TEST REPORT

Reference No.	:	WTF24X12297714W001
FCC ID	:	TV7CRS41852AXQ
Applicant	:	Mikrotikls SIA
Address	:	Unijas 2, Riga, LV-1039, LATVIA
Manufacturer	:	The same as Applicant
Address	:	The same as Applicant
Product Name	:	CloudRouterSwitch
Model No.	:	CRS418-8P-8G-2S+5axQ2axQ-RM-US
Standards	:	FCC Part 15.407
Date of Receipt sample	:	2024-12-17
Date of Test	:	2024-12-17 to 2025-03-31; 2025-04-05 to 2025-05-20; 2025-06-07 to 2025-06-18
Date of Issue	:	2025-06-18
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.

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Tested by:

Mike Shi/Project Engineer

Approved by:

Silin Chen/Manager

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Report version

Version No.	Date of issue	Description
Rev.00	2025-06-18	Original
/	/	/

1. GENERAL INFORMATION

1.1 Product Description for Equipment Under Test (EUT)

General Description of EUT	
Product Name:	CloudRouterSwitch
Trade Name:	MikroTik
Model No.:	CRS418-8P-8G-2S+5axQ2axQ-RM-US
Adding Model(s):	/
Rated Voltage:	AC100-240V 50/60Hz
Battery Capacity:	/
Power Adapter:	/
Note: The test data is gathered from a production sample, provided by the manufacturer.	

Technical Characteristics of EUT	
Support Standards:	802.11a, 802.11n-HT20, 802.11n-HT40, 802.11ac-VHT20/40/80, 802.11ax-HE20/40/80
Frequency Range:	5150-5250MHz, 5250-5350MHz, 5470-5725MHz, 5725-5850MHz 5850-5895MHz
Max. RF Output Power:	Antenna 1: 20.63dBm (Conducted) Antenna 2: 20.47dBm (Conducted) Antenna 3: 21.17dBm (Conducted) Antenna 4: 19.85dBm (Conducted)
Type of Modulation:	QPSK, 16QAM, 64QAM, 256QAM, 1024QAM
TPC:	Support
Type of Antenna:	Dedicated External Antenna
Antenna Gain:	6dBi
Note The Antenna Gain is provided by the customer and can affect the validity of results.	

1.2 Test Standards

The tests were performed according to following standards:

FCC Rules Part 15.407: General technical requirements.
ANSI C63.10-2013: American National Standard for Testing Unlicensed Wireless Devices.
KDB789033 D02 v02r01: Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-Nii) Devices Part 15, Subparte.
KDB662911 D01 Multiple Transmitter Output v02r01: Emissions Testing of Transmitters with Multiple Outputs in the Same Band.
KDB 291074 D02 EMC Measurement v01: GUIDELINES FOR COMPLIANCE TESTING OF UNLICENSED NATIONAL INFORMATION INFRASTRUCTURE (U-NII) 5.9 GHz DEVICES UNDER PART 15, SUBPART E

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 C63.10-2013, 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

Run commands and follow the instructions given by the manufacturer, 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	5280	5320	5500	5580	5700	5745	5785	5825
802.11a	20	20	20	20	20	20	20	20	20	20	20	20
802.11n-HT20	14	14	14	7	7	7	7	7	7	18	18	18
802.11ac-VHT20	14	14	14	7	7	7	7	7	7	18	18	18
802.11ax-HE20	14	14	14	7	7	7	7	7	7	18	18	18
Mode	NCB: 40MHz											
	5190	5230	5270	5310	5510	5550	5670	5710	5755	5795		
802.11n-HT40	17	17	8	8	8	8	8	18	18	18		
802.11ac-VHT40	17	17	8	8	8	8	8	18	18	18		
802.11ax-HE40	17	17	8	8	8	8	8	18	18	18		

Mode	NCB: 80MHz				
	5210	5290	5530	5610	5775
802.11ac-VHT80	18	9	10	10	18
802.11ax-HE80	17	9	10	10	18

Mode	Test Frequency (MHz)											
	NCB: 20MHz											
	5845	5865	5885	/	/	/	/	/	/	/	/	/
802.11a	20	20	20	/	/	/	/	/	/	/	/	/
802.11n-HT20	17	17	17	/	/	/	/	/	/	/	/	/
802.11ac-VHT20	17	17	17	/	/	/	/	/	/	/	/	/
802.11ax-HE20	17	17	17	/	/	/	/	/	/	/	/	/

Mode	NCB: 40MHz									
	5835	5875	/	/	/	/	/	/	/	/
802.11n-HT40	18	18	/	/	/	/	/	/	/	/
802.11ac-VHT40	18	18	/	/	/	/	/	/	/	/
802.11ax-HE40	18	18	/	/	/	/	/	/	/	/

Mode	NCB: 80MHz				
	5855	/	/	/	/
802.11ac-VHT80	18	/	/	/	/
802.11ax-HE80	18	/	/	/	/

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, Bao'an District, Shenzhen, P.R.C. (518101）

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 mai ntained 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, more detailed description as follows:

Test Mode List		
Test Mode	Description	Remark
TM1	802.11a	5180MHz,5200MHz,5240MHz,5260MHz,5280MHz,5320MHz,5500MHz, 5580MHz,5700MHz,5745MHz,5785MHz,5825MHz,5845MHz,5865MHz, 5885MHz
TM2	802.11n-HT20	5180MHz,5200MHz,5240MHz,5260MHz,5280MHz,5320MHz,5500MHz, 5580MHz,5700MHz,5745MHz,5785MHz,5825MHz,5845MHz,5865MHz, 5885MHz
TM3	802.11ac-VHT20	5180MHz,5200MHz,5240MHz,5260MHz,5280MHz,5320MHz,5500MHz, 5580MHz,5700MHz,5745MHz,5785MHz,5825MHz,5845MHz,5865MHz, 5885MHz
TM4	802.11ax-HE20	5180MHz,5200MHz,5240MHz,5260MHz,5280MHz,5320MHz,5500MHz, 5580MHz,5700MHz,5745MHz,5785MHz,5825MHz,5845MHz,5865MHz, 5885MHz
TM5	802.11n-HT40	5190MHz,5230MHz,5270MHz,5310MHz,5510MHz,5550MHz,5670MHz, 5755MHz,5795MHz,5835MHz,5875MHz
TM6	802.11ac-VHT40	5190MHz,5230MHz,5270MHz,5310MHz,5510MHz,5550MHz,5670MHz, 5755MHz,5795MHz,5835MHz,5875MHz
TM7	802.11ax-HE40	5190MHz,5230MHz,5270MHz,5310MHz,5510MHz,5550MHz,5670MHz, 5755MHz,5795MHz,5835MHz,5875MHz
TM8	802.11ac-VHT80	5210MHz,5290MHz,5530MHz,5610MHz,5775MHz,5855MHz
TM9	802.11ax-HE80	5210MHz,5290MHz,5530MHz,5610MHz,5775MHz,5855MHz
Note 1: The 5GHz WIFI has four antennas and support Multiple Outputs for 802.11n/ac/ax mode for this report; For Antenna 1 Gain is 6dBi; Antenna 2 Gain is 6dBi; Antenna 3 Gain is 6dBi; Antenna 4 Gain is 6dBi According to KDB 662911, for same directional gain:Directional gain = G_{ANT} + 10 log(N_{ANT}) dBi =6+10log(4)dBi=12.02dBi Note 2: 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:	45~75 %
ATM Pressure:	1019 mbar

EUT Cable List and Details			
Cable Description	Length (m)	Shielded/Unshielded	With / Without Ferrite
AC Cable	1.8	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
Computer	Lenovo	L13 Yoga	/

1.8 Measurement Uncertainty

Measurement uncertainty		
Parameter	Conditions	Uncertainty
RF Output Power	Conducted	0.57dB
Occupied Bandwidth	Conducted	0.015MHz
Power Spectral Density	Conducted	1.8dB
Conducted Spurious Emission	Conducted	2.17dB
Conducted Emissions	Conducted	9-150kHz, 3.74dB
		0.15-30MHz, 3.34dB
Transmitter Spurious Emissions	Radiated	30-200MHz, 4.52dB
		0.2-1GHz 5.56dB
		1-6GHz, 3.84dB
		6-18GHz, 3.92dB

1.9 Test Equipment List and Details

Fixed asset Number	Description	Manufacturer	Model	Serial No.	Cal Date	Due. Date
WTXE1041A1001	Communication Tester	Rohde & Schwarz	CMW500	148650	2024-02-24	2025-02-23
WTXE1005A1005	Spectrum Analyzer	Agilent	N9020A	US47140102	2024-03-19	2025-03-18
WTXE1084A1001	Spectrum Analyzer	Agilent	N9020A	MY54320548	2024-02-24	2025-02-23
WTXE1004A1-001	Spectrum Analyzer	Rohde & Schwarz	FSP40	100612	2024-02-27	2025-02-26
WTXE1103A1003	Attenuator	Pasternack	PE4007-4	/	2024-02-24	2025-02-23
WTXE1003A1-005	Coaxial Cable	/	0M4RFC	/	2024-07-03	2025-01-03
					2025-01-03	2025-07-02
☐ Chamber A: Below 1GHz						
WTXE1005A1003	Spectrum Analyzer	Rohde & Schwarz	FSP30	836079/035	2024-02-24	2025-02-23
WTXE1001A1001	EMI Test Receiver	Rohde & Schwarz	ESPI	101611	2024-03-19	2025-03-18
WTXE1007A1001	Amplifier	HP	8447F	2805A03475	2024-02-24	2025-02-23
WTXE1010A1007	Loop Antenna	Schwarz beck	FMZB 1516	9773	2024-02-26	2025-02-25
WTXE1010A1006	Broadband Antenna	Schwarz beck	VULB9163	9163-333	2024-02-24	2025-02-23
WTXE1104A1032-1	Coaxial Cable	/	RC_6G-N-M	/	2024-03-15	2025-03-14
WTXE1104A1032-2	Coaxial Cable	/	RC_6G-N-M	/	2024-03-15	2025-03-14
WTXE1104A1032-3	Coaxial Cable	/	RC_6G-N-M	/	2024-03-15	2025-03-14
☐ Chamber A: Above 1GHz						
WTXE1005A1003	Spectrum Analyzer	Rohde & Schwarz	FSP30	836079/035	2024-02-24	2025-02-23
WTXE1001A1001	EMI Test Receiver	Rohde & Schwarz	ESPI	101611	2024-03-19	2025-03-18
WTXE1065A1001	Amplifier	C&D	PAP-1G18	2002	2024-02-27	2025-02-26
WTXE1010A1005	Horn Antenna	ETS	3117	00086197	2024-02-26	2025-02-25
WTXE1010A1010	DRG Horn Antenna	A.H. SYSTEMS	SAS-574	571	2024-03-17	2025-03-16

WTXE1003A 1001	Pre-amplifier	Schwarzbeck	BBV 9721	9721-031	2024-02-29	2025-02-28
WTXE1104A 1033-1	Coaxial Cable	/	C16-07-07	/	2024-03-15	2025-03-14
WTXE1104A 1033-2	Coaxial Cable	/	C16-07-07	/	2024-03-15	2025-03-14
WTXE1104A 1033-3	Coaxial Cable	/	C16-07-07	/	2024-03-15	2025-03-14
☐ 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	2944A10457	2024-02-24	2025-02-23
WTXE1001A 1002	EMI Test Receiver	Rohde & Schwarz	ESPI	101391	2024-02-24	2025-02-23
WTXE1104A 1031-1	Coaxial Cable	/	1.5MRFC-LWB3	/	2024-07-03	2025-07-02
WTXE1104A 1031-2	Coaxial Cable	/	RG 316	/	2024-07-03	2025-07-02
WTXE1104A 1031-3	Coaxial Cable	/	RG 316	/	2024-07-03	2025-07-02
☒ Chamber C:Below 1GHz						
WTXE1093A 1001	EMI Test Receiver	Rohde & Schwarz	ESIB 26	100401	2024-02-27	2025-02-26
WTXE1010A 1013-1	Trilog Broadband Antenna	Schwarz beck	VULB 9168	1194	2024-04-18	2027-04-17
WTXE1007A 1002	Amplifier	HP	8447F	2944A03869	2024-02-24	2025-02-23
WTXE1010A 1007	Loop Antenna	Schwarz beck	FMZB 1516	9773	2024-02-26	2025-02-25
WTXE1104A 1034-1	Coaxial Cable	/	RC_6G-N-M	/	2024-07-03	2025-07-02
WTXE1104A 1034-2	Coaxial Cable	/	RC_6G-N-M	/	2024-07-03	2025-07-02
WTXE1104A 1034-3	Coaxial Cable	/	RC_6G-N-M	/	2024-07-03	2025-07-02
☒ Chamber C: Above 1GHz						
WTXE1093A 1001	EMI Test Receiver	Rohde & Schwarz	ESIB 26	100401	2024-02-27	2025-02-26
WTXE1103A 1005	Horn Antenna	POAM	RTF-118A	1820	2023-03-10	2026-03-09

WTXE1103A 1006	Amplifier	Tonscend	TAP01018050	AP22E806 235	2024-02-27	2025-02-26
WTXE1010A 1010	DRG Horn Antenna	A.H. SYSTEMS	SAS-574	571	2024-03-17	2025-03-16
WTXE1003A 1001	Pre-amplifier	Schwarzbeck	BBV 9721	9721-031	2024-02-29	2025-02-28
WTXE1104A 1035-1	Coaxial Cable	/	RC-18G-N-M	/	2024-07-03	2025-07-02
WTXE1104A 1035-2	Coaxial Cable	/	RC-18G-N-M	/	2024-07-03	2025-07-02
WTXE1104A 1035-3	Coaxial Cable	/	RC-18G-N-M	/	2024-07-03	2025-07-02
☐ Conducted Room 1#						
WTXE1104A 1029	EMI Test Receiver	Rohde & Schwarz	ESCI	100525	2024-12-08	2025-12-07
WTXE1002A 1001	Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100911	2024-02-24	2025-02-23
WTXE1003A 1001	AC LISN	Schwarz beck	NSLK8126	8126-279	2024-02-24	2025-02-23
WTXE1104A 1036	Coaxial Cable	/	RG 316	/	2024-07-03	2025-07-02
WTXE1104A 1038	Coaxial Cable	/	6MRFC-DP	/	2024-07-03	2025-07-02
☒ Conducted Room 2#						
WTXE1001A 1004	EMI Test Receiver	Rohde & Schwarz	ESPI	101259	2024-02-24	2025-02-23
WTXE1003A 1003	LISN	Rohde & Schwarz	ENV 216	100097	2024-02-24	2025-02-23
WTXE1104A 1037	Coaxial Cable	/	RG 316	/	2024-07-03	2025-07-02

Fixed asset Number	Description	Manufacturer	Model	Serial No.	Cal Date	Due. Date
WTXE1041A 1001	Communication Tester	Rohde & Schwarz	CMW500	148650	2025-02-23	2026-02-22
WTXE1005A 1005	Spectrum Analyzer	Agilent	N9020A	US47140102	2025-02-23	2026-02-22
WTXE1084A 1001	Spectrum Analyzer	Agilent	N9020A	MY54320548	2025-02-23	2026-02-22
WTXE1004A 1-001	Spectrum Analyzer	Rohde & Schwarz	FSP40	100612	2025-02-23	2026-02-22
WTXW1105A 1010	Spectrum Analyzer	KEYSIGHT	N9020A	MY51285677	2025-02-23	2026-02-22
WTXE1105A 1008	RF Control Unit	Tonscend	JS0806-2	24F80620870	2025-02-23	2026-02-22
WTXE1103A 1003	Attenuator	Pasternack	PE4007-4	/	2025-02-23	2026-02-22
WTXE1003A 1-005	Coaxial Cable	/	0M4RFC	/	2025-02-23	2026-02-22
☐ Chamber A: Below 1GHz						
WTXE1005A 1003	Spectrum Analyzer	Rohde & Schwarz	FSP30	836079/035	2025-02-23	2026-02-22
WTXE1001A 1001	EMI Test Receiver	Rohde & Schwarz	ESPI	101611	2025-02-23	2026-02-22
WTXE1007A 1001	Amplifier	HP	8447F	2805A03475	2025-02-23	2026-02-22
WTXE1010A 1007	Loop Antenna	Schwarz beck	FMZB 1516	9773	2024-02-26	2026-02-25
WTXE1010A 1006	Broadband Antenna	Schwarz beck	VULB9163	9163-333	2025-02-23	2026-02-22
WTXE1104A 1032-1	Coaxial Cable	/	RC_6G-N-M	/	2025-02-23	2026-02-22
WTXE1104A 1032-2	Coaxial Cable	/	RC_6G-N-M	/	2025-02-23	2026-02-22
WTXE1104A 1032-3	Coaxial Cable	/	RC_6G-N-M	/	2025-02-23	2026-02-22
☐ Chamber A: Above 1GHz						
WTXE1005A 1003	Spectrum Analyzer	Rohde & Schwarz	FSP30	836079/035	2025-02-23	2026-02-22
WTXE1001A 1001	EMI Test Receiver	Rohde & Schwarz	ESPI	101611	2025-02-23	2026-02-22
WTXE1065A 1001	Amplifier	C&D	PAP-1G18	2002	2025-02-23	2026-02-22
WTXE1010A	Horn Antenna	ETS	3117	00086197	2025-02-23	2026-02-22

1005						
WTXE1010A 1010	DRG Horn Antenna	A.H. SYSTEMS	SAS-574	571	2024-03-17	2026-03-16
WTXE1003A 1001	Pre-amplifier	Schwarzbeck	BBV 9721	9721-031	2025-02-23	2026-02-22
WTXE1104A 1033-1	Coaxial Cable	/	C16-07-07	/	2025-02-23	2026-02-22
WTXE1104A 1033-2	Coaxial Cable	/	C16-07-07	/	2025-02-23	2026-02-22
WTXE1104A 1033-3	Coaxial Cable	/	C16-07-07	/	2025-02-23	2026-02-22
☐ 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	2944A10457	2025-02-23	2026-02-22
WTXE1001A 1002	EMI Test Receiver	Rohde & Schwarz	ESPI	101391	2025-02-23	2026-02-22
WTXE1104A 1031-1	Coaxial Cable	/	1.5MRFC-LWB3	/	2025-02-23	2026-02-22
WTXE1104A 1031-2	Coaxial Cable	/	RG 316	/	2025-02-23	2026-02-22
WTXE1104A 1031-3	Coaxial Cable	/	RG 316	/	2025-02-23	2026-02-22
☒ Chamber C:Below 1GHz						
WTXE1093A 1001	EMI Test Receiver	Rohde & Schwarz	ESIB 26	100401	2025-02-23	2026-02-22
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	2024-02-26	2026-02-25
WTXE1007A 1002	Amplifier	HP	8447F	2944A03869	2025-02-23	2026-02-22
WTXE1104A 1034-1	Coaxial Cable	/	RC_6G-N-M	/	2025-02-23	2026-02-22
WTXE1104A 1034-2	Coaxial Cable	/	RC_6G-N-M	/	2025-02-23	2026-02-22
WTXE1104A 1034-3	Coaxial Cable	/	RC_6G-N-M	/	2025-02-23	2026-02-22
☒ Chamber C: Above 1GHz						
WTXE1093A	EMI Test	Rohde &	ESIB 26	100401	2025-02-23	2026-02-22

1001	Receiver	Schwarz				
WTXE1103A 1005	Horn Antenna	POAM	RTF-118A	1820	2023-03-10	2026-03-09
WTXE1103A 1006	Amplifier	Tonscend	TAP01018050	AP22E806 235	2025-02-23	2026-02-22
WTXE1010A 1010	DRG Horn Antenna	A.H. SYSTEMS	SAS-574	571	2024-03-17	2026-03-16
WTXE1003A 1001	Pre-amplifier	Schwarzbeck	BBV 9721	9721-031	2025-02-23	2026-02-22
WTXE1104A 1035-1	Coaxial Cable	/	RC-18G-N-M	/	2025-02-23	2026-02-22
WTXE1104A 1035-2	Coaxial Cable	/	RC-18G-N-M	/	2025-02-23	2026-02-22
WTXE1104A 1035-3	Coaxial Cable	/	RC-18G-N-M	/	2025-02-23	2026-02-22
☐ Conducted Room 1#						
WTXE1104A 1029	EMI Test Receiver	Rohde & Schwarz	ESCI	100525	2024-12-08	2025-12-07
WTXE1002A 1001	Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100911	2025-02-23	2026-02-22
WTXE1003A 1001	AC LISN	Schwarz beck	NSLK8126	8126-279	2025-02-23	2026-02-22
WTXE1104A 1036	Coaxial Cable	/	RG 316	/	2025-02-23	2026-02-22
WTXE1104A 1038	Coaxial Cable	/	6MRFC-DP	/	2025-02-23	2026-02-22
☒ Conducted Room 2#						
WTXE1001A 1004	EMI Test Receiver	Rohde & Schwarz	ESPI	101259	2025-02-23	2026-02-22
WTXE1003A 1003	LISN	Rohde & Schwarz	ENV 216	100097	2025-02-23	2026-02-22
WTXE1104A 1037	Coaxial Cable	/	RG 316	/	2025-02-23	2026-02-22

Software List			
Description	**Manufacturer**	**Model**	**Version**
EMI Test Software (Radiated Emission A)	Farad	EZ-EMC	RA-03A1 (1.1.4.2)
EMI Test Software (Radiated Emission B)	Farad	EZ-EMC	RA-03A1 (1.1.4.2)
EMI Test Software (Radiated Emission C)	Farad	EZ-EMC	RA-03A1-2 (1.1.4.2)
EMI Test Software (Conducted Emission Room 1#)	Farad	EZ-EMC	3A1*CE-RE 1.1.4.3
EMI Test Software (Conducted Emission Room 2#)	Farad	EZ-EMC	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; §15.407(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 Four Dedicated External Antennas, 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.
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 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 11dBm + 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) (i) For the band 5.725-5.850 GHz, 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 500-kHz 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.

(ii) For an indoor access point operating in the 5.850-5.895 GHz band, the maximum power spectral density must not exceed 20dBm e.i.r.p. in any 1-megahertz band. In addition, the maximum e.i.r.p. over the frequency band of operation must not exceed 36dBm. Indoor access points operating on a channel that spans the 5.725-5.850 GHz and 5.850-5.895 GHz bands must not exceed an e.i.r.p. of 36dBm.

(iii) For client devices operating under the control of an indoor access point in the 5.850-5.895 GHz band, the maximum power spectral density must not exceed 14dBm e.i.r.p. in any 1-megahertz band, and the maximum e.i.r.p. over the frequency band of operation must not exceed 30dBm. Client devices operating on a channel that spans the 5.725-5.850 GHz and 5.850-5.895 GHz bands must not exceed an e.i.r.p. of 30dBm.

(iv) For a subordinate device operating under the control of an indoor access point in the 5.850-5.895 GHz band, the maximum power spectral density must not exceed 20dBm e.i.r.p in any 1-megahertz band, and the maximum e.i.r.p. over the frequency band of operation must not exceed 36dBm.

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, 5.47-5.725GHz and 5.850-5.895GHz, the above procedures make use of 1MHz RBW to satisfy directly the 1MHz 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 1MHz, 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 MHz, or < 500kHz) and integrated over 1 MHz, or 500kHz bandwidth, the following adjustments to the procedures apply:

a) Set RBW ≥ 1/T, where T is defined in section II.B.I.a).
b) Set VBW ≥ 3 RBW.
c) If measurement bandwidth of Maximum PSD is specified in 500kHz, add 10log(500kHz/RBW) to the measured result, whereas RBW (< 500kHz) is the reduced resolution bandwidth of the spectrum analyzer set during measurement.
d) If measurement bandwidth of Maximum PSD is specified in 1MHz, add 10log(1MHz/RBW) to the measured result, whereas RBW (< 1MHz) 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 RBW=100kHZ 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 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 11dBm + 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) (i) For the band 5.725-5.850 GHz, 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 500-kHz 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.

(ii) For an indoor access point operating in the 5.850-5.895 GHz band, the maximum power spectral density must not exceed 20dBm e.i.r.p. in any 1-megahertz band. In addition, the maximum e.i.r.p. over the frequency band of operation must not exceed 36dBm. Indoor access points operating on a channel that spans the 5.725-5.850 GHz and 5.850-5.895 GHz bands must not exceed an e.i.r.p. of 36dBm.

(iii) For client devices operating under the control of an indoor access point in the 5.850-5.895 GHz band, the maximum power spectral density must not exceed 14dBm e.i.r.p. in any 1-megahertz band, and the maximum e.i.r.p. over the frequency band of operation must not exceed 30dBm. Client devices operating on a channel that spans the 5.725-5.850 GHz and 5.850-5.895 GHz bands must not exceed an e.i.r.p. of 30dBm.

(iv) For a subordinate device operating under the control of an indoor access point in the 5.850-5.895 GHz band, the maximum power spectral density must not exceed 20dBm e.i.r.p in any 1-megahertz band, and the maximum e.i.r.p. over the frequency band of operation must not exceed 36dBm.

(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 6dB emission bandwidth of at least 500kHz for the band 5.715-5.85GHz. The following procedure shall be used for measuring this bandwidth:
a) Set RBW = 100kHz.
b) Set the video bandwidth (VBW) ≥ 3 × 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 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 ≥ 3 * 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. 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 A1&A2&A3

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 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 11dBm + 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)(i) For the band 5.725-5.850 GHz, 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 500-kHz 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.

(ii) For an indoor access point operating in the 5.850-5.895 GHz band, the maximum power spectral density must not exceed 20dBm e.i.r.p. in any 1-megahertz band. In addition, the maximum e.i.r.p. over the frequency band of operation must not exceed 36dBm. Indoor access points operating on a channel that spans the 5.725-5.850 GHz and 5.850-5.895 GHz bands must not exceed an e.i.r.p. of 36dBm.

(iii) For client devices operating under the control of an indoor access point in the 5.850-5.895 GHz band, the maximum power spectral density must not exceed 14dBm e.i.r.p. in any 1-megahertz band, and the maximum e.i.r.p. over the frequency band of operation must not exceed 30dBm. Client devices operating on a channel that spans the 5.725-5.850 GHz and 5.850-5.895 GHz bands must not exceed an e.i.r.p. of 30dBm.

(iv) For a subordinate device operating under the control of an indoor access point in the 5.850-5.895 GHz band, the maximum power spectral density must not exceed 20dBm e.i.r.p in any 1-megahertz band, and the maximum e.i.r.p. over the frequency band of operation must not exceed 36dBm.

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 ≥ 3MHz.

(iv) Number of points in sweep ≥ 2 Span / RBW. (This ensures that bin-to-bin spacing is ≤ 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 ≥ 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 1 MHz 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 B&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:
All emissions shall be limited to a level of −27dBm/MHz at 75 MHz 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.

(5) For transmitters operating solely in the 5.850-5.895 GHz band or operating on a channel that spans across 5.725-5.895 GHz:
(i) For an indoor access point or subordinate device, all emissions at or above 5.895 GHz shall not exceed an e.i.r.p. of 15dBm/MHz and shall decrease linearly to an e.i.r.p. of −7dBm/MHz at or above 5.925 GHz.
(ii) For a client device, all emissions at or above 5.895 GHz shall not exceed an e.i.r.p. of −5dBm/MHz and shall decrease linearly to an e.i.r.p. of −27dBm/MHz at or above 5.925 GHz.
(iii) For a client device or indoor access point or subordinate device, all emissions below 5.725 GHz shall not exceed an e.i.r.p. of −27dBm/MHz at 5.65 GHz increasing linearly to 10dBm/MHz at 5.7 GHz, and from 5.7 GHz increasing linearly to a level of 15.6dBm/MHz at 5.72 GHz, and from 5.72 GHz increasing linearly to a level of 27dBm/MHz at 5.725 GHz.

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.

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

EIRP = ((E*d)^2) / 30

where:

• E is the field strength in V/m;

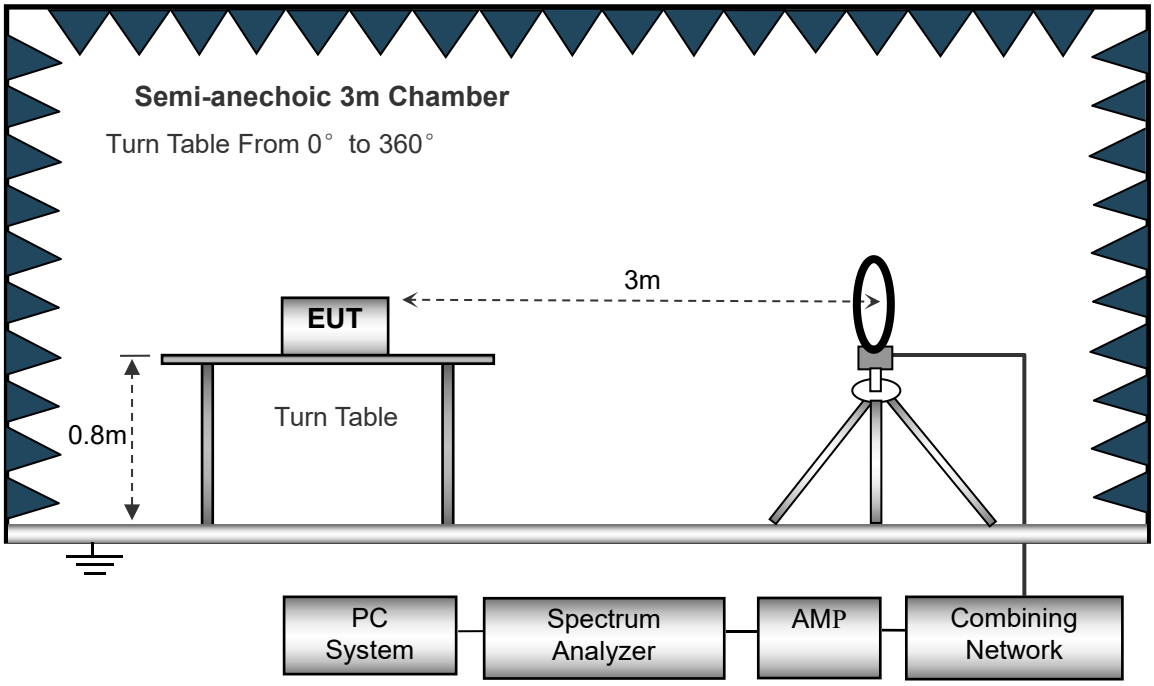
• d is the measurement distance in meters;

• EIRP is the equivalent isotropically radiated power in watts.

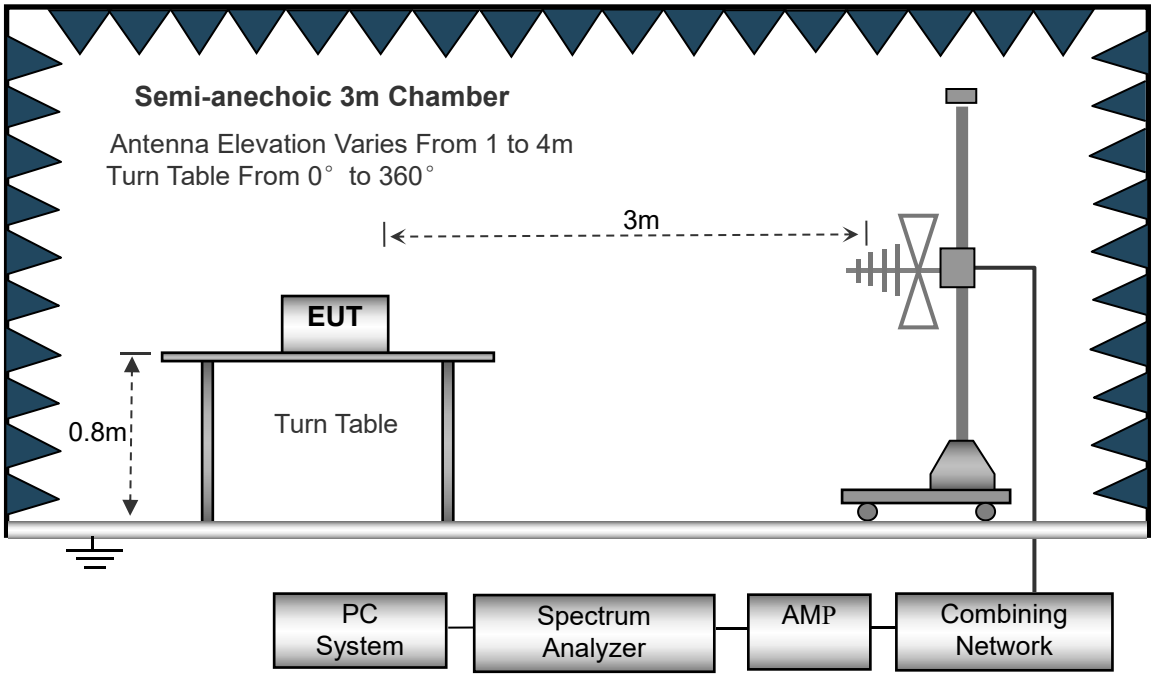
8.2 Test Procedure

The setup of EUT is according with per ANSI C63.10-2013 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.

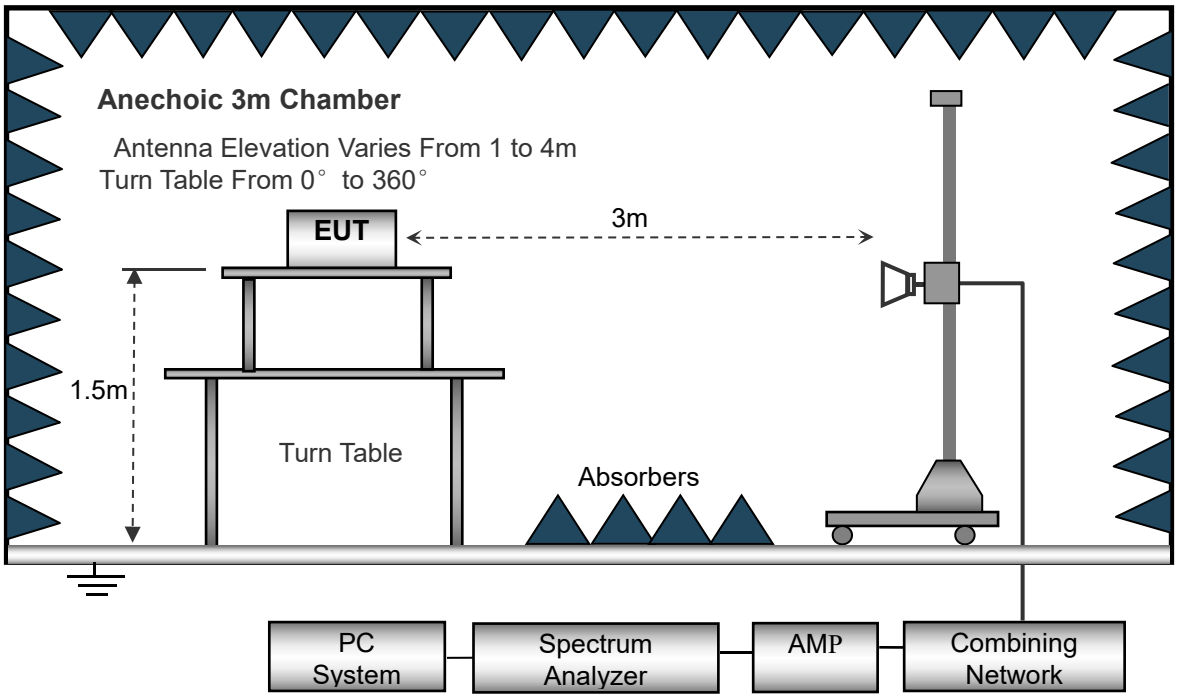
The test setup for emission measurement below 30MHz.



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



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:

Corr. Ampl. = Indicated Reading + Ant. Factor + Cable Loss – Ampl. Gain

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

Margin = Corr. Ampl. – FCC Part 15 Limit

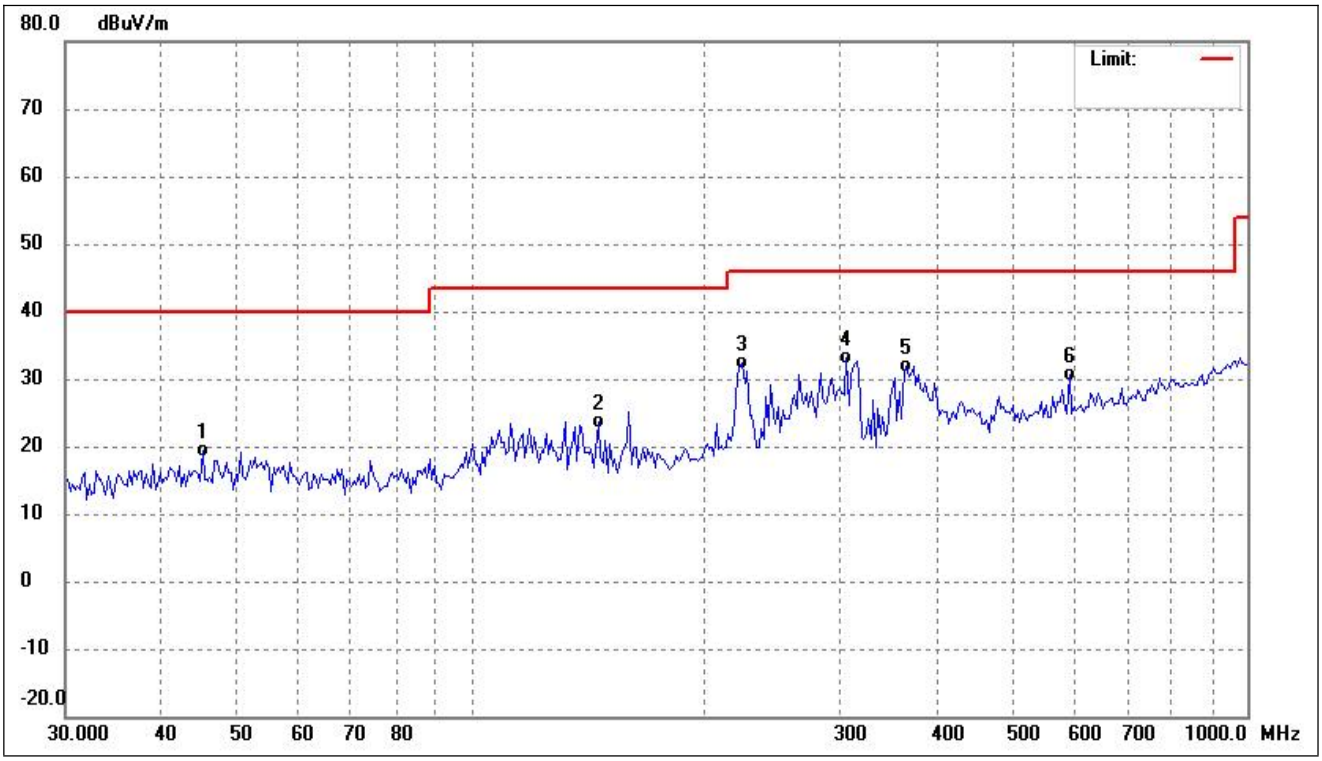
8.5 Summary of Test Results/Plots

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

- Spurious Emission From 30MHz to 1GHz

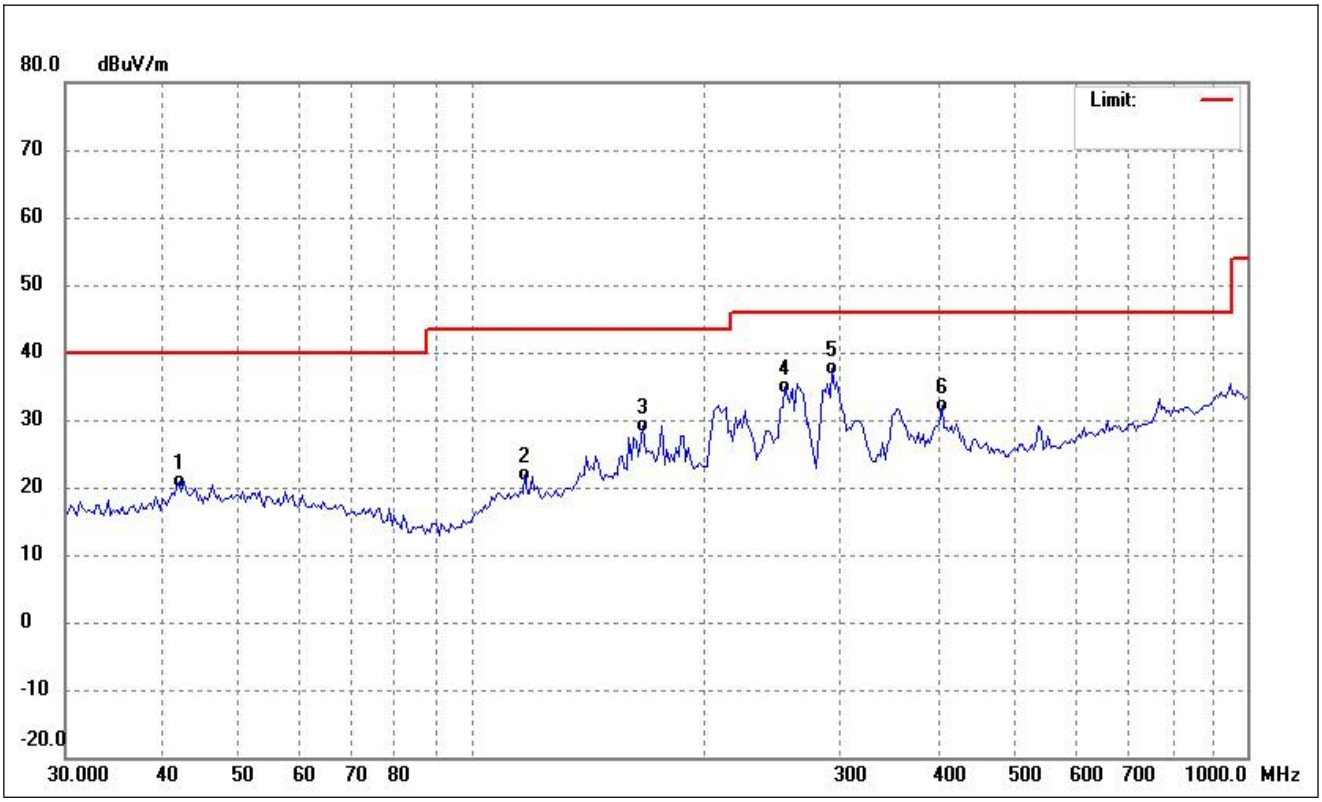
- Antenna 1(worst case)
- 5150-5250MHz

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



No.	Frequency	Reading	Corr.	Result	Limit	Margin	Deg.	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	45.0951	28.49	-9.07	19.42	40.00	-20.58	-	-	QP
2	145.8109	32.77	-9.10	23.67	43.50	-19.83	-	-	QP
3	223.8482	43.70	-11.42	32.28	46.00	-13.72	-	-	QP
4	304.9548	40.87	-7.65	33.22	46.00	-12.78	-	-	QP
5	363.5231	38.61	-6.79	31.82	46.00	-14.18	-	-	QP
6	590.3511	33.11	-2.36	30.75	46.00	-15.25	-	-	QP

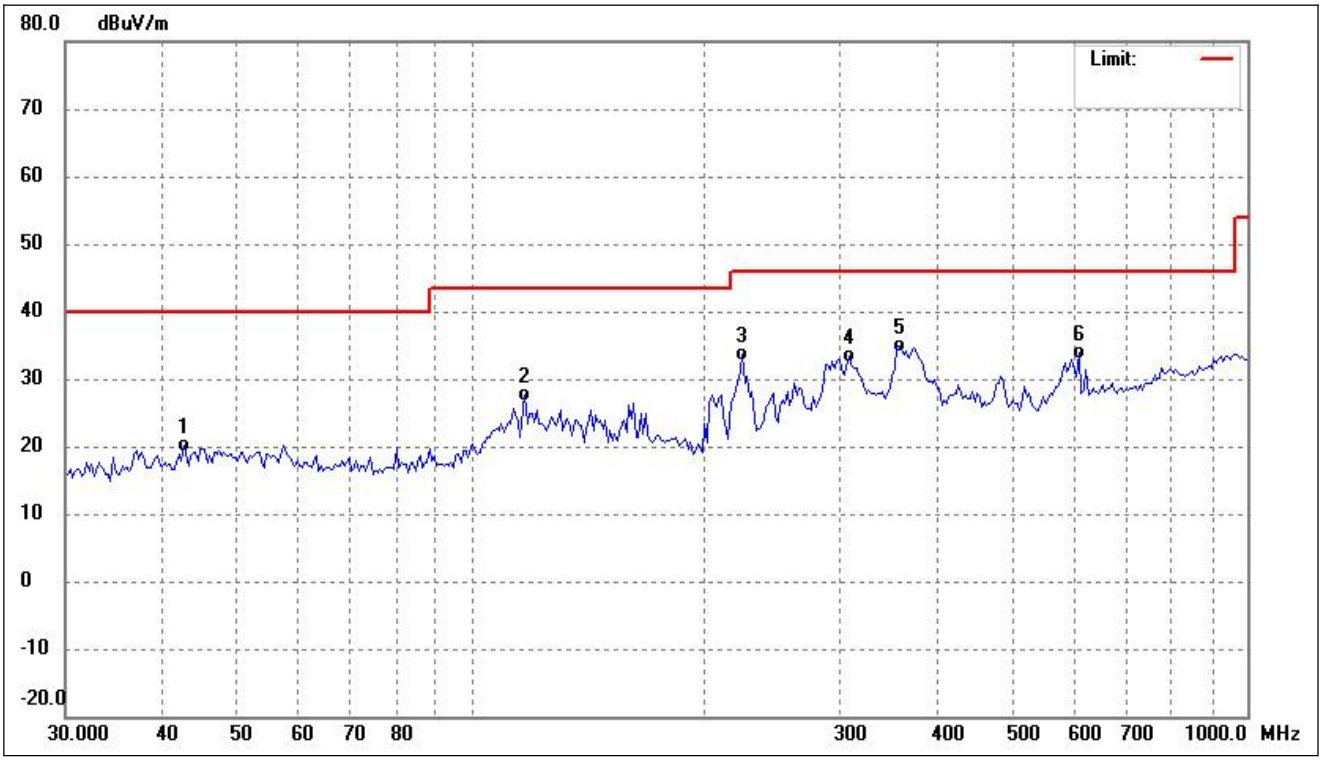
802.11a(Worst case)			
Test Channel	5180MHz(Worst case)	Polarity:	Vertical



No.	Frequency	Reading	Corr.	Result	Limit	Margin	Deg.	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	42.0350	30.19	-9.39	20.80	40.00	-19.20	-	-	QP
2	117.2688	32.90	-11.14	21.76	43.50	-21.74	-	-	QP
3	166.6385	37.99	-8.75	29.24	43.50	-14.26	-	-	QP
4	254.0312	44.20	-9.43	34.77	46.00	-11.23	-	-	QP
5	292.3643	45.50	-7.91	37.59	46.00	-8.41	-	-	QP
6	403.9335	38.04	-6.03	32.01	46.00	-13.99	-	-	QP

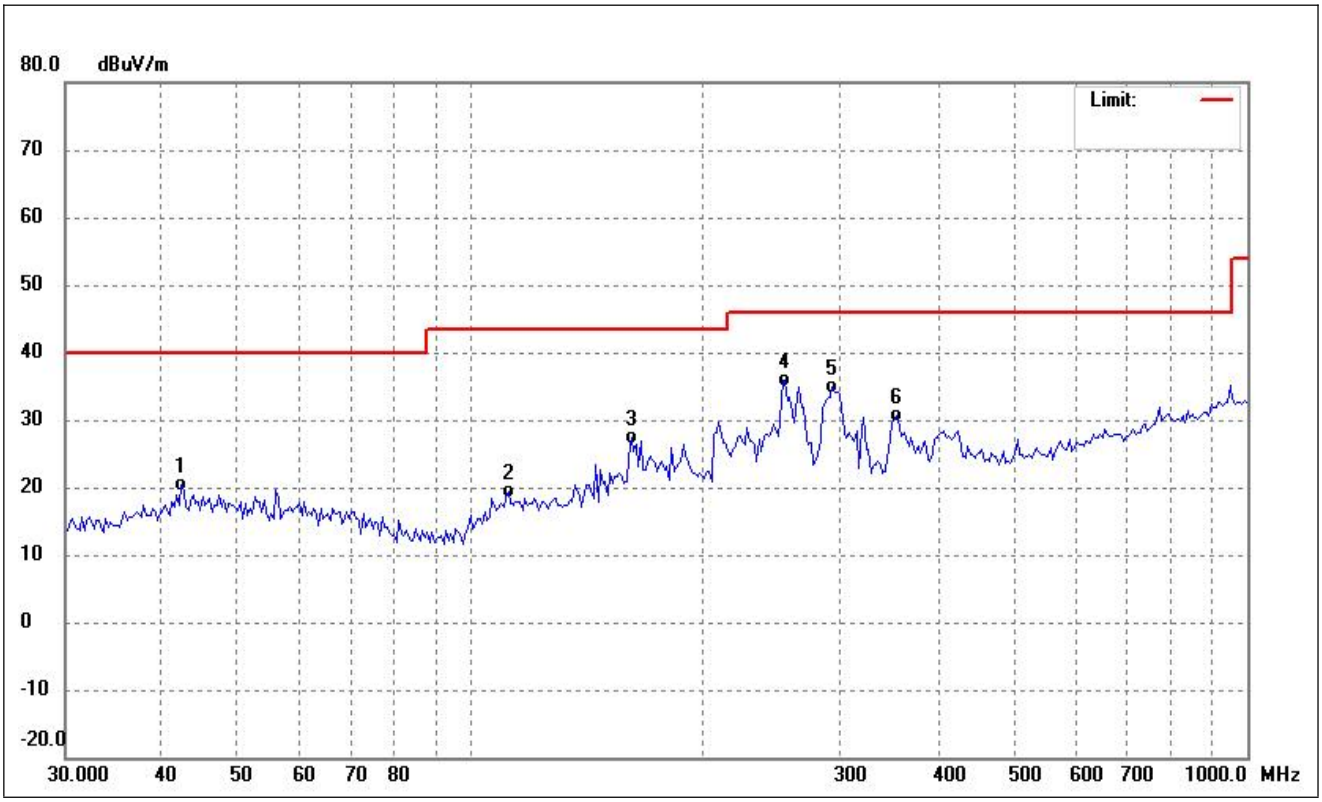
➢ 5250-5350MHz

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



No.	Frequency	Reading	Corr.	Result	Limit	Margin	Deg.	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	42.6299	29.45	-9.30	20.15	40.00	-19.85	-	-	QP
2	117.2688	38.71	-11.14	27.57	43.50	-15.93	-	-	QP
3	223.8482	45.10	-11.42	33.68	46.00	-12.32	-	-	QP
4	307.1053	41.00	-7.60	33.40	46.00	-12.60	-	-	QP
5	355.9397	41.91	-6.92	34.99	46.00	-11.01	-	-	QP
6	607.1806	36.01	-2.07	33.94	46.00	-12.06	-	-	QP

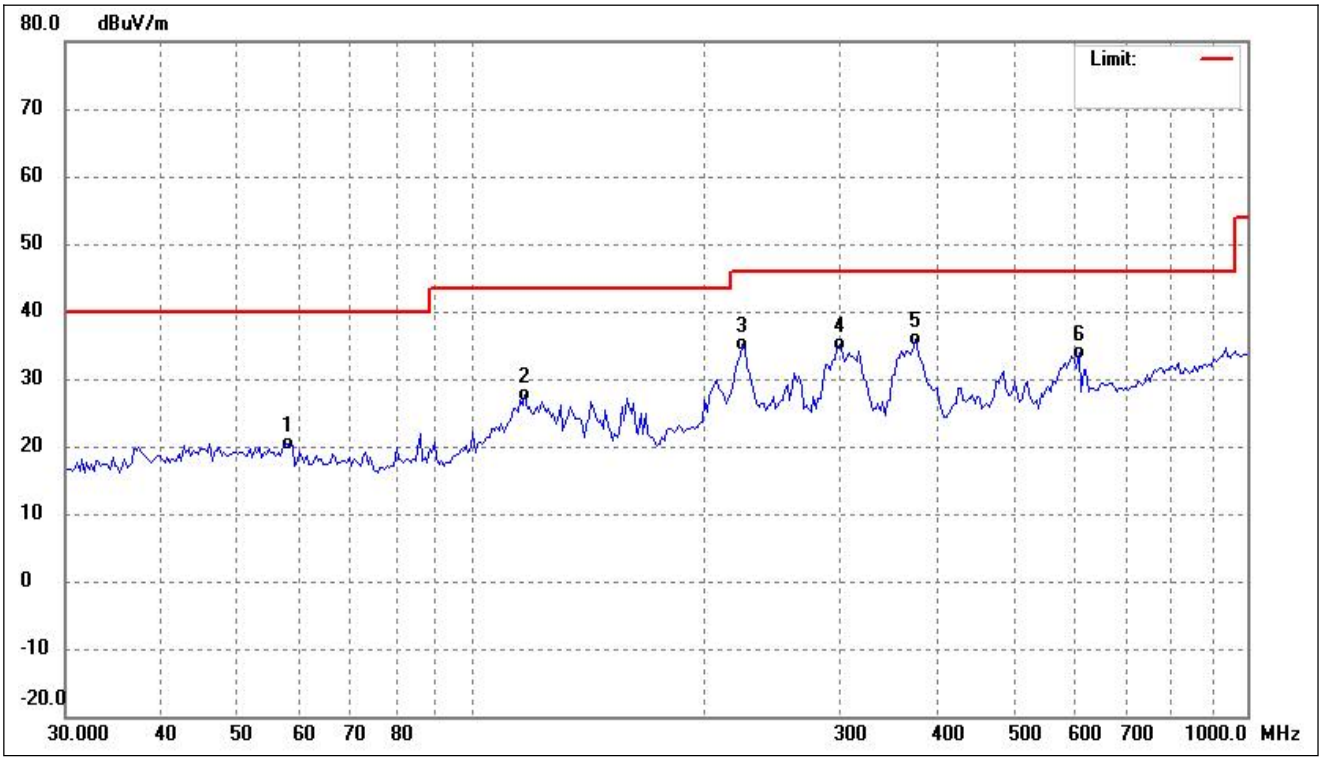
802.11a(Worst case)			
Test Channel	5260MHz(Worst case)	Polarity:	Vertical



No.	Frequency	Reading	Corr.	Result	Limit	Margin	Deg.	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	42.3314	29.62	-9.34	20.28	40.00	-19.72	-	-	QP
2	111.6399	31.22	-11.76	19.46	43.50	-24.04	-	-	QP
3	160.8852	35.96	-8.51	27.45	43.50	-16.05	-	-	QP
4	254.0312	45.27	-9.43	35.84	46.00	-10.16	-	-	QP
5	292.3643	42.89	-7.91	34.98	46.00	-11.02	-	-	QP
6	353.4472	37.71	-6.97	30.74	46.00	-15.26	-	-	QP

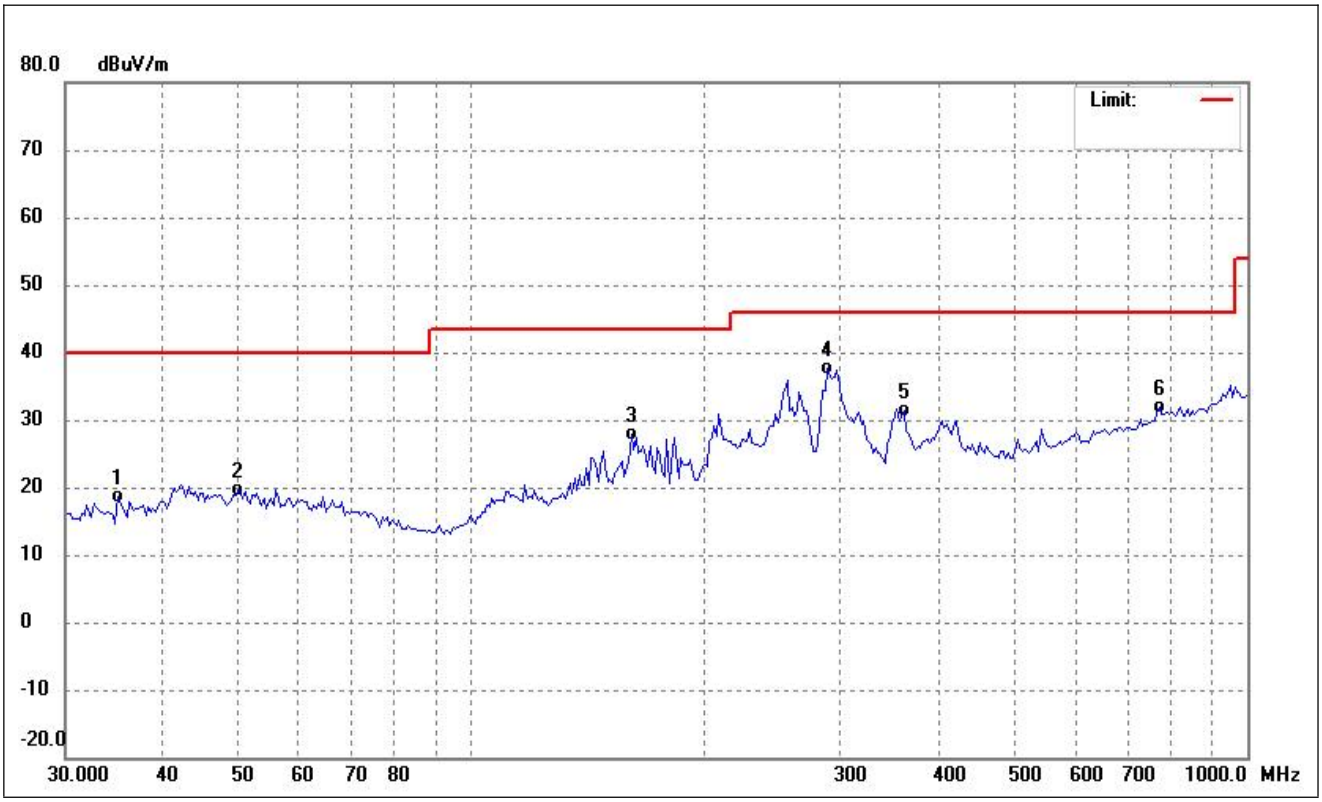
➢ 5470-5725MHz

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



No.	Frequency	Reading	Corr.	Result	Limit	Margin	Deg.	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	58.0759	29.85	-9.39	20.46	40.00	-19.54	-	-	QP
2	117.2688	38.71	-11.14	27.57	43.50	-15.93	-	-	QP
3	223.8482	46.60	-11.42	35.18	46.00	-10.82	-	-	QP
4	298.5932	42.93	-7.76	35.17	46.00	-10.83	-	-	QP
5	373.8862	42.50	-6.61	35.89	46.00	-10.11	-	-	QP
6	607.1806	36.01	-2.07	33.94	46.00	-12.06	-	-	QP

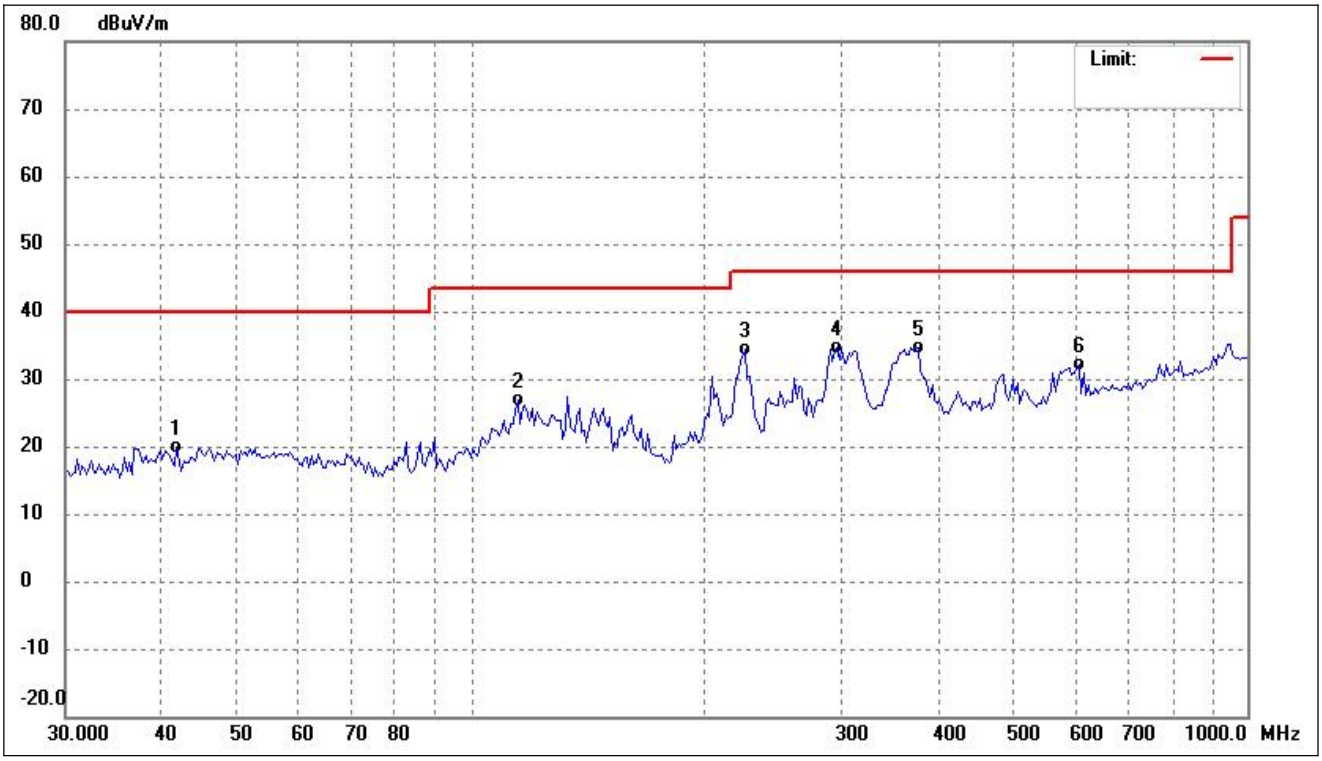
802.11a(Worst case)			
Test Channel	5500MHz(Worst case)	Polarity:	Vertical



No.	Frequency	Reading	Corr.	Result	Limit	Margin	Deg.	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	35.0157	28.76	-10.25	18.51	40.00	-21.49	-	-	QP
2	50.1080	28.69	-8.98	19.71	40.00	-20.29	-	-	QP
3	160.8852	36.46	-8.51	27.95	43.50	-15.55	-	-	QP
4	288.2840	45.60	-8.03	37.57	46.00	-8.43	-	-	QP
5	360.9775	38.25	-6.84	31.41	46.00	-14.59	-	-	QP
6	771.0475	31.40	0.53	31.93	46.00	-14.07	-	-	QP

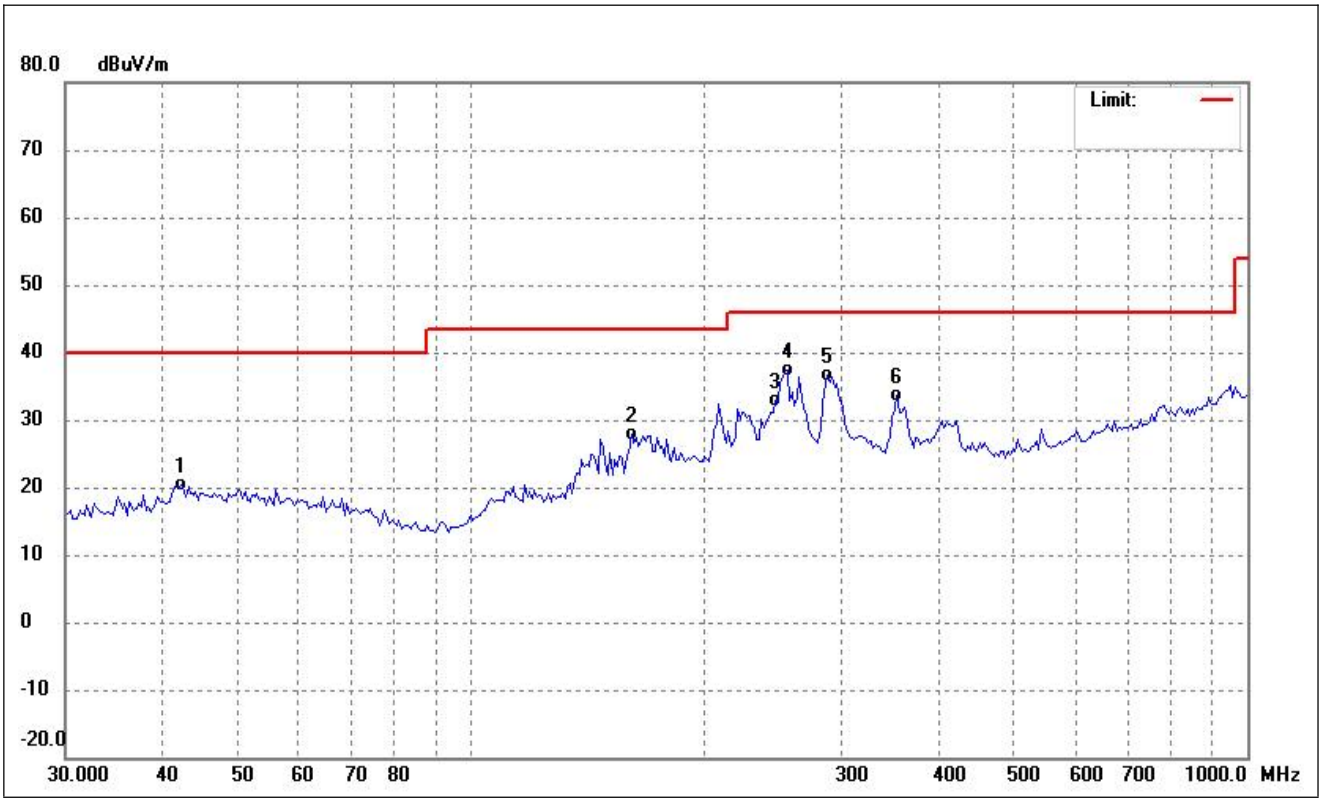
➢ 5725-5850MHz

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



No.	Frequency	Reading	Corr.	Result	Limit	Margin	Deg.	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	41.7406	29.27	-9.42	19.85	40.00	-20.15	-	-	QP
2	114.8224	38.24	-11.34	26.90	43.50	-16.60	-	-	QP
3	225.4267	45.72	-11.29	34.43	46.00	-11.57	-	-	QP
4	296.5023	42.52	-7.81	34.71	46.00	-11.29	-	-	QP
5	376.5228	41.25	-6.55	34.70	46.00	-11.30	-	-	QP
6	607.1806	34.30	-2.07	32.23	46.00	-13.77	-	-	QP

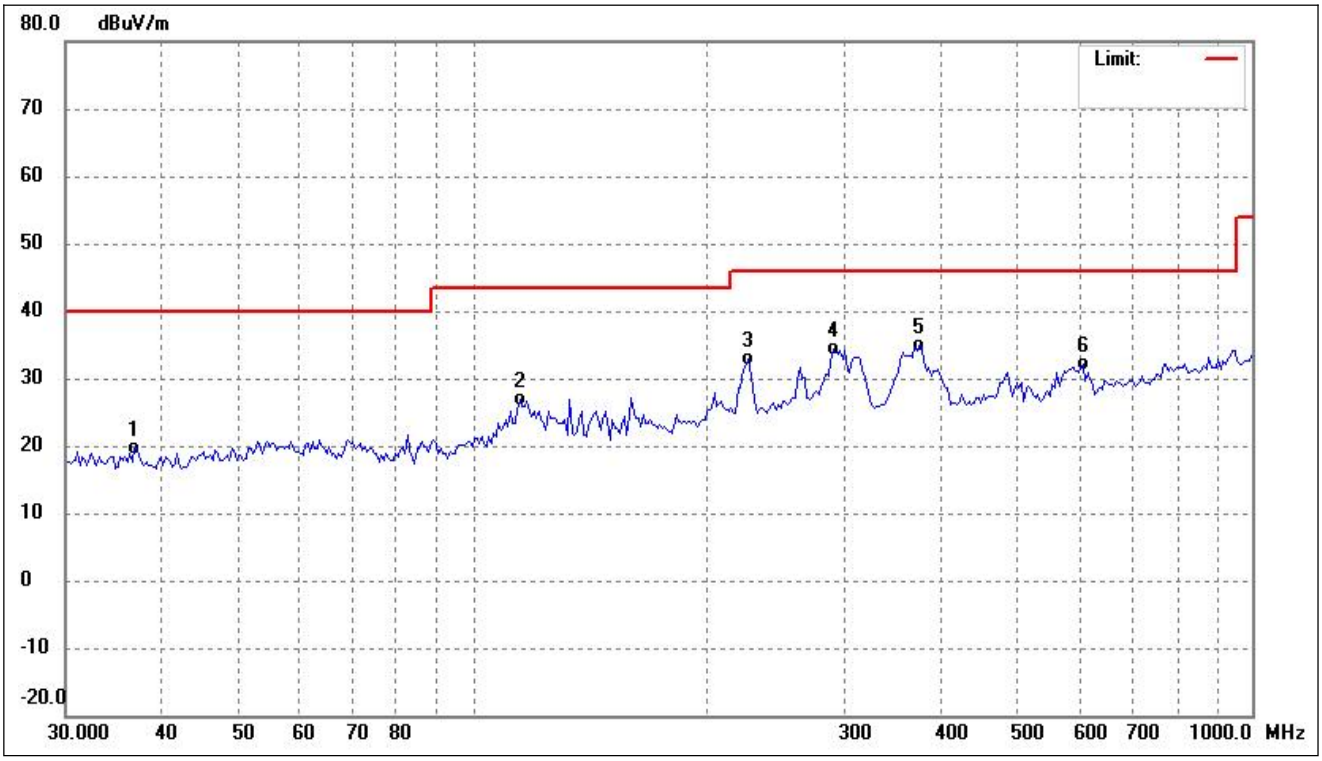
802.11a(Worst case)			
Test Channel	5745MHz(Worst case)	Polarity:	Vertical



No.	Frequency	Reading	Corr.	Result	Limit	Margin	Deg.	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	42.3314	29.62	-9.34	20.28	40.00	-19.72	-	-	QP
2	160.8852	36.46	-8.51	27.95	43.50	-15.55	-	-	QP
3	246.9901	42.51	-9.71	32.80	46.00	-13.20	-	-	QP
4	255.8226	46.74	-9.38	37.36	46.00	-8.64	-	-	QP
5	288.2840	44.60	-8.03	36.57	46.00	-9.43	-	-	QP
6	353.4472	40.63	-6.97	33.66	46.00	-12.34	-	-	QP

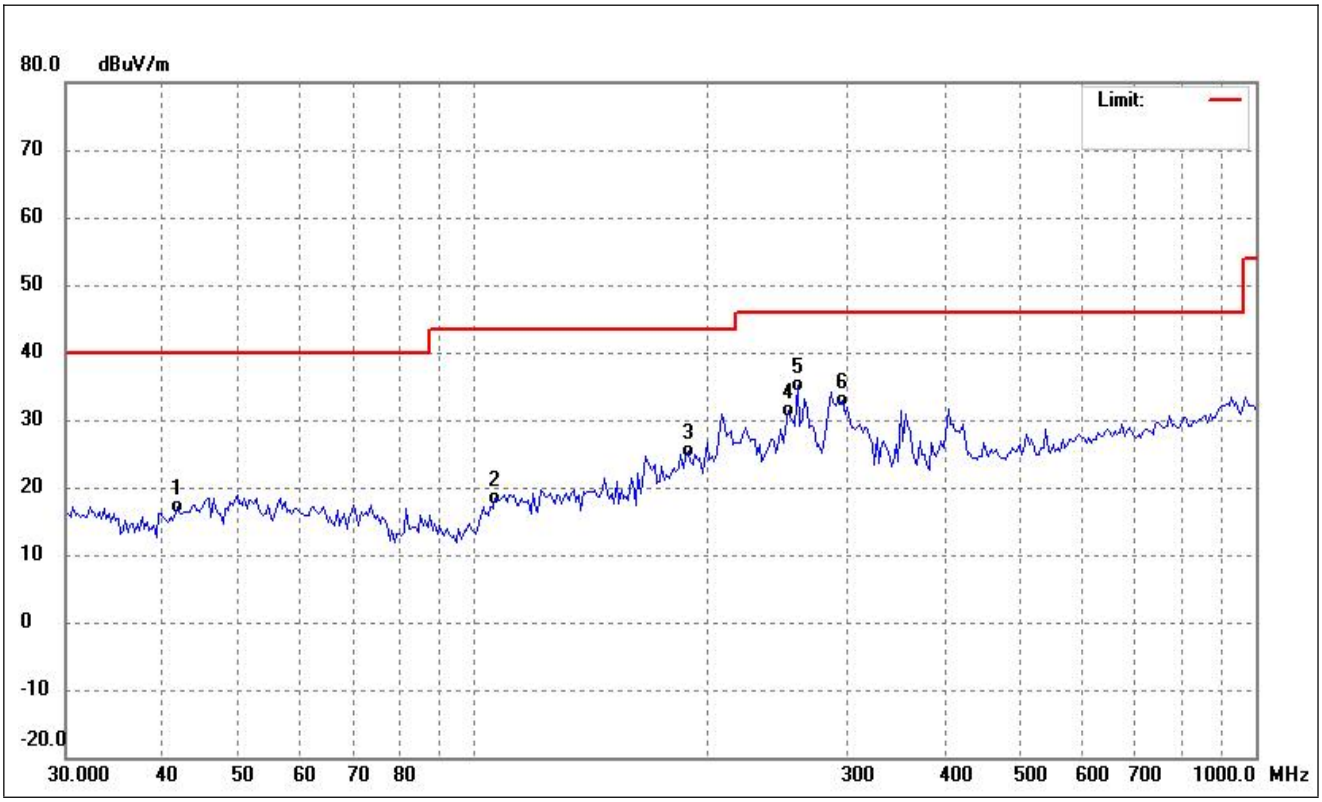
➢ 5850-5895MHz

802.11a(Worst case)			
Test Channel	5845MHz(Worst case)	Polarity:	Horizontal



No.	Frequency	Reading	Corr.	Result	Limit	Margin	Deg.	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	36.7811	29.56	-9.97	19.59	40.00	-20.41	-	-	QP
2	114.8224	38.24	-11.34	26.90	43.50	-16.60	-	-	QP
3	225.4267	44.22	-11.29	32.93	46.00	-13.07	-	-	QP
4	290.3169	42.28	-7.98	34.30	46.00	-11.70	-	-	QP
5	373.8861	41.45	-6.61	34.84	46.00	-11.16	-	-	QP
6	607.1805	34.30	-2.07	32.23	46.00	-13.77	-	-	QP

802.11a(Worst case)			
Test Channel	5845MHz(Worst case)	Polarity:	Vertical



No.	Frequency	Reading	Corr.	Result	Limit	Margin	Deg.	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	41.7406	26.67	-9.42	17.25	40.00	-22.75	-	-	QP
2	106.2811	31.01	-12.53	18.48	43.50	-25.02	-	-	QP
3	187.7833	36.26	-10.82	25.44	43.50	-18.06	-	-	QP
4	252.2523	40.91	-9.50	31.41	46.00	-14.59	-	-	QP
5	259.4434	44.53	-9.30	35.23	46.00	-10.77	-	-	QP
6	296.5022	40.58	-7.81	32.77	46.00	-13.23	-	-	QP

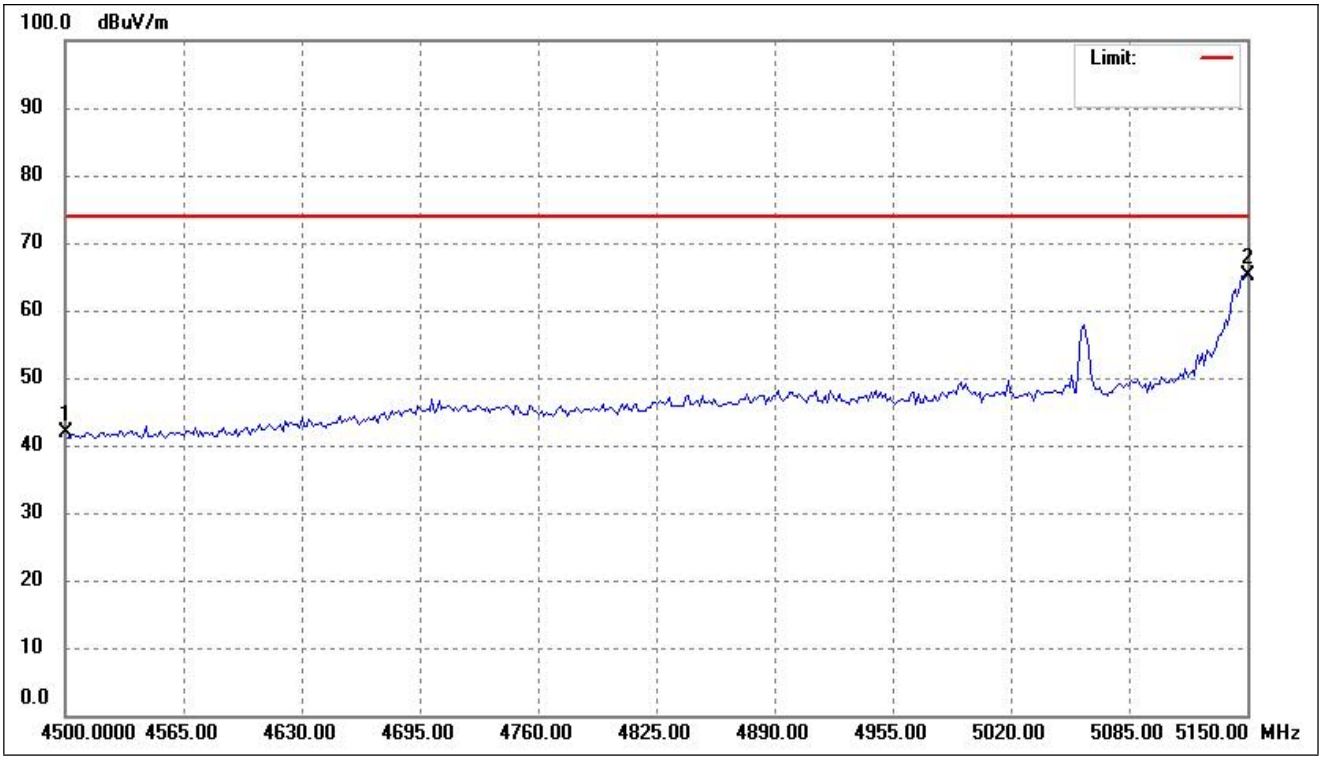
Remark: '-'Means' the test Degree and Height are not recorded by the test software and only show the worst case in the test report.

➢ Spurious Emission above 1GHz

➢ Antenna 1(worst case)

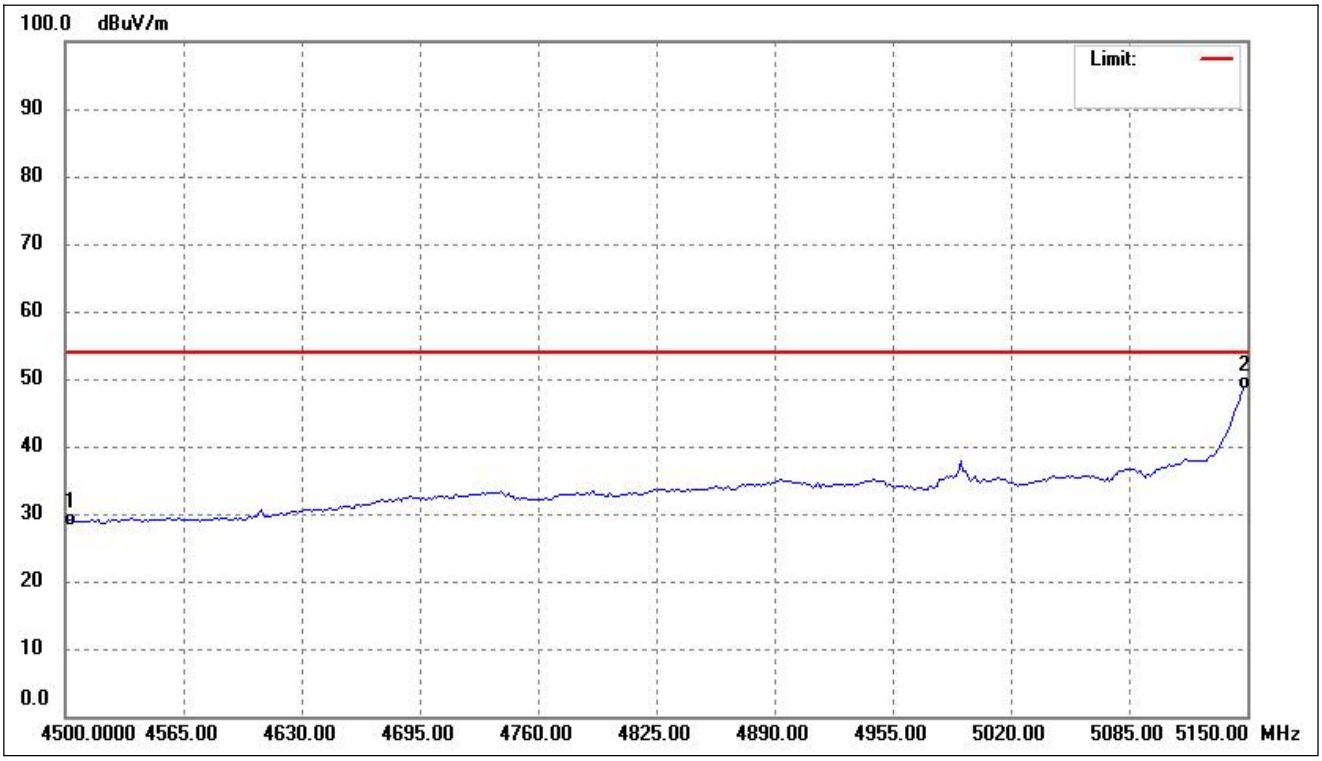
5150-5250MHz

802.11a- Restricted Bandedge			
Test Channel	band 5.15-5.25GHz	Polarity:	Vertical(worst case)



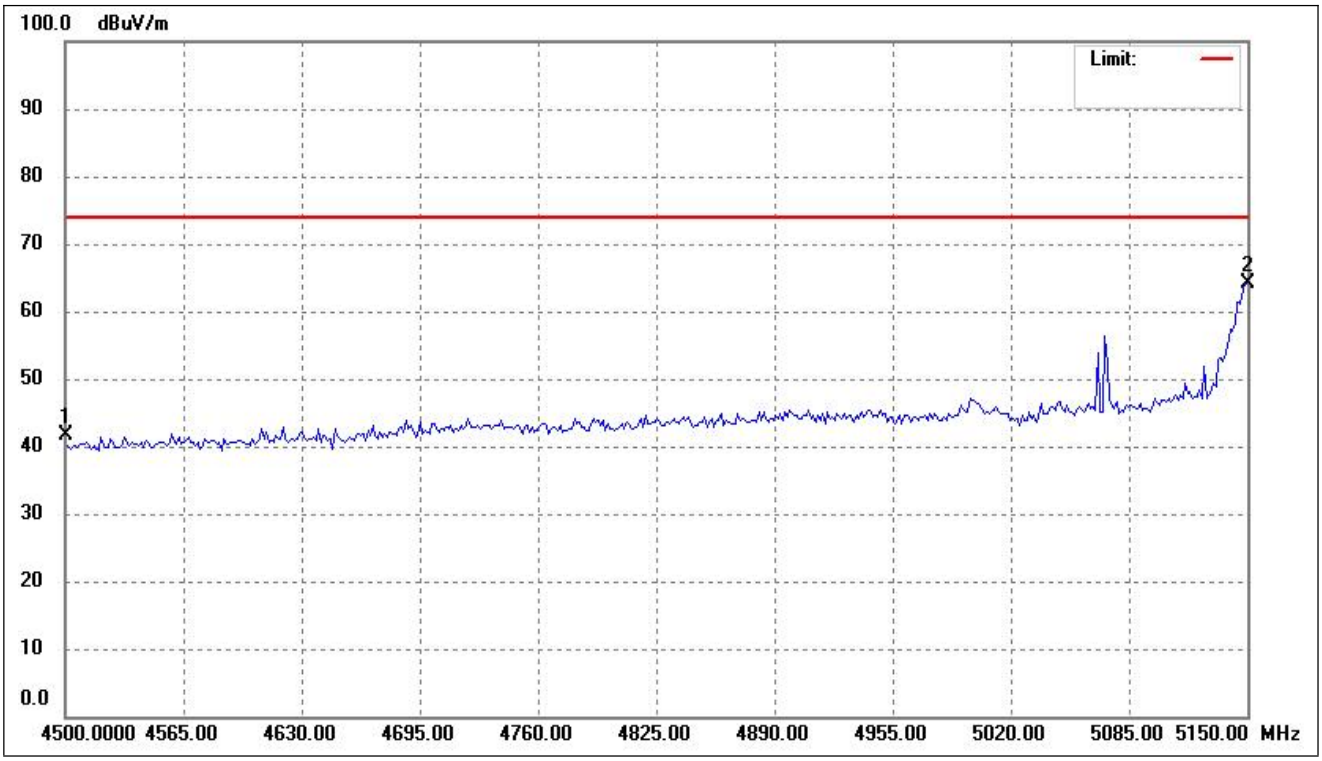
No.	Frequency	Reading	Corr.	Result	Limit	Margin	Deg.	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	4500.000	55.66	-13.87	41.79	74.00	-32.21	-	-	peak
2	5150.000	77.60	-12.53	65.07	74.00	-8.93	-	-	peak

802.11a- Restricted Bandedge			
Test Channel	band 5.15-5.25GHz	Polarity:	Vertical(worst case)



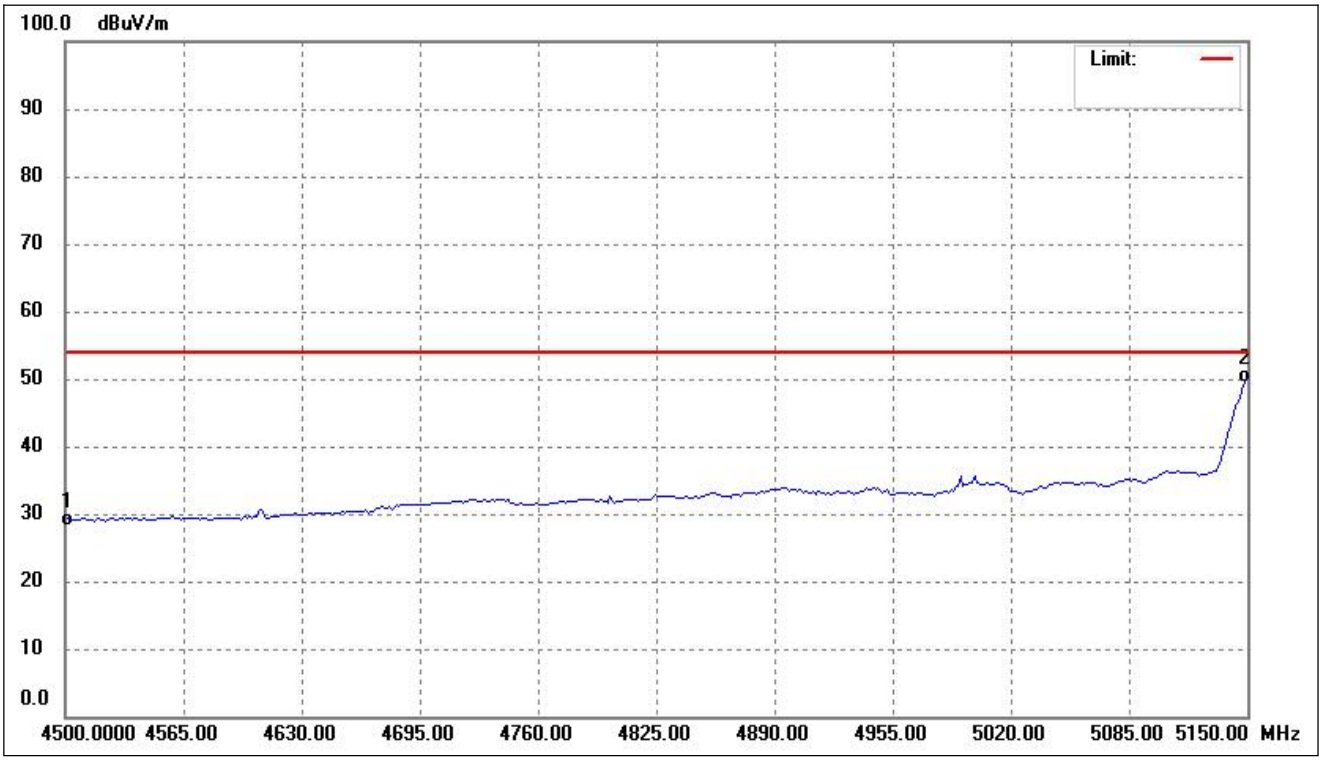
No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	4500.000	42.92	-13.87	29.05	54.00	-24.95	-	-	AVG
2	5150.000	62.01	-12.53	49.48	54.00	-4.52	-	-	AVG

802.11ax-HE40- Restricted Bandedge			
Test Channel	band 5.15-5.25GHz	Polarity:	Vertical(worst case)



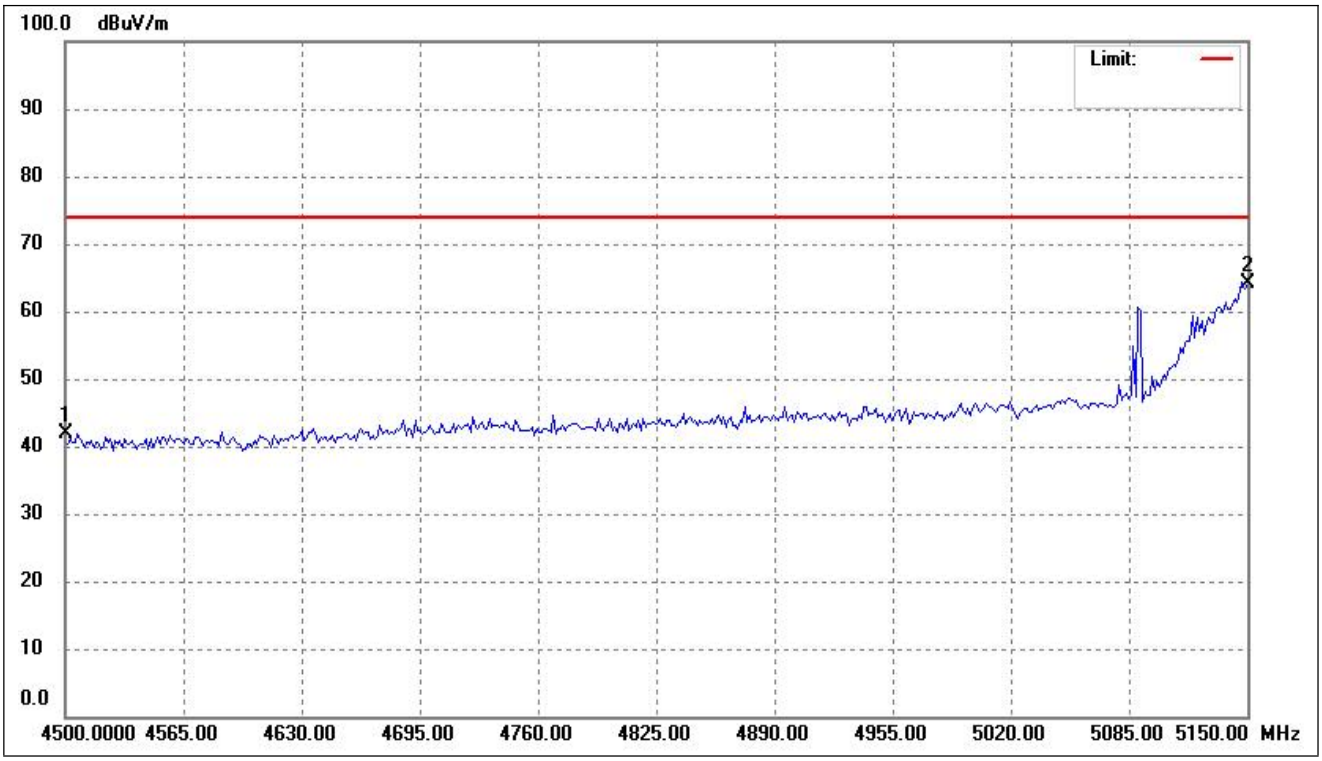
No.	Frequency	Reading	Corr.	Result	Limit	Margin	Deg.	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	4500.000	55.44	-13.87	41.57	74.00	-32.43	-	-	peak
2	5150.000	76.57	-12.53	64.04	74.00	-9.96	-	-	peak

802.11ax-HE40- Restricted Bandedge			
Test Channel	band 5.15-5.25GHz	Polarity:	Vertical(worst case)



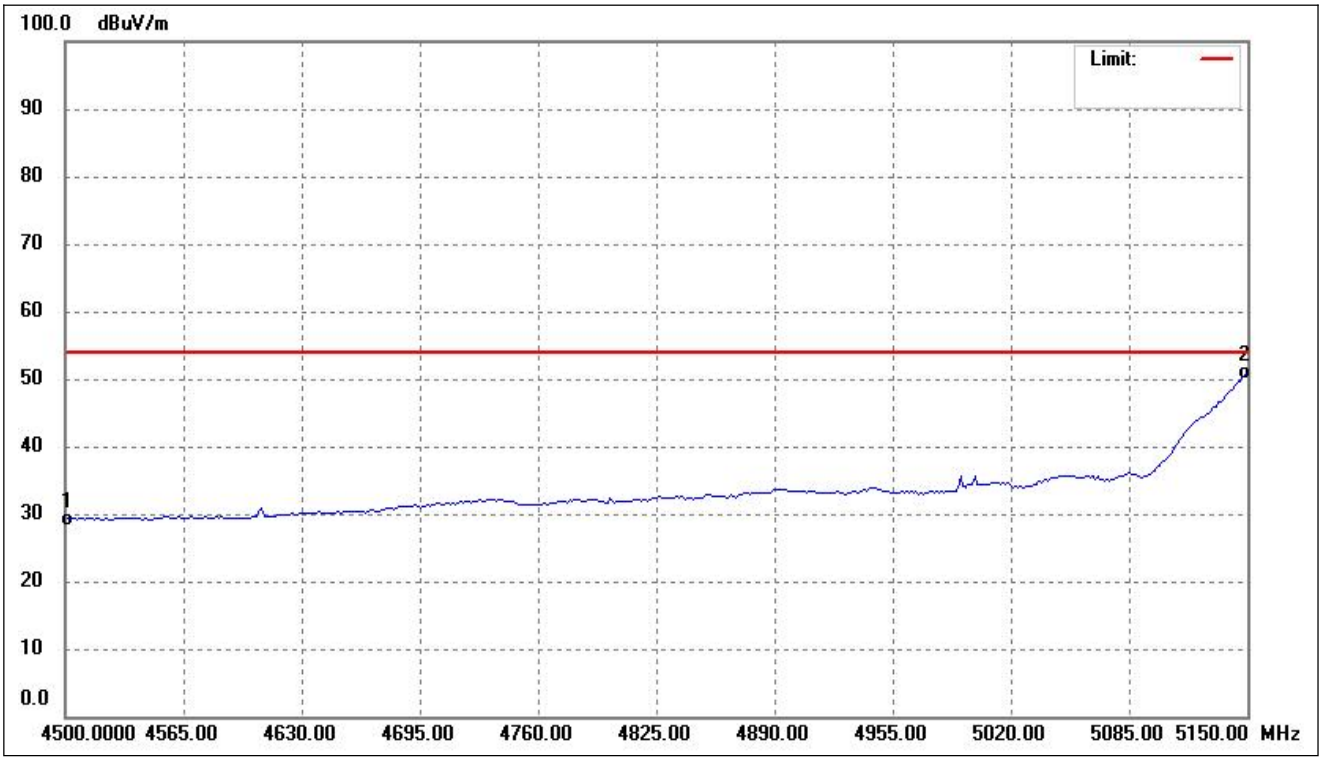
No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	4500.000	42.92	-13.87	29.05	54.00	-24.95	-	-	AVG
2	5150.000	62.81	-12.53	50.28	54.00	-3.72	-	-	AVG

802.11ax-HE80- Restricted Bandedge			
Test Channel	band 5.15-5.25GHz	Polarity:	Vertical(worst case)



No.	Frequency	Reading	Corr.	Result	Limit	Margin	Deg.	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	4500.000	55.81	-13.87	41.94	74.00	-32.06	-	-	peak
2	5150.000	76.64	-12.53	64.11	74.00	-9.89	-	-	peak

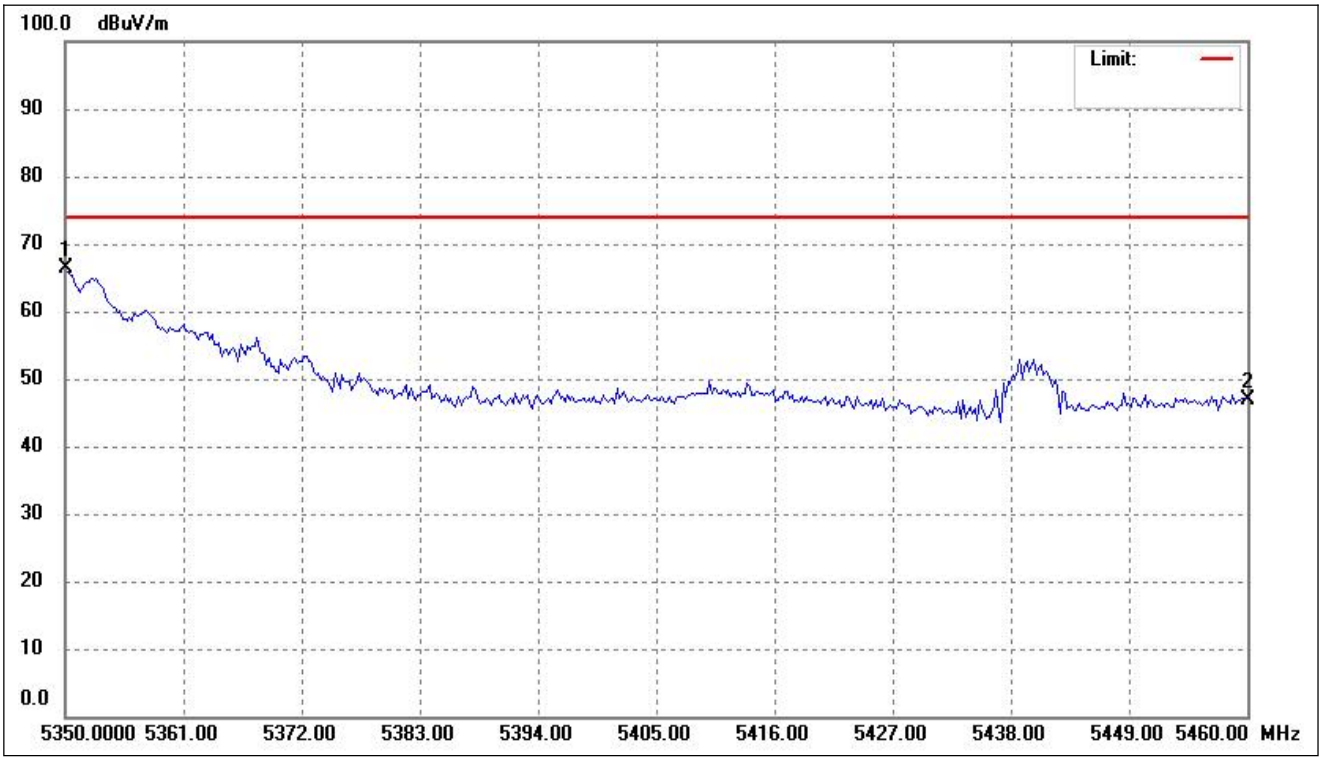
802.11ax-HE80- Restricted Bandedge			
Test Channel	band 5.15-5.25GHz	Polarity:	Vertical(worst case)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	4500.000	43.12	-13.87	29.25	54.00	-24.75	-	-	AVG
2	5150.000	63.44	-12.53	50.91	54.00	-3.09	-	-	AVG

5250-5350MHz

802.11a- Restricted Bandedge			
Test Channel	band 5.25-5.35GHz	Polarity:	Vertical(worst case)

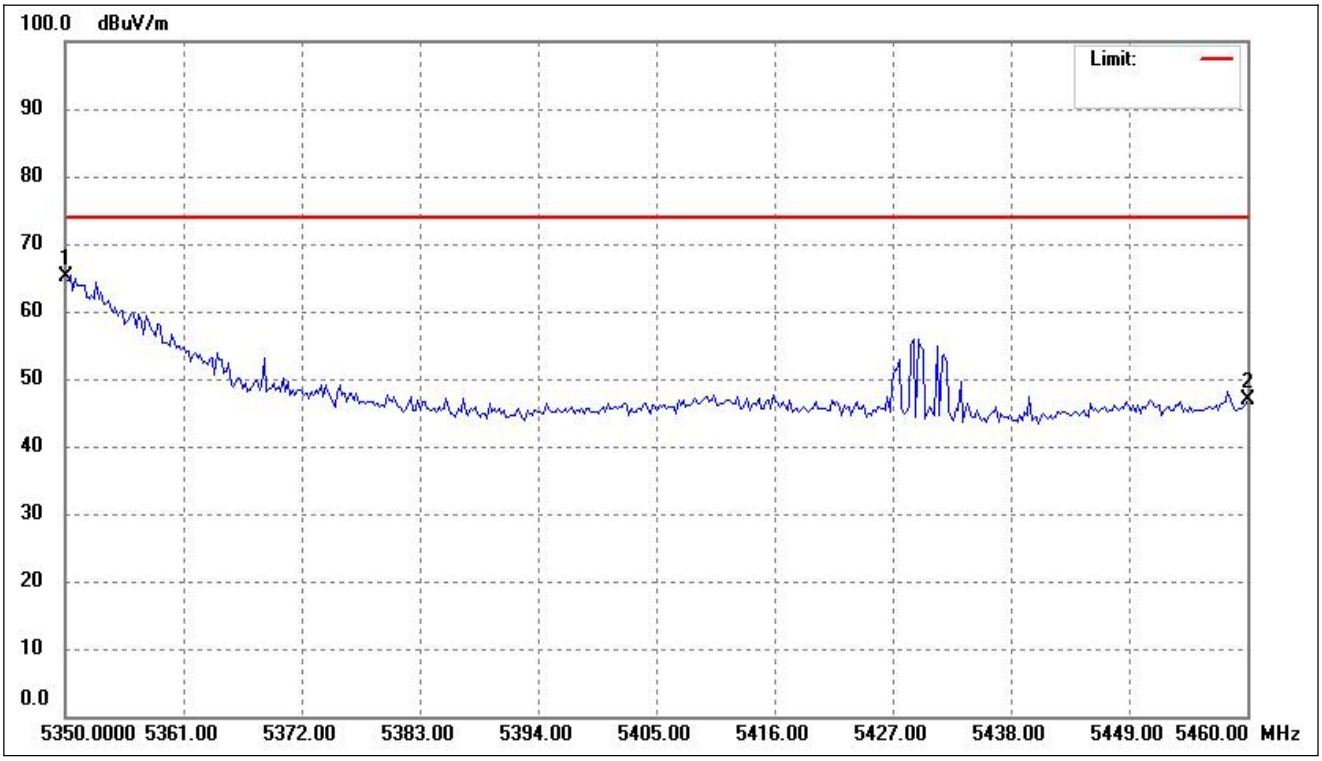


No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	5350.000	77.80	-11.53	66.27	74.00	-7.73	-	-	peak
2	5460.000	57.85	-10.99	46.86	74.00	-27.14	-	-	peak

802.11a- Restricted Bandedge			
Test Channel	band 5.25-5.35GHz	Polarity:	Vertical(worst case)

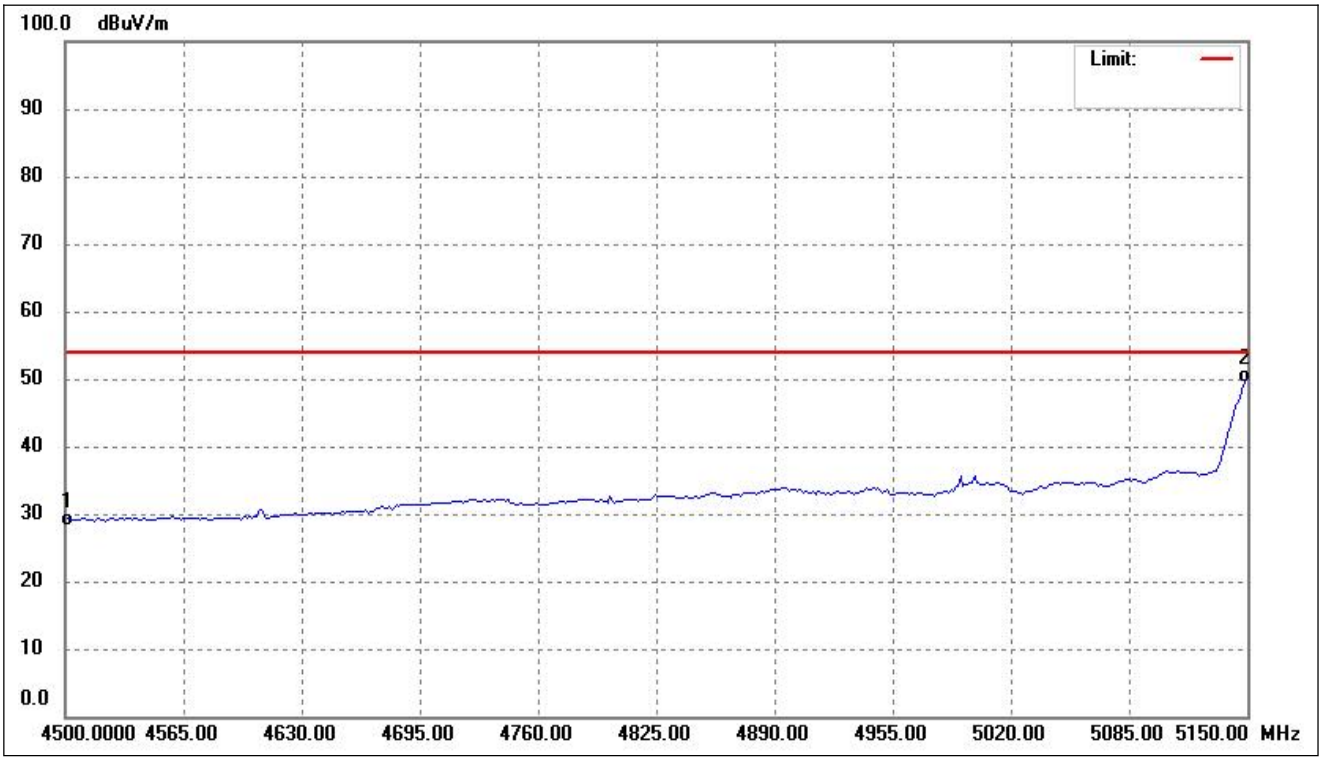
No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	5350.000	63.01	-11.53	51.48	54.00	-2.52	-	-	AVG
2	5460.000	46.31	-10.99	35.32	54.00	-18.68	-	-	AVG

802.11ax-HE40- Restricted Bandedge			
Test Channel	band 5.25-5.35GHz	Polarity:	Vertical(worst case)



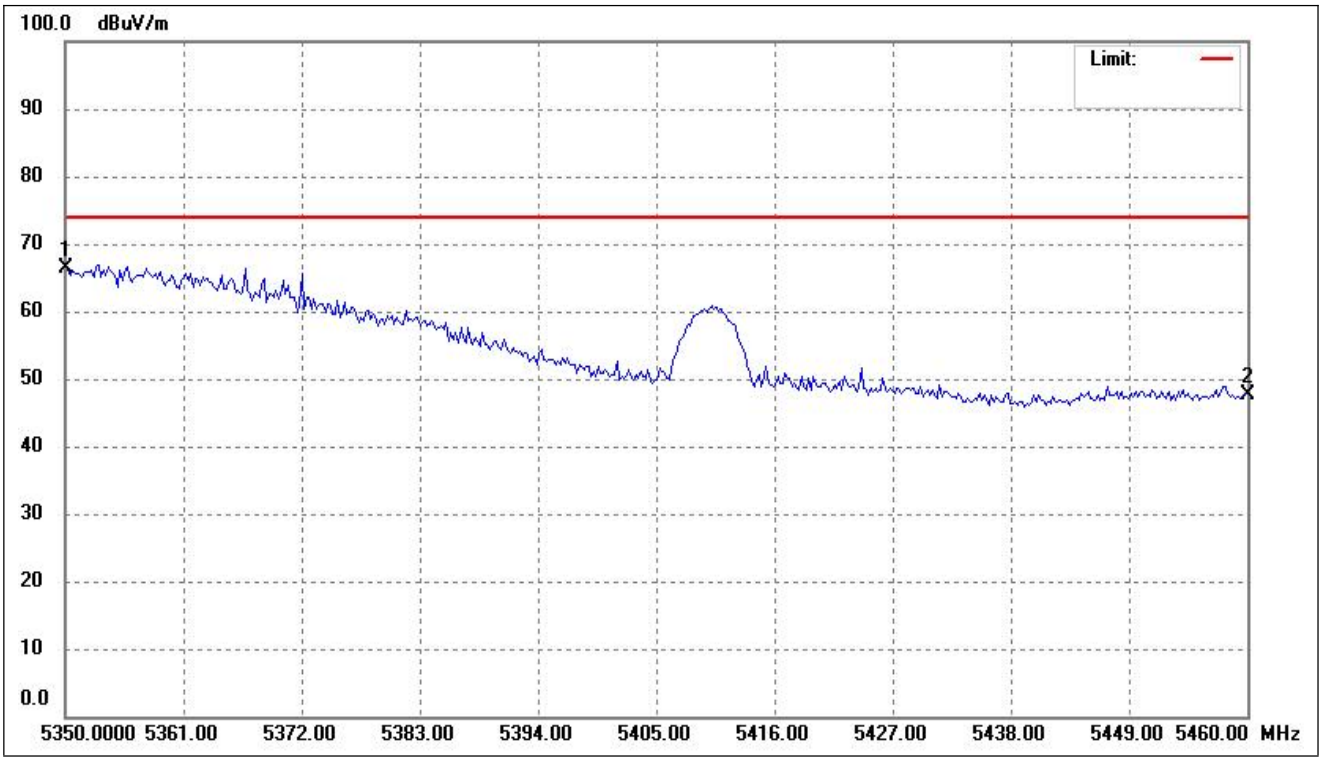
No.	Frequency	Reading	Corr.	Result	Limit	Margin	Deg.	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	5350.000	76.56	-11.53	65.03	74.00	-8.97	-	-	peak
2	5460.000	57.82	-10.99	46.83	74.00	-27.17	-	-	peak

802.11ax-HE40- Restricted Bandedge			
Test Channel	band 5.25-5.35GHz	Polarity:	Vertical(worst case)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	5350.000	62.07	-11.53	50.54	54.00	-3.46	-	-	AVG
2	5460.000	45.03	-10.99	34.04	54.00	-19.96	-	-	AVG

802.11ax-HE80- Restricted Bandedge			
Test Channel	band 5.25-5.35GHz	Polarity:	Vertical(worst case)



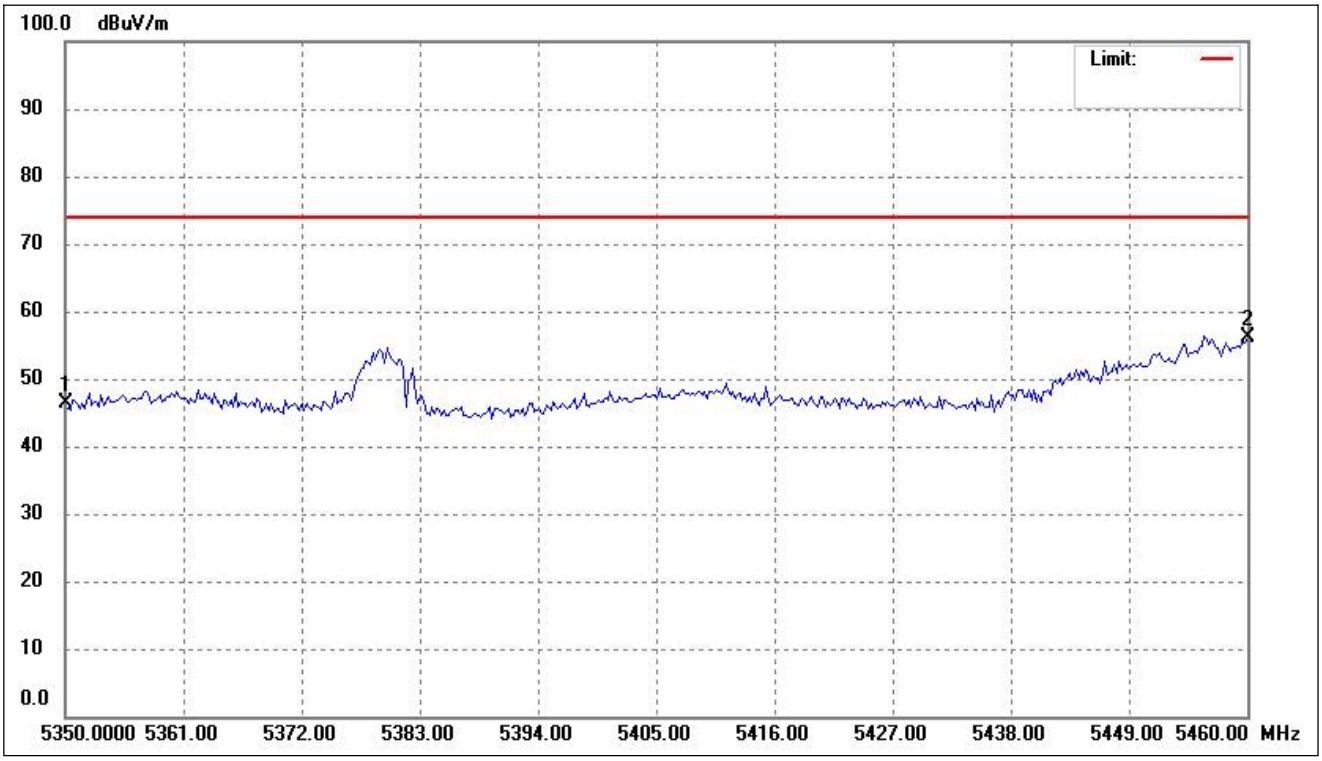
No.	Frequency	Reading	Corr.	Result	Limit	Margin	Deg.	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	5350.000	77.88	-11.53	66.35	74.00	-7.65	-	-	peak
2	5460.000	58.52	-10.99	47.53	74.00	-26.47	-	-	peak

802.11ax-HE80- Restricted Bandedge			
Test Channel	band 5.25-5.35GHz	Polarity:	Vertical(worst case)

No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	5350.000	63.54	-11.53	52.01	54.00	-1.99	-	-	AVG
2	5460.000	46.72	-10.99	35.73	54.00	-18.27	-	-	AVG

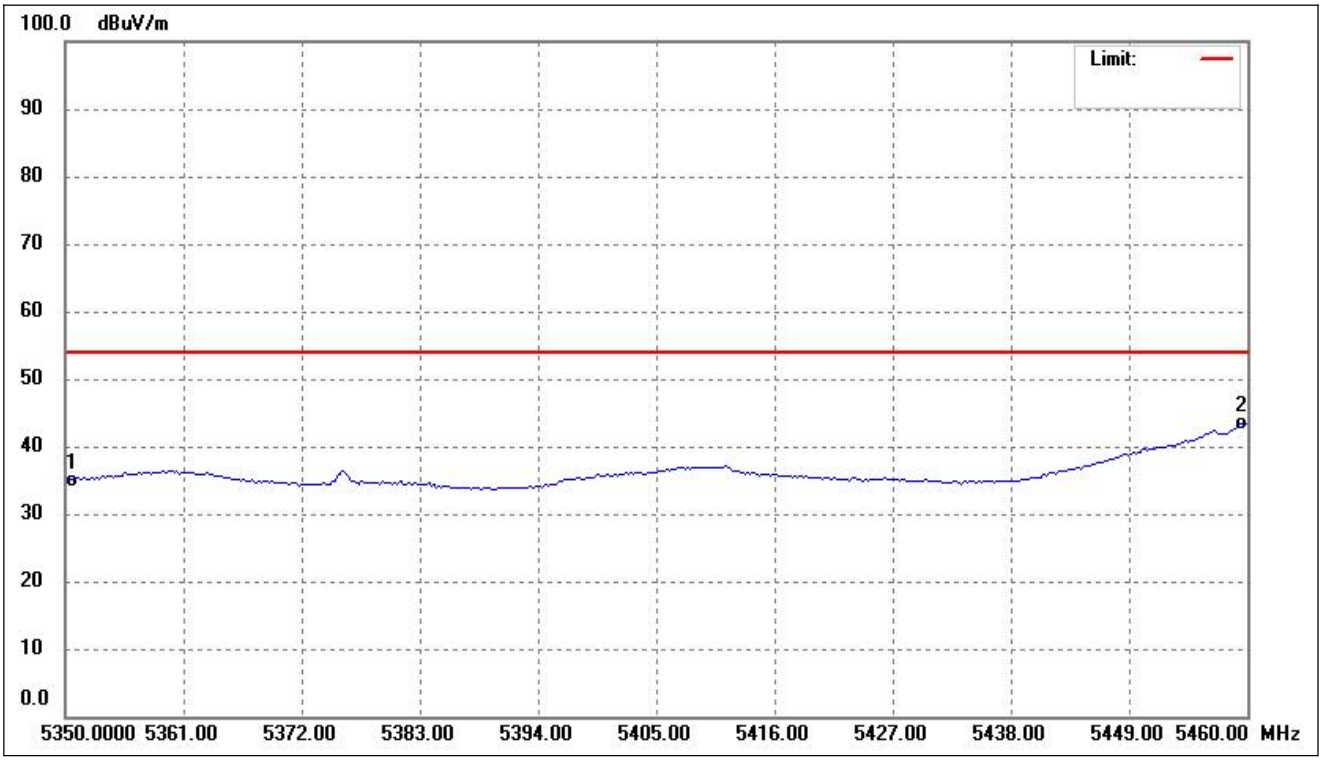
5470-5725MHz

802.11a- Restricted Bandedge			
Test Channel	band 5.47-5.72GHz	Polarity:	Vertical(worst case)



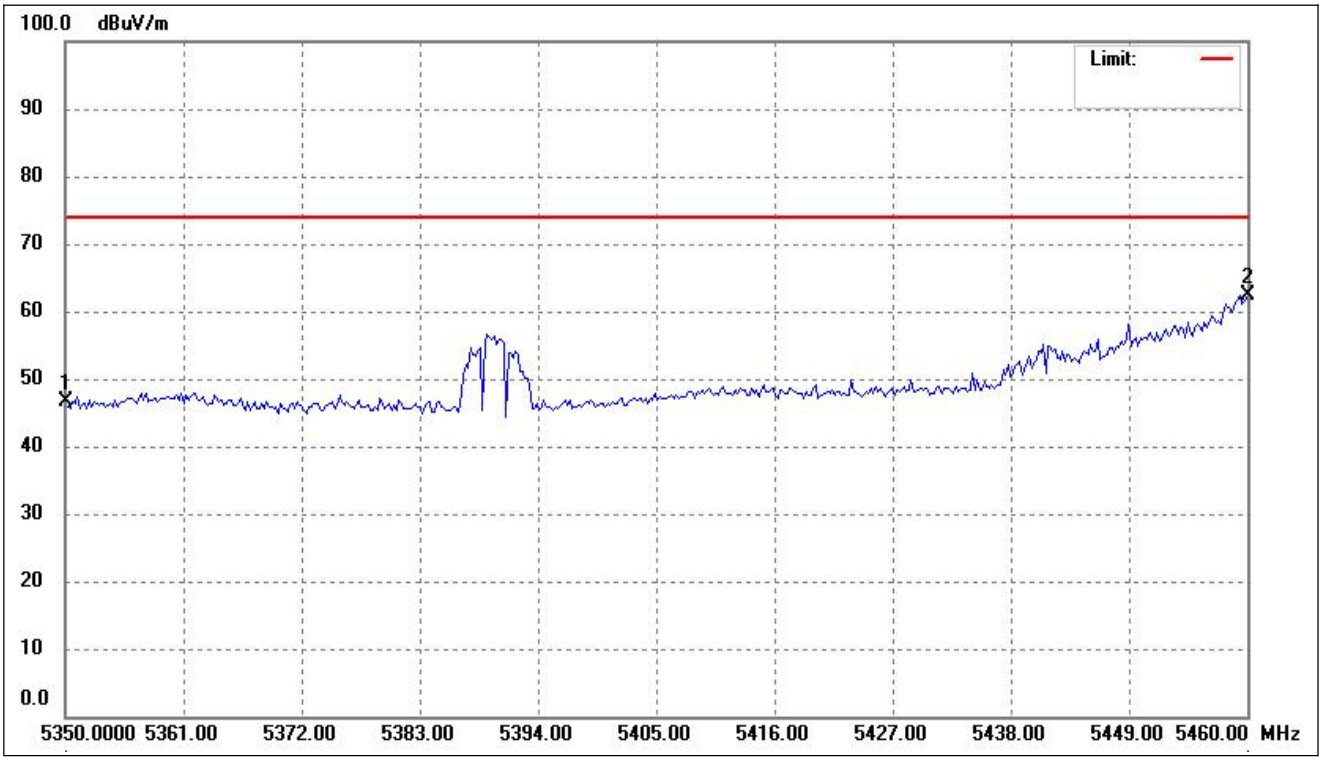
No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	5350.000	57.85	-11.53	46.32	74.00	-27.68	-	-	peak
2	5460.000	67.06	-10.99	56.07	74.00	-17.93	-	-	peak

802.11a- Restricted Bandedge			
Test Channel	band 5.47-5.72GHz	Polarity:	Vertical(worst case)



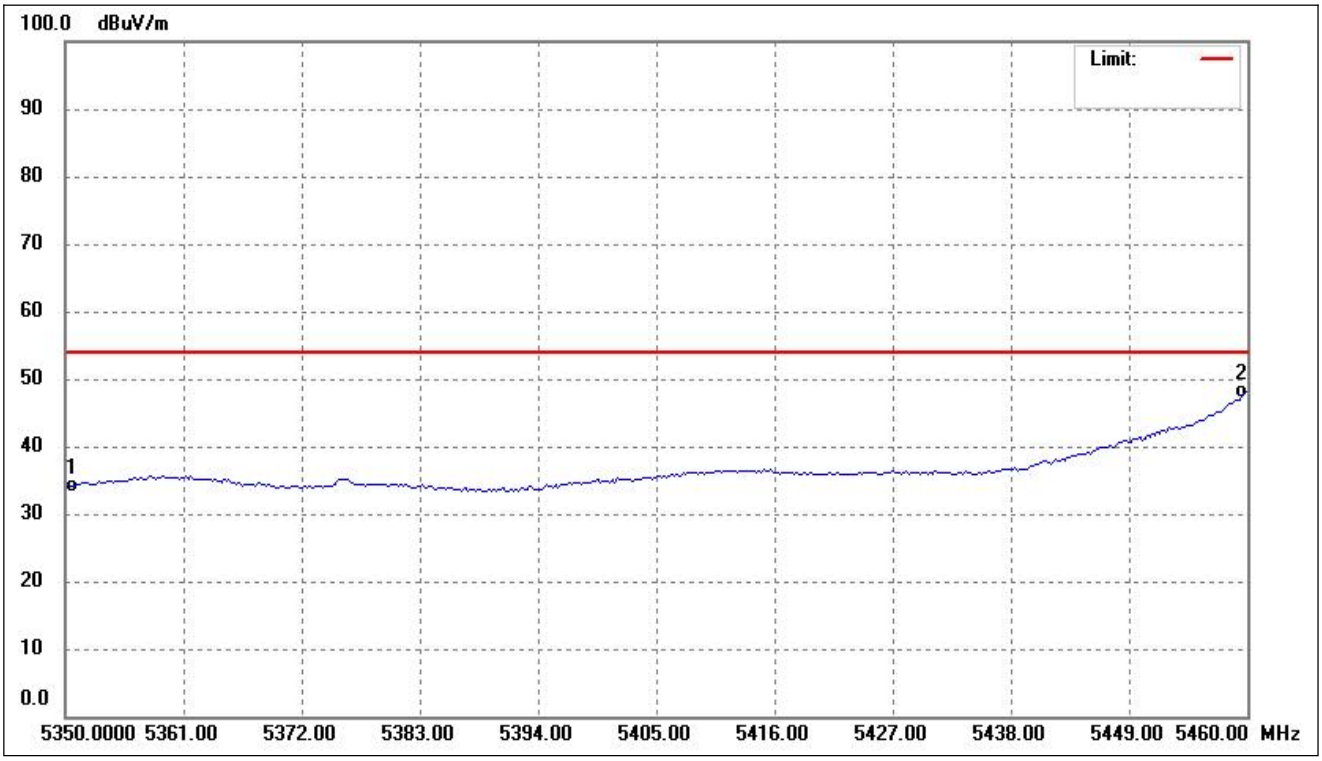
No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	5350.000	46.51	-11.53	34.98	54.00	-19.02	-	-	AVG
2	5460.000	54.49	-10.99	43.50	54.00	-10.50	-	-	AVG

802.11ax-HE40- Restricted Bandedge			
Test Channel	band 5.47-5.72GHz	Polarity:	Vertical(worst case)



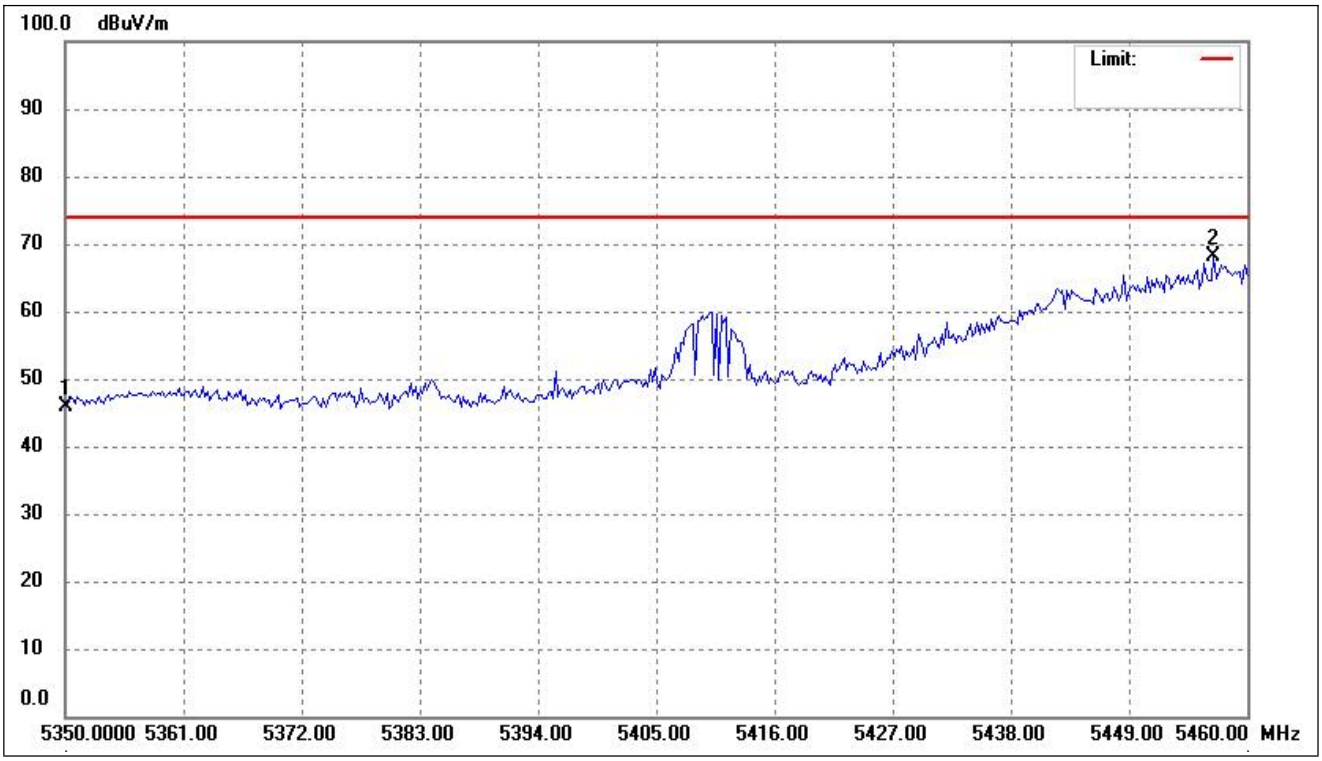
No.	Frequency	Reading	Corr.	Result	Limit	Margin	Deg.	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	5350.000	58.07	-11.53	46.54	74.00	-27.46	-	-	peak
2	5460.000	73.39	-10.99	62.40	74.00	-11.60	-	-	peak

802.11ax-HE40- Restricted Bandedge			
Test Channel	band 5.47-5.72GHz	Polarity:	Vertical(worst case)



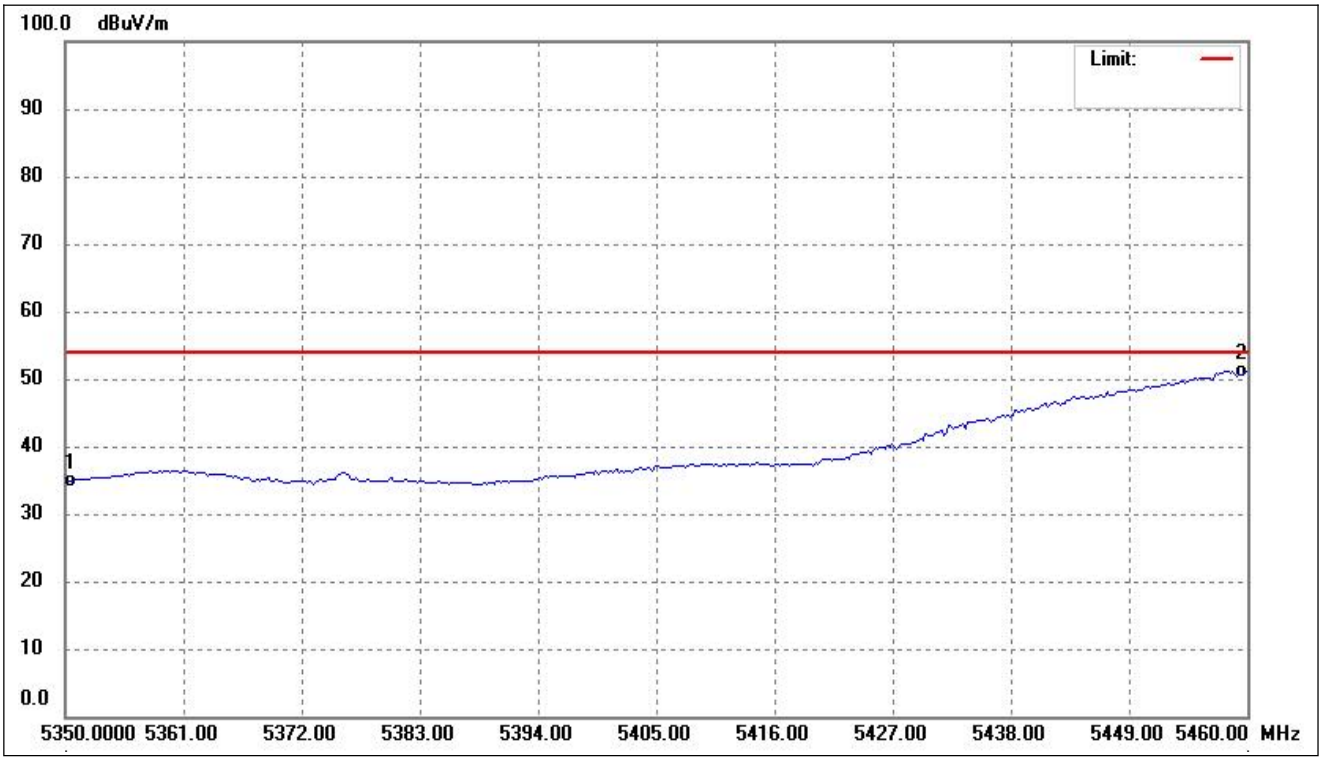
No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	5350.000	45.65	-11.53	34.12	54.00	-19.88	-	-	AVG
2	5460.000	59.03	-10.99	48.04	54.00	-5.96	-	-	AVG

802.11ax-HE80- Restricted Bandedge			
Test Channel	band 5.47-5.72GHz	Polarity:	Vertical(worst case)



No.	Frequency	Reading	Corr.	Result	Limit	Margin	Deg.	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	5350.000	57.46	-11.53	45.93	74.00	-28.07	-	-	peak
2	5456.914	79.04	-11.00	68.04	74.00	-5.96	-	-	peak

802.11ax-HE80- Restricted Bandedge			
Test Channel	band 5.47-5.72GHz	Polarity:	Vertical(worst case)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	5350.000	46.30	-11.53	34.77	54.00	-19.23	-	-	AVG
2	5460.000	62.21	-10.99	51.22	54.00	-2.78	-	-	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.

- Antenna 1(worst case)

- For the frequency band 5.15-5.25GHz, 5.250-5.350GHz, 5.470-5.725GHz, 5.725-5.850GHz, 5.850-5.895GHz (802.11a)
- Harmonics And Spurious Emissions

Frequency	Reading	Correct	Result	Limit	Margin	Polar	Detector
(MHz)	(dBuV/m)	dB	(dBuV/m)	(dBuV/m)	(dB)	H/V	
Low Channel (5180MHz)							
10360	52.32	-4.22	48.10	74	-25.90	H	PK
10360	50.54	-4.22	46.32	54	-7.68	H	AV
10360	51.27	-4.22	47.05	74	-26.95	V	PK
10360	45.78	-4.22	41.56	54	-12.44	V	AV
Middle Channel (5200MHz)							
10400	53.43	-4.22	49.21	74	-24.79	H	PK
10400	48.82	-4.22	44.60	54	-9.40	H	AV
10400	53.42	-4.22	49.20	74	-24.80	V	PK
10400	47.02	-4.22	42.80	54	-11.20	V	AV
High Channel (5240MHz)							
10480	51.58	-4.16	47.42	74	-26.58	H	PK
10480	48.79	-4.16	44.63	54	-9.37	H	AV
10480	52.27	-4.16	48.11	74	-25.89	V	PK
10480	46.89	-4.16	42.73	54	-11.27	V	AV

Frequency	Reading	Correct	Result	Limit	Margin	Polar	Detector
(MHz)	(dBuV/m)	dB	(dBuV/m)	(dBuV/m)	(dB)	H/V	
Low Channel (5260MHz)							
10520	51.22	-4.14	47.08	74	-26.92	H	PK
10520	49.08	-4.14	44.94	54	-9.06	H	AV
10520	51.11	-4.14	46.97	74	-27.03	V	PK
10520	46.79	-4.14	42.65	54	-11.35	V	AV
Middle Channel (5280MHz)							
10560	52.87	-4.12	48.75	74	-25.25	H	PK
10560	50.10	-4.12	45.98	54	-8.02	H	AV
10560	51.57	-4.12	47.45	74	-26.55	V	PK
10560	46.64	-4.12	42.52	54	-11.48	V	AV
High Channel (5320MHz)							
10640	51.51	-4.10	47.41	74	-26.59	H	PK
10640	49.35	-4.10	45.25	54	-8.75	H	AV
10640	52.21	-4.10	48.11	74	-25.89	V	PK
10640	47.76	-4.10	43.66	54	-10.34	V	AV

Frequency	Reading	Correct	Result	Limit	Margin	Polar	Detector
(MHz)	(dBuV/m)	dB	(dBuV/m)	(dBuV/m)	(dB)	H/V	
Low Channel (5500MHz)							
11000	50.24	-3.96	46.28	74	-27.72	H	PK
11000	48.37	-3.96	44.41	54	-9.59	H	AV
11000	51.65	-3.96	47.69	74	-26.31	V	PK
11000	48.00	-3.96	44.04	54	-9.96	V	AV
Middle Channel (5580MHz)							
11160	50.58	-3.40	47.18	74	-26.82	H	PK
11160	47.92	-3.40	44.52	54	-9.48	H	AV
11160	52.41	-3.40	49.01	74	-24.99	V	PK
11160	47.09	-3.40	43.69	54	-10.31	V	AV
High Channel (5700MHz)							
11400	53.06	-2.56	50.50	74	-23.50	H	PK
11400	48.81	-2.56	46.25	54	-7.75	H	AV
11400	53.71	-2.56	51.15	74	-22.85	V	PK
11400	45.33	-2.56	42.77	54	-11.23	V	AV

Frequency	Reading	Correct	Result	Limit	Margin	Polar	Detector
(MHz)	(dBuV/m)	dB	(dBuV/m)	(dBuV/m)	(dB)	H/V	
Low Channel (5745MHz)							
11490	50.87	-2.24	48.63	74	-25.37	H	PK
11490	46.90	-2.24	44.66	54	-9.34	H	AV
11490	51.27	-2.24	49.03	74	-24.97	V	PK
11490	45.09	-2.24	42.85	54	-11.15	V	AV
Middle Channel (5785MHz)							
11570	49.40	-1.79	47.61	74	-26.39	H	PK
11570	46.91	-1.79	45.12	54	-8.88	H	AV
11570	49.03	-1.79	47.24	74	-26.76	V	PK
11570	44.61	-1.79	42.82	54	-11.18	V	AV
High Channel (5825MHz)							
11650	50.91	-1.52	49.39	74	-24.61	H	PK
11650	46.57	-1.52	45.05	54	-8.95	H	AV
11650	49.53	-1.52	48.01	74	-25.99	V	PK
11650	44.25	-1.52	42.73	54	-11.27	V	AV

Frequency	Reading	Correct	Result	Limit	Margin	Polar	Detector
(MHz)	(dBuV/m)	dB	(dBuV/m)	(dBuV/m)	(dB)	H/V	
Low Channel (5845MHz)							
11690	51.75	-1.84	49.91	74	-24.09	H	PK
11690	47.30	-1.84	45.46	54	-8.54	H	AV
11690	48.85	-1.84	47.01	74	-26.99	V	PK
11690	43.83	-1.84	41.99	54	-12.01	V	AV
Middle Channel (5865MHz)							
11730	51.22	-1.77	49.45	74	-24.55	H	PK
11730	47.07	-1.77	45.30	54	-8.70	H	AV
11730	49.70	-1.77	47.93	74	-26.07	V	PK
11730	45.18	-1.77	43.41	54	-10.59	V	AV
High Channel (5885MHz)							
11770	51.42	-1.68	49.74	74	-24.26	H	PK
11770	47.15	-1.68	45.47	54	-8.53	H	AV
11770	49.69	-1.68	48.01	74	-25.99	V	PK
11770	44.04	-1.68	42.36	54	-11.64	V	AV

- Out of Band edge for 5150-5250MHz

Test CH.	Test Segment	Result	Limit
	MHz	dBm/MHz	dBm/MHz
Lowest	Below 5150	-42.48	-27
Highest	Above 5350	-41.37	-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	-42.12	-27
Highest	Above 5350	-45.13	-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	-38.91	-27
Highest	Above 5725	-35.71	-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	-46.03	-27
	5650 to 5700	-38.13	-27 to -17
	5700 to 5720	-30.40	-17 to 15.6
	5720 to 5725	-18.97	15.6 to 27
Highest	5850 to 5855	-14.71	27 to 15.6
	5855 to 5875	-26.56	15.6 to -17
	5875 to 5925	-37.58	-17 to -27
	Above 5925	-43.21	-27
Note: the data just list the worst cases			

- Out of Band edge for 5850-5895MHz

Test CH.	Test Segment	Result	Limit
	MHz	dBm/MHz	dBm/MHz
Highest	5895 to 5925	-13.57	15 to -7
	Above 5925	-33.10	-7
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, 5.850-5.895GHz, 5.850-5.895GHz (802.11n HT20)
- Harmonics And Spurious Emissions

Frequency	Reading	Correct	Result	Limit	Margin	Polar	Detector
(MHz)	(dBuV/m)	dB	(dBuV/m)	(dBuV/m)	(dB)	H/V	
Low Channel (5180MHz)							
10360	51.19	-4.22	46.97	74	-27.03	H	PK
10360	49.77	-4.22	45.55	54	-8.45	H	AV
10360	51.20	-4.22	46.98	74	-27.02	V	PK
10360	47.12	-4.22	42.90	54	-11.10	V	AV
Middle Channel (5200MHz)							
10400	53.60	-4.22	49.38	74	-24.62	H	PK
10400	48.44	-4.22	44.22	54	-9.78	H	AV
10400	54.16	-4.22	49.94	74	-24.06	V	PK
10400	47.42	-4.22	43.20	54	-10.80	V	AV
High Channel (5240MHz)							
10480	53.58	-4.16	49.42	74	-24.58	H	PK
10480	50.12	-4.16	45.96	54	-8.04	H	AV
10480	53.06	-4.16	48.90	74	-25.10	V	PK
10480	46.30	-4.16	42.14	54	-11.86	V	AV

Frequency (MHz)	Reading (dBuV/m)	Correct dB	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Polar H/V	Detector
Low Channel (5260MHz)							
10520	52.03	-4.14	47.89	74	-26.11	H	PK
10520	50.82	-4.14	46.68	54	-7.32	H	AV
10520	53.02	-4.14	48.88	74	-25.12	V	PK
10520	44.89	-4.14	40.75	54	-13.25	V	AV
Middle Channel (5280MHz)							
10560	53.58	-4.12	49.46	74	-24.54	H	PK
10560	49.46	-4.12	45.34	54	-8.66	H	AV
10560	52.47	-4.12	48.35	74	-25.65	V	PK
10560	46.90	-4.12	42.78	54	-11.22	V	AV
High Channel (5320MHz)							
10640	50.88	-4.10	46.78	74	-27.22	H	PK
10640	48.86	-4.10	44.76	54	-9.24	H	AV
10640	51.53	-4.10	47.43	74	-26.57	V	PK
10640	46.32	-4.10	42.22	54	-11.78	V	AV

Frequency (MHz)	Reading (dBuV/m)	Correct dB	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Polar H/V	Detector
Low Channel (5500MHz)							
11000	51.15	-3.96	47.19	74	-26.81	H	PK
11000	49.86	-3.96	45.90	54	-8.10	H	AV
11000	51.53	-3.96	47.57	74	-26.43	V	PK
11000	46.52	-3.96	42.56	54	-11.44	V	AV
Middle Channel (5580MHz)							
11160	51.57	-3.40	48.17	74	-25.83	H	PK
11160	49.78	-3.40	46.38	54	-7.62	H	AV
11160	52.05	-3.40	48.65	74	-25.35	V	PK
11160	47.85	-3.40	44.45	54	-9.55	V	AV
High Channel (5700MHz)							
11400	52.78	-2.56	50.22	74	-23.78	H	PK
11400	48.59	-2.56	46.03	54	-7.97	H	AV
11400	53.70	-2.56	51.14	74	-22.86	V	PK
11400	45.87	-2.56	43.31	54	-10.69	V	AV

Frequency	Reading	Correct	Result	Limit	Margin	Polar	Detector
(MHz)	(dBuV/m)	dB	(dBuV/m)	(dBuV/m)	(dB)	H/V	
Low Channel (5745MHz)							
11490	49.62	-2.24	47.38	74	-26.62	H	PK
11490	47.04	-2.24	44.80	54	-9.20	H	AV
11490	51.61	-2.24	49.37	74	-24.63	V	PK
11490	46.25	-2.24	44.01	54	-9.99	V	AV
Middle Channel (5785MHz)							
11570	50.85	-1.79	49.06	74	-24.94	H	PK
11570	45.93	-1.79	44.14	54	-9.86	H	AV
11570	50.60	-1.79	48.81	74	-25.19	V	PK
11570	43.38	-1.79	41.59	54	-12.41	V	AV
High Channel (5825MHz)							
11650	49.96	-1.52	48.44	74	-25.56	H	PK
11650	46.49	-1.52	44.97	54	-9.03	H	AV
11650	47.78	-1.52	46.26	74	-27.74	V	PK
11650	43.01	-1.52	41.49	54	-12.51	V	AV

Frequency	Reading	Correct	Result	Limit	Margin	Polar	Detector
(MHz)	(dBuV/m)	dB	(dBuV/m)	(dBuV/m)	(dB)	H/V	
Low Channel (5845MHz)							
11690	52.55	-1.84	50.71	74	-23.29	H	PK
11690	47.73	-1.84	45.89	54	-8.11	H	AV
11690	48.36	-1.84	46.52	74	-27.48	V	PK
11690	44.27	-1.84	42.43	54	-11.57	V	AV
Middle Channel (5865MHz)							
11730	50.39	-1.77	48.62	74	-25.38	H	PK
11730	47.46	-1.77	45.69	54	-8.31	H	AV
11730	50.14	-1.77	48.37	74	-25.63	V	PK
11730	44.27	-1.77	42.50	54	-11.50	V	AV
High Channel (5885MHz)							
11770	51.42	-1.68	49.74	74	-24.26	H	PK
11770	46.70	-1.68	45.02	54	-8.98	H	AV
11770	48.91	-1.68	47.23	74	-26.77	V	PK
11770	44.97	-1.68	43.29	54	-10.71	V	AV

- Out of Band edge 5150-5250MHz

Test CH.	Test Segment	Result	Limit
	MHz	dBm/MHz	dBm/MHz
Lowest	Below 5150	-39.42	-27
Highest	Above 5350	-41.58	-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	-38.70	-27
Highest	Above 5350	-39.01	-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	-34.01	-27
Highest	Above 5725	-35.89	-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	-43.73	-27
	5650 to 5700	-32.94	-27 to -17
	5700 to 5720	-28.27	-17 to 15.6
	5720 to 5725	-19.19	15.6 to 27
Highest	5850 to 5855	-15.65	27 to 15.6
	5855 to 5875	-27.59	15.6 to -17
	5875 to 5925	-35.28	-17 to -27
	Above 5925	-40.11	-27
Note: the data just list the worst cases			

- Out of Band edge for 5850-5895MHz

Test CH.	Test Segment	Result	Limit
	MHz	dBm/MHz	dBm/MHz
Highest	5895 to 5925	-11.89	15 to -7
	Above 5925	-35.25	-7
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, 5.850-5.895GHz, 5.850-5.895GHz (802.11ac-VHT20)
- Harmonics And Spurious Emissions

Frequency	Reading	Correct	Result	Limit	Margin	Polar	Detector
(MHz)	(dBuV/m)	dB	(dBuV/m)	(dBuV/m)	(dB)	H/V	
Low Channel (5180MHz)							
10360	51.17	-4.22	46.95	74	-27.05	H	PK
10360	50.88	-4.22	46.66	54	-7.34	H	AV
10360	52.80	-4.22	48.58	74	-25.42	V	PK
10360	45.40	-4.22	41.18	54	-12.82	V	AV
Middle Channel (5200MHz)							
10400	52.33	-4.22	48.11	74	-25.89	H	PK
10400	48.96	-4.22	44.74	54	-9.26	H	AV
10400	52.76	-4.22	48.54	74	-25.46	V	PK
10400	45.45	-4.22	41.23	54	-12.77	V	AV
High Channel (5240MHz)							
10480	53.59	-4.16	49.43	74	-24.57	H	PK
10480	49.97	-4.16	45.81	54	-8.19	H	AV
10480	52.49	-4.16	48.33	74	-25.67	V	PK
10480	47.37	-4.16	43.21	54	-10.79	V	AV

Frequency	Reading	Correct	Result	Limit	Margin	Polar	Detector
(MHz)	(dBuV/m)	dB	(dBuV/m)	(dBuV/m)	(dB)	H/V	
Low Channel (5260MHz)							
10520	51.36	-4.14	47.22	74	-26.78	H	PK
10520	50.28	-4.14	46.14	54	-7.86	H	AV
10520	50.91	-4.14	46.77	74	-27.23	V	PK
10520	46.39	-4.14	42.25	54	-11.75	V	AV
Middle Channel (5280MHz)							
10560	53.28	-4.12	49.16	74	-24.84	H	PK
10560	49.70	-4.12	45.58	54	-8.42	H	AV
10560	51.83	-4.12	47.71	74	-26.29	V	PK
10560	45.69	-4.12	41.57	54	-12.43	V	AV
High Channel (5320MHz)							
10640	50.48	-4.10	46.38	74	-27.62	H	PK
10640	50.43	-4.10	46.33	54	-7.67	H	AV
10640	53.51	-4.10	49.41	74	-24.59	V	PK
10640	45.17	-4.10	41.07	54	-12.93	V	AV

Frequency	Reading	Correct	Result	Limit	Margin	Polar	Detector
(MHz)	(dBuV/m)	dB	(dBuV/m)	(dBuV/m)	(dB)	H/V	
Low Channel (5500MHz)							
11000	50.70	-3.96	46.74	74	-27.26	H	PK
11000	50.38	-3.96	46.42	54	-7.58	H	AV
11000	51.39	-3.96	47.43	74	-26.57	V	PK
11000	46.70	-3.96	42.74	54	-11.26	V	AV
Middle Channel (5580MHz)							
11160	52.80	-3.40	49.40	74	-24.60	H	PK
11160	48.96	-3.40	45.56	54	-8.44	H	AV
11160	51.15	-3.40	47.75	74	-26.25	V	PK
11160	46.64	-3.40	43.24	54	-10.76	V	AV
High Channel (5700MHz)							
11400	52.17	-2.56	49.61	74	-24.39	H	PK
11400	47.94	-2.56	45.38	54	-8.62	H	AV
11400	53.86	-2.56	51.30	74	-22.70	V	PK
11400	45.07	-2.56	42.51	54	-11.49	V	AV

Frequency	Reading	Correct	Result	Limit	Margin	Polar	Detector
(MHz)	(dBuV/m)	dB	(dBuV/m)	(dBuV/m)	(dB)	H/V	
Low Channel (5745MHz)							
11490	50.39	-2.24	48.15	74	-25.85	H	PK
11490	48.12	-2.24	45.88	54	-8.12	H	AV
11490	49.47	-2.24	47.23	74	-26.77	V	PK
11490	44.97	-2.24	42.73	54	-11.27	V	AV
Middle Channel (5785MHz)							
11570	49.18	-1.79	47.39	74	-26.61	H	PK
11570	46.61	-1.79	44.82	54	-9.18	H	AV
11570	50.07	-1.79	48.28	74	-25.72	V	PK
11570	43.70	-1.79	41.91	54	-12.09	V	AV
High Channel (5825MHz)							
11650	50.00	-1.52	48.48	74	-25.52	H	PK
11650	47.28	-1.52	45.76	54	-8.24	H	AV
11650	49.58	-1.52	48.06	74	-25.94	V	PK
11650	43.25	-1.52	41.73	54	-12.27	V	AV

Frequency	Reading	Correct	Result	Limit	Margin	Polar	Detector
(MHz)	(dBuV/m)	dB	(dBuV/m)	(dBuV/m)	(dB)	H/V	
Low Channel (5845MHz)							
11690	48.84	-1.84	47.00	74	-27.00	H	PK
11690	46.27	-1.84	44.43	54	-9.57	H	AV
11690	46.73	-1.84	44.89	74	-29.11	V	PK
11690	41.53	-1.84	39.69	54	-14.31	V	AV
Middle Channel (5865MHz)							
11730	50.34	-1.77	48.57	74	-25.43	H	PK
11730	45.68	-1.77	43.91	54	-10.09	H	AV
11730	46.10	-1.77	44.33	74	-29.67	V	PK
11730	41.22	-1.77	39.45	54	-14.55	V	AV
High Channel (5885MHz)							
11770	48.92	-1.68	47.24	74	-26.76	H	PK
11770	45.37	-1.68	43.69	54	-10.31	H	AV
11770	46.91	-1.68	45.23	74	-28.77	V	PK
11770	41.30	-1.68	39.62	54	-14.38	V	AV

- Out of Band edge 5150-5250MHz

Test CH.	Test Segment	Result	Limit
	MHz	dBm/MHz	dBm/MHz
Lowest	Below 5150	-35.53	-27
Highest	Above 5350	-37.45	-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	-38.66	-27
Highest	Above 5350	-38.53	-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	-34.27	-27
Highest	Above 5725	-36.15	-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	-41.86	-27
	5650 to 5700	-34.42	-27 to -17
	5700 to 5720	-25.63	-17 to 15.6
	5720 to 5725	-15.27	15.6 to 27
Highest	5850 to 5855	-13.17	27 to 15.6
	5855 to 5875	-24.92	15.6 to -17
	5875 to 5925	-32.65	-17 to -27
	Above 5925	-36.43	-27
Note: the data just list the worst cases			

- Out of Band edge for 5850-5895MHz

Test CH.	Test Segment	Result	Limit
	MHz	dBm/MHz	dBm/MHz
Highest	5895 to 5925	-12.98	15 to -7
	Above 5925	-34.88	-7
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, 5.850-5.895GHz (802.11n HT40)
- Harmonics And Spurious Emissions

Frequency	Reading	Correct	Result	Limit	Margin	Polar	Detector
(MHz)	(dBuV/m)	dB	(dBuV/m)	(dBuV/m)	(dB)	H/V	
Low Channel (5190MHz)							
10380	49.85	-4.21	45.64	74	-28.36	H	PK
10380	47.29	-4.21	43.08	54	-10.92	H	AV
10380	50.76	-4.21	46.55	74	-27.45	V	PK
10380	44.89	-4.21	40.68	54	-13.32	V	AV
High Channel (5230MHz)							
10460	50.69	-4.17	46.52	74	-27.48	H	PK
10460	47.18	-4.17	43.01	54	-10.99	H	AV
10460	50.29	-4.17	46.12	74	-27.88	V	PK
10460	44.92	-4.17	40.75	54	-13.25	V	AV

Frequency	Reading	Correct	Result	Limit	Margin	Polar	Detector
(MHz)	(dBuV/m)	dB	(dBuV/m)	(dBuV/m)	(dB)	H/V	
Low Channel (5270MHz)							
10540	50.23	-4.14	46.09	74	-27.91	H	PK
10540	45.52	-4.14	41.38	54	-12.62	H	AV
10540	51.02	-4.14	46.88	74	-27.12	V	PK
10540	41.75	-4.14	37.61	54	-16.39	V	AV
High Channel (5310MHz)							
10620	51.00	-4.10	46.90	74	-27.10	H	PK
10620	46.69	-4.10	42.59	54	-11.41	H	AV
10620	50.38	-4.10	46.28	74	-27.72	V	PK
10620	41.89	-4.10	37.79	54	-16.21	V	AV

Frequency	Reading	Correct	Result	Limit	Margin	Polar	Detector
(MHz)	(dBuV/m)	dB	(dBuV/m)	(dBuV/m)	(dB)	H/V	
Low Channel (5510MHz)							
11020	48.65	-3.89	44.76	74	-29.24	H	PK
11020	46.96	-3.89	43.07	54	-10.93	H	AV
11020	52.07	-3.89	48.18	74	-25.82	V	PK
11020	44.52	-3.89	40.63	54	-13.37	V	AV
Middle Channel (5550MHz)							
11100	47.73	-3.61	44.12	74	-29.88	H	PK
11100	47.55	-3.61	43.94	54	-10.06	H	AV
11100	50.97	-3.61	47.36	74	-26.64	V	PK
11100	43.36	-3.61	39.75	54	-14.25	V	AV
High Channel (5670MHz)							

11340	51.12	-2.77	48.35	74	-25.65	H	PK
11340	45.23	-2.77	42.46	54	-11.54	H	AV
11340	50.36	-2.77	47.59	74	-26.41	V	PK
11340	45.78	-2.77	43.01	54	-10.99	V	AV

Frequency	Reading	Correct	Result	Limit	Margin	Polar	Detector
(MHz)	(dBuV/m)	dB	(dBuV/m)	(dBuV/m)	(dB)	H/V	
Low Channel (5755MHz)							
11510	50.65	-2.19	48.46	74	-25.54	H	PK
11510	47.28	-2.19	45.09	54	-8.91	H	AV
11510	49.81	-2.19	47.62	74	-26.38	V	PK
11510	42.59	-2.19	40.40	54	-13.60	V	AV
High Channel (5795MHz)							
11590	48.15	-2.03	46.12	74	-27.88	H	PK
11590	47.02	-2.03	44.99	54	-9.01	H	AV
11590	49.54	-2.03	47.51	74	-26.49	V	PK
11590	44.29	-2.03	42.26	54	-11.74	V	AV

Frequency	Reading	Correct	Result	Limit	Margin	Polar	Detector
(MHz)	(dBuV/m)	dB	(dBuV/m)	(dBuV/m)	(dB)	H/V	
Low Channel (5835MHz)							
11670	49.82	-1.88	47.94	74	-26.06	H	PK
11670	44.34	-1.88	42.46	54	-11.54	H	AV
11670	47.68	-1.88	45.80	74	-28.20	V	PK
11670	41.36	-1.88	39.48	54	-14.52	V	AV
High Channel (5875MHz)							
11750	50.32	-1.72	48.60	74	-25.40	H	PK
11750	44.87	-1.72	43.15	54	-10.85	H	AV
11750	47.02	-1.72	45.30	74	-28.70	V	PK
11750	42.34	-1.72	40.62	54	-13.38	V	AV

- Out of Band edge for 5150-5250MHz

Test CH.	Test Segment	Result	Limit
	MHz	dBm/MHz	dBm/MHz
Lowest	Below 5150	-37.13	-27
Highest	Above 5350	-33.85	-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	-33.56	-27
Highest	Above 5350	-33.48	-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	-31.26	-27
Highest	Above 5725	-34.63	-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	-43.12	-27
	5650 to 5700	-33.97	-27 to -17
	5700 to 5720	-25.30	-17 to 15.6
	5720 to 5725	-16.23	15.6 to 27
Highest	5850 to 5855	-12.42	27 to 15.6
	5855 to 5875	-24.79	15.6 to -17
	5875 to 5925	-30.74	-17 to -27
	Above 5925	-36.50	-27
Note: the data just list the worst cases			

- Out of Band edge for 5850-5895MHz

Test CH.	Test Segment	Result	Limit
	MHz	dBm/MHz	dBm/MHz
Highest	5895 to 5925	-11.99	15 to -7
	Above 5925	-33.87	-7
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, 5.850-5.895GHz (802.11ac-VHT40)
- Harmonics And Spurious Emissions

Frequency	Reading	Correct	Result	Limit	Margin	Polar	Detector
(MHz)	(dBuV/m)	dB	(dBuV/m)	(dBuV/m)	(dB)	H/V	
Low Channel (5190MHz)							
10380	49.94	-4.21	45.73	74	-28.27	H	PK
10380	46.91	-4.21	42.70	54	-11.30	H	AV
10380	50.97	-4.21	46.76	74	-27.24	V	PK
10380	44.54	-4.21	40.33	54	-13.67	V	AV
High Channel (5230MHz)							
10460	50.97	-4.17	46.80	74	-27.20	H	PK
10460	48.03	-4.17	43.86	54	-10.14	H	AV
10460	51.82	-4.17	47.65	74	-26.35	V	PK
10460	45.18	-4.17	41.01	54	-12.99	V	AV

Frequency	Reading	Correct	Result	Limit	Margin	Polar	Detector
(MHz)	(dBuV/m)	dB	(dBuV/m)	(dBuV/m)	(dB)	H/V	
Low Channel (5270MHz)							
10540	49.37	-4.14	45.23	74	-28.77	H	PK
10540	45.99	-4.14	41.85	54	-12.15	H	AV
10540	50.08	-4.14	45.94	74	-28.06	V	PK
10540	43.73	-4.14	39.59	54	-14.41	V	AV
High Channel (5310MHz)							
10620	50.67	-4.10	46.57	74	-27.43	H	PK
10620	48.46	-4.10	44.36	54	-9.64	H	AV
10620	49.56	-4.10	45.46	74	-28.54	V	PK
10620	43.04	-4.10	38.94	54	-15.06	V	AV

Frequency	Reading	Correct	Result	Limit	Margin	Polar	Detector
(MHz)	(dBuV/m)	dB	(dBuV/m)	(dBuV/m)	(dB)	H/V	
Low Channel (5510MHz)							
11020	50.88	-3.89	46.99	74	-27.01	H	PK
11020	47.93	-3.89	44.04	54	-9.96	H	AV
11020	50.47	-3.89	46.58	74	-27.42	V	PK
11020	45.52	-3.89	41.63	54	-12.37	V	AV
Middle Channel (5550MHz)							
11100	48.89	-3.61	45.28	74	-28.72	H	PK
11100	47.12	-3.61	43.51	54	-10.49	H	AV
11100	51.37	-3.61	47.76	74	-26.24	V	PK
11100	44.48	-3.61	40.87	54	-13.13	V	AV
High Channel (5670MHz)							

11340	49.13	-2.77	46.36	74	-27.64	H	PK
11340	46.30	-2.77	43.53	54	-10.47	H	AV
11340	48.79	-2.77	46.02	74	-27.98	V	PK
11340	44.33	-2.77	41.56	54	-12.44	V	AV

Frequency	Reading	Correct	Result	Limit	Margin	Polar	Detector
(MHz)	(dBuV/m)	dB	(dBuV/m)	(dBuV/m)	(dB)	H/V	
Low Channel (5755MHz)							
11510	50.68	-2.19	48.49	74	-25.51	H	PK
11510	47.09	-2.19	44.90	54	-9.10	H	AV
11510	51.05	-2.19	48.86	74	-25.14	V	PK
11510	43.99	-2.19	41.80	54	-12.20	V	AV
High Channel (5795MHz)							
11590	49.89	-2.03	47.86	74	-26.14	H	PK
11590	46.48	-2.03	44.45	54	-9.55	H	AV
11590	51.42	-2.03	49.39	74	-24.61	V	PK
11590	44.09	-2.03	42.06	54	-11.94	V	AV

Frequency	Reading	Correct	Result	Limit	Margin	Polar	Detector
(MHz)	(dBuV/m)	dB	(dBuV/m)	(dBuV/m)	(dB)	H/V	
Low Channel (5835MHz)							
11670	50.09	-1.88	48.21	74	-25.79	H	PK
11670	44.51	-1.88	42.63	54	-11.37	H	AV
11670	46.30	-1.88	44.42	74	-29.58	V	PK
11670	42.03	-1.88	40.15	54	-13.85	V	AV
High Channel (5875MHz)							
11750	50.69	-1.72	48.97	74	-25.03	H	PK
11750	44.69	-1.72	42.97	54	-11.03	H	AV
11750	47.79	-1.72	46.07	74	-27.93	V	PK
11750	41.76	-1.72	40.04	54	-13.96	V	AV

➢ Out of Band edge for 5150-5250MHz

Test CH.	Test Segment	Result	Limit
	MHz	dBm/MHz	dBm/MHz
Lowest	Below 5150	-36.37	-27
Highest	Above 5350	-34.84	-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	-34.57	-27
Highest	Above 5350	-33.01	-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	-31.73	-27
Highest	Above 5725	-33.87	-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	-44.38	-27
	5650 to 5700	-34.36	-27 to -17
	5700 to 5720	-24.06	-17 to 15.6
	5720 to 5725	-16.65	15.6 to 27
Highest	5850 to 5855	-11.22	27 to 15.6
	5855 to 5875	-23.57	15.6 to -17
	5875 to 5925	-31.01	-17 to -27
	Above 5925	-36.74	-27
Note: the data just list the worst cases			

➢ Out of Band edge for 5850-5895MHz

Test CH.	Test Segment	Result	Limit
	MHz	dBm/MHz	dBm/MHz
Highest	5895 to 5925	-11.59	15 to -7
	Above 5925	-32.58	-7
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, 5.850-5.895GHz (802.11ac-VHT80)
- Harmonics And Spurious Emissions

Frequency	Reading	Correct	Result	Limit	Margin	Polar	Detector
(MHz)	(dBuV/m)	dB	(dBuV/m)	(dBuV/m)	(dB)	H/V	
5210MHz							
10420	48.74	-4.19	44.55	74	-29.45	H	PK
10420	45.71	-4.19	41.52	54	-12.48	H	AV
10420	47.66	-4.19	43.47	74	-30.53	H	PK
10420	44.82	-4.19	40.63	54	-13.37	H	AV

Frequency	Reading	Correct	Result	Limit	Margin	Polar	Detector
(MHz)	(dBuV/m)	dB	(dBuV/m)	(dBuV/m)	(dB)	H/V	
5290MHz							
10580	49.16	-4.12	45.04	74	-28.96	H	PK
10580	44.89	-4.12	40.77	54	-13.23	H	AV
10580	47.97	-4.12	43.85	74	-30.15	V	PK
10580	42.14	-4.12	38.02	54	-15.98	V	AV

Frequency	Reading	Correct	Result	Limit	Margin	Polar	Detector
(MHz)	(dBuV/m)	dB	(dBuV/m)	(dBuV/m)	(dB)	H/V	
Low Channel (5530MHz)							
11060	49.42	-3.75	45.67	74	-28.33	H	PK
11060	46.68	-3.75	42.93	54	-11.07	H	AV
11060	47.64	-3.75	43.89	74	-30.11	V	PK
11060	43.16	-3.75	39.41	54	-14.59	V	AV
High Channel (5610MHz)							
11220	49.91	-3.19	46.72	74	-27.28	H	PK
11220	45.30	-3.19	42.11	54	-11.89	H	AV
11220	47.18	-3.19	43.99	74	-30.01	V	PK
11220	43.41	-3.19	40.22	54	-13.78	V	AV

Frequency	Reading	Correct	Result	Limit	Margin	Polar	Detector
(MHz)	(dBuV/m)	dB	(dBuV/m)	(dBuV/m)	(dB)	H/V	
5775MHz							
11550	48.58	-2.11	46.47	74	-27.53	H	PK
11550	45.72	-2.11	43.61	54	-10.39	H	AV
11550	46.40	-2.11	44.29	74	-29.71	V	PK
11550	42.25	-2.11	40.14	54	-13.86	V	AV

Frequency	Reading	Correct	Result	Limit	Margin	Polar	Detector
(MHz)	(dBuV/m)	dB	(dBuV/m)	(dBuV/m)	(dB)	H/V	
5855MHz							
11710	48.83	-1.81	47.02	74	-26.98	H	PK
11710	45.08	-1.81	43.27	54	-10.73	H	AV
11710	46.99	-1.81	45.18	74	-28.82	V	PK
11710	41.09	-1.81	39.28	54	-14.72	V	AV

- Out of Band edge for 5150-5250MHz

Test CH.	Test Segment	Result	Limit
	MHz	dBm/MHz	dBm/MHz
Lowest	Below 5150	-33.97	-27
Highest	Above 5350	-34.04	-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	-35.34	-27
Highest	Above 5350	-32.91	-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	-37.51	-27
Highest	Above 5725	-34.08	-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	-41.97	-27
	5650 to 5700	-32.30	-27 to -17
	5700 to 5720	-25.97	-17 to 15.6
	5720 to 5725	-16.36	15.6 to 27
Highest	5850 to 5855	-11.77	27 to 15.6
	5855 to 5875	-24.69	15.6 to -17
	5875 to 5925	-32.58	-17 to -27
	Above 5925	-38.10	-27
Note: the data just list the worst cases			

- Out of Band edge for 5850-5895MHz

Test CH.	Test Segment	Result	Limit
	MHz	dBm/MHz	dBm/MHz
Highest	5895 to 5925	-10.85	15 to -7
	Above 5925	-26.24	-7
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

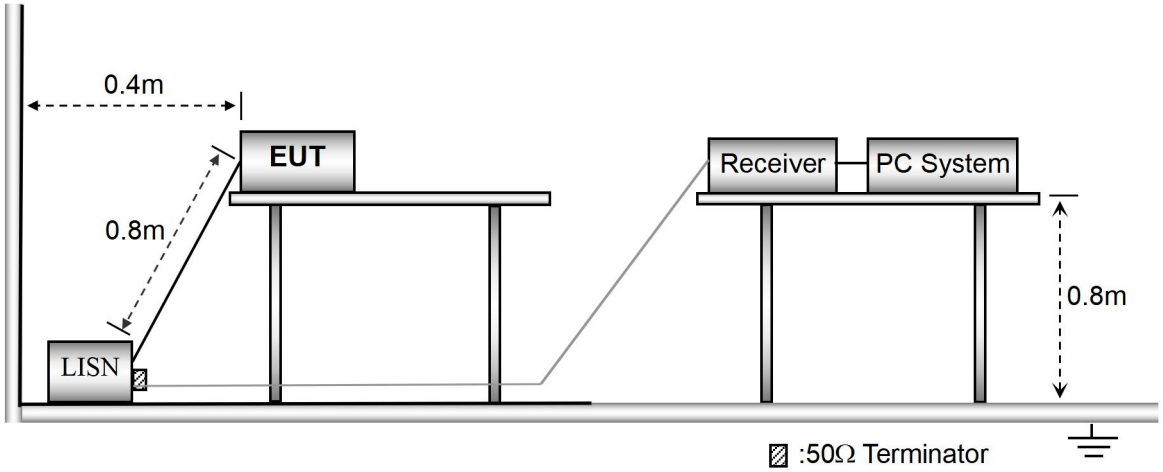
Please refer to Appendix E

10 Conducted Emissions

10.1 Test Procedure

The setup of EUT is according with per ANSI C63.10-2013 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



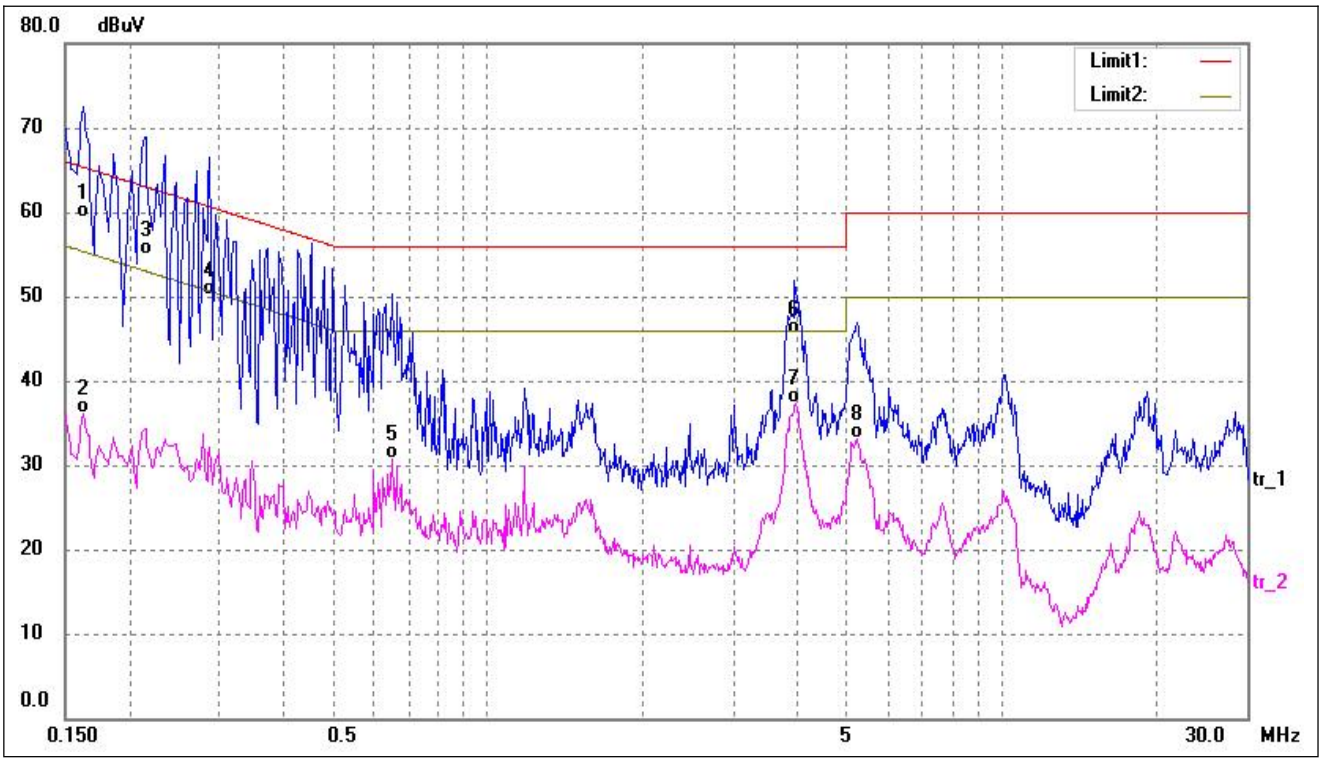
10.3 Test Receiver Setup

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

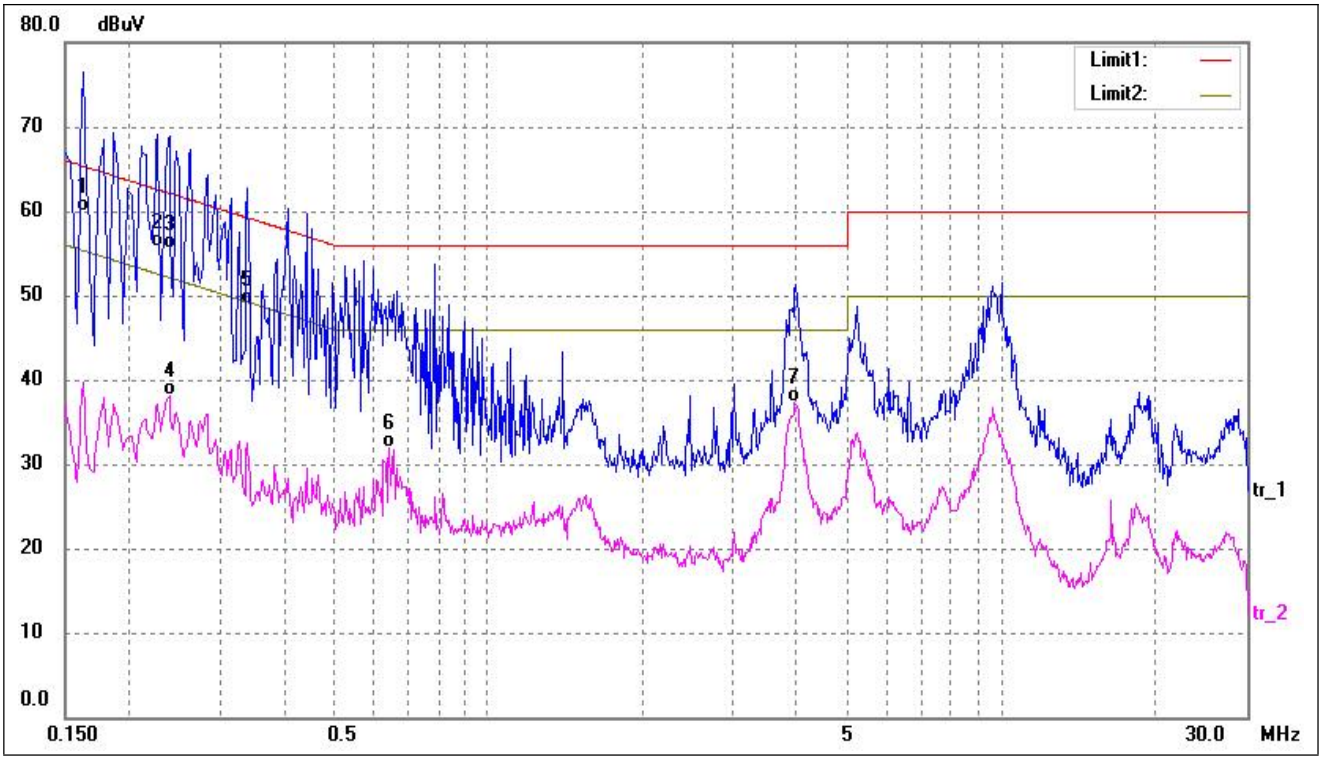
10.4 Summary of Test Results/Plots

Test Mode	Communication	AC120V 60Hz	Polarity:	Neutral



No.	Frequency	Reading	Correct	Result	Limit	Margin	Detector
	(MHz)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dB)	
1*	0.1620	49.68	9.71	59.39	65.36	-5.97	QP
2	0.1620	26.34	9.71	36.05	55.36	-19.31	AVG
3	0.2140	45.33	9.58	54.91	63.05	-8.14	QP
4	0.2860	40.40	9.63	50.03	60.64	-10.61	QP
5	0.6500	21.04	9.70	30.74	46.00	-15.26	AVG
6	3.9540	35.80	9.66	45.46	56.00	-10.54	QP
7	3.9740	27.56	9.66	37.22	46.00	-8.78	AVG
8	5.2380	23.40	9.72	33.12	50.00	-16.88	AVG

Test Mode	Communication	AC120V 60Hz	Polarity:	Line



No.	Frequency	Reading	Correct	Result	Limit	Margin	Detector
	(MHz)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dB)	
1*	0.1620	50.15	9.71	59.86	65.36	-5.50	QP
2	0.2260	46.03	9.59	55.62	62.60	-6.98	QP
3	0.2380	45.81	9.60	55.41	62.17	-6.76	QP
4	0.2380	28.45	9.60	38.05	52.17	-14.12	AVG
5	0.3380	39.21	9.66	48.87	59.25	-10.38	QP
6	0.6420	22.28	9.70	31.98	46.00	-14.02	AVG
7	3.9580	27.65	9.66	37.31	46.00	-8.69	AVG

APPENDIX PHOTOGRAPHS

Please refer to “ANNEX”

******* END OF REPORT *******