



SHENZHEN HUAXIA TESTING TECHNOLOGY CO., LTD

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Test Report

Report No.: CQASZ20260601191E-02
Applicant: AC Infinity Inc.
Address of Applicant: 21880 Baker Parkway, City of Industry, CA 91789 USA
Equipment Under Test (EUT):
Product: Camera
Model No.: AC-APM7, AC-APC7, AC-APC3, AC-APC5, AC-APC9, AC-APF3, AC-APF5, AC-APF7, AC-APF9, AC-APK3, AC-APK5, AC-APK7, AC-APK9, AC-APM3, AC-APM5, AC-APM7, AC-APM9
Teat Model No.: AC-APM7
Brand Name: AC INFINITY
FCC ID: 2AXMF-APM
Standards: 47 CFR Part 15, Subpart E
KDB 789033 D02 General UNII Test Procedures New Rules v02r01
Date of Receipt: 2026-6-8
Date of Test: 2026-6-8 to 2026-9-21
Date of Issue: 2026-9-21
Test Result: **PASS***

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

Tested By: Azir Wang
(Azir Wang)

Reviewed By: Timo Lei
(Timo Lei)

Approved By: Jack Ai
(Jack Ai)



1 Version

Revision History Of Report

Report No.	Version	Description	Issue Date
CQASZ20260601191E-02	Rev.01	Initial report	2026-9-21

Note:

Model No.:AC-APM7, AC-APC7, AC-APC3,

AC-APC5, AC-APC9, AC-APF3, AC-APF5, AC-APF7, AC-APF9, AC-APK3, AC-APK5, AC-APK7,

AC-APK9, AC-APM3, AC-APM5, AC-APM7, AC-APM9

Their electrical circuit design, layout, components used and internal wiring are identical,

Only the Model No. is different.

2 Test Summary

Test Item	Test Requirement	Test method	Result
Antenna Requirement	47 CFR Part 15 Subpart C Section 15.203	ANSI C63.10-2020+Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024; KDB789033	PASS
AC Power Line Conducted Emission	47 CFR Part 15 Subpart E Section 15.207	ANSI C63.10-2020+Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024; KDB789033	PASS
Maximum Conducted Output Power	47 CFR Part 15 Subpart C Section 15.407 (a)	ANSI C63.10-2020+Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024; KDB789033	PASS
Emission Bandwidth	47 CFR Part 15 Subpart C Section 15.407 (a)(e)	ANSI C63.10-2020+Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024; KDB789033	PASS
Maximum Power Spectral Density	47 CFR Part 15 Subpart E Section 15.407 (a)	ANSI C63.10-2020+Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024; KDB789033	PASS
Band Edge Measurements	47 CFR Part 15 Subpart C Section 15.209 & 15.407(b)	ANSI C63.10-2020+Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024; KDB789033	PASS
Frequency stability	47 CFR Part 15 Subpart E Section 15.407 (g)	ANSI C63.10-2020+Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024; KDB789033	PASS
Operation in the absence of information to the transmit	47 CFR Part 15 Subpart E Section 15.407 (c)	47 CFR Part 15 Subpart E	PASS
Radiated Spurious Emissions	47 CFR Part 15 Subpart E Section 15.407 (b)	ANSI C63.10-2020+Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024; KDB789033	PASS

Remark:

The tested sample(s) and the sample information are provided by the client.

Tx: In this whole report Tx (or tx) means Transmitter.

Rx: In this whole report Rx (or rx) means Receiver.

RF: In this whole report RF means Radiated Frequency.

CH: In this whole report CH means channel.

Volt: In this whole report Volt means Voltage.

Temp: In this whole report Temp means Temperature.

Humid: In this whole report Humid means humidity.

Press: In this whole report Press means Pressure.

N/A: In this whole report not application

Content

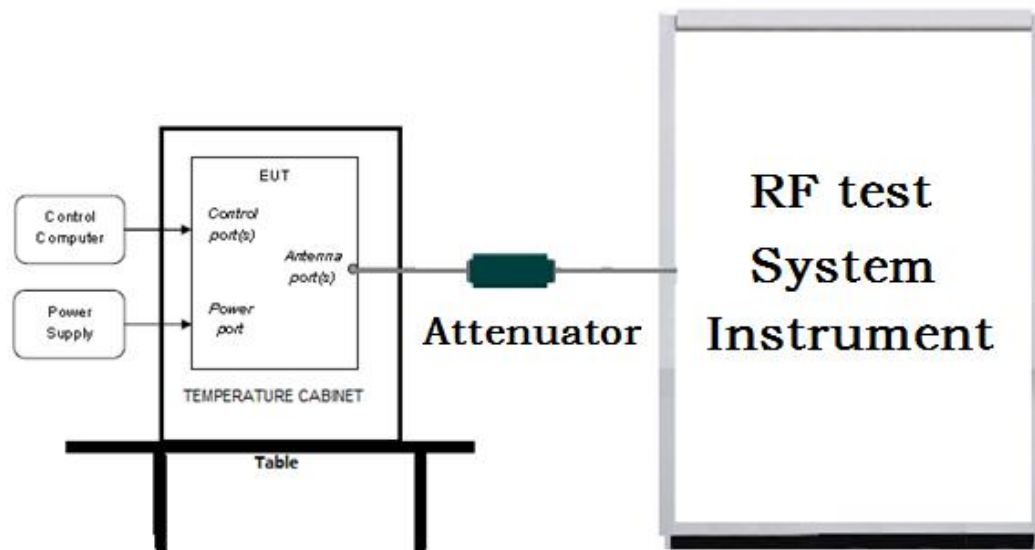
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3 Test Requirement

3.1 Test setup

3.1.1 For Conducted test setup



3.1.2 For Radiated Emissions test setup

Radiated Emissions setup:

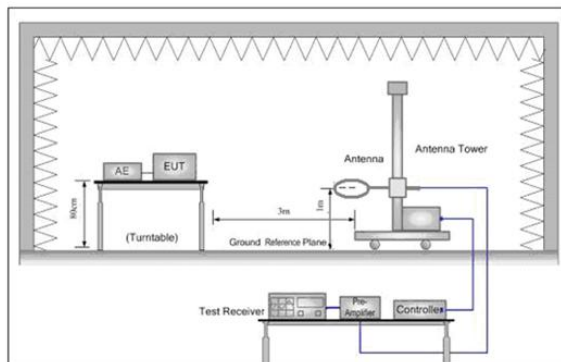


Figure 1. Below 30MHz

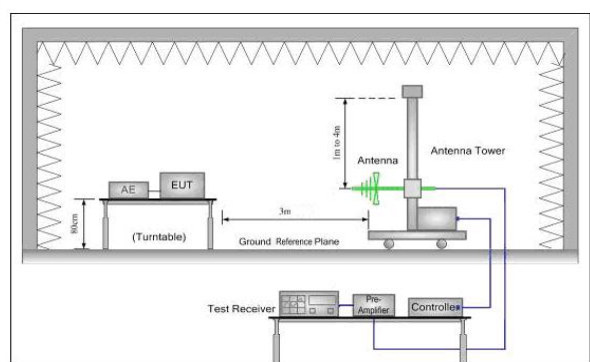


Figure 2. 30MHz to 1GHz

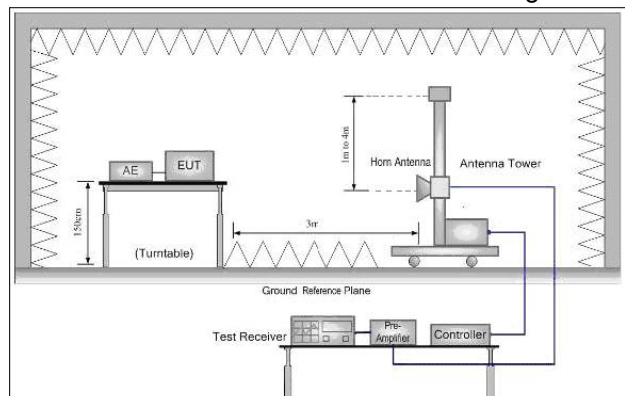
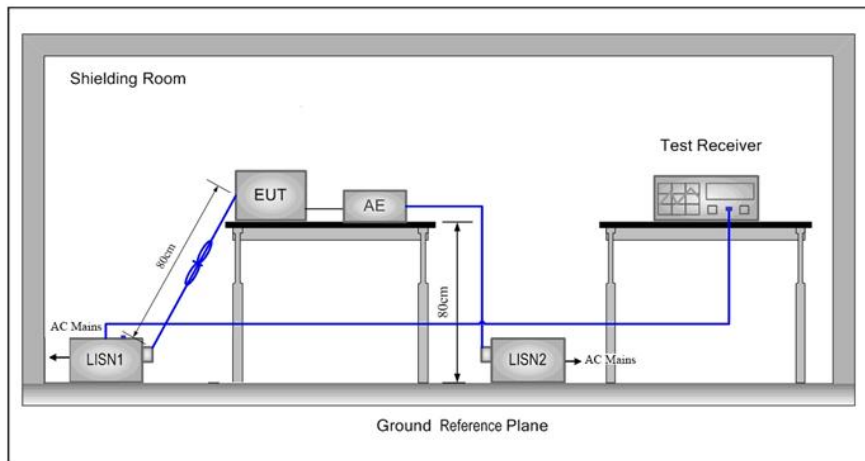


Figure 3. Above 1GHz

3.1.3 For Conducted Emissions test setup

Conducted Emissions setup



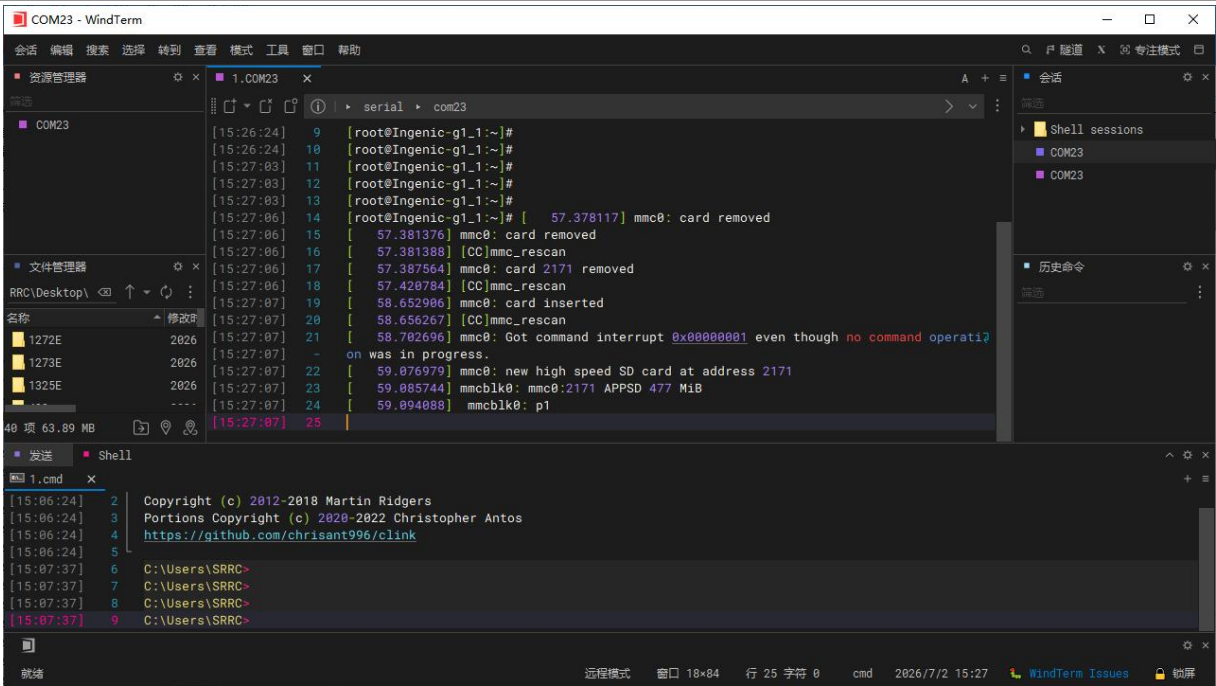
3.2 Test Environment

Operating Environment:		
Conducted Emissions:		
Temperature:	25.6 °C	
Humidity:	60 % RH	
Atmospheric Pressure:	1009 mbar	
Radiated Emissions:		
Temperature:	25.5 °C	
Humidity:	54 % RH	
Atmospheric Pressure:	1009mbar	
Radio conducted item test (RF Conducted test room):		
Temperature:	25.3 °C	
Humidity:	50 % RH	
Atmospheric Pressure:	1009 mbar	
Test Condition	Temperature (°C)	Voltage (V)
TN/VN	+15 to +35	5
TL/VL	-30	4.5
TH/VL	50	4.5
TL/VH	-30	5.5
TH/VH	50	5.5
Remark:		
1)The EUT just work in such extreme temperature of -30 °C to 50 °C and the extreme voltage of 4.5V to 5.5V, so here the EUT is tested in the temperature of -30 °C to 50 °C and the voltage of 4.5V to 5.5V.		
2)VN: Normal Voltage; TN: Normal Temperature;		
TL: Low Extreme Test Temperature; TH: High Extreme Test Temperature;		
VL: Low Extreme Test Voltage; VH: High Extreme Test Voltage.		

3.3 Test Condition

Test channel:

Test Mode	Tx/Rx	RF Channel		
		Low(L)	Middle(M)	High(H)
802.11a/n/ac/ax(20M)	5150MHz ~5250 MHz	Channel 36	Channel 40	Channel 48
		5180MHz	5200MHz	5240MHz
802.11n/ac/ax(40M)	5150MHz ~5250 MHz	Channel 38	N/A	Channel 46
		5190MHz	N/A	5230MHz
802.11a/n/ac/ax(20M)	5250MHz ~5350 MHz	Channel 52	Channel 56	Channel 64
		5260MHz	5280MHz	5320MHz
802.11n/ac/ax(40M)	5250MHz ~5350 MHz	Channel 54	N/A	Channel 62
		5270MHz	N/A	5310MHz
802.11a/n/ac/ax(20M)	5470MHz ~5725 MHz	Channel 100	Channel 116	Channel 144
		5500MHz	5580MHz	5720MHz
802.11n/ac/ax(40M)	5470MHz ~5725 MHz	Channel 102	Channel 110	Channel 142
		5510MHz	5550MHz	5710MHz
802.11a/n/ac/ax(20M)	5725MHz ~5850 MHz	Channel 149	Channel 157	Channel 165
		5745MHz	5785MHz	5825MHz
802.11n/ac/ax(40M)	5725MHz ~5850 MHz	Channel 151	N/A	Channel 159
		5755MHz	N/A	5795MHz

Run Software:	
	
EUT Power level:	Class 0(Power level is built-in set parameters and cannot be changed and selected)

Test mode:

Pre-scan under all rate at lowest channel for Ant1

Through Pre-scan, 6Mbps is the worst case of 802.11a (20M); MCS0 is the worst case of 802.11n (20M); MCS0 is the worst case of 802.11ac (20M); MCS0 is the worst case of 802.11n(40M); MCS0 is the worst case of 802.11ac (40M);MCS0 is the worst case of 802.11ax (20M);MCS0 is the worst case of 802.11ax (40M).

4 General Information

4.1 Client Information

Applicant:	AC Infinity Inc.
Address of Applicant:	21880 Baker Parkway, City of Industry, CA 91789 USA
Manufacturer:	AC Infinity Inc.
Address of Manufacturer:	21880 Baker Parkway, City of Industry, CA 91789 USA
Factory:	Guangdong Seneasy Intelligent Technology Co.,Ltd
Address of Factory:	No.10,Dongsheng Middle Road,Chenjiang Street,HUIZHOU CITY Guangdong 516029

4.2 General Description of EUT

Product Name:	Camera
Model No.:	AC-APM7, AC-APC7, AC-APC3, AC-APC5, AC-APC9, AC-APF3, AC-APF5, AC-APF7, AC-APF9, AC-APK3, AC-APK5, AC-APK7, AC-APK9, AC-APM3, AC-APM5, AC-APM7, AC-APM9
Test Model No.:	AC-APM7
Trade Mark:	AC INFINITY
Software Version:	V1.3.2
Hardware Version:	V1.1
EUT Power Supply:	Adapter: MODEL:KA12C-0502000US INPUT:100-240V~50/60Hz 0.35A Max OUTPUT:5V---2000mA
EUT Supports Radios application:	U-NII-1: 5.15-5.25GHz; U-NII-2a: 5.25-5.35GHz U-NII-2c: 5.47-5.725GHz; U-NII-3: 5.725-5.850GHz
EUT Type:	Client devices

4.3 Product Specification subjective to this standard

Operation Frequency:	IEEE 802.11a/n/ac/ax(20M): 5150MHz ~5250 MHz IEEE802.11n/ac/ax(40M): 5150MHz ~5250 MHz IEEE 802.11a/n/ac/ax(20M): 5250MHz ~5350 MHz IEEE802.11n/ac/ax(40M): 5250MHz ~5350 MHz IEEE 802.11a/n/ac/ax(20M): 5470MHz ~5725 MHz IEEE802.11n/ac/ax(40M): 5470MHz ~5725 MHz IEEE 802.11a/n/ac/ax(20M): 5725MHz ~5850 MHz IEEE802.11n/ac/ax(40M): 5725MHz ~5850 MHz
Channel Numbers:	IEEE 802.11a/n/ac/ax(20M): 5150MHz ~5250MHz/ 4 channel IEEE 802.11n/ac/ax(40M): 5150MHz ~5250MHz/ 2 channel IEEE 802.11a/n/ac/ax(20M): 5250MHz ~5350MHz/ 4 channel IEEE 802.11n/ac/ax(40M): 5250MHz ~5350MHz/ 2 channel IEEE 802.11a/n/ac/ax(20M): 5470MHz ~5725MHz/ 9 channel IEEE 802.11n/ac/ax(40M): 5470MHz ~5725MHz/ 4 channel IEEE 802.11a/n/ac/ax(20M): 5725MHz ~5850MHz/ 5 channel IEEE 802.11n/ac/ax(40M): 5725MHz ~5850MHz/ 2 channel
Type of Modulation:	IEEE for 802.11ax: OFDMA(1024QAM, 256QAM, 64QAM, 16QAM, QPSK, BPSK) IEEE for 802.11a/n/ac: OFDM(256QAM, 64QAM, 16QAM, QPSK, BPSK)
Sample Type:	☒ Mobile ☐ Portable
Operational Mode:	☐ Master ☒ Client Without Radar Detection
Test Software of EUT:	WindTerm
Antenna Type:	FPC antenna
Antenna gain:	5.14dBi
Cable loss:	1.0 dB

Operation Frequency each of channel

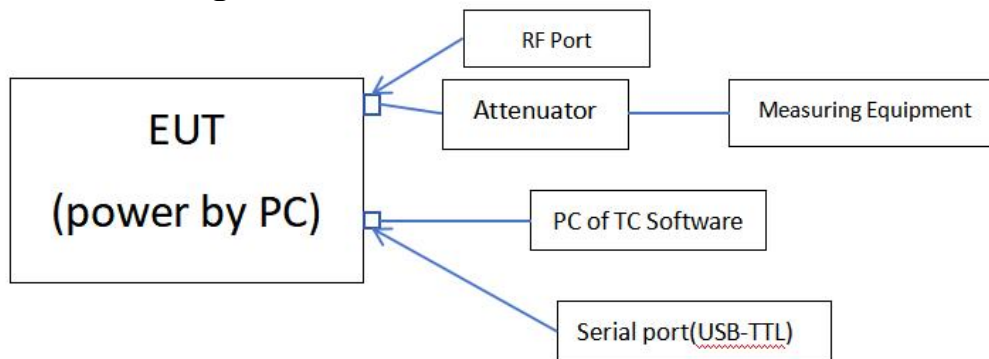
(U-NII-1) 5180MHz-5240MHz				
Bandwidth	Channel	Frequency (MHz)	Channel	Frequency (MHz)
20MHz	36	5180	40	5200
	44	5220	48	5240
40MHz	38	5190	46	5230
80MHz	42	5210	/	/
(U-NII-2A) 5260MHz-5320MHz				
Bandwidth	Channel	Frequency (MHz)	Channel	Frequency (MHz)
20MHz	52	5260	56	5280
	60	5300	64	5320
40MHz	54	5270	62	5310
80MHz	58	5290	/	/
(U-NII-2C) 5500MHz-5700MHz				
Bandwidth	Channel	Frequency (MHz)	Channel	Frequency (MHz)
20MHz	100	5500	104	5520
	108	5540	112	5560
	116	5580	132	5660
	136	5680	140	5700
	144	5720	/	/
40MHz	102	5510	110	5550
	134	5670	142	5710
80MHz	106	5530	138	5690
(U-NII-3) 5745MHz-5825MHz				
Bandwidth	Channel	Frequency (MHz)	Channel	Frequency (MHz)
20MHz	149	5745	153	5765
	157	5785	161	5805
	165	5825	/	/
40MHz	151	5755	159	5795
80MHz	165	5775	/	/

4.4 Description of Support Units

The EUT has been tested with associated equipment below.

Description	Manufacturer	Model No.	Certification	Supplied by
/	/	/	/	/

4.5 Test configuration



4.6 Test Location

All tests were performed at:

SHENZHEN HUAXIA TESTING TECHNOLOGY CO., LTD

102A, 102B, Building 2, Shanghenglang New Industrial Zone, Shanghenglang Community,
Dalang Street, Longhua District, Shenzhen, Guangdong, People's Republic of China, 518000

4.7 Test Facility

• **A2LA (Certificate No. 4742.01)**

SHENZHEN HUAXIA TESTING TECHNOLOGY CO., LTD, Shenzhen EMC Laboratory is accredited by the

American Association for Laboratory Accreditation(A2LA). Certificate No. 4742.01.

• **FCC Registration No.: 522263**

SHENZHEN HUAXIA TESTING TECHNOLOGY CO., LTD, Shenzhen EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration No.:522263

4.8 Deviation from Standards

None.

4.9 Abnormalities from Standard Conditions

None.

4.10 Other Information Requested by the Customer

None.

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

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

5 Equipment List

Test Equipment	Manufacturer	Model No.	Instrument No.	Calibration Date	Calibration Due Date
EMI Test Receiver	R&S	ESR7	CQA-005	2025/9/1	2026/8/31
Spectrum analyzer	R&S	FSU26	CQA-038	2025/9/1	2026/8/31
Spectrum analyzer	R&S	FSU40	CQA-075	2025/9/1	2026/8/31
Preamplifier	MITEQ	AFS4-00010300-18-10P-4	CQA-035	2025/9/1	2026/8/31
Preamplifier	MITEQ	AMF-6D-02001800-29-20P	CQA-036	2025/9/1	2026/8/31
Preamplifier	EMCI	EMC184055SE	CQA-089	2025/9/1	2026/8/31
Loop antenna	Schwarzbeck	FMZB1516	CQA-060	2023/9/8	2026/9/7
Bilog Antenna	R&S	HL562	CQA-011	2023/11/01	2026/10/31
Horn Antenna	R&S	HF906	CQA-012	2023/11/01	2026/10/31
Horn Antenna	Schwarzbeck	BBHA 9170	CQA-088	2023/9/7	2026/9/6
Coaxial Cable (Above 1GHz)	CQA	N/A	C007	2025/9/1	2026/8/31
Coaxial Cable (Below 1GHz)	CQA	N/A	C013	2025/9/1	2026/8/31
Antenna Connector	CQA	RFC-01	CQA-080	2025/9/1	2026/8/31
RF cable(9KHz~40GHz)	CQA	RF-01	CQA-079	2025/9/1	2026/8/31
Power meter	R&S	NRVD	CQA-029	2025/9/1	2026/8/31
Power divider	MIDWEST	PWD-2533-02-SMA-79	CQA-067	2025/9/1	2026/8/31
EMI Test Receiver	R&S	ESR7	CQA-005	2025/9/1	2026/8/31
LISN	R&S	ENV216	CQA-003	2025/9/1	2026/8/31
Coaxial cable	CQA	N/A	CQA-C009	2025/9/1	2026/8/31
DC power	KEYSIGHT	E3631A	CQA-028	2025/9/1	2026/8/31
10dB Attenuator	JLINK	SMA-AT27-10-5W	C022	2025/9/1	2026/8/31
Band Reject Filter	Wainwright instrument gmbh	WRCG2400/2483-2390/2493-35/10SS	CQA-037	2025/9/1	2026/8/31
N1918A Power Analysis Manager Power Panel	Agilent	N1918A	CQA-074	2025/9/1	2026/8/31
high-low temperature chamber	Auchno	OJN-9606	CQA-S003	2025/9/1	2026/8/31
DC power	KEYSIGHT	E3631A	CQA-028	2025/9/1	2026/8/31
Vector signal generator	R&S	SMBV100A	CQA-039	2025/9/1	2026/8/31

Test software:

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

6 Radio Technical Requirements Specification

Reference documents for testing:

No.	Identity	Document Title
1	FCC Part15E	Subpart C-Intentional Radiators
2	ANSI C63.10-2020+Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024	American National Standard for Testing Unlicensed Wireless Devices
3	KDB 789033 D02 General U-NII Test Procedures New Rules v02r01	Guidelines for compliance testing of unlicensed national information infrastructure (U-NII) device part 15, subpart E

Appendix A): Emission Bandwidth

26dB Emission bandwidth

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

Test Method: KDB 789033 D02 II C 1

6 dB bandwidth (5.725-5.85 GHz band)

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

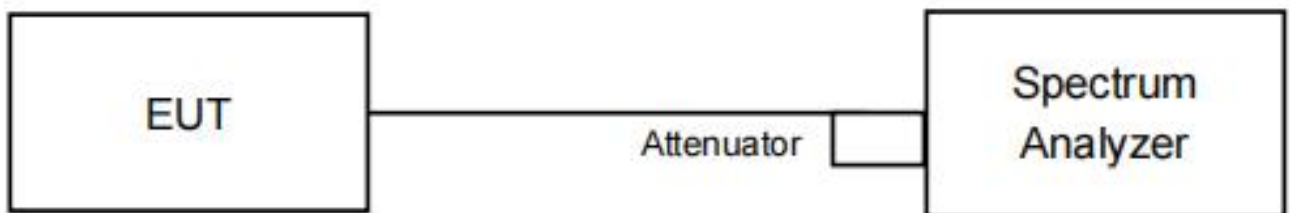
Test Method: KDB 789033 D02 II C 2

Limit: ≥ 500 kHz

Test Procedure:

- Set RBW = approximately 1% of the emission bandwidth.
- Set the VBW > RBW.
- Detector = Peak.
- Trace mode = max hold.
- Measure the maximum width of the emission that is 26 dB down from the maximum of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.

Test Setup Diagram



Measurement Data

Please Refer to Appendix for Details

Appendix B): Maximum Conduct Output Power

1.Duty Cycle (x)

Test Requirement KDB 789033 D02 II B 1

Test Method: KDB 789033 II B 1

Test Procedure:

Set RBW = 20MHz

Set VBW = 40MHz

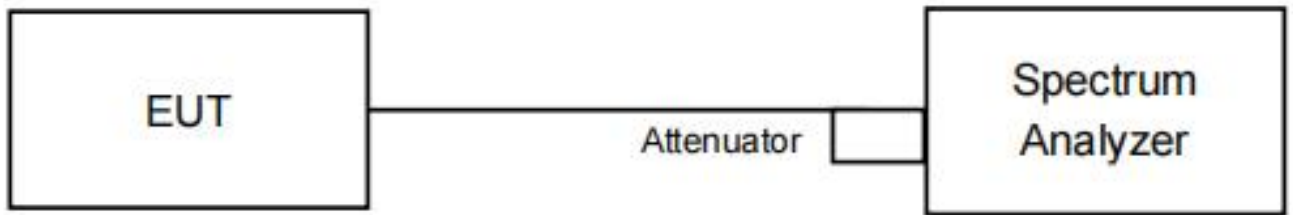
Set detector = peak.

Set span =0Hz

Measurement Data

Please Refer to Appendix for Details

Test Setup Diagram



2. Maximum Conducted Output Power

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

Test Method: KDB 789033 D02 II E

Limit:

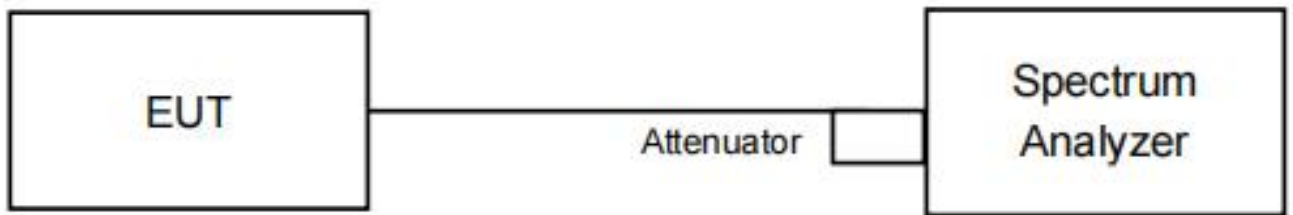
Frequency band(MHz)	Limit
5150-5250	$\leq 1\text{W}(30\text{dBm})$ for master device
	$\leq 250\text{mW}(24\text{dBm})$ for client device
5250-5350	$\leq 250\text{mW}(24\text{dBm})$ for client device or $11\text{dBm}+10\log B^*$
5470-5725	$\leq 250\text{mW}(24\text{dBm})$ for client device or $11\text{dBm}+10\log B^*$
5725-5850	$\leq 1\text{W}(30\text{dBm})$
Remark:	* Where B is the 26dB emission bandwidth in MHz. The maximum conducted output power must be measured over any interval of continuous transmission using instrumentation calibrated in terms of an rms-equivalent voltage.

Test Procedure:

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

- (1) Set RBW = 1 MHz.
- (2) Set VBW $\geq$ 3 MHz.
- (3) Detector = power average
- (4) Sweep time = auto.
- (5) Add duty cycle to the measured average power.

Test Setup Diagram



Measurement Data

Please Refer to Appendix for Details

Appendix C): Maximum Power Spectral Density

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

Test Method: KDB 789033 D02 II F

Test Procedure:

For 5150-5725MHz:

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

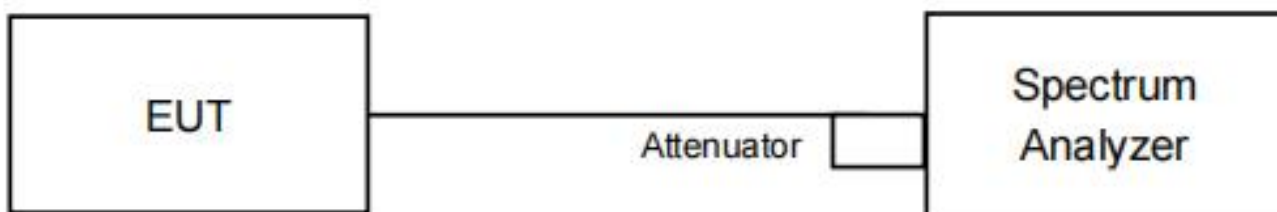
For 5725-5850MHz:

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

Limit:

Frequency band(MHz)	Limit
5150-5250	$\leq 17\text{dBm}$ in 1MHz for master device
	$\leq 11\text{dBm}$ in 1MHz for client device
5250-5350	$\leq 11\text{dBm}$ in 1MHz for client device
5470-5725	$\leq 11\text{dBm}$ in 1MHz for client device
5725-5850	$\leq 30\text{dBm}$ in 500 kHz
Remark:	The maximum power spectral density is measured as a conducted emission by direct connection of a calibrated test instrument to the equipment under test.

Test Setup Diagram



Measurement Data

Please Refer to Appendix for Details

Appendix D): Band Edge Measurements

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

Test Method: KDB 789033 D02 II G

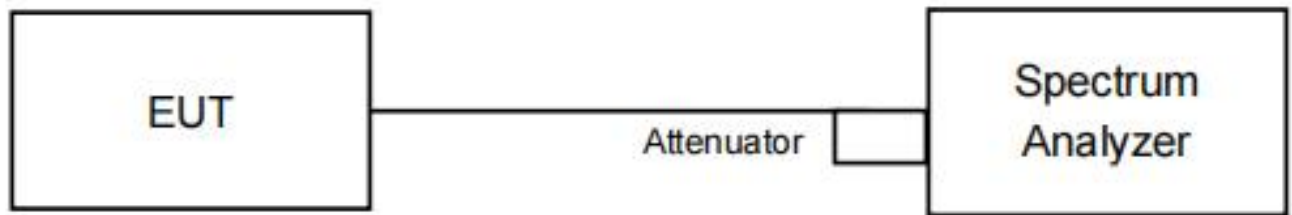
Test Procedure:

1. The EUT operates at transmitting mode. The operate channel is tested to verify the largest transmission and spurious emissions power at the continuous transmission mode.
2. Set the spectrum analyzer in the following setting in order to capture the lower and upper band-edges of the emission:
 - (a) PEAK: RBW=VBW=1MHz / Sweep=AUTO
 - (b) AVERAGE: RBW=1MHz ; VBW=1/on time(1KHz) / Sweep=AUTO

Limit:

For transmitters operating in the 5.15-5.25 GHz band:	All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz (68.2dBuV/m).
For transmitters operating in the 5.25-5.35 GHz band:	All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz (68.2dBuV/m).
For transmitters operating in the 5.47-5.725 GHz band:	All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz (68.2dBuV/m).
For transmitters operating in the 5.725-5.85 GHz band:	(i) All emissions shall be limited to a level of -27 dBm/MHz (68.2dBuV/m) at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz (105.2dBuV/m) at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz (110.8dBuV/m) at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz (122.2dBuV/m) at the band edge.

Test Setup Diagram



Note:

The cable losses used in the testing system have already been included in the test data.



Measurement Data

Please Refer to Appendix for Details

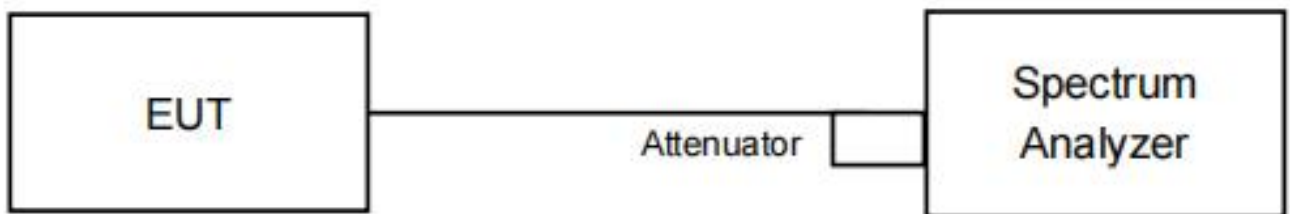
Appendix E): Frequency Stability

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

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

Limit: The frequency tolerance shall be maintained within the band of operation frequency over a temperature variation of -30 degrees to 50 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C.

Test Setup Diagram



Measurement Data

Please Refer to Appendix for Details

Appendix F): Antenna Requirement

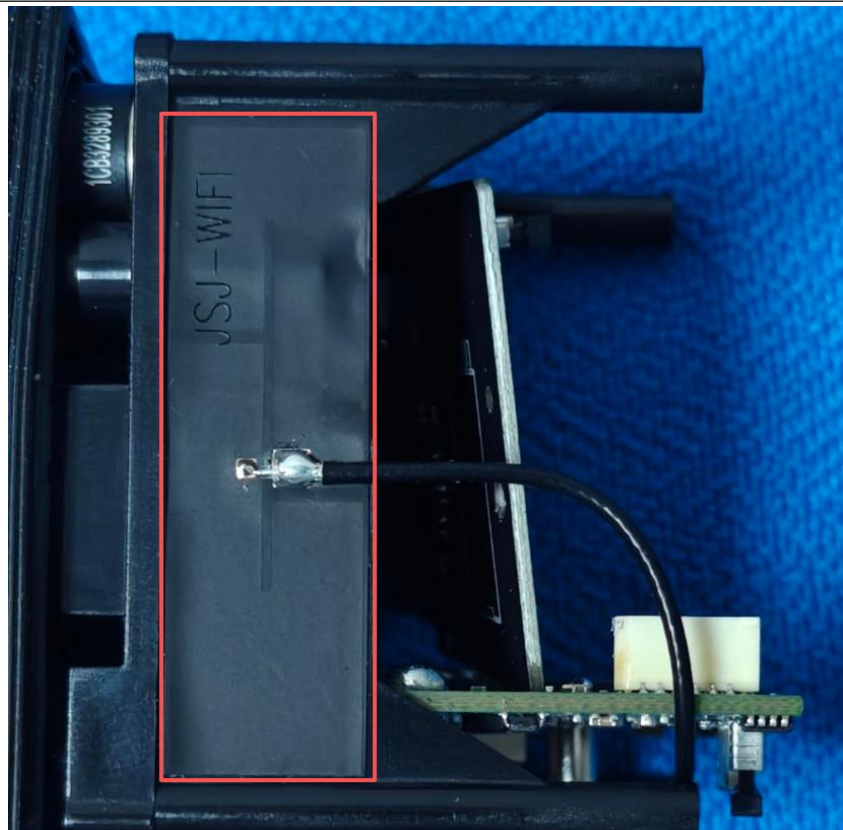
15.203 requirement:

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

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

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

EUT Antenna:



The antenna is FPC antenna.

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

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

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

15.407(c) requirement:

The device shall automatically discontinue transmission in case of either absence of information to transmit or operational failure. These provisions are not intended to preclude the transmission of control or 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 a description of how this requirement is met.

Operation in the absence of information to the transmit

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

Appendix H): AC Power Line Conducted Emission

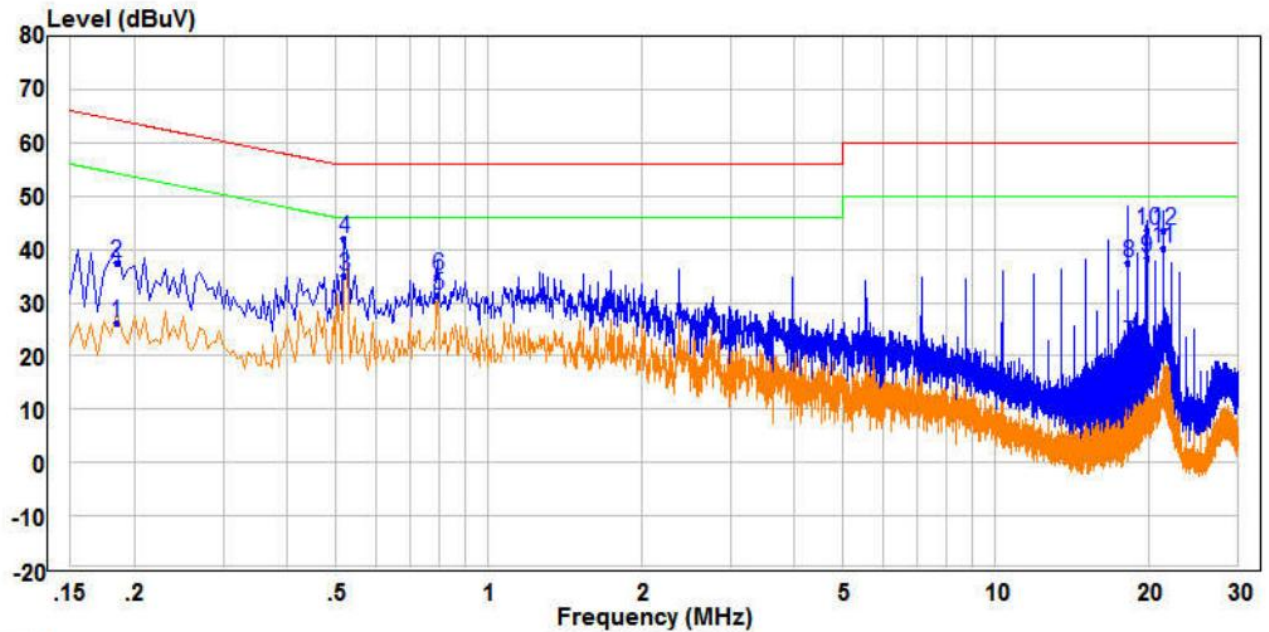
Test Procedure:	Test frequency range :150KHz-30MHz 1)The mains terminal disturbance voltage test was conducted in a shielded room. 2) The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a 50Ω/50μH + 5Ω linear impedance. The power cables of all other units of the EUT were connected to a second LISN 2, which was bonded to the ground reference plane in the same way as the LISN 1 for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not exceeded. 3)The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane, 4) The test was performed with a vertical ground reference plane. The rear of the EUT shall be 0.4 m from the vertical ground reference plane. The vertical ground reference plane was bonded to the horizontal ground reference plane. The LISN 1 was placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane for LISNs mounted on top of the ground reference plane. This distance was between the closest points of the LISN 1 and the EUT. All other units of the EUT and associated equipment was at least 0.8 m from the LISN 2. 5) In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10 on conducted measurement.														
Limit:	<table><tr><th rowspan="2">Frequency range (MHz)</th><th colspan="2">Limit (dBμV)</th></tr><tr><th>Quasi-peak</th><th>Average</th></tr><tr><td>0.15-0.5</td><td>66 to 56*</td><td>56 to 46*</td></tr><tr><td>0.5-5</td><td>56</td><td>46</td></tr><tr><td>5-30</td><td>60</td><td>50</td></tr></table> * The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz. NOTE : The lower limit is applicable at the transition frequency	Frequency range (MHz)	Limit (dBμV)		Quasi-peak	Average	0.15-0.5	66 to 56*	56 to 46*	0.5-5	56	46	5-30	60	50
Frequency range (MHz)	Limit (dBμV)														
	Quasi-peak	Average													
0.15-0.5	66 to 56*	56 to 46*													
0.5-5	56	46													
5-30	60	50													

Measurement Data

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

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

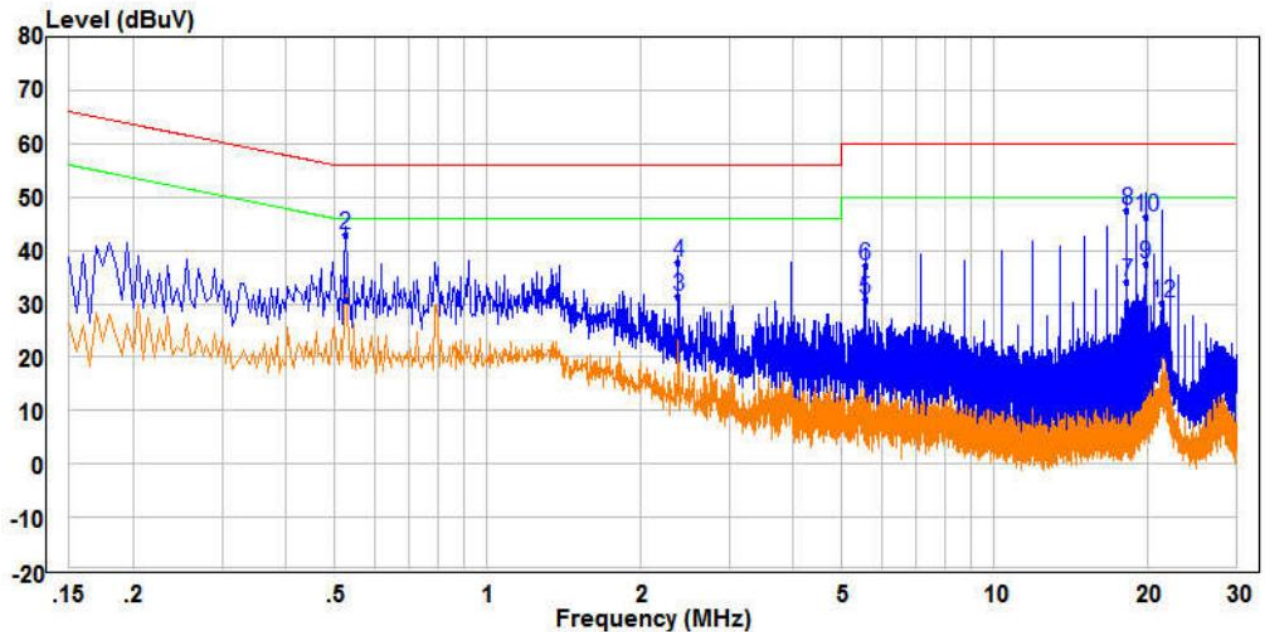
Live line:



Trace: 4

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark	Pol/Phase
	MHz	dBuV	dB	dBuV	dBuV	dB		
1	0.185	16.54	9.64	26.18	54.26	-28.08	Average	Line
2	0.185	27.67	9.64	37.31	64.26	-26.95	QP	Line
3	0.520	25.18	9.72	34.90	46.00	-11.10	Average	Line
4 QP	0.520	32.31	9.72	42.03	56.00	-13.97	QP	Line
5	0.795	21.44	9.84	31.28	46.00	-14.72	Average	Line
6	0.795	25.27	9.84	35.11	56.00	-20.89	QP	Line
7	18.255	12.35	9.80	22.15	50.00	-27.85	Average	Line
8	18.255	27.53	9.80	37.33	60.00	-22.67	QP	Line
9	19.850	28.65	9.84	38.49	50.00	-11.51	Average	Line
10	19.850	33.79	9.84	43.63	60.00	-16.37	QP	Line
11 PP	21.435	30.20	9.91	40.11	50.00	-9.89	Average	Line
12	21.435	33.68	9.91	43.59	60.00	-16.41	QP	Line

Neutral line:



	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark	Pol/Phase
	MHz	dBuV	dB	dBuV	dBuV	dB		
1	0.525	21.12	9.72	30.84	46.00	-15.16	Average	Neutral
2	0.525	33.19	9.72	42.91	56.00	-13.09	QP	Neutral
3	2.385	21.73	9.75	31.48	46.00	-14.52	Average	Neutral
4	2.385	28.04	9.75	37.79	56.00	-18.21	QP	Neutral
5	5.560	21.00	9.82	30.82	50.00	-19.18	Average	Neutral
6	5.560	27.48	9.82	37.30	60.00	-22.70	QP	Neutral
7	18.270	24.28	9.80	34.08	50.00	-15.92	Average	Neutral
8 PP	18.270	37.78	9.80	47.58	60.00	-12.42	QP	Neutral
9 AV	19.860	27.58	9.84	37.42	50.00	-12.58	Average	Neutral
10	19.860	36.56	9.84	46.40	60.00	-13.60	QP	Neutral
11	21.445	11.47	9.91	21.38	50.00	-28.62	Average	Neutral
12	21.445	20.12	9.91	30.03	60.00	-29.97	QP	Neutral

Notes:

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

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

Receiver Setup:	Frequency	Detector	RBW	VBW	Remark
	30MHz-1GHz	Quasi-peak	120kHz	300kHz	Quasi-peak
	Above 1GHz	Peak	1MHz	3MHz	Peak
		Peak	1MHz	10Hz	Average
Test Procedure:	Below 1GHz test procedure as below: - The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation. - The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. - The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement. - For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable was turned from 0 degrees to 360 degrees to find the maximum reading. - The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. - Place a marker at the end of the restricted band closest to the transmit frequency to show compliance. Also measure any emissions in the restricted bands. Save the spectrum analyzer plot. Repeat for each power and modulation for lowest and highest channel Above 1GHz test procedure as below: - Different between above is the test site, change from Semi- Anechoic Chamber to fully Anechoic Chamber and change form table 0.8 metre to 1.5 metre(Above 18GHz the distance is 1 meter and table is 1.5 metre). - Test the EUT in the lowest channel , the Highest channel - The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is worse case. - Repeat above procedures until all frequencies measured was complete.				
Limit:	Frequency	Limit (dBμV/m @3cm)	Remark		
	30MHz-88MHz	40.0	Quasi-peak Value		
	88MHz-216MHz	43.5	Quasi-peak Value		
	216MHz-960MHz	46.0	Quasi-peak Value		
	960MHz-1GHz	54.0	Quasi-peak Value		
	Above 1GHz	54.0	Average Value		
		74.0	Peak Value		

Test plot as follows:

Worse case mode:		802.11a		Test channel:		36			
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detect or Type	Ant. Pol.	Antenna Height	Table Angle
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V	(m)	(Degree)
5150.00	58.98	-3.63	55.35	74	-18.65	peak	H	1.5	70
5150.00	44.58	-3.63	40.95	54	-13.05	AVG	H	1.5	272
5150.00	59.98	-3.63	56.35	74	-17.65	peak	V	1.5	343
5150.00	46.06	-3.63	42.43	54	-11.57	AVG	V	1.5	227

Worse case mode:		802.11a		Test channel:		64			
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detect or Type	Ant. Pol.	Antenna Height	Table Angle
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V	(m)	(Degree)
5350.00	59.18	-3.59	55.59	74	-18.41	peak	H	1.5	292
5350.00	44.71	-3.59	41.12	54	-12.88	AVG	H	1.5	152
5350.00	59.32	-3.59	55.73	74	-18.27	peak	V	1.5	176
5350.00	46.45	-3.59	42.86	54	-11.14	AVG	V	1.5	313

Worse case mode:		802.11a		Test channel:		100			
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detect or Type	Ant. Pol.	Antenna Height	Table Angle
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V	(m)	(Degree)
5470.00	58.29	-3.44	54.85	74	-19.15	peak	H	1.5	297
5470.00	43.97	-3.44	40.53	54	-13.47	AVG	H	1.5	199
5470.00	57.48	-3.44	54.04	74	-19.96	peak	V	1.5	154
5470.00	45.51	-3.44	42.07	54	-11.93	AVG	V	1.5	6

Worse case mode:		802.11a		Test channel:		165			
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detect or Type	Ant. Pol.	Antenna Height	Table Angle
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V	(m)	(Degree)
5850.00	59.01	-3.42	55.59	74	-18.41	peak	H	1.5	80
5850.00	44.27	-3.42	40.85	54	-13.15	AVG	H	1.5	49
5850.00	59.69	-3.42	56.27	74	-17.73	peak	V	1.5	126
5850.00	46.74	-3.42	43.32	54	-10.68	AVG	V	1.5	41

Worse case mode:		802.11n(HT20)		Test channel:		36			
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detect or Type	Ant. Pol.	Antenna Height	Table Angle
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V	(m)	(Degree)
5150.00	59.06	-3.63	55.43	74	-18.57	peak	H	1.5	118
5150.00	44.44	-3.63	40.81	54	-13.19	AVG	H	1.5	206
5150.00	59.75	-3.63	56.12	74	-17.88	peak	V	1.5	3
5150.00	46.56	-3.63	42.93	54	-11.07	AVG	V	1.5	125

Worse case mode:		802.11n(HT20)		Test channel:		64			
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detect or Type	Ant. Pol.	Antenna Height	Table Angle
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V	(m)	(Degree)
5350.00	58.73	-3.59	55.14	74	-18.86	peak	H	1.5	58
5350.00	44.55	-3.59	40.96	54	-13.04	AVG	H	1.5	94
5350.00	59.25	-3.59	55.66	74	-18.34	peak	V	1.5	76
5350.00	46.04	-3.59	42.45	54	-11.55	AVG	V	1.5	111

Worse case mode:		802.11n(HT20)		Test channel:		100			
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detect or Type	Ant. Pol.	Antenna Height	Table Angle
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V	(m)	(Degree)
5470.00	57.80	-3.44	54.36	74	-19.64	peak	H	1.5	113
5470.00	44.42	-3.44	40.98	54	-13.02	AVG	H	1.5	268
5470.00	57.63	-3.44	54.19	74	-19.81	peak	V	1.5	36
5470.00	46.40	-3.44	42.96	54	-11.04	AVG	V	1.5	21

Worse case mode:		802.11n(HT20)		Test channel:		165			
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detect or Type	Ant. Pol.	Antenna Height	Table Angle
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V	(m)	(Degree)
5850.00	58.39	-3.42	54.97	74	-19.03	peak	H	1.5	56
5850.00	44.19	-3.42	40.77	54	-13.23	AVG	H	1.5	31
5850.00	60.14	-3.42	56.72	74	-17.28	peak	V	1.5	263
5850.00	46.61	-3.42	43.19	54	-10.81	AVG	V	1.5	167

Worse case mode:		802.11n(HT40)		Test channel:		38			
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detect or Type	Ant. Pol.	Antenna Height	Table Angle
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V	(m)	(Degree)
5150.00	58.33	-3.63	54.70	74	-19.30	peak	H	1.5	175
5150.00	44.79	-3.63	41.16	54	-12.84	AVG	H	1.5	26
5150.00	60.03	-3.63	56.40	74	-17.60	peak	V	1.5	248
5150.00	46.16	-3.63	42.53	54	-11.47	AVG	V	1.5	36

Worse case mode:		802.11n(HT40)		Test channel:		62			
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detect or Type	Ant. Pol.	Antenna Height	Table Angle
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V	(m)	(Degree)
5350.00	58.41	-3.59	54.82	74	-19.18	peak	H	1.5	46
5350.00	44.07	-3.59	40.48	54	-13.52	AVG	H	1.5	184
5350.00	59.75	-3.59	56.16	74	-17.84	peak	V	1.5	175
5350.00	46.17	-3.59	42.58	54	-11.42	AVG	V	1.5	16

Worse case mode:		802.11n(HT40)		Test channel:		102			
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detect or Type	Ant. Pol.	Antenna Height	Table Angle
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V	(m)	(Degree)
5470.00	58.25	-3.44	54.81	74	-19.19	peak	H	1.5	312
5470.00	43.76	-3.44	40.32	54	-13.68	AVG	H	1.5	235
5470.00	57.55	-3.44	54.11	74	-19.89	peak	V	1.5	309
5470.00	45.76	-3.44	42.32	54	-11.68	AVG	V	1.5	215

Worse case mode:		802.11n(HT40)		Test channel:		159			
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detect or Type	Ant. Pol.	Antenna Height	Table Angle
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V	(m)	(Degree)
5850.00	59.02	-3.42	55.60	74	-18.40	peak	H	1.5	265
5850.00	44.28	-3.42	40.86	54	-13.14	AVG	H	1.5	24
5850.00	59.89	-3.42	56.47	74	-17.53	peak	V	1.5	217
5850.00	46.20	-3.42	42.78	54	-11.22	AVG	V	1.5	279

Worse case mode:		802.11ac(VHT20)		Test channel:		36			
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detect or Type	Ant. Pol.	Antenna Height	Table Angle
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V	(m)	(Degree)
5150.00	59.19	-3.63	55.56	74	-18.44	peak	H	1.5	235
5150.00	44.79	-3.63	41.16	54	-12.84	AVG	H	1.5	237
5150.00	59.36	-3.63	55.73	74	-18.27	peak	V	1.5	301
5150.00	46.67	-3.63	43.04	54	-10.96	AVG	V	1.5	207

Worse case mode:		802.11ac(VHT20)		Test channel:		64			
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detect or Type	Ant. Pol.	Antenna Height	Table Angle
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V	(m)	(Degree)
5350.00	58.92	-3.59	55.33	74	-18.67	peak	H	1.5	250
5350.00	44.14	-3.59	40.55	54	-13.45	AVG	H	1.5	19
5350.00	59.32	-3.59	55.73	74	-18.27	peak	V	1.5	267
5350.00	46.63	-3.59	43.04	54	-10.96	AVG	V	1.5	184

Worse case mode:		802.11ac(VHT20)		Test channel:		100			
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detect or Type	Ant. Pol.	Antenna Height	Table Angle
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V	(m)	(Degree)
5470.00	57.86	-3.44	54.42	74	-19.58	peak	H	1.5	55
5470.00	43.60	-3.44	40.16	54	-13.84	AVG	H	1.5	235
5470.00	57.78	-3.44	54.34	74	-19.66	peak	V	1.5	266
5470.00	46.17	-3.44	42.73	54	-11.27	AVG	V	1.5	75

Worse case mode:		802.11ac(VHT20)		Test channel:		165			
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detect or Type	Ant. Pol.	Antenna Height	Table Angle
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V	(m)	(Degree)
5850.00	58.27	-3.42	54.85	74	-19.15	peak	H	1.5	69
5850.00	44.89	-3.42	41.47	54	-12.53	AVG	H	1.5	116
5850.00	59.47	-3.42	56.05	74	-17.95	peak	V	1.5	336
5850.00	46.20	-3.42	42.78	54	-11.22	AVG	V	1.5	296

Worse case mode:		802.11ac(VHT40)		Test channel:		38			
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detect or Type	Ant. Pol.	Antenna Height	Table Angle
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V	(m)	(Degree)
5150.00	58.28	-3.63	54.65	74	-19.35	peak	H	1.5	278
5150.00	44.18	-3.63	40.55	54	-13.45	AVG	H	1.5	116
5150.00	59.30	-3.63	55.67	74	-18.33	peak	V	1.5	293
5150.00	46.65	-3.63	43.02	54	-10.98	AVG	V	1.5	274

Worse case mode:		802.11ac(VHT40)		Test channel:		62			
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detect or Type	Ant. Pol.	Antenna Height	Table Angle
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V	(m)	(Degree)
5350.00	58.64	-3.59	55.05	74	-18.95	peak	H	1.5	82
5350.00	44.67	-3.59	41.08	54	-12.92	AVG	H	1.5	90
5350.00	59.88	-3.59	56.29	74	-17.71	peak	V	1.5	355
5350.00	46.96	-3.59	43.37	54	-10.63	AVG	V	1.5	356

Worse case mode:		802.11ac(VHT40)		Test channel:		102			
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detect or Type	Ant. Pol.	Antenna Height	Table Angle
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V	(m)	(Degree)
5470.00	58.17	-3.44	54.73	74	-19.27	peak	H	1.5	27
5470.00	44.41	-3.44	40.97	54	-13.03	AVG	H	1.5	75
5470.00	57.57	-3.44	54.13	74	-19.87	peak	V	1.5	46
5470.00	46.41	-3.44	42.97	54	-11.03	AVG	V	1.5	305

Worse case mode:		802.11ac(VHT40)		Test channel:		159			
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detect or Type	Ant. Pol.	Antenna Height	Table Angle
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)			(m)	(Degree)
5850.00	58.74	-3.42	55.32	74	-18.68	peak	H	1.5	356
5850.00	44.10	-3.42	40.68	54	-13.32	AVG	H	1.5	253
5850.00	60.16	-3.42	56.74	74	-17.26	peak	V	1.5	173
5850.00	46.80	-3.42	43.38	54	-10.62	AVG	V	1.5	112

Worse case mode:		802.11ax(HE20)		Test channel:		36			
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detect or Type	Ant. Pol.	Antenna Height	Table Angle
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V	(m)	(Degree)
5150.00	58.74	-3.63	55.11	74	-18.89	peak	H	1.5	187
5150.00	44.69	-3.63	41.06	54	-12.94	AVG	H	1.5	182
5150.00	59.56	-3.63	55.93	74	-18.07	peak	V	1.5	229
5150.00	46.62	-3.63	42.99	54	-11.01	AVG	V	1.5	156

Worse case mode:		802.11ax(HE20)		Test channel:		64			
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detect or Type	Ant. Pol.	Antenna Height	Table Angle
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V	(m)	(Degree)
5350.00	58.78	-3.59	55.19	74	-18.81	peak	H	1.5	338
5350.00	44.52	-3.59	40.93	54	-13.07	AVG	H	1.5	305
5350.00	59.29	-3.59	55.70	74	-18.30	peak	V	1.5	76
5350.00	46.56	-3.59	42.97	54	-11.03	AVG	V	1.5	31

Worse case mode:		802.11ax(HE20)		Test channel:		100			
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detect or Type	Ant. Pol.	Antenna Height	Table Angle
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V	(m)	(Degree)
5470.00	57.93	-3.44	54.49	74	-19.51	peak	H	1.5	17
5470.00	43.89	-3.44	40.45	54	-13.55	AVG	H	1.5	36
5470.00	58.13	-3.44	54.69	74	-19.31	peak	V	1.5	236
5470.00	46.40	-3.44	42.96	54	-11.04	AVG	V	1.5	195

Worse case mode:		802.11ax(HE20)		Test channel:		165			
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detect or Type	Ant. Pol.	Antenna Height	Table Angle
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V	(m)	(Degree)
5850.00	58.35	-3.42	54.93	74	-19.07	peak	H	1.5	162
5850.00	44.67	-3.42	41.25	54	-12.75	AVG	H	1.5	232
5850.00	60.06	-3.42	56.64	74	-17.36	peak	V	1.5	229
5850.00	46.11	-3.42	42.69	54	-11.31	AVG	V	1.5	258

Worse case mode:		802.11ax(HE40)		Test channel:		38			
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detect or Type	Ant. Pol.	Antenna Height	Table Angle
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V	(m)	(Degree)
5150.00	58.62	-3.63	54.99	74	-19.01	peak	H	1.5	233
5150.00	44.76	-3.63	41.13	54	-12.87	AVG	H	1.5	175
5150.00	60.13	-3.63	56.50	74	-17.50	peak	V	1.5	301
5150.00	46.31	-3.63	42.68	54	-11.32	AVG	V	1.5	55

Worse case mode:		802.11ax(HE40)		Test channel:		62			
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detect or Type	Ant. Pol.	Antenna Height	Table Angle
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V	(m)	(Degree)
5350.00	58.56	-3.59	54.97	74	-19.03	peak	H	1.5	285
5350.00	44.53	-3.59	40.94	54	-13.06	AVG	H	1.5	306
5350.00	59.30	-3.59	55.71	74	-18.29	peak	V	1.5	271
5350.00	46.91	-3.59	43.32	54	-10.68	AVG	V	1.5	16

Worse case mode:		802.11ax(HE40)		Test channel:		102			
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detect or Type	Ant. Pol.	Antenna Height	Table Angle
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V	(m)	(Degree)
5470.00	58.01	-3.44	54.57	74	-19.43	peak	H	1.5	133
5470.00	44.45	-3.44	41.01	54	-12.99	AVG	H	1.5	66
5470.00	58.08	-3.44	54.64	74	-19.36	peak	V	1.5	337
5470.00	46.40	-3.44	42.96	54	-11.04	AVG	V	1.5	140

Worse case mode:		802.11ax(HE40)		Test channel:		159			
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detect or Type	Ant. Pol.	Antenna Height	Table Angle
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V	(m)	(Degree)
5850.00	59.07	-3.42	55.65	74	-18.35	peak	H	1.5	232
5850.00	44.67	-3.42	41.25	54	-12.75	AVG	H	1.5	97
5850.00	59.32	-3.42	55.90	74	-18.10	peak	V	1.5	348
5850.00	46.27	-3.42	42.85	54	-11.15	AVG	V	1.5	106

Note:

1) Through Pre-scan transmitting mode with all kind of modulation and data rate, Only the worst case is recorded in the report.

2) The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level = Receiver Reading - Correct Factor

Correct Factor = Preamplifier Factor - Antenna Factor - Cable Factor

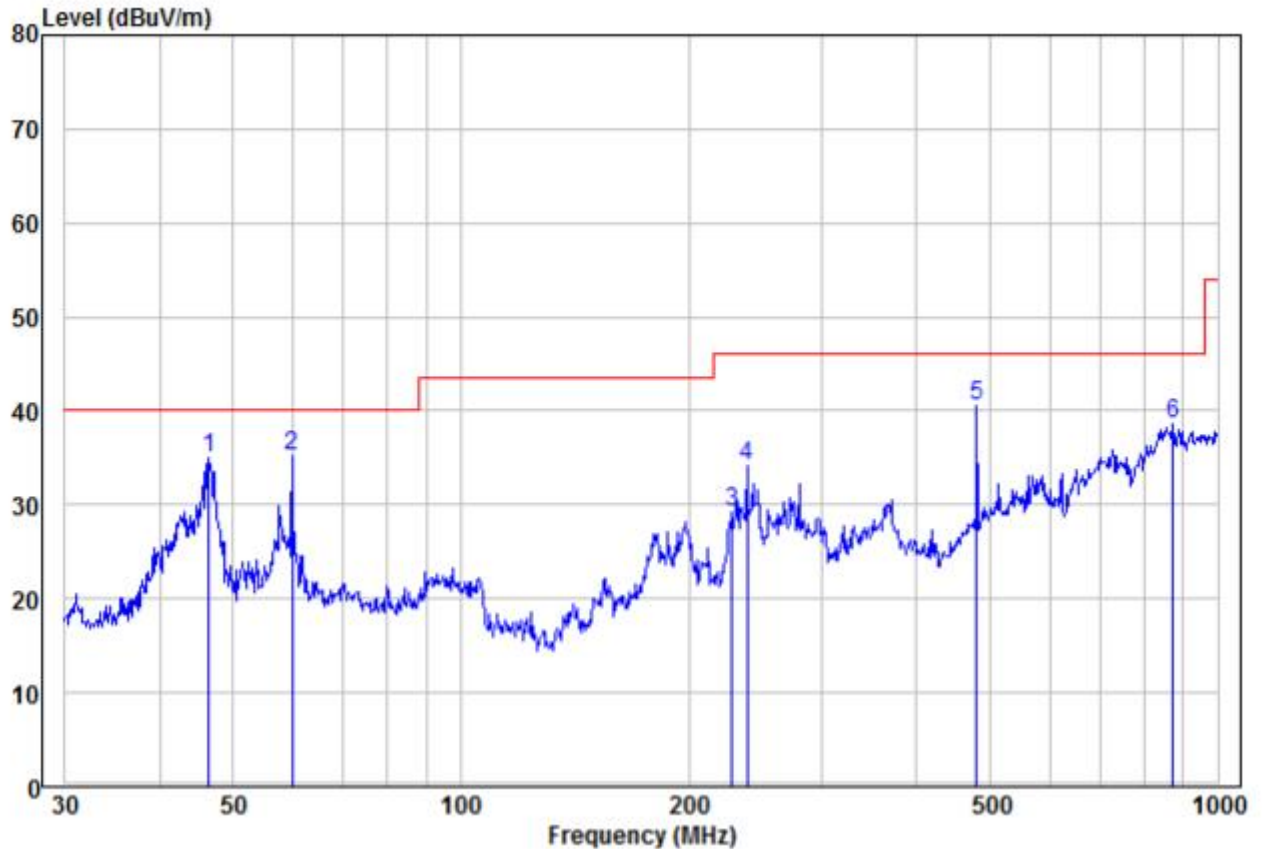
Appendix J): Radiated Spurious Emissions

Receiver Setup:	Frequency	Detector	RBW	VBW	Remark
	0.009MHz-0.090MHz	Peak	10kHz	30kHz	Peak
	0.009MHz-0.090MHz	Average	10kHz	30kHz	Average
	0.090MHz-0.110MHz	Quasi-peak	10kHz	30kHz	Quasi-peak
	0.110MHz-0.490MHz	Peak	10kHz	30kHz	Peak
	0.110MHz-0.490MHz	Average	10kHz	30kHz	Average
	0.490MHz -30MHz	Quasi-peak	10kHz	30kHz	Quasi-peak
	30MHz-1GHz	Quasi-peak	120kHz	300kHz	Quasi-peak
	Above 1GHz	Peak	1MHz	3MHz	Peak
		Peak	1MHz	10Hz	Average
Test Procedure:					
Below 1GHz test procedure as below:					
a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic camber. The table was rotated 360 degrees to determine the position of the highest radiation.					
b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.					
c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.					
d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rota table was turned from 0 degrees to 360 degrees to find the maximum reading.					
e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.					
f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.					
Above 1GHz test procedure as below:					
g. Different between above is the test site, change from Semi- Anechoic Chamber to fully Anechoic Chamber and change form table 0.8 metre to 1.5 metre(Above 18GHz the distance is 1 meter and table is 1.5 metre)					
h. Test the EUT in the lowest channel ,the middle channel ,the Highest channel					
i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is worse case.					
j. Repeat above procedures until all frequencies measured was complete.					
Limit:	Frequency	Field strength (microvolt/meter)	Limit (dBµV/cm)	Remark	Measurement distance (cm)
	0.009MHz-0.490MHz	2400/F(kHz)	-	-	300
	0.490MHz-1.705MHz	24000/F(kHz)	-	-	30
	1.705MHz-30MHz	30	-	-	30
	30MHz-88MHz	100	40.0	Quasi-peak	3
	88MHz-216MHz	150	43.5	Quasi-peak	3
	216MHz-960MHz	200	46.0	Quasi-peak	3
	960MHz-1GHz	500	54.0	Quasi-peak	3
	Above 1GHz	500	54.0	Average	3
	Note: 15.35(b), Unless otherwise specified, the limit on peak radio frequency emissions is 20dB above the maximum permitted average emission limit applicable to the equipment under test. This peak limit applies to the total peak emission level radiated by the device.				
Test result:					
PASS					

Test Data:

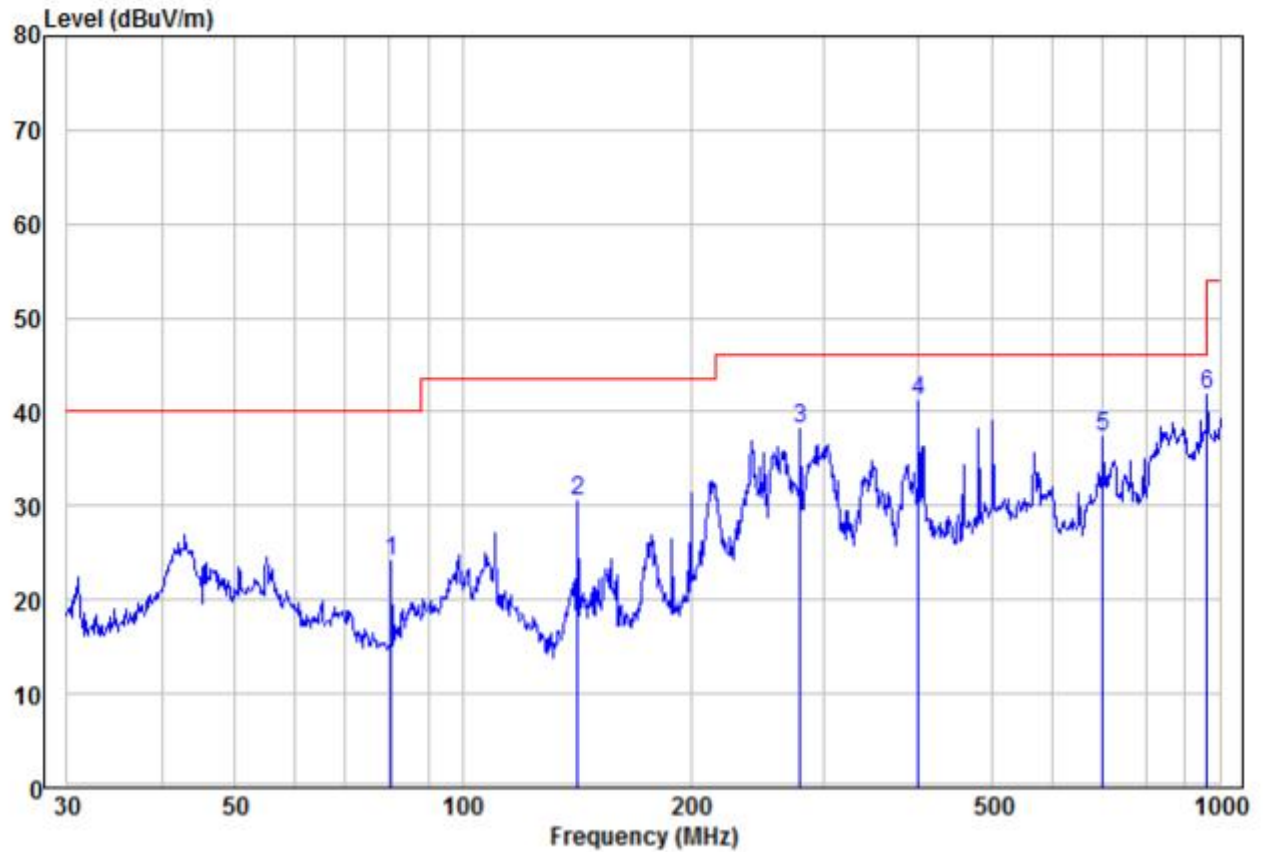
Radiated Emission below 1GHz

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



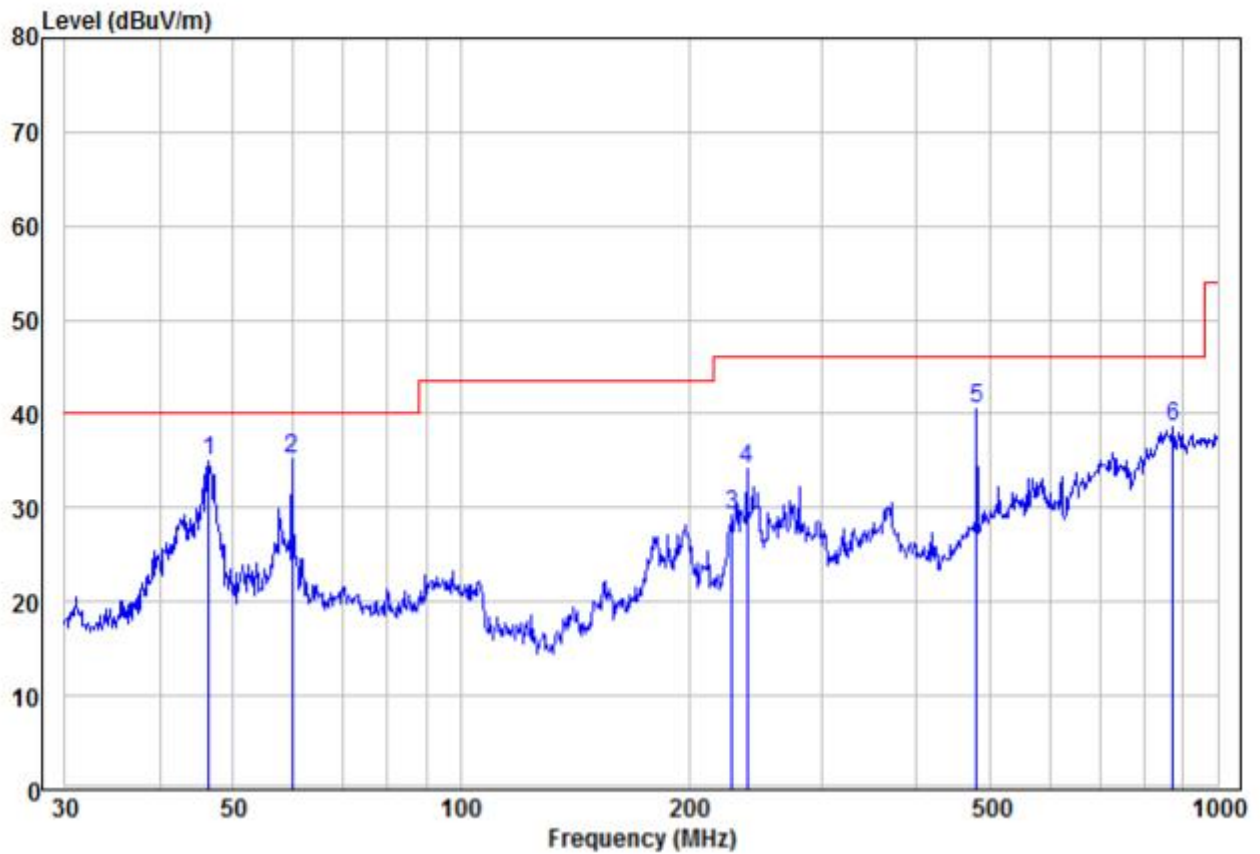
	Freq	Read Level	Factor	Level	Limit	Over	Remark	Pol/Phase
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
1	46.50	22.70	12.21	34.91	40.00	-5.09	Peak	VERTICAL
2 pp	59.86	23.16	12.10	35.26	40.00	-4.74	Peak	VERTICAL
3	228.49	15.27	13.97	29.24	46.00	-16.76	Peak	VERTICAL
4	239.15	19.05	15.15	34.20	46.00	-11.80	Peak	VERTICAL
5	480.53	20.20	20.34	40.54	46.00	-5.46	Peak	VERTICAL
6	872.18	9.85	28.84	38.69	46.00	-7.31	Peak	VERTICAL

Test mode:	Transmitting (802.11a 36CH)	Horizontal
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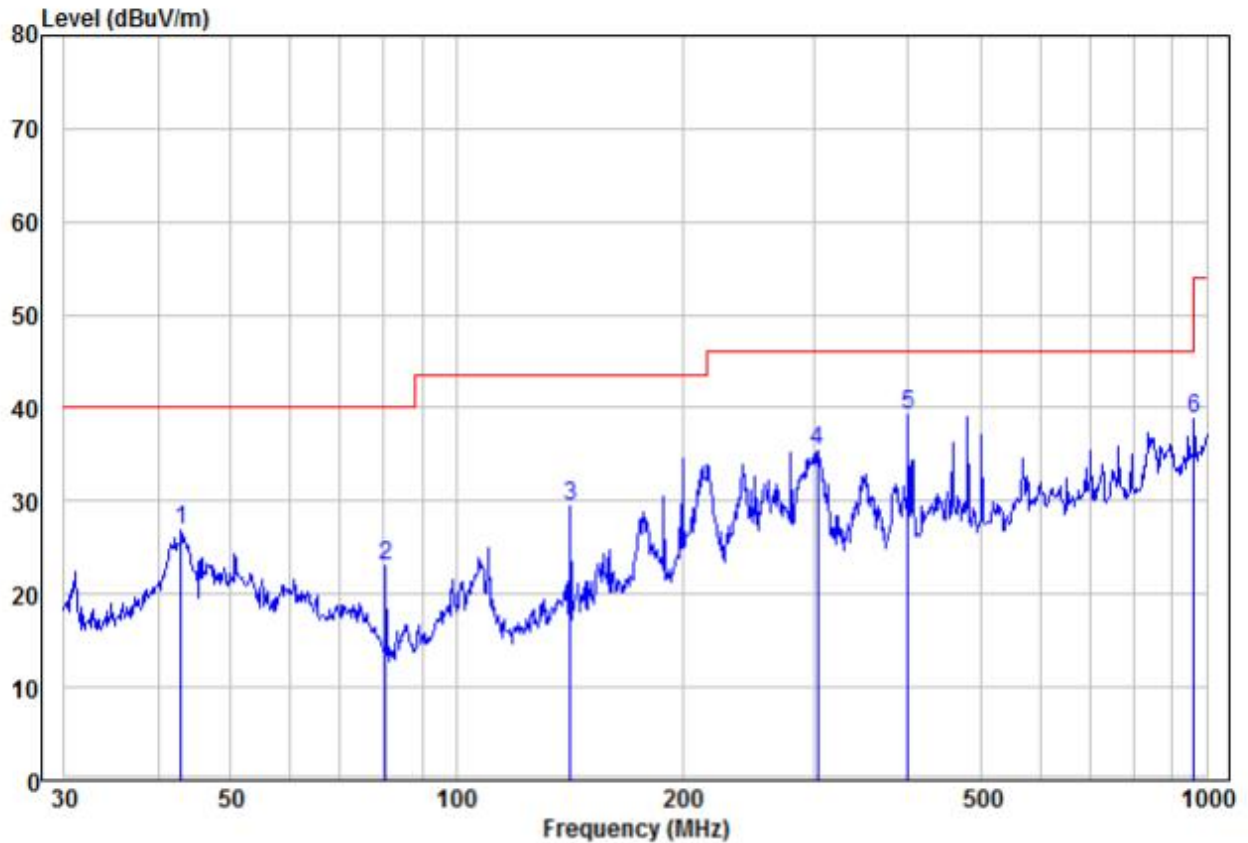
	Read Freq	Level	Factor	Level	Limit Line	Over Limit	Remark	Pol/Phase
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
1	80.36	16.17	7.83	24.00	40.00	-16.00	Peak	HORIZONTAL
2	141.83	22.08	8.42	30.50	43.50	-13.00	Peak	HORIZONTAL
3	279.04	21.78	16.39	38.17	46.00	-7.83	Peak	HORIZONTAL
4 pp	400.43	22.82	18.40	41.22	46.00	-4.78	Peak	HORIZONTAL
5	701.76	13.58	23.77	37.35	46.00	-8.65	Peak	HORIZONTAL
6	962.16	13.83	28.06	41.89	54.00	-12.11	Peak	HORIZONTAL

30MHz~1GHz		
Test mode:	Transmitting (802.11a 52CH)	Vertical



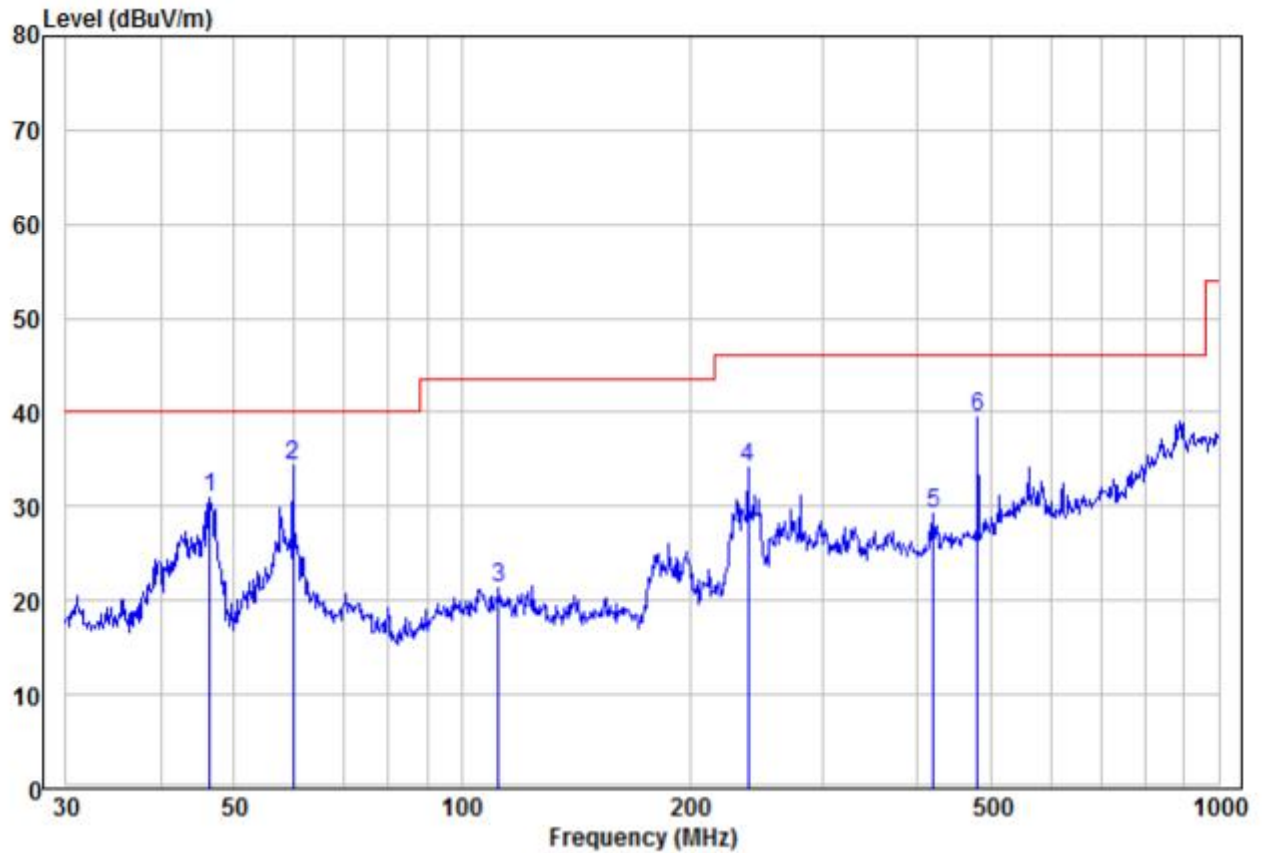
	Freq	Read Level	Factor	Level	Limit	Over	Remark	Pol/Phase
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
1	46.50	17.70	12.21	29.91	40.00	-10.09	Peak	VERTICAL
2	59.86	21.16	12.10	33.26	40.00	-6.74	Peak	VERTICAL
3	181.92	16.35	10.53	26.88	43.50	-16.62	Peak	VERTICAL
4	239.15	20.05	15.15	35.20	46.00	-10.80	Peak	VERTICAL
5 pp	480.53	21.20	20.34	41.54	46.00	-4.46	Peak	VERTICAL
6	854.02	9.59	28.53	38.12	46.00	-7.88	Peak	VERTICAL

Test mode:	Transmitting (802.11a 52CH)	Horizontal
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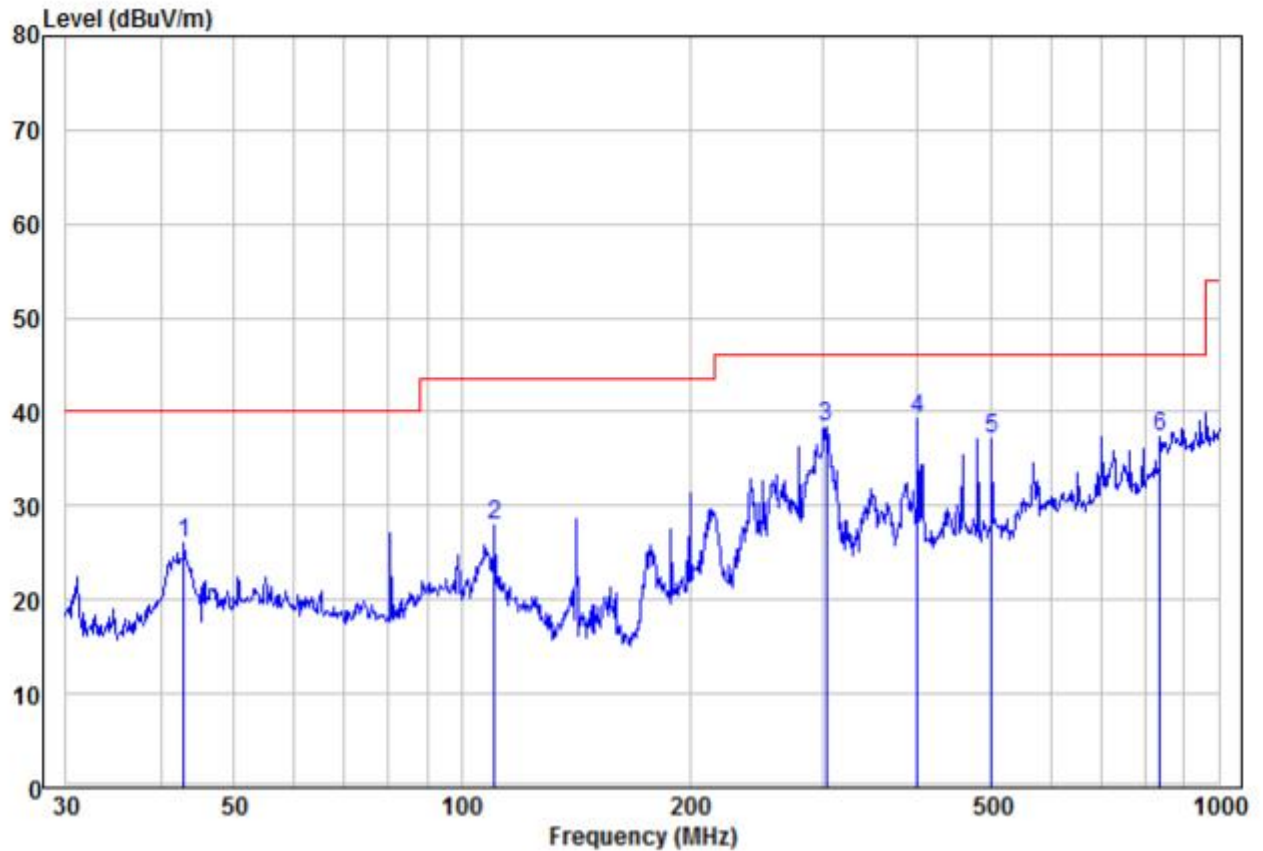
	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark	Pol/Phase
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
1	42.90	15.51	11.47	26.98	40.00	-13.02	Peak	HORIZONTAL
2	80.36	15.17	7.83	23.00	40.00	-17.00	Peak	HORIZONTAL
3	141.83	21.08	8.42	29.50	43.50	-14.00	Peak	HORIZONTAL
4	303.54	18.44	16.96	35.40	46.00	-10.60	Peak	HORIZONTAL
5 pp	400.43	20.82	18.40	39.22	46.00	-6.78	Peak	HORIZONTAL
6	962.16	10.83	28.06	38.89	54.00	-15.11	Peak	HORIZONTAL

30MHz~1GHz		
Test mode:	Transmitting (802.11a 100CH)	Vertical



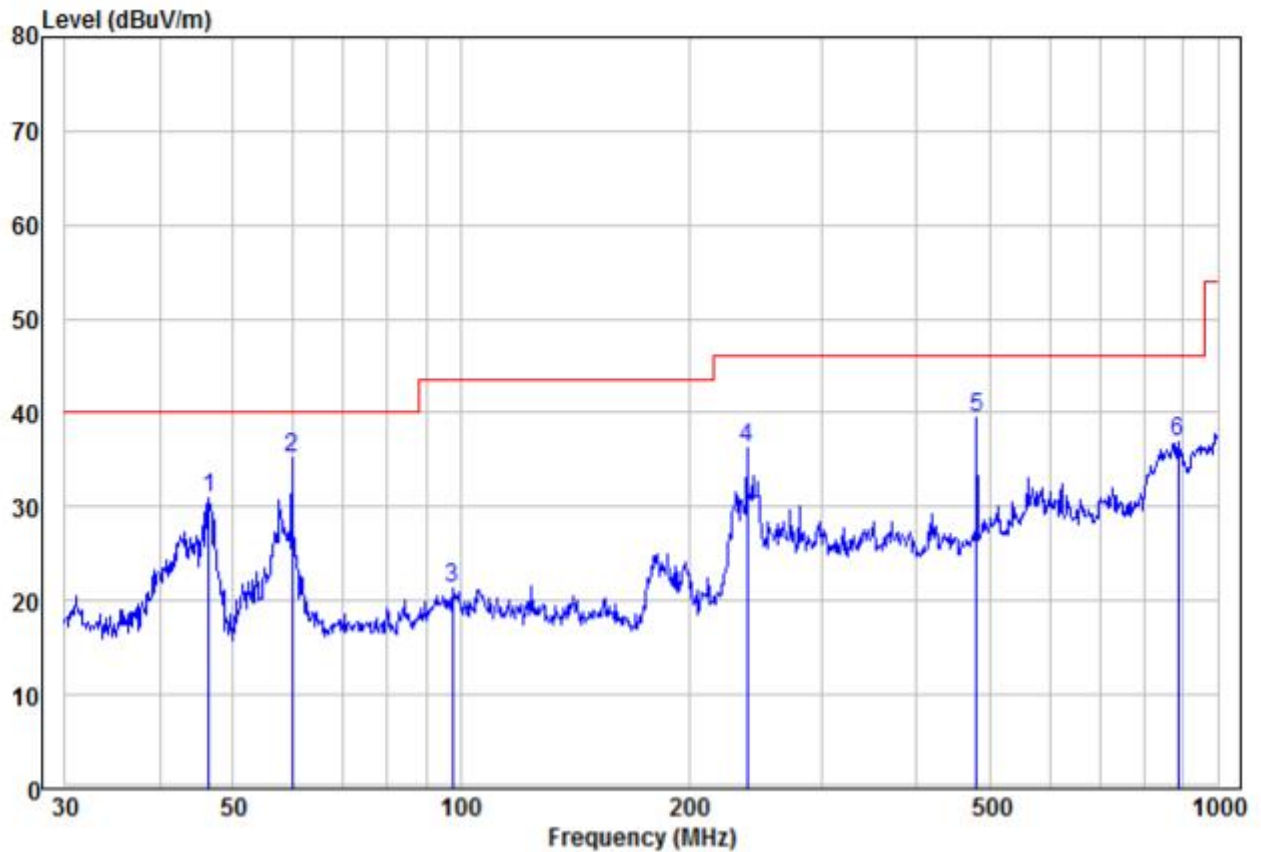
	Read			Limit	Over		
Freq	Level	Factor	Level	Line	Limit	Remark	Pol/Phase
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
1	46.50	18.70	12.21	30.91	40.00	-9.09 Peak	VERTICAL
2 pp	59.86	22.16	12.10	34.26	40.00	-5.74 Peak	VERTICAL
3	111.74	9.72	11.56	21.28	43.50	-22.22 Peak	VERTICAL
4	239.15	19.05	15.15	34.20	46.00	-11.80 Peak	VERTICAL
5	420.58	10.45	18.81	29.26	46.00	-16.74 Peak	VERTICAL
6	480.53	19.20	20.34	39.54	46.00	-6.46 Peak	VERTICAL

Test mode:	Transmitting (802.11a 100CH)	Horizontal
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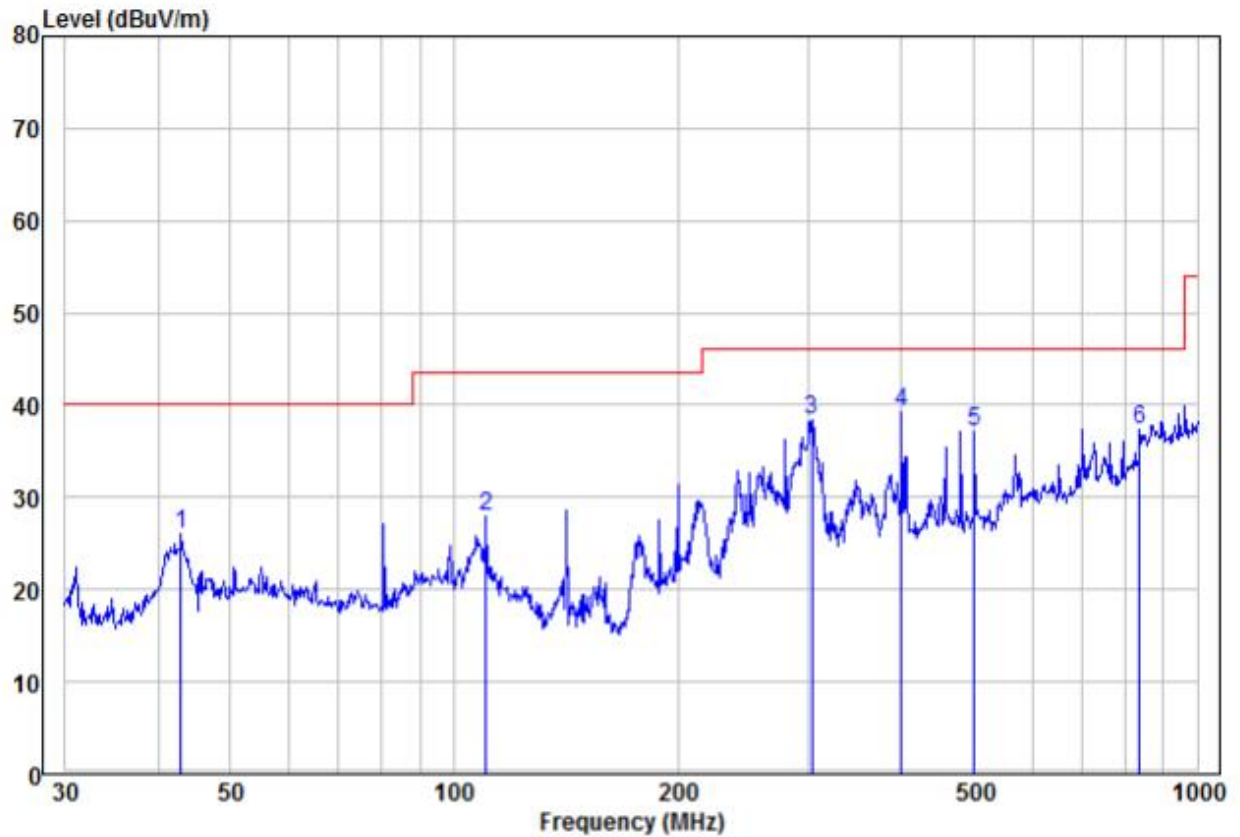
	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark	Pol/Phase
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
1	42.90	14.51	11.47	25.98	40.00	-14.02	Peak	HORIZONTAL
2	110.57	16.24	11.75	27.99	43.50	-15.51	Peak	HORIZONTAL
3	303.54	21.44	16.96	38.40	46.00	-7.60	Peak	HORIZONTAL
4 pp	400.43	20.82	18.40	39.22	46.00	-6.78	Peak	HORIZONTAL
5	501.18	16.15	20.94	37.09	46.00	-8.91	Peak	HORIZONTAL
6	836.24	9.18	28.21	37.39	46.00	-8.61	Peak	HORIZONTAL

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



	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark	Pol/Phase
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
1	46.50	18.70	12.21	30.91	40.00	-9.09	Peak	VERTICAL
2	59.86	23.16	12.10	35.26	40.00	-4.74	Peak	VERTICAL
3	97.46	9.79	11.45	21.24	43.50	-22.26	Peak	VERTICAL
4	239.15	21.05	15.15	36.20	46.00	-9.80	Peak	VERTICAL
5	480.53	19.20	20.34	39.54	46.00	-6.46	Peak	VERTICAL
6	887.61	7.91	29.09	37.00	46.00	-9.00	Peak	VERTICAL

Test mode:	Transmitting (802.11a 149CH)	Horizontal
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	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark	Pol/Phase
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
1	42.90	14.51	11.47	25.98	40.00	-14.02	Peak	HORIZONTAL
2	110.57	16.24	11.75	27.99	43.50	-15.51	Peak	HORIZONTAL
3	303.54	21.44	16.96	38.40	46.00	-7.60	Peak	HORIZONTAL
4 pp	400.43	20.82	18.40	39.22	46.00	-6.78	Peak	HORIZONTAL
5	501.18	16.15	20.94	37.09	46.00	-8.91	Peak	HORIZONTAL
6	836.24	9.18	28.21	37.39	46.00	-8.61	Peak	HORIZONTAL

Transmitter Emission above 1GHz

Test mode:	802.11a(6Mbps)			Test channel:		36 CH			
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detect or Type	Ant. Pol.	Antenna Height	Table Angle
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V	(m)	(Degree)
10360	53.17	2.26	55.43	74	-18.57	peak	H	1.5	189
10360	36.85	2.26	39.11	54	-14.89	AVG	H	1.5	117
15540	52.12	3.75	55.87	74	-18.13	peak	H	1.5	100
15540	38.83	3.75	42.58	54	-11.42	AVG	H	1.5	123
10360	55.30	2.26	57.56	74	-16.44	peak	V	1.5	37
10360	39.31	2.26	41.57	54	-12.43	AVG	V	1.5	276
15540	51.45	3.75	55.20	74	-18.80	peak	V	1.5	343
15540	35.92	3.75	39.67	54	-14.33	AVG	V	1.5	188

Test mode:	802.11a(6Mbps)			Test channel:		48 CH			
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detect or Type	Ant. Pol.	Antenna Height	Table Angle
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V	(m)	(Degree)
10480	53.04	2.31	55.35	74	-18.65	peak	H	1.5	48
10480	37.59	2.31	39.90	54	-14.10	AVG	H	1.5	347
15720	48.88	3.79	52.67	74	-21.33	peak	H	1.5	336
15720	36.47	3.79	40.26	54	-13.74	AVG	H	1.5	332
10480	54.09	2.31	56.40	74	-17.60	peak	V	1.5	266
10480	36.18	2.31	38.49	54	-15.51	AVG	V	1.5	84
15720	48.48	3.79	52.27	74	-21.73	peak	V	1.5	63
15720	36.00	3.79	39.79	54	-14.21	AVG	V	1.5	333

Test mode:	802.11a(6Mbps)			Test channel:		52 CH			
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detect or Type	Ant. Pol.	Antenna Height	Table Angle
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V	(m)	(Degree)
10520	53.78	2.26	56.04	74	-17.96	peak	H	1.5	168
10520	37.26	2.26	39.52	54	-14.48	AVG	H	1.5	59
15780	51.76	3.75	55.51	74	-18.49	peak	H	1.5	118
15780	37.63	3.75	41.38	54	-12.62	AVG	H	1.5	146
10520	54.92	2.26	57.18	74	-16.82	peak	V	1.5	343
10520	39.64	2.26	41.90	54	-12.10	AVG	V	1.5	266
15780	50.86	3.75	54.61	74	-19.39	peak	V	1.5	161
15780	36.54	3.75	40.29	54	-13.71	AVG	V	1.5	25

Test mode:	802.11a(6Mbps)			Test channel:		64 CH			
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detect or Type	Ant. Pol.	Antenna Height	Table Angle
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V	(m)	(Degree)
10640	51.65	2.31	53.96	74	-20.04	peak	H	1.5	343
10640	37.93	2.31	40.24	54	-13.76	AVG	H	1.5	90
15960	48.73	3.79	52.52	74	-21.48	peak	H	1.5	116
15960	36.90	3.79	40.69	54	-13.31	AVG	H	1.5	96
10640	53.52	2.31	55.83	74	-18.17	peak	V	1.5	200
10640	36.07	2.31	38.38	54	-15.62	AVG	V	1.5	132
15960	49.75	3.79	53.54	74	-20.46	peak	V	1.5	147
15960	36.65	3.79	40.44	54	-13.56	AVG	V	1.5	124

Test mode:	802.11a(6Mbps)			Test channel:		100			
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detect or Type	Ant. Pol.	Antenna Height	Table Angle
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V	(m)	(Degree)
11000	52.74	2.54	55.28	74	-18.72	peak	H	1.5	266
11000	38.30	2.54	40.84	54	-13.16	AVG	H	1.5	179
16500	51.11	3.94	55.05	74	-18.95	peak	H	1.5	323
16500	37.48	3.94	41.42	54	-12.58	AVG	H	1.5	287
11000	55.06	2.54	57.60	74	-16.40	peak	V	1.5	53
11000	37.07	2.54	39.61	54	-14.39	AVG	V	1.5	319
16500	50.11	3.94	54.05	74	-19.95	peak	V	1.5	257
16500	37.25	3.94	41.19	54	-12.81	AVG	V	1.5	191

Test mode:	802.11a(6Mbps)			Test channel:		144			
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detect or Type	Ant. Pol.	Antenna Height	Table Angle
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V	(m)	(Degree)
11440	51.92	2.58	54.50	74	-19.50	peak	H	1.5	66
11440	37.41	2.58	39.99	54	-14.01	AVG	H	1.5	265
17160	50.42	4.02	54.44	74	-19.56	peak	H	1.5	265
17160	36.65	4.02	40.67	54	-13.33	AVG	H	1.5	326
11440	53.59	2.58	56.17	74	-17.83	peak	V	1.5	73
11440	37.90	2.58	40.48	54	-13.52	AVG	V	1.5	162
17160	51.19	4.02	55.21	74	-18.79	peak	V	1.5	72
17160	37.86	4.02	41.88	54	-12.12	AVG	V	1.5	159

Test mode:	802.11a(6Mbps)			Test channel:		149			
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detect or Type	Ant. Pol.	Antenna Height	Table Angle
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V	(m)	(Degree)
11490	52.28	2.54	54.82	74	-19.18	peak	H	1.5	352
11490	37.69	2.54	40.23	54	-13.77	AVG	H	1.5	219
17235	50.80	3.94	54.74	74	-19.26	peak	H	1.5	342
17235	36.05	3.94	39.99	54	-14.01	AVG	H	1.5	239
11490	54.67	2.54	57.21	74	-16.79	peak	V	1.5	276
11490	38.75	2.54	41.29	54	-12.71	AVG	V	1.5	75
17235	51.13	3.94	55.07	74	-18.93	peak	V	1.5	183
17235	36.32	3.94	40.26	54	-13.74	AVG	V	1.5	211

Test mode:	802.11a(6Mbps)			Test channel:		165			
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detect or Type	Ant. Pol.	Antenna Height	Table Angle
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V	(m)	(Degree)
11650	51.25	2.58	53.83	74	-20.17	peak	H	1.5	259
11650	37.40	2.58	39.98	54	-14.02	AVG	H	1.5	49
17475	50.72	4.02	54.74	74	-19.26	peak	H	1.5	349
17475	36.83	4.02	40.85	54	-13.15	AVG	H	1.5	281
11650	54.91	2.58	57.49	74	-16.51	peak	V	1.5	138
11650	37.17	2.58	39.75	54	-14.25	AVG	V	1.5	247
17475	49.45	4.02	53.47	74	-20.53	peak	V	1.5	252
17475	37.77	4.02	41.79	54	-12.21	AVG	V	1.5	86

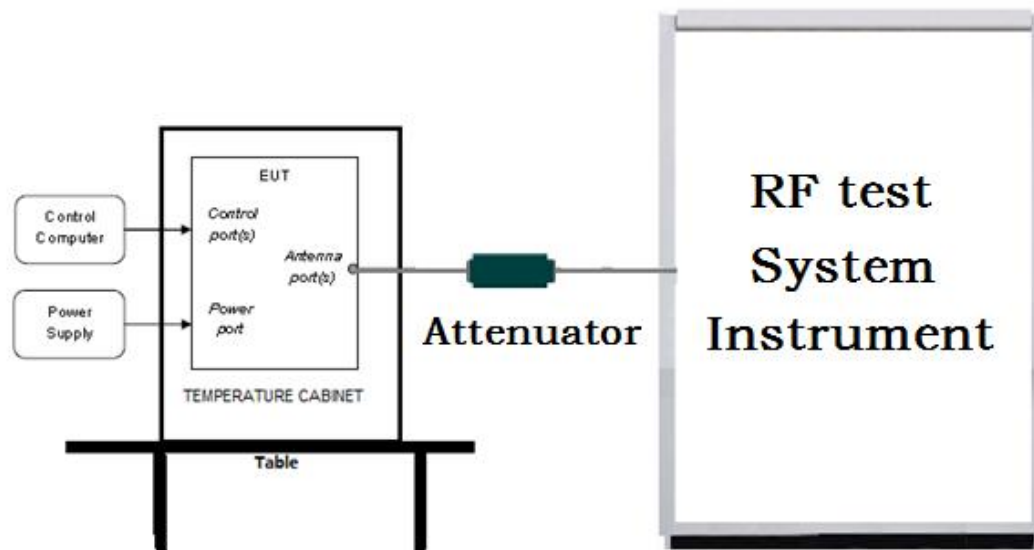
Remark:

- 1) The 802.11a 6Mbps of rate is the worst case, only the worst data recorded in the report.
- 2) The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:
Final Test Level = Receiver Reading + Antenna Factor + Cable Factor – Preamplifier Factor
- 3) Scan from 9kHz to 40GHz, The disturbance above 18GHz and below 30MHz was very low, and the above harmonics were the highest point could be found when testing, so only the above harmonics had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.

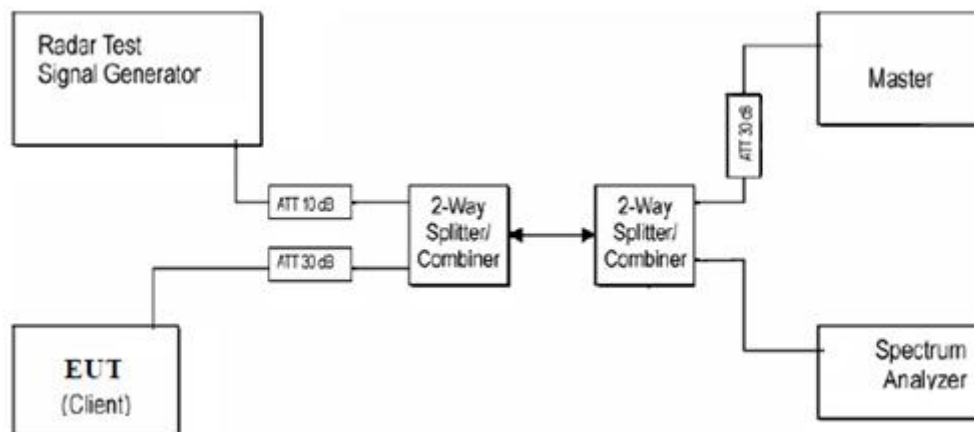
7 Dynamic Frequency Selection Test Requirement

7.1 Test setup

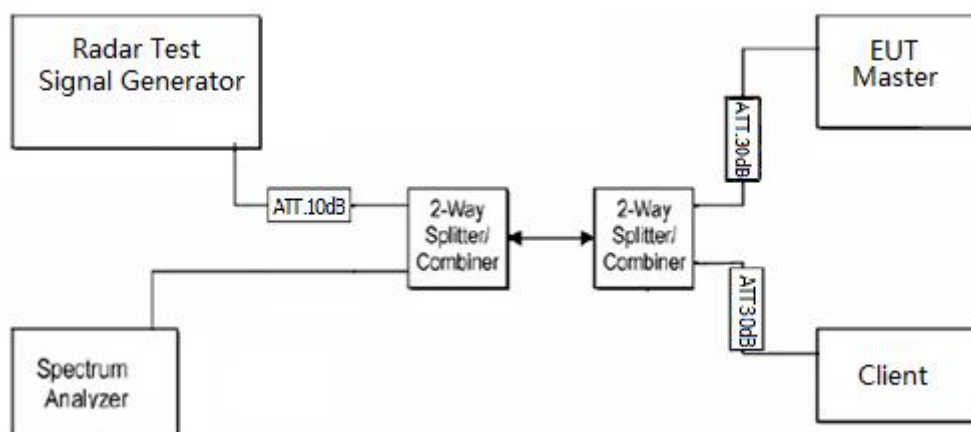
7.1.1 For Conducted test setup



7.1.2 Slave and Client device(EUT) block diagram of Test setup



7.1.3 Mast device(EUT) block diagram of Test setup



7.2 Test Environment

Operating Environment:	
Temperature:	20 °C
Humidity:	53 % RH
Atmospheric Pressure:	1010mbar

7.3 Test Condition

7.3.1 Radar test waveforms

This section provides the parameters for required test waveforms, minimum percentage of successful detections, and the minimum number of trials that must be used for determining DFS conformance. Step intervals of 0.1 microsecond for Pulse Width, 1 microsecond for PRI, 1 MHz for chirp width and 1 for the number of pulses will be utilized for the random determination of specific test waveforms.

a) Short Pulse Radar Test Waveforms

Radar Type	Pulse width (μsec)	PRI (μsec)	Number of Pulses	Minimum Percentage of Successful Detection	Minimum Number of Trials
1	1	1428	18	60%	30
2	1-5	150-230	23-29	60%	30
3	6-10	200-500	16-18	60%	30
4	11-20	200-500	12-16	60%	30
Aggregate(Radar Types 1-4)				80%	120

A minimum of 30 unique waveforms are required for each of the Short Pulse Radar Types 2 through 4. For Short Pulse Radar Type 1, the same waveform is used a minimum of 30 times. If more than 30 waveforms are used for Short Pulse Radar Types 2 through 4, then each additional waveform must also be unique and not repeated from the previous waveforms.

The aggregate is the average of the percentage of successful detections of Short Pulse Radar Types 1-4.

b) Long Pulse Radar Test Waveform

Radar Type	Pulse width (μsec)	Chirp Width (MHz)	PRI (μsec)	Number of Pulses per Burst	Number of Burst	Minimum Percentage of Successful Detection	Minimum Number of Trials
5	50-100	5-20	1000-2000	1-3	8-20	80%	30

The parameters for this waveform are randomly chosen. Thirty unique waveforms are required for the Long Pulse Radar Type waveforms. If more than 30 waveforms are used for the Long Pulse Radar Type waveforms, then each additional waveform must also be unique and not repeated from the previous waveforms.

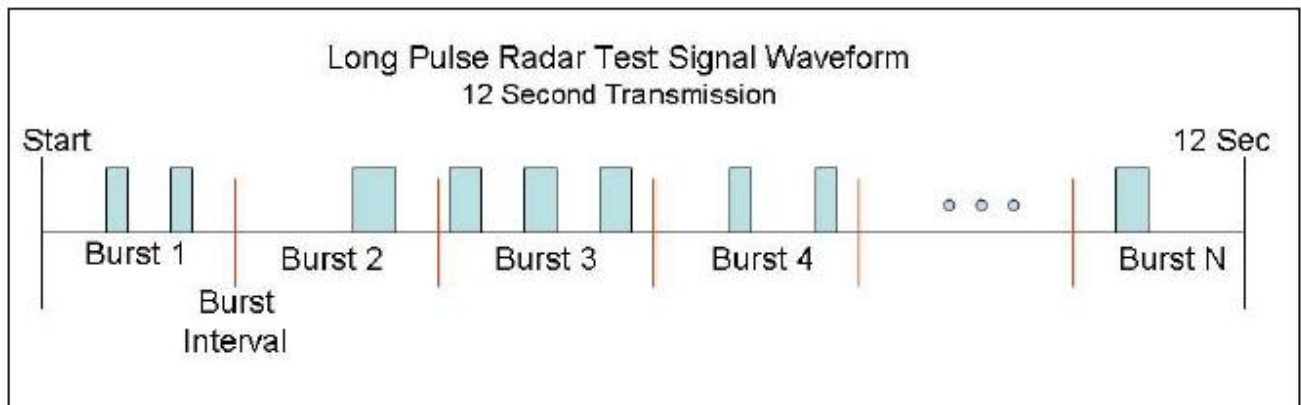
Each waveform is defined as follows:

- 1) The transmission period for the Long Pulse Radar test signal is 12 seconds.
- 2) There are a total of 8 to 20 Bursts in the 12 second period, with the number of Bursts being randomly chosen. This number is Burst_Count.
- 3) Each Burst consists of 1 to 3 pulses, with the number of pulses being randomly chosen. Each Burst within the 12 second sequence may have a different number of pulses.
- 4) The pulse width is between 50 and 100 microseconds, with the pulse width being randomly chosen. Each pulse within a Burst will have the same pulse width. Pulses in different Bursts may have different pulse widths.
- 5) Each pulse has a linear frequency modulated chirp between 5 and 20 MHz, with the chirp width being randomly chosen. Each pulse within a Burst will have the same chirp width. Pulses in different Bursts may have different chirp widths. The chirp is centered on the pulse. For example, with a radar frequency of 5300 MHz and a 20 MHz chirped signal, the chirp starts at 5290 MHz and ends at 5310 MHz.
- 6) If more than one pulse is present in a Burst, the time between the pulses will be between 1000 and 2000 microseconds, with the time being randomly chosen. If three pulses are present in a Burst, the random time interval between the first and second pulses is chosen independently of the random time interval between the second and third pulses.
- 7) The 12 second transmission period is divided into even intervals. The number of intervals is equal to Burst_Count. Each interval is of length $(12,000,000 / \text{Burst_Count})$ microseconds. Each interval contains one Burst. The start time for the Burst, relative to the beginning of the interval, is between 1 and $[(12,000,000 / \text{Burst_Count}) - (\text{Total Burst Length}) + (\text{One Random PRI Interval})]$ microseconds, with the start time being randomly chosen. The step interval for the start time is 1 microsecond. The start time for each Burst is chosen randomly.

A representative example of a Long Pulse Radar Type waveform:

- 1) The total test waveform length is 12 seconds.
- 2) Eight (8) Bursts are randomly generated for the Burst_Count.
- 3) Burst 1 has 2 randomly generated pulses.
- 4) The pulse width (for both pulses) is randomly selected to be 75 microseconds.
- 5) The PRI is randomly selected to be at 1213 microseconds.
- 6) Bursts 2 through 8 are generated using steps 3 – 5.
- 7) Each Burst is contained in even intervals of 1,500,000 microseconds. The starting location for Pulse 1, Burst 1 is randomly generated (1 to 1,500,000 minus the total Burst 1 length + 1 random PRI interval) at the 325,001 microsecond step. Bursts 2 through 8 randomly fall in successive 1,500,000 microsecond intervals (i.e. Burst 2 falls in the 1,500,001 – 3,000,000 microsecond range).

Graphical representation of the Long Pulse Radar Test Waveform.



c) Frequency Hopping Radar Test Waveform

Radar Type	Pulse width (μsec)	PRI (μsec)	Pulses per Hop	Hopping Rate (kHz)	Hopping Sequence Length (m sec)	Minimum Percentage of Successful Detection	Minimum Number of Trials
6	1	333	9	0.333	300	70%	30

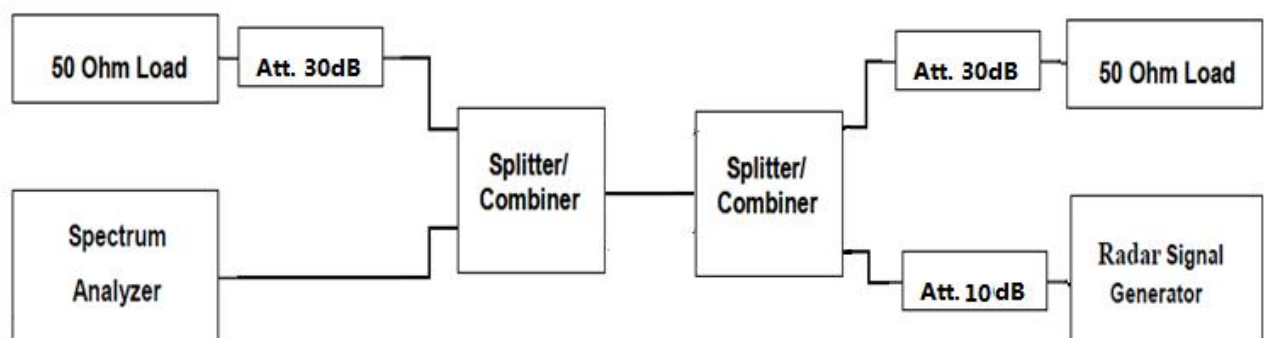
For the Frequency Hopping Radar Type, the same Burst parameters are used for each waveform. The hopping sequence is different for each waveform and a 100-length segment is selected from the hopping sequence defined by the following algorithm.

d) Radar Waveform Calibration

The following equipment setup was used to calibrate the conducted radar waveform. A spectrum analyzer was used to establish the test signal level for each radar type. During this process there were replace 50ohm terminal from master and client device and no transmissions by either the master or client device. The spectrum analyzer was switched to the zero span (time domain) at the frequency of the radar waveform generator. Peak detection was utilized. The spectrum analyzer resolution bandwidth (RBW) and video bandwidth (VBW) were set to 3MHz and 3 MHz.

The signal generator amplitude was set so that the power level measured at the spectrum analyzer was - 61dBm due to the interference threshold level is not required.

Conducted Calibration Setup



7.3.2 Technical requirement

a) Applicability of DFS Requirements

Applicability of DFS Requirements Prior to Use of a Channel

Requirement	Operation Mode		
	Master	Client without Radar Detection	Client with Radar Detection
Non-Occupancy Period	Yes	Not require	Yes
DFS Detection Threshold	Yes	Not require	Yes
Channel Availability Check Time	Yes	Not require	Not require
Uniform Spreading	Yes	Not require	Not require
U-NII Detection Bandwidth	Yes	Not require	Yes

Applicability of DFS requirements during normal operation

Requirement	Operation Mode		
	Master	Client without Radar Detection	Client with Radar Detection
DFS Detection Threshold	Yes	Not require	Yes
Channel Closing Transmission Time	Yes	Yes	Yes
Channel Move Time	Yes	Yes	Yes
U-NII Detection Bandwidth	Yes	Not require	Yes

b) DFS Detection Thresholds and Response Requirement

DFS Detection Thresholds for Master Devices and Client Devices With Radar Detection

Maximum Transmit Power	Value(See Notes 1 and 2)
≥ 200 milliwatt	-64 dBm
< 200 milliwatt	-62 dBm

Note 1: This is the level at the input of the receiver assuming a 0 dBi receive antenna.

Note 2: Throughout these test procedures an additional 1 dB has been added to the amplitude of the test transmission waveforms to account for variations in measurement equipment. This will ensure that the test signal is at or above the detection threshold level to trigger a DFS response.

DFS Response Requirement Values

Parameter	Value
Non- occupancy period	Minimum 30 minutes
Channel Availability Check Time	60 seconds
Channel Move Time	10 seconds See Note 1
Channel Closing Transmission Time	200 milliseconds + an aggregate of 60milliseconds over remaining 10 second period. See Notes 1 and 2
U-NII Detection Bandwidth	Minimum 80% of the UNII99% transmission power bandwidth See Note 3

Note 1: The instant that the Channel Move Time and the Channel Closing Transmission Time begins is as follows:

- For the Short Pulse Radar Test Signals this instant is the end of the Burst.
- For the Frequency Hopping radar Test Signal, this instant is the end of the last radar Burst generated.
- For the Long Pulse Radar Test Signal this instant is the end of the 12 second period defining the Radar Waveform.

Note 2: The Channel Closing Transmission Time is comprised of 200 milliseconds starting at the beginning of the Channel Move Time plus any additional intermittent control signals required to facilitate a Channel move (an aggregate of 60 milliseconds) during the remainder of the 10second period. The aggregate duration of control signals will not count quiet periods in between transmissions.

Note 3: During the U-NII Detection Bandwidth detection test, radar type 1 is used and for each frequency step the minimum percentage of detection is 90 percent. Measurements are performed with no data traffic.

7.4 Description of Support Units

The EUT has been tested with associated equipment below.

Associated equipment name		Manufacturer	model	serial number	FCC ID	Supplied by	Certification
AE1	Phone	Apple	A1367	TTF201 20027	/	CQA	FCC
AE2	Router	GLINET	MT3000	K8E8W 153140 02784	2AFIW- MT3000	CQA	FCC

8 Radio Technical Requirements Specification

Reference documents for testing:

No.	Identity	Document Title
1	KDB 905462D03	Subpart C-Intentional Radiators
2	KDB 905462D03	Compliance Measurement Procedures for Unlicensed-National Information Infrastructure Devices Operating in the 5.25-5.35 GHz and 5.47-5.725 GHz Bands Incorporating Dynamic Frequency Selection

Test Results List:

KDB 905462D03 KDB 905462D03	Test method	Test item	Operation Mode verdict
			Client without Radar Detection
KDB 905462 D02 UNII KDB 905462 D03 UNII	FCC 06-96	Non-Occupancy Period	Not require
KDB 905462 D02 UNII KDB 905462 D03 UNII	FCC 06-96	DFS Detection Threshold	Not require
KDB 905462 D02 UNII KDB 905462 D03 UNII	FCC 06-96	Channel Availability Check Time	Not require
KDB 905462 D02 UNII KDB 905462 D03 UNII	FCC 06-96	U-NII Detection Bandwidth	Not require
KDB 905462 D02 UNII KDB 905462 D03 UNII	FCC 06-96	Channel Closing Transmission Time	PASS
KDB 905462 D02 UNII KDB 905462 D03 UNII	FCC 06-96	Channel Move Time	PASS
KDB 905462 D02 UNII KDB 905462 D03 UNII	FCC 06-96	Uniform Spreading	Not require

Measurement Data

Please Refer to Appendix for Details

9 Photographs - EUT Test Setup

Detailed information is given in Appendix A

10 Photographs - EUT Constructional Details

Detailed information is given in Appendix B and Appendix C

*** END OF REPORT ***