15.207(a), Except as shown in paragraphs (b) and (c) of this section, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50 μ H/50 ohms line impedance stabilization network (LISN).		
Test 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.		
Test Method:	ANSI C63.10-2020+Cor.1-2023+C63.10a-2024+Errata to C63.10a-2024, section 6.2 KDB 558074 D01 15.247 Meas Guidance v05r02		
Procedure:	a) The mains terminal disturbance voltage test was conducted in a shielded room. b) 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. c) 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, d) 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. e) 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. f) The RBW of the receiver was set at 9 kHz in 150 kHz ~ 30MHz with Peak and AVG detector in Max Hold mode. Run the receiver's pre-scan to record the maximum disturbance generated from Product in all power lines in the full band. g) For each frequency whose maximum record was higher or close to limit, measure its QP and AVG values and record.		

10.1.1 Test Setup Diagram:



10.1.2 E.U.T. Operation:

Operating Environment:					
Temperature:	25.3 °C	Humidity:	57.3 %	Atmospheric Pressure:	1010 mbar
Per-test mode:	N/A				
Final test mode:	N/A				

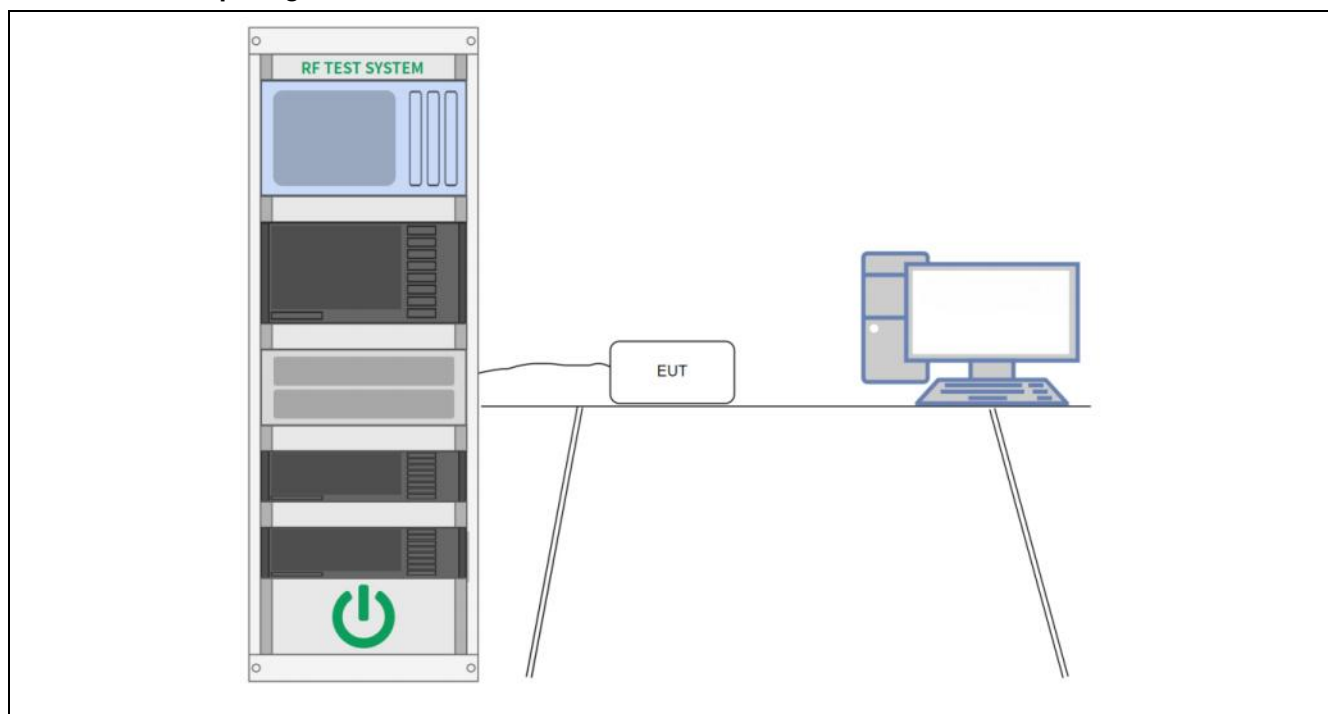
10.1.3 Test Data:

Not Applicable
This device do not operate from the AC power lines or contain provisions for operation while connected to the AC power lines.

10.2 Duty Cycle

Test Requirement:	Reporting purposes only
Test Limit:	---
Test Method:	ANSI C63.10-2020 + Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024 section 12.2 (b)
Procedure:	i) Set the center frequency of the instrument to the center frequency of the transmission. ii) Set RBW $\geq$ EBW if possible; otherwise, set RBW to the largest available value. iii) Set VBW $\geq$ RBW. iv) Set detector = peak. v) The zero-span measurement method shall not be used unless both RBW and VBW are $> 50/T$, where T is defined in item a1) of 12.2, and the number of sweep points across duration T exceeds 100. Note: The cable loss and attenuator loss were offset into measure device as an amplitude offset.

10.2.1 Test Setup Diagram:



10.2.2 E.U.T. Operation:

Operating Environment:					
Temperature:	25 °C	Humidity:	54 %	Atmospheric Pressure:	1010 mbar
Per-test mode:	TM1, TM2, TM3, TM4				
Final test mode:	TM1, TM2, TM3, TM4				

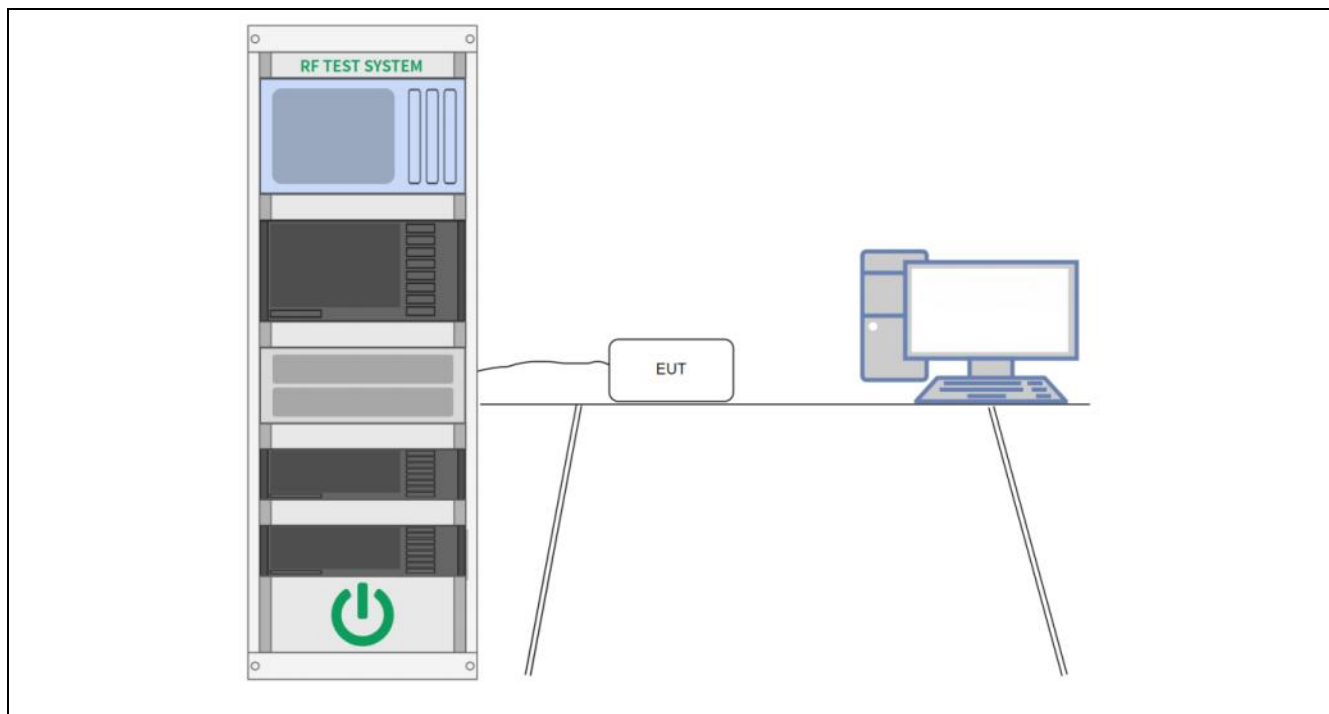
10.2.3 Test Data:

Please Refer to Appendix for Details.

10.3 99% Bandwidth

Test Requirement:	Reporting purposes only
Test Limit:	---
Test Method:	ANSI C63.10-2020+Cor.1-2023+C63.10a-2024+Errata to C63.10a-2024, section 6.9.3.
Procedure:	Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer. Use the following spectrum analyzer settings: a) Span = The frequency span for the spectrum analyzer shall be between 1.5 times and 5.0 times the OBW. b) RBW = 1% to 5% of the OBW. c) VBW $\geq 3 \times$ RBW d) Sweep = auto; e) Detector function = peak f) Trace = max hold g) Use the 99% power bandwidth function of the instrument and report the measured bandwidth. Note: The cable loss and attenuator loss were offset into measure device as an amplitude offset.

10.3.1 Test Setup Diagram:



10.3.2 E.U.T. Operation:

Operating Environment:					
Temperature:	25 °C	Humidity:	54 %	Atmospheric Pressure:	1010 mbar
Per-test mode:	TM1, TM2, TM3, TM4				
Final test mode:	TM1, TM2, TM3, TM4				

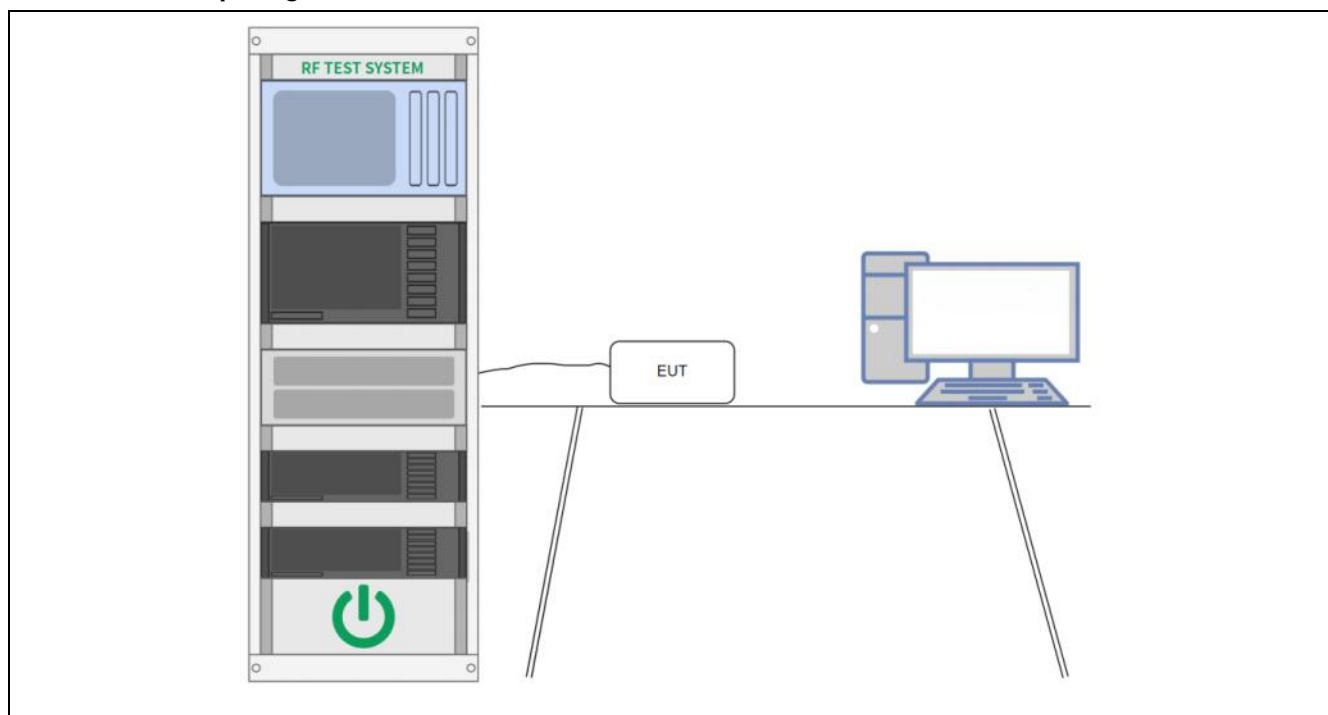
10.3.3 Test Data:

Please Refer to Appendix for Details.

10.4 Emission bandwidth

Test Requirement:	U-NII 1: No limits, only for report use. U-NII 3: 47 CFR Part 15.407(e)
Test Limit:	U-NII 1: No limits, only for report use. U-NII 3: Within the 5.725-5.850 GHz and 5.850-5.895 GHz bands, the minimum 6 dB bandwidth of U-NII devices shall be at least 500 kHz.
Test Method:	ANSI C63.10-2020 + Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024, section 12.5 KDB 789033 D02, Clause C.1 and Clause C.2
Procedure:	Emission bandwidth: a) Set RBW = approximately 1% to 5% 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 peak of the emission. Compare this with the RBW setting of the instrument. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1% to 5%. 6 dB emission bandwidth: a) Set RBW = 100 kHz. b) Set the video bandwidth (VBW) $\geq 3 \times$ RBW. c) Detector = Peak. d) Trace mode = max hold. e) Sweep = auto couple. f) Allow the trace to stabilize. g) Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission. Note: The cable loss and attenuator loss were offset into measure device as an amplitude offset.

10.4.1 Test Setup Diagram:



10.4.2 E.U.T. Operation:

Operating Environment:

Temperature:	25 °C	Humidity:	54 %	Atmospheric Pressure:	1010 mbar
Per-test mode:	TM1, TM2, TM3, TM4				
Final test mode:	TM1, TM2, TM3, TM4				

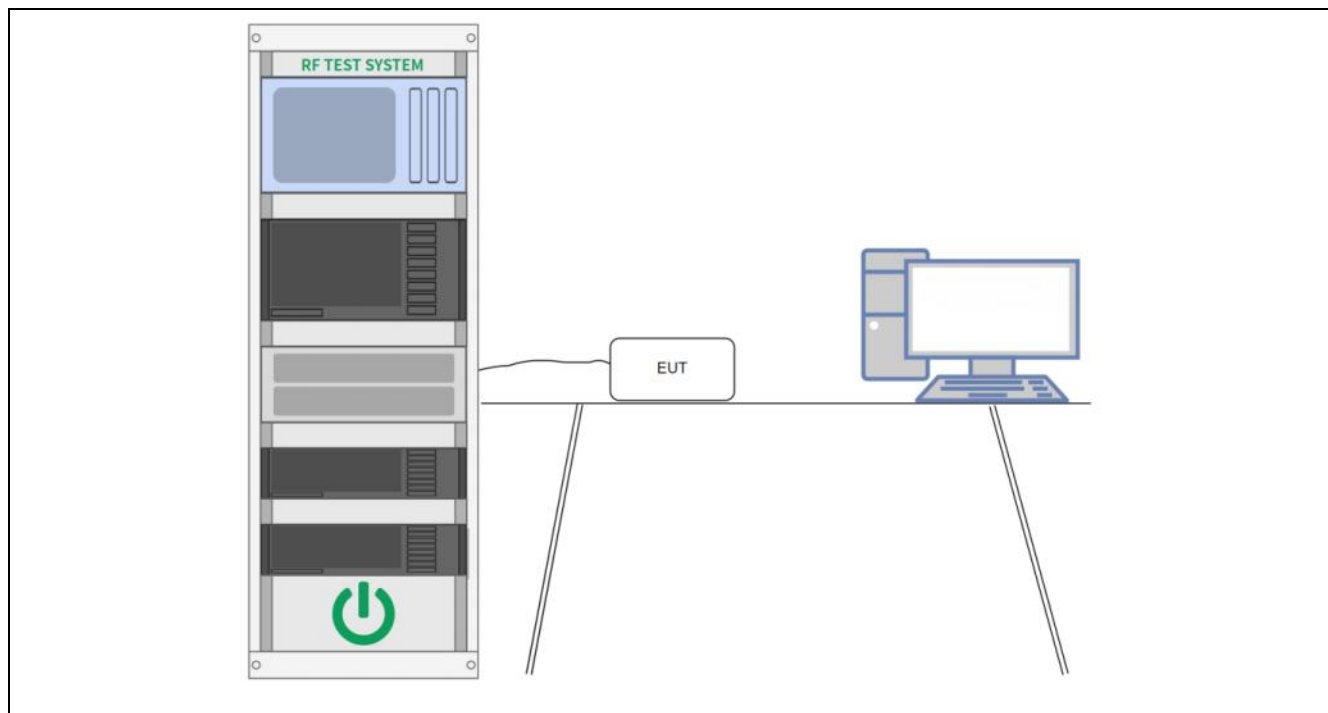
10.4.3 Test Data:

Please Refer to Appendix for Details.

10.5 Maximum conducted output power

Test Requirement:	47 CFR Part 15.407(a)(1)(iv) 47 CFR Part 15.407(a)(3)(i)
Test Limit:	For client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. For the band 5.725-5.850 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.
Test Method:	ANSI C63.10-2020 + Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024, section 12.4.3.2
Procedure:	Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the power meter.

10.5.1 Test Setup Diagram:



10.5.2 E.U.T. Operation:

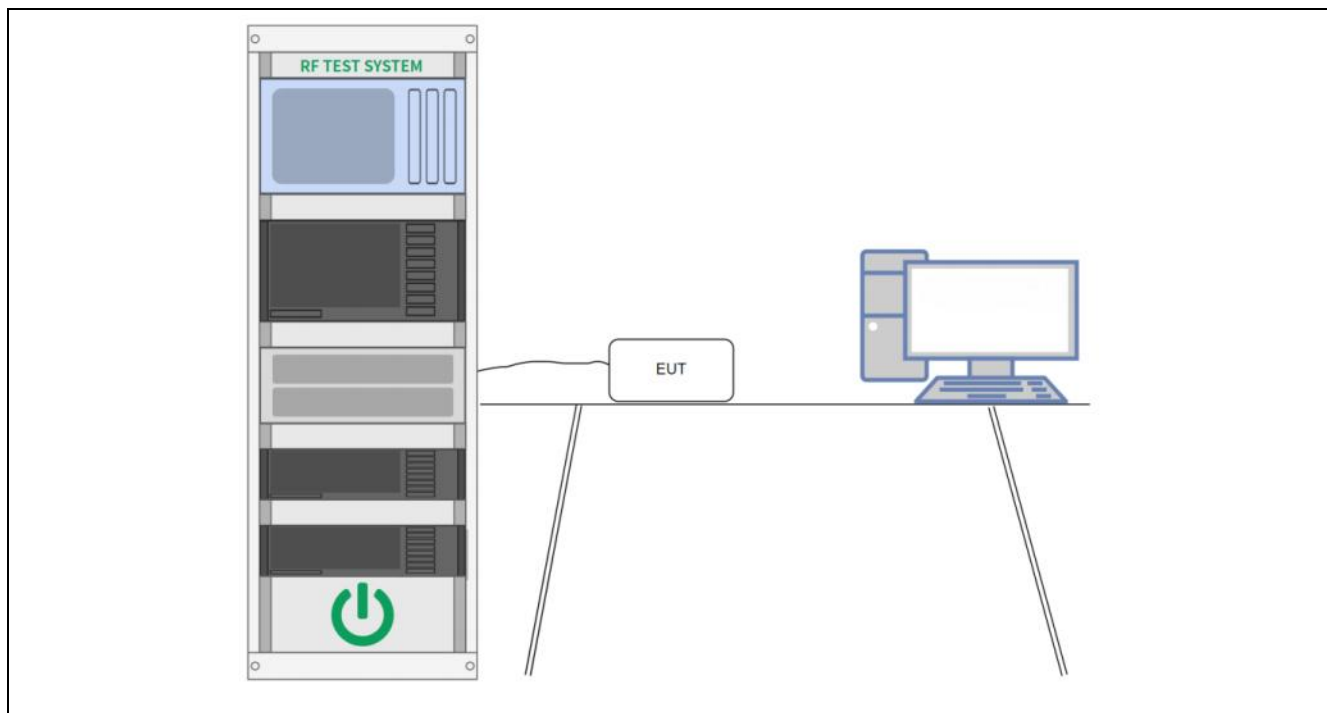
Operating Environment:					
Temperature:	25 °C	Humidity:	54 %	Atmospheric Pressure:	1010 mbar
Per-test mode:	TM1, TM2, TM3, TM4				
Final test mode:	TM1, TM2, TM3, TM4				

10.5.3 Test Data:

Please Refer to Appendix for Details.

10.6 Power spectral density

Test Requirement:	47 CFR Part 15.407(a)(1)(iv) 47 CFR Part 15.407(a)(3)(i)
Test Limit:	For client devices in the 5.15-5.25 GHz band, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. For the band 5.725-5.850 GHz, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.
Test Method:	ANSI C63.10-2020 + Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024, section 12.6
Procedure:	1. For U-NII-1 band: Using method SA-2 a) Set span to encompass the entire emission bandwidth (EBW) of the signal. b) Set RBW = 1 MHz, Set VBW $\geq$ 3 RBW, Detector = RMS c) Sweep time = auto, trigger set to "free run". d) Trace average at least 100 traces in power averaging mode. e) Record the max value and add 10 log (1/duty cycle) 2. For U-NII-3 band: a) Set span to encompass the entire emission bandwidth (EBW) of the signal. b) Set RBW = 500 kHz, Set VBW $\geq$ 3 RBW, Detector = RMS c) Use the peak marker function to determine the maximum power level in any 500 kHz band segment within the fundamental EBW. d) Sweep time = auto, trigger set to "free run". e) Trace average at least 100 traces in power averaging mode. f) Record the max value and add 10 log (1/duty cycle) Note: The cable loss and attenuator loss were offset into measure device as an amplitude offset.

10.6.1 Test Setup Diagram:**10.6.2 E.U.T. Operation:**

Operating Environment:					
Temperature:	25 °C	Humidity:	54 %	Atmospheric Pressure:	1010 mbar
Per-test mode:	TM1, TM2, TM3, TM4				
Final test mode:	TM1, TM2, TM3, TM4				

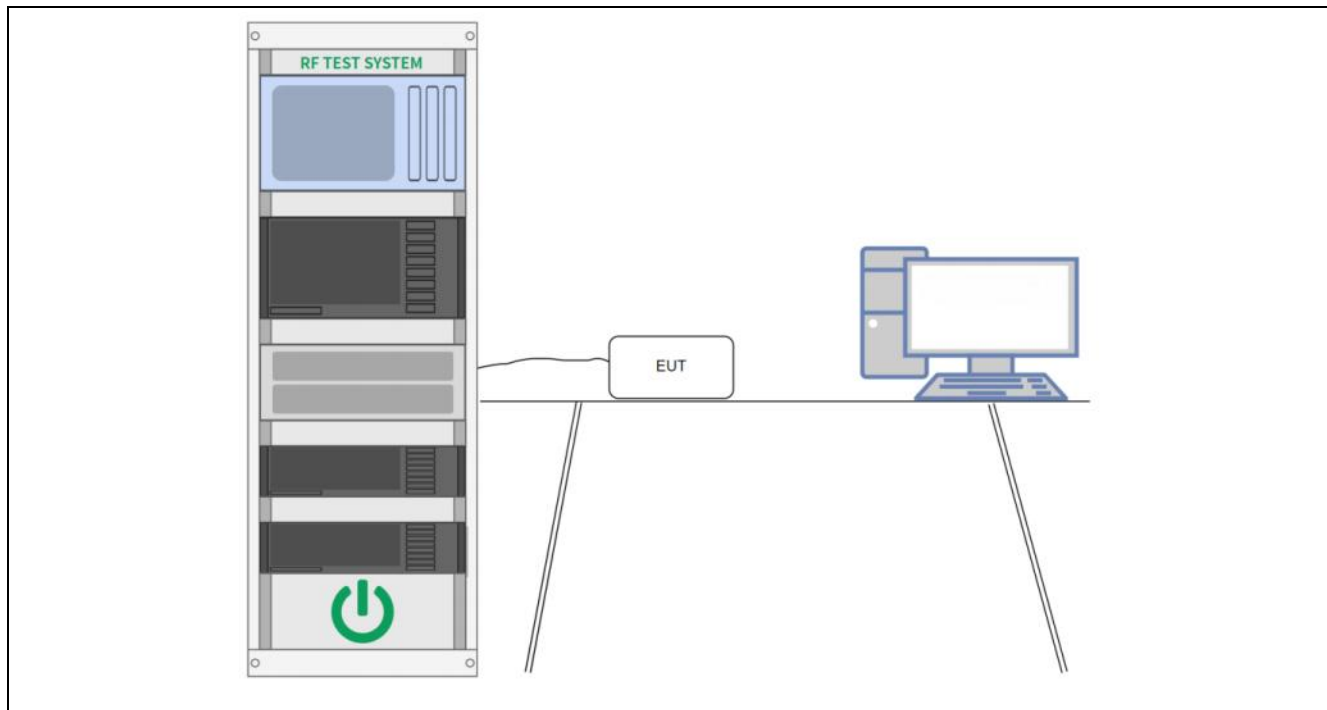
10.6.3 Test Data:

Please Refer to Appendix for Details.

10.7 Frequency stability

Test Requirement:	47 CFR Part 15.407(g)
Test Limit:	Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the users manual.
Test Method:	ANSI C63.10-2020 + Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024, section 6.8
Procedure:	Refer to ANSI C63.10-2020 + Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024 section 6.8

10.7.1 Test Setup Diagram:



10.7.2 E.U.T. Operation:

Operating Environment:					
Temperature:	25 °C	Humidity:	54 %	Atmospheric Pressure:	1010 mbar
Per-test mode:	TM1, TM2, TM3, TM4				
Final test mode:	TM1, TM2, TM3, TM4				

10.7.3 Test Data:

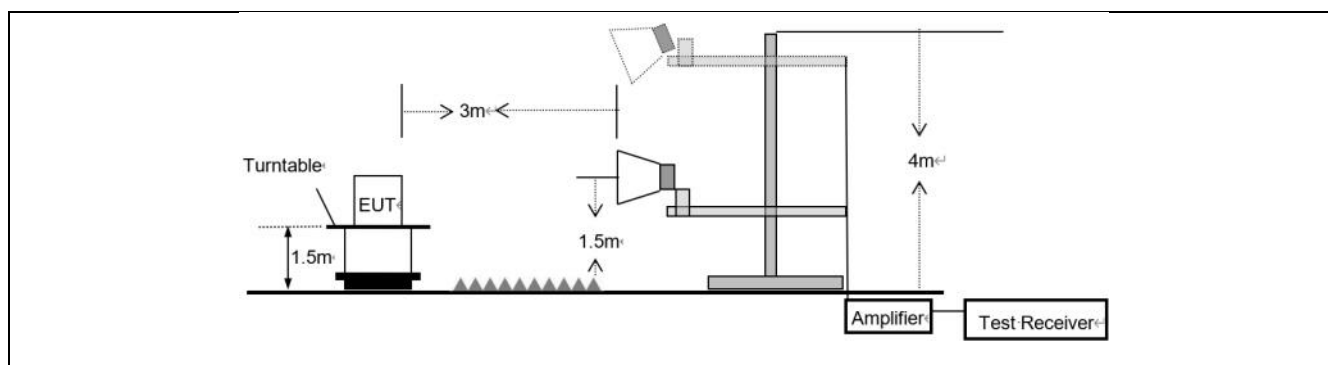
Section 15.407(g) specifies that U-NII devices are required to ensure frequency stability. It is required that the emissions are maintained within the band of operation under all conditions of normal operation as specified in the user's manual. The grantee is responsible for ensuring that the EUT meets Section 15.407(g) requirements; however, the applications for equipment certification are not required to include test reports with explicit demonstration of compliance.

10.8 Band edge emissions (Radiated)

Test Requirement:	47 CFR Part 15.407(b)(1), 15.205, 15.209 47 CFR Part 15.407(b)(4), 15.205, 15.209 47 CFR Part 15.407(b)(10), 15.205, 15.209				
Test 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.				
	For transmitters operating solely in the 5.725-5.850 GHz band: All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.				
	MHz	MHz	MHz	GHz	
	0.090-0.110	16.42-16.423	399.9-410	4.5-5.15	
	¹ 0.495-0.505	16.69475-16.69525	608-614	5.35-5.46	
	2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75	
	4.125-4.128	25.5-25.67	1300-1427	8.025-8.5	
	4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2	
	4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5	
	6.215-6.218	74.8-75.2	1660-1710	10.6-12.7	
	6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4	
	6.31175-6.31225	123-138	2200-2300	14.47-14.5	
	8.291-8.294	149.9-150.05	2310-2390	15.35-16.2	
	8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4	
	8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12	
	8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0	
	12.29-12.293	167.72-173.2	3332-3339	31.2-31.8	
	12.51975-12.52025	240-285	3345.8-3358	36.43-36.5	
	12.57675-12.57725	322-335.4	3600-4400	(²)	
	13.36-13.41				
	¹ Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.				
	² Above 38.6				
	The field strength of emissions appearing within these frequency bands shall not exceed the limits shown in § 15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in § 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in § 15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in § 15.35 apply to these measurements.				
Except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:					
Frequency (MHz)		Field strength (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		
** Except as provided in paragraph (g), fundamental emissions from intentional					

	radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§ 15.231 and 15.241. In the emission table above, the tighter limit applies at the band edges. The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9–90 kHz, 110–490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.
Test Method:	ANSI C63.10-2020 + Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024, section 12.7.4, 12.7.6, 12.7.7
Procedure:	Use radiated spurious emission test procedure. The transmitter output (antenna port) was connected to the antenna were made with the unit transmitting in the low end and the high end of the channel range closest to the restricted bands respectively. The emissions were made on the 966 Semi-Chamber. a) Use the following spectrum analyzer settings: The procedure for peak unwanted emissions measurements: 1) RBW = 1 MHz. 2) VBW $\geq [3 \times \text{RBW}]$ 3) Detector = peak. 4) Sweep time = No faster than coupled (auto) time. 5) Trace mode = max-hold. The procedure for average value unwanted emissions measurements: 1) RBW = 1 MHz. 2) VBW $\geq [3 \times \text{RBW}]$. 3) Detector = Power averaging (rms). 4) Averaging type = power (i.e., rms) 5) Sweep time = auto. b) Set the PK and AV limit line. c) Record the emissions out of the band-edge. d) Determine band-edge compliance as required. Where, a) Factor = Antenna Factor + Cable Loss, the value was added to Original Receiver Reading by the software automatically. b) Level = Reading + Factor. c) Margin = Level – Limit

10.8.1 Test Setup Diagram:

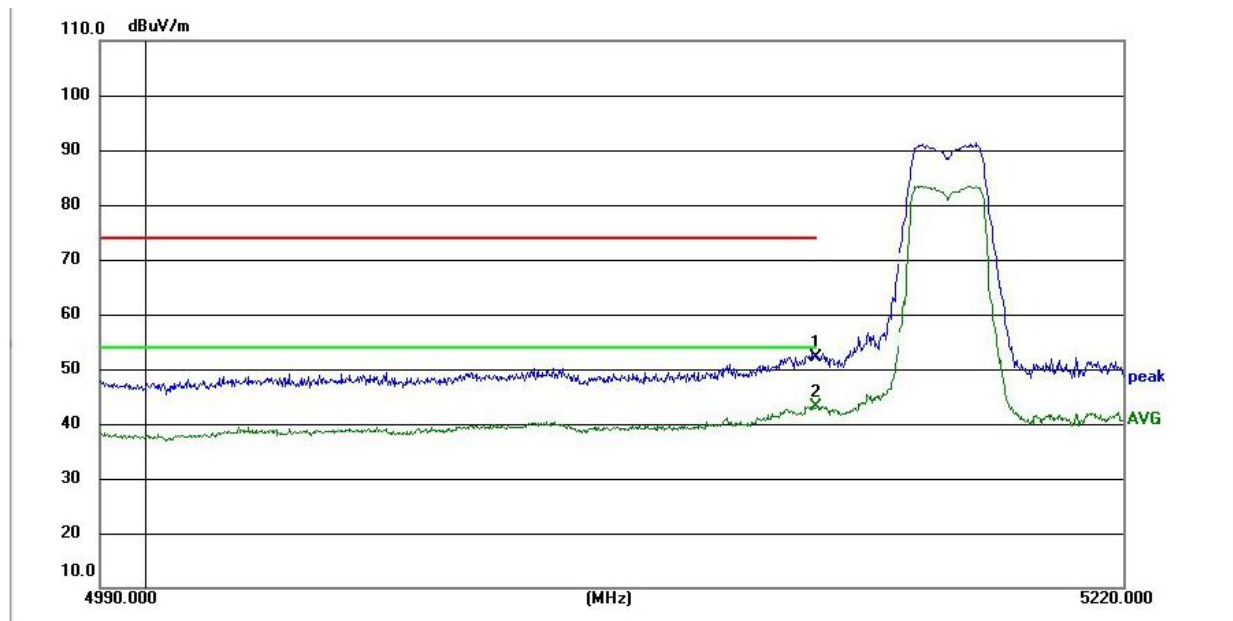


10.8.2 E.U.T. Operation:

Operating Environment:					
Temperature:	23 °C	Humidity:	52 %	Atmospheric Pressure:	1010 mbar
Per-test mode:	TM1, TM2, TM3, TM4				
Final test mode:	TM1, TM4				

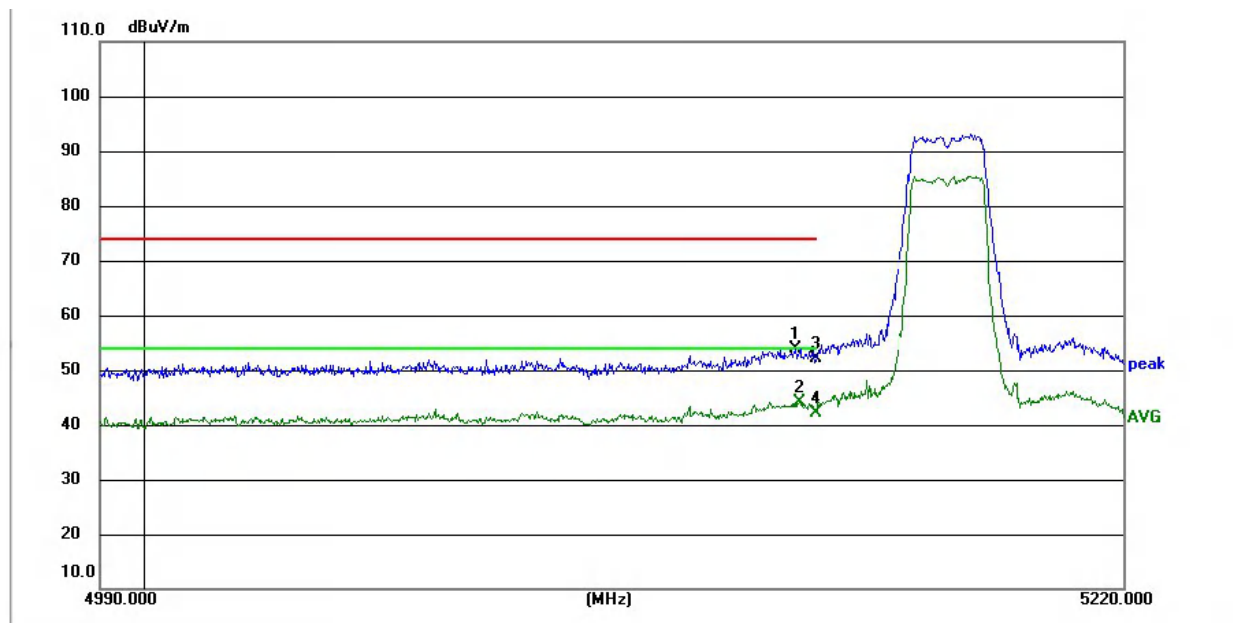
10.8.3 Test Data:

TM1 / Polarization: Horizontal / Band: 5150-5250 MHz / BW: 20 / CH: L



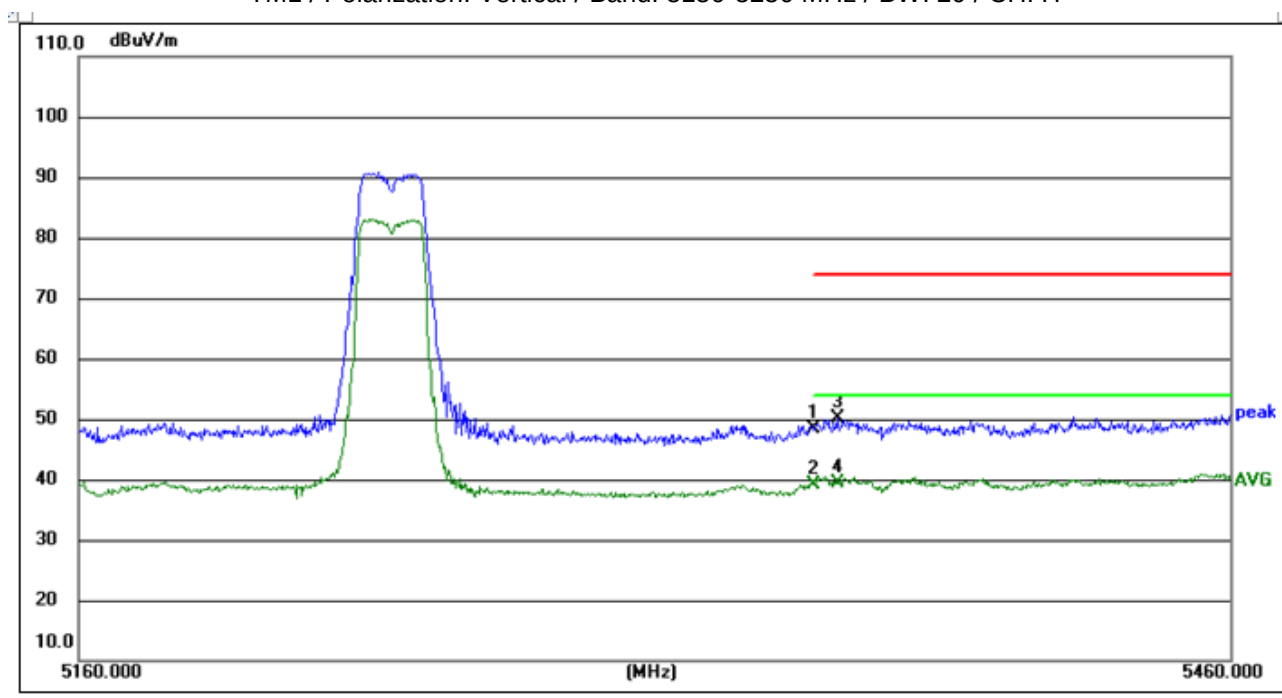
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	5150.000	13.57	38.51	52.08	74.00	-21.92	peak	P	
2 *	5150.000	4.64	38.51	43.15	54.00	-10.85	AVG	P	

TM1 / Polarization: Vertical / Band: 5150-5250 MHz / BW: 20 / CH: L



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	5145.043	15.38	38.42	53.80	74.00	-20.20	peak	P	
2 *	5146.101	5.65	38.44	44.09	54.00	-9.91	AVG	P	
3	5150.000	13.55	38.51	52.06	74.00	-21.94	peak	P	
4	5150.000	3.68	38.51	42.19	54.00	-11.81	AVG	P	

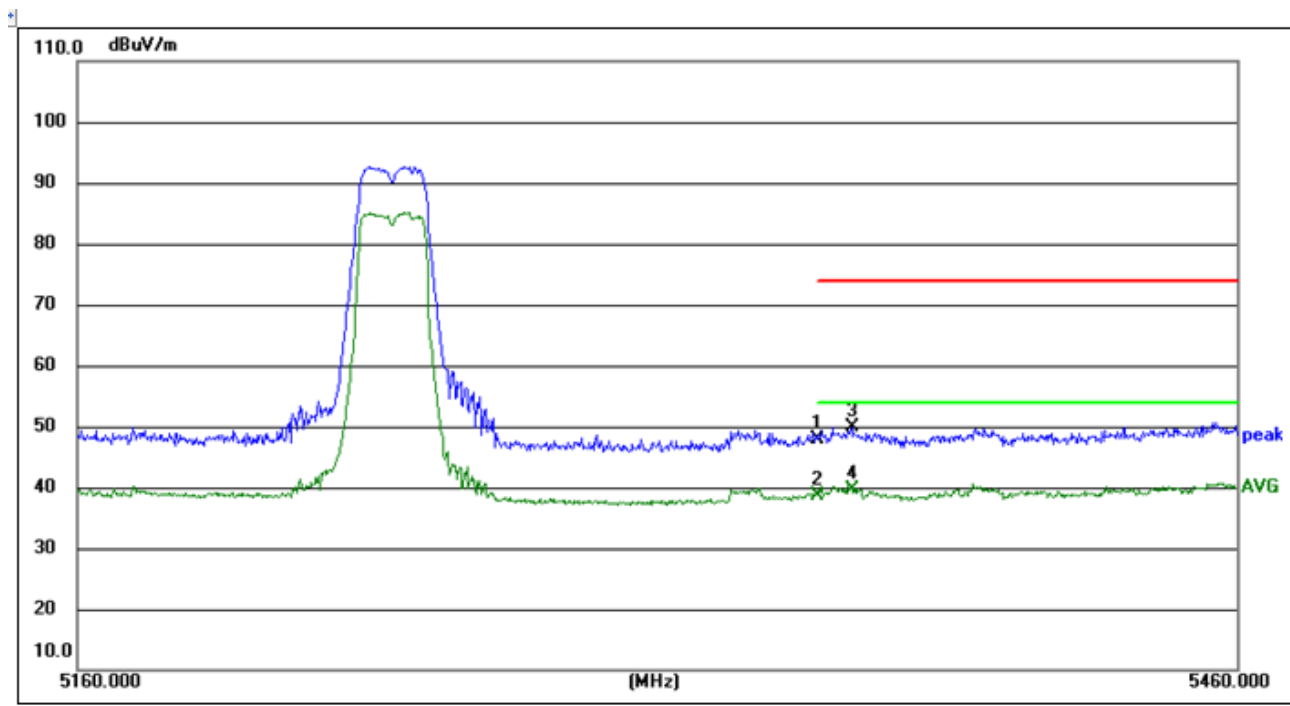
TM1 / Polarization: Vertical / Band: 5150-5250 MHz / BW: 20 / CH: H



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Remark
1	5350.000	10.70	37.64	48.34	74.00	-25.66	peak	
2	5350.000	1.56	37.64	39.20	54.00	-14.80	AVG	
3	5355.990	12.46	37.66	50.12	74.00	-23.88	peak	
4 *	5355.990	1.65	37.66	39.31	54.00	-14.69	AVG	

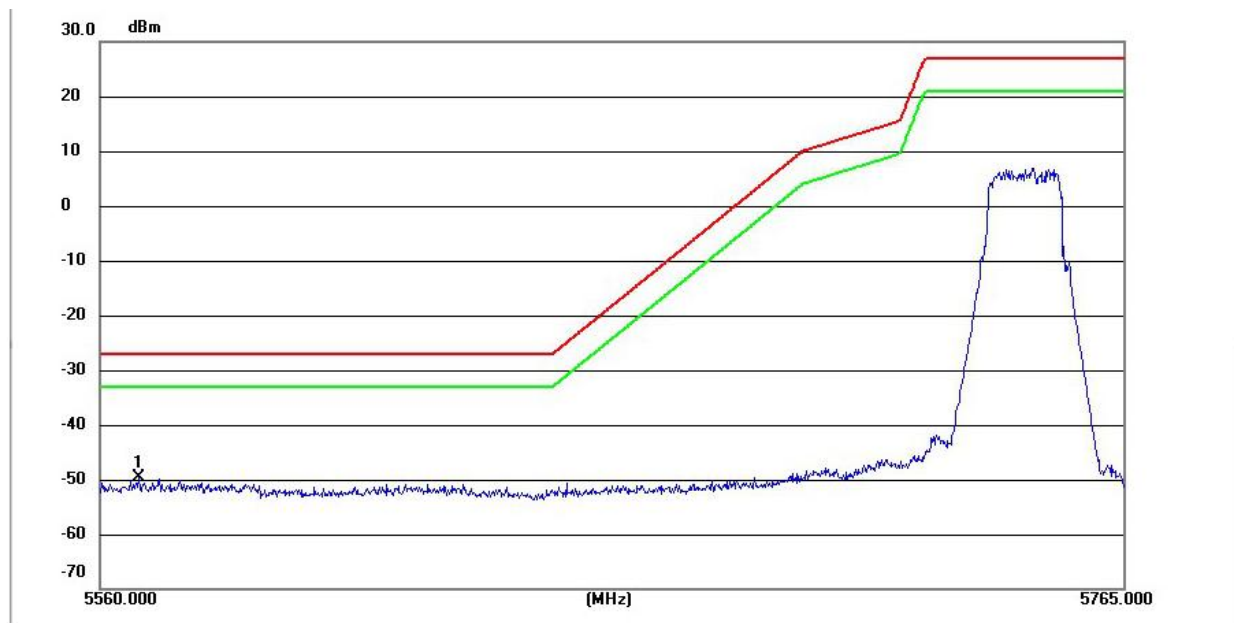
I

TM1 / Polarization: Vertical / Band: 5150-5250 MHz / BW: 20 / CH: H



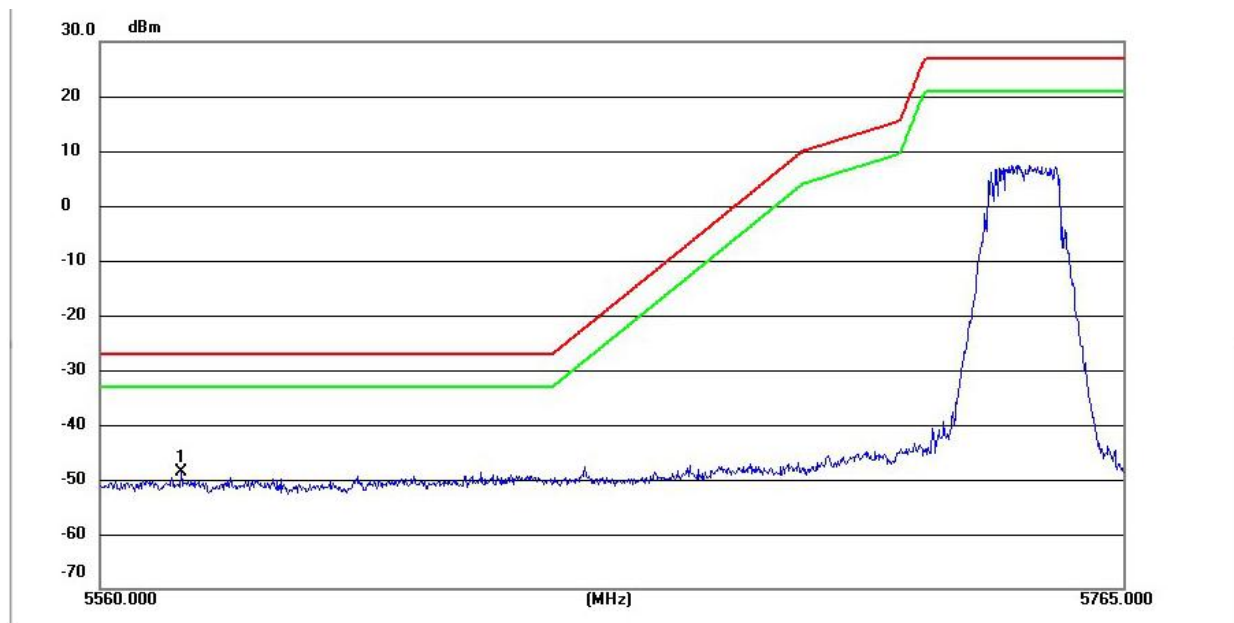
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Remark
1	5350.000	10.20	37.64	47.84	74.00	-26.16	peak	
2	5350.000	0.91	37.64	38.55	54.00	-15.45	AVG	
3	5358.600	12.17	37.67	49.84	74.00	-24.16	peak	
4 *	5358.600	1.84	37.67	39.51	54.00	-14.49	AVG	

TM1 / Polarization: Horizontal / Band: 5725-5850 MHz / BW: 20 / CH: L



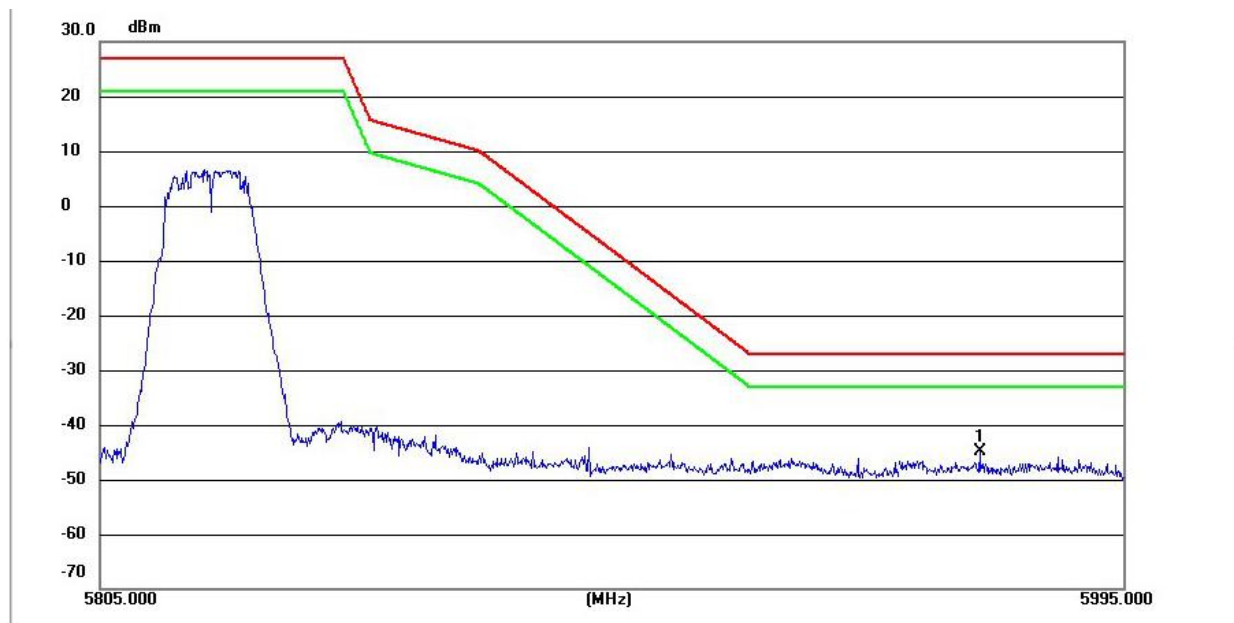
No.	Frequency (MHz)	Reading (dBm)	Factor (dB)	Level (dBm)	Limit (dBm)	Margin (dB)	Detector	P/F	Remark
1 *	5567.770	-100.09	50.50	-49.59	-27.00	-22.59	peak	P	

TM1 / Polarization: Vertical / Band: 5725-5850 MHz / BW: 20 / CH: L



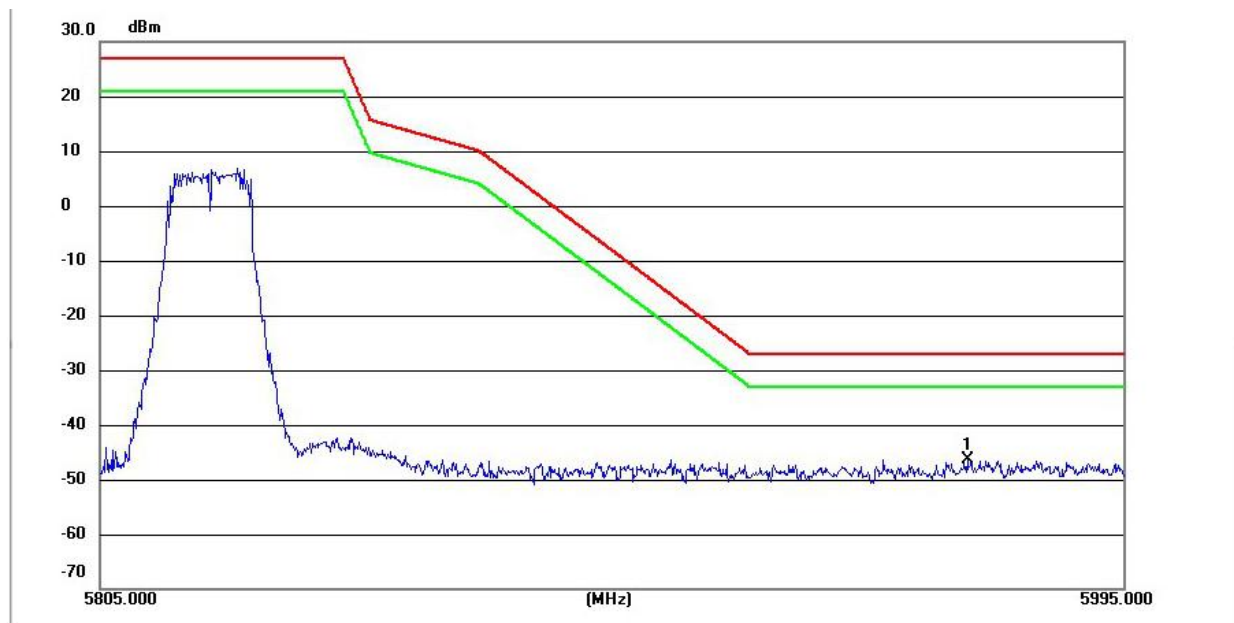
No.	Frequency (MHz)	Reading (dBm)	Factor (dB)	Level (dBm)	Limit (dBm)	Margin (dB)	Detector	P/F	Remark
1 *	5575.990	-99.08	50.47	-48.61	-27.00	-21.61	peak	P	

TM1 / Polarization: Horizontal / Band: 5725-5850 MHz / BW: 20 / CH: H



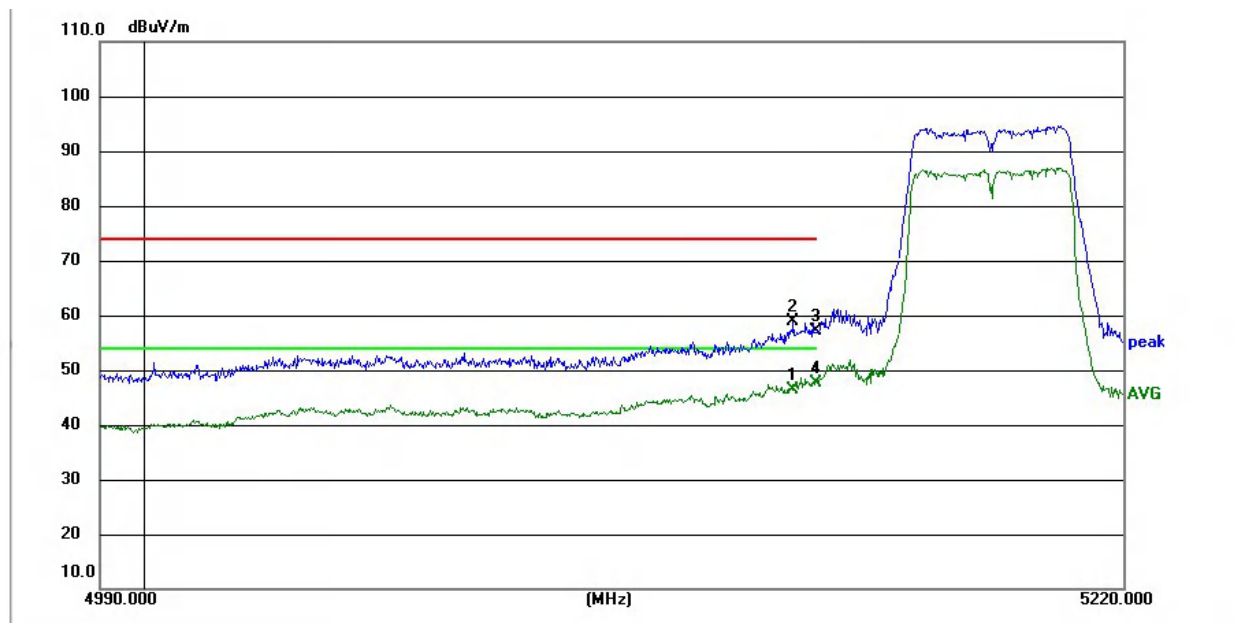
No.	Frequency (MHz)	Reading (dBm)	Factor (dB)	Level (dBm)	Limit (dBm)	Margin (dB)	Detector	P/F	Remark
1 *	5968.096	-96.52	51.57	-44.95	-27.00	-17.95	peak	P	

TM1 / Polarization: Vertical / Band: 5725-5850 MHz / BW: 20 / CH: H



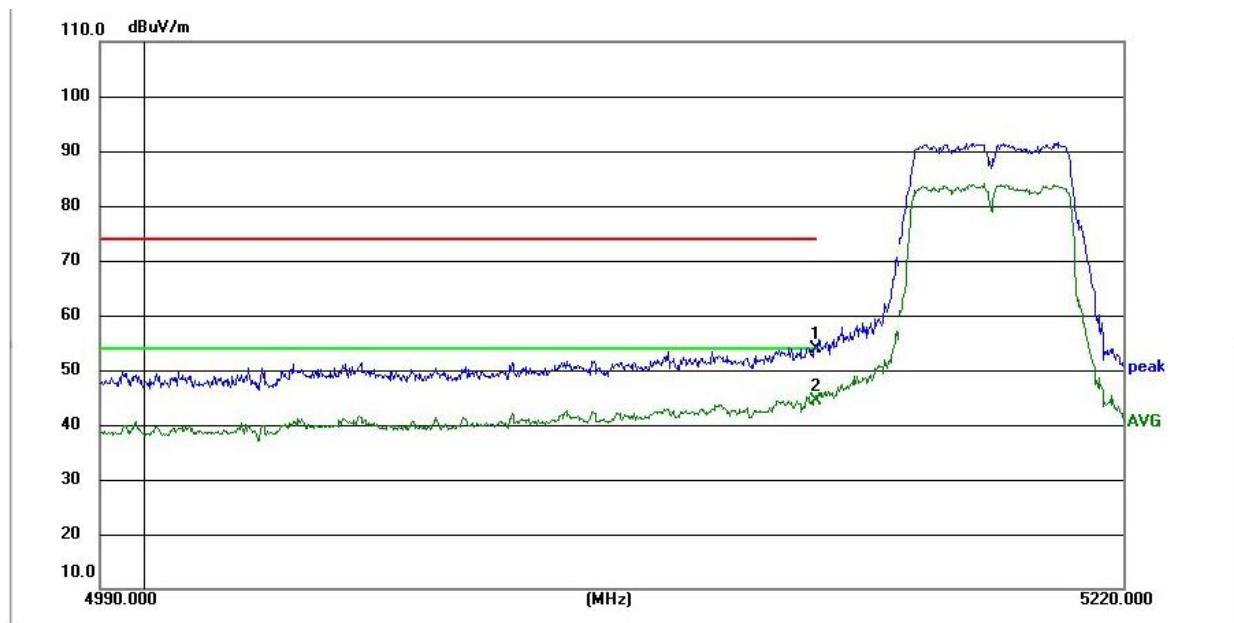
No.	Frequency (MHz)	Reading (dBm)	Factor (dB)	Level (dBm)	Limit (dBm)	Margin (dB)	Detector	P/F	Remark
1 *	5965.797	-98.05	51.61	-46.44	-27.00	-19.44	peak	P	

TM4 / Polarization: Horizontal / Band: 5150-5250 MHz / BW: 40 / CH: L



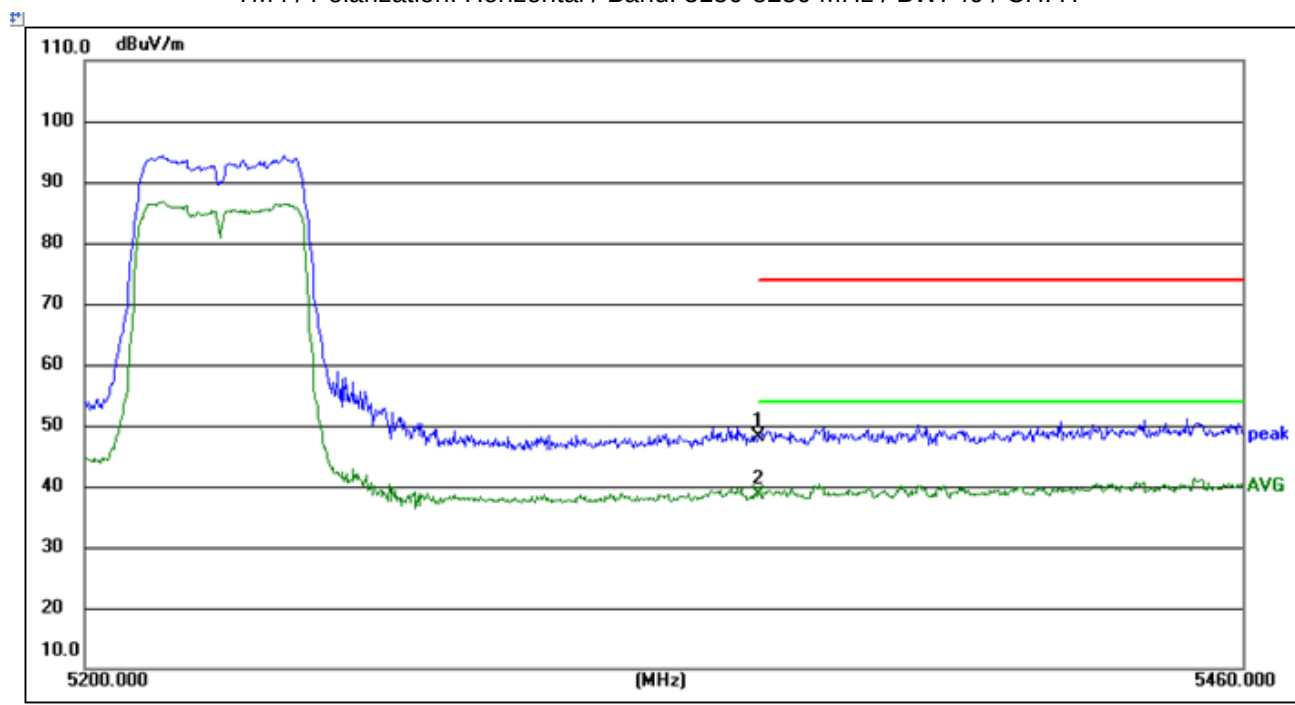
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	5144.445	7.91	38.41	46.32	54.00	-7.68	AVG	P	
2	5144.675	20.46	38.41	58.87	74.00	-15.13	peak	P	
3	5150.000	18.57	38.51	57.08	74.00	-16.92	peak	P	
4 *	5150.000	9.20	38.51	47.71	54.00	-6.29	AVG	P	

TM4 / Polarization: Vertical / Band: 5150-5250 MHz / BW: 40 / CH: L



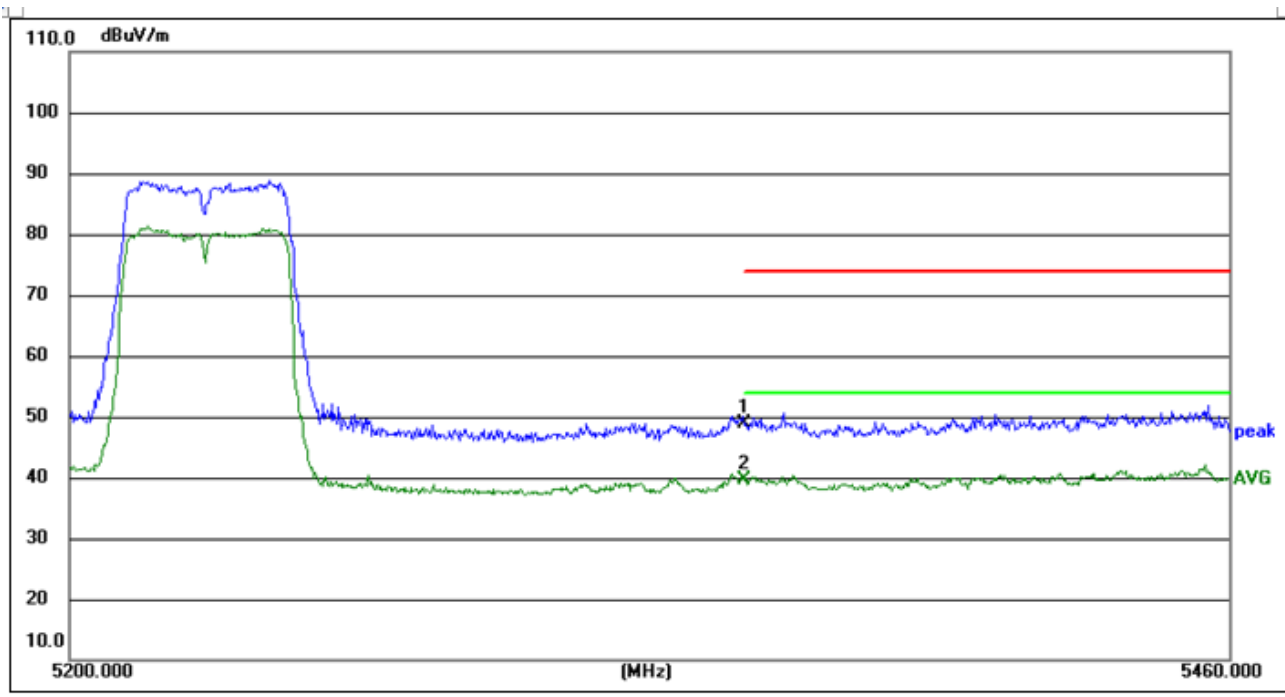
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	5150.000	15.36	38.51	53.87	74.00	-20.13	peak	P	
2 *	5150.000	5.87	38.51	44.38	54.00	-9.62	AVG	P	

TM4 / Polarization: Horizontal / Band: 5150-5250 MHz / BW: 40 / CH: H



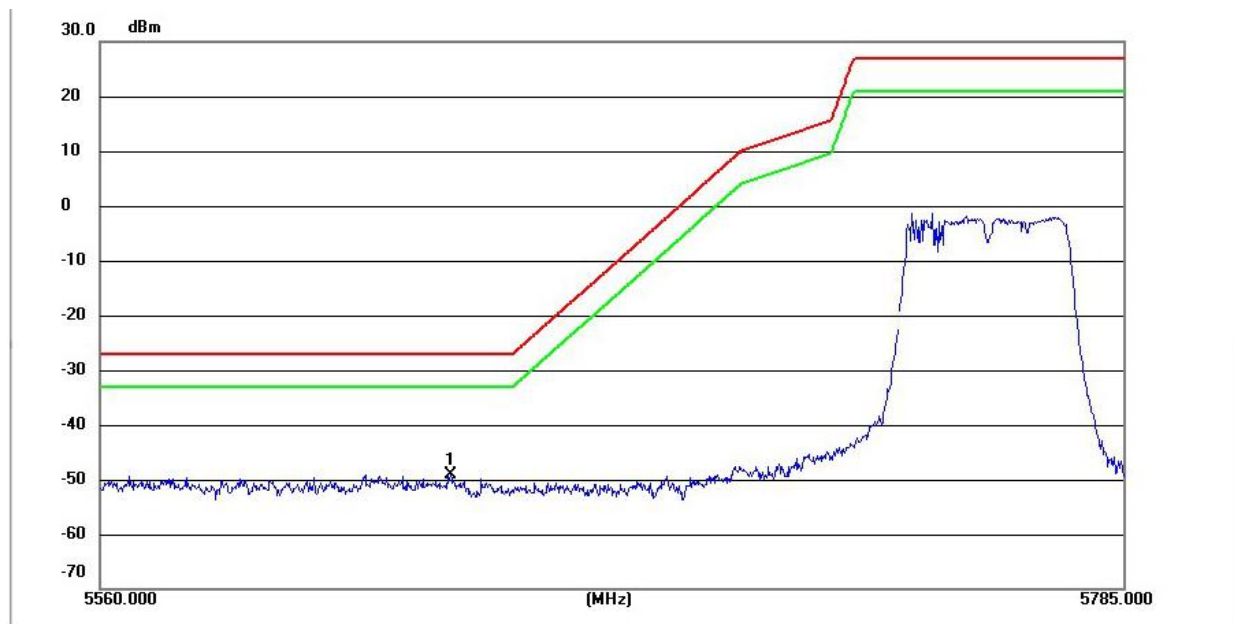
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Remark
1	5350.000	10.55	37.64	48.19	74.00	-25.81	peak	
2 *	5350.000	0.95	37.64	38.59	54.00	-15.41	AVG	

TM4 / Polarization: Vertical / Band: 5150-5250 MHz / BW: 40 / CH: H



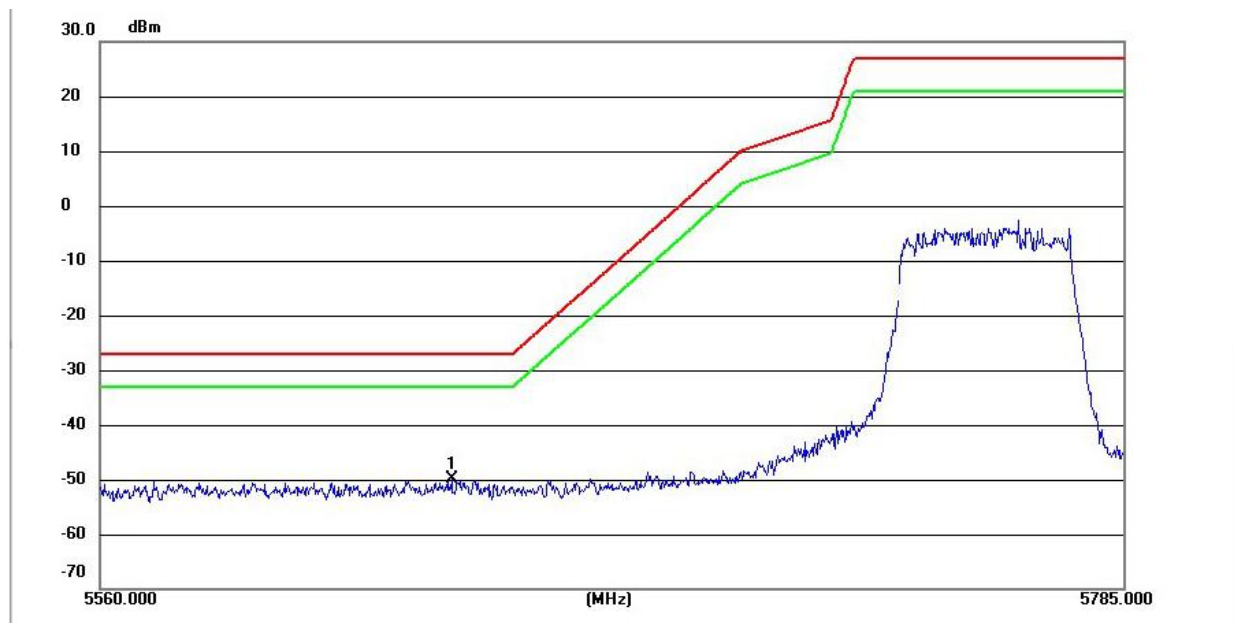
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Remark
1	5350.000	11.13	37.64	48.77	74.00	-25.23	peak	
2 *	5350.000	1.99	37.64	39.63	54.00	-14.37	AVG	

TM4 / Polarization: Horizontal / Band: 5725-5850 MHz / BW: 40 / CH: L



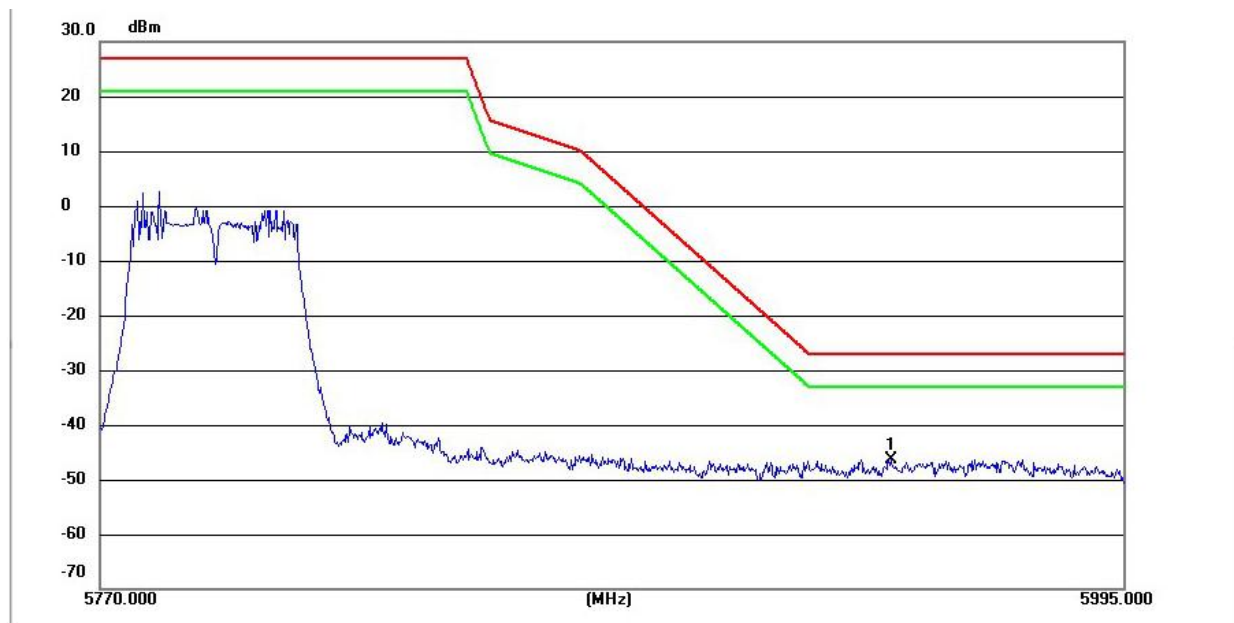
No.	Frequency (MHz)	Reading (dBm)	Factor (dB)	Level (dBm)	Limit (dBm)	Margin (dB)	Detector	P/F	Remark
1 *	5636.185	-99.64	50.52	-49.12	-27.00	-22.12	peak	P	

TM4 / Polarization: Vertical / Band: 5725-5850 MHz / BW: 40 / CH: L



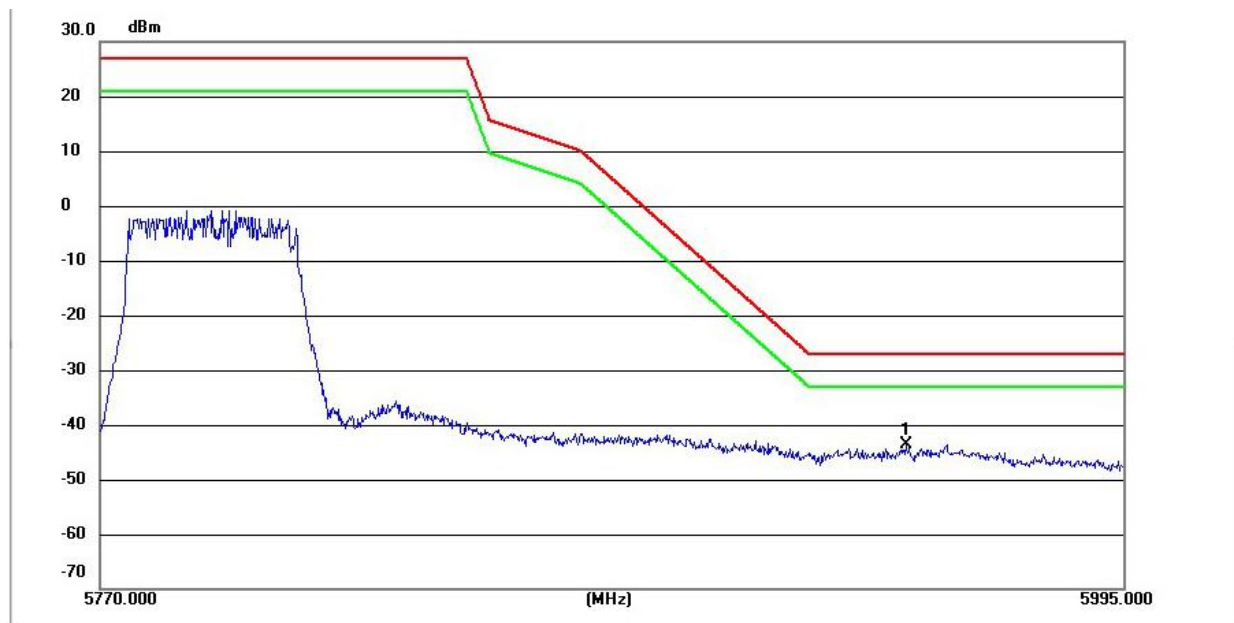
No.	Frequency (MHz)	Reading (dBm)	Factor (dB)	Level (dBm)	Limit (dBm)	Margin (dB)	Detector	P/F	Remark
1 *	5636.500	-100.47	50.53	-49.94	-27.00	-22.94	peak	P	

TM4 / Polarization: Horizontal / Band: 5725-5850 MHz / BW: 40 / CH: H



No.	Frequency (MHz)	Reading (dBm)	Factor (dB)	Level (dBm)	Limit (dBm)	Margin (dB)	Detector	P/F	Remark
1 *	5943.115	-98.11	51.85	-46.26	-27.00	-19.26	peak	P	

TM4 / Polarization: Vertical / Band: 5725-5850 MHz / BW: 40 / CH: H



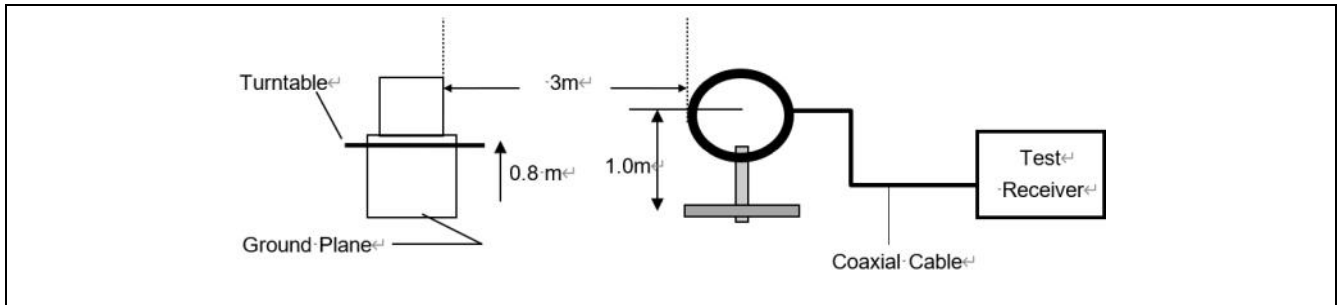
No.	Frequency (MHz)	Reading (dBm)	Factor (dB)	Level (dBm)	Limit (dBm)	Margin (dB)	Detector	P/F	Remark
1 *	5946.693	-95.47	51.89	-43.58	-27.00	-16.58	peak	P	

Note: All modulation modes were tested, with the worst results reported.

10.9 Unwanted Emissions (below 30MHz)

Test Requirement:	47 CFR Part 15.407(b)(9), 15.205, 15.209		
Test Limit:	Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in § 15.209.		
	Except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:		
	Frequency (MHz)	Field strength (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
** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§ 15.231 and 15.241.			
In the emission table above, the tighter limit applies at the band edges.			
The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9–90 kHz, 110–490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.			
Test Method:	ANSI C63.10-2020 + Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024, section 12.7.4, 12.7.5		
Procedure:	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.		
	c) For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights 1 meter and the rota table table was turned from 0 degrees to 360 degrees to find the maximum reading.		
	d) The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.		
	e) 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.		
	f) The radiation measurements are performed in X, Y, Z axis positioning. only the test worst case mode is recorded in the report.(for portable and mobile devices)		
	Where,		
	a) Factor = Antenna Factor + Cable Loss, the value was added to Original Receiver Reading by the software automatically.		
	b) Level = Reading + Factor.		
	c) Margin = Level – Limit		

10.9.1 Test Setup Diagram:



10.9.2 E.U.T. Operation:

Operating Environment:					
Temperature:	25 °C	Humidity:	54 %	Atmospheric Pressure:	1010 mbar
Per-test mode:	TM1, TM2, TM3, TM4				
Final test mode:	TM1				

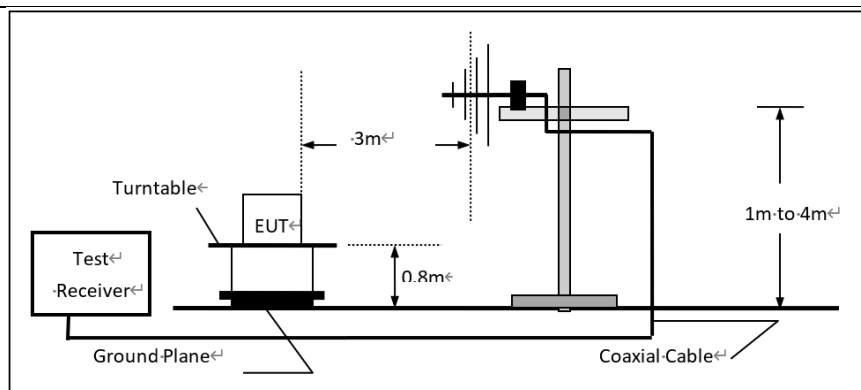
10.9.3 Test Data:

Note: the amplitude of spurious emission that is attenuated by more than 20dB below the permissible limit has no need to be reported.

10.10 Unwanted Emissions (30M - 1GHz)

Test Requirement:	47 CFR Part 15.407(b)(9), 15.205, 15.209		
Test Limit:	Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in § 15.209.		
	Except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:		
	Frequency (MHz)	Field strength (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
** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§ 15.231 and 15.241.			
In the emission table above, the tighter limit applies at the band edges.			
The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9–90 kHz, 110–490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.			
Test Method:	ANSI C63.10-2020 + Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024, section 12.7.4, 12.7.5		
Procedure:	a) The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. 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 rota table 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.		
	Where,		
	a) Factor = Antenna Factor + Cable Loss, the value was added to Original Receiver Reading by the software automatically.		
	b) Level = Reading + Factor.		
	c) Margin = Level – Limit		

10.10.1 Test Setup Diagram:

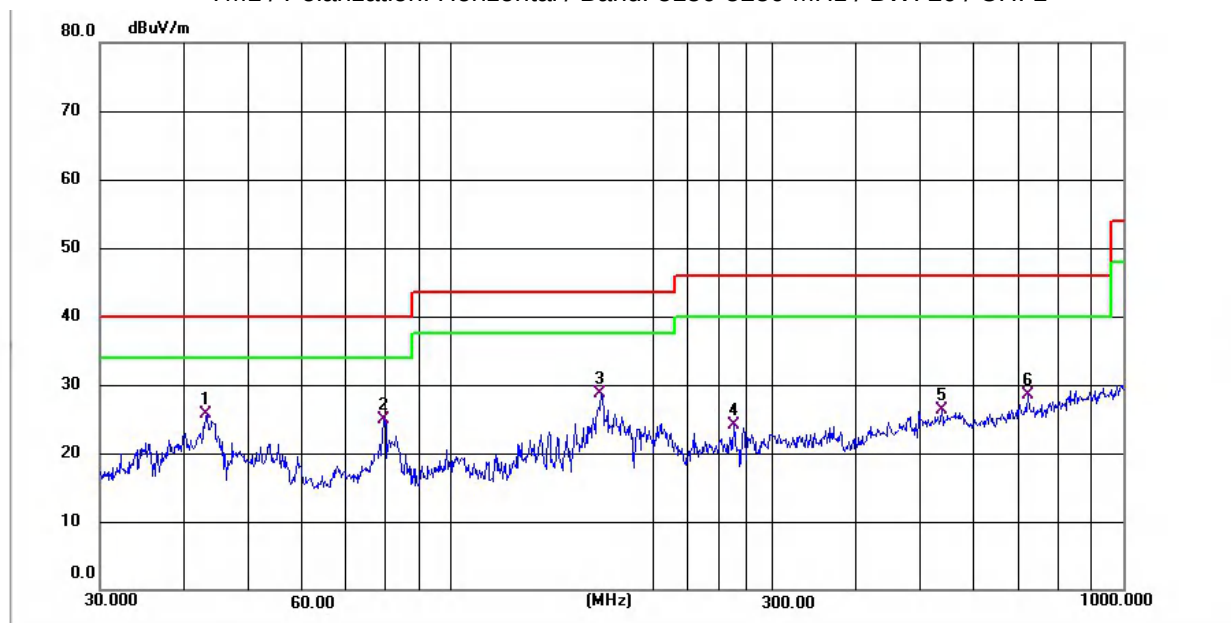


10.10.2 E.U.T. Operation:

Operating Environment:					
Temperature:	23 °C	Humidity:	52 %	Atmospheric Pressure:	1010 mbar
Per-test mode:	TM1, TM2, TM3, TM4				
Final test mode:	TM1				

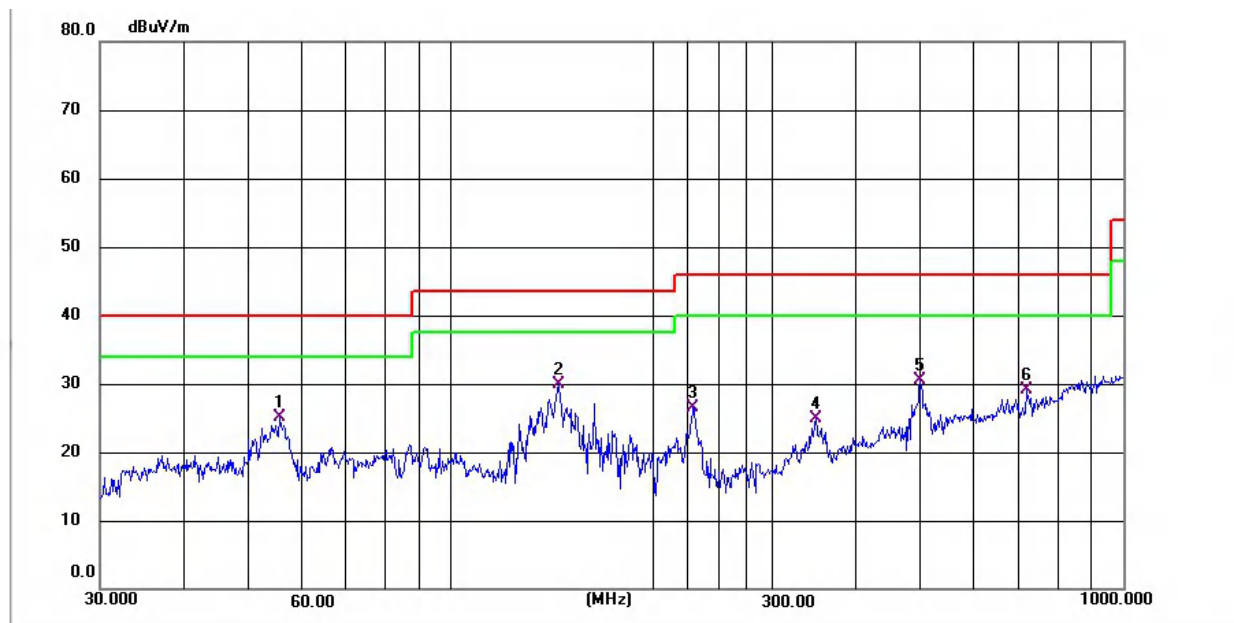
10.10.3 Test Data:

TM1 / Polarization: Horizontal / Band: 5150-5250 MHz / BW: 20 / CH: L



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1 *	43.2014	6.41	19.20	25.61	40.00	-14.39	QP	P	
2	79.5210	11.16	13.79	24.95	40.00	-15.05	QP	P	
3	167.2366	13.81	14.92	28.73	43.50	-14.77	QP	P	
4	262.8955	4.69	19.41	24.10	46.00	-21.90	QP	P	
5	537.5891	2.12	24.09	26.21	46.00	-19.79	QP	P	
6	721.7258	0.96	27.57	28.53	46.00	-17.47	QP	P	

TM1 / Polarization: Vertical / Band: 5150-5250 MHz / BW: 20 / CH: L



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	55.4147	5.63	19.57	25.20	40.00	-14.80	QP	P	
2 *	144.3344	15.45	14.36	29.81	43.50	-13.69	QP	P	
3	228.4901	8.21	18.33	26.54	46.00	-19.46	QP	P	
4	348.0274	3.70	21.17	24.87	46.00	-21.13	QP	P	
5	499.4245	6.48	24.10	30.58	46.00	-15.42	QP	P	
6	719.1992	1.64	27.51	29.15	46.00	-16.85	QP	P	

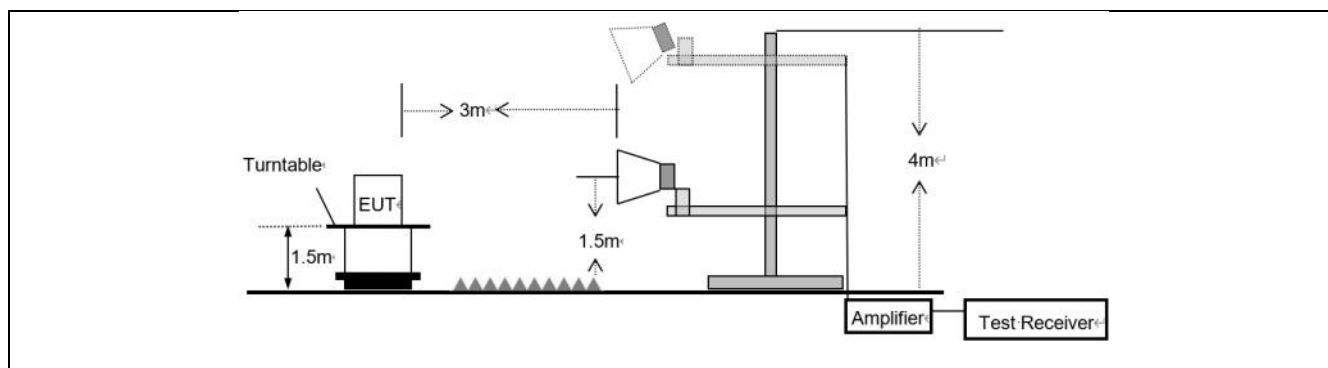
Note : All modulation modes were tested, with the worst results reported.

10.11 Unwanted Emissions (1GHz - 18GHz)

Test Requirement:	47 CFR Part 15.407(b)(1), 15.205, 15.209 47 CFR Part 15.407(b)(4), 15.205, 15.209 47 CFR Part 15.407(b)(10), 15.205, 15.209			
Test 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.			
	For transmitters operating solely in the 5.725-5.850 GHz band: All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.			
	MHz	MHz	MHz	GHz
	0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
	¹ 0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
	2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
	4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
	4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
	4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
	6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
	6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
	6.31175-6.31225	123-138	2200-2300	14.47-14.5
	8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
	8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
	8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
	8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
	12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
	12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
	12.57675-12.57725	322-335.4	3600-4400	(²)
	13.36-13.41			
	¹ Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.			
² Above 38.6				
The field strength of emissions appearing within these frequency bands shall not exceed the limits shown in § 15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in § 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in § 15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in § 15.35 apply to these measurements.				
Except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:				
Frequency (MHz)		Field strength (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	
** Except as provided in paragraph (g), fundamental emissions from intentional				

	radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§ 15.231 and 15.241. In the emission table above, the tighter limit applies at the band edges. The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9–90 kHz, 110–490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.
Test Method:	ANSI C63.10-2020 + Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024, section 12.7.4, 12.7.6, 12.7.7
Procedure:	a) The EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter semi-anechoic chamber. 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 rota table 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. g) Test the EUT in the lowest channel ,middle channel, the Highest channel h) The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, only the test worst case is recorded in the report. i) Repeat above procedures until all frequencies measured was complete. Where, a) Factor = Antenna Factor + Cable Loss - Amplifier Gain, the value was added to Original Receiver Reading by the software automatically. b) Level = Reading + Factor. c) Margin = Level – Limit

10.11.1 Test Setup Diagram:

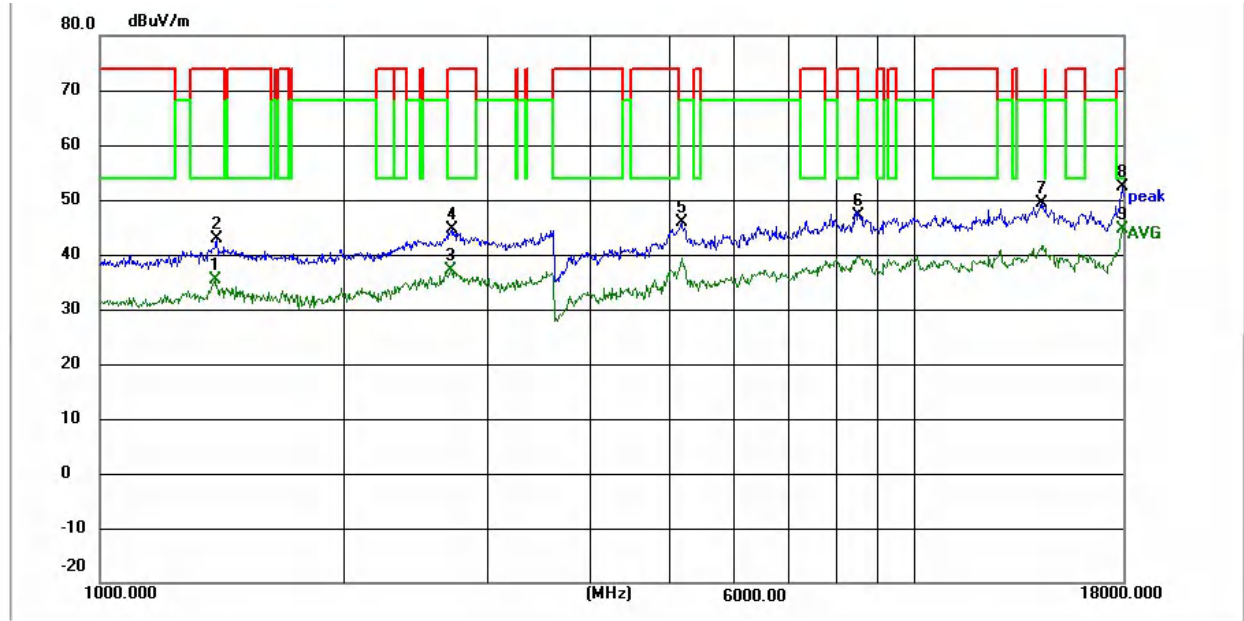


10.11.2 E.U.T. Operation:

Operating Environment:					
Temperature:	23 °C	Humidity:	52 %	Atmospheric Pressure:	1010 mbar
Per-test mode:	TM1, TM2, TM3, TM4				
Final test mode:	TM1				

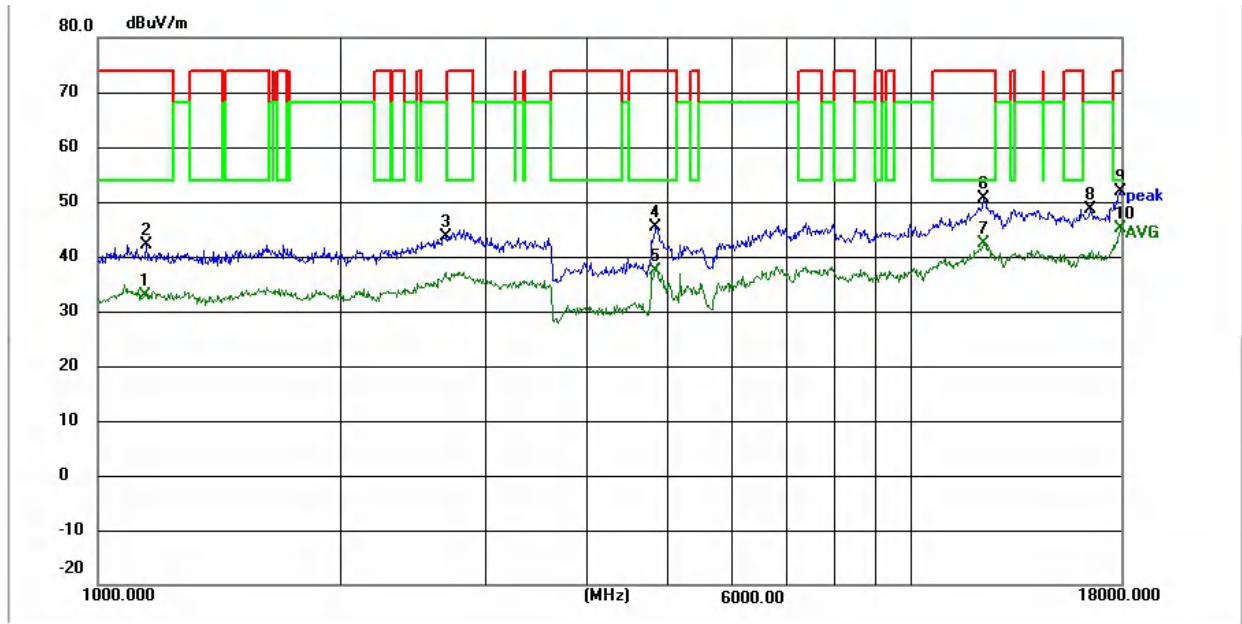
10.11.3 Test Data:

TM1 / Polarization: Horizontal / Band: 5150-5250 MHz / BW: 20 / CH: L



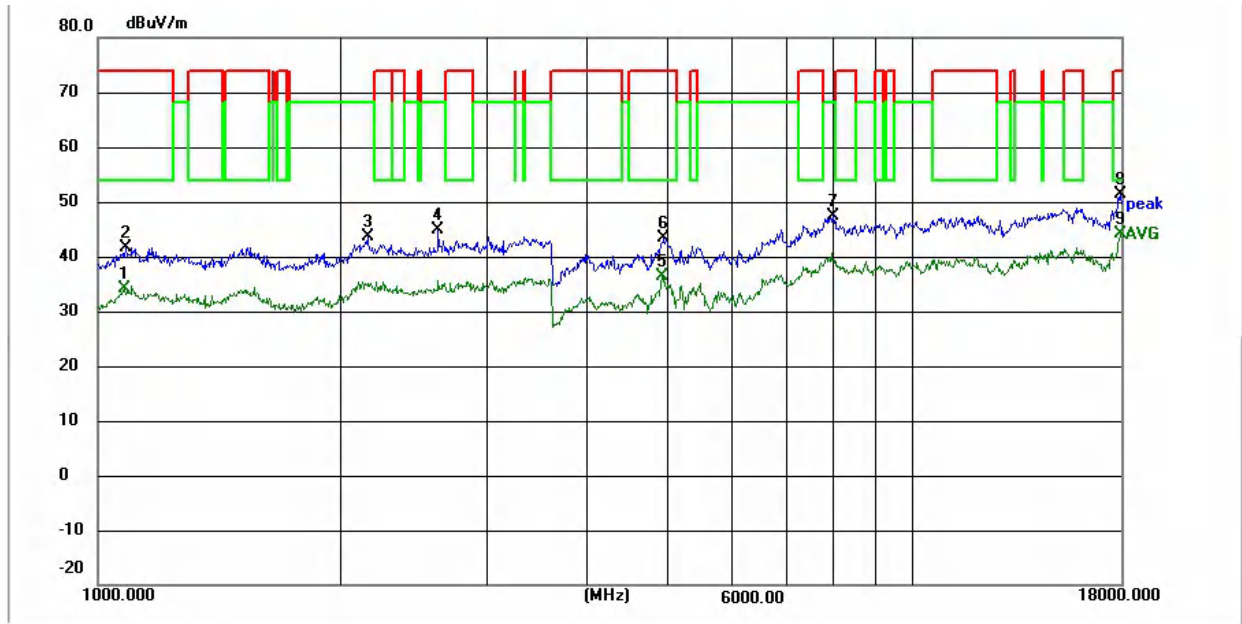
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	1383.350	53.31	-17.97	35.34	54.00	-18.66	AVG	P	
2	1393.550	60.93	-17.98	42.95	74.00	-31.05	peak	P	
3	2699.575	48.25	-11.24	37.01	54.00	-16.99	AVG	P	
4	2715.725	55.85	-11.11	44.74	74.00	-29.26	peak	P	
5	5176.900	52.17	-6.18	45.99	68.20	-22.21	peak	P	
6	8526.750	47.89	-0.68	47.21	68.20	-20.99	peak	P	
7	14314.825	43.70	5.77	49.47	68.20	-18.73	peak	P	
8	17998.300	38.73	13.60	52.33	74.00	-21.67	peak	P	

TM1 / Polarization: Vertical / Band: 5150-5250 MHz / BW: 20 / CH: L



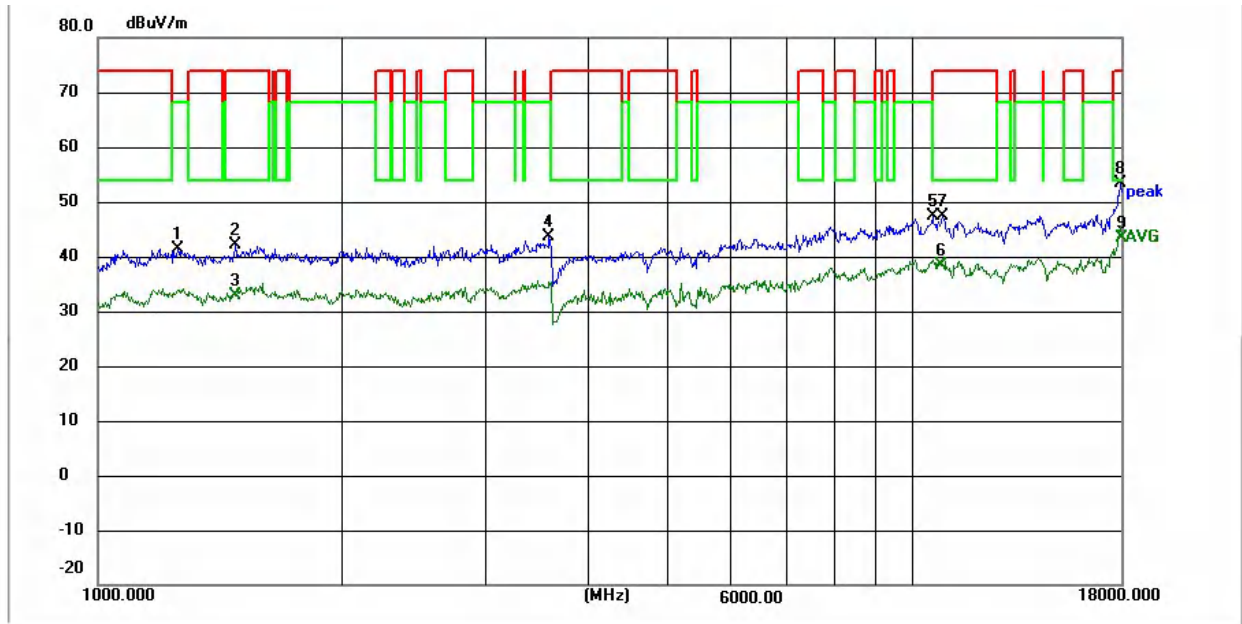
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	1142.375	51.76	-18.77	32.99	54.00	-21.01	AVG	P	
2	1146.200	61.01	-18.85	42.16	74.00	-31.84	peak	P	
3	2679.175	54.95	-11.37	43.58	68.20	-24.62	peak	P	
4	4839.450	52.24	-6.90	45.34	74.00	-28.66	peak	P	
5	4839.450	44.30	-6.90	37.40	54.00	-16.60	AVG	P	
6	12253.575	45.73	4.86	50.59	74.00	-23.41	peak	P	
7	12253.575	37.47	4.86	42.33	54.00	-11.67	AVG	P	
8	16514.625	42.36	6.29	48.65	68.20	-19.55	peak	P	

TM1 / Polarization: Horizontal / Band: 5150-5250 MHz / BW: 20 / CH: M



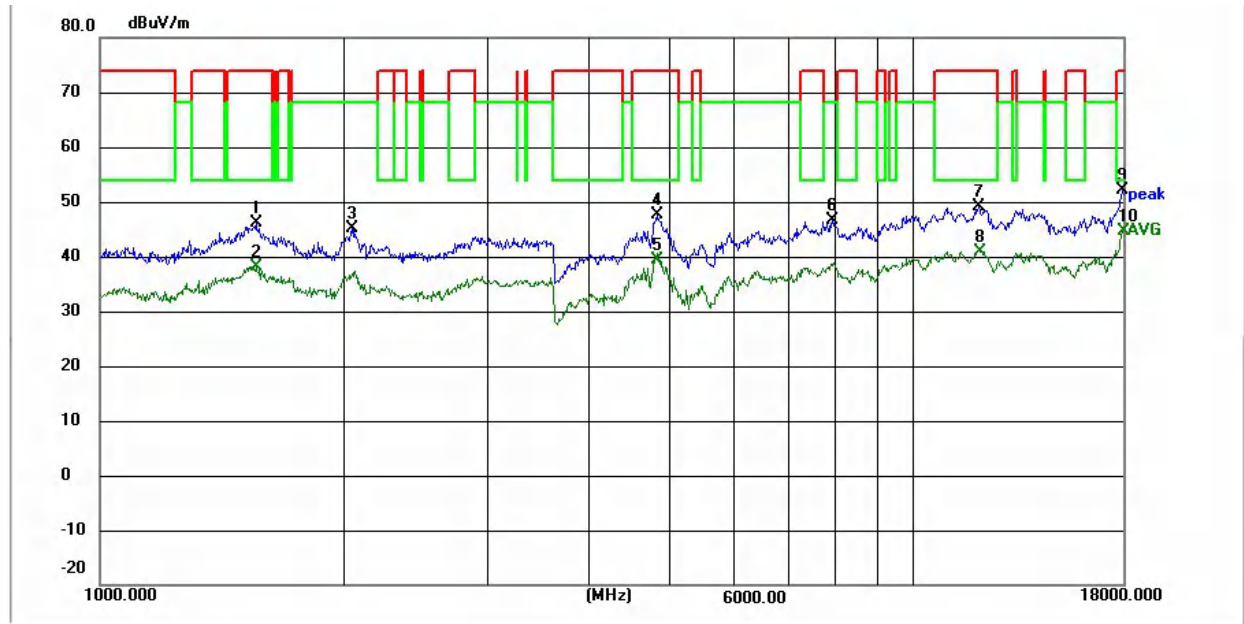
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	1078.200	52.31	-18.18	34.13	54.00	-19.87	AVG	P	
2	1081.600	59.82	-18.15	41.67	74.00	-32.33	peak	P	
3	2146.225	56.40	-12.74	43.66	68.20	-24.54	peak	P	
4	2624.350	56.51	-11.66	44.85	68.20	-23.35	peak	P	
5	4924.450	43.20	-6.75	36.45	54.00	-17.55	AVG	P	
6	4953.350	49.36	-6.03	43.33	74.00	-30.67	peak	P	
7	7981.475	48.94	-1.57	47.37	68.20	-20.83	peak	P	
8	17978.325	37.96	13.50	51.46	74.00	-22.54	peak	P	

TM1 / Polarization: Vertical / Band: 5150-5250 MHz / BW: 20 / CH: M



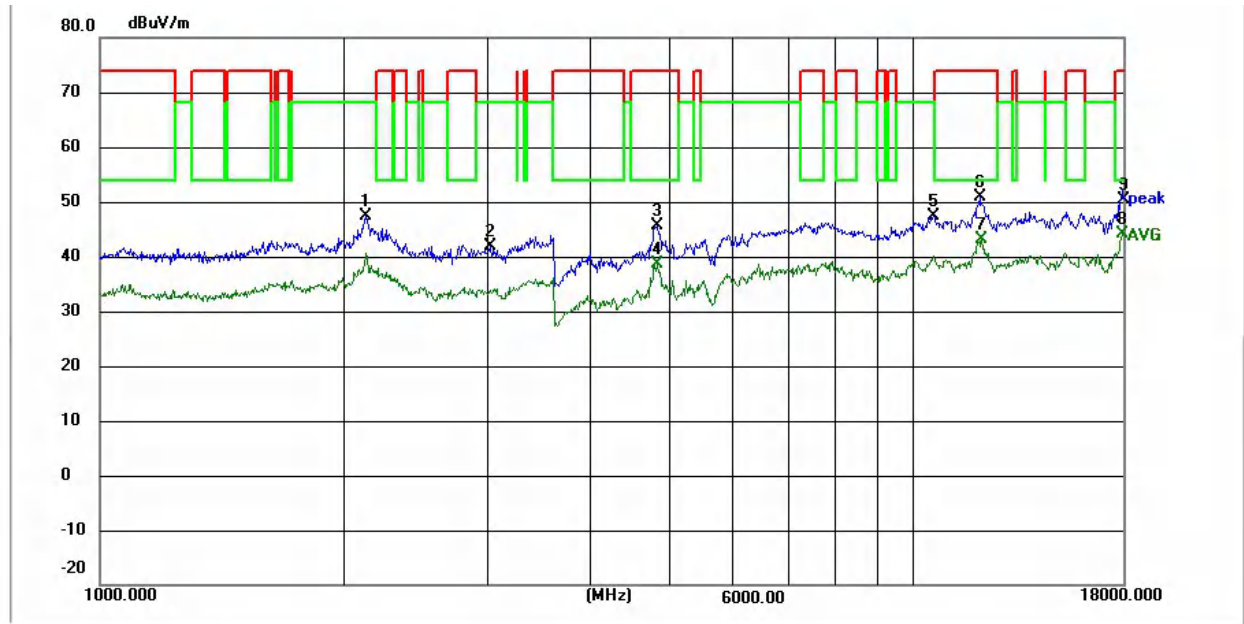
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	1256.275	59.27	-17.87	41.40	68.20	-26.80	peak	P	
2	1473.025	59.47	-17.34	42.13	74.00	-31.87	peak	P	
3	1473.025	50.24	-17.34	32.90	54.00	-21.10	AVG	P	
4	3584.850	53.10	-9.36	43.74	68.20	-24.46	peak	P	
5	10581.200	44.66	2.62	47.28	68.20	-20.92	peak	P	
6	10831.950	34.85	3.45	38.30	54.00	-15.70	AVG	P	
7	10903.775	43.47	3.79	47.26	74.00	-26.74	peak	P	
8	17996.175	39.91	13.59	53.50	74.00	-20.50	peak	P	

TM1 / Polarization: Horizontal / Band: 5150-5250 MHz / BW: 20 / CH: H



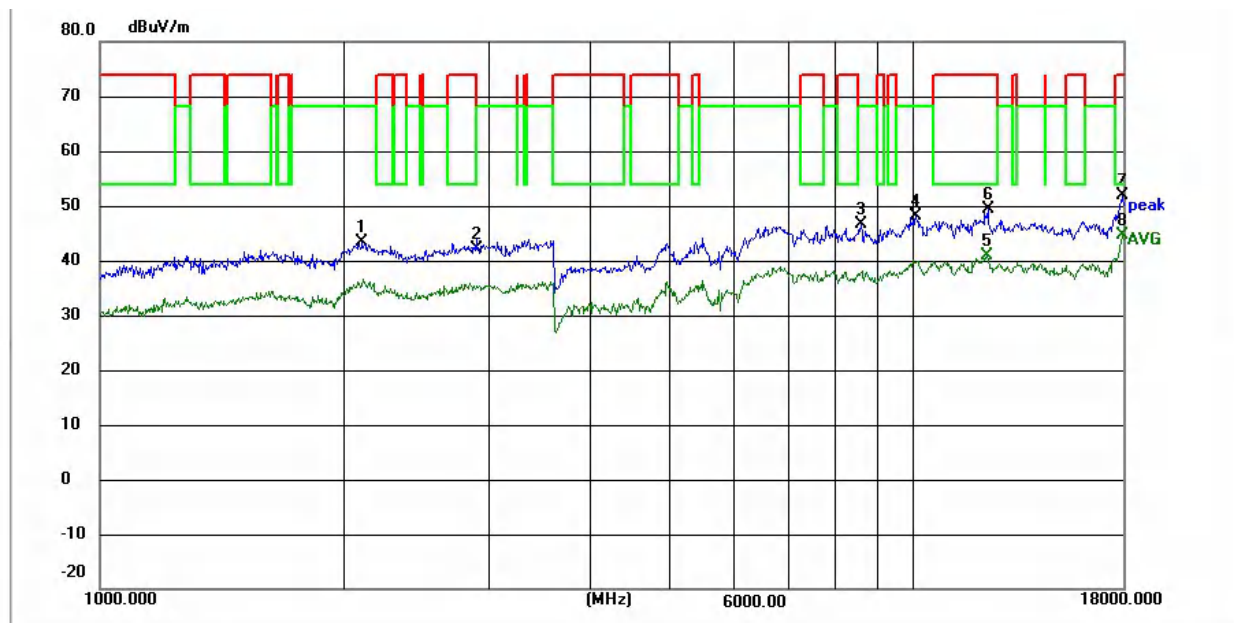
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	1555.475	62.94	-16.87	46.07	74.00	-27.93	peak	P	
2	1555.475	55.11	-16.87	38.24	54.00	-15.76	AVG	P	
3	2042.100	58.06	-13.00	45.06	68.20	-23.14	peak	P	
4	4819.900	54.69	-6.97	47.72	74.00	-26.28	peak	P	
5	4845.400	46.14	-6.88	39.26	54.00	-14.74	AVG	P	
6	7916.875	48.25	-1.50	46.75	68.20	-21.45	peak	P	
7	12002.825	43.98	5.27	49.25	74.00	-24.75	peak	P	
8	12035.125	35.79	5.10	40.89	54.00	-13.11	AVG	P	

TM1 / Polarization: Vertical / Band: 5150-5250 MHz / BW: 20 / CH: H



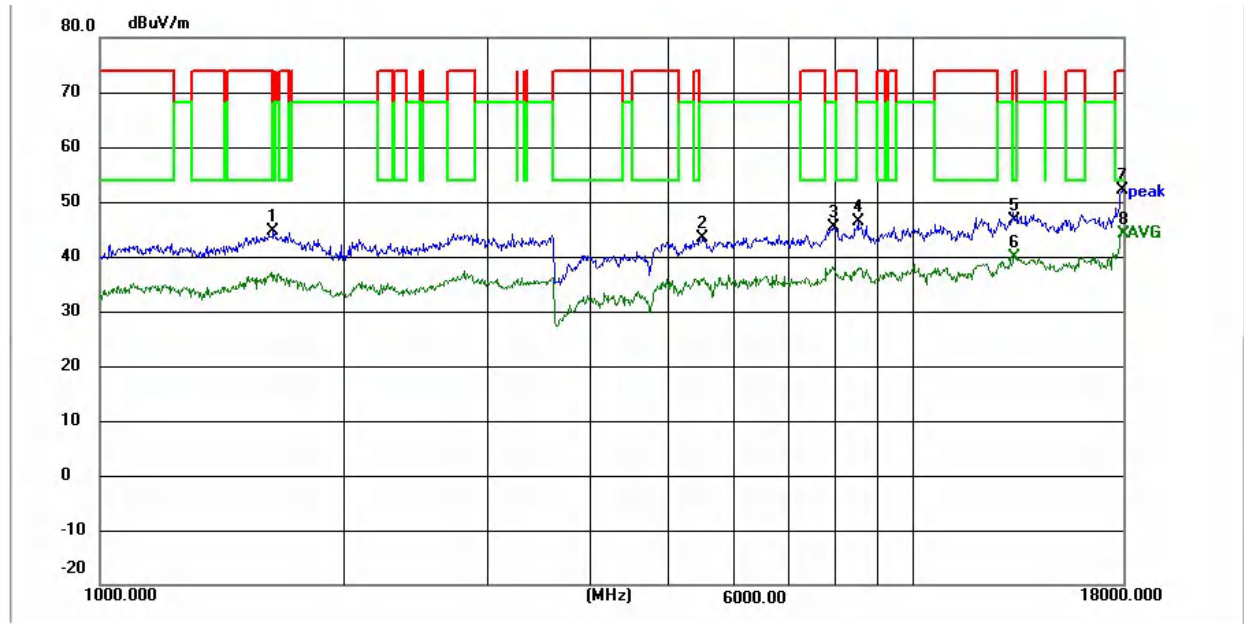
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	2130.500	59.91	-12.65	47.26	68.20	-20.94	peak	P	
2	3020.450	51.37	-9.52	41.85	68.20	-26.35	peak	P	
3	4827.125	52.67	-6.94	45.73	74.00	-28.27	peak	P	
4	4827.125	45.59	-6.94	38.65	54.00	-15.35	AVG	P	
5	10572.275	44.93	2.53	47.46	68.20	-20.74	peak	P	
6	12035.550	45.81	5.10	50.91	74.00	-23.09	peak	P	
7	12092.075	38.24	4.82	43.06	54.00	-10.94	AVG	P	
8 *	17970.675	30.75	13.47	44.22	54.00	-9.78	AVG	P	

TM1 / Polarization: Horizontal / Band: 5725-5850 MHz / BW: 20 / CH: L



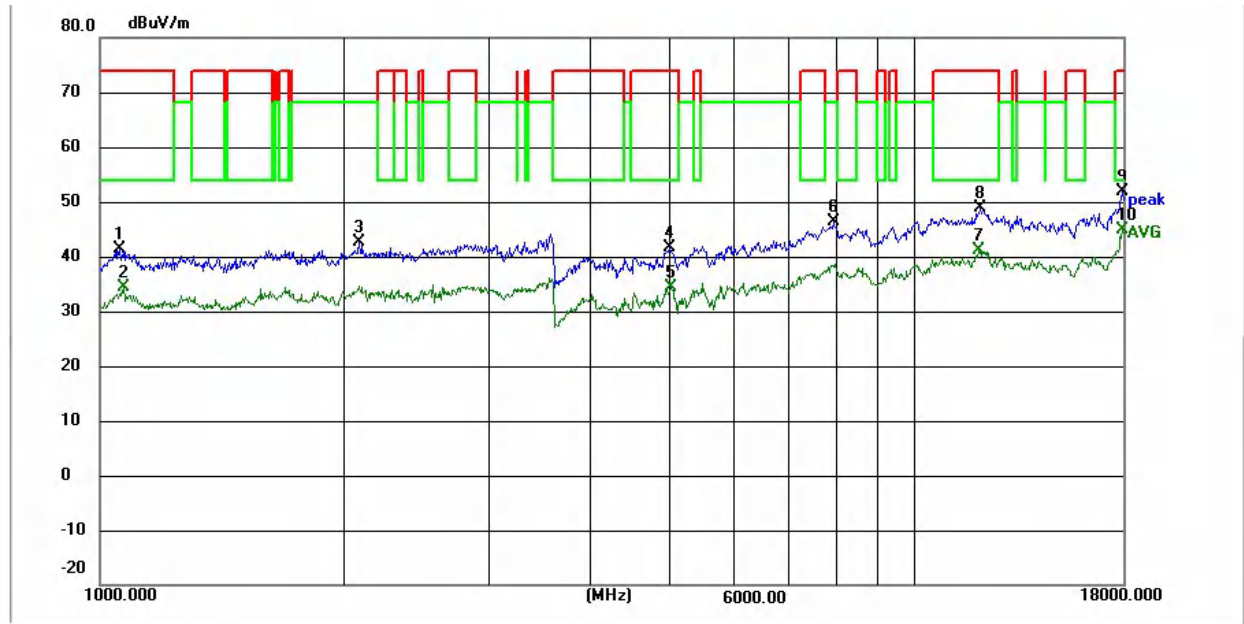
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	2102.025	55.81	-12.50	43.31	68.20	-24.89	peak	P	
2	2905.700	52.15	-10.00	42.15	68.20	-26.05	peak	P	
3	8582.425	47.12	-0.57	46.55	68.20	-21.65	peak	P	
4	10063.125	46.36	1.79	48.15	68.20	-20.05	peak	P	
5	12263.775	36.01	4.94	40.95	54.00	-13.05	AVG	P	
6	12306.700	44.17	5.14	49.31	74.00	-24.69	peak	P	
7	17998.300	38.22	13.60	51.82	74.00	-22.18	peak	P	
8 *	17998.300	30.96	13.60	44.56	54.00	-9.44	AVG	P	

TM1 / Polarization: Vertical / Band: 5725-5850 MHz / BW: 20 / CH: L



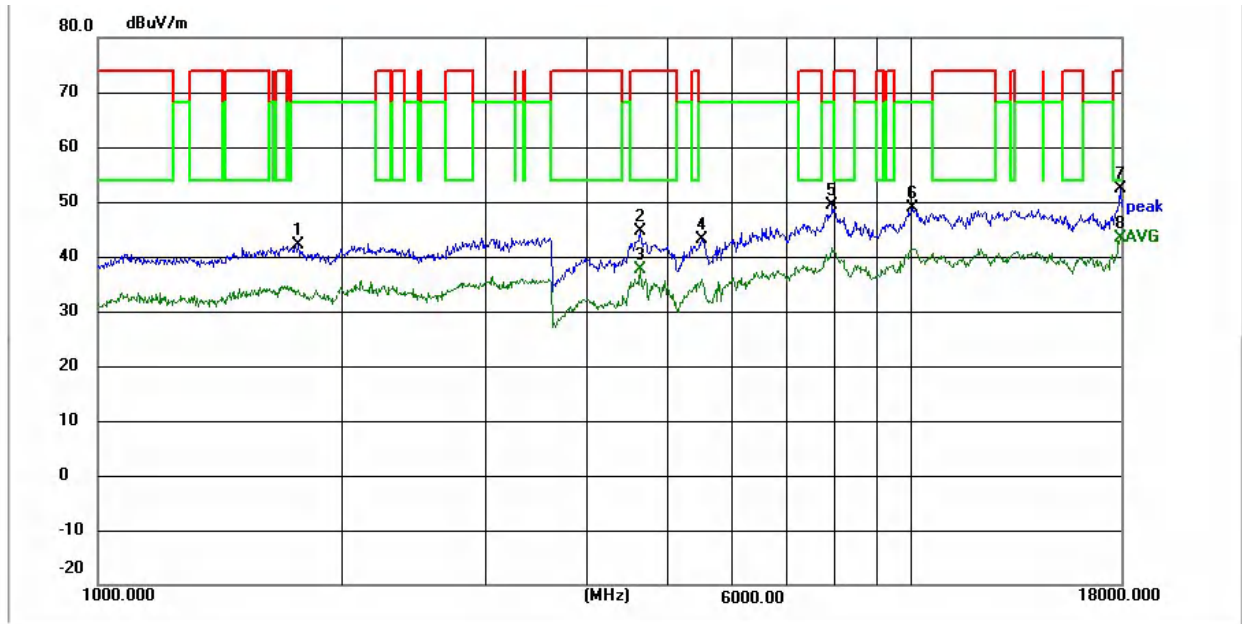
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	1630.275	61.31	-16.63	44.68	68.20	-23.52	peak	P	
2	5492.675	48.85	-5.41	43.44	68.20	-24.76	peak	P	
3	7966.175	46.76	-1.43	45.33	68.20	-22.87	peak	P	
4	8512.300	47.15	-0.65	46.50	68.20	-21.70	peak	P	
5	13284.625	41.39	5.16	46.55	74.00	-27.45	peak	P	
6	13284.625	34.61	5.16	39.77	54.00	-14.23	AVG	P	
7	17966.850	38.76	13.45	52.21	74.00	-21.79	peak	P	
8 *	18000.000	30.56	13.61	44.17	54.00	-9.83	AVG	P	

TM1 / Polarization: Horizontal / Band: 5725-5850 MHz / BW: 20 / CH: M



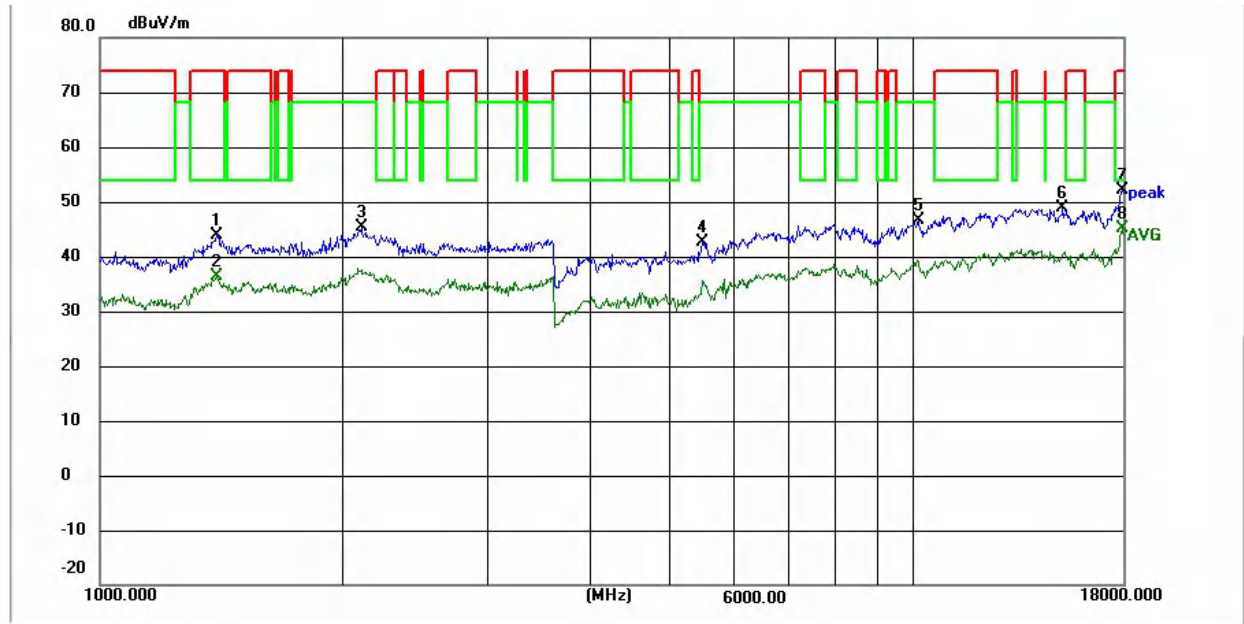
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	1058.225	59.70	-18.39	41.31	74.00	-32.69	peak	P	
2	1068.850	52.59	-18.28	34.31	54.00	-19.69	AVG	P	
3	2085.025	55.13	-12.60	42.53	68.20	-25.67	peak	P	
4	5006.050	47.92	-6.34	41.58	74.00	-32.42	peak	P	
5	5017.100	40.58	-6.20	34.38	54.00	-19.62	AVG	P	
6	7942.375	47.74	-1.33	46.41	68.20	-21.79	peak	P	
7	11986.250	35.91	5.26	41.17	54.00	-12.83	AVG	P	
8	12056.375	43.98	5.00	48.98	74.00	-25.02	peak	P	

TM1 / Polarization: Vertical / Band: 5725-5850 MHz / BW: 20 / CH: M



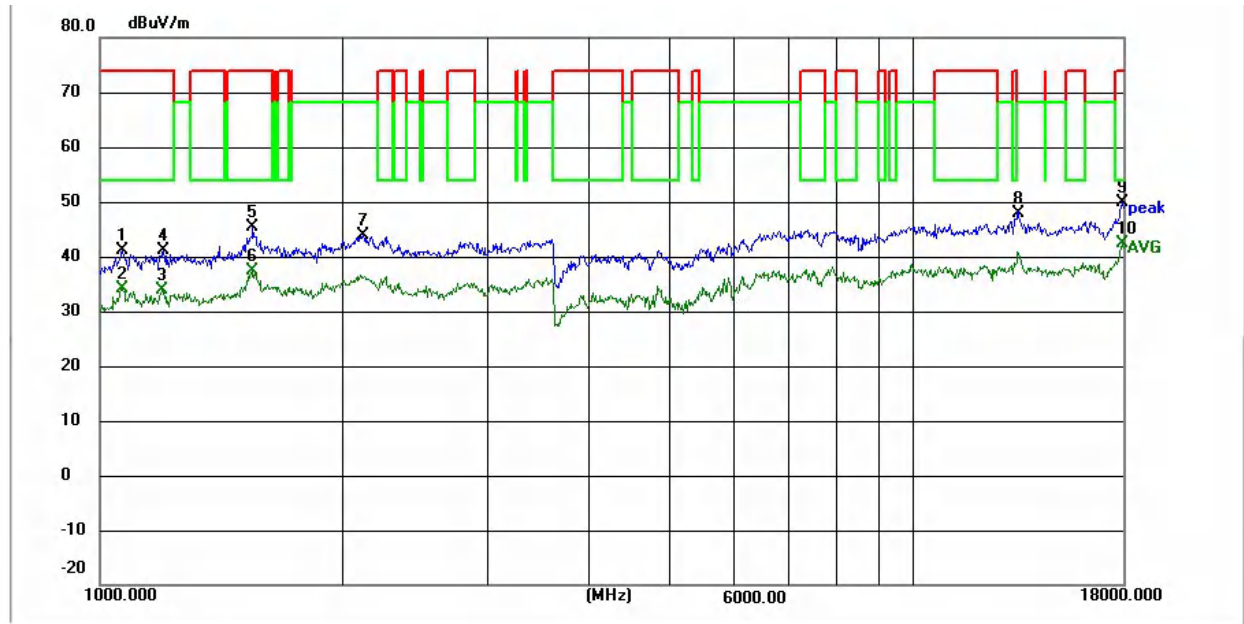
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	1760.750	58.90	-16.66	42.24	68.20	-25.96	peak	P	
2	4632.050	52.50	-7.82	44.68	74.00	-29.32	peak	P	
3	4632.050	45.33	-7.82	37.51	54.00	-16.49	AVG	P	
4	5503.725	48.45	-5.32	43.13	68.20	-25.07	peak	P	
5	7949.600	50.58	-1.28	49.30	68.20	-18.90	peak	P	
6	10017.650	47.64	1.32	48.96	68.20	-19.24	peak	P	
7	17995.750	38.74	13.59	52.33	74.00	-21.67	peak	P	
8 *	17995.750	29.78	13.59	43.37	54.00	-10.63	AVG	P	

TM1 / Polarization: Horizontal / Band: 5725-5850 MHz / BW: 20 / CH: H



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	1390.575	61.95	-17.98	43.97	74.00	-30.03	peak	P	
2	1390.575	54.44	-17.98	36.46	54.00	-17.54	AVG	P	
3	2100.325	57.83	-12.48	45.35	68.20	-22.85	peak	P	
4	5498.200	48.07	-5.32	42.75	68.20	-25.45	peak	P	
5	10104.350	44.59	2.12	46.71	68.20	-21.49	peak	P	
6	15199.675	43.00	5.94	48.94	68.20	-19.26	peak	P	
7	17995.325	38.58	13.59	52.17	74.00	-21.83	peak	P	
8 *	17995.325	31.50	13.59	45.09	54.00	-8.91	AVG	P	

TM1 / Polarization: Vertical / Band: 5725-5850 MHz / BW: 20 / CH: H



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	1068.000	59.31	-18.29	41.02	74.00	-32.98	peak	P	
2	1068.000	52.45	-18.29	34.16	54.00	-19.84	AVG	P	
3	1195.500	52.43	-18.45	33.98	54.00	-20.02	AVG	P	
4	1197.625	59.51	-18.42	41.09	74.00	-32.91	peak	P	
5	1541.025	62.43	-16.94	45.49	74.00	-28.51	peak	P	
6	1541.025	54.32	-16.94	37.38	54.00	-16.62	AVG	P	
7	2109.250	56.33	-12.53	43.80	68.20	-24.40	peak	P	
8	13424.025	42.72	5.18	47.90	68.20	-20.30	peak	P	

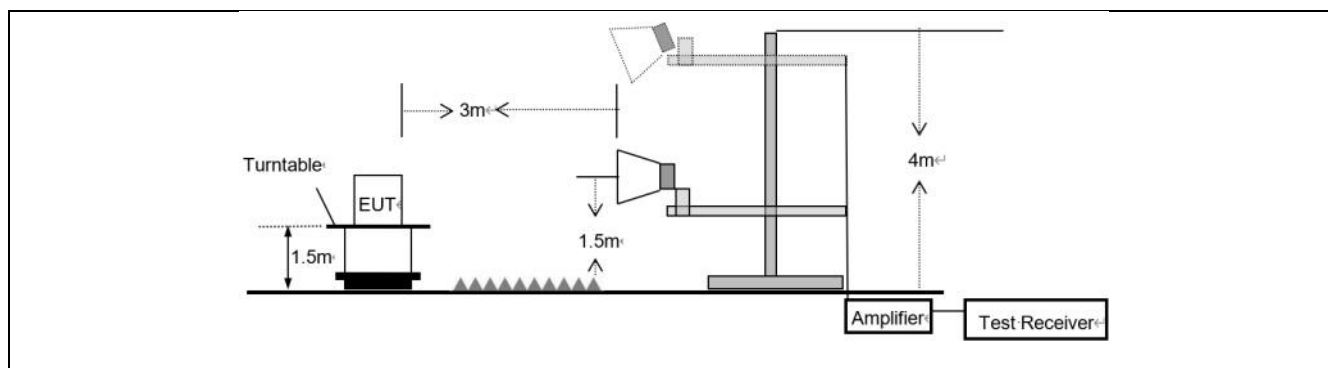
Note: All modulation modes were tested, with the worst results reported.

10.12 Unwanted Emissions (above 18GHz)

Test Requirement:	47 CFR Part 15.407(b)(1), 15.205, 15.209 47 CFR Part 15.407(b)(4), 15.205, 15.209 47 CFR Part 15.407(b)(10), 15.205, 15.209			
Test 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.			
	For transmitters operating solely in the 5.725-5.850 GHz band: All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.			
	MHz	MHz	MHz	GHz
	0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
	¹ 0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
	2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
	4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
	4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
	4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
	6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
	6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
	6.31175-6.31225	123-138	2200-2300	14.47-14.5
	8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
	8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
	8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
	8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
	12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
	12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
	12.57675-12.57725	322-335.4	3600-4400	(²)
	13.36-13.41			
	¹ Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.			
	² Above 38.6			
	The field strength of emissions appearing within these frequency bands shall not exceed the limits shown in § 15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in § 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in § 15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in § 15.35 apply to these measurements.			
	Except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:			
	Frequency (MHz)	Field strength (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	
	** Except as provided in paragraph (g), fundamental emissions from intentional			

	radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§ 15.231 and 15.241. In the emission table above, the tighter limit applies at the band edges. The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9–90 kHz, 110–490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.
Test Method:	ANSI C63.10-2020 + Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024, section 12.7.4, 12.7.6, 12.7.7
Procedure:	a) The EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter semi-anechoic chamber. 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 rota table 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. g) Test the EUT in the lowest channel ,middle channel, the Highest channel h) The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, only the test worst case is recorded in the report. i) Repeat above procedures until all frequencies measured was complete. Where, a) Factor = Antenna Factor + Cable Loss - Amplifier Gain, the value was added to Original Receiver Reading by the software automatically. b) Level = Reading + Factor. c) Margin = Level – Limit

10.12.1 Test Setup Diagram:

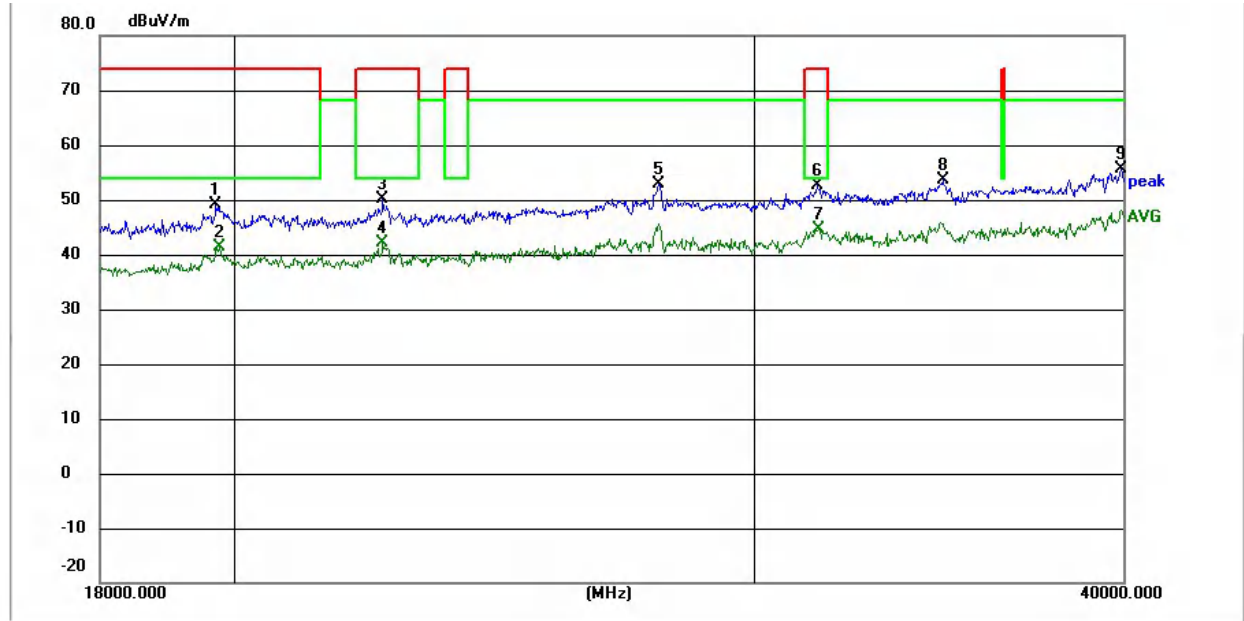


10.12.2 E.U.T. Operation:

Operating Environment:					
Temperature:	23 °C	Humidity:	52 %	Atmospheric Pressure:	1010 mbar
Per-test mode:	TM1, TM2, TM3, TM4				
Final test mode:	TM1				

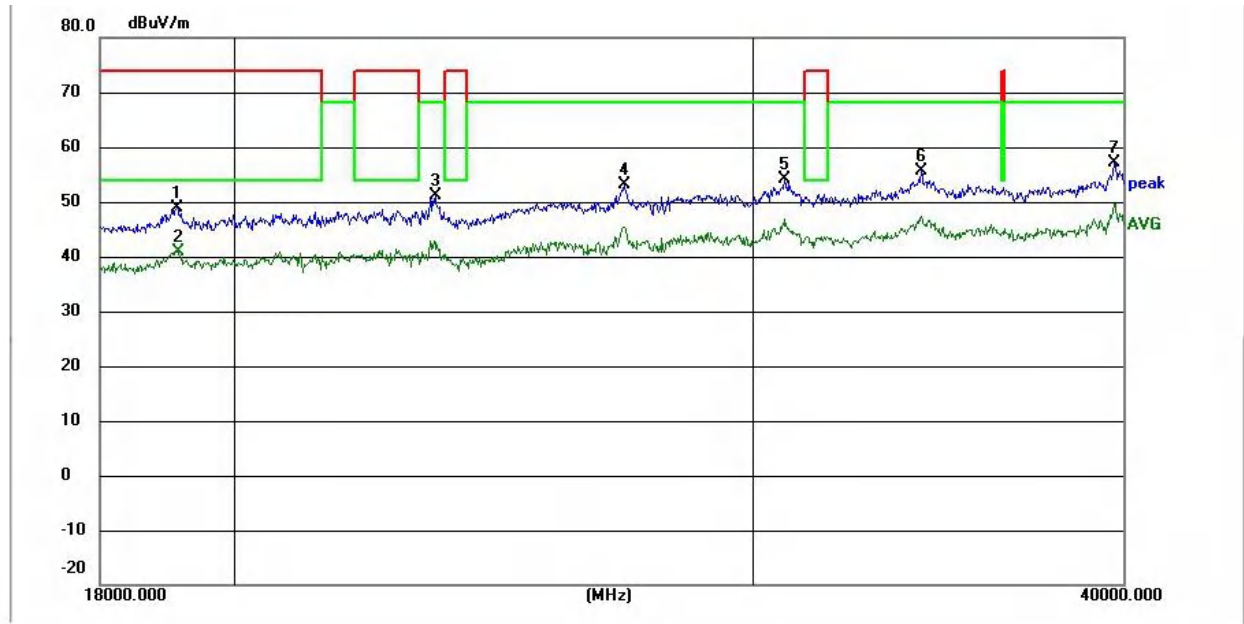
10.12.3 Test Data:

TM1 / Polarization: Horizontal / Band: 5150-5250 MHz / BW: 20 / CH: M



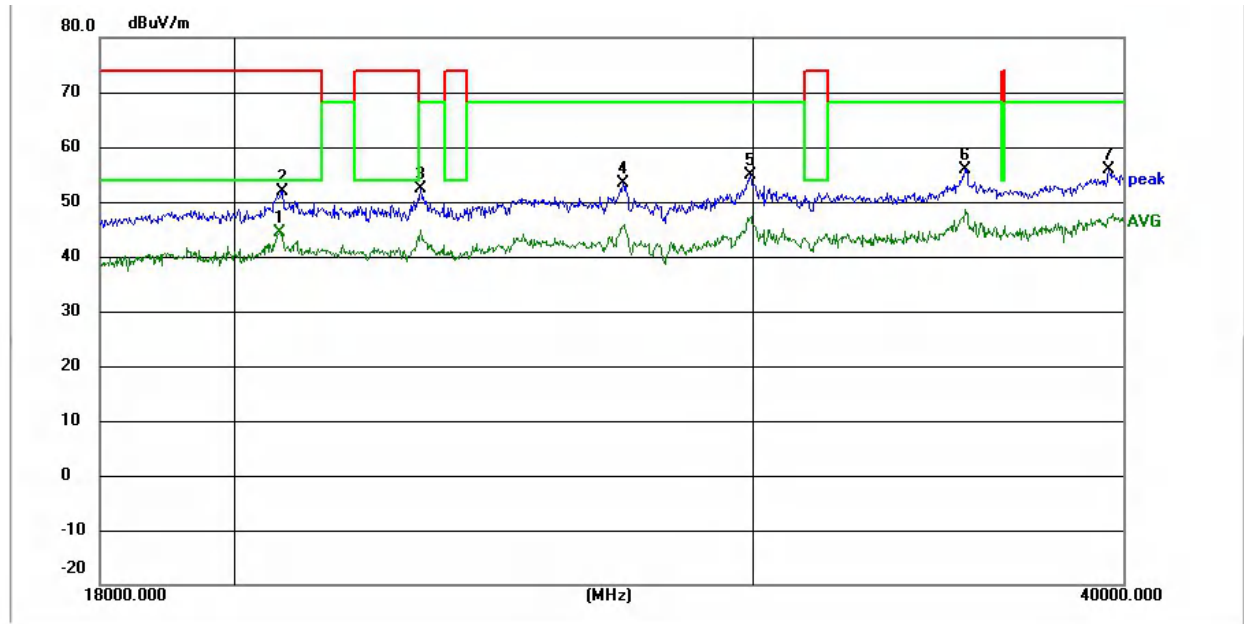
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	19711.600	62.11	-12.98	49.13	74.00	-24.87	peak	P	
2	19774.850	54.22	-12.85	41.37	54.00	-12.63	AVG	P	
3	22473.150	61.57	-11.52	50.05	74.00	-23.95	peak	P	
4	22473.150	53.54	-11.52	42.02	54.00	-11.98	AVG	P	
5	27844.450	62.33	-9.45	52.88	68.20	-15.32	peak	P	
6	31486.550	59.65	-7.03	52.62	74.00	-21.38	peak	P	
7 *	31542.100	51.58	-6.99	44.59	54.00	-9.41	AVG	P	
8	34768.950	57.76	-4.15	53.61	68.20	-14.59	peak	P	

TM1 / Polarization: Vertical / Band: 5150-5250 MHz / BW: 20 / CH: M



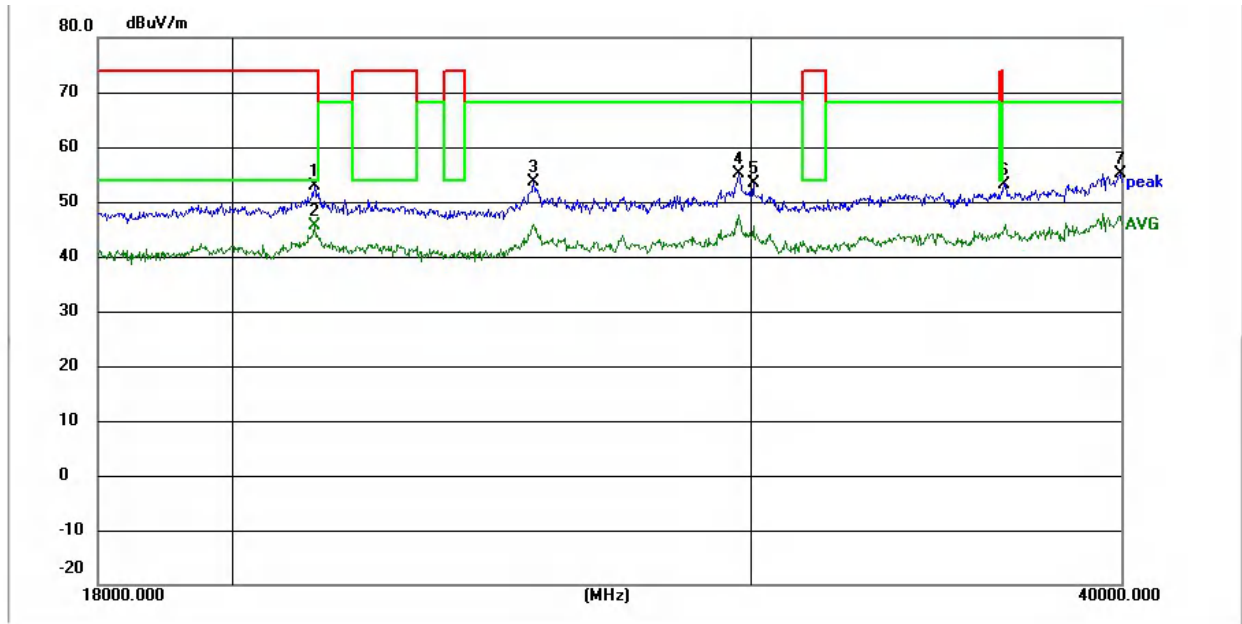
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	19123.100	62.88	-13.93	48.95	74.00	-25.05	peak	P	
2	19137.950	54.90	-13.91	40.99	54.00	-13.01	AVG	P	
3	23406.500	62.83	-11.68	51.15	68.20	-17.05	peak	P	
4	27108.550	62.13	-9.01	53.12	68.20	-15.08	peak	P	
5	30698.400	62.12	-7.90	54.22	68.20	-13.98	peak	P	
6	34195.300	60.40	-4.78	55.62	68.20	-12.58	peak	P	
7 *	39734.350	60.66	-3.63	57.03	68.20	-11.17	peak	P	

TM1 / Polarization: Horizontal / Band: 5725-5850 MHz / BW: 20 / CH: M



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1 *	20707.650	56.51	-12.12	44.39	54.00	-9.61	AVG	P	
2	20758.800	64.09	-12.13	51.96	74.00	-22.04	peak	P	
3	23134.250	64.37	-11.98	52.39	68.20	-15.81	peak	P	
4	27078.850	62.38	-9.01	53.37	68.20	-14.83	peak	P	
5	29894.300	62.98	-8.10	54.88	68.20	-13.32	peak	P	
6	35383.300	60.01	-4.15	55.86	68.20	-12.34	peak	P	
7	39573.750	59.62	-3.72	55.90	68.20	-12.30	peak	P	

TM1 / Polarization: Vertical / Band: 5725-5850 MHz / BW: 20 / CH: M



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	21314.300	65.03	-12.23	52.80	74.00	-21.20	peak	P	
2 *	21314.300	57.81	-12.23	45.58	54.00	-8.42	AVG	P	
3	25310.600	63.35	-9.63	53.72	68.20	-14.48	peak	P	
4	29679.800	63.55	-8.30	55.25	68.20	-12.95	peak	P	
5	30014.200	61.47	-8.02	53.45	68.20	-14.75	peak	P	
6	36539.950	56.73	-3.68	53.05	68.20	-15.15	peak	P	
7	39994.500	58.63	-3.58	55.05	68.20	-13.15	peak	P	

Note: All modulation modes were tested, with the worst results reported.

11 Test Setup Photos

Refer to Appendix - Test Setup Photos

12 EUT Constructional Details (EUT Photos)

Refer to Appendix - EUT PHOTO

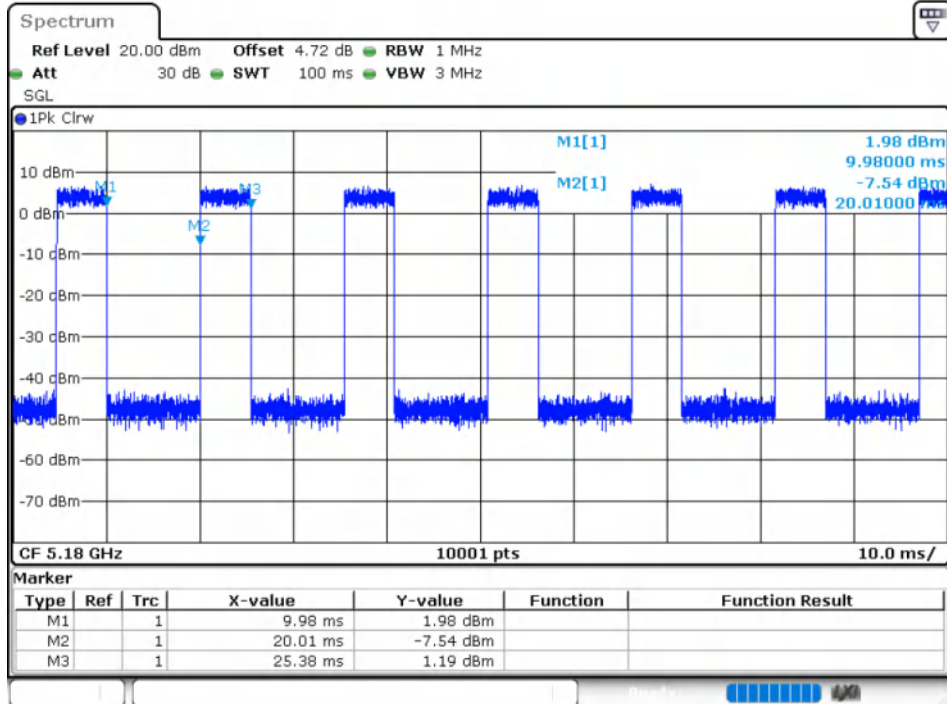
Appendix A

A1 Duty Cycle

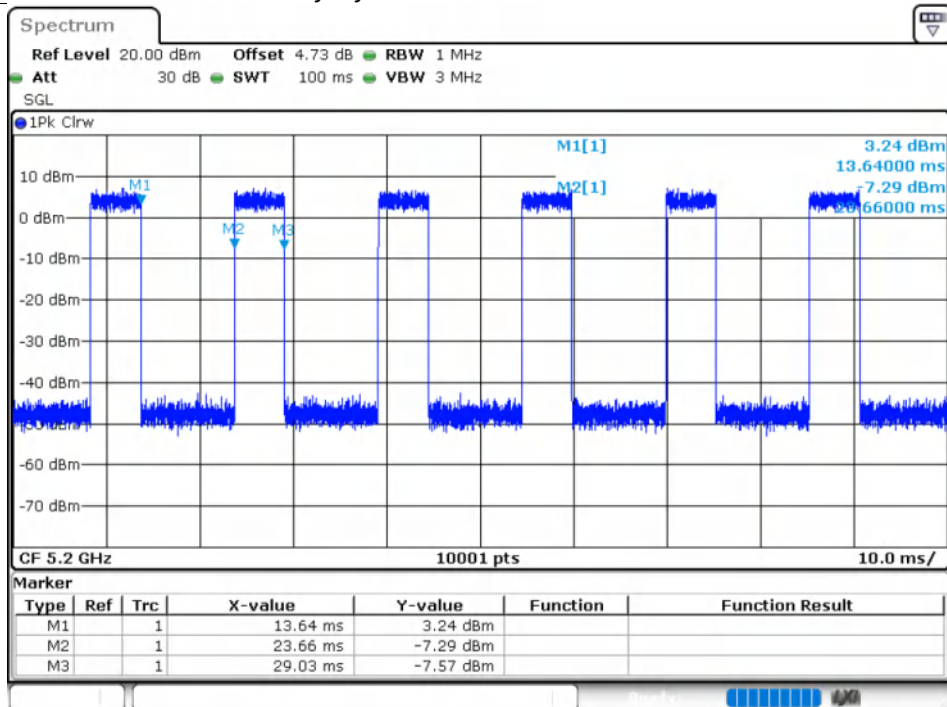
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	a	5180	Ant1	35.32	4.52	0.19
NVNT	a	5200	Ant1	32.27	4.91	0.19
NVNT	a	5240	Ant1	34.59	4.61	0.19
NVNT	n20	5180	Ant1	32.52	4.88	0.2
NVNT	n20	5200	Ant1	33.25	4.78	0.2
NVNT	n20	5240	Ant1	31.28	5.05	0.2
NVNT	n40	5190	Ant1	33.56	4.74	0.21
NVNT	n40	5230	Ant1	33.12	4.8	0.21
NVNT	ac20	5180	Ant1	30.78	5.12	0.2
NVNT	ac20	5200	Ant1	34.6	4.61	0.2
NVNT	ac20	5240	Ant1	34.89	4.57	0.2
NVNT	ac40	5190	Ant1	33.6	4.74	0.21
NVNT	ac40	5230	Ant1	33.1	4.8	0.21
NVNT	ax20	5180	Ant1	29.74	5.27	0.26
NVNT	ax20	5200	Ant1	26.59	5.75	0.26
NVNT	ax20	5240	Ant1	27.47	5.61	0.26
NVNT	ax40	5190	Ant1	26.55	5.76	0.26
NVNT	ax40	5230	Ant1	28.98	5.38	0.26

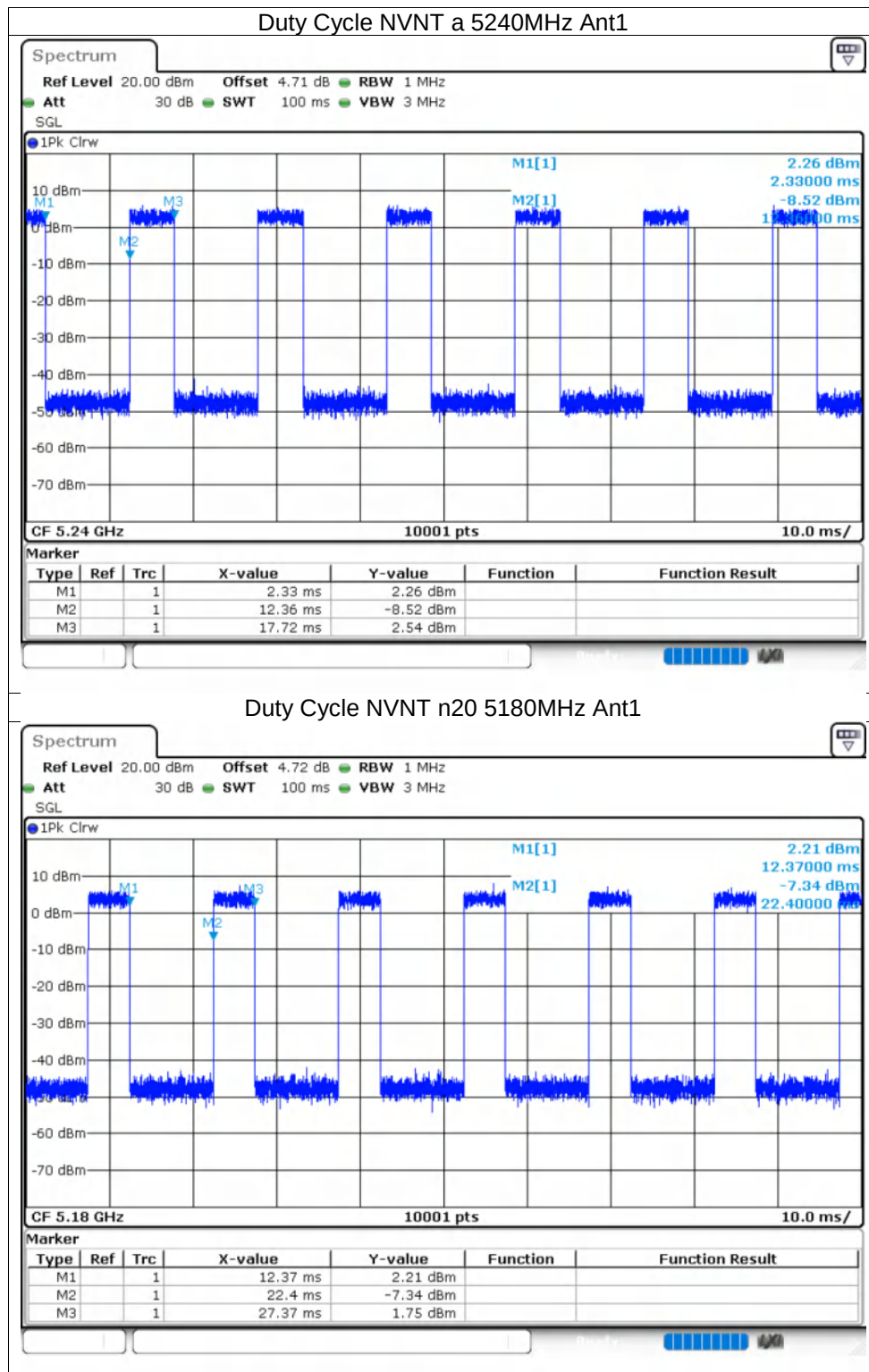
Test Graphs

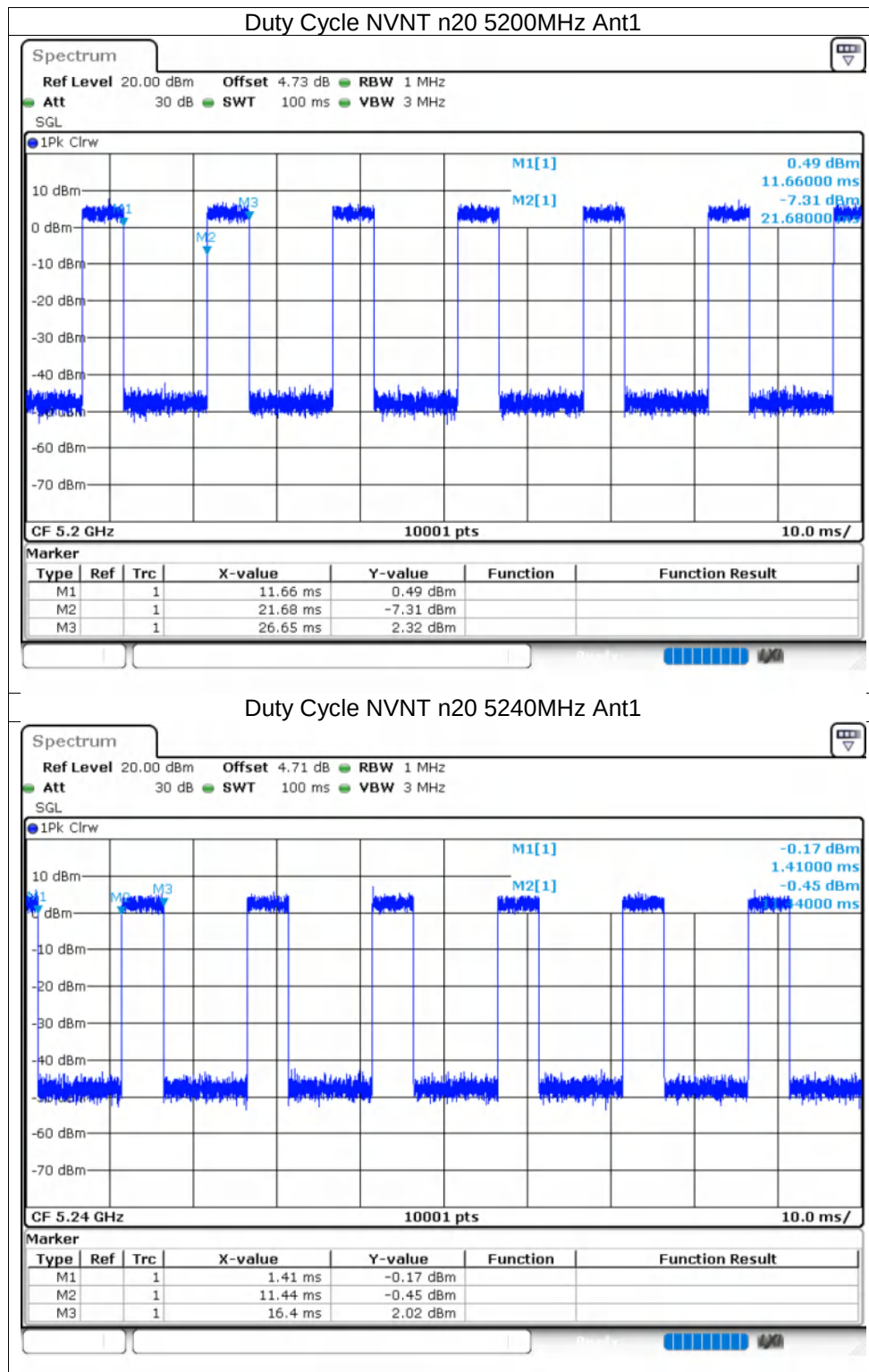
Duty Cycle NVNT a 5180MHz Ant1



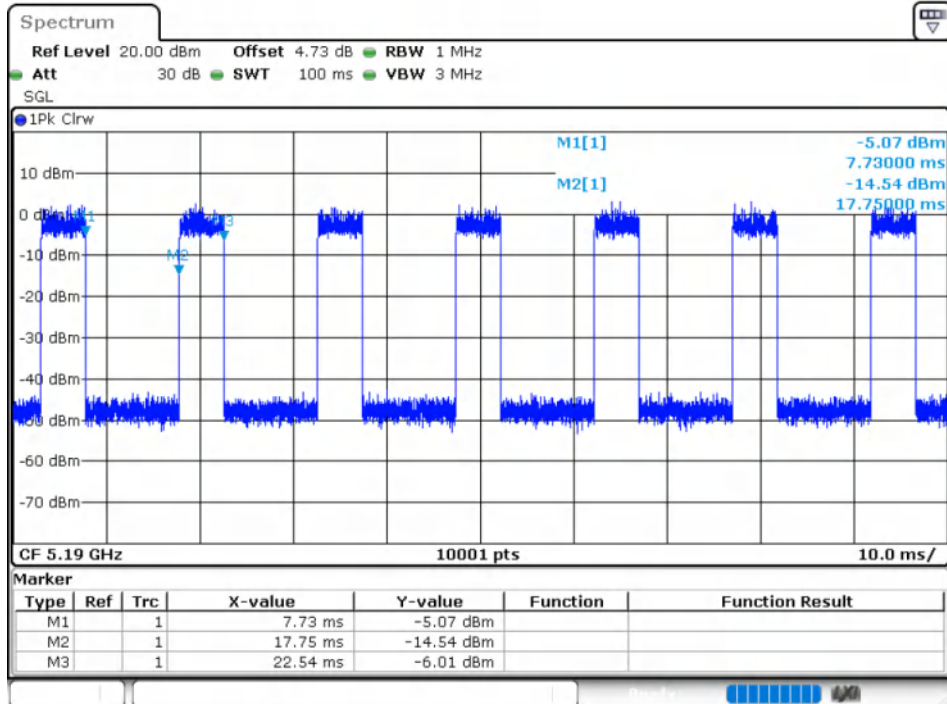
Duty Cycle NVNT a 5200MHz Ant1



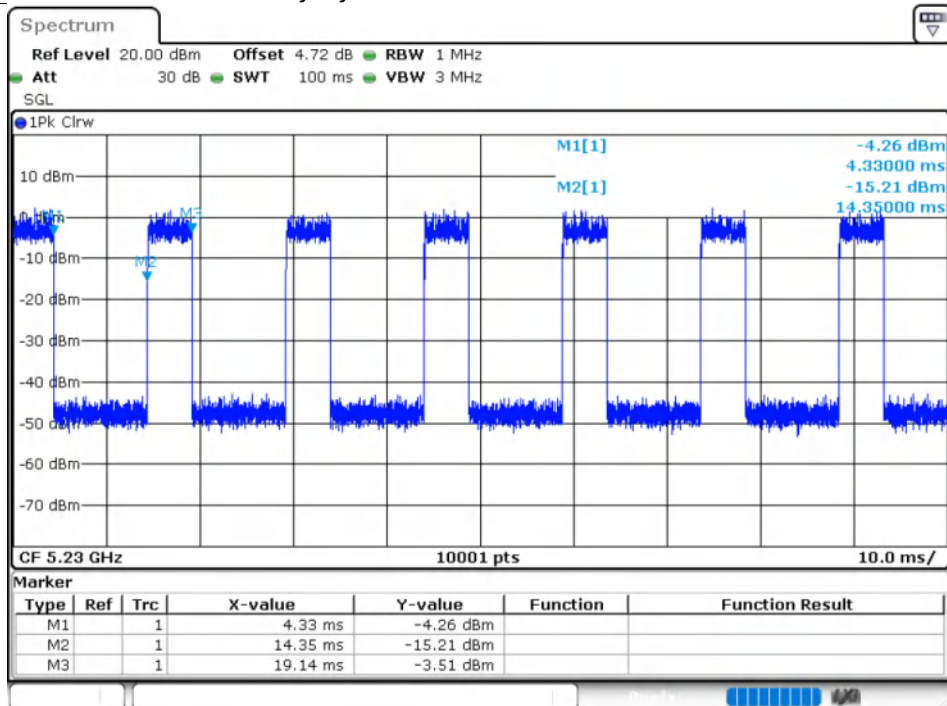


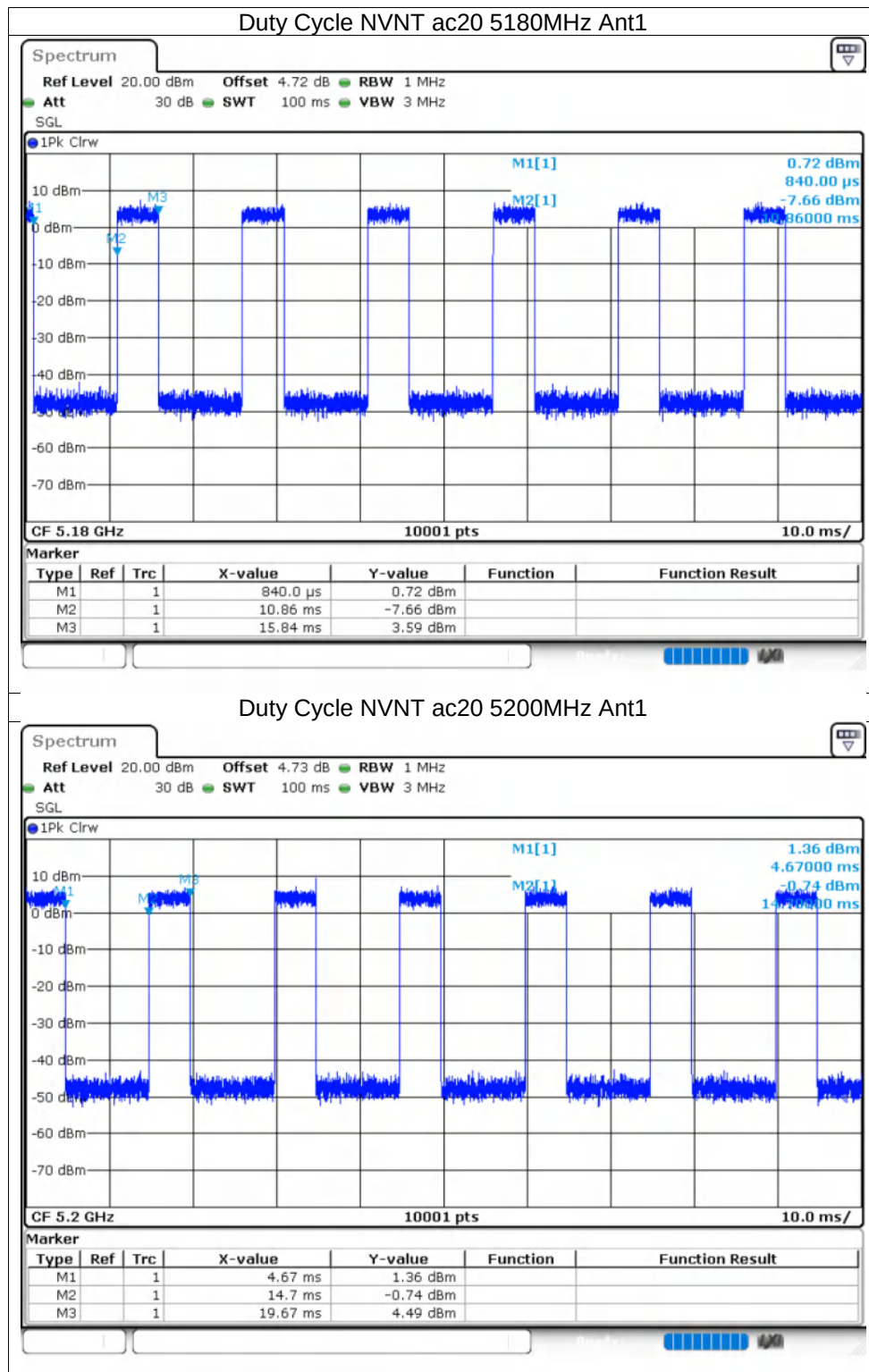


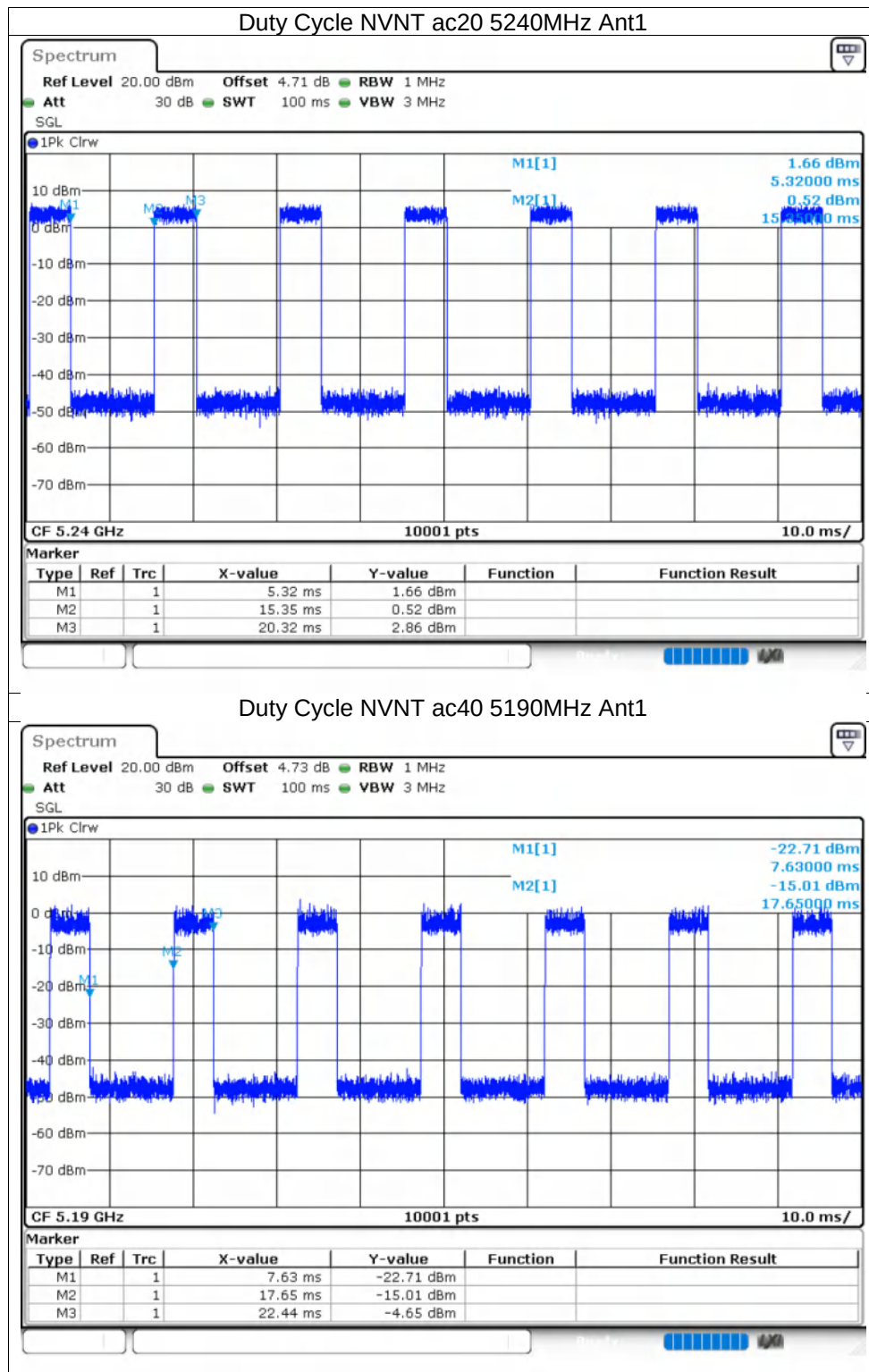
Duty Cycle NVNT n40 5190MHz Ant1

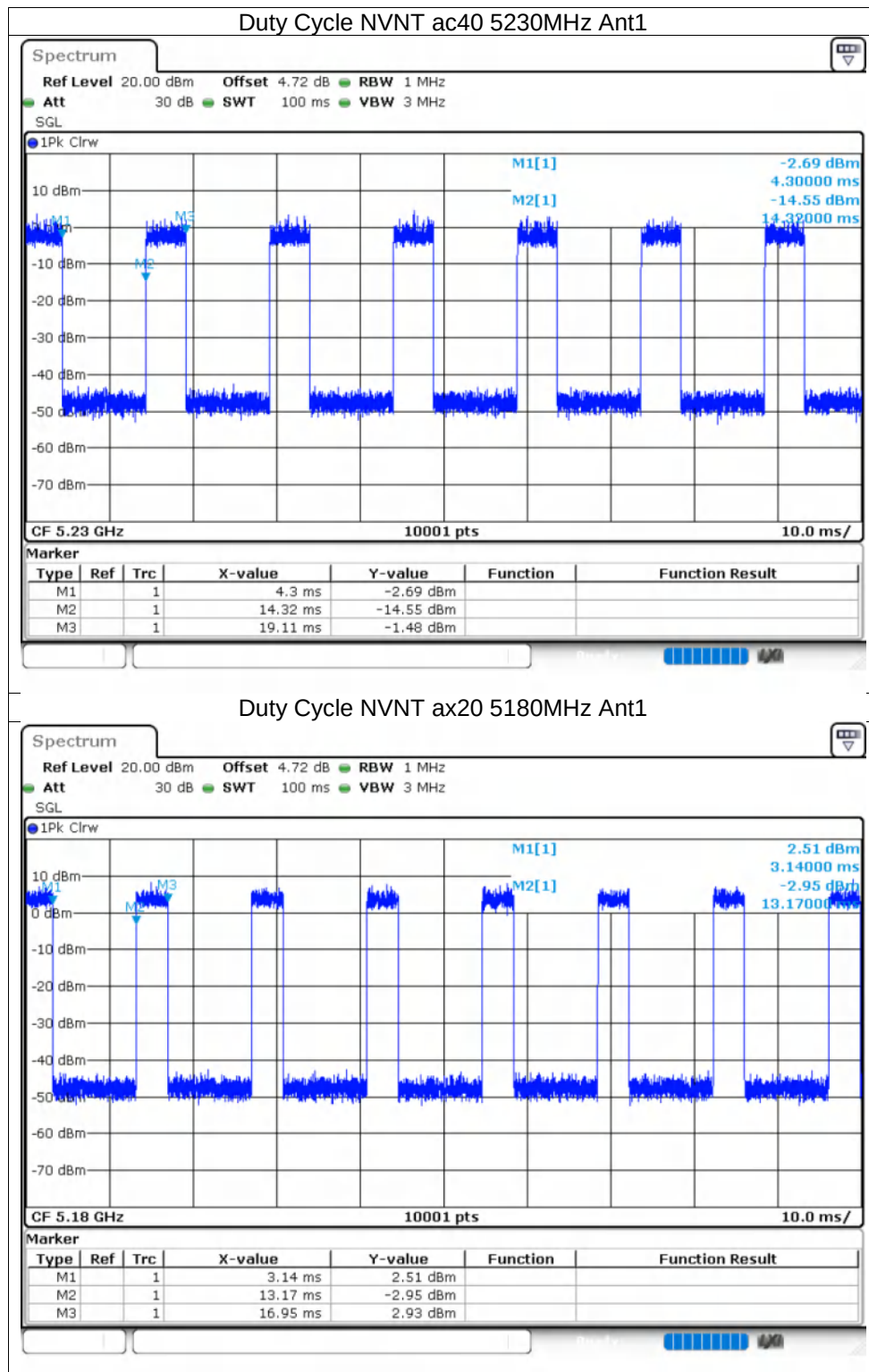


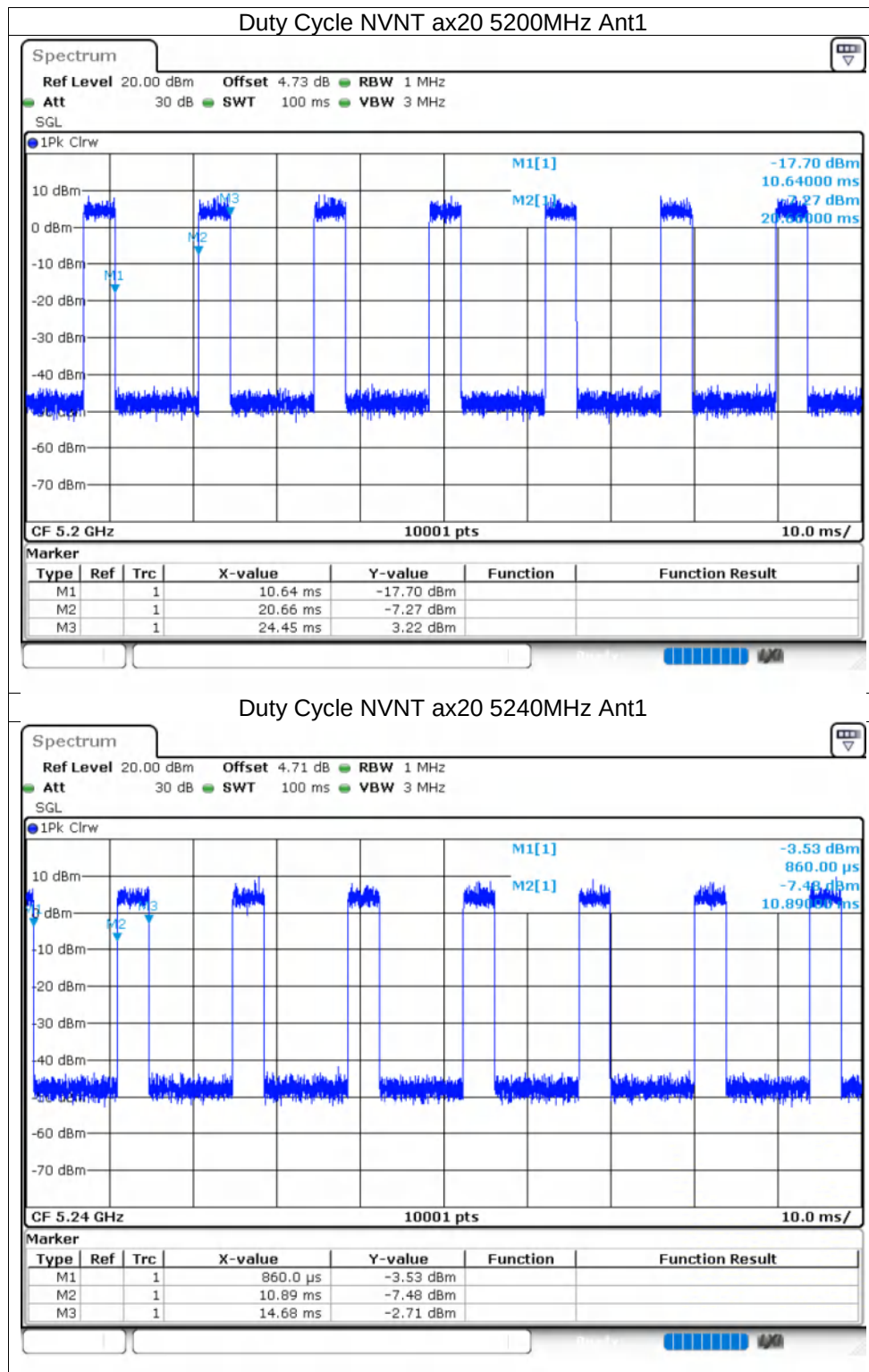
Duty Cycle NVNT n40 5230MHz Ant1

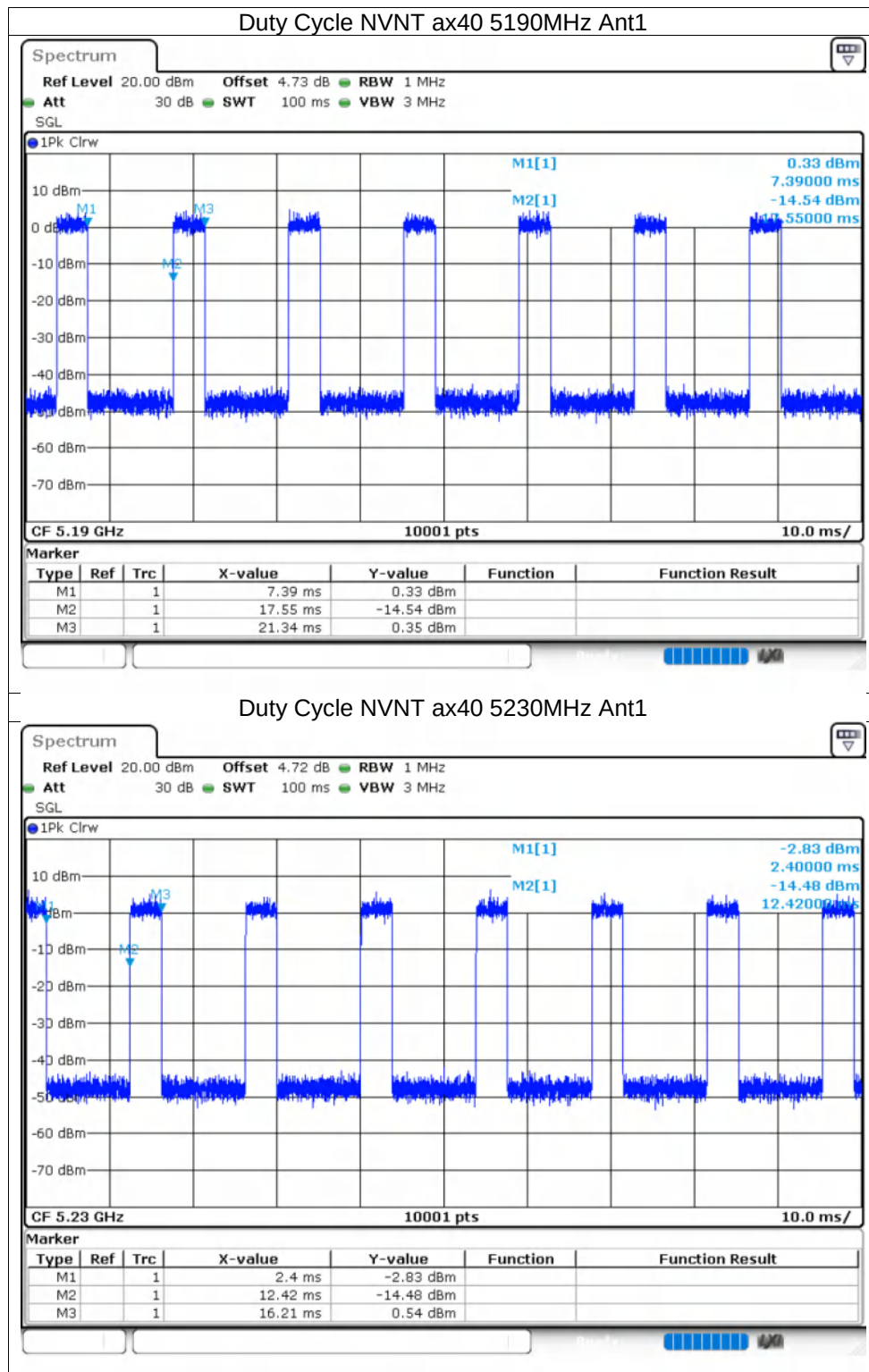












A2 Maximum Conducted Output Power

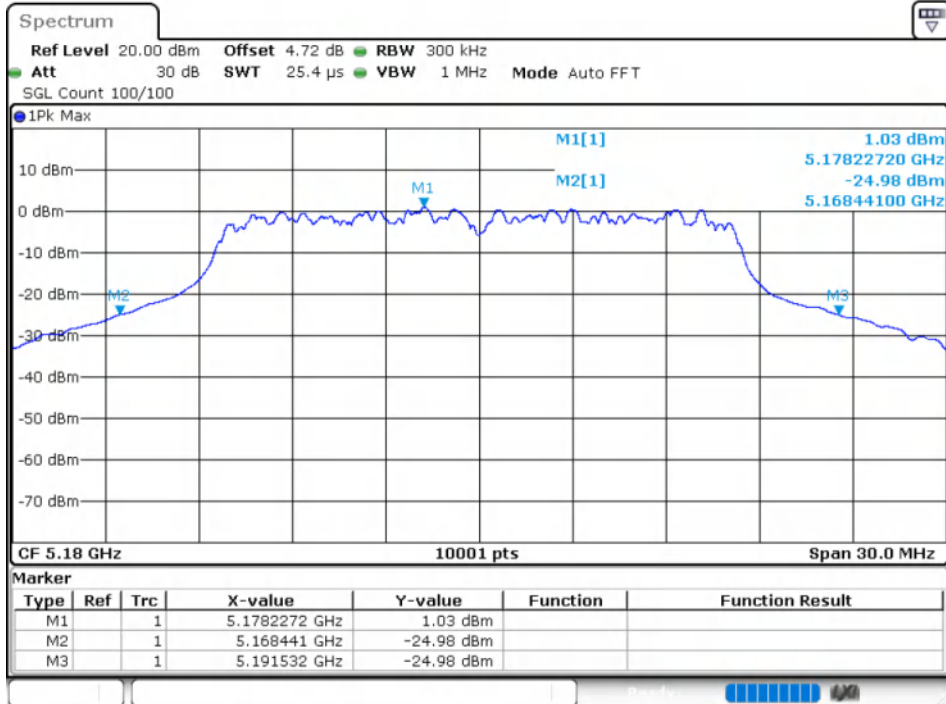
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Duty Factor (dB)	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	a	5180	Ant1	6.86	4.52	11.38	24	Pass
NVNT	a	5200	Ant1	6.03	4.91	10.94	24	Pass
NVNT	a	5240	Ant1	6.41	4.61	11.02	24	Pass
NVNT	n20	5180	Ant1	6.74	4.88	11.62	24	Pass
NVNT	n20	5200	Ant1	6.1	4.78	10.88	24	Pass
NVNT	n20	5240	Ant1	6.12	5.05	11.17	24	Pass
NVNT	n40	5190	Ant1	6.71	4.74	11.45	24	Pass
NVNT	n40	5230	Ant1	6.61	4.8	11.41	24	Pass
NVNT	ac20	5180	Ant1	6.1	5.12	11.22	24	Pass
NVNT	ac20	5200	Ant1	6.15	4.61	10.76	24	Pass
NVNT	ac20	5240	Ant1	6.17	4.57	10.74	24	Pass
NVNT	ac40	5190	Ant1	6.43	4.74	11.17	24	Pass
NVNT	ac40	5230	Ant1	6.54	4.8	11.34	24	Pass
NVNT	ax20	5180	Ant1	5.84	5.27	11.11	24	Pass
NVNT	ax20	5200	Ant1	5.26	5.75	11.01	24	Pass
NVNT	ax20	5240	Ant1	5.58	5.61	11.19	24	Pass
NVNT	ax40	5190	Ant1	5.57	5.76	11.33	24	Pass
NVNT	ax40	5230	Ant1	5.94	5.38	11.32	24	Pass

A3 -26dB Bandwidth

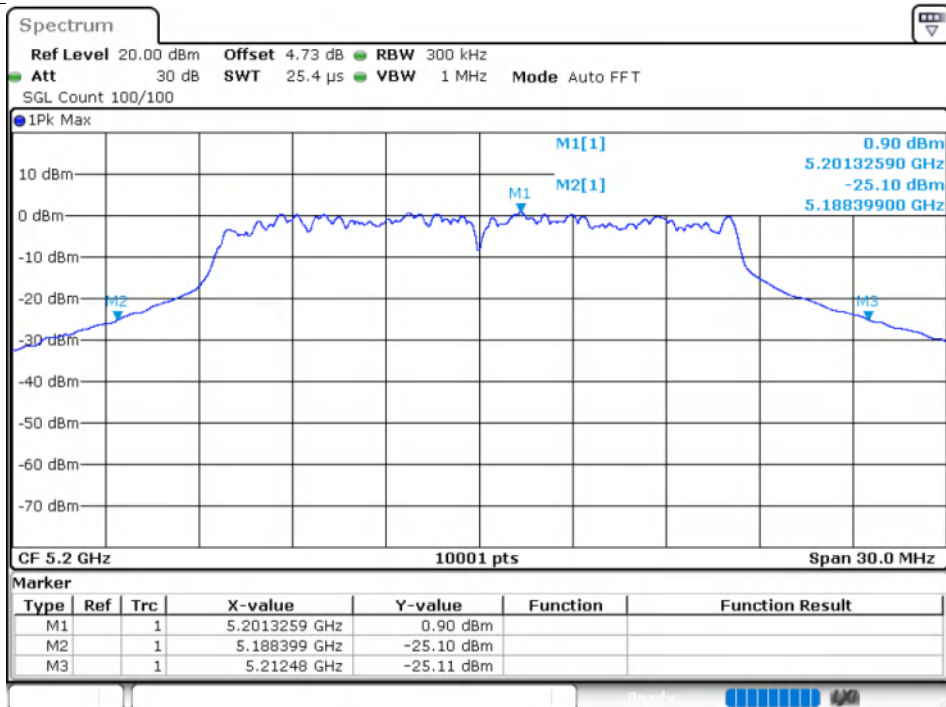
Condition	Mode	Frequency (MHz)	Antenna	-26 dB Bandwidth (MHz)
NVNT	a	5180	Ant1	23.091
NVNT	a	5200	Ant1	24.081
NVNT	a	5240	Ant1	21.06
NVNT	n20	5180	Ant1	24.933
NVNT	n20	5200	Ant1	23.169
NVNT	n20	5240	Ant1	24.687
NVNT	n40	5190	Ant1	46.308
NVNT	n40	5230	Ant1	46.362
NVNT	ac20	5180	Ant1	23.481
NVNT	ac20	5200	Ant1	23.76
NVNT	ac20	5240	Ant1	22.776
NVNT	ac40	5190	Ant1	46.692
NVNT	ac40	5230	Ant1	45.66
NVNT	ax20	5180	Ant1	23.472
NVNT	ax20	5200	Ant1	21.516
NVNT	ax20	5240	Ant1	21.975
NVNT	ax40	5190	Ant1	44.484
NVNT	ax40	5230	Ant1	45.456

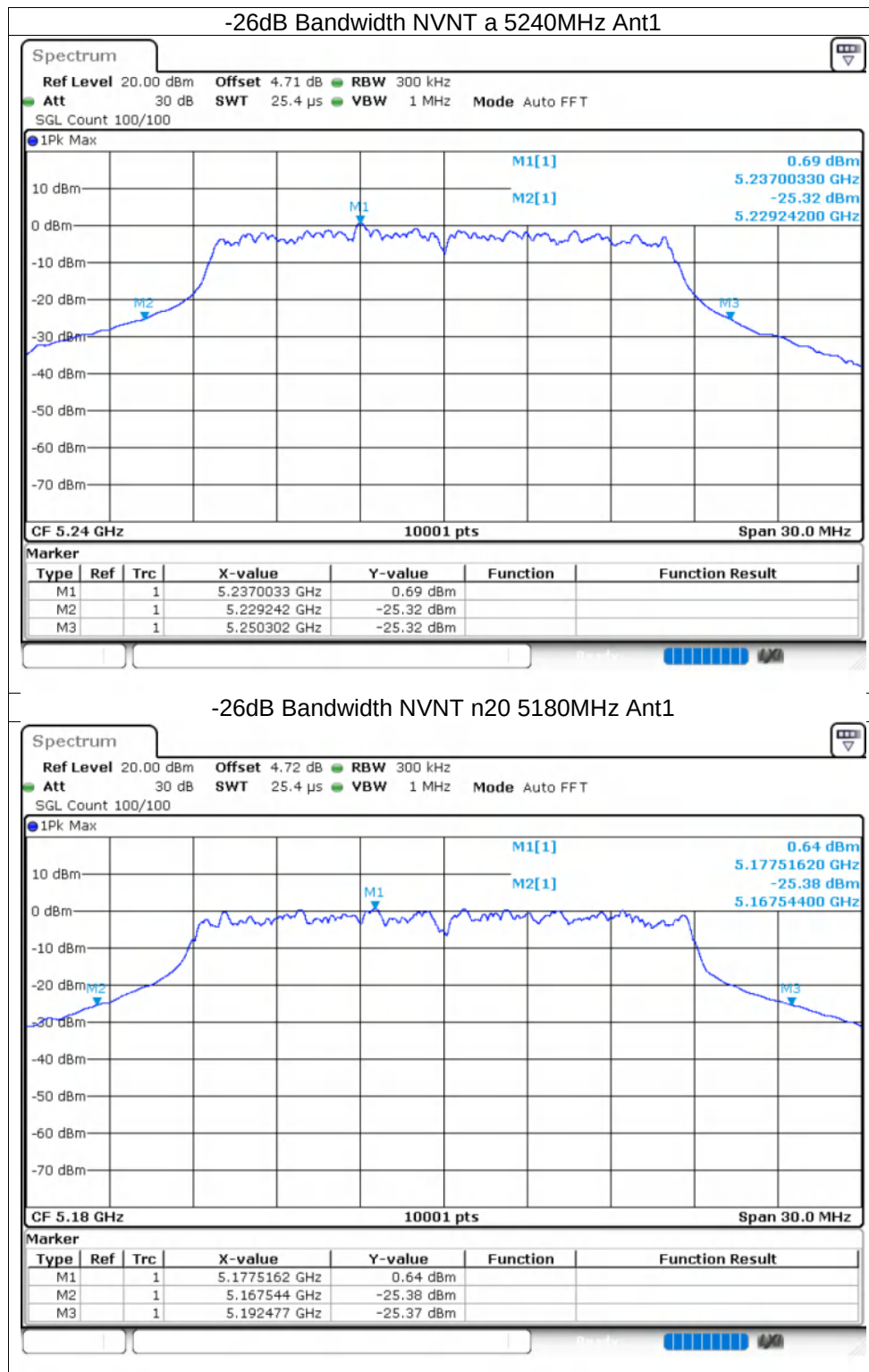
Test Graphs

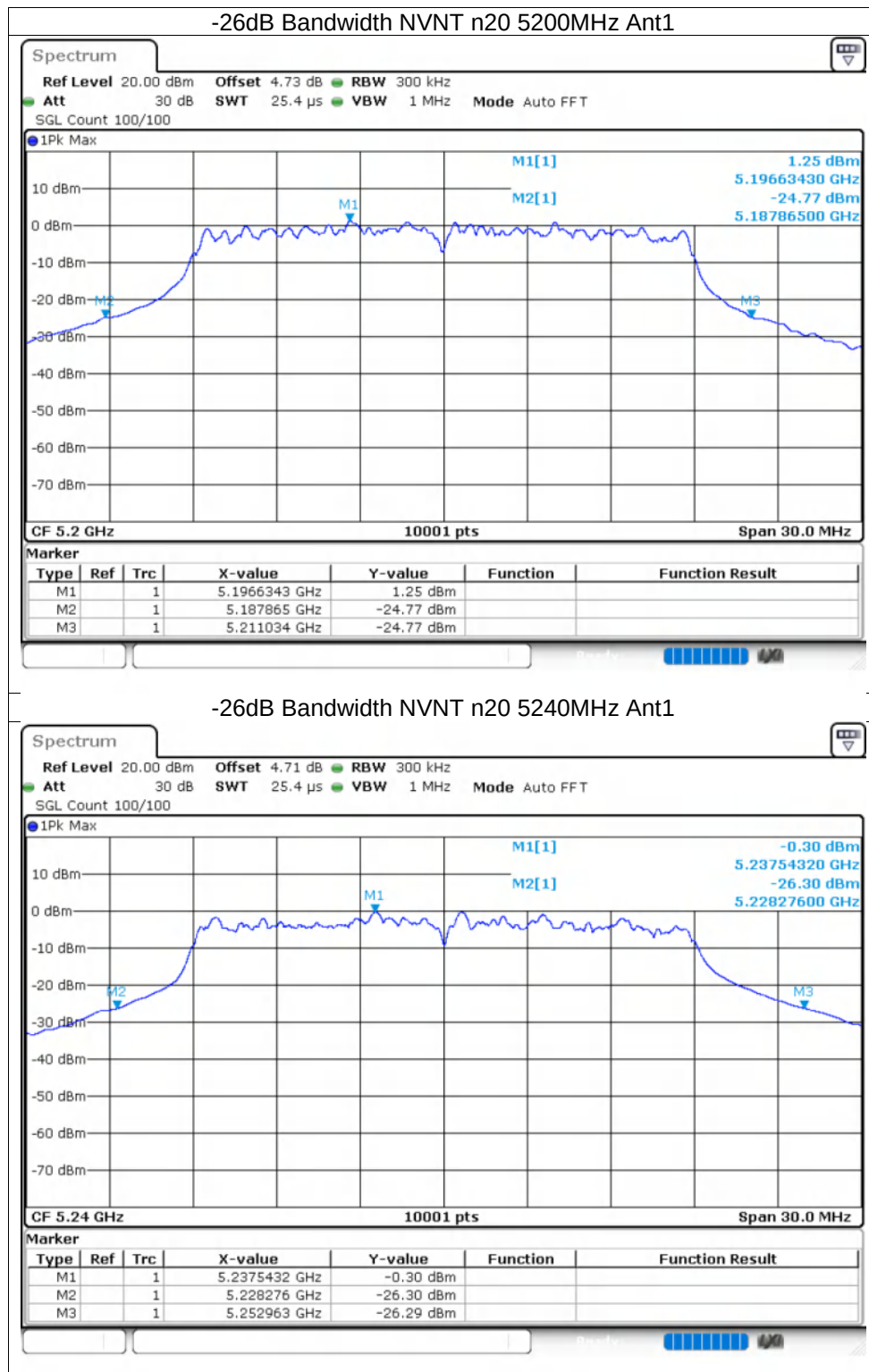
-26dB Bandwidth NVNT a 5180MHz Ant1

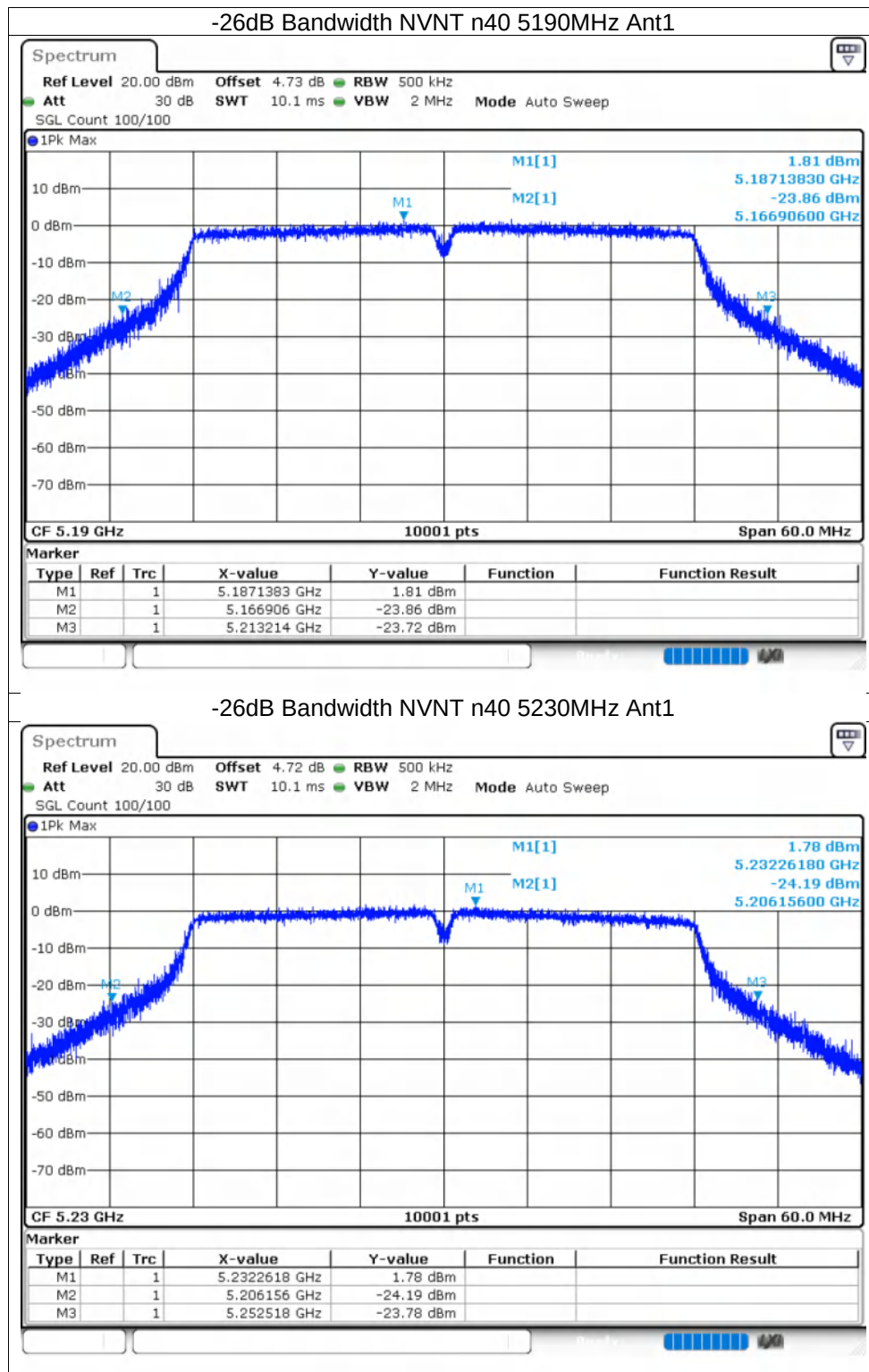


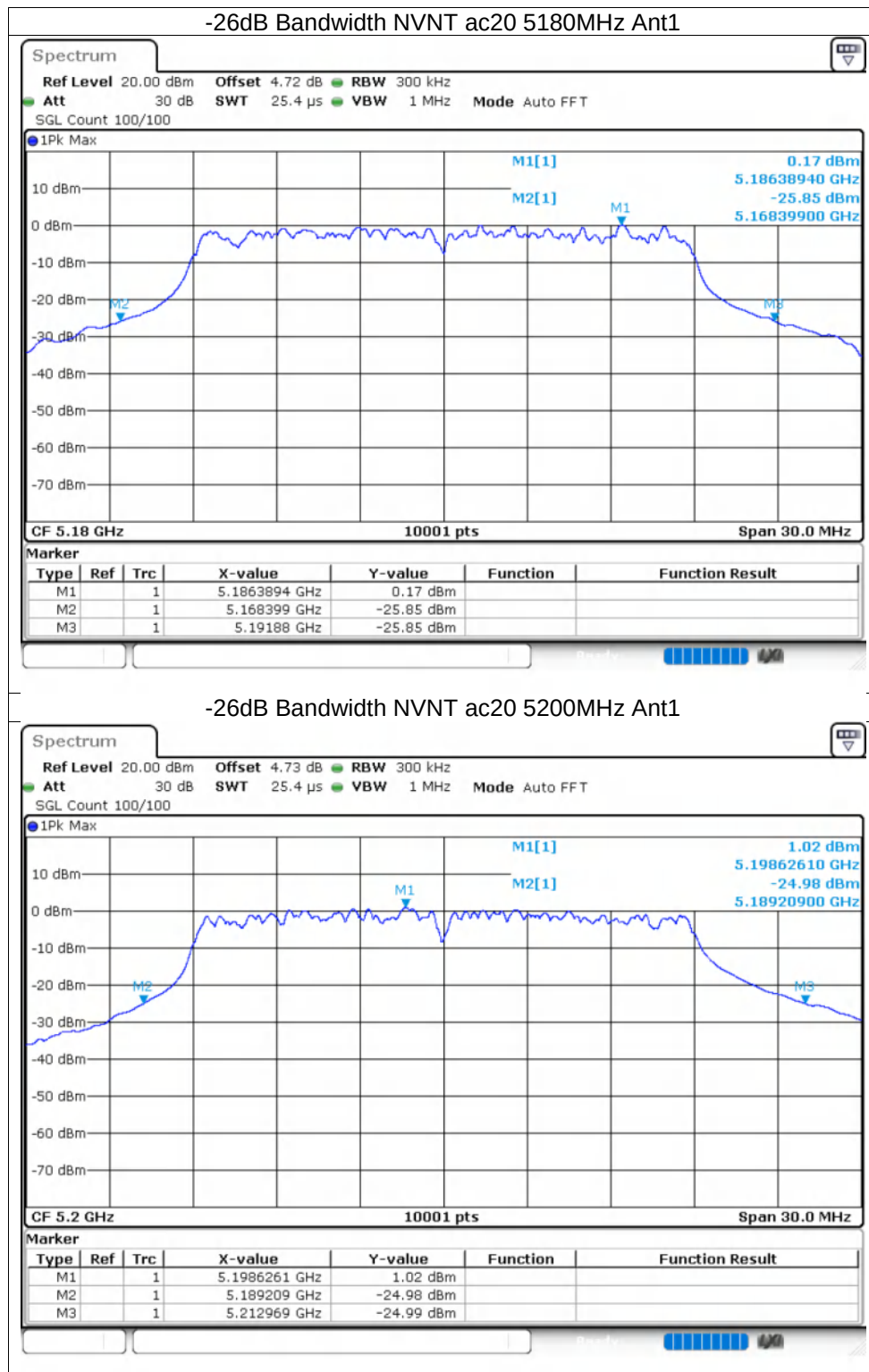
-26dB Bandwidth NVNT a 5200MHz Ant1

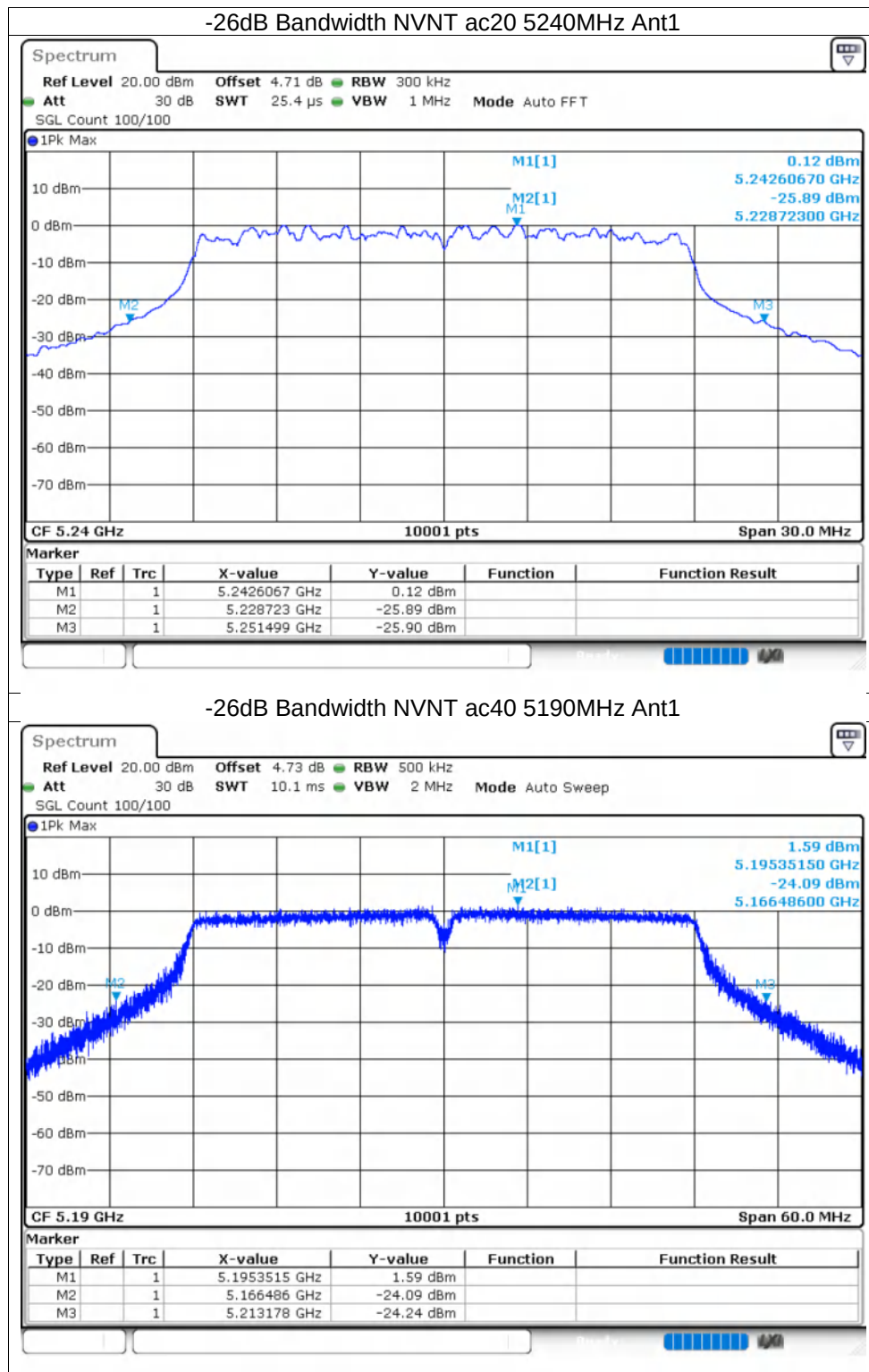


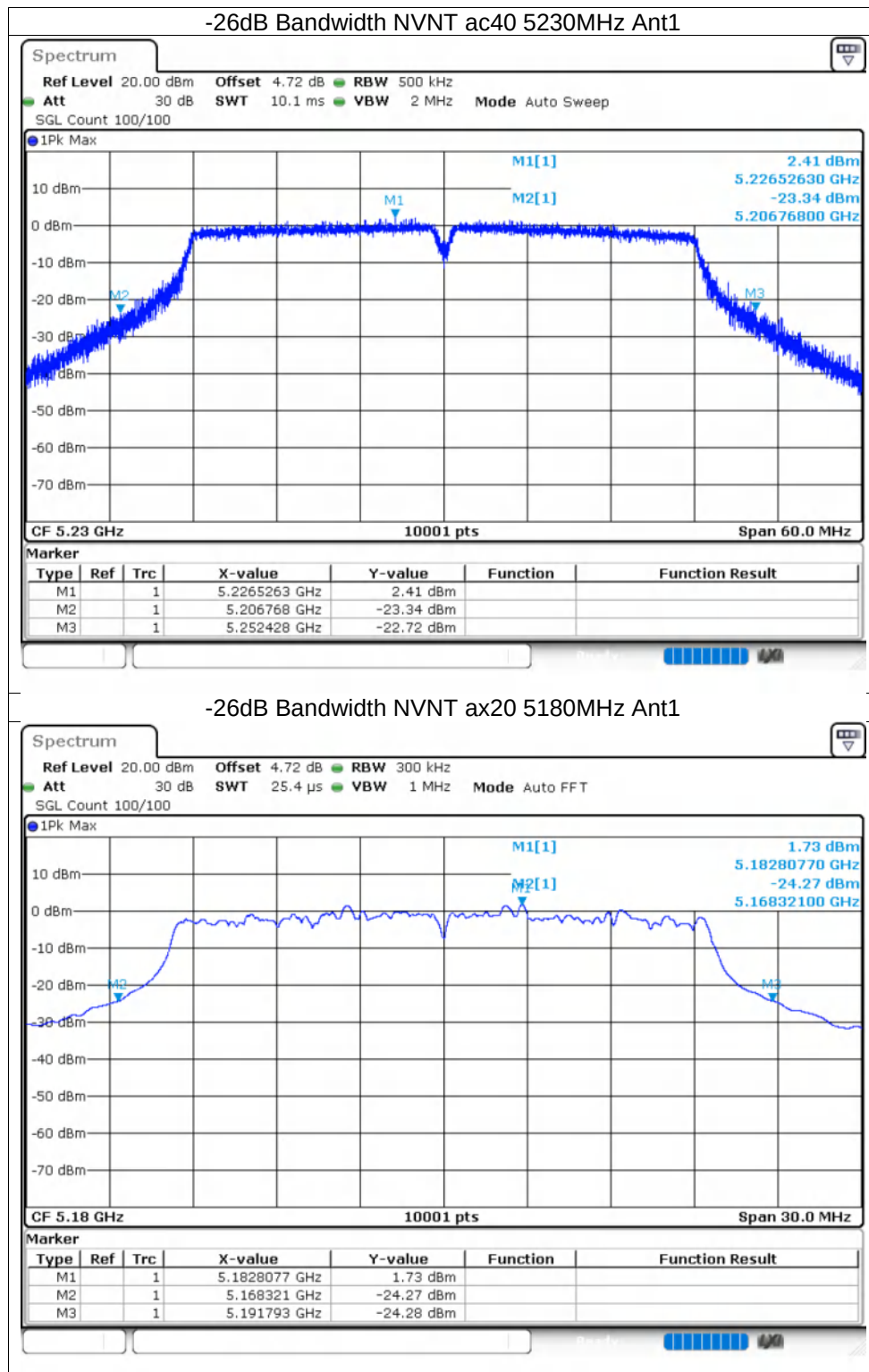


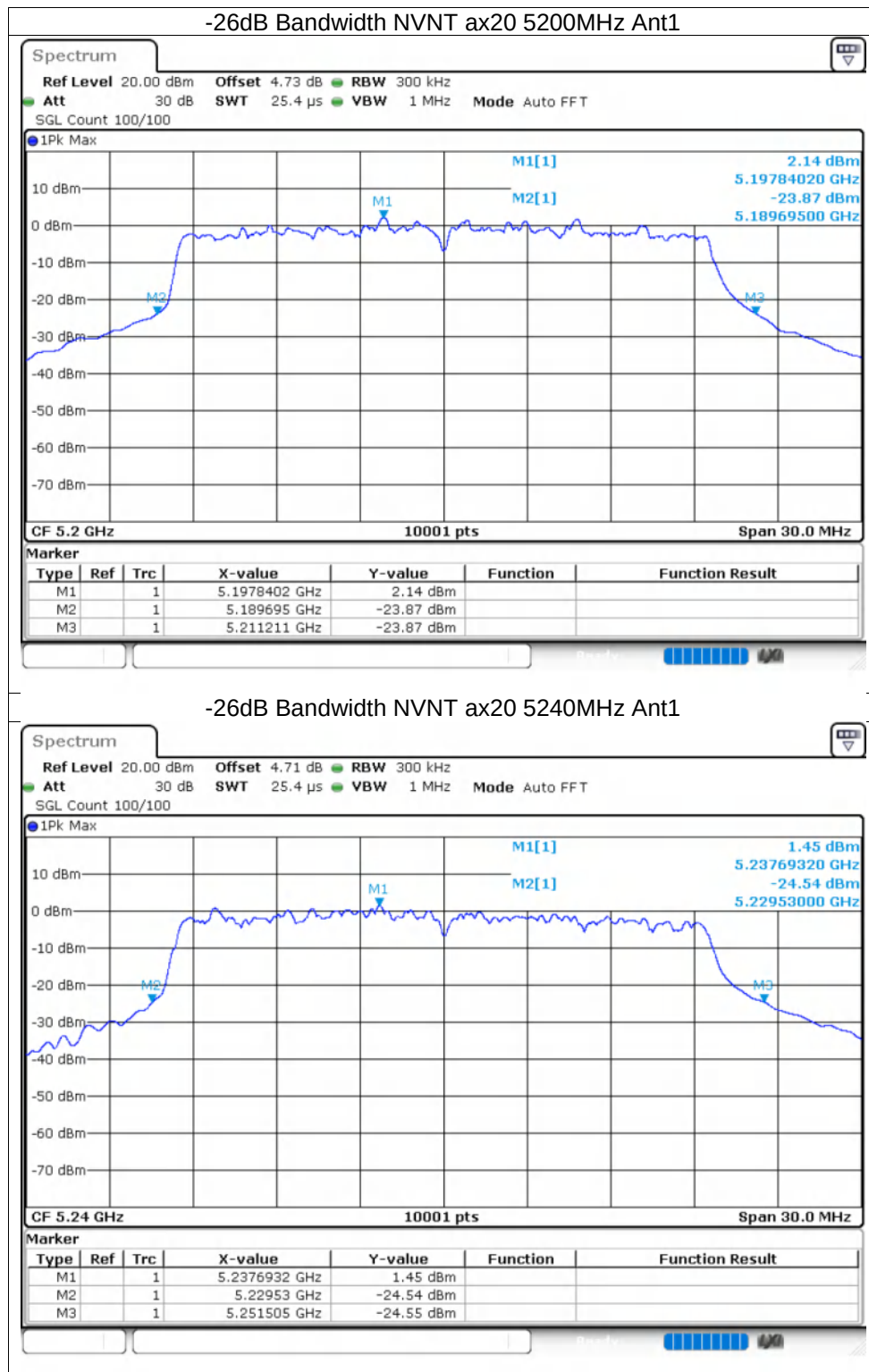


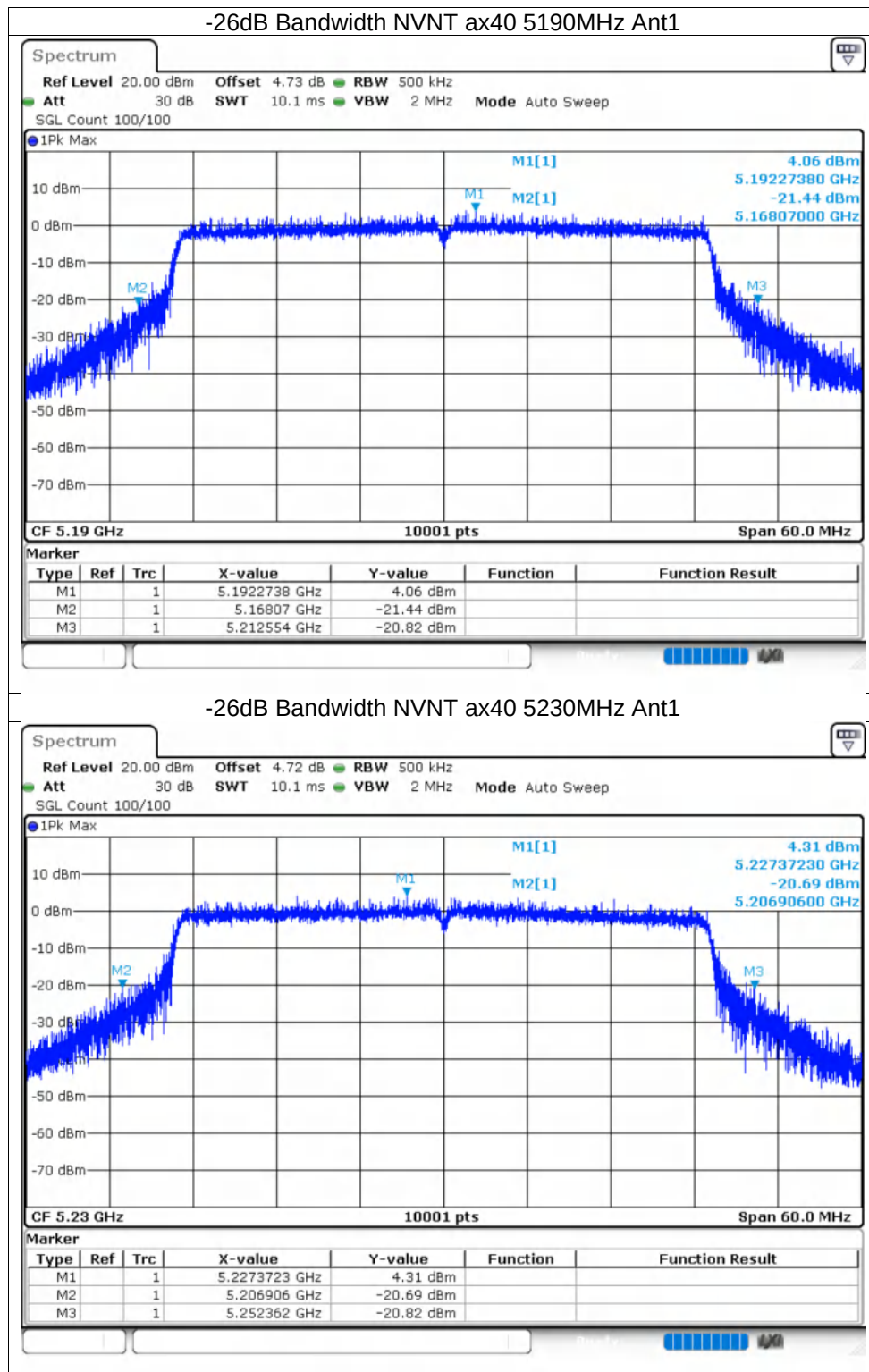










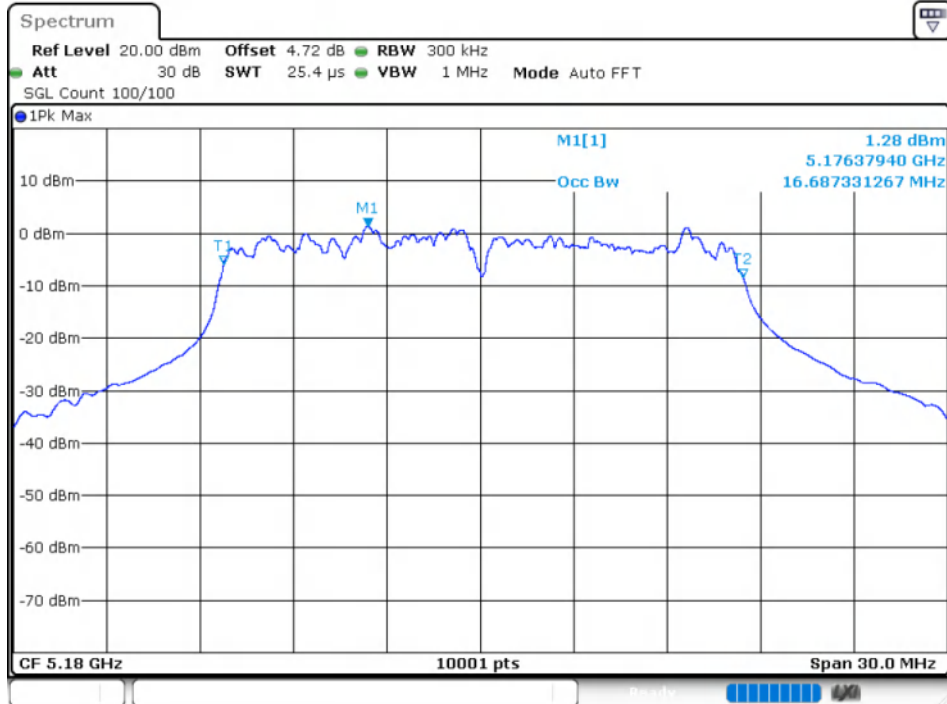


A4 Occupied Channel Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	a	5180	Ant1	16.687
NVNT	a	5200	Ant1	16.555
NVNT	a	5240	Ant1	16.519
NVNT	n20	5180	Ant1	17.761
NVNT	n20	5200	Ant1	17.677
NVNT	n20	5240	Ant1	17.755
NVNT	n40	5190	Ant1	36.452
NVNT	n40	5230	Ant1	36.404
NVNT	ac20	5180	Ant1	18.058
NVNT	ac20	5200	Ant1	17.695
NVNT	ac20	5240	Ant1	17.683
NVNT	ac40	5190	Ant1	36.47
NVNT	ac40	5230	Ant1	36.38
NVNT	ax20	5180	Ant1	18.91
NVNT	ax20	5200	Ant1	19.093
NVNT	ax20	5240	Ant1	18.988
NVNT	ax40	5190	Ant1	37.874
NVNT	ax40	5230	Ant1	37.79

Test Graphs

OBW NVNT a 5180MHz Ant1



OBW NVNT a 5200MHz Ant1

