

TEST REPORT

Reference No...... : WTF26X03084495W001
FCC ID..... : 2BEWX-S1
Applicant..... : Zhejiang Lingzhu Technology Co., Ltd.
Address..... : Room 302, No 1 Building Huace Center, Xihu District, Hangzhou City,
Zhejiang Province, China
Manufacturer..... : The same as Applicant
Address..... : The same as Applicant
Product Name..... : AI Note S1
Model No...... : S1
Standards..... : FCC Part 15.407
Date of Receipt sample..... : 2026-06-31
Date of Test..... : 2026-04-03 to 2026-06-18
Date of Issue..... : 2026-07-01
Test Report Form No...... : WTX_Part 15_407W
Test Result..... : **Pass**

Remarks:

The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of approver.

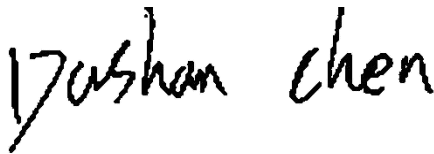
Prepared By:

Waltek Testing Group (Shenzhen) Co., Ltd.

Address: 1/F., Room 101, Building 1, Hongwei Industrial Park, Liuxian 2nd Road,
Block 70 Bao'an District, Shenzhen, Guangdong, China

Tel.: +86-755-33663308 Fax.: +86-755-33663309 Email: sem@waltek.com.cn

Tested by:



Dashan Chen/Project Engineer

Approved by:



Silin Chen/Manager

TABLE OF CONTENTS

1. GENERAL INFORMATION	5
1.1 PRODUCT DESCRIPTION FOR EQUIPMENT UNDER TEST (EUT)	5
1.2 TEST STANDARDS	6
1.3 TEST METHODOLOGY	6
1.4 TABLE FOR PARAMETERS OF TEST SOFTWARE SETTING	6
1.5 EUT OPERATING DURING TEST	7
1.6 TEST FACILITY	7
1.7 EUT SETUP AND TEST MODE	8
1.8 MEASUREMENT UNCERTAINTY	9
1.9 TEST EQUIPMENT LIST AND DETAILS	10
2. SUMMARY OF TEST RESULTS	14
3. ANTENNA REQUIREMENT	15
3.1 STANDARD APPLICABLE	15
3.2 EVALUATION INFORMATION	15
4. AUTOMATICALLY DISCONTINUE TRANSMISSION	16
4.1 STANDARD APPLICABLE	16
4.2 SUMMARY OF TEST RESULTS	16
5. POWER SPECTRAL DENSITY	17
5.1 STANDARD APPLICABLE	17
5.2 TEST PROCEDURE	17
5.3 SUMMARY OF TEST RESULTS/PLOTS	18
6. EMISSION BANDWIDTH AND OCCUPIED BANDWIDTH	19
6.1 STANDARD APPLICABLE	19
6.2 TEST PROCEDURE	19
6.3 SUMMARY OF TEST RESULTS/PLOTS	21
7. MAXIMUM CONDUCTED OUTPUT POWER	22
7.1 STANDARD APPLICABLE	22
7.2 TEST PROCEDURE	22
7.3 SUMMARY OF TEST RESULTS/PLOTS	23
8. RADIATED SPURIOUS EMISSIONS	24
8.1 STANDARD APPLICABLE	24
8.2 TEST PROCEDURE	24
8.3 TEST RECEIVER SETUP	26
8.4 CORRECTED AMPLITUDE & MARGIN CALCULATION	26
8.5 SUMMARY OF TEST RESULTS/PLOTS	26
9. FREQUENCY STABILITY	72
9.1 STANDARD APPLICABLE	72
9.2 TEST PROCEDURE	72
9.3 SUMMARY OF TEST RESULTS/PLOTS	72
10. CONDUCTED EMISSIONS	73
10.1 TEST PROCEDURE	73
10.2 BASIC TEST SETUP BLOCK DIAGRAM	73
10.3 TEST RECEIVER SETUP	73
10.4 SUMMARY OF TEST RESULTS/PLOTS	73
APPENDIX SUMMARY	76
APPENDIX A1: EMISSION BANDWIDTH	77
APPENDIX A2: OCCUPIED CHANNEL BANDWIDTH	89
APPENDIX A3: MIN EMISSION BANDWIDTH	101
APPENDIX B: DUTY CYCLE	105
APPENDIX C: MAXIMUM CONDUCTED OUTPUT POWER	117
APPENDIX D: MAXIMUM POWER SPECTRAL DENSITY	117

Reference No.: WTF26X03084495W001

APPENDIX E: FREQUENCY STABILITY 130

APPENDIX PHOTOGRAPHS 140

Report version

Version No.	Date of issue	Description
Rev.00	2026-07-01	Original
/	/	/

1. GENERAL INFORMATION

1.1 Product Description for Equipment Under Test (EUT)

General Description of EUT	
Product Name:	AI Note S1
Trade Name:	/
Model No.:	S1
Adding Model(s):	/
Rated Voltage:	Battery:DC3.8V Charging voltage:DC5V
Battery Capacity:	400mAh
Power Adapter:	/
<i>Note: The sample information is provided by the customer.</i>	

Technical Characteristics of EUT	
Support Standards:	802.11a, 802.11n-HT20, 802.11n-HT40
Frequency Range:	5180-5240MHz, 5260-5320MHz 5500-5700MHz, 5745-5825MHz
Max. RF Output Power:	12.73dBm (Conducted)
Type of Modulation:	QPSK, 16QAM, 64QAM
Type of Antenna:	FPC Antenna
Antenna Gain:	-6.36dBi
<i>Note: 1: The Antenna Gain is provided by the customer and can affect the validity of results.</i>	
<i>2: The data provided by the customer and can affect the validity of results.</i>	

1.2 Test Standards

The tests were performed according to following standards:

FCC Rules Part 15.407: General technical requirements.

ANSI C63.10-2020: American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices.

KDB789033 D02 v02r01: Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-Nii) Devices Part 15, Subparte.

Maintenance of compliance is the responsibility of the manufacturer. Any modification of the product, which result in lowering the emission, should be checked to ensure compliance has been maintained.

1.3 Test Methodology

All measurements contained in this report were conducted with ANSI C63.10-2020, KDB789033 D02 v02r01. The equipment under test (EUT) was configured to measure its highest possible emission level. The test modes were adapted accordingly in reference to the Operating Instructions.

1.4 Table for parameters of Test Software setting

Use UI_mptool.exe software to set the frequency by firing instructions, you can start to test. During testing, Channel and Power Controlling Software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product.

Mode	Test Frequency (MHz)												
	NCB: 20MHz												
	5180	5200	5240	5260	5300	5320	5500	5580	5700	5720	5745	5785	5825
802.11a 6Mbps	90	90	90	83	83	83	75	75	75	75	90	90	90
802.11n-HT20MCS0	90	90	90	83	83	83	75	75	75	75	90	90	90
Mode	NCB: 40MHz												
	5190	5230	5270	5310	5510	5550	5670	5710	5755	5795			
802.11n-HT40 MCS0	90	90	90	83	83	83	75	75	75	75			

1.5 EUT Operating during test

EUT was programmed to be in continuously transmitting mode. During the test, EUT operation to normal function and programs under Android were executed.

1.6 Test Facility

Address of the test laboratory

Laboratory: Waltek Testing Group (Shenzhen) Co., Ltd.

Address: 1/F., Room 101, Building 1, Hongwei Industrial Park, Liuxian 2nd Road, Block 70 Bao'an District, Shenzhen, Guangdong, China

FCC – Registration No.: 125990

Waltek Testing Group (Shenzhen) Co., Ltd. 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. The Designation Number is CN5010, and Test Firm Registration Number is 125990.

Industry Canada (IC) Registration No.: 11464A

The 3m Semi-anechoic chamber of Waltek Testing Group (Shenzhen) Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 11464A and the CAB identifier is CN0057.

1.7 EUT Setup and Test Mode

The EUT was operated in the engineering mode to fix the Tx frequency that was for the purpose of the measurements. All testing shall be performed under maximum output power condition, and to measure its highest possible emissions level, more detailed description as follows:

Test Mode List		
Test Mode	Description	Remark
TM1	802.11a	5180MHz,5200MHz,5240MHz,5260MHz,5280MHz,5320MHz,5500MHz,5600MHz,5700MHz,5745MHz, 5785MHz,5825MHz
TM2	802.11n-HT20	5180MHz,5200MHz,5240MHz,5260MHz,5280MHz,5320MHz,5500MHz,5600MHz,5700MHz,5745MHz, 5785MHz,5825MHz
TM3	802.11n-HT40	5190MHz,5230MHz,5270MHz,5310MHz,5510MHz,5590MHz,5670MHz,5755MHz,5795MHz
Note: All test modes (different data rate and different modulation) are performed, but only the worst case is recorded in this report.		

Test Conditions	
Temperature:	22~25 °C
Relative Humidity:	50~55 %.
ATM Pressure:	1019 mbar

EUT Cable List and Details			
Cable Description	Length (m)	Shielded/Unshielded	With / Without Ferrite
DC Cable	0.6	Unshielded	Without Ferrite

Special Cable List and Details			
Cable Description	Length (m)	Shielded/Unshielded	With / Without Ferrite
/	/	/	/

Auxiliary Equipment List and Details			
Description	Manufacturer	Model	Serial Number
Phone	xiaomi	MI10	/

1.8 Measurement Uncertainty

Measurement uncertainty		
Parameter	Conditions	Uncertainty
RF Output Power	Conducted	$\pm 0.57\text{dB}$
Occupied Bandwidth	Conducted	$\pm 0.015\text{MHz}$
Power Spectral Density	Conducted	$\pm 1.8\text{dB}$
Conducted Spurious Emission	Conducted	$\pm 2.17\text{dB}$
Conducted Emission 1#	Conducted	@9kHz to 150kHz: $\pm 3.74\text{dB}$
		@150kHz to 30MHz: $\pm 3.34\text{dB}$
Conducted Emission 2#	Conducted	@9kHz to 150kHz: $\pm 3.74\text{dB}$
		@150kHz to 30MHz: $\pm 3.34\text{dB}$
Transmitter Spurious Emissions chamber A	Radiated	@9kHz to 30MHz: $\pm 3.0\text{dB}$
		@30MHz to 1GHz: $\pm 5.70\text{dB}$
		@1GHz to 6GHz: $\pm 5.88\text{dB}$
		@6GHz to 18GHz: $\pm 5.96\text{dB}$
		@18GHz to 40GHz: $\pm 6.12\text{dB}$
Transmitter Spurious Emissions chamber B	Radiated	@30MHz to 1GHz: $\pm 5.36\text{dB}$
Transmitter Spurious Emissions chamber C	Radiated	@9kHz to 30MHz: $\pm 3.0\text{dB}$
		@30MHz to 1GHz: $\pm 5.28\text{dB}$
		@1GHz to 6GHz: $\pm 5.56\text{dB}$
		@6GHz to 18GHz: $\pm 5.72\text{dB}$
		@18GHz to 40GHz: $\pm 6.12\text{dB}$

1.9 Test Equipment List and Details

Internal No.	Description	Manufacturer	Model	Serial No.	Cal Date	Due. Date
WTXE1041A 1002	Communication Tester	Rohde & Schwarz	CMW500	1201.0002 k50-14865 0-FB	2026-03-25	2027-03-24
WTXE1005A 1005	MXA Signal Analyzer	Agilent	N9020A	US471401 02	2026-03-25	2027-03-24
WTXE1084A 1001	MXA Signal Analyzer	KEYSIGHT	N9020A	MY543205 48	2026-02-06	2027-02-05
WTXE1005A 1006	Spectrum Analyzer	Rohde & Schwarz	FSP40	100612	2026-02-05	2027-02-04
WTXW1105A 1010	MXA signal Analyzer	KEYSIGHT	N9020A	MY512856 78	2026-02-06	2027-02-05
WTXE1105A 1008	RF Control Unit	Tonscend	JS0806-2	/	2026-02-06	2027-02-05
WTXW1105A 1136	RF ATTENUATOR	FEIYANG	N-JK	/	2026-02-06	2027-02-05
WTXE1003A 1-005	Coaxial Cable	/	0M4RFC	/	2026-02-23	2027-02-22
☐ Chamber A: Below 1GHz						
WTXE1005A 1003	Spectrum Analyzer	Rohde & Schwarz	FSP30	836079/03 5	2026-02-05	2027-02-04
WTXE1001A 1001	EMI Test Receiver	Rohde & Schwarz	ESPI	101611	2026-02-05	2027-02-04
WTXE1007A 1002	Amplifier	HP	8447F	2805A034 75	2026-02-05	2027-02-04
WTXE1010A 1007	Loop Antenna	Schwarz beck	FMZB 1516	9773	2026-02-05	2027-02-04
WTXE1010A 1006	Broadband Antenna	Schwarz beck	VULB9163	9163-333	2026-03-11	2029-03-10
WTXE1104A 1032-1	Coaxial Cable	/	RC_6G-N-M	/	2026-02-23	2027-02-22
WTXE1104A 1032-2	Coaxial Cable	/	RC_6G-N-M	/	2026-02-23	2027-02-22
WTXE1104A 1032-3	Coaxial Cable	/	RC_6G-N-M	/	2026-02-23	2027-02-22
☐ Chamber A: Above 1GHz						
WTXE1005A 1003	Spectrum Analyzer	Rohde & Schwarz	FSP30	836079/03 5	2026-02-05	2027-02-04
WTXE1001A 1001	EMI Test Receiver	Rohde & Schwarz	ESPI	101611	2026-02-05	2027-02-04

WTXE1065A 1001	Amplifier	C&D	PAP-1.0G18	14918	2026-02-05	2027-02-04
WTXE1010A 1005	Horn Antenna	ETS	3117	00086197	2026-02-05	2027-02-04
WTXE1010A 1010	DRG Horn Antenna	A.H. SYSTEMS	SAS-574	571	2026-02-10	2027-02-09
WTXE1003A 1001	Pre-amplifier	Schwarzbeck	BBV 9721	9721-031	2026-02-05	2027-02-04
WTXE1104A 1033-1	Coaxial Cable	/	C16-07-07	/	2026-02-23	2027-02-22
WTXE1104A 1033-2	Coaxial Cable	/	C16-07-07	/	2026-02-23	2027-02-22
WTXE1104A 1033-3	Coaxial Cable	/	C16-07-07	/	2026-02-23	2027-02-22
☐ Chamber B:Below 1GHz						
WTXE1010A 1006	Trilog Broadband Antenna	Schwarz beck	VULB9163(B)	9163-635	2024-03-17	2027-03-16
WTXE1038A 1001	Amplifier	Agilent	8447D	2944A104 57	2026-02-05	2027-02-04
WTXE1001A 1002	EMI Test Receiver	Rohde & Schwarz	ESPI	101391	2026-02-05	2027-02-04
WTXE1104A 1031-1	Coaxial Cable	/	1.5MRFC-LWB3	/	2026-02-23	2027-02-22
WTXE1104A 1031-2	Coaxial Cable	/	RG 316	/	2026-02-23	2027-02-22
WTXE1104A 1031-3	Coaxial Cable	/	RG 316	/	2026-02-23	2027-02-22
☒ Chamber C:Below 1GHz						
WTXE1093A 1001	EMI Test Receiver	Rohde & Schwarz	ESIB 26	100401	2026-02-05	2027-02-04
WTXE1010A 1013-1	Trilog Broadband Antenna	Schwarz beck	VULB 9168	1194	2024-04-18	2027-04-17
WTXE1010A 1007	Loop Antenna	Schwarz beck	FMZB 1516	9773	2026-02-05	2027-02-04
WTXE1007A 1003	Amplifier	HP	8447F	2944A038 69	2026-02-05	2027-02-04
WTXE1104A 1034-1	Coaxial Cable	/	RC_6G-N-M	/	2026-02-23	2027-02-22
WTXE1104A 1034-2	Coaxial Cable	/	RC_6G-N-M	/	2026-02-23	2027-02-22

WTXE1104A 1034-3	Coaxial Cable	/	RC_6G-N-M	/	2026-02-23	2027-02-22
☒ Chamber C: Above 1GHz						
WTXE1093A 1001	EMI Test Receiver	Rohde & Schwarz	ESIB 26	100401	2026-02-05	2027-02-04
WTXE1103A 1005	Horn Antenna	POAM	RTF-118A	1820	2025-06-13	2027-06-12
WTXE1103A 1006	Amplifier	Tonscend	TAP01018050	AP22E806 235	2026-02-05	2027-02-04
WTXE1010A 1010	DRG Horn Antenna	A.H. SYSTEMS	SAS-574	571	2026-02-10	2027-02-09
WTXE1003A 1001	Pre-amplifier	Schwarzbeck	BBV 9721	9721-031	2026-02-05	2027-02-04
WTXE1104A 1035-1	Coaxial Cable	/	RC-18G-N-M	/	2026-02-23	2027-02-22
WTXE1104A 1035-2	Coaxial Cable	/	RC-18G-N-M	/	2026-02-23	2027-02-22
WTXE1104A 1035-3	Coaxial Cable	/	RC-18G-N-M	/	2026-02-23	2027-02-22
☐ Conducted Room 1#						
WTXE1104A 1029	EMI Test Receiver	Rohde & Schwarz	ESCI	100525	2025-11-25	2026-11-24
WTXE1002A 1001	Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100911	2026-02-05	2027-02-04
WTXE1003A 1001	AC LISN	Schwarz beck	NSLK8126	8126-279	2026-02-05	2027-02-04
WTXE1104A 1036	Coaxial Cable	/	RG 316	/	2026-02-23	2027-02-22
WTXE1104A 1038	Coaxial Cable	/	6MRFC-DP	/	2026-02-23	2027-02-22
☒ Conducted Room 2#						
WTXE1001A 1004	EMI Test Receiver	Rohde & Schwarz	ESPI	101259	2026-02-05	2027-02-04
WTXE1003A 1003	LISN	Rohde & Schwarz	ENV 216	100097	2026-02-05	2027-02-04
WTXE1104A 1037	Coaxial Cable	/	RG 316	/	2026-02-23	2027-02-22

Software List			
Description	Manufacturer	Model	Version
EMI Test Software/EZ-EMC (Radiated Emission A)	Farad	RA-03A1	1.1.4.2
EMI Test Software/EZ-EMC (Radiated Emission B)	Farad	RA-03A1	1.1.4.2
EMI Test Software/EZ-EMC (Radiated Emission C)	Farad	RA-03A1-2	1.1.4.2
EMI Test Software/EZ-EMC (Conducted Emission Room 1#)	Farad	3A1*CE-RE	1.1.4.3
EMI Test Software/EZ-EMC (Conducted Emission Room 2#)	Farad	3A1*CE-RE	1.1.4.3
RF Test System	Tonscend	JS1120-3	V3.5.39

*Remark: indicates software version used in the compliance certification testing.

2. SUMMARY OF TEST RESULTS

FCC Rules	Description of Test Item	Result
§15.203; §15.405	Antenna Requirement	Compliant
15.407 (c)	Automatically Discontinue Transmission	Compliant
§15.207; §15.407(b)(6)	Conducted Emission	Compliant
§15.407(a)(1),(2)	Power Spectral Density	Compliant
§15.407(e)	Emission Bandwidth and Occupied Bandwidth	Compliant
§15.407(a)(1),(2)	Maximum Conducted Output Power	Compliant
§15.407(b)(1),(2),(3),(4)	Undesirable emission	Compliant
§15.205; §15.209; §15.407(b)(1),(2),(3)	Radiated Emission	Compliant
§15.407(g)	Frequency Stability	Compliant
§15.407(h)	Dynamic Frequency Selection (DFS)	Compliant

N/A: Not applicable.

3. Antenna Requirement

3.1 Standard Applicable

According to FCC 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.

3.2 Evaluation Information

This product has an FPC antenna fulfill the requirement of this section.

4. Automatically Discontinue Transmission

4.1 Standard Applicable

According to FCC Part 15.407(c), 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 signaling information or the use of repetitive codes used by certain digital technologies to complete frame or burst intervals. Applicants shall include in their application for equipment authorization to describe how this requirement is met.

4.2 Summary of Test Results

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

5. Power Spectral Density

5.1 Standard Applicable

Section 15.407(a) Power limits:

(1) For the band 5.15-5.25GHz.

(iv) For mobile and portable client devices in the 5.15-5.25GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250mW provided the maximum antenna gain does not exceed 6dBi. In addition, the maximum power spectral density shall not exceed 11dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

(2) For the 5.25-5.35GHz and 5.47-5.725GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250mW or $11 \text{ dBm} + 10 \log B$, where B is the 26dB emission bandwidth in megahertz. In addition, the maximum power spectral density shall not exceed 11dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

(3) For the band 5.725-5.85GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30dBm in any 500kHz band. If transmitting antennas of directional gain greater than 6dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6dBi 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.

5.2 Test Procedure

According to 789033 D02 v02r01 General UNII Test Procedures New Rules v02, the following is the measurement procedure.

For devices operating in the bands 5.15-5.25GHz, 5.25-5.35GHz, and 5.47-5.725GHz, the above procedures make use of 1 MHz RBW to satisfy directly the 1 MHz reference bandwidth specified in § 15.407(a)(5). For devices operating in the band 5.725-5.85GHz, the rules specify a measurement bandwidth of 500kHz. Many spectrum analyzers do not have 500kHz RBW, thus a narrower RBW may need to be used. The rules permit the use of a RBWs less than 1 MHz, or 500kHz, "provided that the measured power is integrated over the full

reference bandwidth” to show the total power over the specified measurement bandwidth (i.e., 1MHz, or 500kHz). If measurements are performed using a reduced resolution bandwidth ($< 1\text{MHz}$, or $< 500\text{kHz}$) and integrated over 1 MHz, or 500kHz bandwidth, the following adjustments to the procedures apply:

- a) Set $\text{RBW} \geq 1/T$, where T is defined in section II.B.I.a).
- b) Set $\text{VBW} \geq 3 \text{ RBW}$.
- c) If measurement bandwidth of Maximum PSD is specified in 500kHz, add $10\log(500\text{kHz}/\text{RBW})$ to the measured result, whereas $\text{RBW} (< 500\text{kHz})$ is the reduced resolution bandwidth of the spectrum analyzer set during measurement.
- d) If measurement bandwidth of Maximum PSD is specified in 1 MHz, add $10\log(1\text{MHz}/\text{RBW})$ to the measured result, whereas $\text{RBW} (< 1\text{MHz})$ is the reduced resolution bandwidth of spectrum analyzer set during measurement.
- e) Care must be taken to ensure that the measurements are performed during a period of continuous transmission or are corrected upward for duty cycle.

Note: As a practical matter, it is recommended to use reduced RBW of 100kHz for the sections 5.c) and 5.d) above, since $\text{RBW}=100\text{kHz}$ is available on nearly all spectrum analyzers.

5.3 Summary of Test Results/Plots

Please refer to Appendix D

6. Emission Bandwidth and Occupied Bandwidth

6.1 Standard Applicable

According to 15.407(a) and (e):

(1) For the band 5.15-5.25GHz.

(iv) For mobile and portable client devices in the 5.15-5.25GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

(2) For the 5.25-5.35GHz and 5.47-5.725GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250mW or $11\text{dBm} + 10 \log B$, where B is the 26dB emission bandwidth in megahertz. In addition, the maximum power spectral density shall not exceed 11dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

(3) For the band 5.725-5.85GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30dBm in any 500kHz band. If transmitting antennas of directional gain greater than 6dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6dBi 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.

(e) Within the 5.725-5.85GHz band, the minimum 6dB bandwidth of U-NII devices shall be at least 500kHz.

6.2 Test Procedure

According to 789033 D02 v02r0r section C&D, the following is the measurement procedure.

1. Emission Bandwidth (EBW)

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 26dB 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%.

2. Minimum Emission Bandwidth for the band 5.725-5.85GHz Section 15.407(e) specifies the minimum 6 dB emission bandwidth of at least 500KHz for the band 5.715-5.85 GHz. The following procedure shall be used for measuring this bandwidth:

- a) Set RBW = 100kHz.
- 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 6dB relative to the maximum level measured in the fundamental emission.

Note: The automatic bandwidth measurement capability of a spectrum analyzer or EMI receiver may be employed if it implements the functionality described above.

D. 99 Percent Occupied Bandwidth

The 99-percent occupied bandwidth is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers are each equal to 0.5 % of the total mean power of the given emission. Measurement of the 99-percent occupied bandwidth is required only as a condition for using the optional band-edge measurement techniques described in section II.G.3.d). Measurements of 99-percent occupied bandwidth may also optionally be used in lieu of the EBW to 789033 D02 v02r01 General UNII Test Procedures New Rules v01 define the minimum frequency range over which the spectrum is integrated when measuring maximum conducted output power as described in section II.E. However, the EBW must be measured to determine bandwidth dependent limits on maximum conducted output power in accordance with 15.407(a).

The following procedure shall be used for measuring (99 %) power bandwidth:

- 1. Set center frequency to the nominal EUT channel center frequency.
- 2. Set span = 1.5 times to 5.0 times the OBW.
- 3. Set RBW = 1 % to 5 % of the OBW
- 4. Set VBW $\geq 3 \times$ RBW
- 5. Video averaging is not permitted. Where practical, a sample detection and single sweep mode shall be used. Otherwise, peak detection and max hold mode (until the trace stabilizes) shall be used.
- 6. Use the 99 % power bandwidth function of the instrument (if available).
- 7. If the instrument does not have a 99 % power bandwidth function, the trace data points are recovered and directly summed in power units. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5 % of the total is reached; that frequency is recorded as the lower frequency.

Reference No.: WTF26X03084495W001

The process is repeated until 99.5 % of the total is reached; that frequency is recorded as the upper frequency. The 99% occupied bandwidth is the difference between these two frequencies.

6.3 Summary of Test Results/Plots

Please refer to Appendix A

7. Maximum Conducted Output Power

7.1 Standard Applicable

Section 15.407(a) Power limits:

(1) For the band 5.15-5.25GHz.

(iv) For mobile and portable client devices in the 5.15-5.25GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

(2) For the 5.25-5.35GHz and 5.47-5.725GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250mW or $11\text{dBm} + 10 \log B$, where B is the 26dB emission bandwidth in megahertz. In addition, the maximum power spectral density shall not exceed 11dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

(3) For the band 5.725-5.85GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30dBm in any 500kHz band. If transmitting antennas of directional gain greater than 6dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6dBi 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 colocated 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.

7.2 Test Procedure

According to KDB789033 D02 v02r01 section E, the following is the measurement procedure.

- (i) Set span to encompass the entire emission bandwidth (EBW) (or, alternatively, the entire 99% occupied bandwidth) of the signal.
- (ii) Set RBW = 1MHz.
- (iii) Set VBW $\geq$ 3MHz.
- (iv) Number of points in sweep ≥ 2 Span / RBW. (This ensures that bin-to-bin spacing is $\leq$ RBW/2, so that

narrowband signals are not lost between frequency bins.)

(v) Sweep time = auto.

(vi) Detector = RMS (i.e., power averaging), if available. Otherwise, use sample detector mode.

(vii) If transmit duty cycle < 98 percent, use a video trigger with the trigger level set to enable triggering only on full power pulses. Transmitter must operate at maximum power control level for the entire duration of every sweep. If the EUT transmits continuously (i.e., with no off intervals) or at duty cycle $\geq$ 98 percent, and if each transmission is entirely at the maximum power control level, then the trigger shall be set to "free run".

(viii) Trace average at least 100 traces in power averaging (i.e., RMS) mode.

(ix) Compute power by integrating the spectrum across the EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal using the instrument's band power measurement function with band limits set equal to the EBW (or occupied bandwidth) band edges. If the instrument does not have a band power function, sum the spectrum levels (in power units) at 1MHz intervals extending across the EBW (or, alternatively, the entire 99% occupied bandwidth) of the spectrum.

7.3 Summary of Test Results/Plots

Please refer to Appendix C

8. Radiated Spurious Emissions

8.1 Standard Applicable

According to §15.407(b), undesirable emission limits. Except as shown in paragraph (b)(7) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

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

According to §15.407(b)(6), Unwanted emissions below 1GHz must comply with the general field strength limits set forth in §15.209. Further, any U-NII devices using an AC power line are required to comply also with the conducted limits set forth in §15.207.

According to §15.407(b)(7), The provisions of §15.205 apply to intentional radiators operating under this section.

789033 D02 v02r01 General UNII Test Procedures New Rules v01

If radiated measurements are performed, field strength is then converted to EIRP as follows:

$$\text{EIRP} = ((E \cdot d)^2) / 30$$

where:

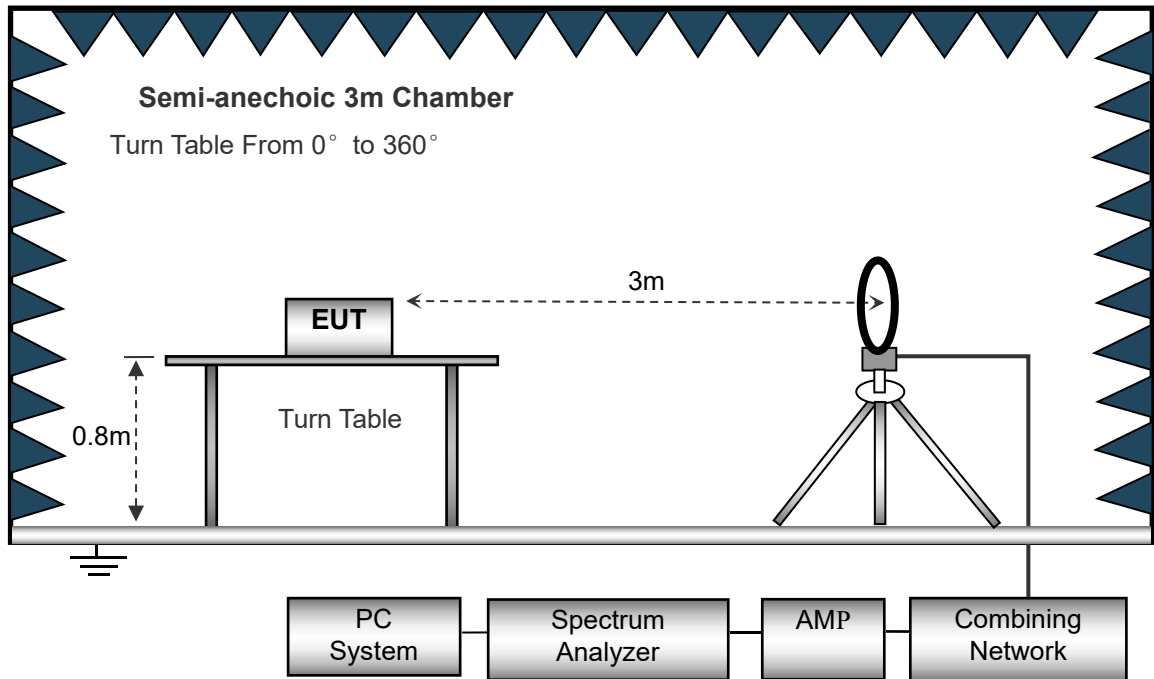
- E is the field strength in V/m;
- d is the measurement distance in meters;
- EIRP is the equivalent isotropically radiated power in watts.

8.2 Test Procedure

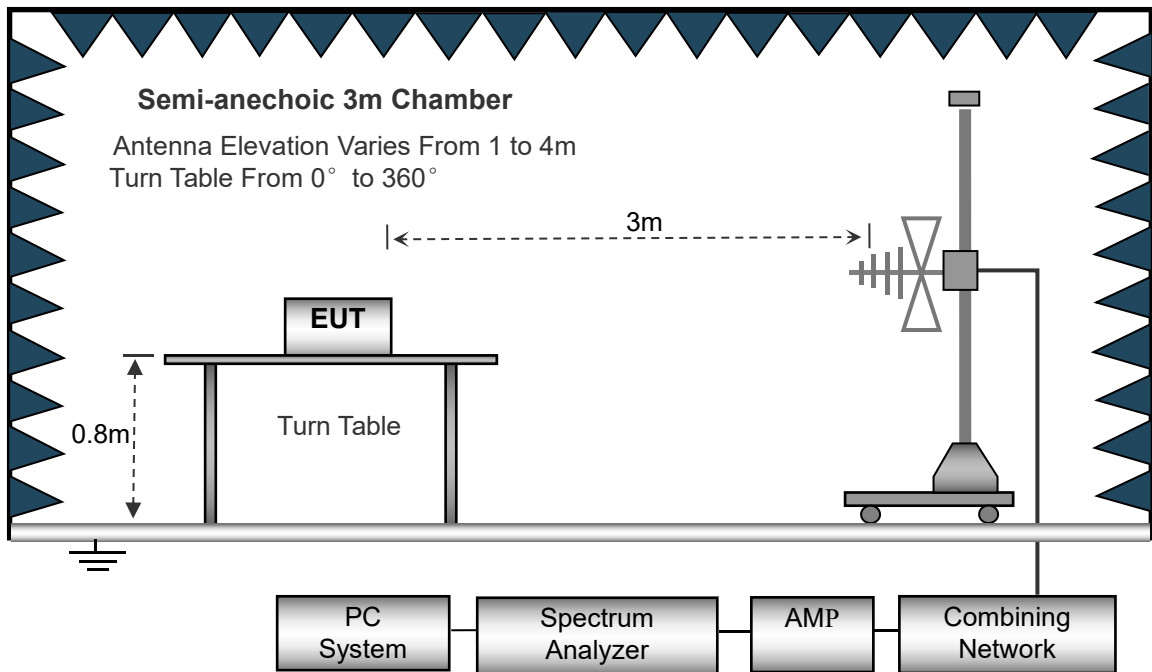
The setup of EUT is according with per ANSI C63.10-2020 measurement procedure. The specification used was with the FCC Part 15.205 15.407(b)(6) and FCC Part 15.209 Limit..

The external I/O cables were draped along the test table and formed a bundle 30 to 40cm long in the middle. The spacing between the peripherals was 10cm.

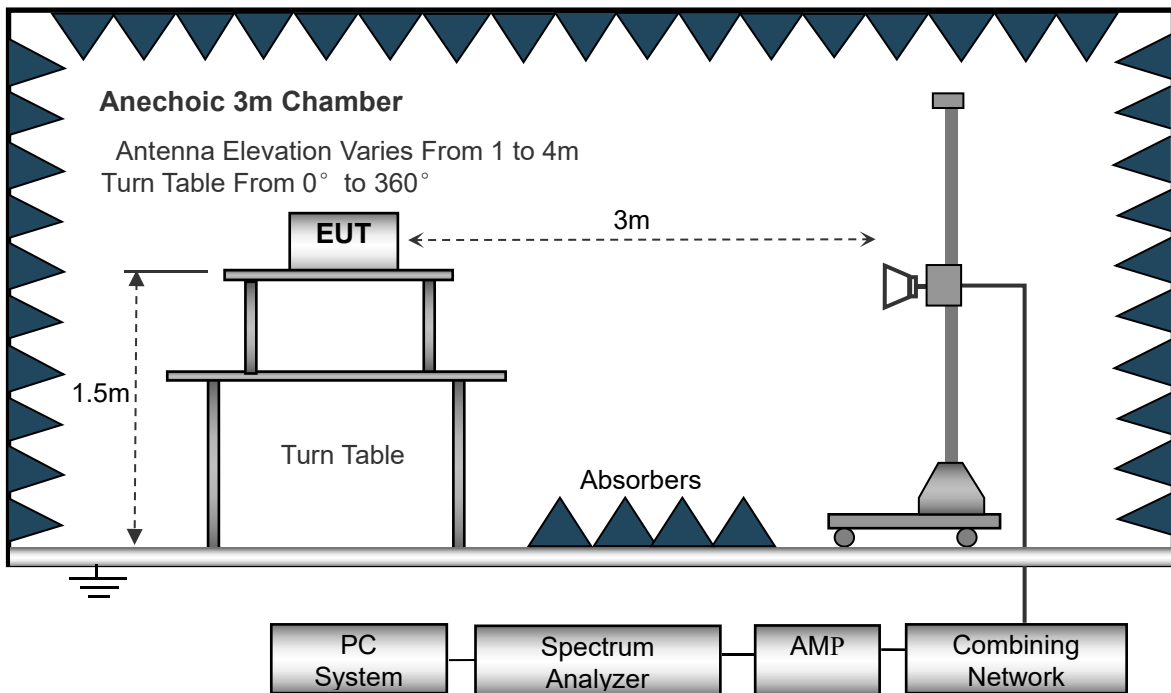
The test setup for emission measurement below 30MHz.



The test setup for emission measurement from 30MHz to 1GHz.



The test setup for emission measurement above 1GHz.



8.3 Test Receiver Setup

During the radiated emission test for above 1GHz, the test receiver was set with the following configurations:

For peak detector:

RBW = 1000kHz, VBW = 3000kHz, Sweep Time = Auto

For average detector:

RBW = 1000kHz, VBW = 10Hz, Sweep Time = Auto

8.4 Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated adding the Antenna Factor and the Cable Factor, and subtracting the Amplifier Gain from the Amplitude reading. The basic equation is as follows:

$$\text{Corr. Ampl.} = \text{Indicated Reading} + \text{Ant. Factor} + \text{Cable Loss} - \text{Ampl. Gain}$$

The “**Margin**” column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of -6dB μ V means the emission is 6dB μ V below the maximum limit for Class B. The equation for margin calculation is as follows:

$$\text{Margin} = \text{Corr. Ampl.} - \text{FCC Part 15 Limit}$$

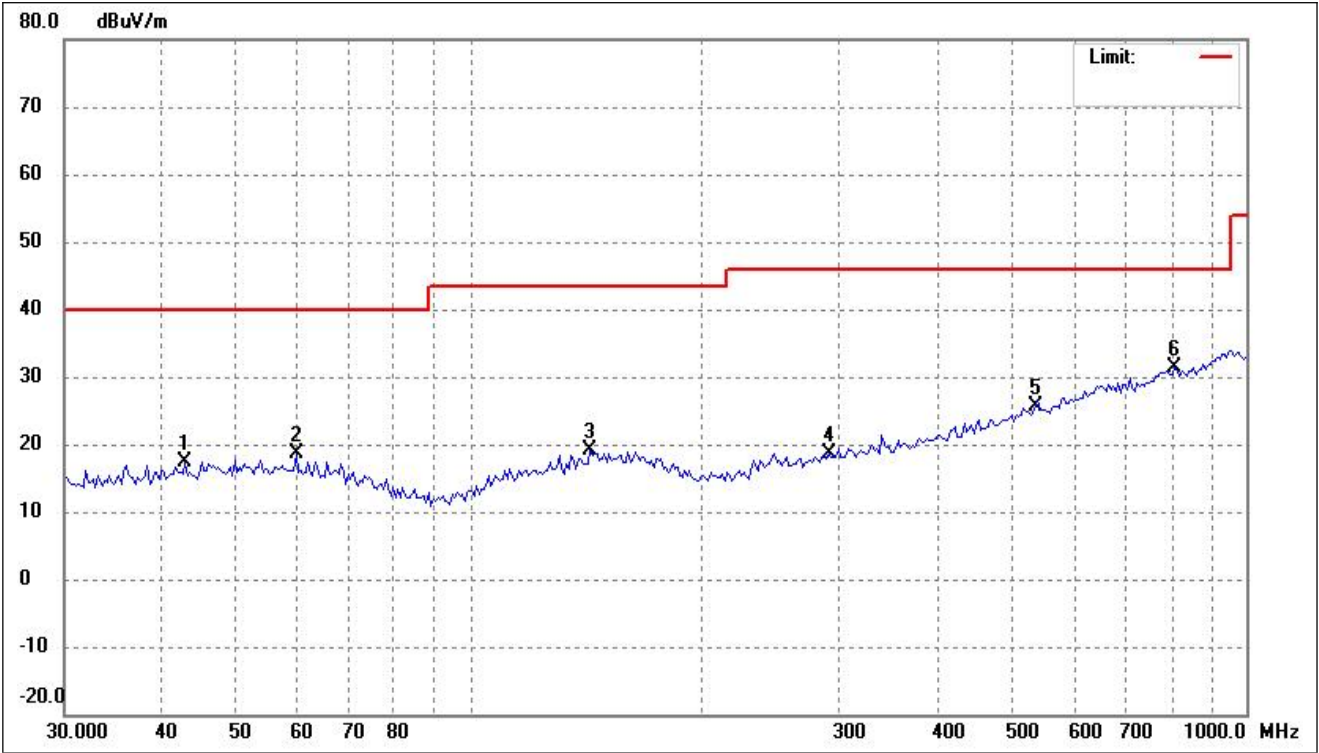
8.5 Summary of Test Results/Plots

Note: this EUT was tested in 3 orthogonal positions and the worst case position data was reported.

- Spurious Emission From 30MHz to 1GHz
- 5150-5250MHz

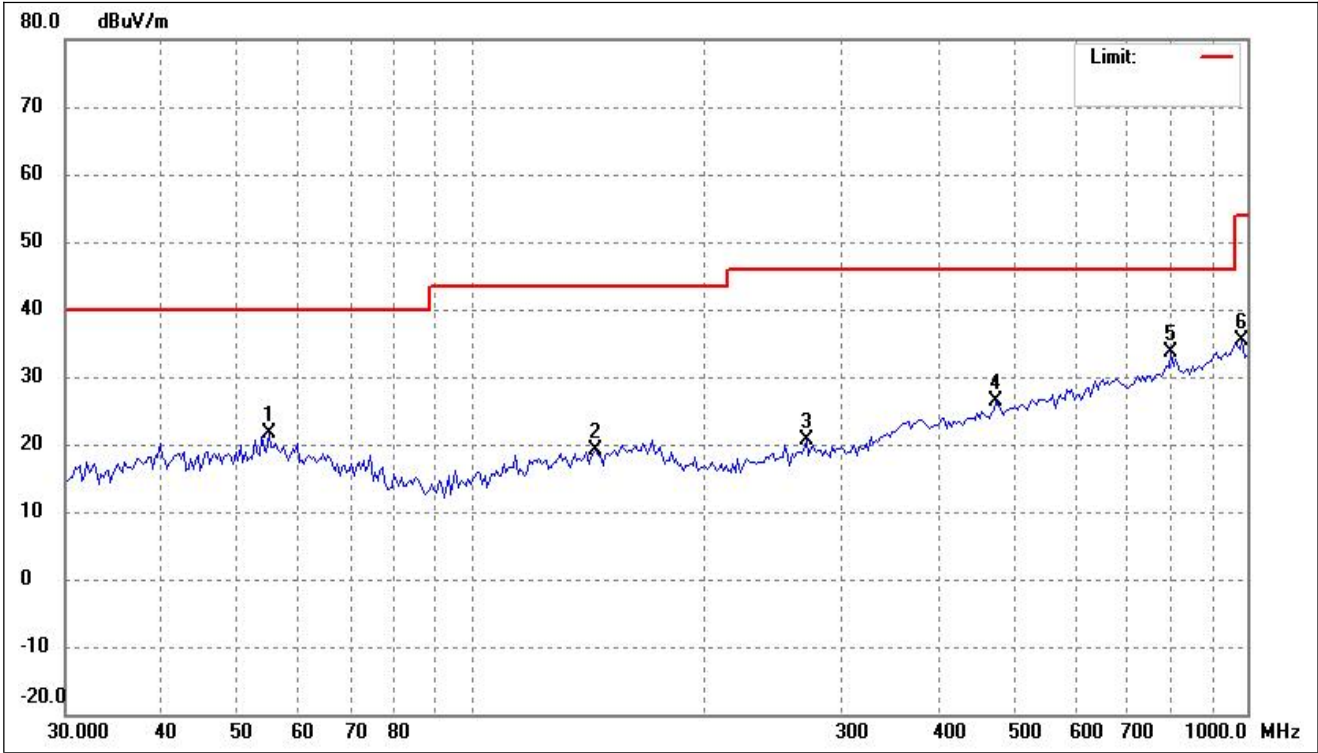
802.11a(worst case)

Test Channel	5180MHz(worst case)	Polarity:	Horizontal
--------------	---------------------	-----------	------------



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	42.9305	26.00	-8.57	17.43	40.00	-22.57	-	-	peak
2	59.7315	27.38	-8.84	18.54	40.00	-21.46	-	-	peak
3	142.7691	27.83	-8.79	19.04	43.50	-24.46	-	-	peak
4	290.3169	27.20	-8.51	18.69	46.00	-27.31	-	-	peak
5	535.0376	28.46	-2.86	25.60	46.00	-20.40	-	-	peak
6	809.9238	29.72	1.71	31.43	46.00	-14.57	-	-	peak

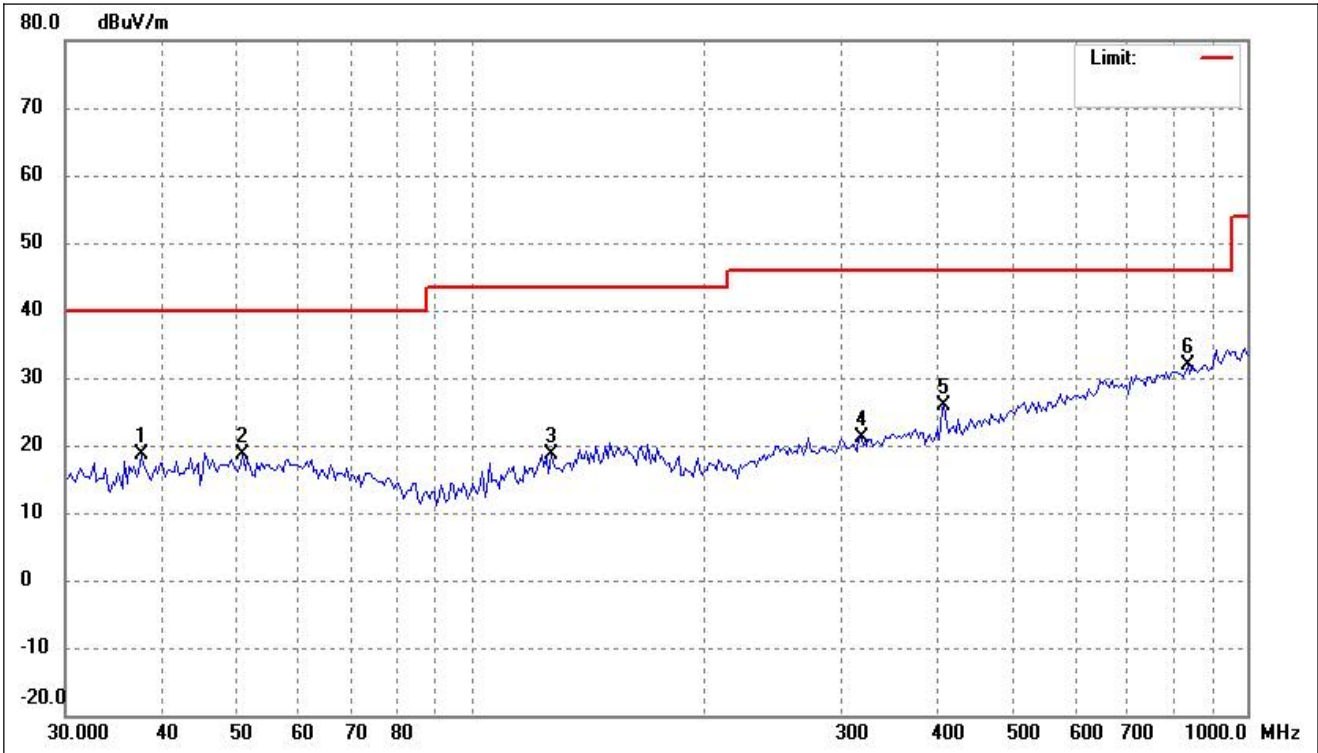
802.11a(worst case)			
Test Channel	5180MHz(worst case)	Polarity:	Vertical



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	54.9011	30.18	-8.50	21.68	40.00	-18.32	-	-	peak
2	144.7898	27.88	-8.76	19.12	43.50	-24.38	-	-	peak
3	270.6162	29.85	-9.24	20.61	46.00	-25.39	-	-	peak
4	474.7912	30.67	-4.30	26.37	46.00	-19.63	-	-	peak
5	798.6204	31.84	1.70	33.54	46.00	-12.46	-	-	peak
6	986.0439	31.67	3.66	35.33	54.00	-18.67	-	-	peak

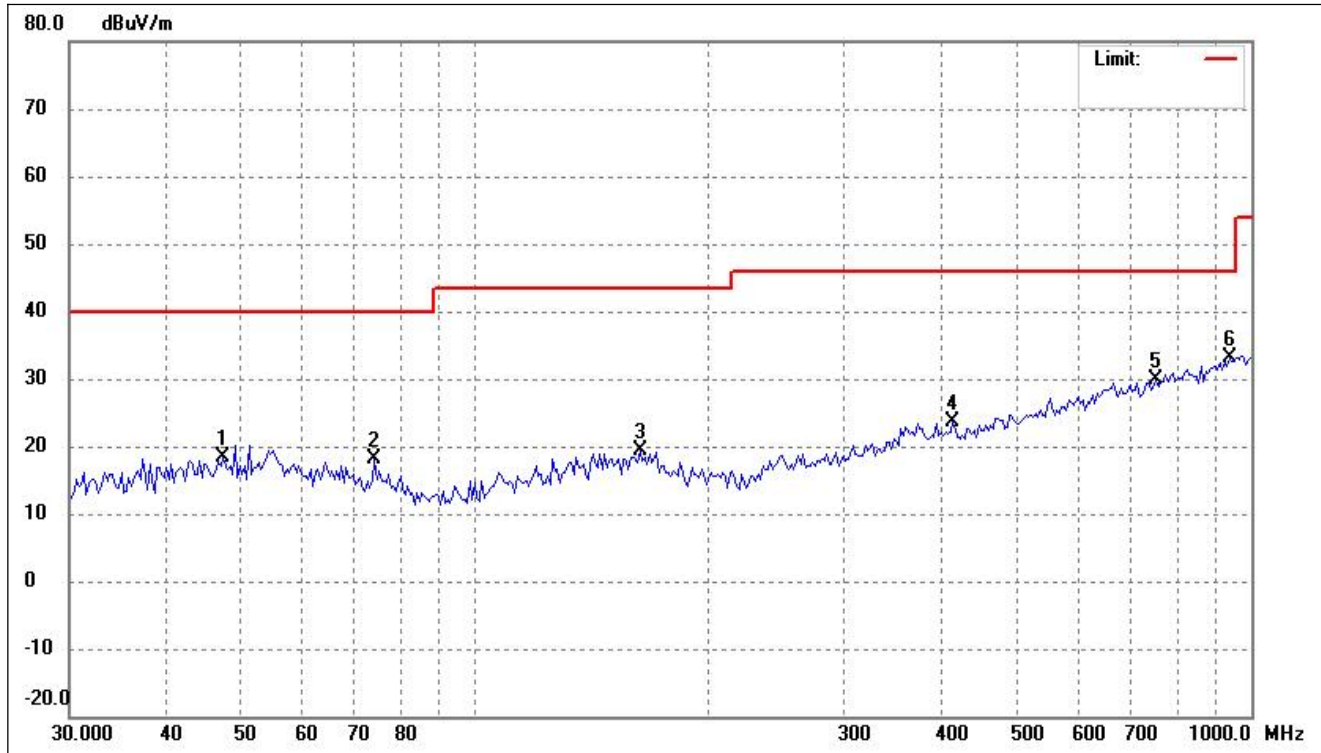
➤ 5250-5350MHz

802.11a(worst case)			
Test Channel	5260MHz(worst case)	Polarity:	Horizontal



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	37.5647	27.66	-9.15	18.51	40.00	-21.49	-	-	peak
2	50.8172	26.88	-8.28	18.60	40.00	-21.40	-	-	peak
3	126.6930	28.48	-9.80	18.68	43.50	-24.82	-	-	peak
4	318.0875	29.05	-7.81	21.24	46.00	-24.76	-	-	peak
5	406.7820	32.11	-6.11	26.00	46.00	-20.00	-	-	peak
6	838.8870	30.30	1.66	31.96	46.00	-14.04	-	-	peak

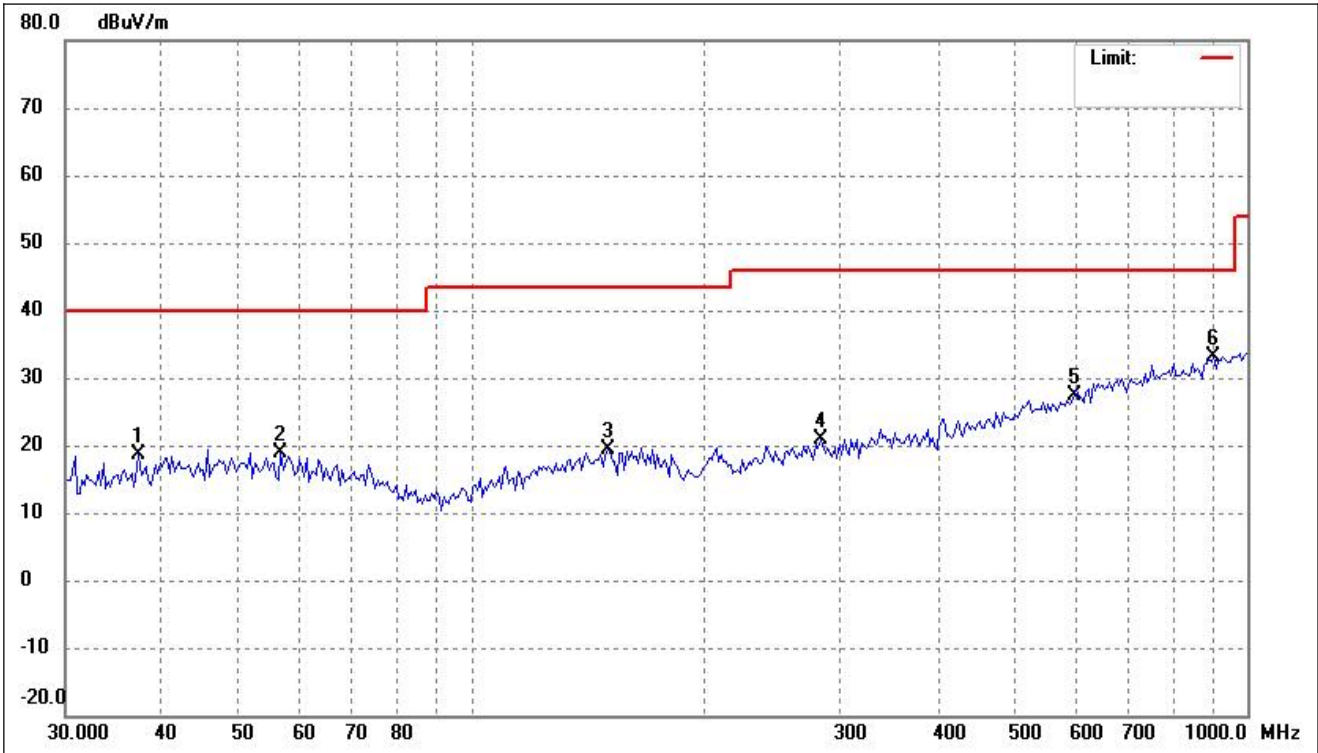
802.11a(worst case)			
Test Channel	5260MHz(worst case)	Polarity:	Vertical



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	47.3687	26.59	-8.31	18.28	40.00	-21.72	-	-	peak
2	74.2696	29.27	-11.23	18.04	40.00	-21.96	-	-	peak
3	163.1622	27.78	-8.37	19.41	43.50	-24.09	-	-	peak
4	412.5394	29.58	-5.98	23.60	46.00	-22.40	-	-	peak
5	754.9627	28.72	1.19	29.91	46.00	-16.09	-	-	peak
6	938.7139	29.82	3.38	33.20	46.00	-12.80	-	-	peak

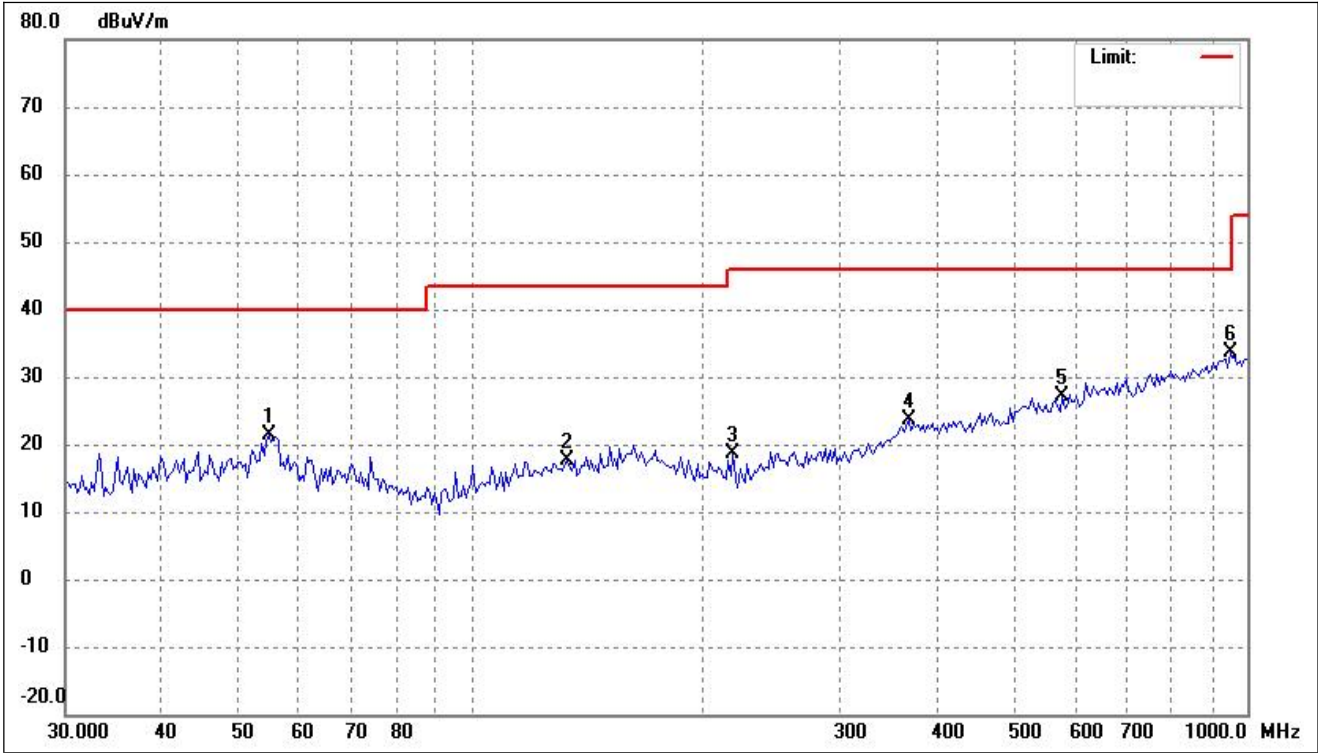
➤ 5470-5725MHz

802.11a(worst case)			
Test Channel	5500MHz(worst case)	Polarity:	Horizontal



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	37.3017	27.83	-9.18	18.65	40.00	-21.35	-	-	peak
2	56.8644	27.54	-8.61	18.93	40.00	-21.07	-	-	peak
3	149.9676	27.86	-8.58	19.28	43.50	-24.22	-	-	peak
4	282.2701	29.54	-8.73	20.81	46.00	-25.19	-	-	peak
5	598.7067	28.18	-0.88	27.30	46.00	-18.70	-	-	peak
6	906.3040	30.35	2.74	33.09	46.00	-12.91	-	-	peak

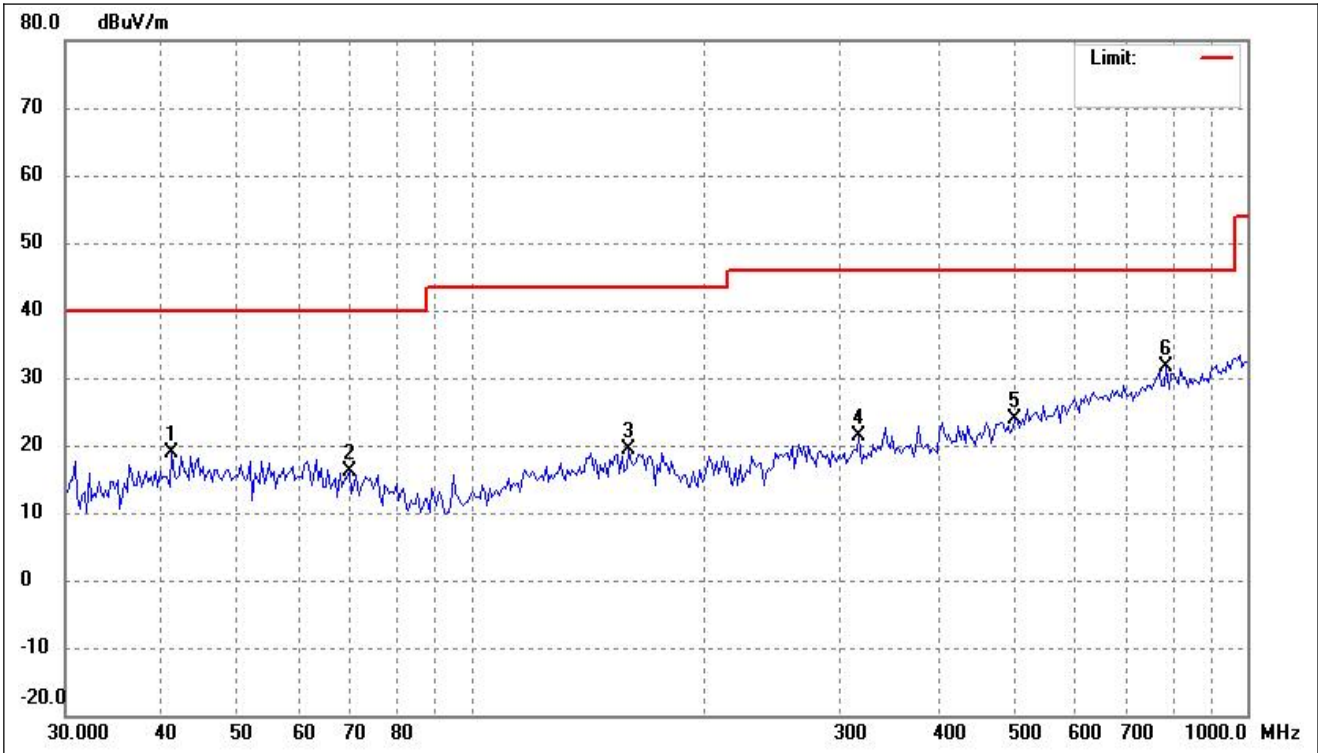
802.11a(worst case)			
Test Channel	5500MHz(worst case)	Polarity:	Vertical



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	54.9011	29.76	-8.50	21.26	40.00	-18.74	-	-	peak
2	133.0809	27.09	-9.38	17.71	43.50	-25.79	-	-	peak
3	217.6437	30.56	-11.90	18.66	46.00	-27.34	-	-	peak
4	366.0866	30.78	-7.05	23.73	46.00	-22.27	-	-	peak
5	578.0359	28.72	-1.63	27.09	46.00	-18.91	-	-	peak
6	952.0000	30.02	3.60	33.62	46.00	-12.38	-	-	peak

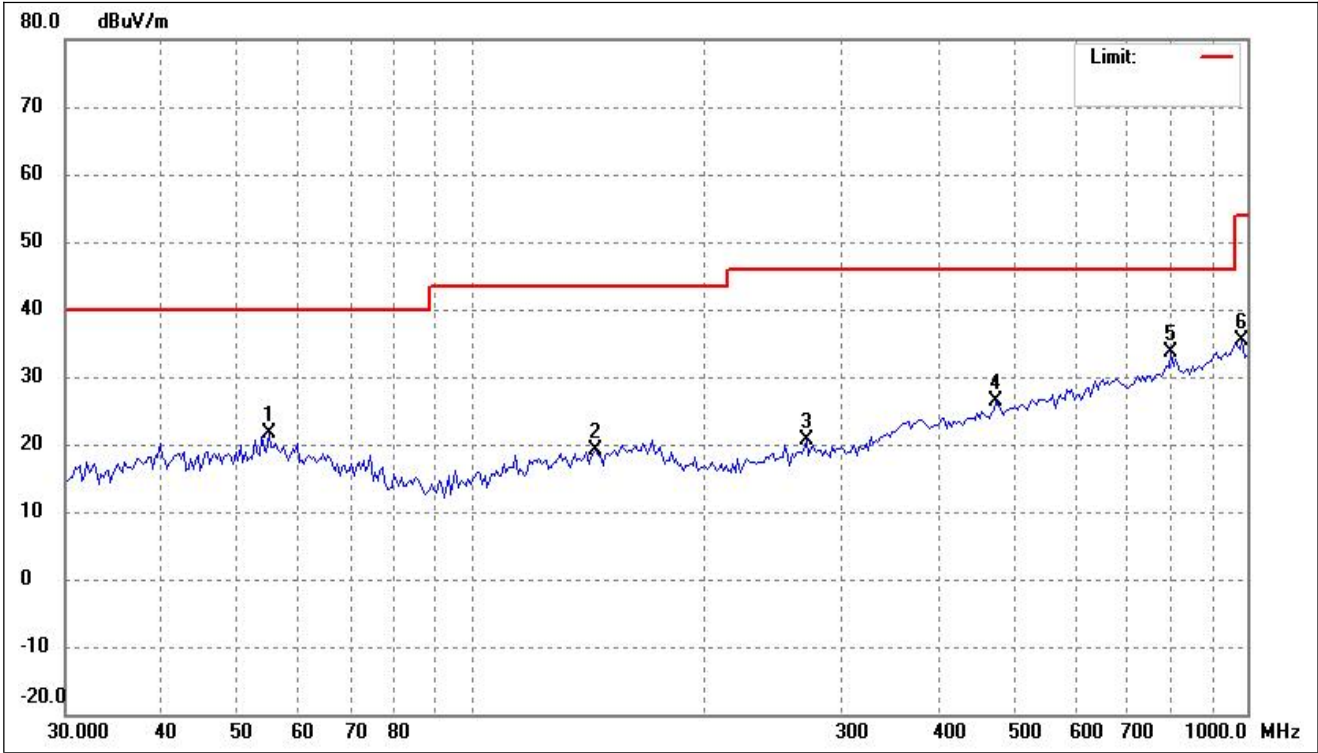
➤ 5725-5850MHz

802.11a(worst case)			
Test Channel	5745MHz(worst case)	Polarity:	Horizontal



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	41.1580	27.75	-8.76	18.99	40.00	-21.01	-	-	peak
2	69.7179	26.55	-10.40	16.15	40.00	-23.85	-	-	peak
3	159.7585	27.57	-8.29	19.28	43.50	-24.22	-	-	peak
4	315.8600	29.35	-7.87	21.48	46.00	-24.52	-	-	peak
5	502.2472	27.36	-3.51	23.85	46.00	-22.15	-	-	peak
6	787.4748	29.96	1.57	31.53	46.00	-14.47	-	-	peak

802.11a(worst case)			
Test Channel	5745MHz(worst case)	Polarity:	Vertical

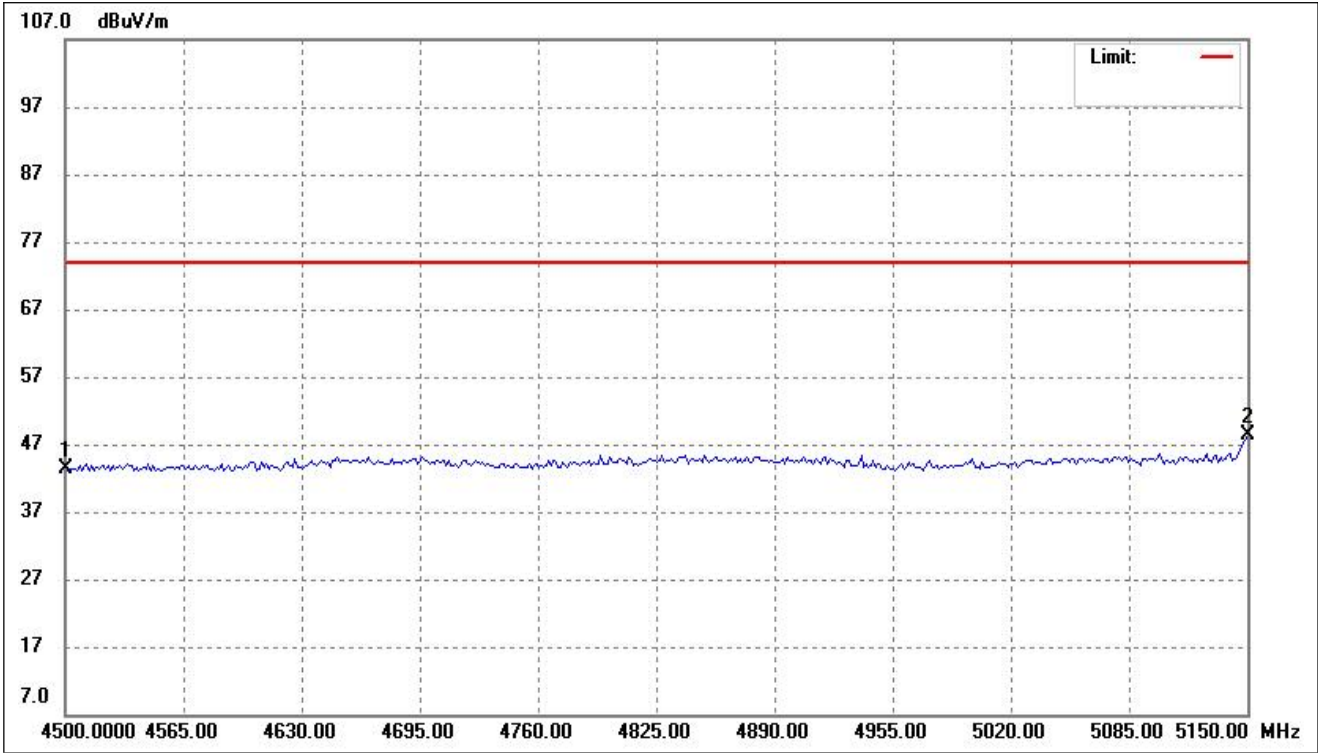


No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	54.9011	30.18	-8.50	21.68	40.00	-18.32	-	-	peak
2	144.7898	27.88	-8.76	19.12	43.50	-24.38	-	-	peak
3	270.6162	29.85	-9.24	20.61	46.00	-25.39	-	-	peak
4	474.7912	30.67	-4.30	26.37	46.00	-19.63	-	-	peak
5	798.6204	31.84	1.70	33.54	46.00	-12.46	-	-	peak
6	986.0439	31.67	3.66	35.33	54.00	-18.67	-	-	peak

Remark: ‘-’Means’ the test Degree and Height are not recorded by the test software and only show the worst case in the test report.

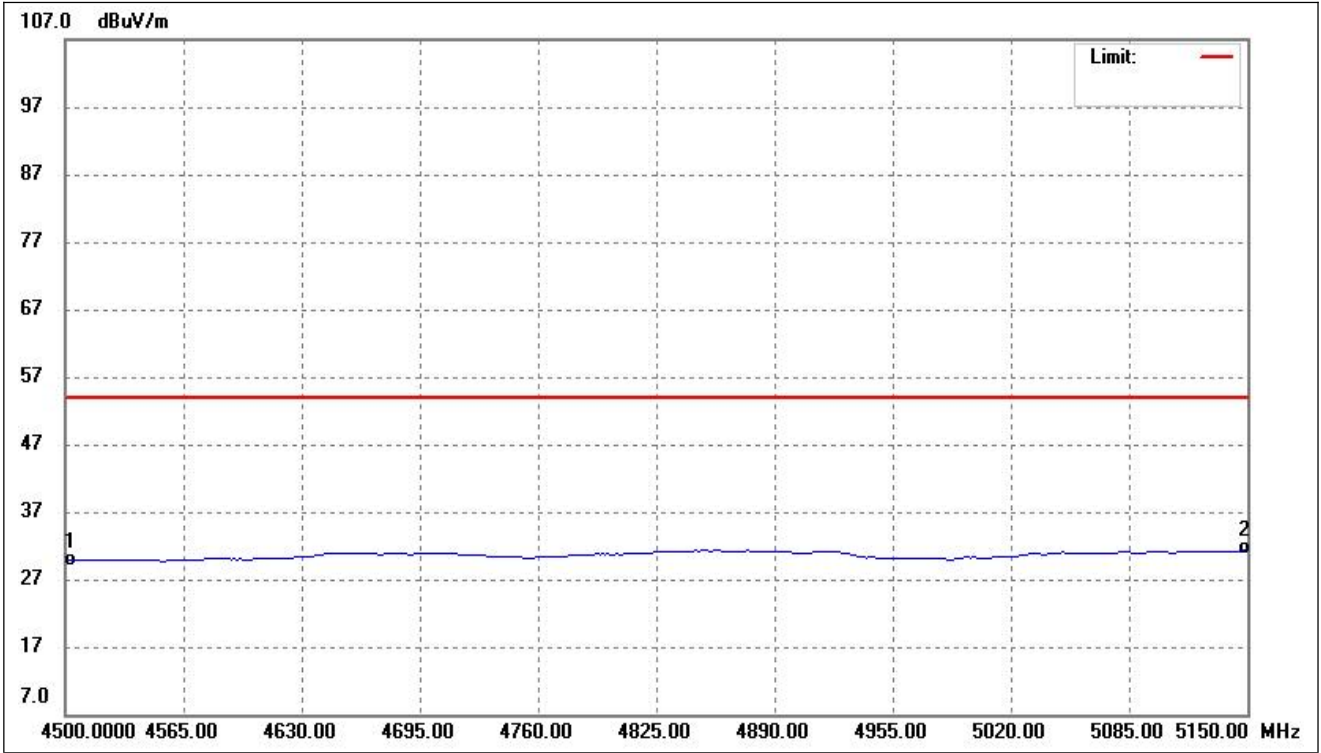
➤ Spurious Emission above 1GHz

802.11a- Restricted Bandedge			
Test Channel	5180MHz	Polarity:	Horizontal(worst case)



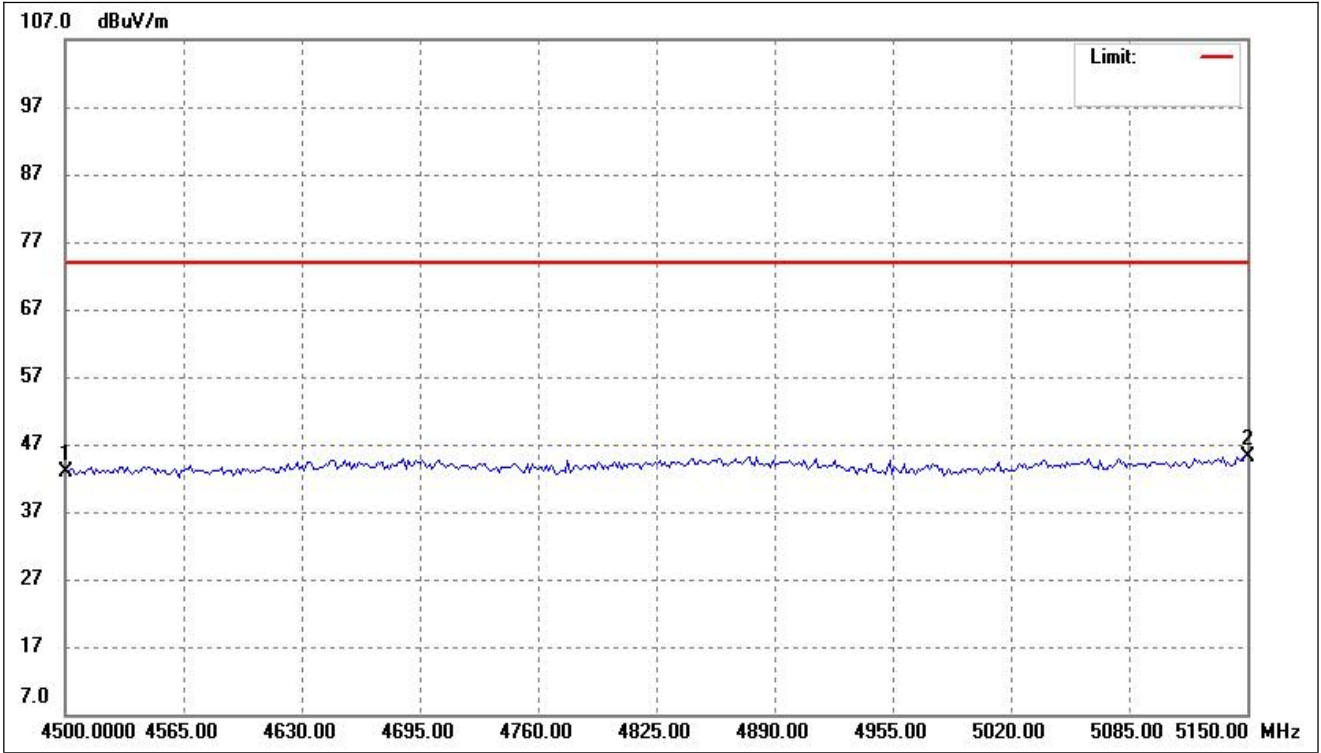
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	4500.000	56.29	-12.99	43.30	74.00	-30.70	-	-	peak
2	5150.000	59.83	-11.49	48.34	74.00	-25.66	-	-	peak

802.11a- Restricted Bandedge			
Test Channel	5180MHz	Polarity:	Horizontal(worst case)



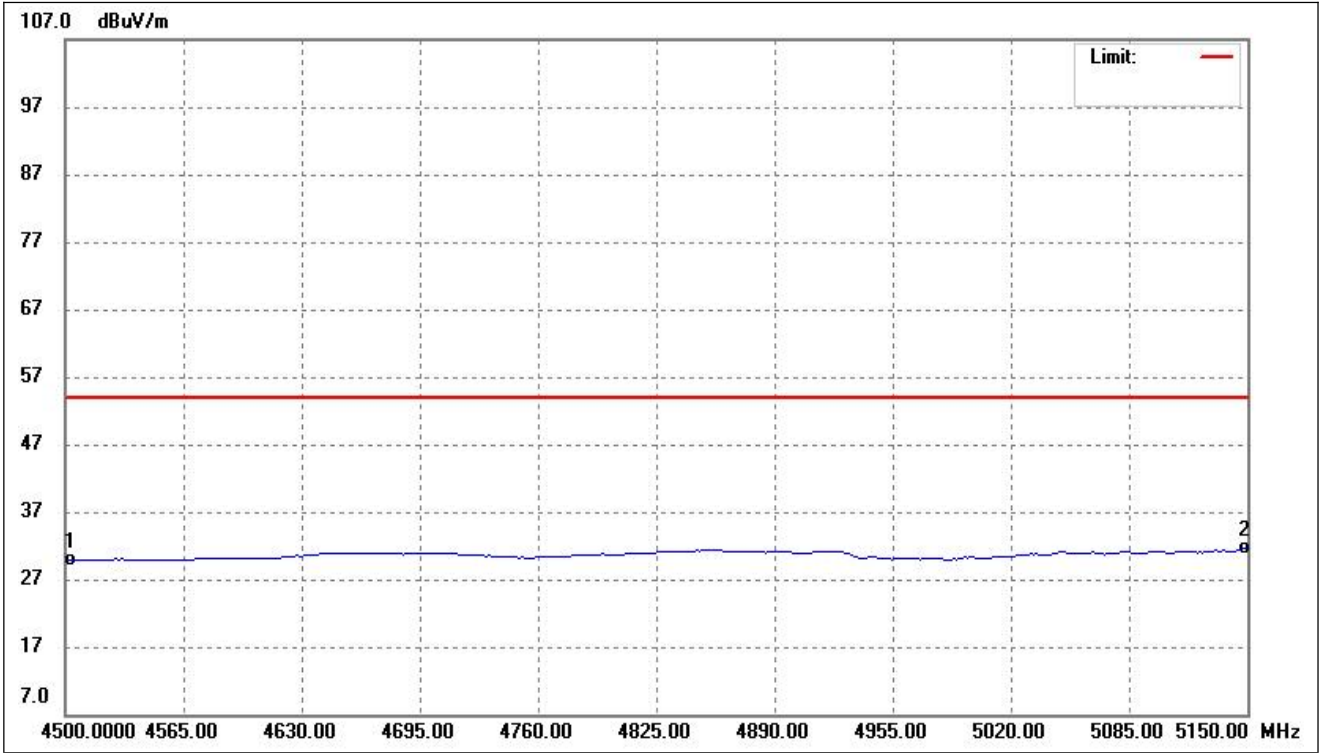
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	4500.000	42.78	-12.99	29.79	54.00	-24.21	-	-	AVG
2	5150.000	43.01	-11.49	31.52	54.00	-22.48	-	-	AVG

802.11n-HT20- Restricted Bandedge			
Test Channel	5180MHz	Polarity:	Horizontal(worst case)



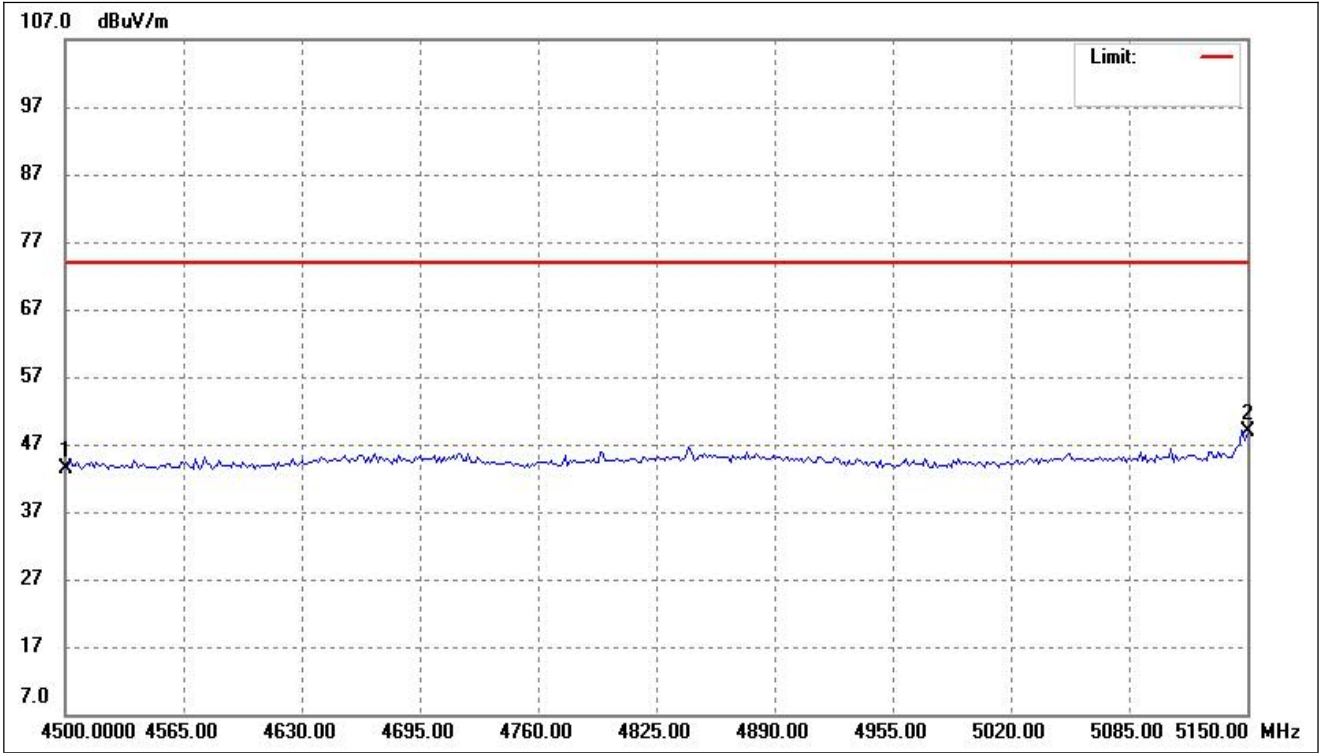
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	4500.000	55.84	-12.99	42.85	74.00	-31.15	-	-	peak
2	5150.000	56.64	-11.49	45.15	74.00	-28.85	-	-	peak

802.11n-HT20- Restricted Bandedge			
Test Channel	5180MHz	Polarity:	Horizontal(worst case)



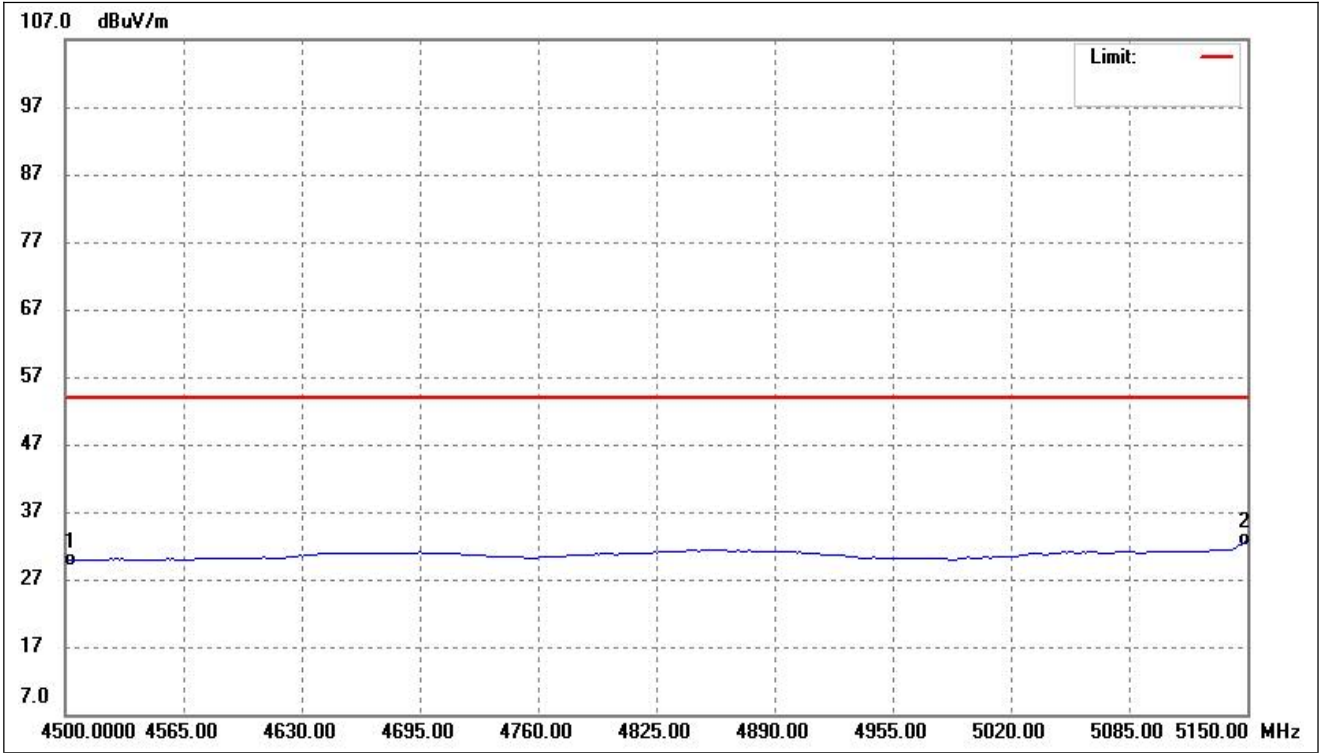
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	4500.000	42.94	-12.99	29.95	54.00	-24.05	-	-	AVG
2	5150.000	43.20	-11.49	31.71	54.00	-22.29	-	-	AVG

802.11n-HT40- Restricted Bandedge			
Test Channel	5190MHz	Polarity:	Horizontal(worst case)



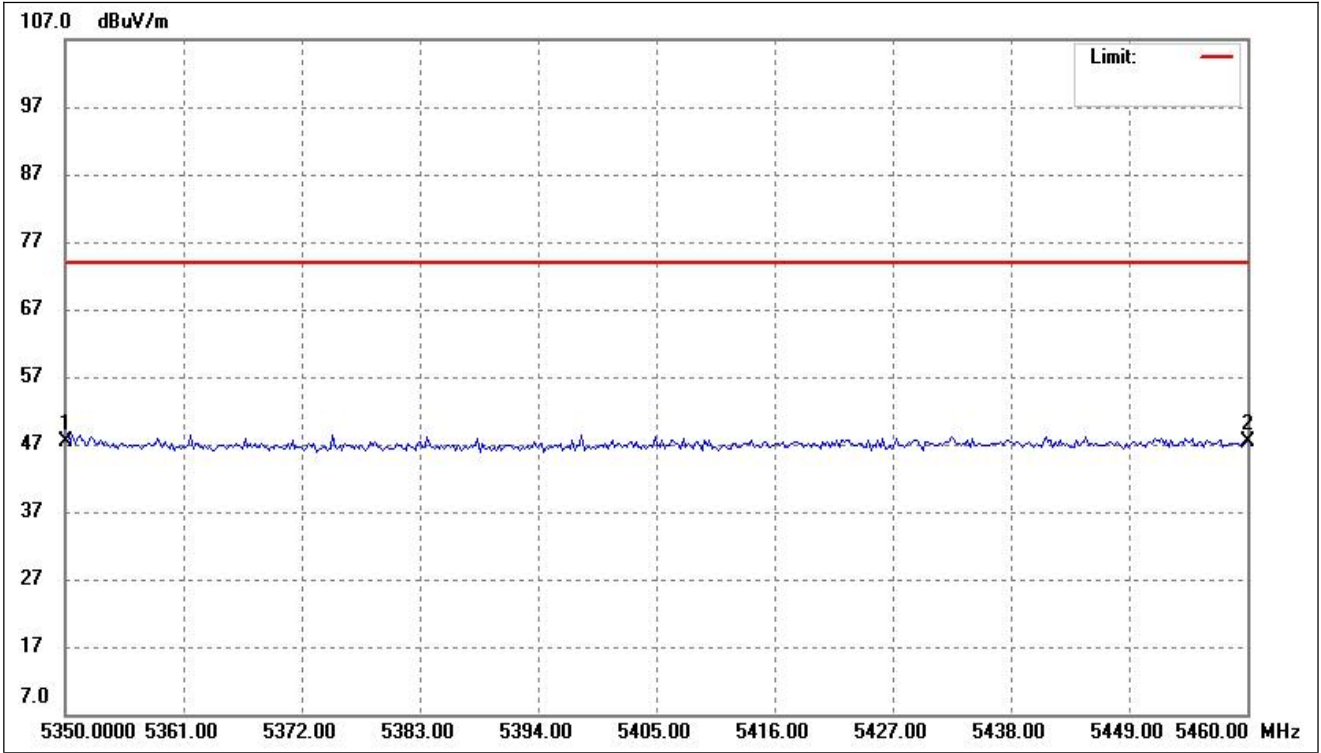
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	4500.000	56.38	-12.99	43.39	74.00	-30.61	-	-	peak
2	5150.000	60.37	-11.49	48.88	74.00	-25.12	-	-	peak

802.11n-HT40- Restricted Bandedge			
Test Channel	5190MHz	Polarity:	Horizontal(worst case)



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	4500.000	42.83	-12.99	29.84	54.00	-24.16	-	-	AVG
2	5150.000	44.40	-11.49	32.91	54.00	-21.09	-	-	AVG

802.11a- Restricted Bandedge			
Test Channel	5320MHz	Polarity:	Horizontal(worst case)



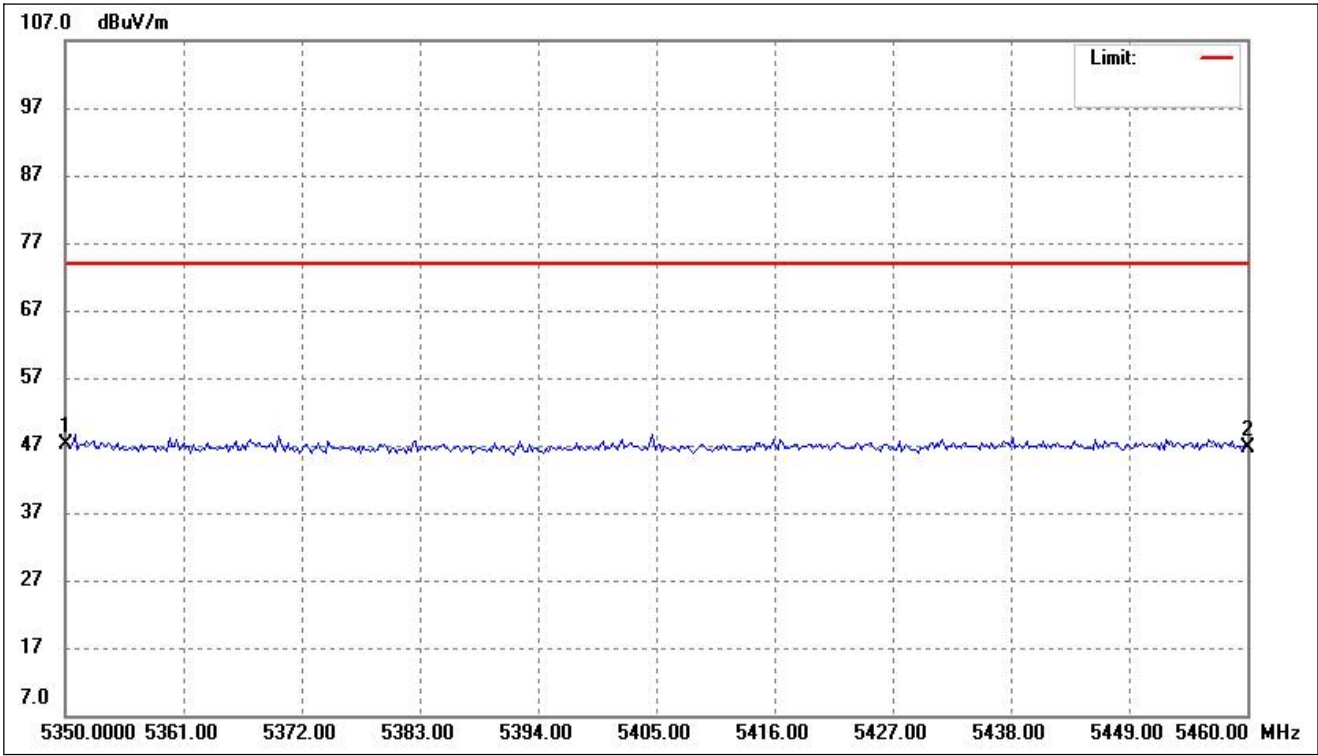
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	5350.000	57.12	-9.62	47.50	74.00	-26.50	-	-	peak
2	5460.000	56.82	-9.39	47.43	74.00	-26.57	-	-	peak

802.11a- Restricted Bandedge			
Test Channel	5320MHz	Polarity:	Horizontal(worst case)



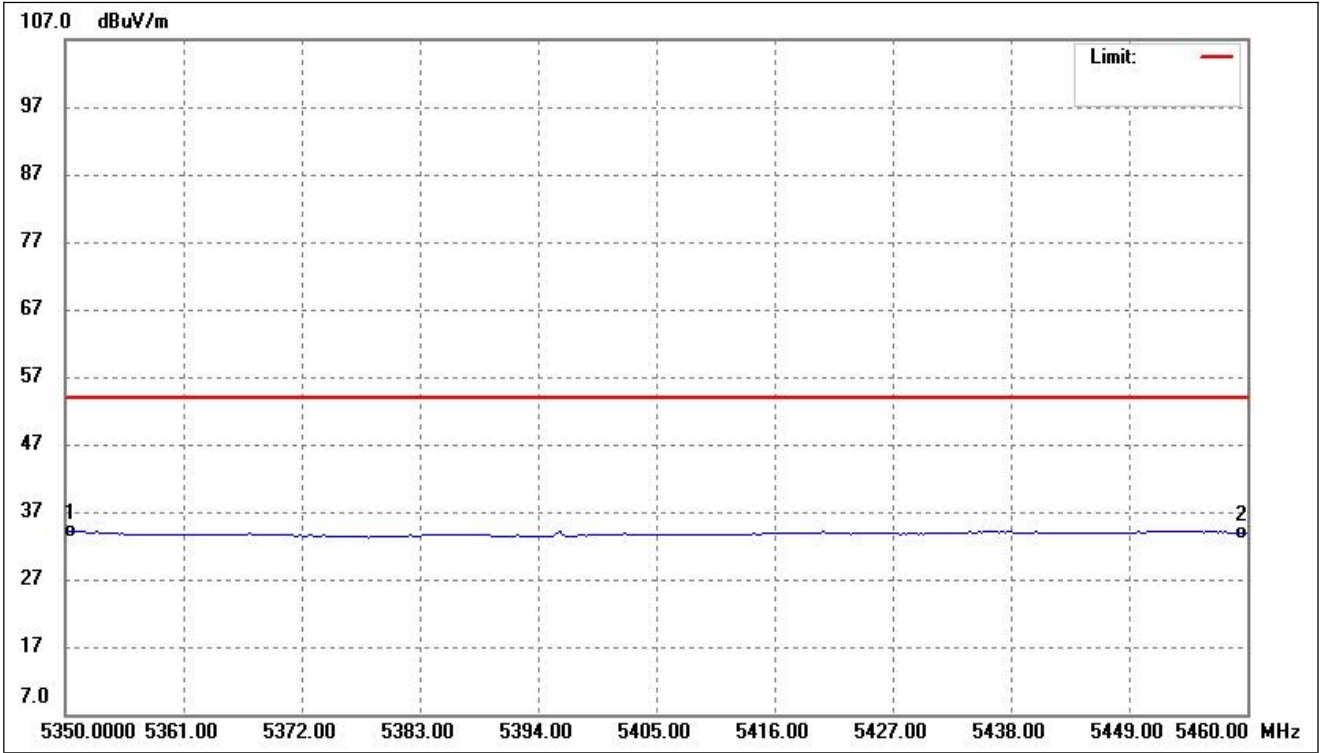
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	5350.000	43.85	-9.62	34.23	54.00	-19.77	-	-	AVG
2	5460.000	43.26	-9.39	33.87	54.00	-20.13	-	-	AVG

802.11n-HT20- Restricted Bandedge			
Test Channel	5320MHz	Polarity:	Horizontal(worst case)



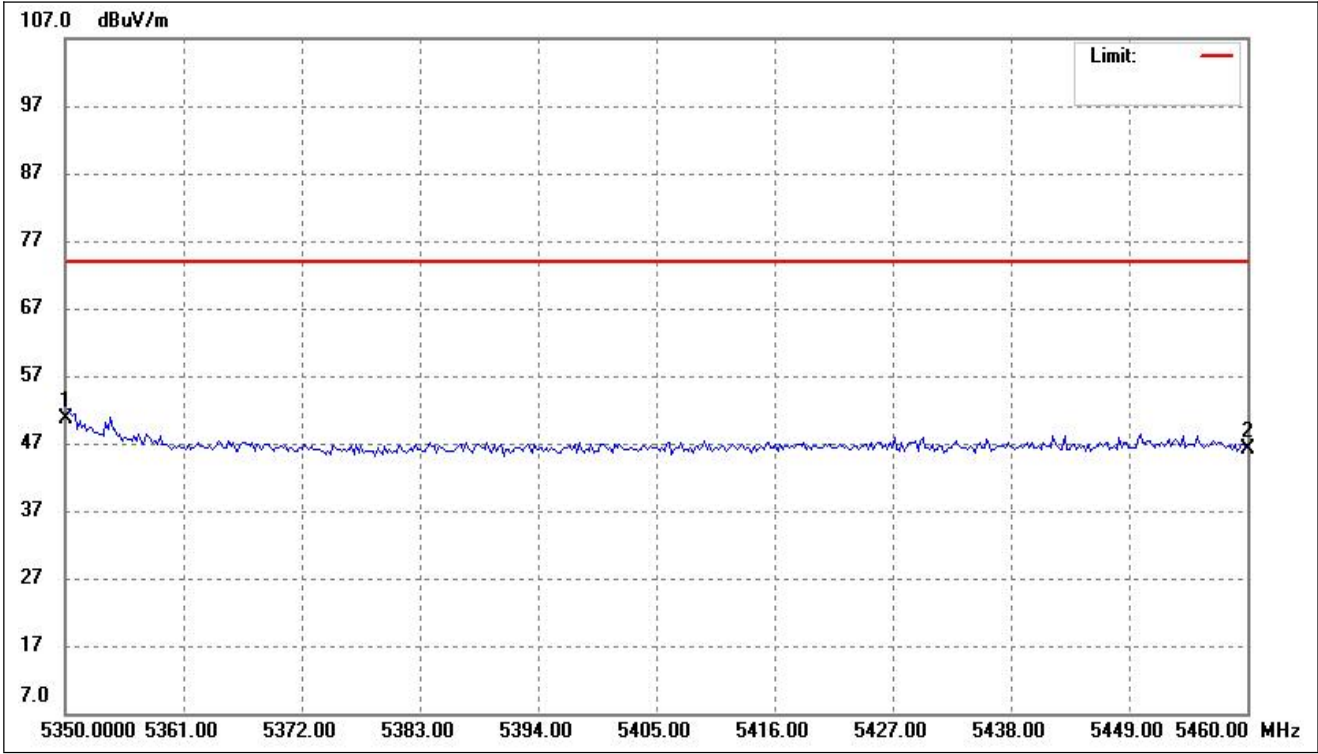
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	5350.000	56.78	-9.62	47.16	74.00	-26.84	-	-	peak
2	5460.000	56.14	-9.39	46.75	74.00	-27.25	-	-	peak

802.11n-HT20- Restricted Bandedge			
Test Channel	5320MHz	Polarity:	Horizontal(worst case)



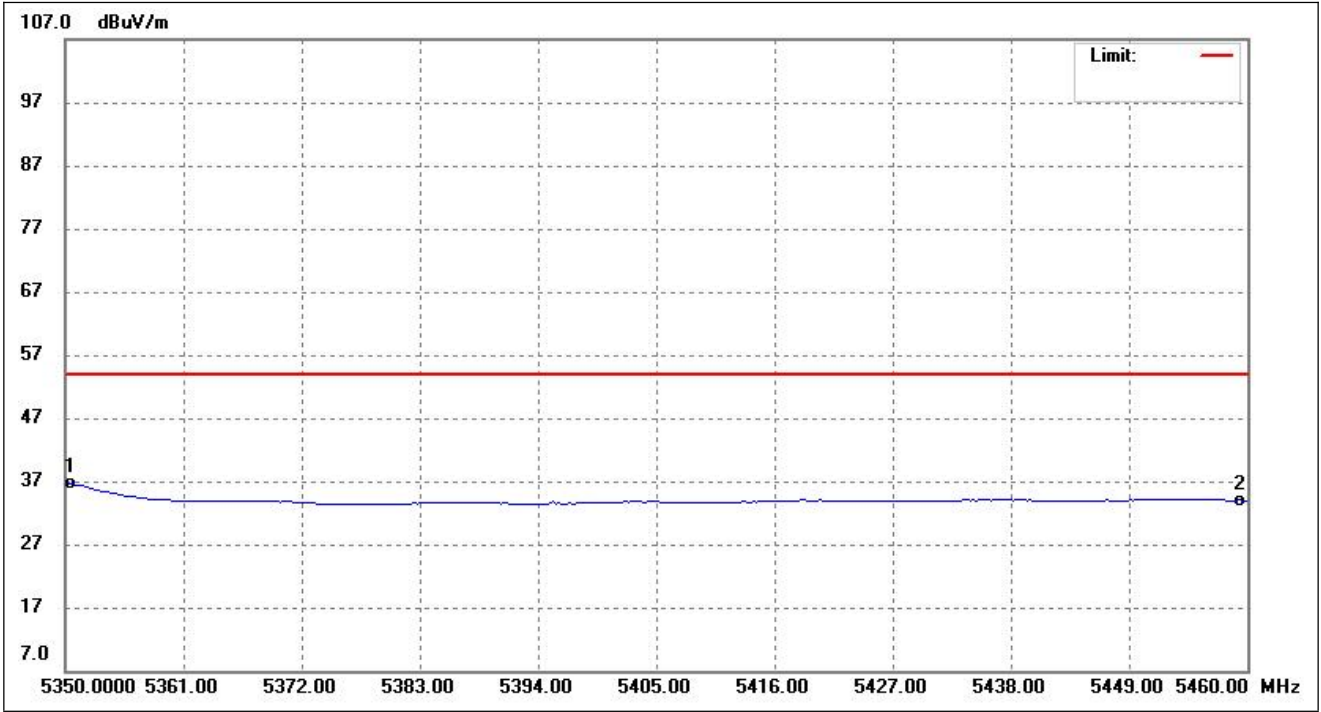
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	5350.000	43.79	-9.62	34.17	54.00	-19.83	-	-	AVG
2	5460.000	43.30	-9.39	33.91	54.00	-20.09	-	-	AVG

802.11n-HT40- Restricted Bandedge			
Test Channel	5310MHz	Polarity:	Horizontal(worst case)



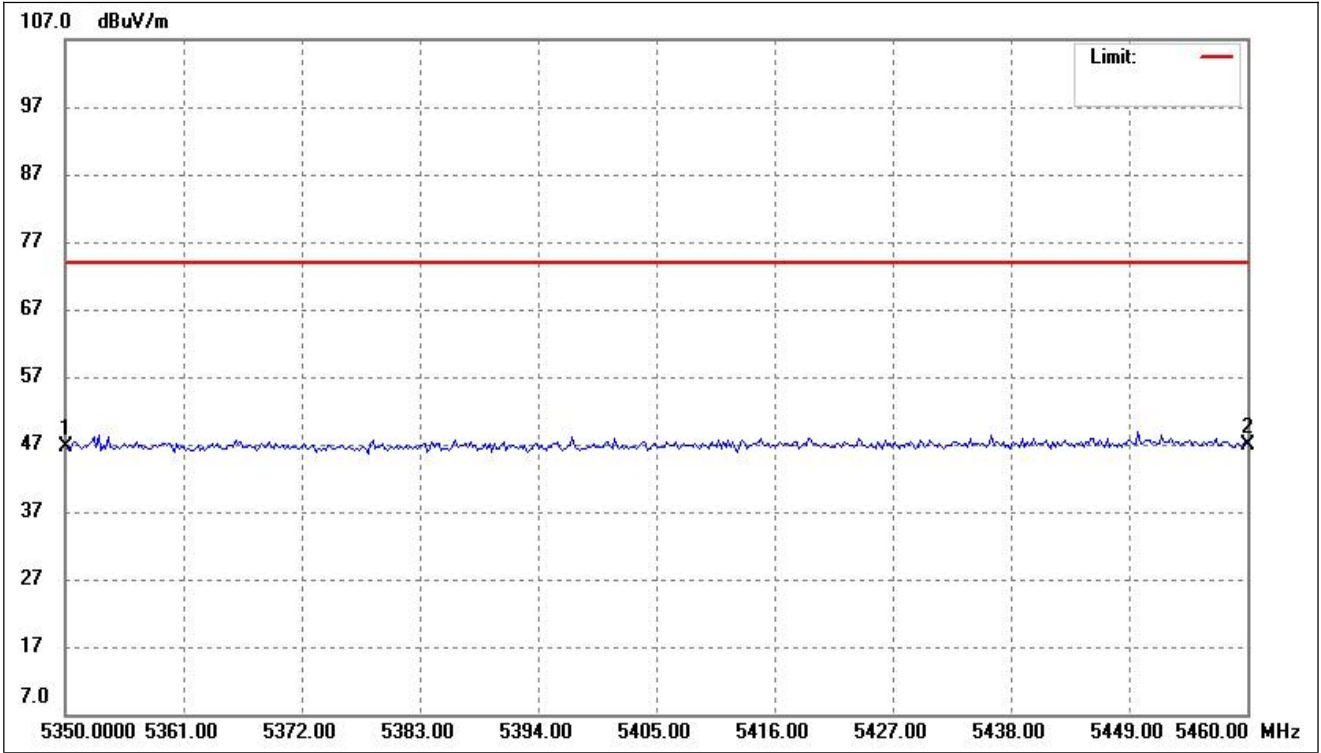
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	5350.000	60.20	-9.62	50.58	74.00	-23.42	-	-	peak
2	5460.000	55.49	-9.39	46.10	74.00	-27.90	-	-	peak

802.11n-HT40- Restricted Bandedge			
Test Channel	5310MHz	Polarity:	Horizontal(worst case)



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	5350.000	46.26	-9.62	36.64	54.00	-17.36	-	-	AVG
2	5460.000	43.25	-9.39	33.86	54.00	-20.14	-	-	AVG

802.11a- Restricted Bandedge			
Test Channel	5500MHz	Polarity:	Horizontal(worst case)



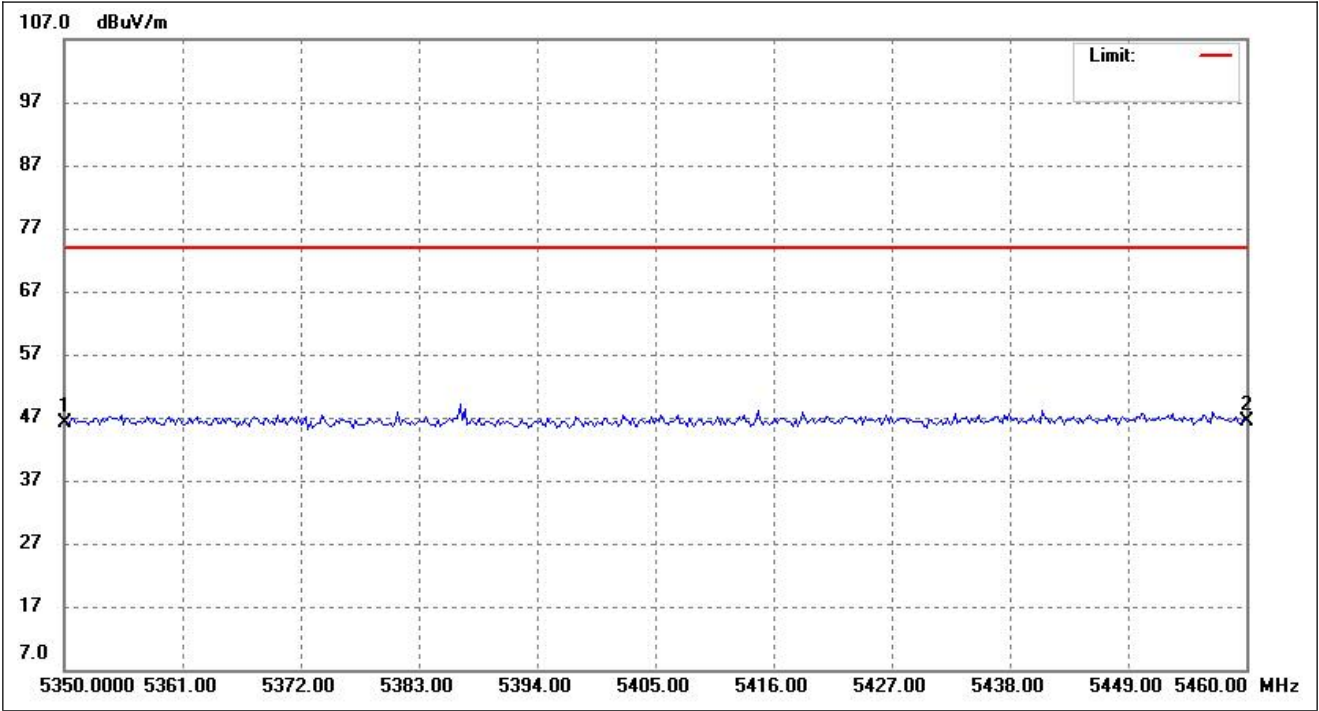
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	5350.000	56.21	-9.62	46.59	74.00	-27.41	-	-	peak
2	5460.000	56.33	-9.39	46.94	74.00	-27.06	-	-	peak

802.11a- Restricted Bandedge			
Test Channel	5500MHz	Polarity:	Horizontal(worst case)



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	5350.000	43.35	-9.62	33.73	54.00	-20.27	-	-	AVG
2	5460.000	43.43	-9.39	34.04	54.00	-19.96	-	-	AVG

802.11n-HT20- Restricted Bandedge			
Test Channel	5500MHz	Polarity:	Horizontal(worst case)



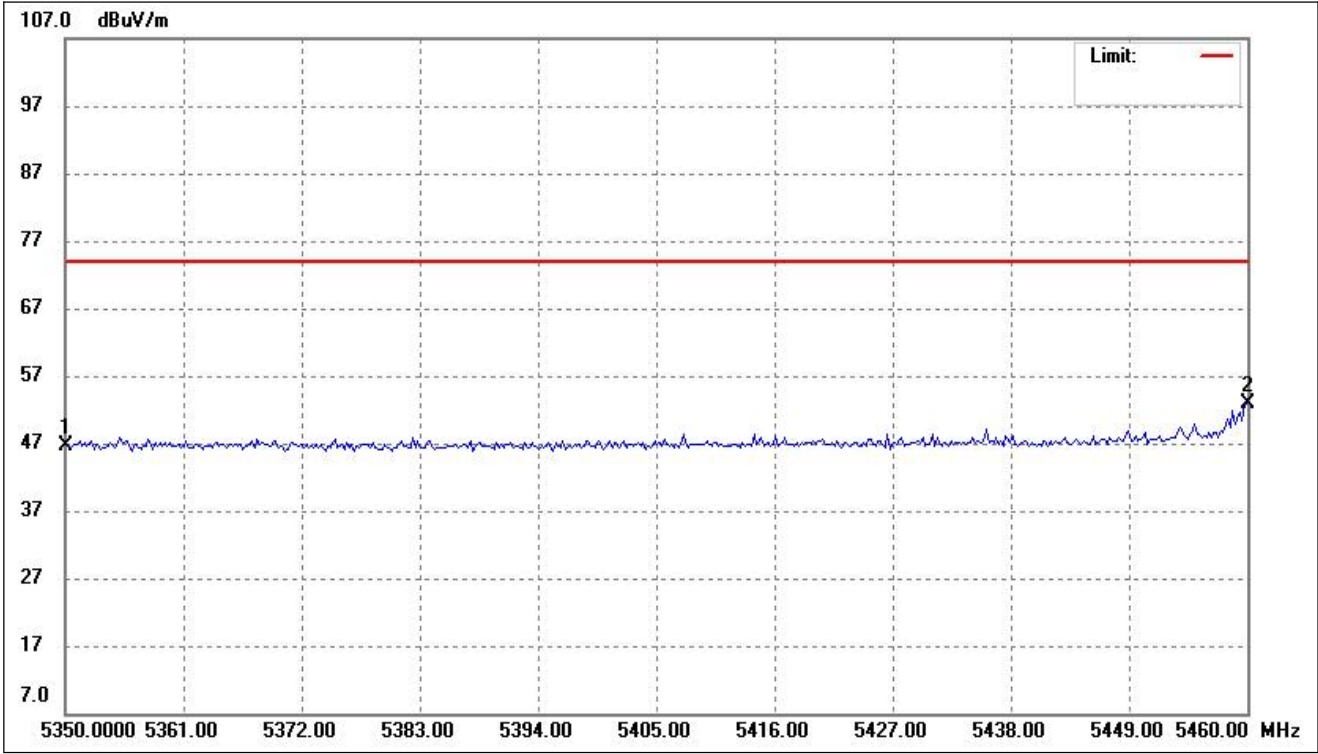
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	5350.000	55.70	-9.62	46.08	74.00	-27.92	-	-	peak
2	5460.000	55.78	-9.39	46.39	74.00	-27.61	-	-	peak

802.11n-HT20- Restricted Bandedge			
Test Channel	5500MHz	Polarity:	Horizontal(worst case)



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	5350.000	43.31	-9.62	33.69	54.00	-20.31	-	-	AVG
2	5460.000	43.37	-9.39	33.98	54.00	-20.02	-	-	AVG

802.11n-HT40- Restricted Bandedge			
Test Channel	5510MHz	Polarity:	Horizontal(worst case)



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	5350.000	56.16	-9.62	46.54	74.00	-27.46	-	-	peak
2	5460.000	62.35	-9.39	52.96	74.00	-21.04	-	-	peak

802.11n-HT40- Restricted Bandedge			
Test Channel	5510MHz	Polarity:	Horizontal(worst case)



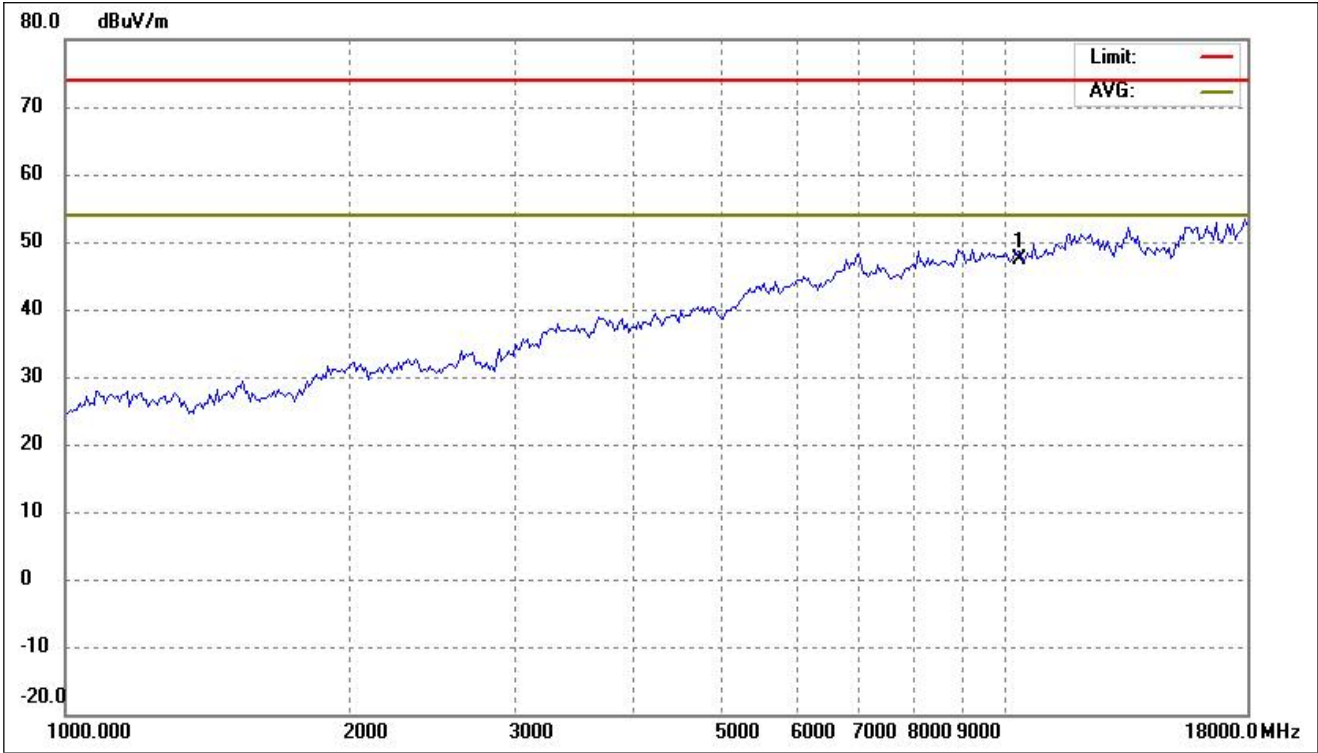
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	5350.000	43.38	-9.62	33.76	54.00	-20.24	-	-	AVG
2	5460.000	45.12	-9.39	35.73	54.00	-18.27	-	-	AVG

Note: The Restricted Bandedge was tested in Horizontal /Vertical and the worst case position data was reported.

Remark: '-Means' the test Degree and Height is not recorded by the test software and only show the worst case in the test report.

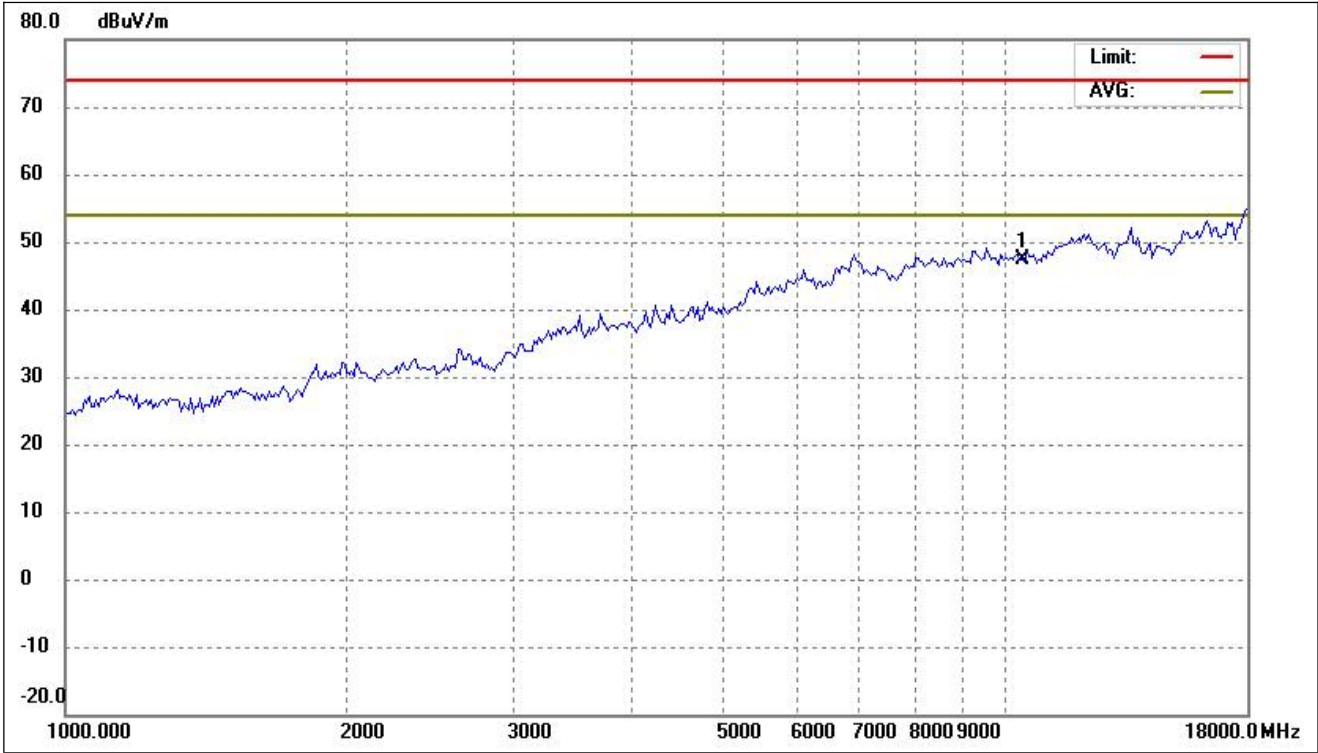
- For the frequency band 5.15-5.25GHz (802.11a)
- Harmonics And Spurious Emissions

802.11a(worst case)			
Test Channel	5180MHz	Polarity:	Horizontal



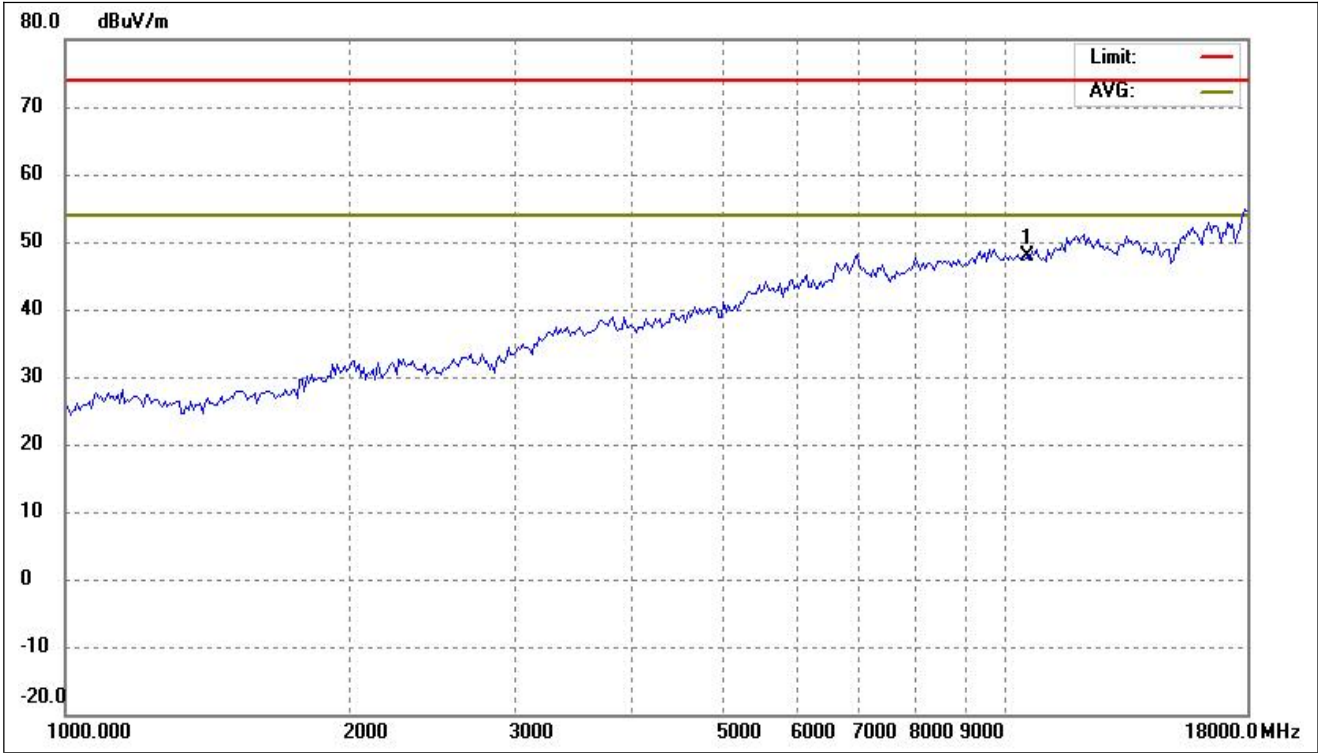
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	10360.000	50.57	-3.24	47.33	74.00	-26.67	-	-	peak

802.11a(worst case)			
Test Channel	5180MHz	Polarity:	Vertical



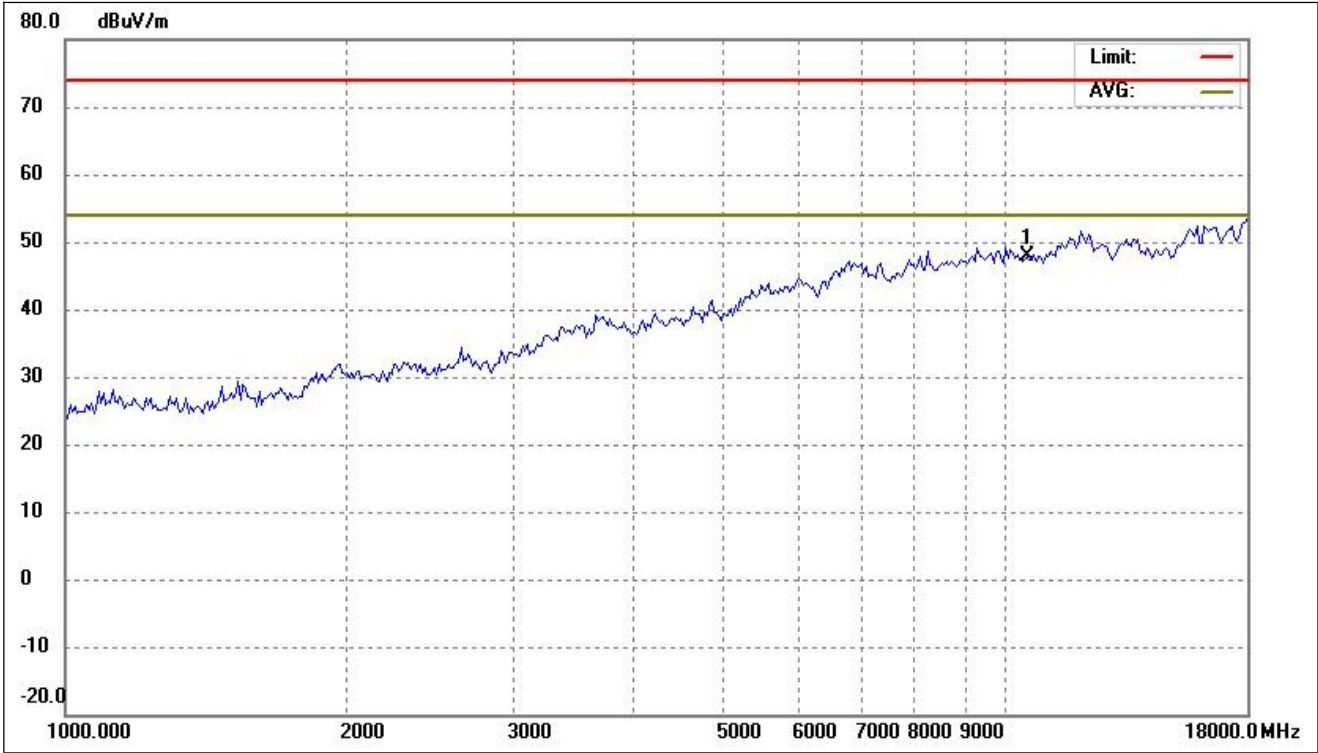
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	10360.000	50.62	-3.24	47.38	74.00	-26.62	-	-	peak

802.11a(worst case)			
Test Channel	5240MHz	Polarity:	Horizontal



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	10480.000	50.89	-2.96	47.93	74.00	-26.07	-	-	peak

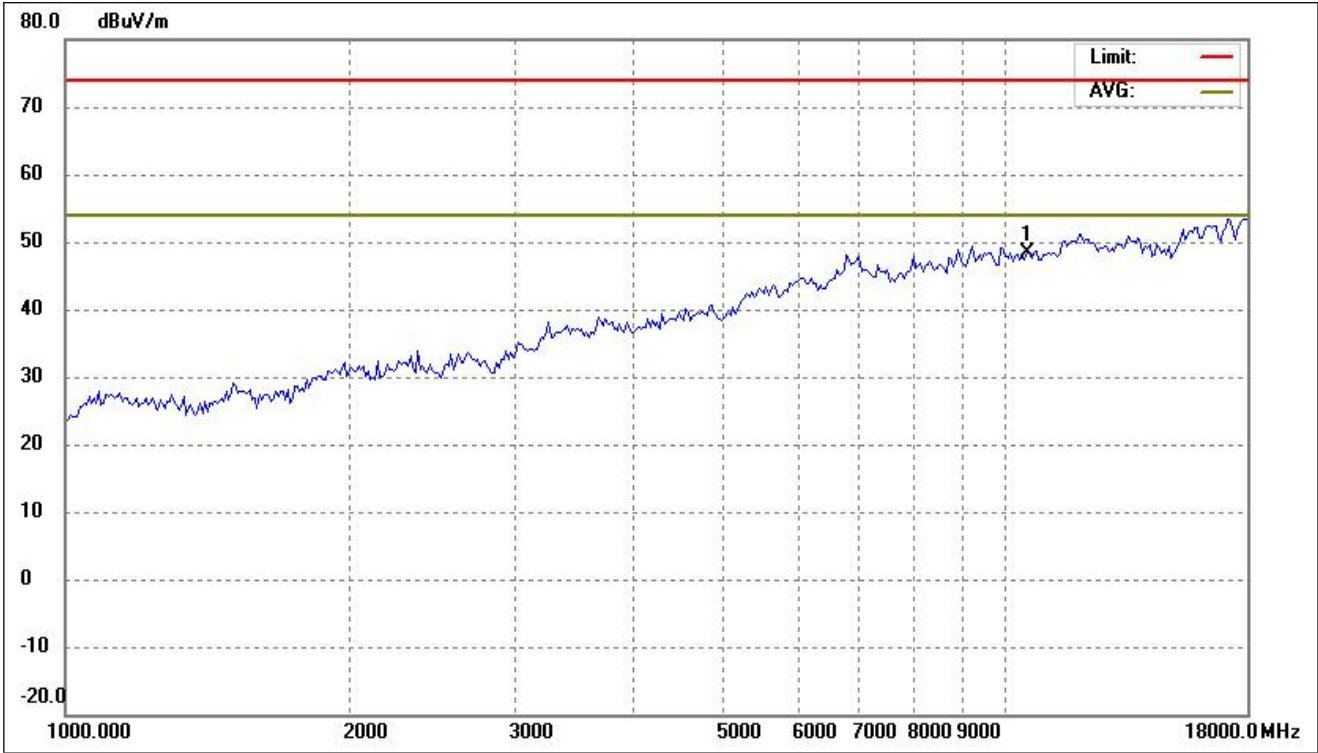
802.11a(worst case)			
Test Channel	5240MHz	Polarity:	Vertical



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	10480.000	50.77	-2.96	47.81	74.00	-26.19	-	-	peak

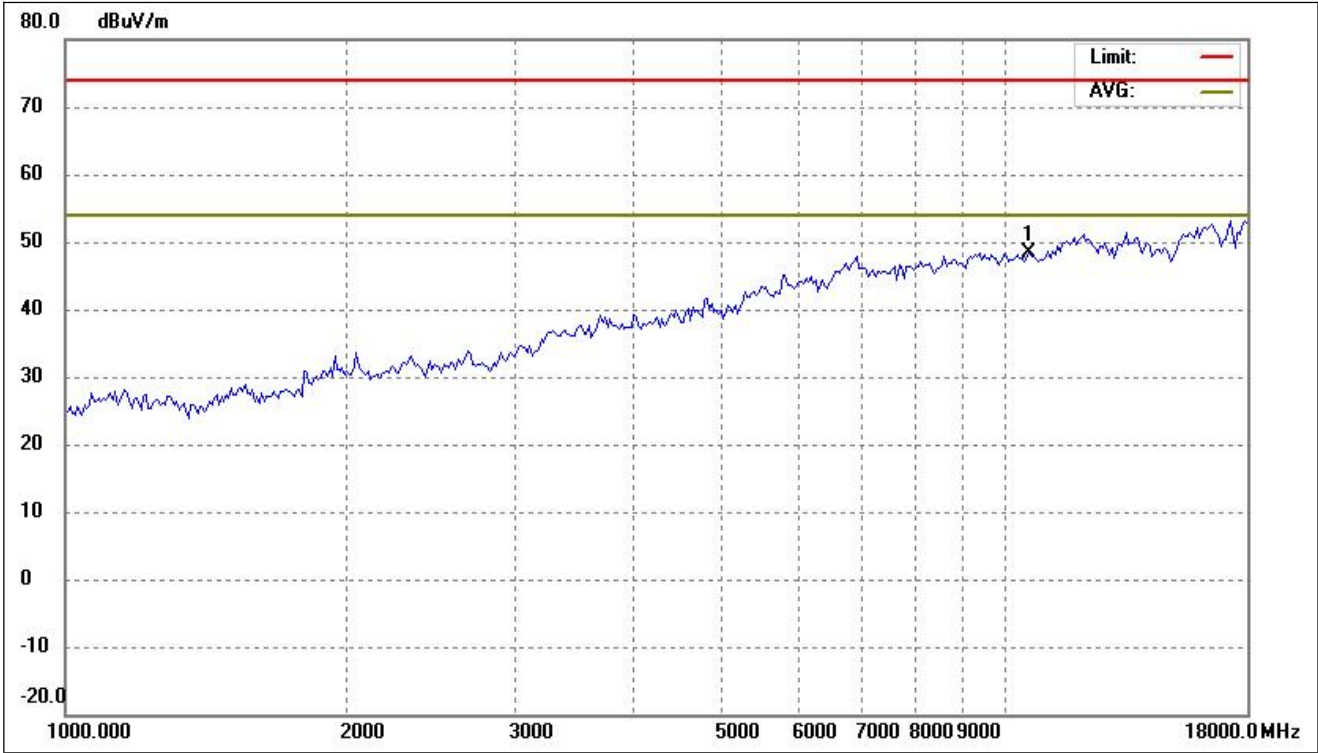
- For the frequency band 5.250-5.350GHz (802.11a)
- Harmonics And Spurious Emissions

802.11a(worst case)			
Test Channel	5260MHz	Polarity:	Horizontal



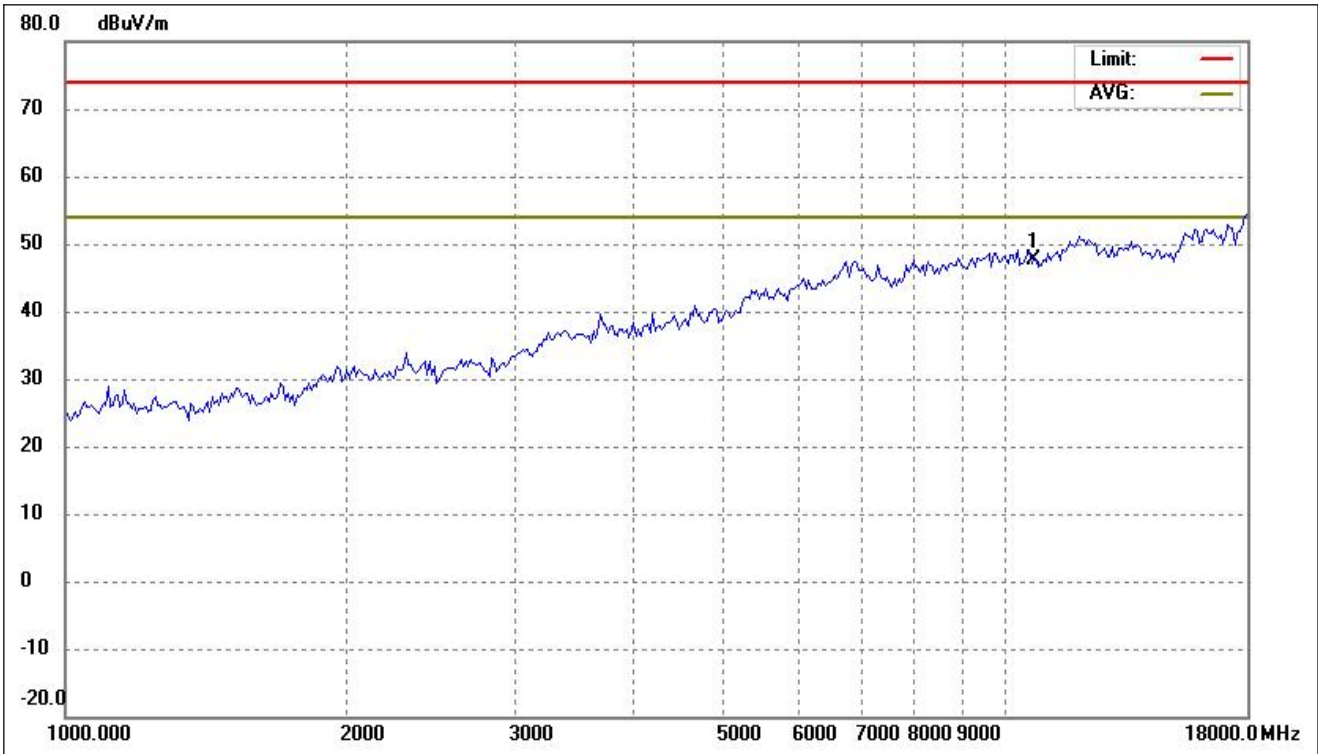
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	10520.000	51.34	-2.95	48.39	74.00	-25.61	-	-	peak

802.11a(worst case)			
Test Channel	5260MHz	Polarity:	Vertical



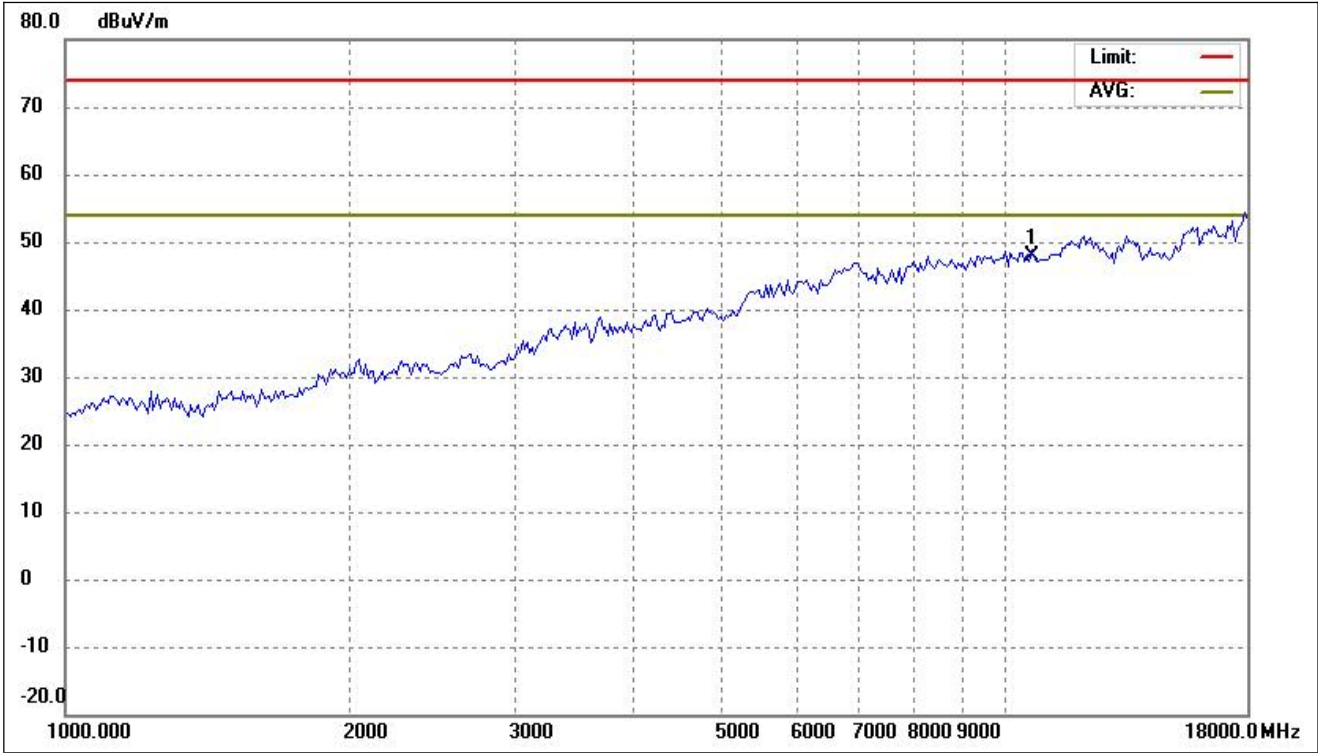
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	10520.000	51.34	-2.95	48.39	74.00	-25.61	-	-	peak

802.11a(worst case)			
Test Channel	5320MHz	Polarity:	Horizontal



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	10640.000	50.82	-3.17	47.65	74.00	-26.35	-	-	peak

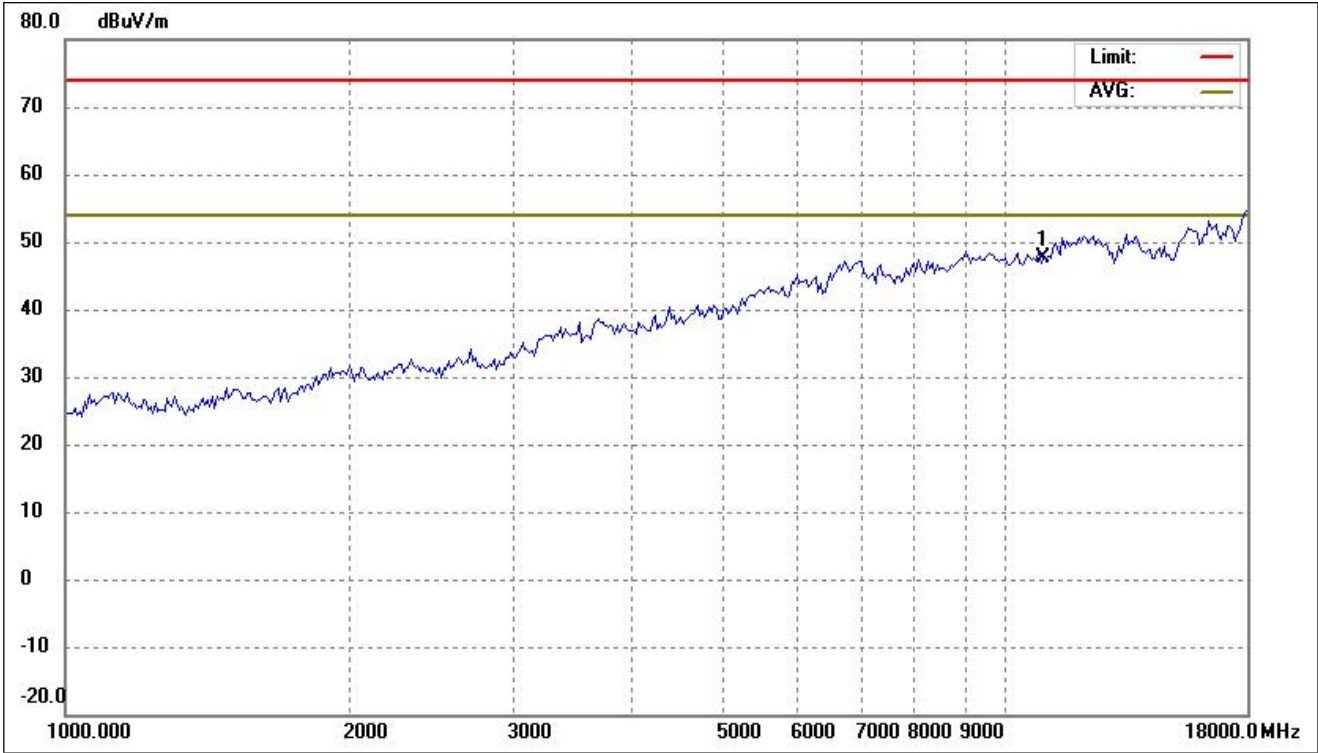
802.11a(worst case)			
Test Channel	5320MHz	Polarity:	Vertical



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	10640.000	51.12	-3.17	47.95	74.00	-26.05	-	-	peak

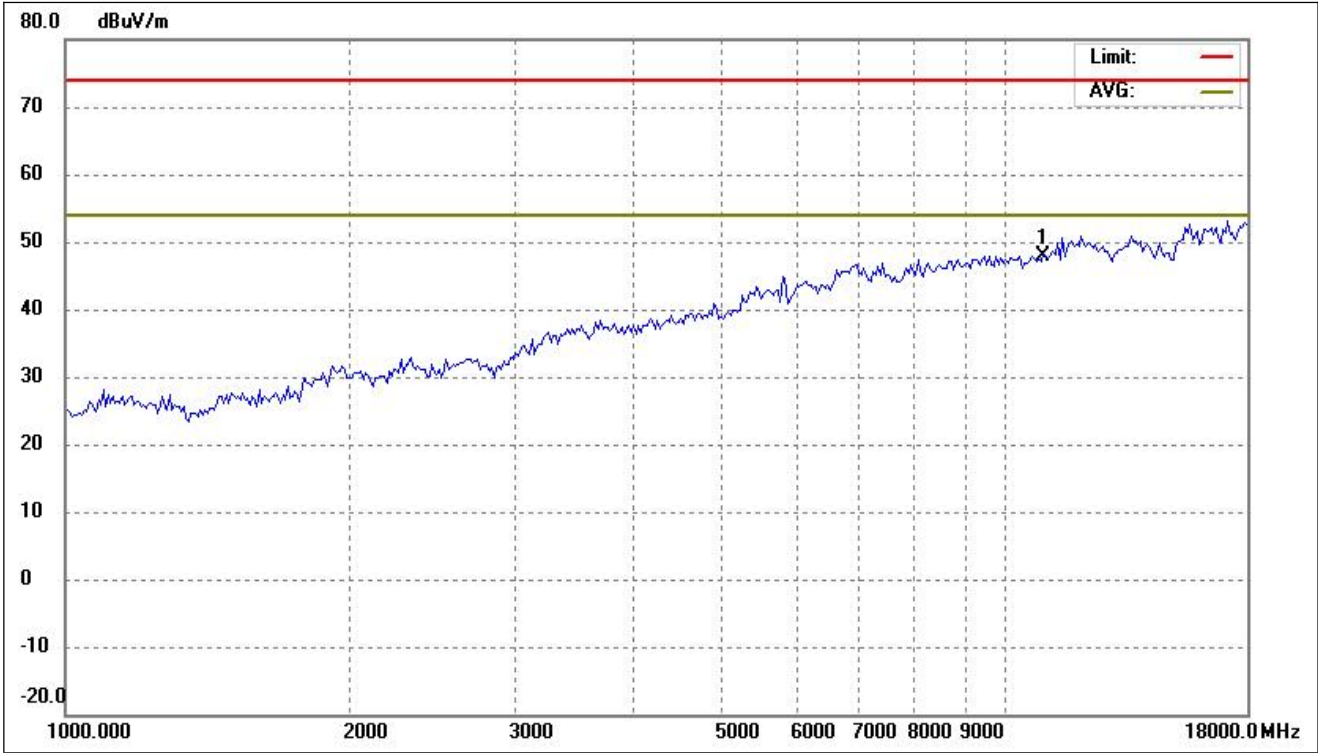
- For the frequency band 5.470-5.725GHz (802.11a)
- Harmonics And Spurious Emissions

802.11a(worst case)			
Test Channel	5500MHz	Polarity:	Horizontal



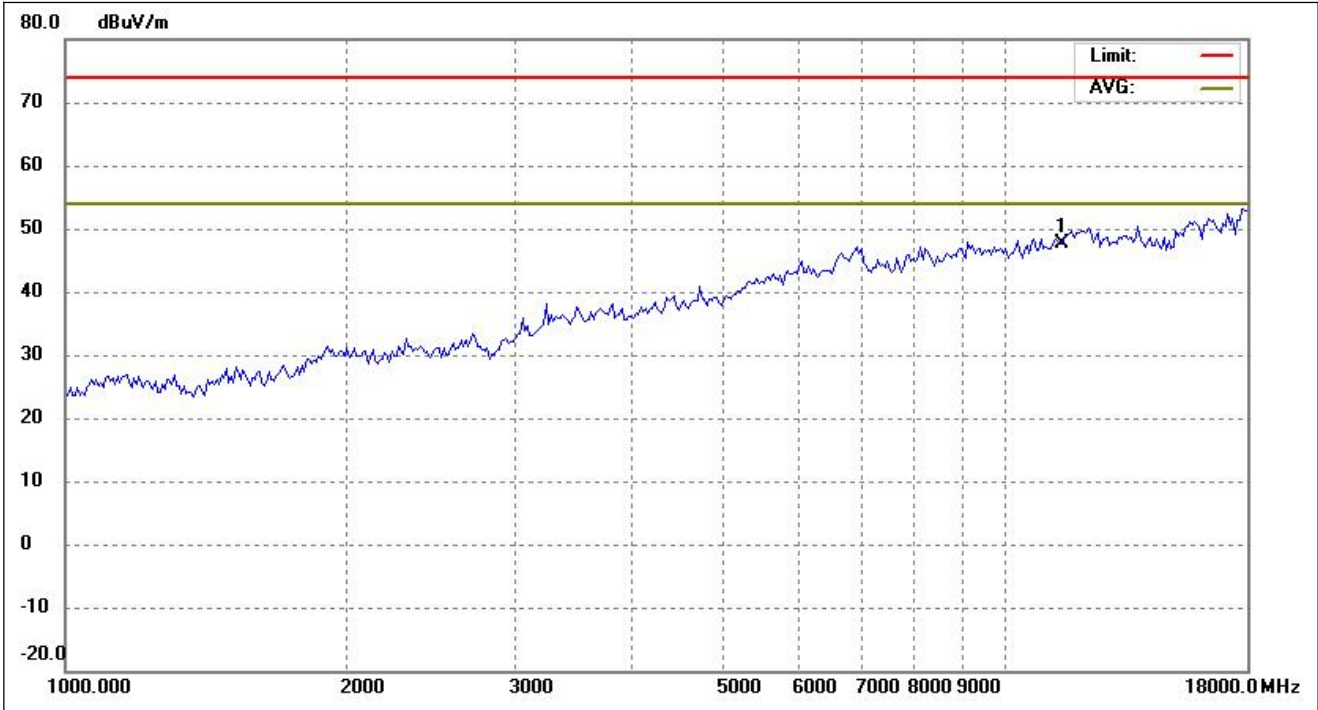
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	11000.000	50.60	-2.93	47.67	74.00	-26.33	-	-	peak

802.11a(worst case)			
Test Channel	5500MHz	Polarity:	Vertical



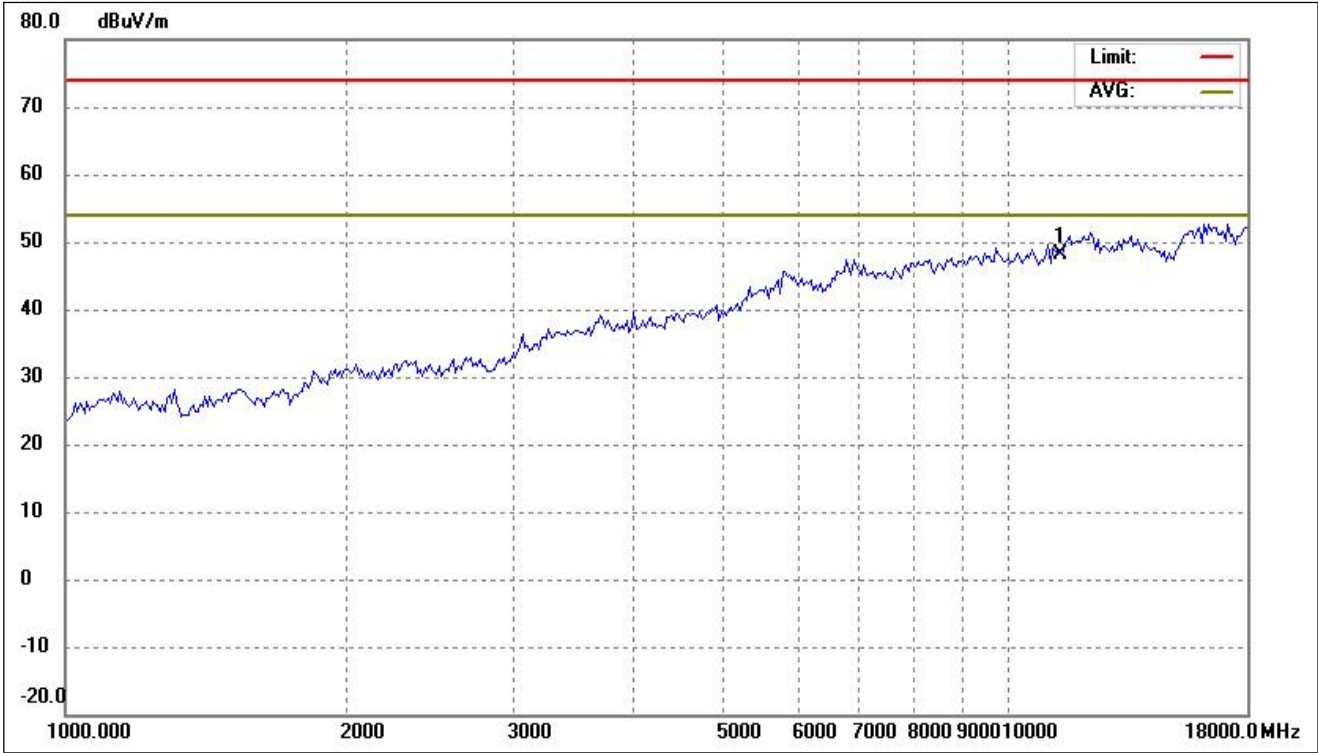
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	11000.000	50.76	-2.93	47.83	74.00	-26.17	-	-	peak

802.11a(worst case)			
Test Channel	5700MHz	Polarity:	Horizontal



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	11400.000	49.40	-1.83	47.57	74.00	-26.43	-	-	peak

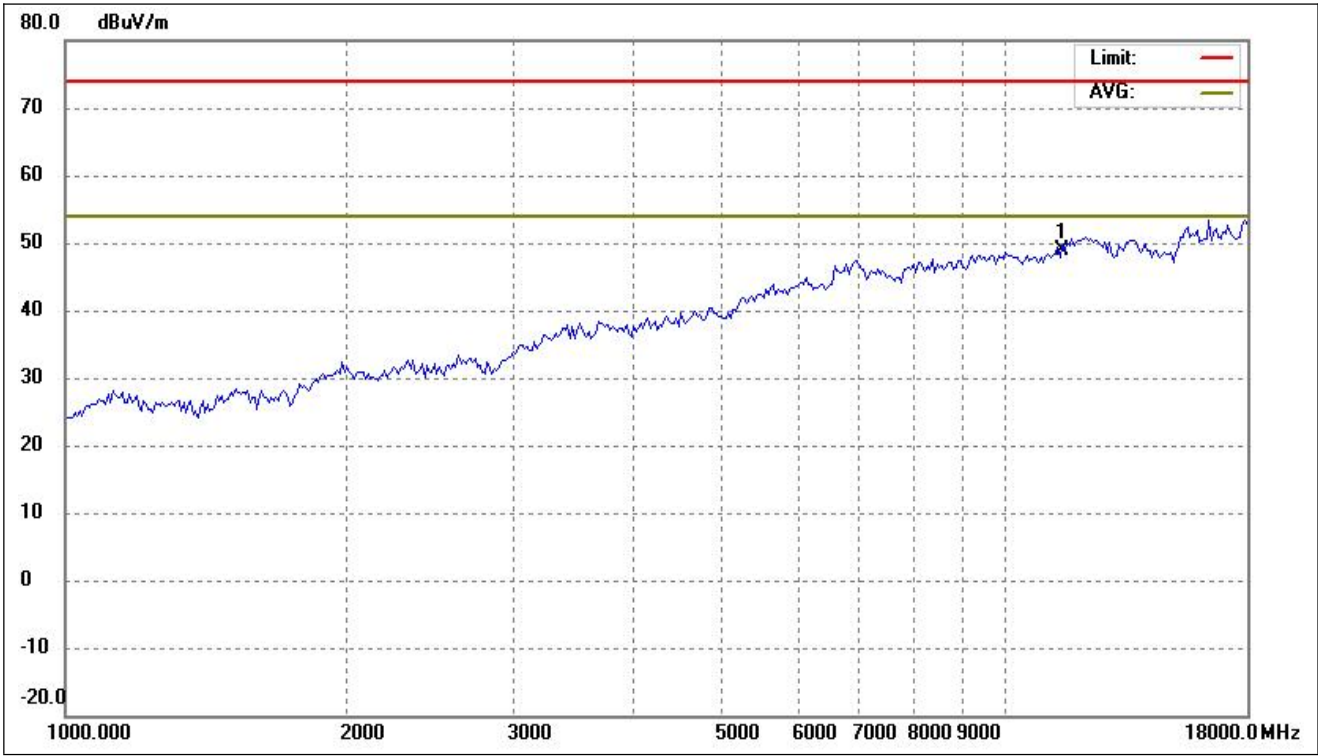
802.11a(worst case)			
Test Channel	5700MHz	Polarity:	Vertical



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	11400.000	49.96	-1.83	48.13	74.00	-25.87	-	-	peak

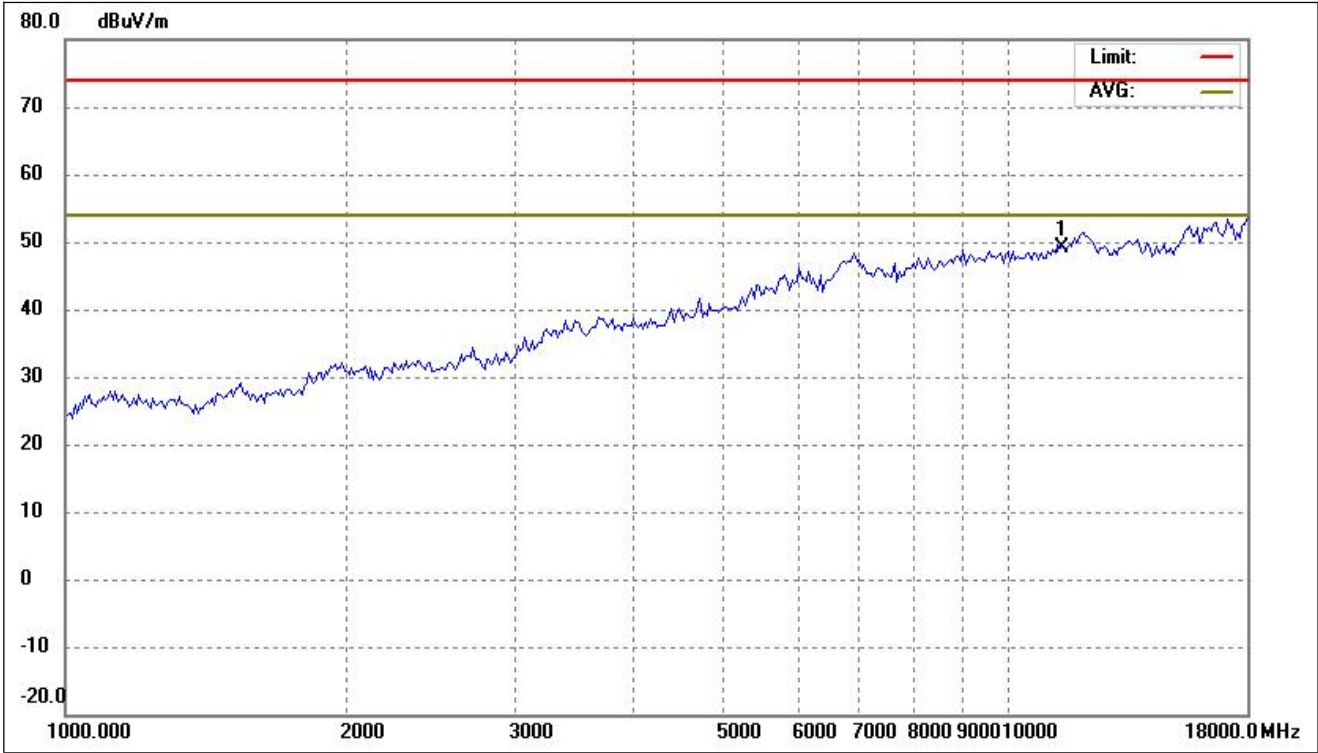
- For the frequency band 5.725-5.850GHz (802.11a)
- Harmonics And Spurious Emissions

802.11a(worst case)			
Test Channel	5745MHz	Polarity:	Horizontal



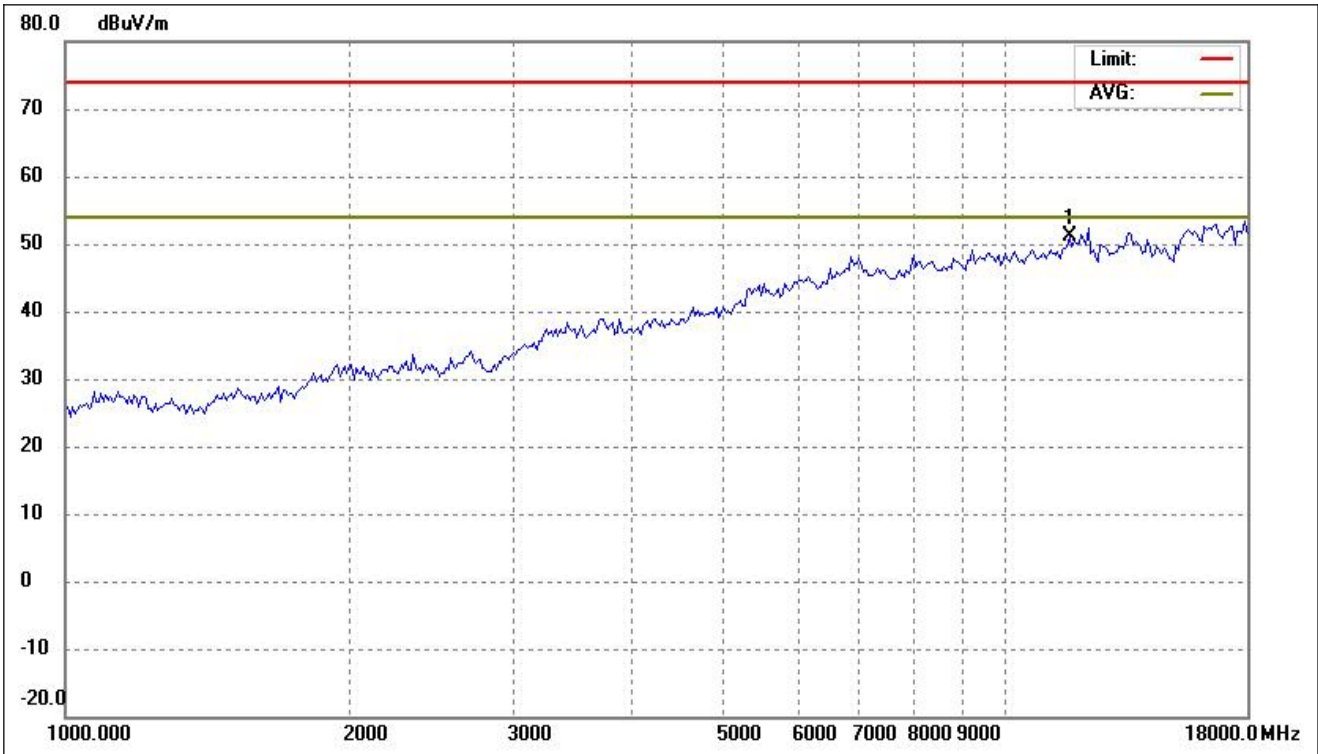
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	11490.000	50.55	-1.59	48.96	74.00	-25.04	-	-	peak

802.11a(worst case)			
Test Channel	5745MHz	Polarity:	Vertical



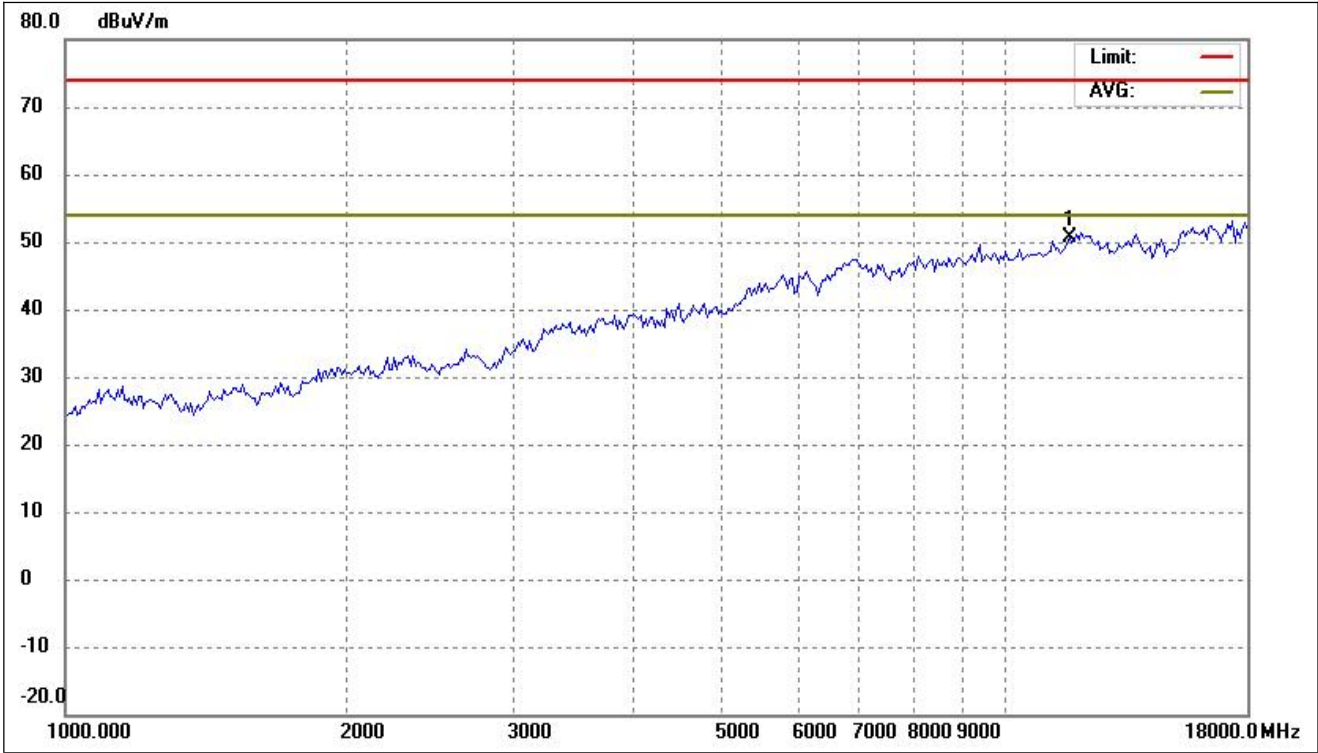
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	11490.000	50.81	-1.59	49.22	74.00	-24.78	-	-	peak

802.11a(worst case)			
Test Channel	5825MHz	Polarity:	Horizontal



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	11650.000	52.11	-1.06	51.05	74.00	-22.95	-	-	peak

802.11a(worst case)			
Test Channel	5825MHz	Polarity:	Vertical



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	11650.000	51.64	-1.06	50.58	74.00	-23.42	-	-	peak

- For the frequency band 5.15-5.25GHz, 5.250-5.350GHz, 5.470-5.725GHz, 5.725-5.850GHz (802.11a)
- Harmonics And Spurious Emissions
- Out of Band edge for 5150-5250MHz

Test CH.	Test Segment	Result	Limit
	MHz	dBm/MHz	dBm/MHz
Lowest	Below 5150	-43.48	-27
Highest	Above 5350	-42.51	-27
Note: the data just list the worst cases			

- Out of Band edge for 5250-5350MHz

Test CH.	Test Segment	Result	Limit
	MHz	dBm/MHz	dBm/MHz
Lowest	Below 5150	-42.24	-27
Highest	Above 5350	-41.70	-27
Note: the data just list the worst cases			

- Out of Band edge for 5470-5725MHz

Test CH.	Test Segment	Result	Limit
	MHz	dBm/MHz	dBm/MHz
Lowest	Below 5470	-42.53	-27
Highest	Above 5725	-39.67	-27
Note: the data just list the worst cases			

- Out of Band edge for 5725-5850MHz

Test CH.	Test Segment	Result	Limit
	MHz	dBm/MHz	dBm/MHz
Lowest	Below 5650	-46.12	-27
	5650 to 5700	-33.70	-27 to -17
	5700 to 5720	-27.59	-17 to 15.6
	5720 to 5725	-17.34	15.6 to 27
Highest	5850 to 5855	-14.18	27 to 15.6
	5855 to 5875	-21.46	15.6 to -17
	5875 to 5925	-33.39	-17 to -27
	Above 5925	-38.25	-27
Note: the data just list the worst cases			

- For the frequency band 5.15-5.25GHz, 5.250-5.350GHz, 5.470-5.725GHz, 5.725-5.850GHz (802.11n HT20)
- Harmonics And Spurious Emissions
- Out of Band edge 5150-5250MHz

Test CH.	Test Segment	Result	Limit
	MHz	dBm/MHz	dBm/MHz
Lowest	Below 5150	-40.70	-27
Highest	Above 5350	-41.63	-27
Note: the data just list the worst cases			

- Out of Band edge for 5250-5350MHz

Test CH.	Test Segment	Result	Limit
	MHz	dBm/MHz	dBm/MHz
Lowest	Below 5150	-41.48	-27
Highest	Above 5350	-42.19	-27
Note: the data just list the worst cases			

- Out of Band edge for 5470-5725MHz

Test CH.	Test Segment	Result	Limit
	MHz	dBm/MHz	dBm/MHz
Lowest	Below 5470	-38.24	-27
Highest	Above 5725	-39.64	-27
Note: the data just list the worst cases			

- Out of Band edge for 5725-5850MHz

Test CH.	Test Segment	Result	Limit
	MHz	dBm/MHz	dBm/MHz
Lowest	Below 5650	-46.37	-27
	5650 to 5700	-33.12	-27 to -17
	5700 to 5720	-27.70	-17 to 15.6
	5720 to 5725	-17.58	15.6 to 27
Highest	5850 to 5855	-14.27	27 to 15.6
	5855 to 5875	-21.13	15.6 to -17
	5875 to 5925	-33.64	-17 to -27
	Above 5925	-38.70	-27
Note: the data just list the worst cases			

- For the frequency band 5.15-5.25GHz, 5.250-5.350GHz, 5.470-5.725GHz, 5.725-5.850GHz (802.11n HT40)
- Harmonics And Spurious Emissions
- Out of Band edge for 5150-5250MHz

Test CH.	Test Segment	Result	Limit
	MHz	dBm/MHz	dBm/MHz
Lowest	Below 5150	-39.75	-27
Highest	Above 5350	-38.34	-27
Note: the data just list the worst cases			

- Out of Band edge for 5250-5350MHz

Test CH.	Test Segment	Result	Limit
	MHz	dBm/MHz	dBm/MHz
Lowest	Below 5150	-37.12	-27
Highest	Above 5350	-38.59	-27
Note: the data just list the worst cases			

- Out of Band edge for 5470-5725MHz

Test CH.	Test Segment	Result	Limit
	MHz	dBm/MHz	dBm/MHz
Lowest	Below 5470	-35.67	-27
Highest	Above 5725	-37.24	-27
Note: the data just list the worst cases			

- Out of Band edge for 5725-5850MHz

Test CH.	Test Segment	Result	Limit
	MHz	dBm/MHz	dBm/MHz
Lowest	Below 5715	-41.34	-27
	5715 to 5725	-35.70	-17
Highest	5850 to 5860	-37.58	-17
	Above 5860	-38.19	-27
Note: the data just list the worst cases			

Note: Testing is carried out with frequency rang 9kHz to 40Ghz, other than listed in the table above are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

9. Frequency Stability

9.1 Standard Applicable

According to §15.407(g), 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.

9.2 Test Procedure

According to §2.1055, the following test procedure was performed.

The Frequency Stability is measured directly with a Frequency Domain Analyzer. Frequency Deviation in ppm is calculated from the measured peak to peak value.

The Carrier Frequency Stability over Power Supply Voltage and over Temperature is measured with a Frequency Domain Analyzer in histogram mode.

9.3 Summary of Test Results/Plots

Please refer to Appendix E

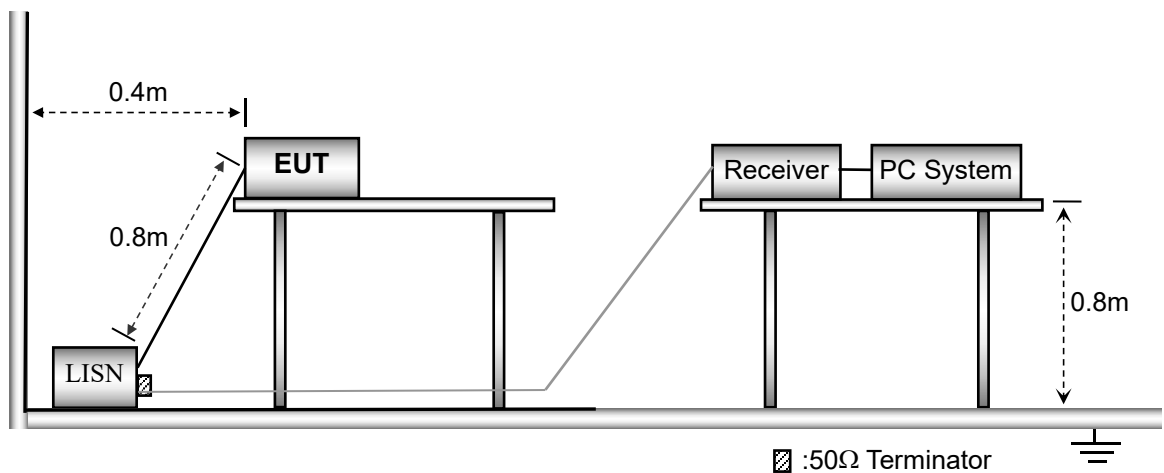
10. Conducted Emissions

10.1 Test Procedure

The setup of EUT is according with per ANSI C63.10-2020 measurement procedure. The specification used was with the FCC Part 15.207 Limit.

The external I/O cables were draped along the test table and formed a bundle 30 to 40cm long in the middle. The spacing between the peripherals was 10cm.

10.2 Basic Test Setup Block Diagram



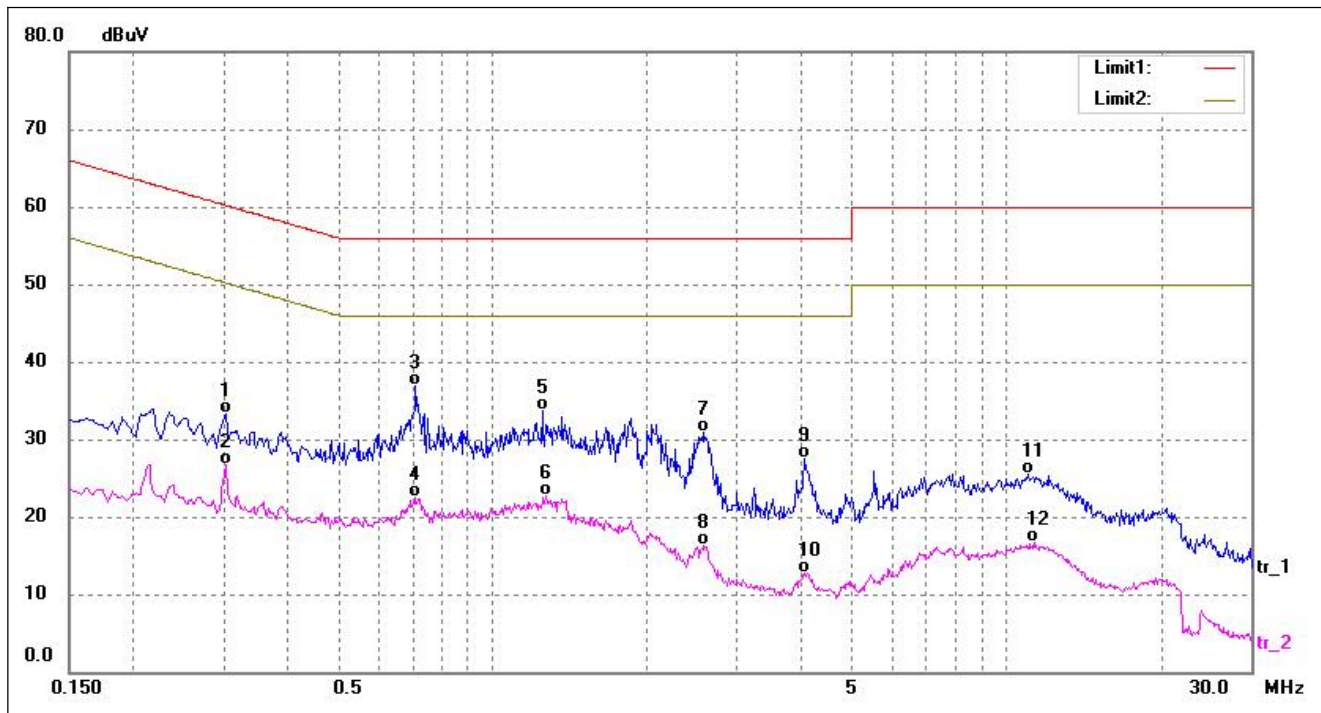
10.3 Test Receiver Setup

During the conducted emission test, the test receiver was set with the following configurations:

Start Frequency.....	150kHz
Stop Frequency.....	30MHz
Sweep Speed.....	Auto
IF Bandwidth.....	10kHz
Quasi-Peak Adapter Bandwidth.....	9kHz
Quasi-Peak Adapter Mode.....	Normal

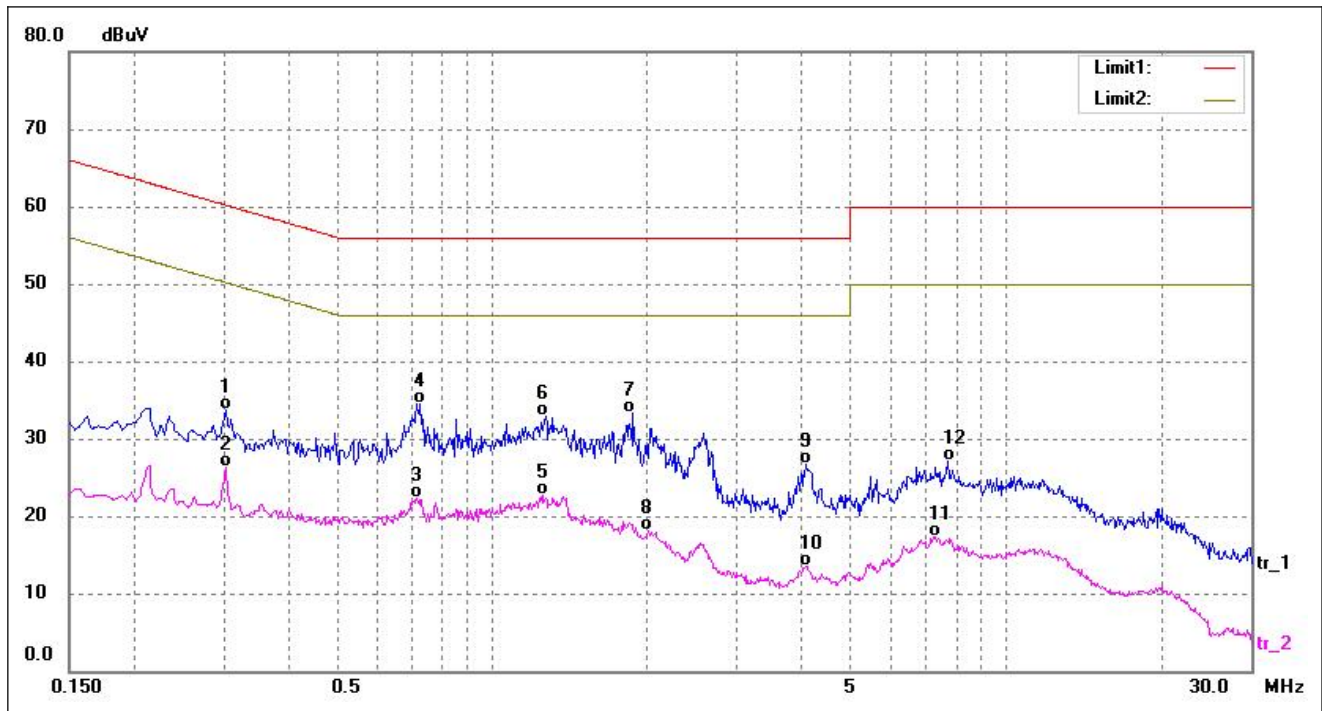
10.4 Summary of Test Results/Plots

Test Mode	Communication	AC120V 60Hz	Polarity:	Neutral
-----------	---------------	-------------	-----------	---------



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.3020	23.66	9.63	33.29	60.19	-26.90	QP
2	0.3020	17.10	9.63	26.73	50.19	-23.46	AVG
3*	0.7100	27.18	9.74	36.92	56.00	-19.08	QP
4	0.7100	12.69	9.74	22.43	46.00	-23.57	AVG
5	1.2500	24.01	9.66	33.67	56.00	-22.33	QP
6	1.2700	13.12	9.65	22.77	46.00	-23.23	AVG
7	2.5700	21.45	9.38	30.83	56.00	-25.17	QP
8	2.5860	6.95	9.38	16.33	46.00	-29.67	AVG
9	4.0660	18.00	9.47	27.47	56.00	-28.53	QP
10	4.0660	3.31	9.47	12.78	46.00	-33.22	AVG
11	11.0620	15.83	9.75	25.58	60.00	-34.42	QP
12	11.3180	6.94	9.73	16.67	50.00	-33.33	AVG

Test Mode	Communication	AC120V 60Hz	Polarity:	Line
-----------	---------------	-------------	-----------	------



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.3020	24.14	9.63	33.77	60.19	-26.42	QP
2	0.3020	16.59	9.63	26.22	50.19	-23.97	AVG
3	0.7140	12.47	9.74	22.21	46.00	-23.79	AVG
4*	0.7260	24.73	9.74	34.47	56.00	-21.53	QP
5	1.2620	13.14	9.66	22.80	46.00	-23.20	AVG
6	1.2740	23.23	9.65	32.88	56.00	-23.12	QP
7	1.8860	23.92	9.41	33.33	56.00	-22.67	QP
8	2.0180	8.66	9.36	18.02	46.00	-27.98	AVG
9	4.0739	17.25	9.47	26.72	56.00	-29.28	QP
10	4.0939	4.09	9.47	13.56	46.00	-32.44	AVG
11	7.2980	7.56	9.79	17.35	50.00	-32.65	AVG
12	7.7020	17.23	9.79	27.02	60.00	-32.98	QP

APPENDIX SUMMARY

Project No.	WTF26X03084495W001	Test Engineer	Jennifer Song
Start date	2026/4/12	Finish date	2026/5/28
Temperature	22.6℃	Humiditdy	57%
RF specifications	WiFi-5G		

APPENDIX	Description of Test Item	Result
A	Emission Bandwidth& Occupied channel bandwidth& Min emission bandwidth	Compliant
B	Duty Cycle	Compliant
C	Maximum conducted output power	Compliant
D	Maximum power spectral density	Compliant
E	Frequency Stability	Compliant

Appendix A1: Emission Bandwidth

Test Result

TestMode	Antenna	Frequency[MHz]	26db EBW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	Ant1	5180	29.640	5163.640	5193.280	---	---
11A	Ant1	5200	32.840	5183.600	5216.440	---	---
11A	Ant1	5240	35.720	5222.240	5257.960	---	---
11A	Ant1	5260	34.360	5243.360	5277.720	---	---
11A	Ant1	5280	32.040	5263.680	5295.720	---	---
11A	Ant1	5320	25.400	5307.240	5332.640	---	---
11A	Ant1	5500	21.600	5489.040	5510.640	---	---
11A	Ant1	5580	21.160	5569.080	5590.240	---	---
11A	Ant1	5700	21.600	5689.120	5710.720	---	---
11A	Ant1	5745	21.480	5734.160	5755.640	---	---
11A	Ant1	5785	21.640	5773.960	5795.600	---	---
11A	Ant1	5825	22.920	5812.560	5835.480	---	---
11N20SISO	Ant1	5180	34.040	5162.640	5196.680	---	---
11N20SISO	Ant1	5200	35.360	5183.040	5218.400	---	---
11N20SISO	Ant1	5240	36.360	5222.360	5258.720	---	---
11N20SISO	Ant1	5260	30.720	5244.960	5275.680	---	---
11N20SISO	Ant1	5280	32.200	5263.160	5295.360	---	---
11N20SISO	Ant1	5320	27.320	5308.200	5335.520	---	---
11N20SISO	Ant1	5500	22.840	5488.640	5511.480	---	---
11N20SISO	Ant1	5580	22.560	5568.640	5591.200	---	---
11N20SISO	Ant1	5700	22.920	5688.360	5711.280	---	---
11N20SISO	Ant1	5745	22.600	5733.760	5756.360	---	---
11N20SISO	Ant1	5785	22.800	5773.520	5796.320	---	---
11N20SISO	Ant1	5825	23.120	5813.520	5836.640	---	---
11N40SISO	Ant1	5190	64.640	5157.040	5221.680	---	---
11N40SISO	Ant1	5230	64.960	5196.480	5261.440	---	---
11N40SISO	Ant1	5270	58.160	5238.640	5296.800	---	---
11N40SISO	Ant1	5310	48.080	5281.440	5329.520	---	---
11N40SISO	Ant1	5510	38.800	5490.720	5529.520	---	---
11N40SISO	Ant1	5550	39.040	5530.560	5569.600	---	---
11N40SISO	Ant1	5670	38.880	5650.640	5689.520	---	---
11N40SISO	Ant1	5755	38.960	5735.640	5774.600	---	---
11N40SISO	Ant1	5795	39.040	5775.560	5814.600	---	---

Test Graphs



11A-Ant1-5180



11A-Ant1-5200



11A-Ant1-5240



11A-Ant1-5260



11A-Ant1-5280



11A-Ant1-5320



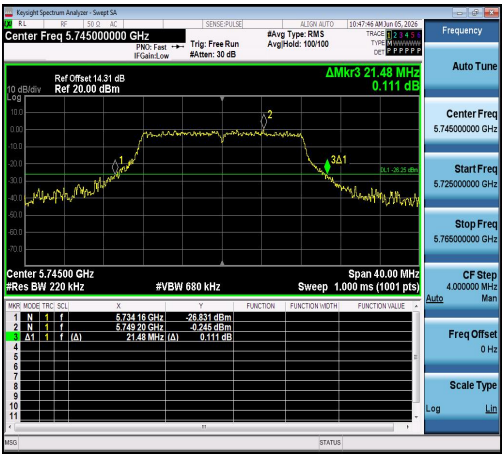
11A-Ant1-5500



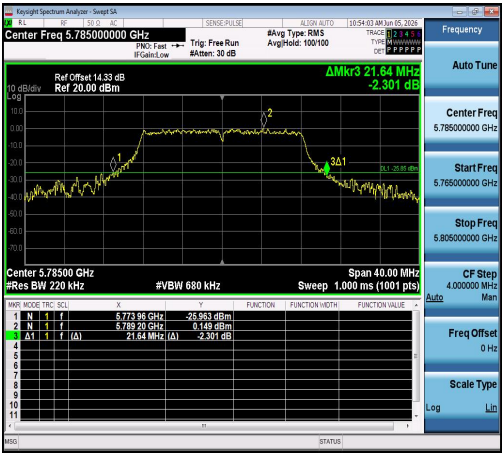
11A-Ant1-5580



11A-Ant1-5700



11A-Ant1-5745



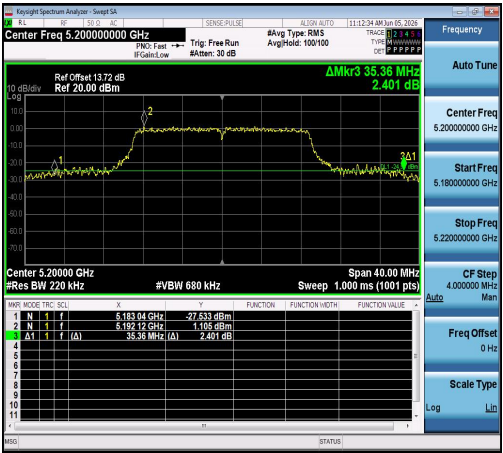
11A-Ant1-5785



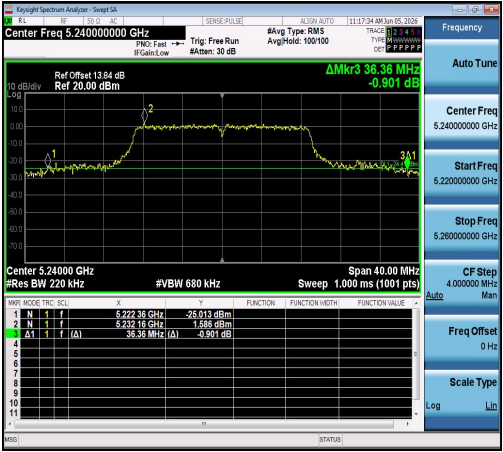
11A-Ant1-5825



11N20SISO-Ant1-5180



11N20SISO-Ant1-5200



11N20SISO-Ant1-5240