



Test Report No:
2520994R-RFNAOTHV02-H

TEST REPORT

FCC Rules&Regulations

Product Name	Wi-Fi 6 Access Point
Brand Name	ERICSSON
Model No.	S1A527A
FCC ID	UXX-S1A527A
Applicant's Name / Address	Ericsson Enterprise Wireless Solutions, Inc. 1100 West Idaho Street, Boise, Idaho, 83702, United States
Manufacturer's Name / Address (1)	Accton Technology Corporation Zhubei Factory No. 1, Zhihui 1st Rd., Zhubei City , Hsinchu County 302 Taiwan, R.O.C.
Manufacturer's Name / Address (2)	Accton Technology Corporation No. 1, Creation Rd. III, Science-based Industrial Park, Hsinchu 300, Taiwan, R.O.C.
Manufacturer's Name / Address (3)	VIETNAM ACCTON TECHNOLOGY COMPANY LIMITED Lot F1-2-3 Thang Long Industrial Park (Vinh Phuc), Tam Hop Commune Binh Xuyen District,Vinh Phuc Province, Vietnam
Test Method Requested, Standard	FCC CFR Title 47 Part 15 Subpart E Section 15.407 ANSI C63.10-2013
Verdict Summary	IN COMPLIANCE
Documented By	<i>Amelia Wu</i> Amelia Wu
Approved By	<i>Allen Lin</i> Allen Lin
Date of Receipt	Nov. 14, 2023
Date of Issue	Apr. 01, 2025
Report Version	V1.0

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Competences and Guarantees

DEKRA is a testing laboratory competent to carry out the tests described in this report.

In order to assure the traceability to other national and international laboratories, DEKRA has a calibration and maintenance program for its measurement equipment.

DEKRA guarantees the reliability of the data presented in this report, which is the result of the measurements and the tests performed to the item under test on the date and under the conditions stated in the report and it is based on the knowledge and technical facilities available at DEKRA at the time of performance of the test.

DEKRA is liable to the client for the maintenance of the confidentiality of all information related to the item under test and the results of the test.

The results presented in this Test Report apply only to the particular item under test established in this document.

IMPORTANT: No parts of this report may be reproduced or quoted out of context, in any form or by any means, except in full, without the previous written permission of DEKRA.

General Conditions

1. The test results relate only to the samples tested.
2. The test results shown in the test report are traceable to the national/international standard through the calibration report of the equipment and evaluated measurement uncertainty herein.
3. This report must not be used to claim product endorsement by TAF or any agency of the government.
4. The test report shall not be reproduced without the written approval of DEKRA Testing and Certification Co., Ltd.
5. Measurement uncertainties evaluated for each testing system and associated connections are given here to provide the system information for reference. Compliance determinations do not take into account measurement uncertainties for each testing system, but are based on the results of the compliance measurement.

Revision History

Version	Description	Issued Date
V1.0	Initial issue of report	Apr. 01, 2025

Summary of Test Result

Report Clause	Test Items	Result (PASS/FAIL)	Remark
3	AC Power Line Conducted Emission	PASS	-
4	Emission Bandwidth	PASS	-
5	Maximum Conducted Output Power	PASS	-
6	Maximum Power Spectral Density	PASS	-
7	Transmitter Radiated Spurious Emission	PASS	-

Note: Reference to DEKRA Project No.: 23B0423R.

(Authorized by original applicant to use the report test data, therefore test results refer to the original report.)

Comments and Explanations

The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

Comments and Remarks

The product specification and testing instructions for the EUT declared in the report are provided by the manufacturer who will take all responsibilities for the accuracy.

1. General Information

1.1. EUT Description

Frequency Range	5150 ~ 5250 MHz 5250 ~ 5350 MHz 5470 ~ 5725 MHz 5725 ~ 5850 MHz	
Operating Frequency / Channel Number	IEEE 802.11a IEEE 802.11n/ac/ax (20 MHz)	5180 ~ 5240 MHz / 4 Channels 5260 ~ 5320 MHz / 4 Channels 5500 ~ 5720 MHz / 12 Channels 5745 ~ 5825 MHz / 5 Channels
	IEEE 802.11n/ac/ax (40 MHz)	5190 ~ 5230 MHz / 2 Channels 5270 ~ 5310 MHz / 2 Channels 5510 ~ 5710 MHz / 6 Channels 5755 ~ 5795 MHz / 2 Channels
	IEEE 802.11ac/ax (80 MHz)	5210 MHz / 1 Channel 5290 MHz / 1 Channel 5530 ~ 5690 MHz / 3 Channels 5775 MHz / 1 Channel
	IEEE 802.11ac/ax (160 MHz)	5250 MHz / 1 Channel 5570 MHz / 1 Channel
Type of Modulation	IEEE 802.11a/n	OFDM-BPSK, QPSK, 16QAM, 64QAM
	IEEE 802.11ac	OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM
	IEEE 802.11ax	OFDMA-BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM

Accessories Information					
No.	Equipment Name	Brand Name	Model No.	Rating	Remark
1	Adapter (Removable plug)	APD	WB-24J12R	INPUT: 100-240V, 50-60Hz, 0.7A Max OUTPUT: 12V, 2.0A, 24.0W	With power cable : Non-Shielded, 1.5m
2	PoE Injector	PHIHONG	POE29U-560	INPUT: 100-240V, 50-60Hz, 0.8A OUTPUT: 56V, 0.536A	--
No.	Equipment Name	Description			
3	Plug Power Cord	Non-Shielded, 1m (For PoE Injector use)			
4	Plug*3	US, EU, UK			
5	Wall Mount (Metal)	--			
6	Wall Mount (Plastic)	--			
7	Pole-mount kit	--			

Antenna Information									
Ant.	Manufacturer	Model No.	Type	Ant. Gain (dBi)		Directional Gain (dBi)		Function	Remark
				2.4GHz	5GHz	2.4GHz	5GHz		
1	ACCTON Technology Corporation	KG568-T4-175B17U7S	Dipole	4.90	5.53	7.87	10.4	WiFi 2.4GHz / WiFi 5GHz	Internal Antenna
2	ACCTON Technology Corporation	KG568-T4-105W17U7S	Dipole	4.81	5.53			WiFi 2.4GHz / WiFi 5GHz	Internal Antenna
3	ACCTON Technology Corporation	KG568-T4-175G17U7S	Dipole	5.21	5.82			Bluetooth LE / WiFi 5GHz	Internal Antenna

$$\text{Directional Gain} = 10 \log \left[\left(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20} \right)^2 / N_{\text{Ant}} \right]$$

<WiFi 2.4GHz Function>

For IEEE 802.11b/g/n/ac/ax Mode: (2TX, 2RX)

Both Ant. 1~Ant. 2 can be used as transmitting/receiving antennas, and they can transmit/receive signal simultaneously.

<WiFi 5GHz Function>

For IEEE 802.11a/n/ac/ax Mode: (3TX, 3RX)

Both Ant. 1~Ant. 3 can be used as transmitting/receiving antennas, and they can transmit/receive signal simultaneously.

<Bluetooth LE Function>

Only Ant. 3 can be use as transmit and receive antenna.

1.2. EUT Information

EUT Power Type	From Adapter / PoE Injector			
EUT Function	☒	Point-to-multipoint	☐	Point-to-point
TPC Function	☒	With TPC Function	☐	Without TPC Function
Weather Band (5600 ~ 5650 MHz)	☒	With 5600 ~ 5650 MHz	☐	Without 5600 ~ 5650 MHz
Beamforming Function	☒	With beamforming	☐	Without beamforming
Resource Unit of 802.11ax	☒	Full RU	☐	Partial RU
Product Type	☐	Outdoor AP	☒	Indoor AP
	☐	Fixed P2P AP	☐	Client

1.3. Applicable Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- ◆ 47 CFR FCC Part 15
- ◆ ANSI C63.10-2013
- ◆ KDB 789033 D02 v02r01

The following reference test guidance is not within the scope of accreditation of TAF.

- ◆ KDB 662911 D01 v02r01
- ◆ KDB 412172 D01 v01r01
- ◆ KDB 414788 D01 v01r01
- ◆

1.4. Testing Location Information

Testing Location Information		
Test Laboratory : DEKRA Testing and Certification Co., Ltd.		
1 (TAF: 3024)	ADD: No.372-2, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County 31061, Taiwan, R.O.C. TEL: +886-3-582-8001 FAX: +886-3-582-8958	
2 (TAF: 3024)	ADD: No.372, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County 31061, Taiwan, R.O.C. TEL: +886-3-582-8001 FAX: +886-3-582-8958	
Test site number for address 1 includes HC-SR02. Test site number for address 2 includes HC-CB02, HC-CB03, HC-CB04, HC-SR10 and HC-SR12.		

Test Condition	Test Site No.	Test Engineer	Test Environment (°C / %)	Test Date
AC Conduction Emission	HC-SR02	Igor Tseng	20.6 / 57	2024/01/05
RF Conducted Emission	HC-SR12	Scott Chang	22.7~23.8 / 57.2~61.5	2023/12/14~2023/12/15
Radiated Emission	HC-CB02	Gary Lioa Nelson Teng	20.9~23.5 / 56.3~60.7	2023/11/29~2024/1/25

1.5. Measurement Uncertainty

Uncertainties have been calculated according to the DEKRA internal document with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2)).

Test Item	Uncertainty
AC Power Line Conducted Emission	± 2.34 dB
Emission Bandwidth	± 636.54 Hz
Maximum Conducted Output Power	± 1.16 dB
Maximum Power Spectral Density	± 2.47 dB
Transmitter Radiated Spurious Emission	± 3.52 dB below 1 GHz ± 3.56 dB above 1 GHz

1.6. List of Test Equipment

HC-SR02

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Cal. Date	Next Cal. Date
Artificial Mains Network	R&S	ENV4200	848411/010	9kHz-30MHz, 4line/100A	2023/12/15	2024/12/14
EMI Test Receiver	R&S	ESR3	102608	9 kHz - 3.6 GHz	2023/09/19	2024/09/18
Two-Line V-Network	R&S	ENV216	100096	9kHz-30MHz	2023/06/02	2024/06/01
Coaxial Cable(9 m)	Harbour	RG-400	HC-SR02	9 kHz-2500 MHz	2023/08/04	2024/08/03
EMI Testing System	AUDIX	e3 210616 dekra V9	HC-SR02	N/A	N/A	N/A

HC-SR12

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Cal. Date	Next Cal. Date
High Speed Peak Power Meter Dual Input	Anritsu	ML2496A	1602004	0.3-40 GHz	2023/10/25	2024/10/24
Pulse Power Sensor	Anritsu	MA2411B	1531043	0.3-40 GHz	2023/10/25	2024/10/24
Pulse Power Sensor	Anritsu	MA2411B	1531044	0.3-40 GHz	2023/10/25	2024/10/24
Signal & Spectrum Analyzer	R&S	FSV40	101869	10Hz-40GHz	2023/07/03	2024/07/02

HC-CB02

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Cal. Date	Next Cal. Date
Signal and Spectrum Analyzer	R&S	FSVA40	101435	10 Hz-40 GHz	2023/05/29	2024/05/28
Trilog Broadband Antenna	Schwarzbeck	VULB 9168	1272	30 MHz-2 GHz	2023/04/13	2024/04/12
Double Ridged Horn Antenna	RF SPIN	DRH18-E	211211A18EN	1G-18GHz	2023/11/09	2024/11/08
Horn Antenna	Schwarzbeck	BBHA 9170	203	18G-40GHz	2023/02/13	2024/02/12
Pre-Amplifier	EMCI	EMC01820I	980365	30M-8 GHz,20 dB	2023/04/07	2024/04/06
Pre-Amplifier	EMEC	EM01G18GA	060741	1G-18 GHz,50 dB	2023/05/05	2024/05/04
Pre-Amplifier	DEKRA	AP-400C	201801231	18G-40 GHz,48 dB	2023/10/03	2024/10/02
EMI Test Receiver	R&S	ESR7	102260	10 Hz-7 GHz	2023/11/27	2024/11/26
Magnetic Loop Antenna	Teseq	HLA 6121	44287	0.01-30 MHz	2023/10/13	2024/10/12
Coaxial Cable(13m)	Suhner	SF104	HC-CB02	30M-18 GHz	2023/08/14	2024/08/13
Coaxial Cable(3m)	Suhner,Rosnol	SF102_UP0264	HC-CB02-1	18G-40 GHz 3 m	2023/08/14	2024/08/13
Radiated Software	AUDIX	e3 V9	HC-CB02_1	N/A	N/A	N/A

Note: All equipment upon which need to calibrated are with calibration period of 1 year.

2. Test Configuration of EUT

2.1. Test Condition

EUT Operational Condition	
Testing Voltage	AC 120V/60Hz

2.2. Test Frequency Mode

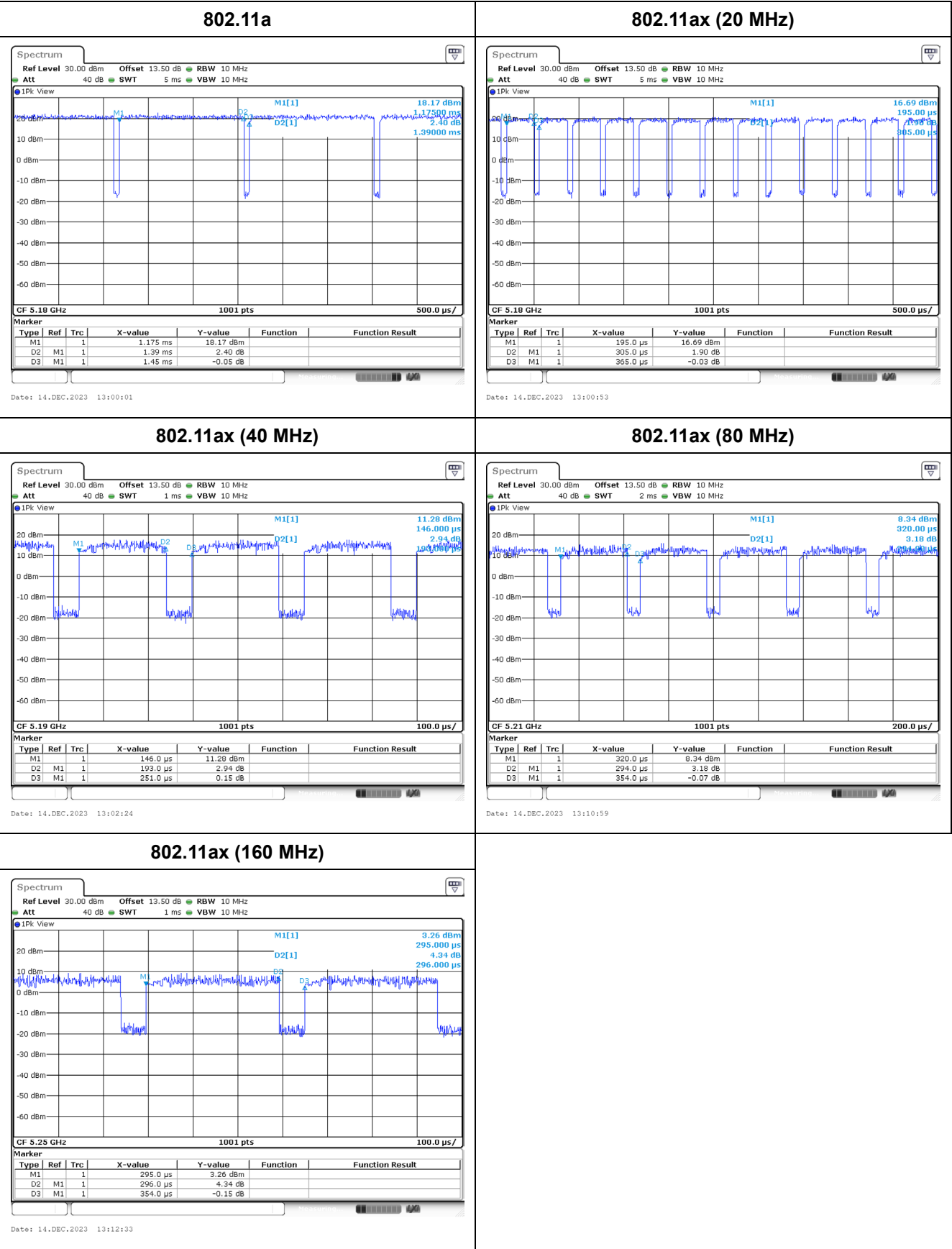
Test Software Version	QATool v0.0.2.78
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Modulation	Frequency (MHz)	Power Setting
802.11a	5180	16.0
	5220	16.0
	5240	16.0
	5260	11.0
	5300	11.5
	5320	11.5
	5500	11.0
	5580	11.0
	5700	12.0
	5720	11.5
	5745	19.5
	5785	17.5
	5825	18.0
802.11ax (20 MHz)	5180	16.0
	5220	18.0
	5240	18.0
	5260	12.5
	5300	13.0
	5320	13.0
	5500	12.0
	5580	12.0
	5700	13.5
	5720	13.0
	5745	19.5
	5785	19.0
	5825	19.5

Modulation	Frequency (MHz)	Power Setting
802.11ax (40 MHz)	5190	14.5
	5230	16.5
	5270	14.0
	5310	14.0
	5510	14.0
	5550	13.5
	5670	15.5
	5710	15.0
	5755	22.0
	5795	22.5
802.11ax (80 MHz)	5210	10.5
	5290	10.0
	5530	14.5
	5610	17.0
	5690	19.5
	5755	18.5
802.11ax (160 MHz)	5250	14.5
	5570	16.0

2.3. Duty Cycle

Modulation	On Time (ms)	On+Off Time (ms)	Duty Cycle (%)	Duty Factor (dB)	1/T Minimum VBW (kHz)
802.11a	1.390	1.450	95.86	0.184	0.719
802.11ax (20 MHz)	0.305	0.365	83.56	0.780	3.279
802.11ax (40 MHz)	0.193	0.251	76.89	1.141	5.181
802.11ax (80 MHz)	0.294	0.354	83.05	0.807	3.401
802.11ax (160 MHz)	0.296	0.354	83.62	0.78	3.378



2.4. The Worst Case Measurement Configuration

Tests Item	AC Power Line Conducted Emission
Test Condition	AC power line conducted measurement for line and neutral
Operating Mode	Transmit
1	EUT + Adapter
2	EUT + PoE

Tests Item	Emission Bandwidth Maximum Conducted Output Power Maximum Power Spectral Density
Test Condition	Conducted measurement at transmit chains
Operating Mode	Transmit

Tests Item	Transmitter Radiated Spurious Emission
Test Condition	Radiated measurement If EUT consist of multiple antenna assembly (multiple antenna are used in EUT regardless of spatial multiplexing MIMO configuration), the radiated test should be performed with highest antenna gain of each antenna type.
Operating Mode < 1GHz	Transmit
1	EUT + Adapter
2	EUT + PoE
Operating Mode > 1GHz	Transmit
The EUT was performed at X axis, Y axis and Z axis position for radiated spurious emission test. The worst case was found at Y axis, so the measurement will follow this same test configuration.	

Tests Item	Simultaneous Transmission Analysis - Radiated Emission Co-location
Test Condition	Radiated measurement
Operating Mode < 1GHz	Transmit
1	EUT + Adapter: WiFi 2.4 GHz + WiFi 5 GHz + Bluetooth LE function
2	EUT + PoE: WiFi 2.4 GHz + WiFi 5 GHz + Bluetooth LE function
Operating Mode > 1GHz	Transmit
1	WiFi 2.4 GHz + WiFi 5 GHz + Bluetooth LE function
Refer to Appendix F for Radiated Emission Co-location.	

Tests Item	Simultaneous Transmission Analysis - Co-location RF Exposure Evaluation
Operating Mode	Transmit
1	WiFi 2.4 GHz + WiFi 5 GHz + Bluetooth LE function
Refer to DEKRA Test Report No.: 2520994R-RFNAOTHV02-I for Co-location RF Exposure Evaluation.	

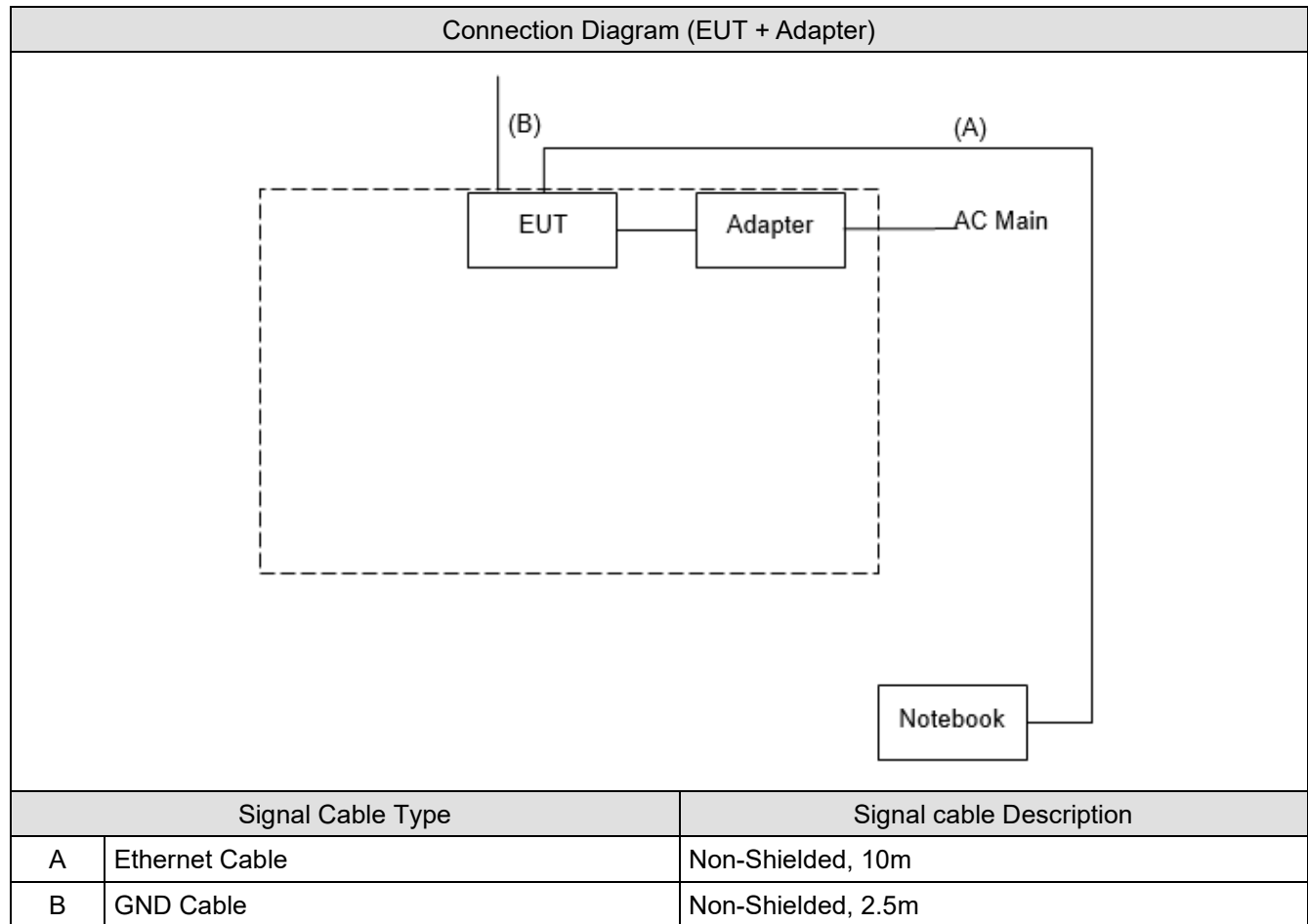
Note:

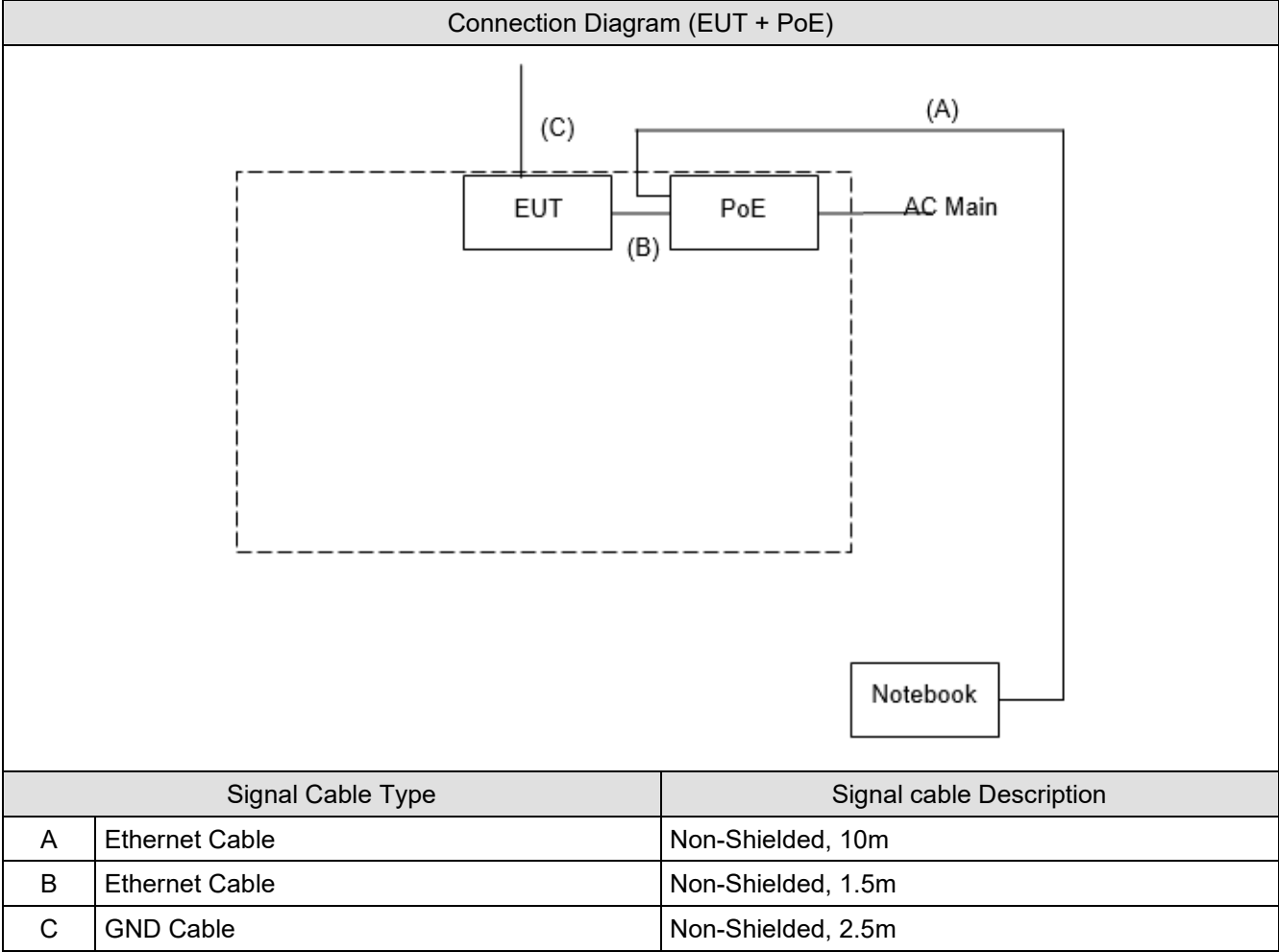
1. Determining compliance shall be based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.
2. For radiated emission below 1 GHz and AC power line conducted emission have performed all modes of operation were investigated and the worst-case emissions are reported.
3. The modulation and bandwidth are similar for 802.11n mode for HT20/HT40, 802.11ac mode for VHT20/VHT40/VHT80/VHT160 and 802.11ax mode for HEW20/HEW40/HEW80/HEW160, therefore investigated worst case to representative mode in test report.

2.5. Tested System Details

No.	Equipment	Brand Name	Model No.	Serial No.
1	Notebook	Lenovo	Lenovo Ideapad 320	PF0SXXY1

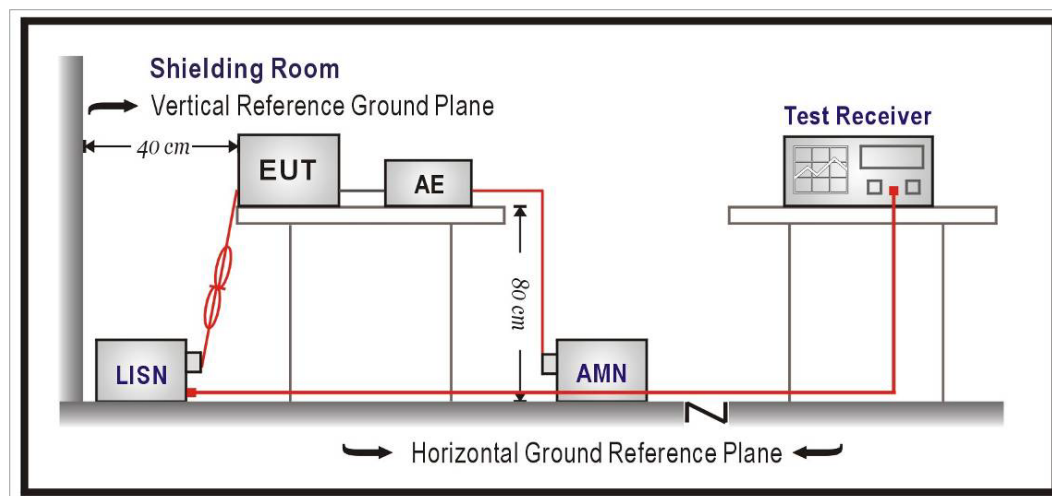
2.6. Configuration of tested System





3. AC Power Line Conducted Emission

3.1. Test Setup



3.2. Test Limit

Frequency (MHz)	QP (dBuV)	AV (dBuV)
0.15 - 0.50	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30	60	50

Remark: In the above table, the tighter limit applies at the band edges.

3.3. Test Procedure

The EUT was setup according to ANSI C63.10: 2013. The EUT was placed on a platform of nominal size, 1 m by 1.5 m, raised 80 cm above the conducting ground plane. The vertical conducting plane was located 40 cm to the rear of the EUT. All other surfaces of EUT were at least 80 cm from any other grounded conducting surface. The EUT and simulators are connected to the main power through a line impedance stabilization network (LISN). The LISN provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN. (Please refer to the block diagram of the test setup and photographs.)

Each current-carrying conductor of the EUT power cord, except the ground (safety) conductor, was individually connected through a LISN to the input power source.

The excess length of the power cord between the EUT and the LISN receptacle were folded back and forth at the center of the lead to form a bundle not exceeding 40 cm in length.

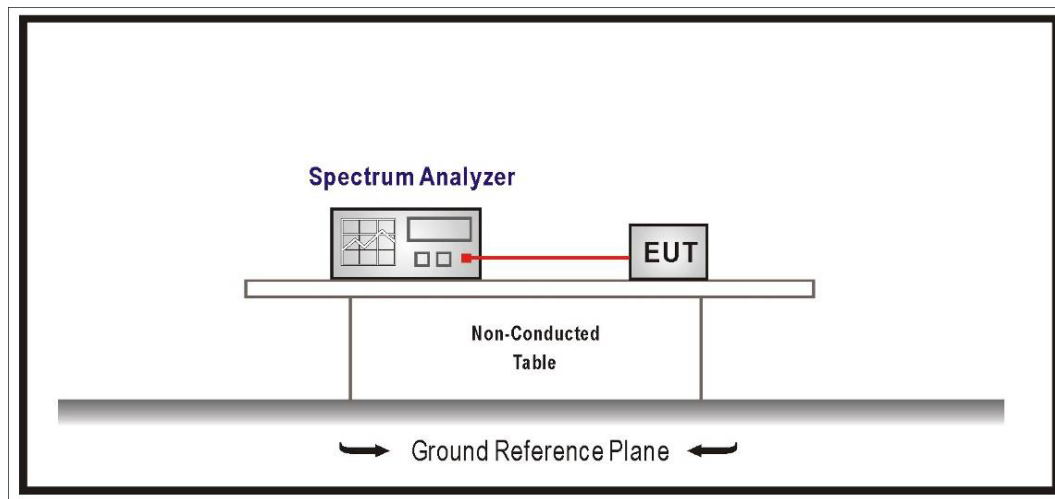
Conducted emissions were investigated over the frequency range from 0.15 MHz to 30 MHz using a receiver bandwidth of 9 kHz.

3.4. Test Result of AC Power Line Conducted Emission

Refer as Appendix A

4. Emission Bandwidth

4.1. Test Setup



4.2. Test Limit

99% & 26dB Bandwidth : No Required

6dB Bandwidth $\geq$ 500kHz

4.3. Test Procedure

99% & 26dB Bandwidth :

The EUT was tested according to U-NII test procedure of KDB 789033.

Set RBW 1% of the emission bandwidth, VBW equal to 3 times the RBW.

DTS Bandwidth :

Set RBW = 100kHz, VBW $\geq$ 3xRBW, Sweep time=Auto, Set Peak detector.

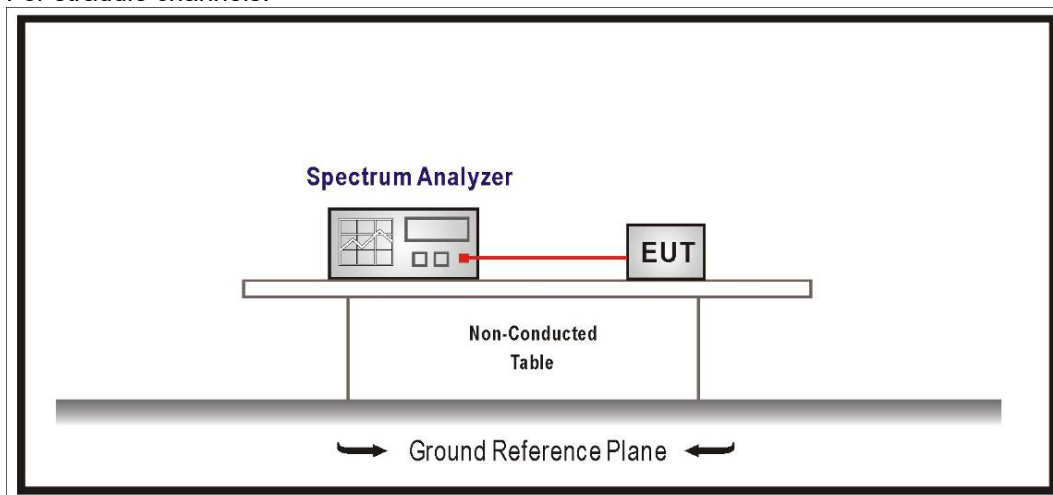
4.4. Test Result of Emission Bandwidth

Refer as Appendix B

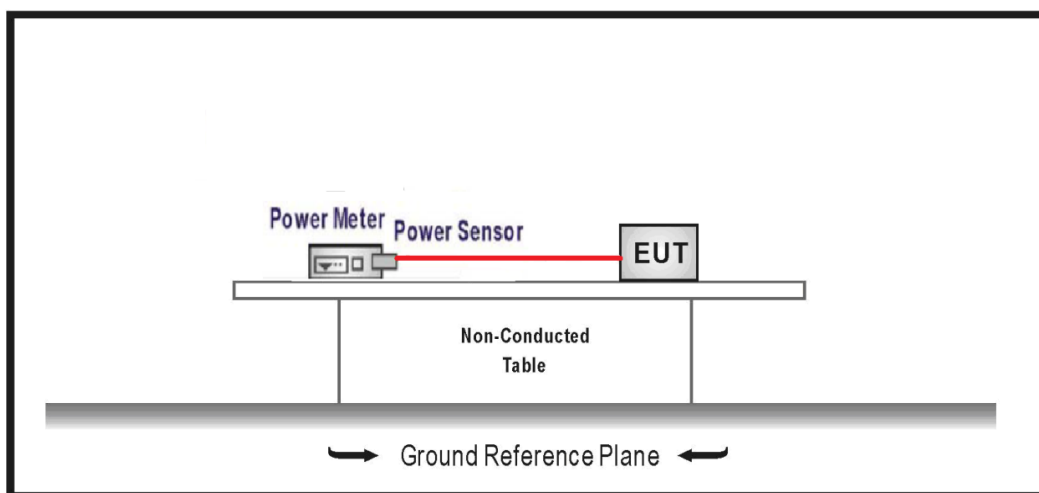
5. Maximum Conducted Output Power

5.1. Test Setup

For straddle channels:



For othes channels:



5.2. Test Limit

1. For an outdoor access point and an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. 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 6 dBi. For client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, 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 6 dBi.
2. For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or $11 \text{ dBm} + 10 \log B$, where B is the 26 dB emission bandwidth in megahertz. 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 6 dBi.
3. For the band 5.725-5.850 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. If transmitting antennas of directional gain greater than 6 dBi are used, 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 6 dBi.
4. For the band 5.850–5.895 GHz:
For an indoor access point, the maximum e.i.r.p. over the frequency band of operation must not exceed 36 dBm. 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 36 dBm.
For client devices, the maximum e.i.r.p. over the frequency band of operation must not exceed 30 dBm. 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 30 dBm.
For a subordinate device, the maximum e.i.r.p. over the frequency band of operation must not exceed 36 dBm.

5.3. Test Procedure

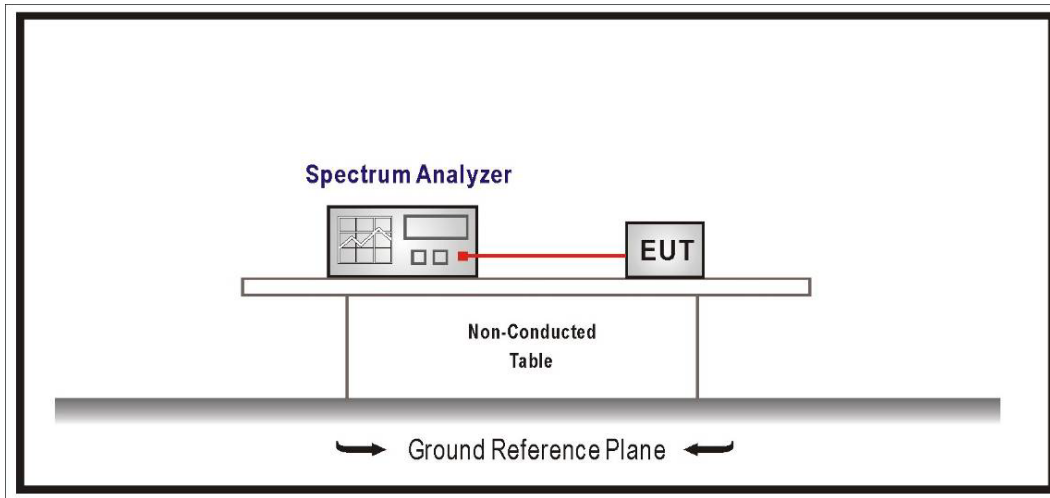
The EUT was setup to ANSI C63.10: 2013; tested according to U-NII test procedure of KDB 789033.

5.4. Test Result of Maximum Conducted Output Power

Refer as Appendix C

6. Maximum Power Spectral Density

6.1. Test Setup



6.2. Test Limit

1. For the band 5.15 ~ 5.25 GHz, the peak power spectral density shall not exceed 17 dBm in any 1 MHz band. If transmitting antenna of directional gain greater than 6 dBi are used, the peak power spectral density shall be reduced by the amount in dB that directional gain of the antenna exceeds 6 dBi.
2. For client devices in the 5.15 ~ 5.25 GHz band, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, 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 6 dBi
3. For the 5.25 ~ 5.35 GHz ,5470 ~ 5600 MHz and 5650 ~ 5725 MHz, the peak power spectral density shall not exceed 11 dBm in any 1-MHz band. If transmitting antenna of directional gain greater than 6 dBi are used, the peak power spectral density shall be reduced by the amount in dB that directional gain of the antenna exceeds 6 dBi.
4. For the band 5.725 ~ 5.850 GHz, the peak power spectral density shall not exceed 30 dBm in any 500 kHz band. If transmitting antenna of directional gain greater than 6 dBi are used, the peak power spectral density shall be reduced by the amount in dB that directional gain of the antenna exceeds 6 dBi.
5. The frequency band 5.850 ~ 5.895 GHz:
For an indoor access point operating in the 5.850–5.895 GHz band, the maximum power spectral density must not exceed 20 dBm e.i.r.p. in any 1–megahertz band.
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 14 dBm e.i.r.p. in any 1-megahertz band.
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 20 dBm e.i.r.p in any 1–megahertz band.

6.3. Test Procedure

The EUT was setup to ANSI C63.10: 2013; tested to U-NII test procedure of KDB 789033.

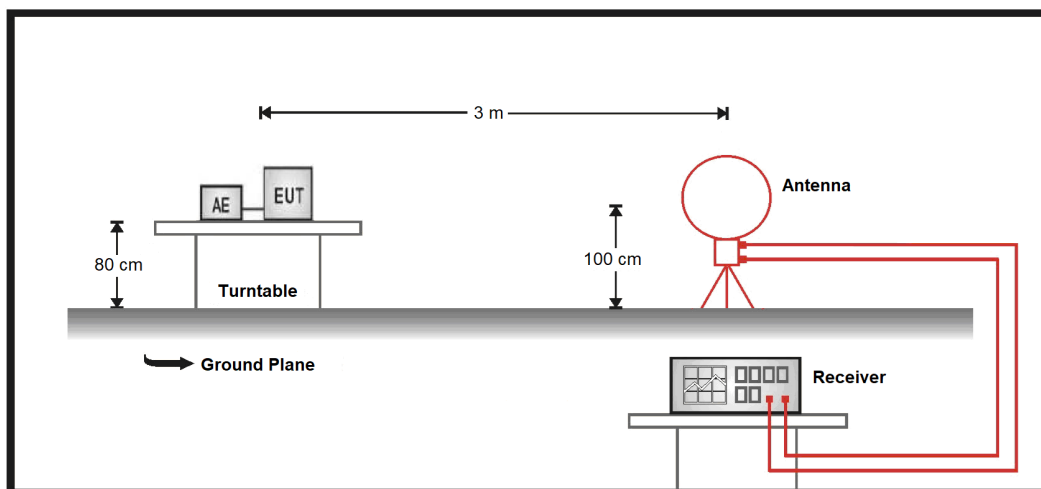
6.4. Test Result of Maximum Power Spectral Density

Refer as Appendix D

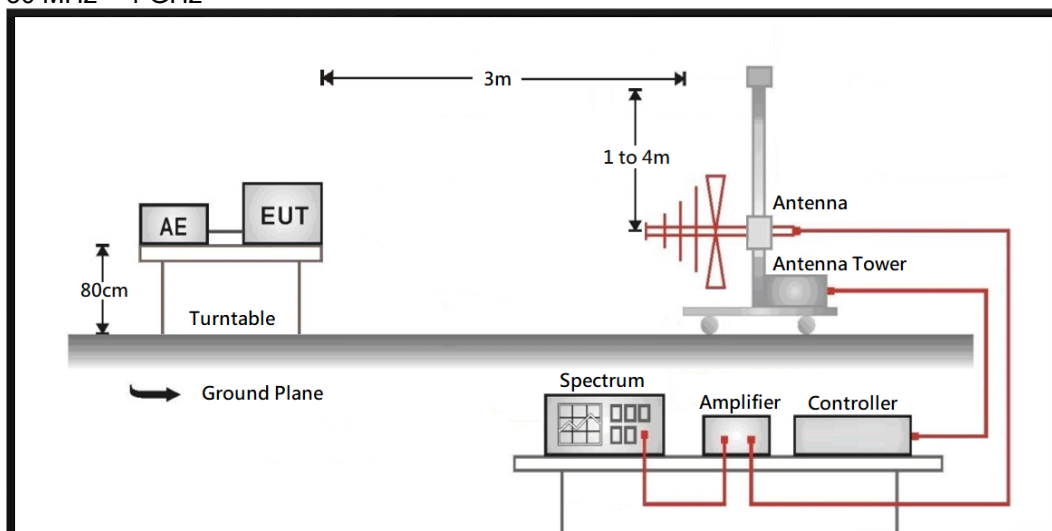
7. Transmitter Radiated Spurious Emission

7.1. Test Setup

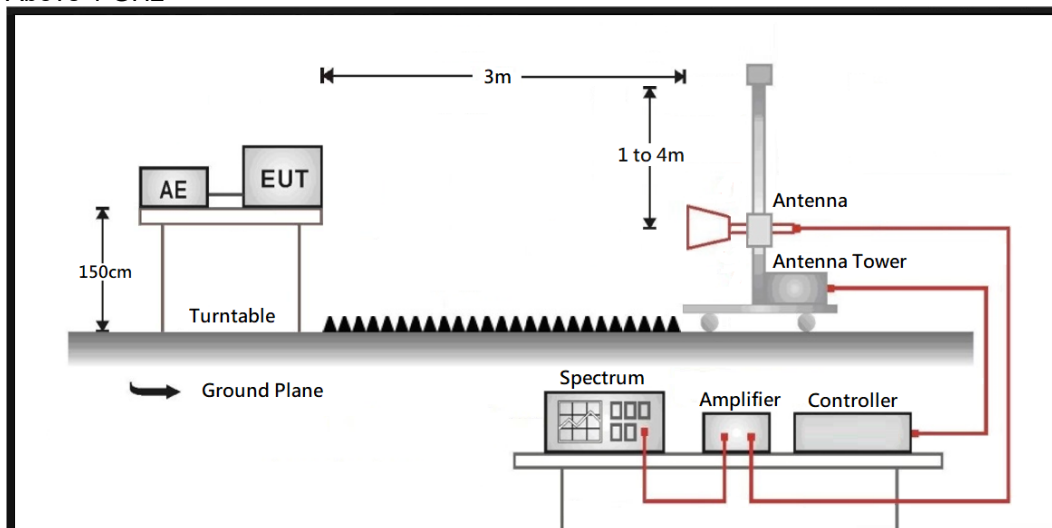
9 kHz ~ 30 MHz



30 MHz ~ 1 GHz



Above 1 GHz



7.2. Test Limit

Frequency (MHz)	Field strength (uV/m)	Field strength (dBuV/m)	Measurement distance (m)
0.009 – 0.490	2400/F(kHz)	20 log (2400/F(kHz))	300
0.490 – 1.705	24000/F(kHz)	20 log (24000/F(kHz))	30
1.705 - 30	30	29.5	30
30 - 88	100	40	3
88 - 216	150	43.5	3
216 - 960	200	46	3
Above 960	500	54	3

Remarks:

1. Field strength (dBuV/m) = 20 log Field strength (uV/m)
2. In the Above Table, the tighter limit applies at the band edges.
2. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system

Unwanted Emission out of the restricted bands Test Limit

Frequency (MHz)	EIRP Limit (dBm/MHz)	Equivalent Field Strength (dBuV/m@3m)
5150 – 5250	-27	68.2
5250 – 5350	-27	68.2
5470 – 5725	-27	68.2
5725 – 5850	-27 ^{*1}	68.2 ^{*1}
	10 ^{*2}	105.2 ^{*2}
	15.6 ^{*3}	110.8 ^{*3}
	27 ^{*4}	122.2 ^{*4}
5850 – 5895	(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 15 dBm/MHz and shall decrease linearly to an e.i.r.p. of –7 dBm/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 –5 dBm/MHz and shall decrease linearly to an e.i.r.p. of –27 dBm/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 –27 dBm/MHz at 5.65 GHz increasing linearly to 10 dBm/MHz at 5.7 GHz, and from 5.7 GHz increasing linearly to a level of 15.6 dBm/MHz at 5.72 GHz, and from 5.72 GHz increasing linearly to a level of 27 dBm/MHz at 5.725 GHz.	
^{*1} beyond 75 MHz or more above of the band edge. ^{*2} below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above. ^{*3} below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above. ^{*4} from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.		

Remark:

The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength:

$$E = \frac{1000000\sqrt{30P}}{3} \text{ uV/m, where P is the eirp (Watts).}$$

7.3. Test Procedure

The EUT and its simulators are placed on a turn table which is 0.8 or 1.5 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level. Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.10: 2013 on radiated measurement.

The additional latch filter below 1 GHz was used to measure the level of harmonics radiated emission during field strength of harmonics measurement.

The bandwidth below 1 GHz setting on the field strength meter is 120 kHz, above 1 GHz are 1 MHz.

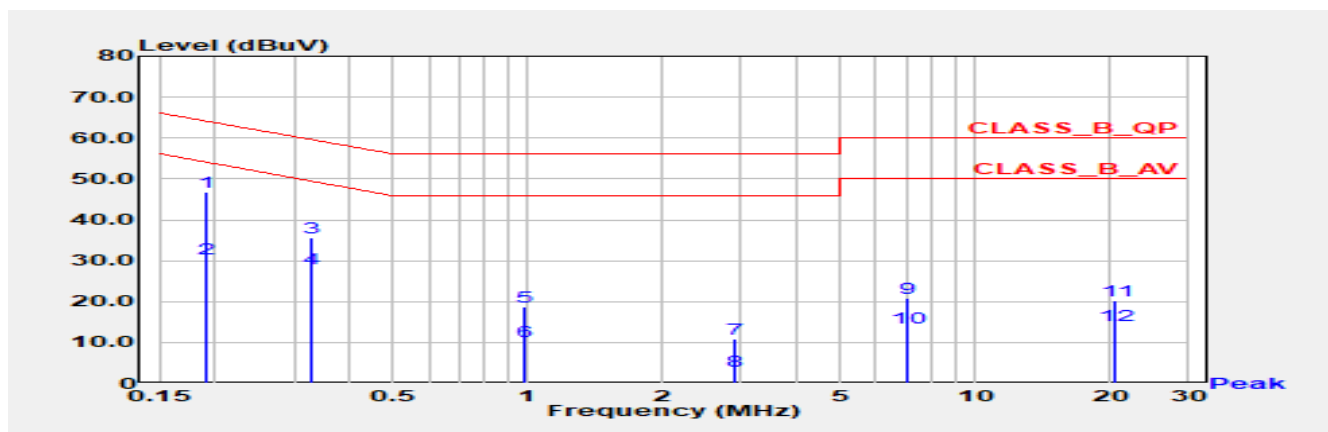
The frequency range from 9 kHz to 10th harmonics and included The frequency range from the lowest oscillator frequency generated within the device up to the 10th harmonic was checked is checked.

7.4. Test Result of Transmitter Radiated Spurious Emission

Refer as Appendix E

Appendix A. Test Result of AC Power Line Conducted Emission

Test Mode	Mode 1: EUT + Adapter	Phase	Line
Test Condition	802.11ax (160 MHz) / Ant. 1 + Ant. 2 + Ant. 3 / 5570 MHz		

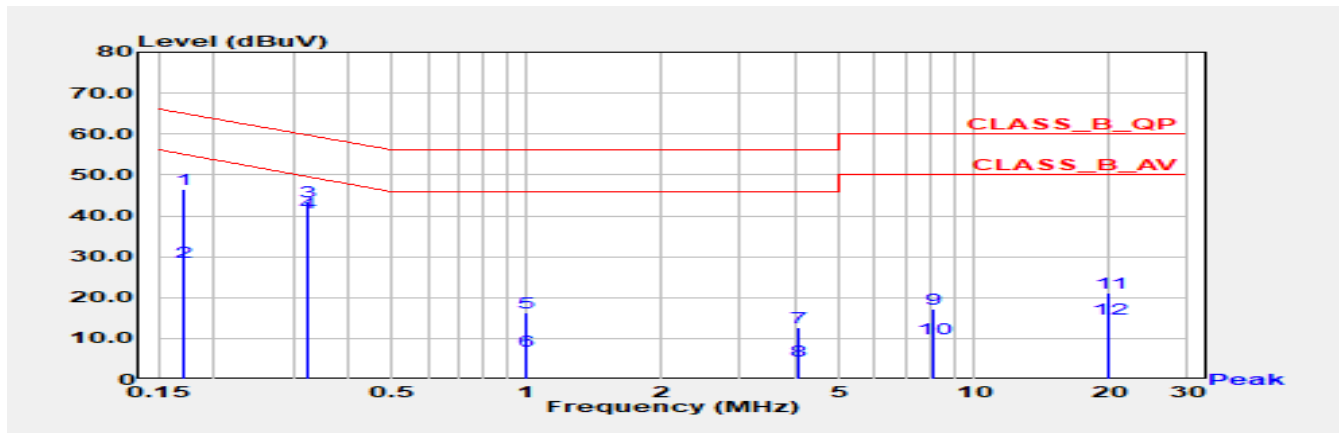


No	Frequency (MHz)	Emission Level (dBuV)	Limit (dBuV)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
*1	0.190	46.88	64.01	-17.13	37.01	9.87	QP
2	0.190	30.60	54.01	-23.42	20.73	9.87	AV
3	0.328	35.73	59.51	-23.78	25.85	9.88	QP
4	0.328	28.08	49.51	-21.43	18.20	9.88	AV
5	0.985	18.67	56.00	-37.33	8.75	9.93	QP
6	0.985	10.12	46.00	-35.88	0.19	9.93	AV
7	2.911	10.96	56.00	-45.04	0.94	10.02	QP
8	2.911	3.12	46.00	-42.88	-6.90	10.02	AV
9	7.039	20.92	60.00	-39.08	10.75	10.17	QP
10	7.039	13.67	50.00	-36.33	3.50	10.17	AV
11	20.613	20.23	60.00	-39.77	9.79	10.44	QP
12	20.613	14.04	50.00	-35.96	3.61	10.44	AV

Remark:

1. "*" means this data is the worst emission level.
2. Emission Level = Reading Level + Correct Factor (Correct Factor = LISN Insertion Loss + Cable Loss).
3. Margin = Emission Level - Limit.

Test Mode	Mode 1: EUT + Adapter	Phase	Neutral
Test Condition	802.11ax (160 MHz) / Ant. 1 + Ant. 2 + Ant. 3 / 5570 MHz		

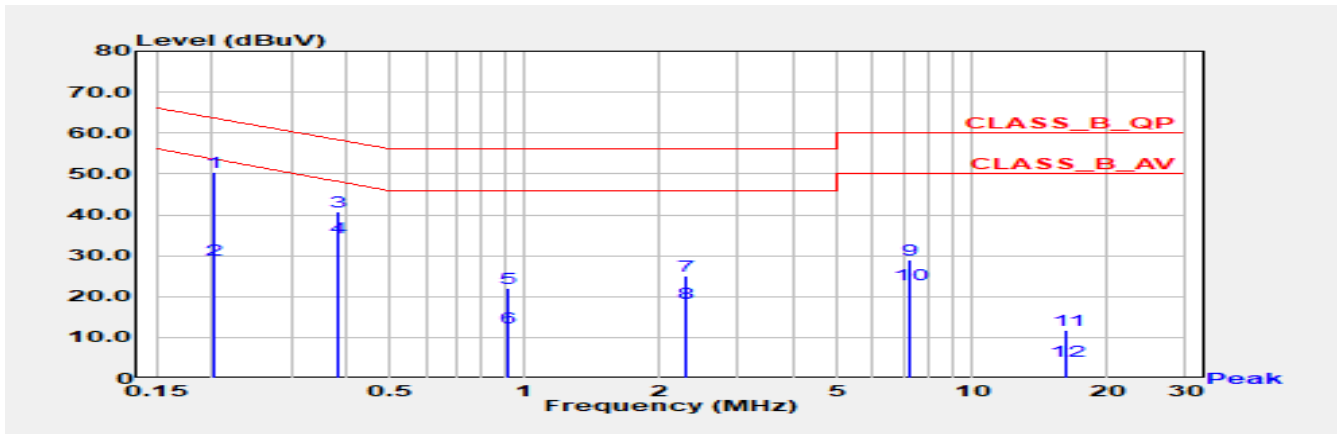


No	Frequency (MHz)	Emission Level (dBUV)	Limit (dBUV)	Margin (dB)	Reading Level (dBUV)	Correct Factor (dB)	Detector Type
1	0.170	46.47	64.95	-18.48	36.65	9.82	QP
2	0.170	28.73	54.95	-26.22	18.91	9.82	AV
3	0.323	43.34	59.62	-16.28	33.48	9.86	QP
*4	0.323	40.83	49.62	-8.79	30.97	9.86	AV
5	0.994	16.25	56.00	-39.75	6.33	9.92	QP
6	0.994	6.84	46.00	-39.16	-3.08	9.92	AV
7	4.038	12.69	56.00	-43.31	2.64	10.04	QP
8	4.038	4.52	46.00	-41.48	-5.53	10.04	AV
9	8.061	17.35	60.00	-42.65	7.19	10.16	QP
10	8.061	9.83	50.00	-40.17	-0.33	10.16	AV
11	20.024	21.16	60.00	-38.84	10.86	10.30	QP
12	20.024	14.70	50.00	-35.30	4.40	10.30	AV

Remark:

1. "*" means this data is the worst emission level.
2. Emission Level = Reading Level + Correct Factor (Correct Factor = LISN Insertion Loss + Cable Loss).
3. Margin = Emission Level - Limit.

Test Mode	Mode 2: EUT + PoE	Phase	Line
Test Condition	802.11ax (160 MHz) / Ant. 1 + Ant. 2 + Ant. 3 / 5570 MHz		

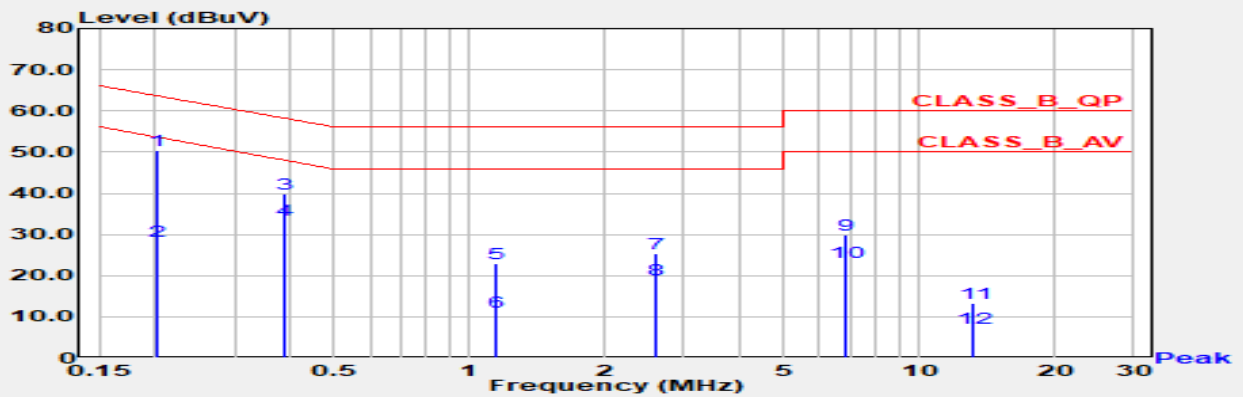


No	Frequency (MHz)	Emission Level (dBuV)	Limit (dBuV)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
*1	0.202	50.53	63.54	-13.01	40.65	9.87	QP
2	0.202	28.85	53.54	-24.69	18.97	9.87	AV
3	0.384	40.78	58.19	-17.42	30.90	9.88	QP
4	0.384	34.33	48.19	-13.87	24.44	9.88	AV
5	0.915	21.96	56.00	-34.04	12.04	9.92	QP
6	0.915	12.30	46.00	-33.70	2.38	9.92	AV
7	2.296	25.18	56.00	-30.82	15.19	9.99	QP
8	2.296	18.34	46.00	-27.66	8.35	9.99	AV
9	7.213	28.84	60.00	-31.16	18.66	10.18	QP
10	7.213	22.85	50.00	-27.15	12.67	10.18	AV
11	16.302	11.66	60.00	-48.34	1.29	10.37	QP
12	16.302	4.09	50.00	-45.91	-6.28	10.37	AV

Remark:

1. "*" means this data is the worst emission level.
2. Emission Level = Reading Level + Correct Factor (Correct Factor = LISN Insertion Loss + Cable Loss).
3. Margin = Emission Level - Limit.

Test Mode	Mode 2: EUT + PoE	Phase	Neutral
Test Condition	802.11ax (160 MHz) / Ant. 1 + Ant. 2 + Ant. 3 / 5570 MHz		



No	Frequency (MHz)	Emission Level (dBuV)	Limit (dBuV)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
*1	0.202	50.32	63.54	-13.22	40.46	9.85	QP
2	0.202	28.45	53.54	-25.09	18.59	9.85	AV
3	0.388	39.95	58.10	-18.14	30.08	9.87	QP
4	0.388	33.55	48.10	-14.54	23.68	9.87	AV
5	1.149	22.97	56.00	-33.03	13.04	9.93	QP
6	1.149	11.15	46.00	-34.85	1.23	9.93	AV
7	2.593	25.23	56.00	-30.77	15.24	9.99	QP
8	2.593	18.87	46.00	-27.13	8.88	9.99	AV
9	6.882	29.99	60.00	-30.01	19.86	10.13	QP
10	6.882	23.14	50.00	-26.86	13.01	10.13	AV
11	13.193	13.27	60.00	-46.73	3.03	10.24	QP
12	13.193	7.33	50.00	-42.67	-2.91	10.24	AV

Remark:

1. "*" means this data is the worst emission level.
2. Emission Level = Reading Level + Correct Factor (Correct Factor = LISN Insertion Loss + Cable Loss).
3. Margin = Emission Level - Limit.

Appendix B. Test Result of Emission Bandwidth

Modulation	Frequency (MHz)	99% Bandwidth (MHz)			26dB Bandwidth (MHz)			Limit (MHz)	
		Ant. 1	Ant. 2	Ant. 3	Ant. 1	Ant. 2	Ant. 3	99% & 26dB Bandwidth	
802.11a	5180	17.742	17.382	17.422	29.610	30.609	26.453	-	
	5220	17.262	17.062	17.102	23.776	21.978	22.297	-	
	5240	17.542	17.542	17.462	24.455	22.377	24.016	-	
	5260	17.102	17.182	16.863	22.337	21.578	21.058	-	
	5300	17.702	17.382	17.502	27.972	25.894	26.653	-	
	5320	17.502	17.342	17.302	28.691	29.370	27.732	-	
	5500	17.542	17.622	17.502	30.289	27.852	27.452	-	
	5580	17.142	16.943	16.903	22.497	21.658	21.618	-	
	5700	17.502	17.422	16.983	27.532	25.934	28.651	-	
	5720 (U-NII-2C)	13.272	13.472	13.392	15.390	15.750	15.790	-	
Modulation	Frequency (MHz)	99% Bandwidth (MHz)			DTS Bandwidth (MHz)			Limit (MHz)	
		Ant. 1	Ant. 2	Ant. 3	Ant. 1	Ant. 2	Ant. 3	99% Bandwidth	DTS Bandwidth
802.11a	5720 (U-NII-3)	3.631	3.590	3.511	3.231	3.231	3.231	-	0.50
	5745	18.381	19.060	18.421	16.303	16.263	16.303	-	0.50
	5785	17.582	17.422	17.022	16.303	16.303	16.303	-	0.50
	5825	17.782	17.502	17.462	16.303	16.303	16.303	-	0.50

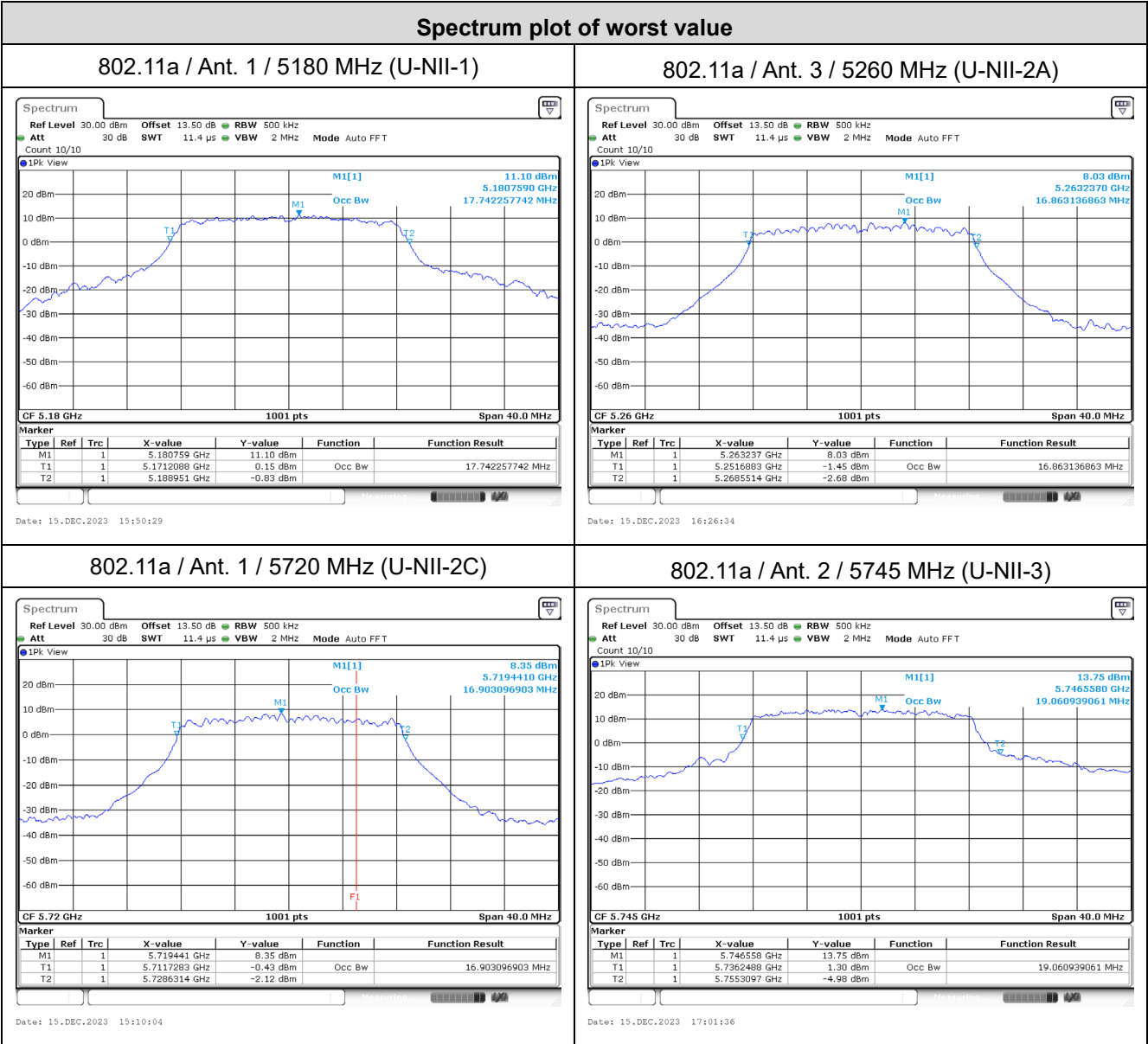
Modulation	Frequency (MHz)	99% Bandwidth (MHz)			26dB Bandwidth (MHz)			Limit (MHz)	
		Ant. 1	Ant. 2	Ant. 3	Ant. 1	Ant. 2	Ant. 3	99% & 26dB Bandwidth	
802.11ax (20 MHz)	5180	19.460	19.380	19.220	24.095	31.088	25.015	-	
	5220	19.180	19.260	19.220	22.697	22.337	22.977	-	
	5240	19.060	18.901	19.060	20.379	22.217	23.576	-	
	5260	19.180	19.220	19.220	22.777	22.617	22.297	-	
	5300	19.380	19.380	19.340	26.773	28.211	28.411	-	
	5320	19.300	19.420	19.460	29.970	25.574	26.053	-	
	5500	19.380	19.380	19.420	27.452	27.732	28.491	-	
	5580	19.180	19.180	19.140	22.337	22.497	22.337	-	
	5700	19.340	19.300	19.180	27.492	28.131	23.736	-	
	5720 (U-NII-2C)	14.431	14.471	14.431	15.950	16.069	16.349	-	
Modulation	Frequency (MHz)	99% Bandwidth (MHz)			DTS Bandwidth (MHz)			Limit (MHz)	
		Ant. 1	Ant. 2	Ant. 3	Ant. 1	Ant. 2	Ant. 3	99% Bandwidth	DTS Bandwidth
802.11ax (20 MHz)	5720 (U-NII-3)	4.669	4.669	4.629	4.470	4.590	4.390	-	0.50
	5745	19.460	19.540	19.420	18.781	18.901	18.621	-	0.50
	5785	19.420	19.380	19.220	18.781	19.021	18.821	-	0.50
	5825	19.380	19.380	19.300	18.821	18.901	18.861	-	0.50

Modulation	Frequency (MHz)	99% Bandwidth (MHz)			26dB Bandwidth (MHz)			Limit (MHz)	
		Ant. 1	Ant. 2	Ant. 3	Ant. 1	Ant. 2	Ant. 3	99% & 26dB Bandwidth	
802.11ax (40 MHz)	5190	37.802	37.722	37.802	46.673	50.429	51.628	-	
	5230	37.802	37.562	37.642	39.640	39.560	39.640	-	
	5270	37.642	37.642	37.562	39.640	39.560	39.480	-	
	5310	37.722	37.882	37.802	49.470	49.790	54.905	-	
	5510	37.722	37.882	37.882	44.755	51.868	53.946	-	
	5550	37.562	37.642	37.562	39.560	39.560	39.560	-	
	5670	37.802	37.882	37.882	49.790	60.259	65.134	-	
	5710 (U-NII-2C)	33.622	33.702	33.702	34.741	34.741	34.741	-	
Modulation	Frequency (MHz)	99% Bandwidth (MHz)			DTS Bandwidth (MHz)			Limit (MHz)	
		Ant. 1	Ant. 2	Ant. 3	Ant. 1	Ant. 2	Ant. 3	99% Bandwidth	DTS Bandwidth
802.11ax (40 MHz)	5710 (U-NII-3)	3.860	3.860	3.860	3.540	2.661	3.780	-	0.50
	5755	41.398	39.160	41.158	36.123	35.084	35.804	-	0.50
	5795	43.956	41.078	45.554	35.564	35.084	35.084	-	0.50

Modulation	Frequency (MHz)	99% Bandwidth (MHz)			26dB Bandwidth (MHz)			Limit (MHz)	
		Ant. 1	Ant. 2	Ant. 3	Ant. 1	Ant. 2	Ant. 3	99% & 26dB Bandwidth	
802.11ax (80 MHz)	5210	77.042	77.042	77.202	84.875	81.359	92.547	-	
	5290	76.883	77.202	77.202	88.232	89.830	89.031	-	
	5530	76.883	76.723	77.042	80.400	83.756	89.830	-	
	5610	76.883	76.883	76.723	80.080	80.080	80.400	-	
	5690 (U-NII-2C)	73.521	73.362	73.362	75.120	74.960	74.960	-	
Modulation	Frequency (MHz)	99% Bandwidth (MHz)			DTS Bandwidth (MHz)			Limit (MHz)	
		Ant. 1	Ant. 2	Ant. 3	Ant. 1	Ant. 2	Ant. 3	99% Bandwidth	DTS Bandwidth
802.11ax (80 MHz)	5690 (U-NII-3)	3.521	3.680	3.680	3.682	2.722	2.883	-	0.50
	5755	77.042	76.883	77.042	75.445	75.445	75.764	-	0.50

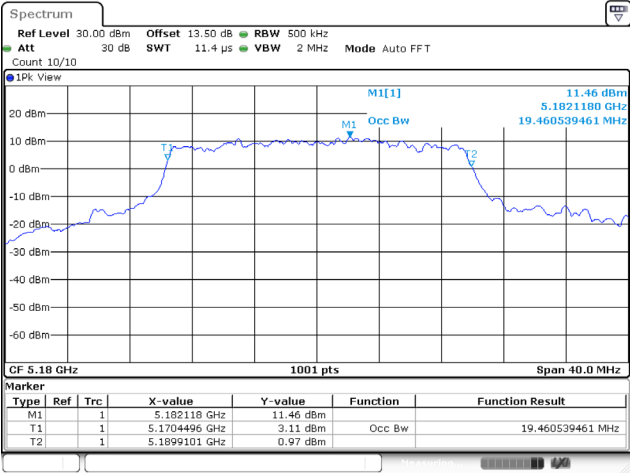
Modulation	Frequency (MHz)	99% Bandwidth (MHz)			26dB Bandwidth (MHz)			Limit (MHz)	
		Ant. 1	Ant. 2	Ant. 3	Ant. 1	Ant. 2	Ant. 3	99% & 26dB Bandwidth	
802.11ax (160 MHz)	5250 (U-NII-2C)	78.002	77.363	77.363	81.518	81.518	81.199	-	
	5250 (U-NII-3)	78.001	78.321	78.001	81.199	81.199	80.879	-	
	5570	155.044	156.323	155.364	163.357	169.111	163.037	-	

For 99% Bandwidth:

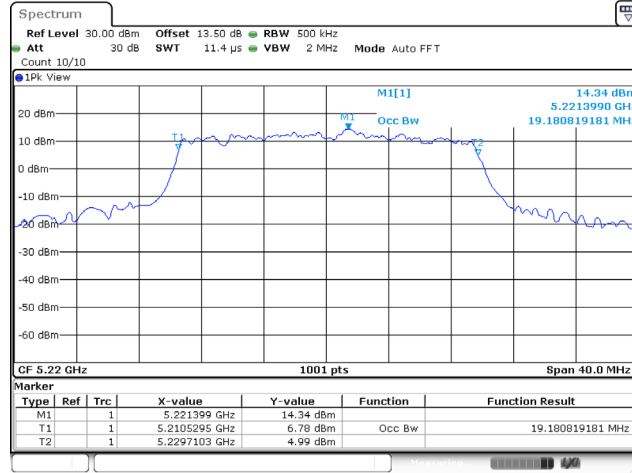


Spectrum plot of worst value

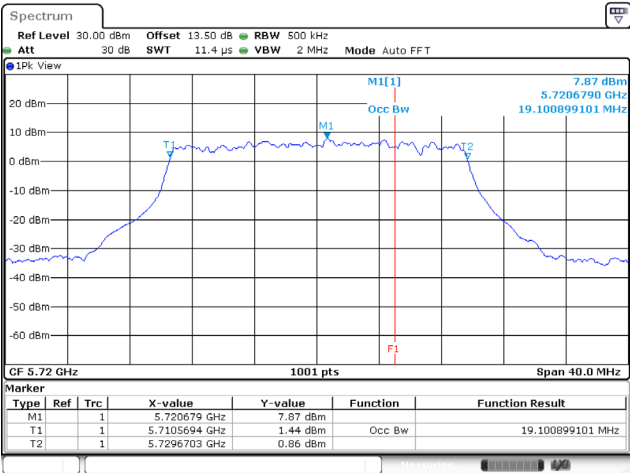
802.11ax (20 MHz) / Ant. 1 / 5180 MHz (U-NII-1)



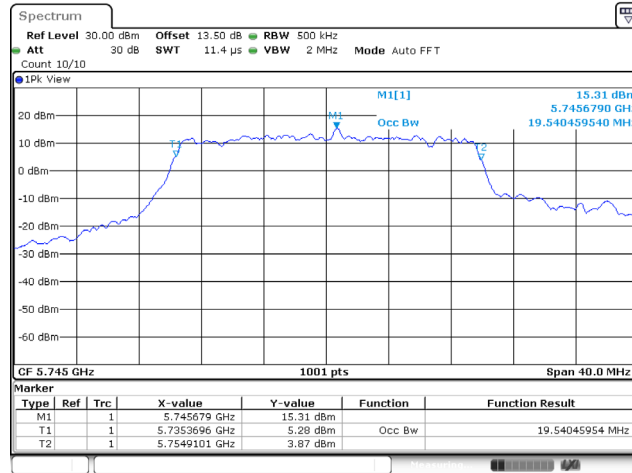
802.11ax (20 MHz) / Ant. 1 / 5260 MHz (U-NII-2A)

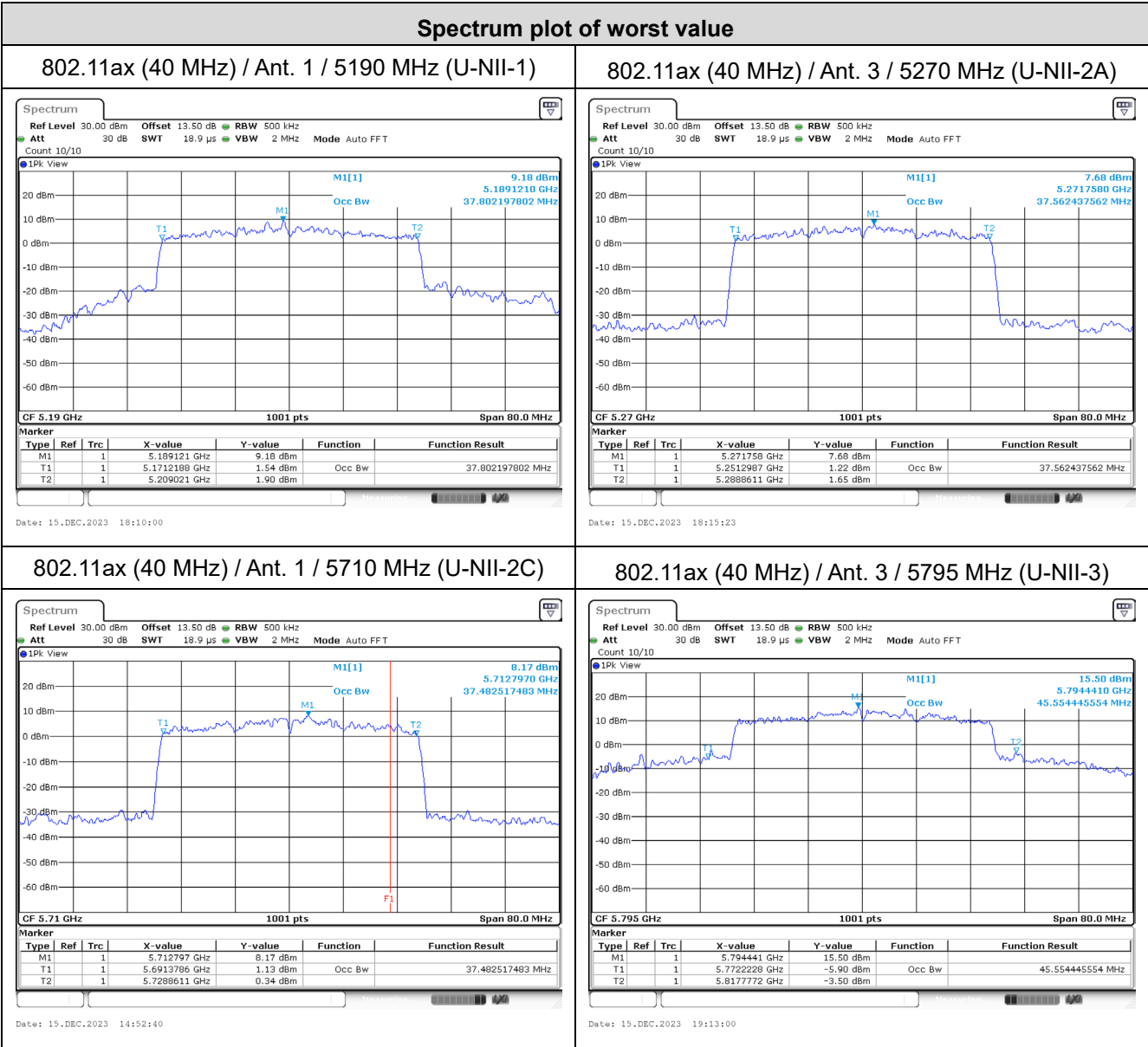


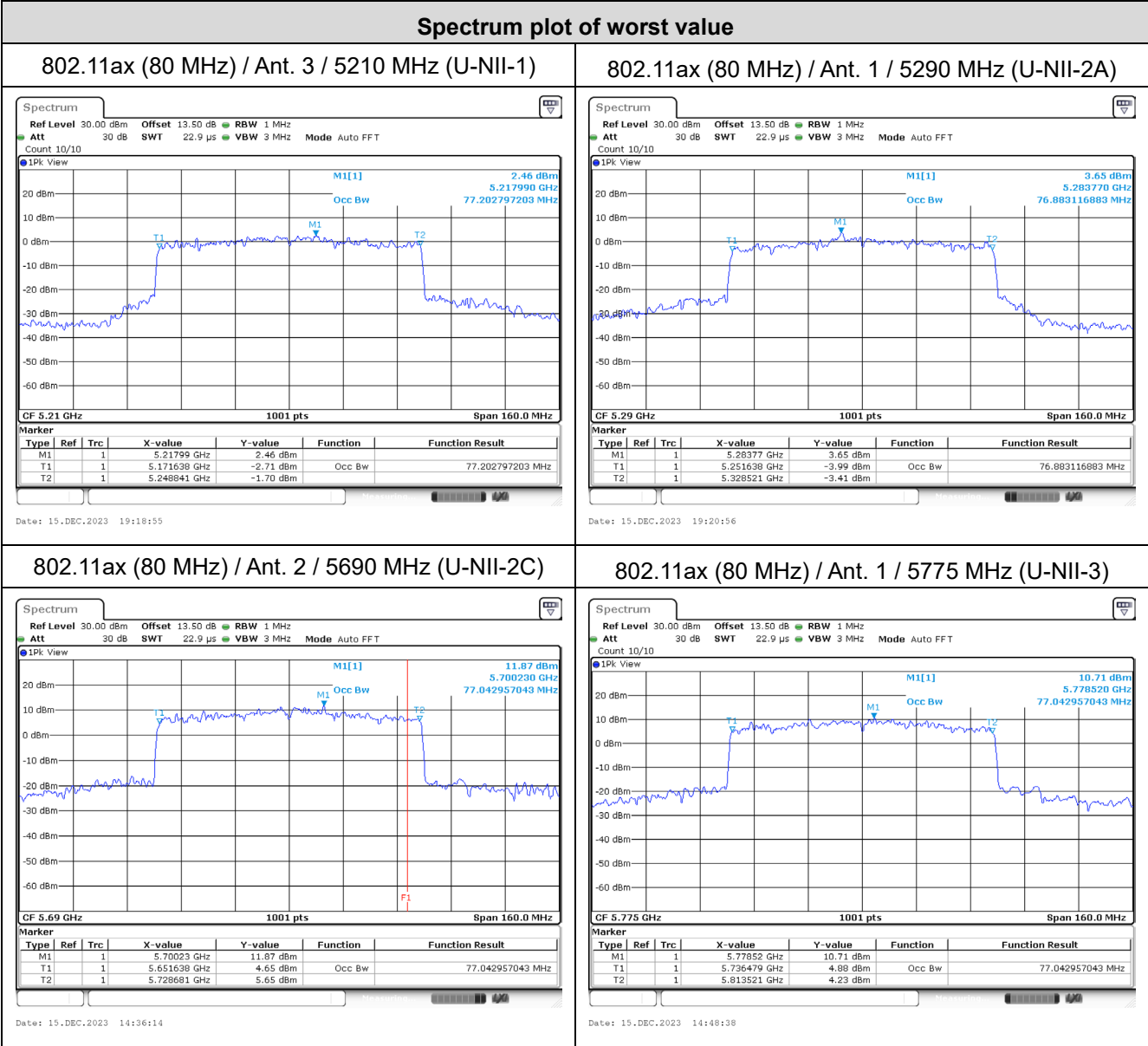
802.11ax (20 MHz) / Ant. 1 / 5720 MHz (U-NII-2C)



802.11ax (20 MHz) / Ant. 2 / 5745 MHz (U-NII-3)

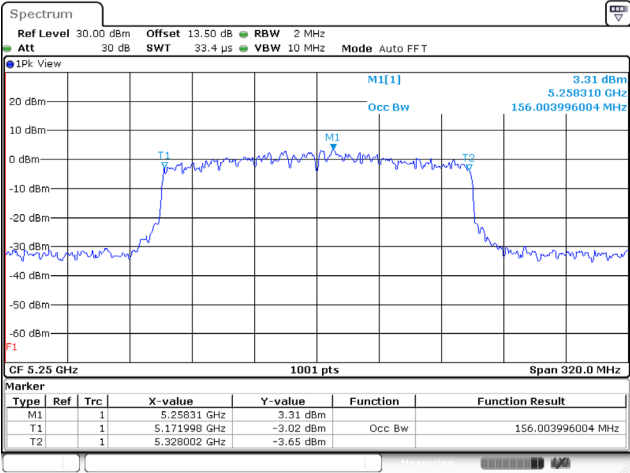




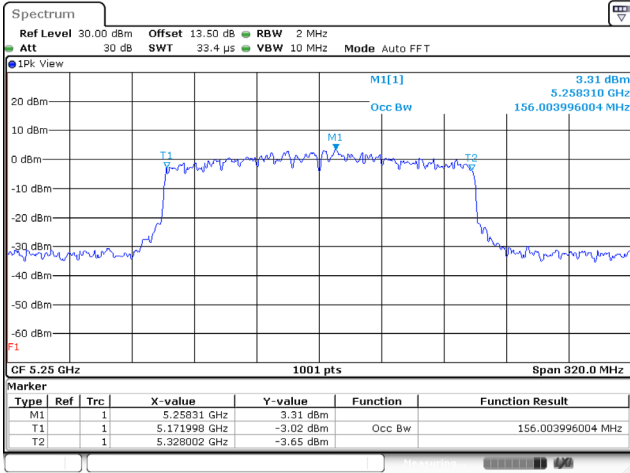


Spectrum plot of worst value

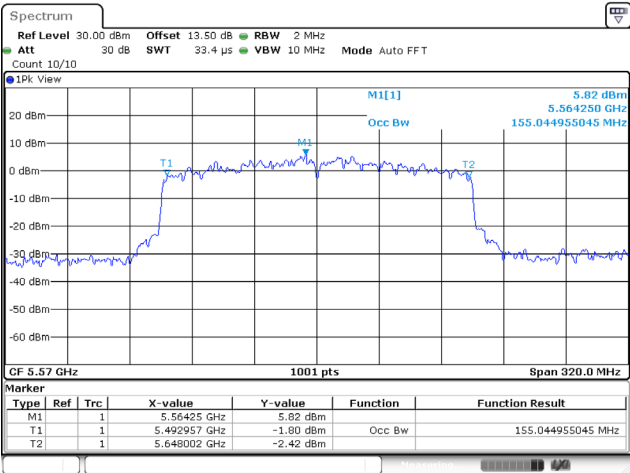
802.11ax (160 MHz) / Ant. 1 / 5250 MHz (U-NII-1)



802.11ax (160 MHz) / Ant. 1 / 5250 MHz (U-NII-2A)



802.11ax (160 MHz) / Ant. 1 / 5570 MHz (U-NII-2C)



For 26dB Bandwidth:

