

TEST REPORT

Report No.: BCTC2101722088-4E

Applicant: CHINA DRAGON TECHNOLOGY LIMITED

Product Name: WiFi 11ac + BT4.2 Module

Model/Type Ref.: CDW-61821CE-00

Tested Date: 2021-01-27 to 2021-02-26

Issued Date: 2021-02-26

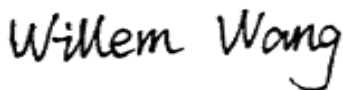
Shenzhen BCTC Testing Co., Ltd.



FCC ID: ROW-61821CE

Product Name: WiFi 11ac + BT4.2 Module
Trademark: N/A
Model/Type Ref.: CDW-61821CE-00
CDW-61821CE-01, CDW-61821CE-10, CDW-61821CE-11
Prepared For: CHINA DRAGON TECHNOLOGY LIMITED
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Sample Received Date: 2021-01-27
Sample tested Date: 2021-01-27 to 2021-02-26
Issue Date: 2021-02-26
Report No.: BCTC2101722088-4E
Test Standards: FCC Part15 15.407
ANSI C63.10-2013
KDB 789033 D02 v02r01
Test Results: PASS

Tested by:



Willem Wang/Project Handler

Approved by:



Zero Zhou/Reviewer

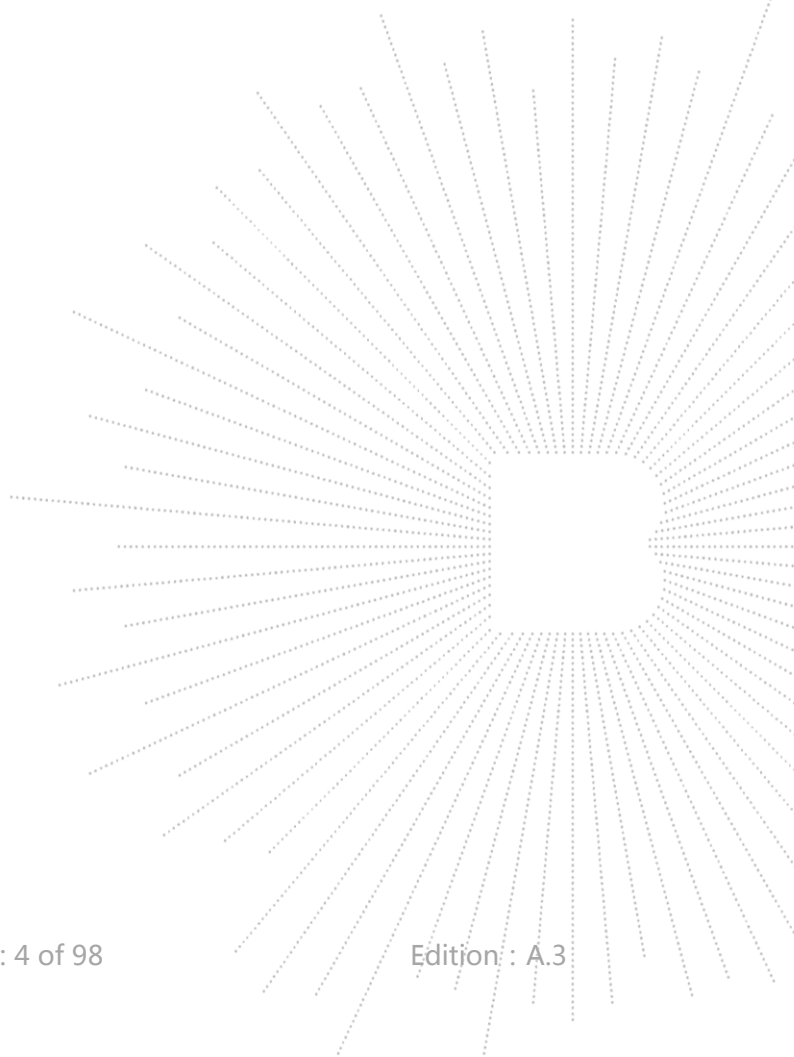
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(Note: N/A means not applicable)



1. VERSION

Report No.	Issue Date	Description	Approved
BCTC2101722088-4E	2021-02-26	Original	Valid

2. TEST SUMMARY

The Product has been tested according to the following specifications:

No.	Test Parameter	Clause No	Results
1	Spurious Radiated Emissions	15.209(a), 15.407 (b)(1) 15.407 (b)(4) 15.407 (b)(8)	PASS
2	Conducted Emission	15.207	PASS
3	26 dB and 99% Emission Bandwidth	15.407 (a)(12) 15.1049	PASS
4	Minimum 6 dB bandwidth	15.407(e)	PASS
5	Maximum Conducted Output Power	15.407 (a)(1) 15.407 (a)(3)	PASS
6	Band Edge	2.1051, 15.407(b)(1) 15.407(b)(4)	PASS
7	Power Spectral Density	15.407 (a)(1) 15.407 (a)(3)	PASS
8	Spurious Emissions at Antenna Terminals	2.1051, 15.407(b)	PASS
9	Antenna Requirement	15.203	PASS

3. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the Product as specified in CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k=2$.

No.	Item	Uncertainty
1	3m chamber Radiated spurious emission(30MHz-1GHz)	U=4.3dB
2	3m chamber Radiated spurious emission(1GHz-18GHz)	U=4.5dB
3	3m chamber Radiated spurious emission(18GHz-40GHz)	U=3.34dB
4	Conducted Adjacent channel power	U=1.38dB
5	Conducted output power uncertainty Above 1G	U=1.576dB
6	Conducted output power uncertainty below 1G	U=1.28dB
7	humidity uncertainty	U=5.3%
8	Temperature uncertainty	U=0.59°C

4. PRODUCT INFORMATION AND TEST SETUP

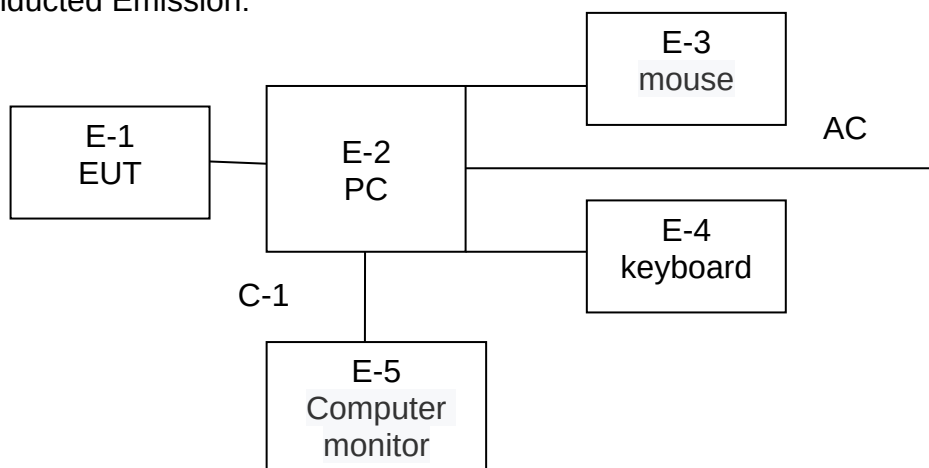
4.1 Product Information

Model/Type Ref.:	CDW-61821CE-00 CDW-61821CE-01,CDW-61821CE-10, CDW-61821CE-11
Model differences:	All the model are the same circuit and RF module, except model names.
Hardware Version:	v2.0
Software Version:	2024.0.10.213
IEEE 802.11 WLAN Mode Supported	802.11a/n/ac(20MHz channel bandwidth) 802.11n/ac(40MHz channel bandwidth) 802.11ac(80MHz channel bandwidth)
Operation Frequency:	5180-5240MHz for 802.11a/n(HT20)/ac20; 5190-5230MHz for 802.11n(HT40)/ac40; 5210MHz for 802.11 ac80; 5745-5825 MHz for 802.11a/n(HT20)/ac20; 5755-5795 MHz for 802.11a/n(HT40)/ac40; 5775MHz for 802.11 ac80;
Data Rate	802.11a: 6,9,12,18,24,36,48,54Mbps; 802.11n(HT20/HT40):MCS0-MCS15; 802.11ac(VHT20): NSS1, MCS0-MCS8 802.11ac(VHT40/VHT80):NSS1, MCS0-MCS
Type of Modulation:	OFDM with BPSK/QPSK/16QAM/64QAM/256QAM for 802.11a/n/ac;
Number Of Channel	4 channels for 802.11a/n20 in the 5180-5240MHz band ; 2 channels for 802.11 n40 in the 5190-5230MHz band ; 1 channels for 802.11 ac80 in the 5210MHz band ; 5 channels for 802.11a/n20 in the 5745-5825MHz band ; 2 channels for 802.11 n40 in the 5755-5795MHz band ; 1 channels for 802.11 ac80 in the 5775MHz band ;
Antenna installation:	External antenna
Antenna Gain:	5dBi
Type of device:	Indoor devices
Ratings:	DC 3.3V

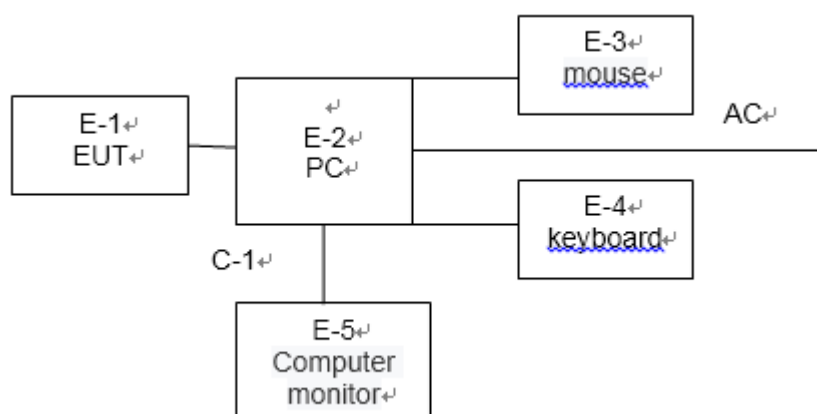
4.2 Test Setup Configuration

See test photographs attached in *EUT TEST SETUP PHOTOGRAPHS* for the actual connections between Product and support equipment.

Conducted Emission:



Radiated Spurious Emission:



4.3 Support Equipment

No.	Device Type	Brand	Model	Series No.	Data Cable	Remark
E-1	WiFi 11ac + BT4.2 Module	N/A	CDW-61821 CE-00	N/A	N/A	EUT
E-2	PC	N/A	BTCT001	N/A	N/A	Auxiliary
E-3	mouse	N/A	BTCT002	N/A	N/A	Auxiliary
E-4	keyboard	N/A	BTCT003	N/A	N/A	Auxiliary
E-5	Computer monitor	N/A	BTCT004	N/A	N/A	Auxiliary

Item	Shielded Type	Ferrite Core	Length	Note
C-1	NO	NO	0.6M	VGA cable unshielded

Notes:

1. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.
2. Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.

4.4 Channel List

802.11a/n(20MHz) Carrier Frequency Channel							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
36	5180	44	5220	40	5200	48	5240
149	5745	153	5765	157	5785	161	5805
165	5825	-	-	-	-	-	-

802.11n (40MHz) Carrier Frequency Channel							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
38	5190	46	5230	-	-	-	-
151	5755	159	5795	-	-	-	-

802.11ac (80MHz) Carrier Frequency Channel	
Channel	Frequency (MHz)
42	5210
155	5775

4.5 Test Mode

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

Pretest Mode	Description
Mode 1	802.11a / n/ ac 20 CH36/ CH40/ CH 48 802.11a /n/ ac 20 CH149/ CH157/ CH 165
Mode 2	802.11n/ ac40 CH38/ CH 46 802.11n/ ac40 CH 151 / CH 159
Mode 3	802.11 ac80 CH 42/CH 155
Mode 4	802.11a / n/ ac 20 CH36/ CH40/ CH 48 802.11a /n/ ac 20 CH149/ CH157/ CH 165
Mode 5	Link Mode

Conducted Emission	
Final Test Mode	Description
Mode 5	Link Mode

For Radiated Emission	
Final Test Mode	Description
Mode 1	802.11a / n/ ac 20 CH36/ CH40/ CH 48 802.11a /n/ ac 20 CH149/ CH157/ CH 165
Mode 2	802.11n/ ac40 CH38/ CH 46 802.11n/ ac40 CH 151 / CH 159
Mode 3	802.11 ac80 CH 42/CH 155
Mode 4	802.11a / n/ ac 20 CH36/ CH40/ CH 48 802.11a /n/ ac 20 CH149/ CH157/ CH 165

Note:

(1) The measurements are performed at all Bit Rate of Transmitter, the worst data was reported.

4.6 table of parameters of text software setting

During testing channel & power controlling software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product power parameters

Test software Version	MP_Kit_RTL		
Parameters	DEF	DEF	DEF

5. TEST FACILITY AND TEST INSTRUMENT USED

5.1 Test Facility

All measurement facilities used to collect the measurement data are located at Shenzhen BCTC Testing Co., Ltd. Address: 1-2/F., Building B, Pengzhou Industrial Park, No.158, Fuyuan 1st Road, Tangwei, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China. The site and apparatus are constructed in conformance with the requirements of ANSI C63.4 and CISPR 16-1-1 other equivalent standards.

FCC Test Firm Registration Number: 712850

IC Registered No.: 23583

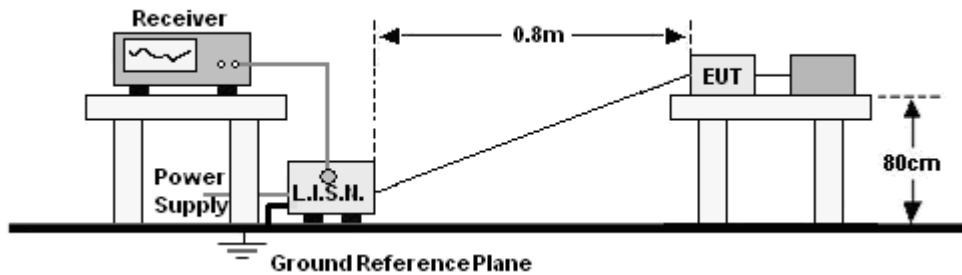
5.2 Test Instrument Used

Conducted emissions Test					
Equipment	Manufacturer	Model#	Serial#	Last Cal.	Next Cal.
Receiver	R&S	ESR3	102075	Jun. 08, 2020	Jun. 07, 2021
LISN	R&S	ENV216	101375	Jun. 04, 2020	Jun. 03, 2021
ISN	HPX	ISN T800	S1509001	Jun. 04, 2020	Jun. 03, 2021
Software	Frad	EZ-EMC	EMC-CON 3A1	\	\

Radiated emissions Test (966 chamber)					
Equipment	Manufacturer	Model#	Serial#	Last Cal.	Next Cal.
966 chamber	ChengYu	966 Room	966	Jun. 06. 2020	Jun. 05, 2023
Receiver	R&S	ESR3	102075	Jun. 08, 2020	Jun. 07, 2021
Receiver	R&S	ESRP	101154	Jun. 08, 2020	Jun. 07, 2021
Amplifier	Schwarzbeck	BBV9718	9718-309	Jun. 04, 2020	Jun. 03, 2021
Amplifier	Schwarzbeck	BBV9744	9744-0037	Jun. 04, 2020	Jun. 03, 2021
TRILOG Broadband Antenna	schwarzbeck	VULB 9163	VULB9163-942	Jun. 08, 2020	Jun. 07, 2021
Horn Antenna	SCHWARZBEC K	BBHA9120 D	1201	Jun. 10, 2020	Jun. 09, 2021
Horn Antenna (18GHz-40GHz)	SCHWARZBEC K	BBHA9170	822	Jun. 10, 2020	Jun. 09, 2021
Amplifier (18GHz-40GHz)	MITEQ	TTA1840-3 5-HG	2034381	Jun. 08, 2020	Jun. 07, 2021
Loop Antenna (9KHz-30MHz)	SCHWARZBEC K	FMZB1519 B	014	Jun. 08, 2020	Jun. 07, 2021
RF cables1 (9kHz-30MHz)	Huber+Suhnar	9kHz-30MH z	B1702988-0 008	Jun. 08, 2020	Jun. 07, 2021
RF cables2 (30MHz-1GHz)	Huber+Suhnar	30MHz-1G Hz	1486150	Jun. 08, 2020	Jun. 07, 2021
RF cables3 (1GHz-40GHz)	Huber+Suhnar	1GHz-40G Hz	1607106	Jun. 08, 2020	Jun. 07, 2021
Power Metter	Keysight	E4419B	\	Jun. 08, 2020	Jun. 07, 2021
Power Sensor (AV)	Keysight	E9 300A	\	Jun. 08, 2020	Jun. 07, 2021
Signal Analyzer 20kHz-26.5GHz	KEYSIGHT	N9020A	MY4910006 0	Jun. 04, 2020	Jun. 03, 2021
Spectrum Analyzer 9kHz-40GHz	Agilent	FSP40	100363	Jun. 13, 2020	Jun. 12, 2021
Software	Frad	EZ-EMC	FA-03A2 RE	\	\

6. CONDUCTED EMISSIONS

6.1 Block Diagram Of Test Setup



6.2 Limit

FREQUENCY (MHz)	Limit (dBuV)	
	Quas-peak	Average
0.15 -0.5	66 - 56 *	56 - 46 *
0.50 -5.0	56.00	46.00
5.0 -30.0	60.00	50.00
Notes:		
1. *Decreasing linearly with logarithm of frequency.		
2. The lower limit shall apply at the transition frequencies.		

6.3 Test procedure

Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz

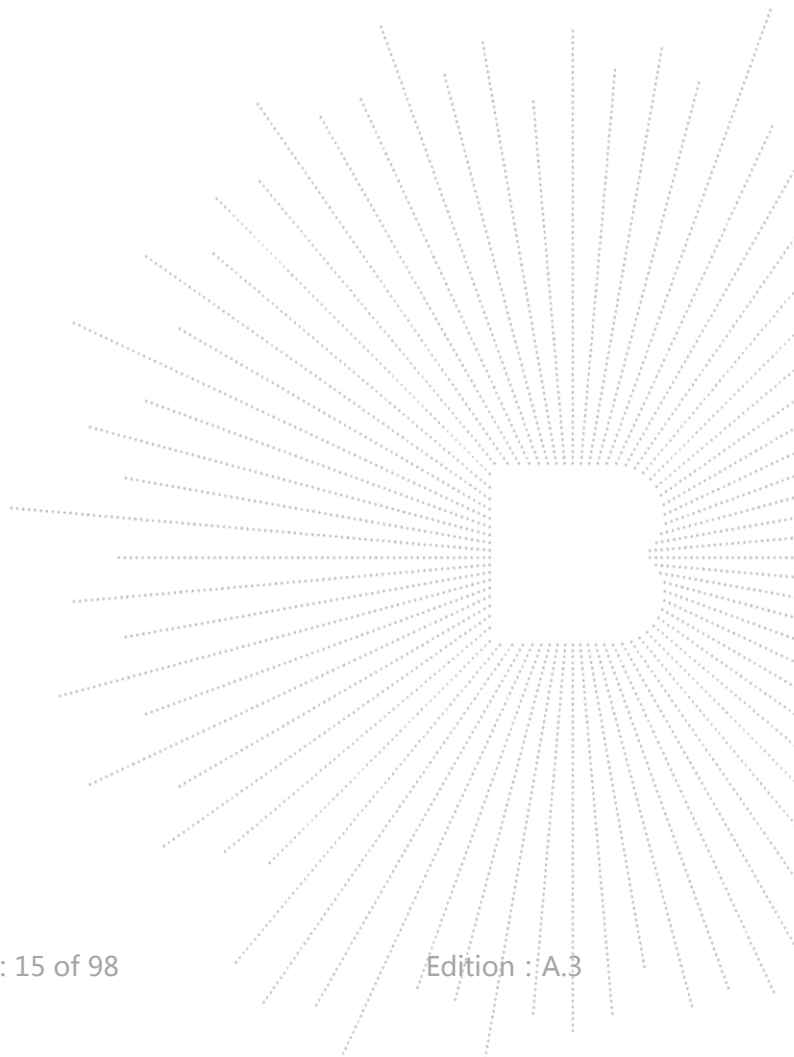
a. The Product was placed on a nonconductive table 0.8 m above the horizontal ground reference plane, and 0.4 m from the vertical ground reference plane, and connected to the main through Line Impedance Stability Network (L.I.S.N).

b. The RBW of the receiver was set at 9 kHz in 150 kHz ~ 30MHz with Peak and AVG detector in Max Hold mode. Run the receiver's pre-scan to record the maximum disturbance generated from Product in all power lines in the full band.

c. For each frequency whose maximum record was higher or close to limit, measure its QP and AVG values and record.

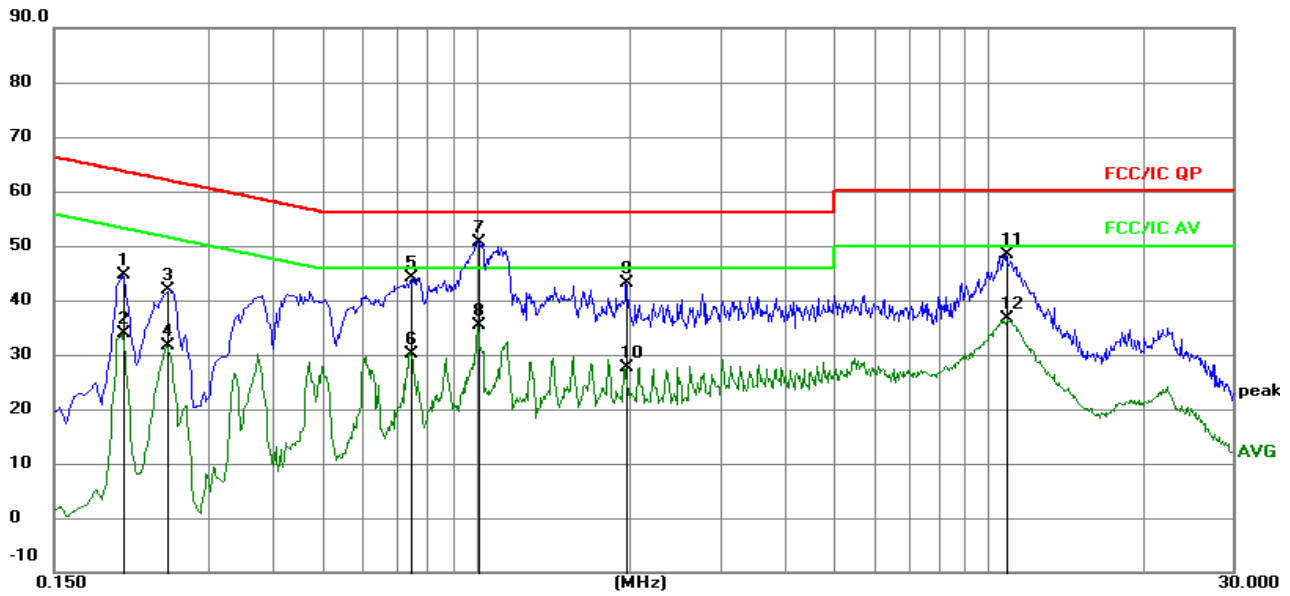
6.4 EUT operating Conditions

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.



6.5 Test Result

Temperature :	26 °C	Relative Humidity :	54%
Pressure :	101kPa	Phase :	L
Test Voltage :	AC 120V/60Hz	Test Mode :	Mode 4

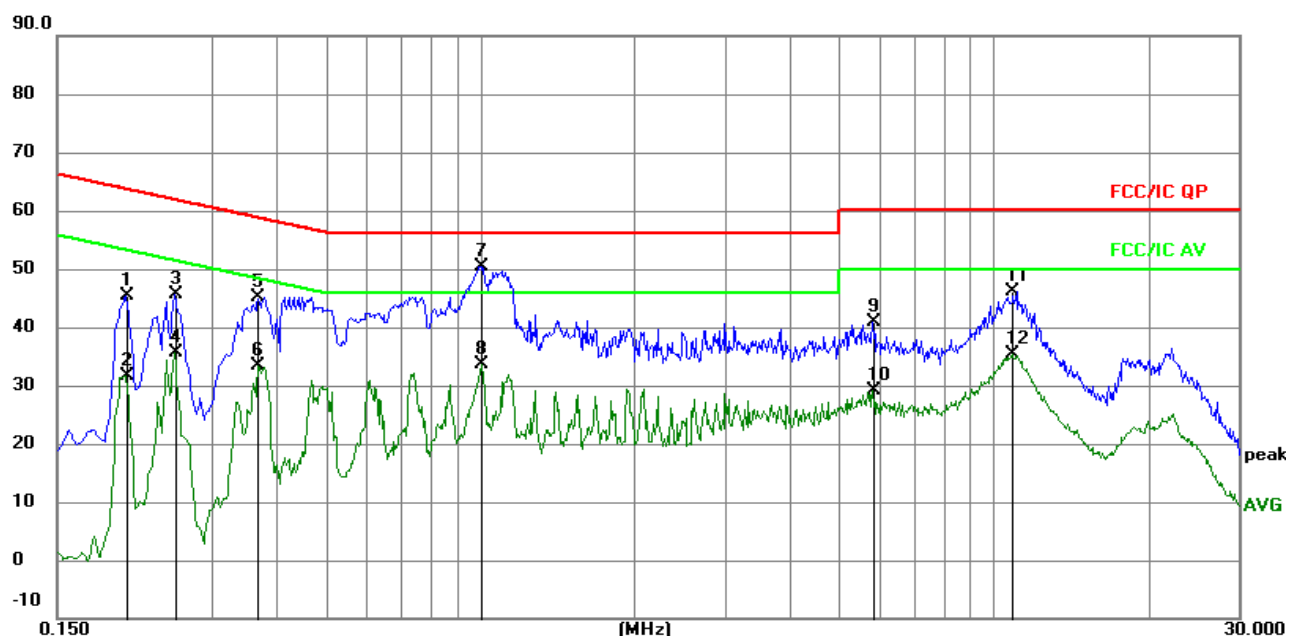


Remark:

1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.

No.	Mk.	Freq. MHz	Reading Level dB	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector
1		0.2040	35.25	9.46	44.71	63.45	-18.74	QP
2		0.2040	24.37	9.46	33.83	53.45	-19.62	AVG
3		0.2490	32.34	9.52	41.86	61.79	-19.93	QP
4		0.2490	22.21	9.52	31.73	51.79	-20.06	AVG
5		0.7440	34.59	9.64	44.23	56.00	-11.77	QP
6		0.7440	20.61	9.64	30.25	46.00	-15.75	AVG
7	*	1.0095	41.06	9.57	50.63	56.00	-5.37	QP
8		1.0095	25.75	9.57	35.32	46.00	-10.68	AVG
9		1.9680	33.65	9.59	43.24	56.00	-12.76	QP
10		1.9680	18.12	9.59	27.71	46.00	-18.29	AVG
11		10.8330	38.69	9.69	48.38	60.00	-11.62	QP
12		10.8330	27.01	9.69	36.70	50.00	-13.30	AVG

Temperature :	26 °C	Relative Humidity :	54%
Pressure :	101kPa	Phase :	N
Test Voltage :	AC 120V/60Hz	Test Mode :	Mode 4



Remark:

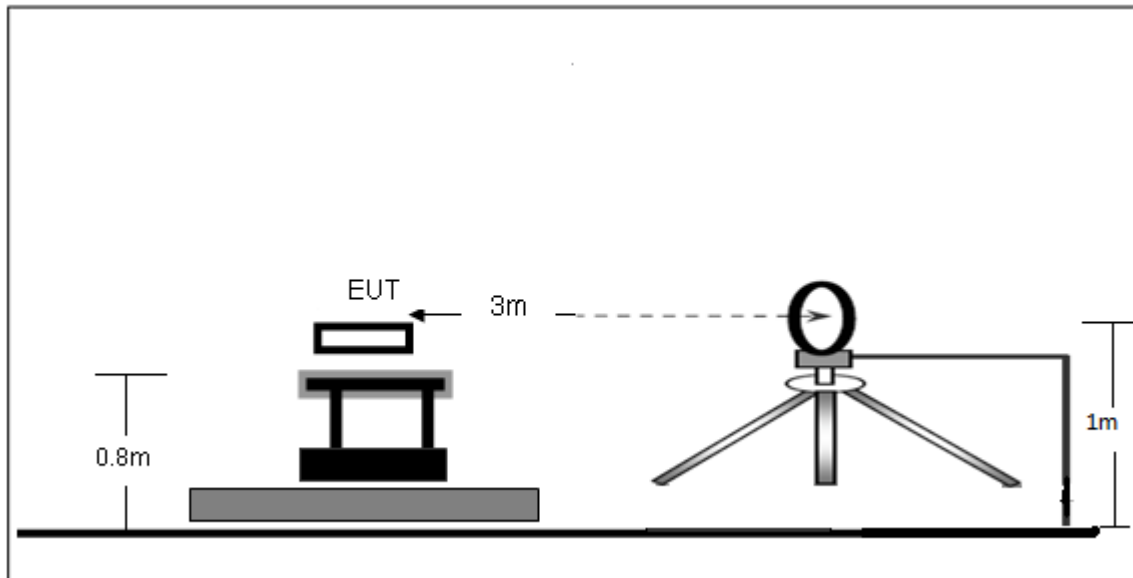
1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	
		MHz		dB	dBuV	dBuV	dB	Detector
1		0.2040	35.86	9.46	45.32	63.45	-18.13	QP
2		0.2040	22.20	9.46	31.66	53.45	-21.79	AVG
3		0.2535	36.10	9.52	45.62	61.64	-16.02	QP
4		0.2535	26.01	9.52	35.53	51.64	-16.11	AVG
5		0.3692	35.72	9.52	45.24	58.52	-13.28	QP
6		0.3692	23.79	9.52	33.31	48.52	-15.21	AVG
7	*	0.9997	40.81	9.57	50.38	56.00	-5.62	QP
8		0.9997	23.98	9.57	33.55	46.00	-12.45	AVG
9		5.8050	31.09	9.77	40.86	60.00	-19.14	QP
10		5.8050	19.43	9.77	29.20	50.00	-20.80	AVG
11		10.8473	36.49	9.69	46.18	60.00	-13.82	QP
12		10.8473	25.60	9.69	35.29	50.00	-14.71	AVG

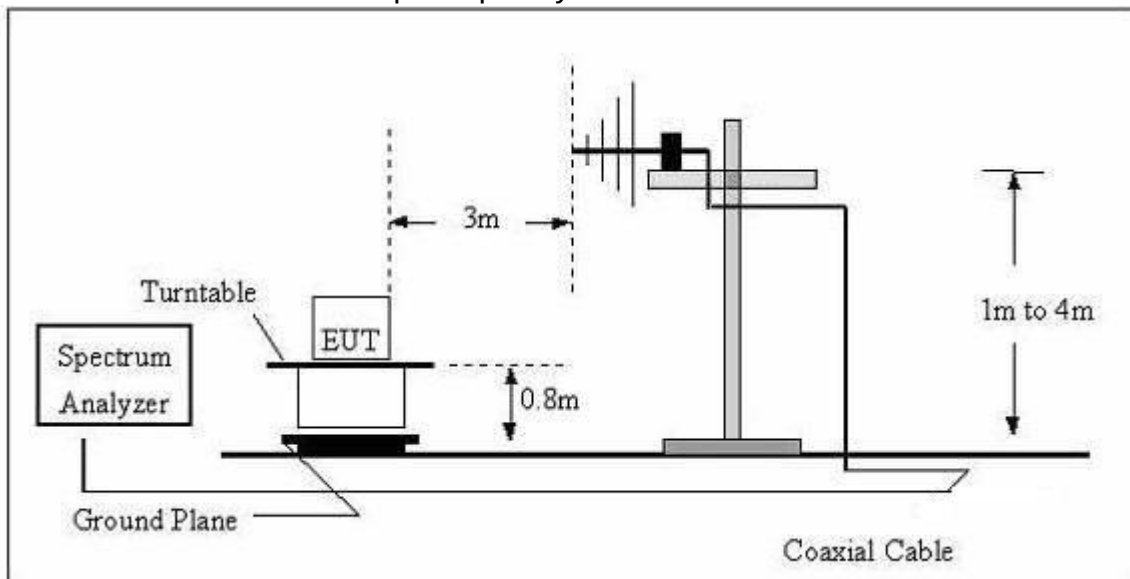
7. RADIATED EMISSIONS

7.1 Block Diagram Of Test Setup

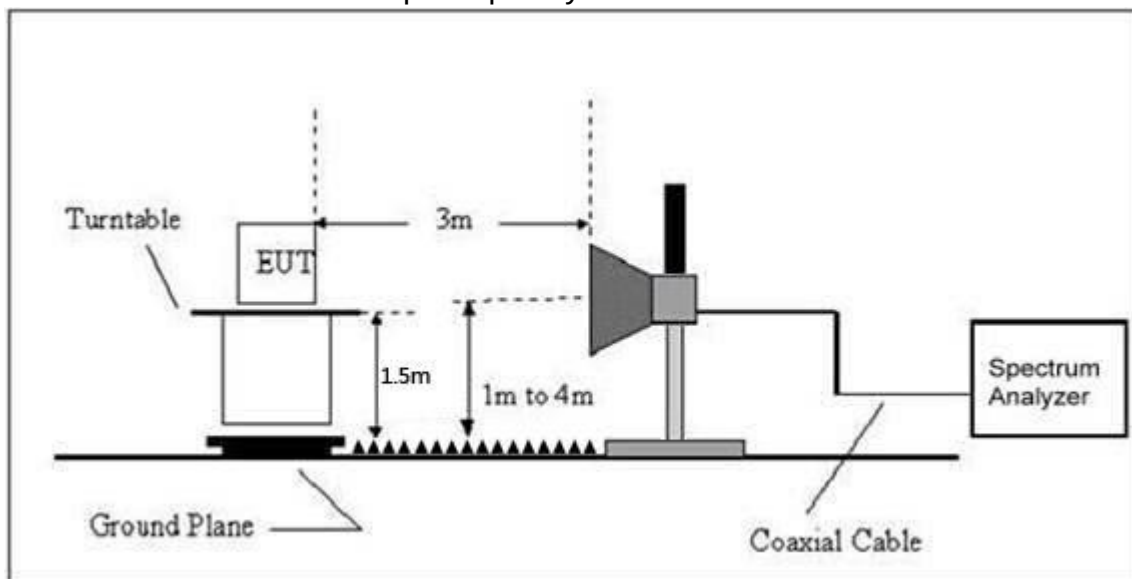
(A) Radiated Emission Test-Up Frequency Below 30MHz



(B) Radiated Emission Test-Up Frequency 30MHz~1GHz



(C) Radiated Emission Test-Up Frequency Above 1GHz



7.2 Limit

20dBc in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

Frequency	Field Strength	Distance	Field Strength Limit at 3m Distance	
(MHz)	uV/m	(m)	uV/m	dBuV/m
0.009 ~ 0.490	$2400/F(\text{kHz})$	300	$10000 * 2400/F(\text{kHz})$	$20\log(2400/F(\text{kHz})) + 80$
0.490 ~ 1.705	$24000/F(\text{kHz})$	30	$100 * 24000/F(\text{kHz})$	$20\log(24000/F(\text{kHz})) + 40$
1.705 ~ 30	30	30	$100 * 30$	$20\log(30) + 40$
30 ~ 88	100	3	100	$20\log(100)$
88 ~ 216	150	3	150	$20\log(150)$
216 ~ 960	200	3	200	$20\log(200)$
Above 960	500	3	500	$20\log(500)$

LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000MHz)

FREQUENCY (MHz)	Limit (dBuV/m) (at 3M)	
	PEAK	AVERAGE
Above 1000	74	54

Notes:

- (1)The limit for radiated test was performed according to FCC PART 15C.
- (2)The tighter limit applies at the band edges.
- (3) Emission level (dBuV/m)=20log Emission level (uV/m).

7.3 Test procedure

The test site semi-anechoic chamber has met the requirement of NSA tolerance 4 dB according to the standards: ANSI C63.10-2013. The test distance is 3m. The setup is according to the requirements in Section 13.1.4.1 of ANSI C63.10-2013 and CAN/CSA-CEI/IEC CISPR 22.

This test is required for any spurious emission that falls in a Restricted Band, as defined in Section 15.205.

It must be performed with the highest gain of each type of antenna proposed for use with the EUT.

Use the following spectrum analyzer settings:

Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	10th carrier harmonic
RB / VB (emission in restricted band)	1 MHz / 1 MHz for Peak, 1 MHz / 10Hz for Average

Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RB 200Hz for QP
Start ~ Stop Frequency	150kHz~30MHz / RB 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RB 120kHz for QP

- The measuring distance of at 3 m shall be used for measurements at frequency up to 1GHz. For frequencies above 1GHz, any suitable measuring distance may be used.
- The EUT was placed on the top of a rotating table 0.8 m for below 1GHz and 1.5m for above 1GHz the ground at a 3 meter. The table was rotated 360 degrees to determine the position of the highest radiation.
- The height of the equipment or of the substitution antenna shall be 0.8 m for below 1GHz and 1.5m for above 1GHz; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.
- For the actual test configuration, please refer to the related Item –EUT Test Photos.

Note:

Both horizontal and vertical antenna polarities were tested and performed pretest to three orthogonal axis. The worst case emissions were reported

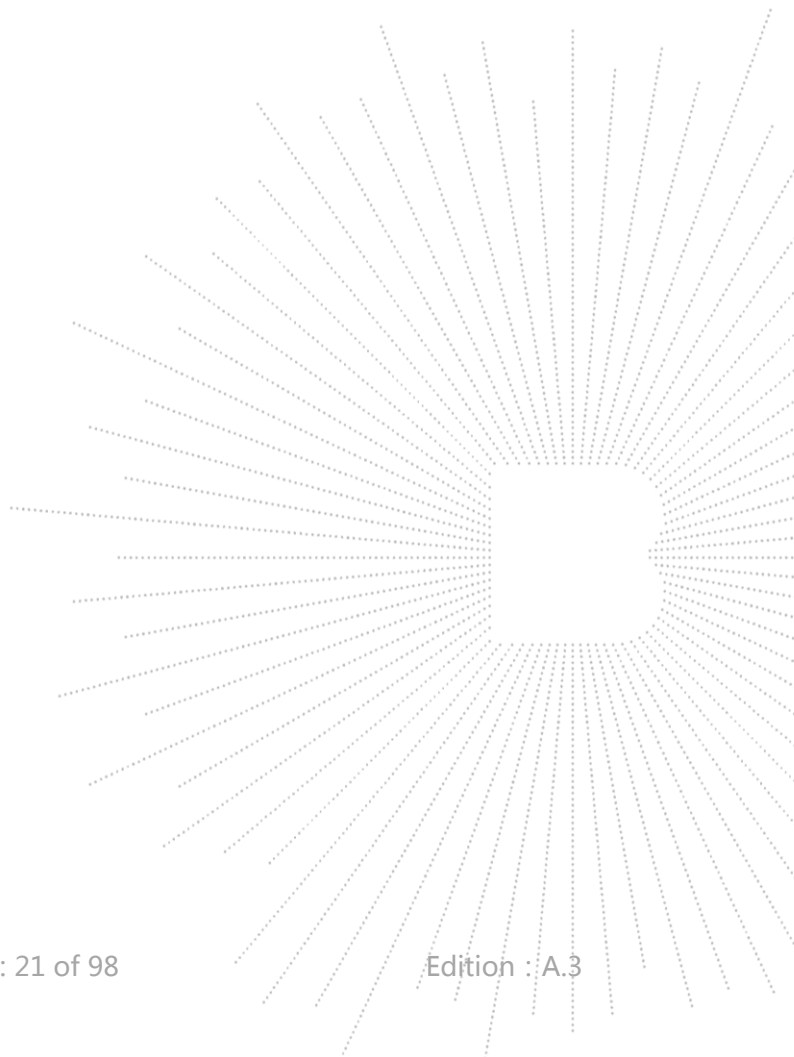
During the radiated emission test, the Spectrum Analyzer was set with the following configurations:

Frequency Band (MHz)	Function	Resolution bandwidth	Video Bandwidth
30 to 1000	QP	120 kHz	300 kHz
Above 1000	Peak	1 MHz	1 MHz
	Average	1 MHz	10 Hz

Note: for the frequency ranges below 30 MHz, a narrower RBW is used for these ranges but the measured value should add a RBW correction factor (RBWCF) where $RBWCF [dB] = 10 \cdot \lg(100 [kHz] / \text{narrower RBW} [kHz])$. , the narrower RBW is 1 kHz and RBWCF is 20 dB for the frequency 9 kHz to 150 kHz, and the narrower RBW is 10 kHz and RBWCF is 10 dB for the frequency 150 kHz to 30 MHz.

7.4 EUT operating Conditions

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.



7.5 Test Result

Below 30MHz

Temperature:	26°C	Relative Humidity:	24%
Pressure:	101 kPa	Test Voltage :	AC120V/60Hz
Test Mode :	Mode 5	Polarization :	--

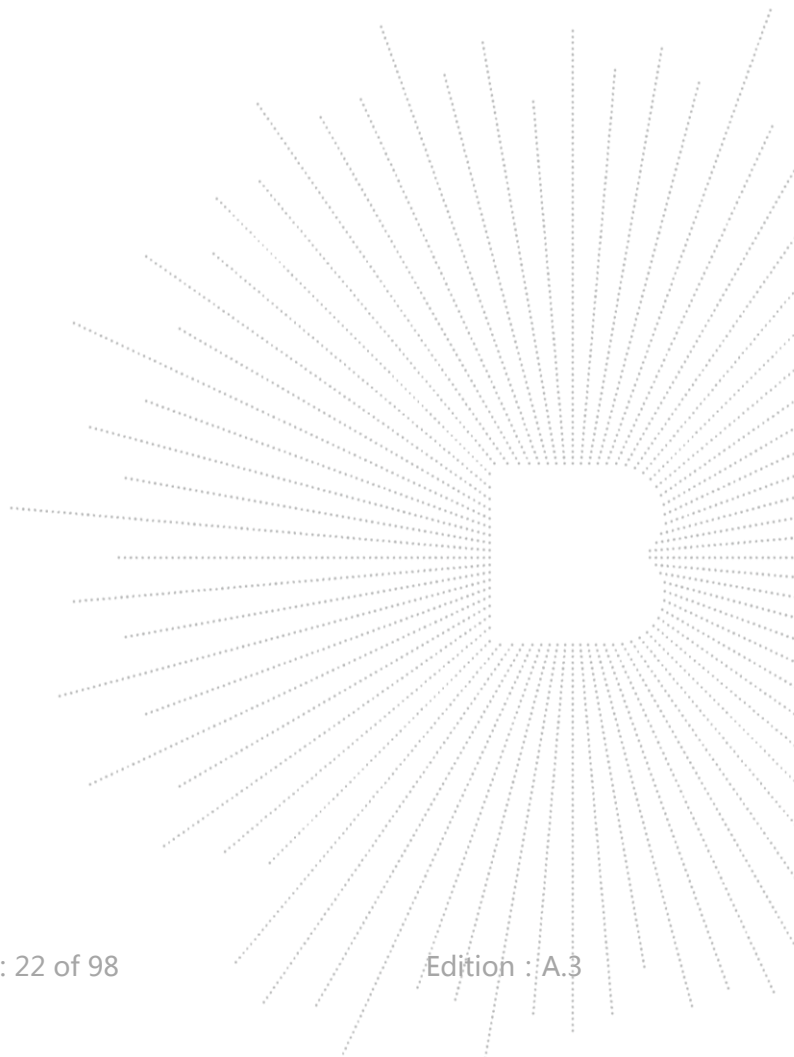
Freq. (MHz)	Reading (dBuV/m)	Limit (dBuV/m)	Margin (dB)	State P/F
--	--	--	--	PASS
--	--	--	--	PASS

Note:

The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

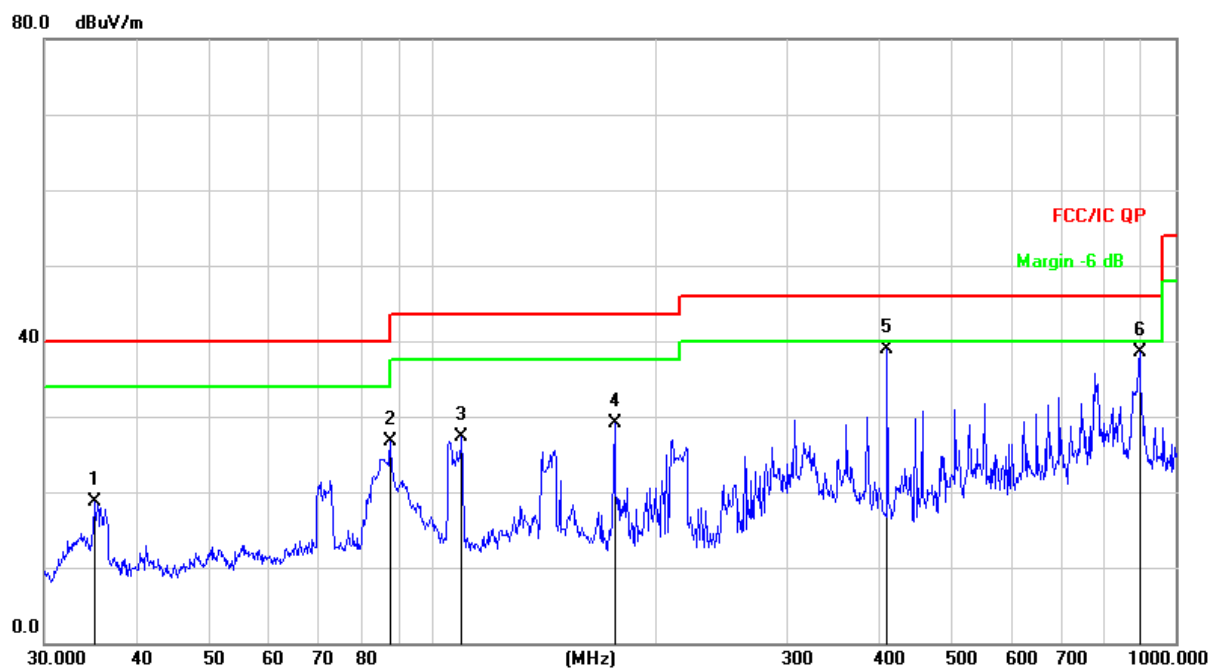
Distance extrapolation factor = $40 \log (\text{specific distance}/\text{test distance})(\text{dB})$;

Limit line = specific limits(dBuv) + distance extrapolation factor.



Between 30MHz – 1GHz

Temperature:	26°C	Relative Humidity:	54%
Pressure:	101 kPa	Test Voltage :	AC120V/60Hz
Test Mode :	Mode 5	Polarization :	Horizontal

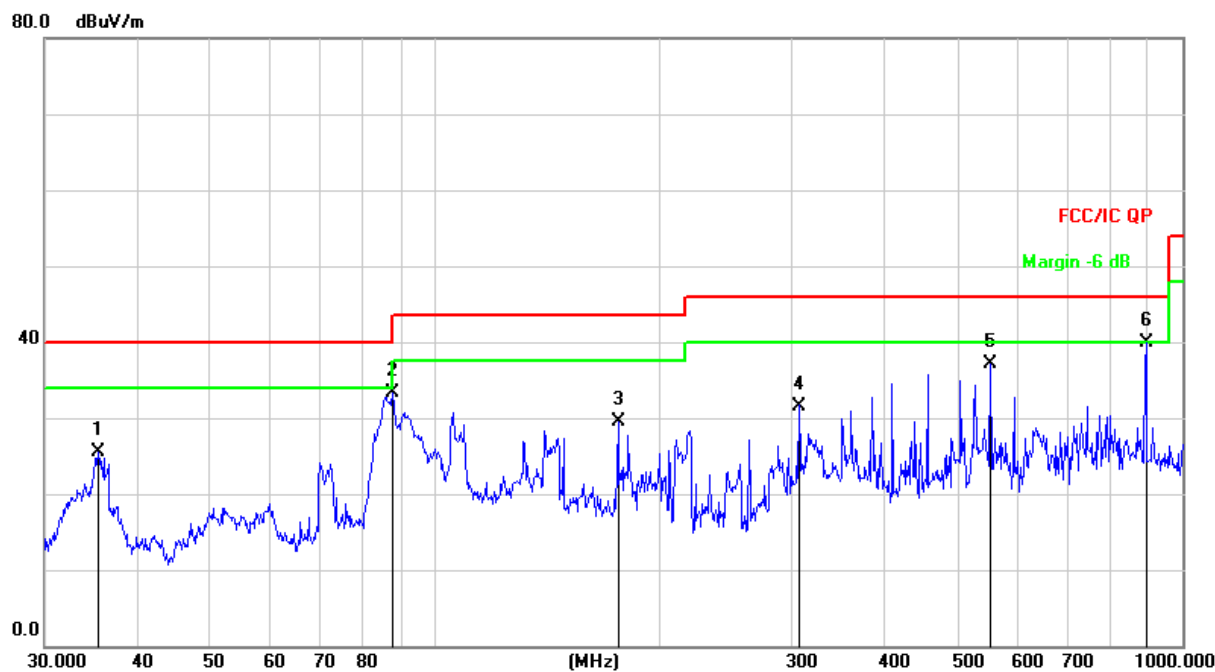


Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dB/m	dB	Detector
1		35.1278	34.29	-15.51	18.78	40.00	-21.22	QP
2		87.7248	44.71	-17.95	26.76	40.00	-13.24	QP
3		109.4116	43.37	-16.08	27.29	43.50	-16.21	QP
4		175.6516	46.09	-16.94	29.15	43.50	-14.35	QP
5	*	408.9460	48.39	-9.49	38.90	46.00	-7.10	QP
6		893.8567	38.69	-0.14	38.55	46.00	-7.45	QP

Temperature:	26°C	Relative Humidity:	54%
Pressure:	101 kpa	Test Voltage :	AC120V/60Hz
Test Mode :	Mode 5	Polarization :	Vertical



Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dB/m	Over dB	Detector
1		35.3750	40.99	-15.48	25.51	40.00	-14.49	QP
2		87.7248	51.31	-17.95	33.36	40.00	-6.64	QP
3		175.6516	46.37	-16.94	29.43	43.50	-14.07	QP
4		306.7537	43.82	-12.22	31.60	46.00	-14.40	QP
5		552.8832	43.34	-6.24	37.10	46.00	-8.90	QP
6	*	893.8567	40.00	-0.14	39.86	46.00	-6.14	QP

Between 1GHz – 40GHz

Test Mode :	TX(5.1G) - 802.11a
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Polar (H/V)	Frequency (MHz)	Meter Reading (dBUV)	Cable loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Emission Level (dBUV/m)	Limits (dBUV/m)	Margin (dB)	Detector Type
Low Channel (5180 MHz)-Above 1G									
V	4434.197	62.96	5.94	35.40	44.00	60.30	68.20	-7.90	PK
V	4434.197	43.59	5.94	35.40	44.00	40.93	54.00	-13.07	AV
V	10360.158	63.48	8.46	39.75	44.50	67.19	74.00	-6.81	PK
V	10360.158	43.44	8.46	39.75	44.50	47.15	54.00	-6.85	AV
V	15540.155	62.09	10.12	38.80	44.10	66.91	74.00	-7.09	PK
V	15540.155	43.87	10.12	38.80	42.70	50.09	54.00	-3.91	AV
H	4434.120	63.19	5.94	35.18	44.00	60.31	68.20	-7.89	PK
H	4434.120	43.11	5.94	35.18	44.00	40.23	54.00	-13.77	AV
H	10360.010	51.96	8.46	38.71	44.50	54.63	74.00	-19.37	PK
H	10360.010	43.75	8.46	38.71	44.50	46.42	54.00	-7.58	AV
H	15540.142	54.35	10.12	38.38	44.10	58.75	74.00	-15.25	PK
H	15540.142	40.51	10.12	38.38	44.10	44.91	54.00	-9.09	AV
middle Channel (5200 MHz)-Above 1G									
V	4592.010	60.28	6.48	36.35	44.05	59.06	74.00	-14.94	PK
V	4592.010	43.68	6.48	36.35	44.05	42.46	54.00	-11.54	AV
V	10400.055	62.46	8.47	37.88	44.51	64.30	68.20	-3.90	PK
V	10400.055	43.62	8.47	37.88	44.51	45.46	54.00	-8.54	AV
V	15600.120	61.75	10.12	38.80	44.10	66.57	74.00	-7.43	PK
V	15600.120	43.24	10.12	38.80	42.70	49.46	54.00	-4.54	AV
H	4592.135	64.14	6.48	36.37	44.05	62.94	74.00	-11.06	PK
H	4592.135	43.50	6.48	36.37	44.05	42.30	54.00	-11.70	AV
H	10400.001	50.44	8.47	38.64	44.50	53.05	68.20	-15.15	PK
H	10400.001	40.56	8.47	38.64	44.50	43.17	54.00	-10.83	AV
H	15600.195	54.81	10.12	38.38	44.10	59.21	74.00	-14.79	PK
H	15600.195	43.89	10.12	38.38	44.10	48.29	54.00	-5.71	AV
High Channel (5240 MHz)-Above 1G									
V	4739.046	64.56	7.10	37.24	43.50	65.40	74.00	-8.60	PK
V	4739.046	43.36	7.10	37.24	43.50	44.20	54.00	-9.80	AV
V	10480.057	61.73	8.46	37.68	44.50	63.37	68.20	-4.83	PK
V	10480.057	43.43	8.46	37.68	44.50	45.07	54.00	-8.93	AV
V	15720.091	63.83	10.12	38.80	44.10	68.65	74.00	-5.35	PK
V	15720.091	43.21	10.12	38.80	42.70	49.43	54.00	-4.57	AV
H	4739.023	63.33	7.10	37.24	43.50	64.17	74.00	-9.83	PK
H	4739.023	43.17	7.10	37.24	43.50	44.01	54.00	-9.99	AV
H	10480.183	54.48	8.46	38.57	44.50	57.01	68.20	-11.19	PK
H	10480.183	40.61	8.46	38.57	44.50	43.14	54.00	-10.86	AV
H	15720.147	52.13	10.12	38.38	44.10	56.53	74.00	-17.47	PK
H	15720.147	41.65	10.12	38.38	44.10	46.05	54.00	-7.95	AV

Note: PK value is lower than the Average value limit, So average didn't record.

The 26.5-40G amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.

Emission level (dBUV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Test Mode : TX(5.1G) - 802.11n-HT20

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Cable loss (dB)	Antenn a Factor dB/m	Preamp Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
Low Channel (5180 MHz)-Above 1G									
V	4434.078	61.58	5.94	35.40	44.00	58.92	68.20	-9.28	PK
V	4434.078	43.71	5.94	35.40	44.00	41.05	54.00	-12.95	AV
V	10360.166	63.74	8.46	39.75	44.50	67.45	68.20	-0.75	PK
V	10360.166	43.59	8.46	39.75	44.50	47.30	54.00	-6.70	AV
V	15540.002	61.98	10.12	38.80	44.10	66.80	74.00	-7.20	PK
V	15540.002	43.22	10.12	38.80	42.70	49.44	54.00	-4.56	AV
H	4434.114	60.41	5.94	35.18	44.00	57.53	68.20	-10.67	PK
H	4434.114	43.83	5.94	35.18	44.00	40.95	54.00	-13.05	AV
H	10360.153	54.76	8.46	38.71	44.50	57.43	68.20	-10.77	PK
H	10360.153	40.73	8.46	38.71	44.50	43.40	54.00	-10.60	AV
H	15540.093	54.08	10.12	38.38	44.10	58.48	74.00	-15.52	PK
H	15540.093	44.09	10.12	38.38	44.10	48.49	54.00	-5.51	AV
middle Channel (5200 MHz)-Above 1G									
V	4592.094	63.88	6.48	36.35	44.05	62.66	74.00	-11.34	PK
V	4592.094	43.50	6.48	36.35	44.05	42.28	54.00	-11.72	AV
V	10400.198	64.55	8.47	37.88	44.51	66.39	68.20	-1.81	PK
V	10400.198	43.66	8.47	37.88	44.51	45.50	54.00	-8.50	AV
V	15600.141	61.38	10.12	38.80	44.10	66.20	74.00	-7.80	PK
V	15600.141	43.07	10.12	38.80	42.70	49.29	54.00	-4.71	AV
H	4592.010	62.36	6.48	36.37	44.05	61.16	74.00	-12.84	PK
H	4592.010	43.64	6.48	36.37	44.05	42.44	54.00	-11.56	AV
H	10400.125	50.34	8.47	38.64	44.50	52.95	68.20	-15.25	PK
H	10400.125	43.13	8.47	38.64	44.50	45.74	54.00	-8.26	AV
H	15600.178	53.29	10.12	38.38	44.10	57.69	74.00	-16.31	PK
H	15600.178	41.75	10.12	38.38	44.10	46.15	54.00	-7.85	AV
High Channel (5240 MHz)-Above 1G									
V	4739.009	63.64	7.10	37.24	43.50	64.48	74.00	-9.52	PK
V	4739.009	43.05	7.10	37.24	43.50	43.89	54.00	-10.11	AV
V	10480.094	61.14	8.46	37.68	44.50	62.78	68.20	-5.42	PK
V	10480.094	43.58	8.46	37.68	44.50	45.22	54.00	-8.78	AV
V	15720.111	64.12	10.12	38.80	44.10	68.94	74.00	-5.06	PK
V	15720.111	43.50	10.12	38.80	42.70	49.72	54.00	-4.28	AV
H	4739.122	64.95	7.10	37.24	43.50	65.79	74.00	-8.21	PK
H	4739.122	43.10	7.10	37.24	43.50	43.94	54.00	-10.06	AV
H	10480.197	53.80	8.46	38.57	44.50	56.33	68.20	-11.87	PK
H	10480.197	40.41	8.46	38.57	44.50	42.94	54.00	-11.06	AV
H	15720.037	50.77	10.12	38.38	44.10	55.17	74.00	-18.83	PK
H	15720.037	42.05	10.12	38.38	44.10	46.45	54.00	-7.55	AV

Note: PK value is lower than the Average value limit, So average didn't record.

The 26.5-40G amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.

Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Test Mode : TX(5.1G) - 802.11n-HT40

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Cable loss (dB)	Antenn a Factor dB/m	Preamp Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
Low Channel (5190 MHz)-Above 1G									
V	4434.073	64.78	5.94	35.40	44.00	62.12	74.00	-11.88	PK
V	4434.073	43.61	5.94	35.40	44.00	40.95	54.00	-13.05	AV
V	10380.066	61.12	8.46	39.75	44.50	64.83	68.20	-3.37	PK
V	10380.066	43.22	8.46	39.75	44.50	46.93	54.00	-7.07	AV
V	15570.189	61.63	10.12	38.80	44.10	66.45	74.00	-7.55	PK
V	15570.189	43.66	10.12	38.80	42.70	49.88	54.00	-4.12	AV
H	4434.171	62.69	5.94	35.18	44.00	59.81	74.00	-14.19	PK
H	4434.171	43.01	5.94	35.18	44.00	40.13	54.00	-13.87	AV
H	10380.141	51.61	8.46	38.71	44.50	54.28	68.20	-13.92	PK
H	10380.141	44.63	8.46	38.71	44.50	47.30	54.00	-6.70	AV
H	15570.095	54.19	10.12	38.38	44.10	58.59	74.00	-15.41	PK
H	15570.095	42.65	10.12	38.38	44.10	47.05	54.00	-6.95	AV
middle Channel (5230 MHz)-Above 1G									
V	4739.035	64.76	6.48	36.35	44.05	63.54	74.00	-10.46	PK
V	4739.035	43.53	6.48	36.35	44.05	42.31	54.00	-11.69	AV
V	10460.161	64.37	8.47	37.88	44.51	66.21	68.20	-1.99	PK
V	10460.161	43.98	8.47	37.88	44.51	45.82	54.00	-8.18	AV
V	15690.064	64.87	10.12	38.80	44.10	69.69	74.00	-4.31	PK
V	15690.064	43.03	10.12	38.80	42.70	49.25	54.00	-4.75	AV
H	4739.161	61.68	6.48	36.37	44.05	60.48	74.00	-13.52	PK
H	4739.161	43.11	6.48	36.37	44.05	41.91	54.00	-12.09	AV
H	10460.121	51.02	8.47	38.64	44.50	53.63	68.20	-14.57	PK
H	10460.121	44.77	8.47	38.64	44.50	47.38	54.00	-6.62	AV
H	15690.014	53.15	10.12	38.38	44.10	57.55	74.00	-16.45	PK
H	15690.014	44.91	10.12	38.38	44.10	49.31	54.00	-4.69	AV

Note: PK value is lower than the Average value limit, So average didn't record.

The 26.5-40G amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.

Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Test Mode : TX(5.1G) - 802.11 AC20

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Cable loss (dB)	Antenn a Factor dB/m	Preamp Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
Low Channel (5180 MHz)-Above 1G									
V	4434.011	60.48	5.94	35.40	44.00	57.82	68.20	-10.38	PK
V	4434.011	43.69	5.94	35.40	44.00	41.03	54.00	-12.97	AV
V	10360.116	61.86	8.46	39.75	44.50	65.57	74.00	-8.43	PK
V	10360.116	43.40	8.46	39.75	44.50	47.11	54.00	-6.89	AV
V	15540.184	63.85	10.12	38.80	44.10	68.67	74.00	-5.33	PK
V	15540.184	43.35	10.12	38.80	42.70	49.57	54.00	-4.43	AV
H	4434.149	63.27	5.94	35.18	44.00	60.39	68.20	-7.81	PK
H	4434.149	43.15	5.94	35.18	44.00	40.27	54.00	-13.73	AV
H	10360.103	53.47	8.46	38.71	44.50	56.14	74.00	-17.86	PK
H	10360.103	40.11	8.46	38.71	44.50	42.78	54.00	-11.22	AV
H	15540.081	52.49	10.12	38.38	44.10	56.89	74.00	-17.11	PK
H	15540.081	42.33	10.12	38.38	44.10	46.73	54.00	-7.27	AV
middle Channel (5200 MHz)-Above 1G									
V	4592.019	62.64	6.48	36.35	44.05	61.42	74.00	-12.58	PK
V	4592.019	43.48	6.48	36.35	44.05	42.26	54.00	-11.74	AV
V	10400.109	63.21	8.47	37.88	44.51	65.05	68.20	-3.15	PK
V	10400.109	43.32	8.47	37.88	44.51	45.16	54.00	-8.84	AV
V	15600.030	62.55	10.12	38.80	44.10	67.37	74.00	-6.63	PK
V	15600.030	43.38	10.12	38.80	42.70	49.60	54.00	-4.40	AV
H	4592.110	61.81	6.48	36.37	44.05	60.61	74.00	-13.39	PK
H	4592.110	43.63	6.48	36.37	44.05	42.43	54.00	-11.57	AV
H	10400.000	53.22	8.47	38.64	44.50	55.83	68.20	-12.37	PK
H	10400.000	42.12	8.47	38.64	44.50	44.73	54.00	-9.27	AV
H	15600.162	54.96	10.12	38.38	44.10	59.36	74.00	-14.64	PK
H	15600.162	40.48	10.12	38.38	44.10	44.88	54.00	-9.12	AV
High Channel (5240 MHz)-Above 1G									
V	4739.028	62.38	7.10	37.24	43.50	63.22	74.00	-10.78	PK
V	4739.028	44.00	7.10	37.24	43.50	44.84	54.00	-9.16	AV
V	10480.054	60.94	8.46	37.68	44.50	62.58	68.20	-5.62	PK
V	10480.054	43.45	8.46	37.68	44.50	45.09	54.00	-8.91	AV
V	15720.043	61.67	10.12	38.80	44.10	66.49	74.00	-7.51	PK
V	15720.043	43.66	10.12	38.80	42.70	49.88	54.00	-4.12	AV
H	4739.187	60.17	7.10	37.24	43.50	61.01	74.00	-12.99	PK
H	4739.187	43.46	7.10	37.24	43.50	44.30	54.00	-9.70	AV
H	10480.050	53.85	8.46	38.57	44.50	56.38	68.20	-11.82	PK
H	10480.050	43.97	8.46	38.57	44.50	46.50	54.00	-7.50	AV
H	15720.188	54.01	10.12	38.38	44.10	58.41	74.00	-15.59	PK
H	15720.188	43.46	10.12	38.38	44.10	47.86	54.00	-6.14	AV

Note: PK value is lower than the Average value limit, So average didn't record.

The 26.5-40G amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.

Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Test Mode : TX(5.1G) - 802.11 AC40

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Cable loss (dB)	Antenn a Factor dB/m	Preamp Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
Low Channel (5190 MHz)-Above 1G									
V	4434.195	64.90	5.94	35.40	44.00	62.24	74.00	-11.76	PK
V	4434.195	43.61	5.94	35.40	44.00	40.95	54.00	-13.05	AV
V	10380.077	60.08	8.46	39.75	44.50	63.79	68.20	-4.41	PK
V	10380.077	43.98	8.46	39.75	44.50	47.69	54.00	-6.31	AV
V	15570.059	61.84	10.12	38.80	44.10	66.66	74.00	-7.34	PK
V	15570.059	43.18	10.12	38.80	42.70	49.40	54.00	-4.60	AV
H	4434.157	63.08	5.94	35.18	44.00	60.20	74.00	-13.80	PK
H	4434.157	43.69	5.94	35.18	44.00	40.81	54.00	-13.19	AV
H	10380.032	54.62	8.46	38.71	44.50	57.29	68.20	-10.91	PK
H	10380.032	43.77	8.46	38.71	44.50	46.44	54.00	-7.56	AV
H	15570.185	52.03	10.12	38.38	44.10	56.43	74.00	-17.57	PK
H	15570.185	40.37	10.12	38.38	44.10	44.77	54.00	-9.23	AV
middle Channel (5230 MHz)-Above 1G									
V	4739.008	63.16	6.48	36.35	44.05	61.94	74.00	-12.06	PK
V	4739.008	43.41	6.48	36.35	44.05	42.19	54.00	-11.81	AV
V	10460.165	64.75	8.47	37.88	44.51	66.59	68.20	-1.61	PK
V	10460.165	43.42	8.47	37.88	44.51	45.26	54.00	-8.74	AV
V	15690.181	63.29	10.12	38.80	44.10	68.11	74.00	-5.89	PK
V	15690.181	43.40	10.12	38.80	42.70	49.62	54.00	-4.38	AV
H	4739.179	60.14	6.48	36.37	44.05	58.94	74.00	-15.06	PK
H	4739.179	43.11	6.48	36.37	44.05	41.91	54.00	-12.09	AV
H	10460.064	50.64	8.47	38.64	44.50	53.25	68.20	-14.95	PK
H	10460.064	42.87	8.47	38.64	44.50	45.48	54.00	-8.52	AV
H	15690.197	51.59	10.12	38.38	44.10	55.99	74.00	-18.01	PK
H	15690.197	44.85	10.12	38.38	44.10	49.25	54.00	-4.75	AV

Note: PK value is lower than the Average value limit, So average didn't record.

The 26.5-40G amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.

Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Test Mode :	TX(5.1G) - 802.11 AC80
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Polar (H/V)	Frequency (MHz)	Meter Reading (dBUV)	Cable loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Emission Level (dBUV/m)	Limits (dBUV/m)	Margin (dB)	Detector Type
(5210 MHz)-Above 1G									
V	4434.153	63.50	5.94	35.40	44.00	60.84	74.00	-13.16	PK
V	4434.153	43.19	5.94	35.40	44.00	40.53	54.00	-13.47	AV
V	10420.162	60.38	8.46	39.75	44.50	64.09	68.20	-4.11	PK
V	10420.162	43.06	8.46	39.75	44.50	46.77	54.00	-7.23	AV
V	15630.087	63.07	10.12	38.80	44.10	67.89	74.00	-6.11	PK
V	15630.087	43.51	10.12	38.80	42.70	49.73	54.00	-4.27	AV
H	4434.106	61.41	5.94	35.18	44.00	58.53	74.00	-15.47	PK
H	4434.106	43.40	5.94	35.18	44.00	40.52	54.00	-13.48	AV
H	10420.181	54.33	8.46	38.71	44.50	57.00	68.20	-11.20	PK
H	10420.181	43.12	8.46	38.71	44.50	45.79	54.00	-8.21	AV
H	15630.017	51.71	10.12	38.38	44.10	56.11	74.00	-17.89	PK
H	15630.017	43.58	10.12	38.38	44.10	47.98	54.00	-6.02	AV

Note: PK value is lower than the Average value limit, So average didn't record.

The 26.5-40G amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.

Emission level (dBUV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Test Mode : TX (5.8G) -- 802.11a

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Cable loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
Low Channel (5745 MHz)-Above 1G									
V	4679.065	63.22	5.94	35.40	44.00	60.56	74.00	-13.44	PK
V	4679.065	43.09	5.94	35.40	44.00	40.43	54.00	-13.57	AV
V	11490.096	61.28	8.46	39.75	44.50	64.99	68.20	-3.21	PK
V	11490.096	43.82	8.46	39.75	44.50	47.53	54.00	-6.47	AV
V	17235.185	61.96	10.12	38.80	44.10	66.78	74.00	-7.22	PK
V	17235.185	43.67	10.12	38.80	42.70	49.89	54.00	-4.11	AV
H	4679.086	63.98	5.94	35.18	44.00	61.10	74.00	-12.90	PK
H	4679.086	43.50	5.94	35.18	44.00	40.62	54.00	-13.38	AV
H	11490.166	53.17	8.46	38.71	44.50	55.84	68.20	-12.36	PK
H	11490.166	44.81	8.46	38.71	44.50	47.48	54.00	-6.52	AV
H	17235.128	50.62	10.12	38.38	44.10	55.02	74.00	-18.98	PK
H	17235.128	42.80	10.12	38.38	44.10	47.20	54.00	-6.80	AV
middle Channel (5785 MHz)-Above 1G									
V	4592.147	61.03	6.48	36.35	44.05	59.81	74.00	-14.19	PK
V	4592.147	43.39	6.48	36.35	44.05	42.17	54.00	-11.83	AV
V	11570.030	63.89	8.47	37.88	44.51	65.73	68.20	-2.47	PK
V	11570.030	43.75	8.47	37.88	44.51	45.59	54.00	-8.41	AV
V	17355.158	62.69	10.12	38.80	44.10	67.51	74.00	-6.49	PK
V	17355.158	43.31	10.12	38.80	42.70	49.53	54.00	-4.47	AV
H	4592.056	62.87	6.48	36.37	44.05	61.67	74.00	-12.33	PK
H	4592.056	43.95	6.48	36.37	44.05	42.75	54.00	-11.25	AV
H	11570.155	51.58	8.47	38.64	44.50	54.19	68.20	-14.01	PK
H	11570.155	40.58	8.47	38.64	44.50	43.19	54.00	-10.81	AV
H	17355.131	53.71	10.12	38.38	44.10	58.11	74.00	-15.89	PK
H	17355.131	44.92	10.12	38.38	44.10	49.32	54.00	-4.68	AV
High Channel (5825 MHz)-Above 1G									
V	6039.097	60.46	7.10	37.24	43.50	61.30	68.20	-6.90	PK
V	6039.097	43.77	7.10	37.24	43.50	44.61	54.00	-9.39	AV
V	11650.034	61.85	8.46	37.68	44.50	63.49	74.00	-10.51	PK
V	11650.034	43.92	8.46	37.68	44.50	45.56	54.00	-8.44	AV
V	17475.139	61.90	10.12	38.80	44.10	66.72	68.20	-1.48	PK
V	17475.139	43.74	10.12	38.80	42.70	49.96	54.00	-4.04	AV
H	6039.040	63.52	7.10	37.24	43.50	64.36	68.20	-3.84	PK
H	6039.040	43.96	7.10	37.24	43.50	44.80	54.00	-9.20	AV
H	11650.009	51.41	8.46	38.57	44.50	53.94	74.00	-20.06	PK
H	11650.009	41.62	8.46	38.57	44.50	44.15	54.00	-9.85	AV
H	17475.024	50.14	10.12	38.38	44.10	54.54	68.20	-13.66	PK
H	17475.024	44.38	10.12	38.38	44.10	48.78	54.00	-5.22	AV

Note: PK value is lower than the Average value limit, So average didn't record.

The 26.5-40G amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.

Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Test Mode :	TX (5.8G) --802.11n-HT20
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Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Cable loss (dB)	Antenn a Factor dB/m	Preamp Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
Low Channel (5745 MHz)-Above 1G									
V	4679.036	63.71	5.94	35.40	44.00	61.05	74.00	-12.95	PK
V	4679.036	43.87	5.94	35.40	44.00	41.21	54.00	-12.79	AV
V	11490.010	61.32	8.46	39.75	44.50	65.03	68.20	-3.17	PK
V	11490.010	43.71	8.46	39.75	44.50	47.42	54.00	-6.58	AV
V	17235.168	60.06	10.12	38.80	44.10	64.88	74.00	-9.12	PK
V	17235.168	43.04	10.12	38.80	42.70	49.26	54.00	-4.74	AV
H	4679.195	63.53	5.94	35.18	44.00	60.65	74.00	-13.35	PK
H	4679.195	43.37	5.94	35.18	44.00	40.49	54.00	-13.51	AV
H	11490.171	52.97	8.46	38.71	44.50	55.64	68.20	-12.56	PK
H	11490.171	40.32	8.46	38.71	44.50	42.99	54.00	-11.01	AV
H	17235.027	53.14	10.12	38.38	44.10	57.54	74.00	-16.46	PK
H	17235.027	41.98	10.12	38.38	44.10	46.38	54.00	-7.62	AV
middle Channel (5785 MHz)-Above 1G									
V	4592.045	64.78	6.48	36.35	44.05	63.56	74.00	-10.44	PK
V	4592.045	43.70	6.48	36.35	44.05	42.48	54.00	-11.52	AV
V	11570.144	63.14	8.47	37.88	44.51	64.98	68.20	-3.22	PK
V	11570.144	43.95	8.47	37.88	44.51	45.79	54.00	-8.21	AV
V	17355.019	61.14	10.12	38.80	44.10	65.96	74.00	-8.04	PK
V	17355.019	43.67	10.12	38.80	42.70	49.89	54.00	-4.11	AV
H	4592.145	61.22	6.48	36.37	44.05	60.02	74.00	-13.98	PK
H	4592.145	43.27	6.48	36.37	44.05	42.07	54.00	-11.93	AV
H	11570.164	53.15	8.47	38.64	44.50	55.76	68.20	-12.44	PK
H	11570.164	43.19	8.47	38.64	44.50	45.80	54.00	-8.20	AV
H	17355.054	50.97	10.12	38.38	44.10	55.37	74.00	-18.63	PK
H	17355.054	44.78	10.12	38.38	44.10	49.18	54.00	-4.82	AV
High Channel (5825 MHz)-Above 1G									
V	6039.028	62.79	7.10	37.24	43.50	63.63	68.20	-4.57	PK
V	6039.028	43.60	7.10	37.24	43.50	44.44	54.00	-9.56	AV
V	11650.125	62.43	8.46	37.68	44.50	64.07	74.00	-9.93	PK
V	11650.125	43.06	8.46	37.68	44.50	44.70	54.00	-9.30	AV
V	17475.139	60.35	10.12	38.80	44.10	65.17	68.20	-3.03	PK
V	17475.139	43.50	10.12	38.80	42.70	49.72	54.00	-4.28	AV
H	6039.089	60.79	7.10	37.24	43.50	61.63	68.20	-6.57	PK
H	6039.089	43.59	7.10	37.24	43.50	44.43	54.00	-9.57	AV
H	11650.183	53.75	8.46	38.57	44.50	56.28	74.00	-17.72	PK
H	11650.183	40.26	8.46	38.57	44.50	42.79	54.00	-11.21	AV
H	17475.015	50.43	10.12	38.38	44.10	54.83	68.20	-13.37	PK
H	17475.015	41.62	10.12	38.38	44.10	46.02	54.00	-7.98	AV

Note: PK value is lower than the Average value limit, So average didn't record.

The 26.5-40G amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.

Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Test Mode :	TX (5.8G) -- 802.11n-HT40
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Polar (H/V)	Frequency (MHz)	Meter Reading (dBUV)	Cable loss (dB)	Antenn a Factor dB/m	Preamp Factor (dB)	Emission Level (dBUV/m)	Limits (dBUV/m)	Margin (dB)	Detector Type
Low Channel (5755 MHz)-Above 1G									
V	4679.019	60.67	5.94	35.40	44.00	58.01	74.00	-15.99	PK
V	4679.019	43.02	5.94	35.40	44.00	40.36	54.00	-13.64	AV
V	11510.048	61.08	8.46	39.75	44.50	64.79	68.20	-3.41	PK
V	11510.048	43.35	8.46	39.75	44.50	47.06	54.00	-6.94	AV
V	17265.119	60.31	10.12	38.80	44.10	65.13	74.00	-8.87	PK
V	17265.119	43.10	10.12	38.80	42.70	49.32	54.00	-4.68	AV
H	4679.153	60.17	5.94	35.18	44.00	57.29	74.00	-16.71	PK
H	4679.153	43.80	5.94	35.18	44.00	40.92	54.00	-13.08	AV
H	11510.120	50.81	8.46	38.71	44.50	53.48	68.20	-14.72	PK
H	11510.120	42.55	8.46	38.71	44.50	45.22	54.00	-8.78	AV
H	17265.179	52.18	10.12	38.38	44.10	56.58	74.00	-17.42	PK
H	17265.179	44.86	10.12	38.38	44.10	49.26	54.00	-4.74	AV
middle Channel (5795 MHz)-Above 1G									
V	6039.119	60.69	6.48	36.35	44.05	59.47	68.20	-8.73	PK
V	6039.119	43.56	6.48	36.35	44.05	42.34	54.00	-11.66	AV
V	11590.139	63.44	8.47	37.88	44.51	65.28	74.00	-8.72	PK
V	11590.139	43.25	8.47	37.88	44.51	45.09	54.00	-8.91	AV
V	17385.051	60.04	10.12	38.80	44.10	64.86	68.20	-3.34	PK
V	17385.051	43.44	10.12	38.80	42.70	49.66	54.00	-4.34	AV
H	6039.012	60.77	6.48	36.37	44.05	59.57	68.20	-8.63	PK
H	6039.012	43.89	6.48	36.37	44.05	42.69	54.00	-11.31	AV
H	11590.200	51.36	8.47	38.64	44.50	53.97	74.00	-20.03	PK
H	11590.200	44.21	8.47	38.64	44.50	46.82	54.00	-7.18	AV
H	17385.070	50.52	10.12	38.38	44.10	54.92	68.20	-13.28	PK
H	17385.070	43.80	10.12	38.38	44.10	48.20	54.00	-5.80	AV

Note: PK value is lower than the Average value limit, So average didn't record.

The 26.5-40G amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.

Emission level (dBUV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Test Mode :	TX (5.8G) --802.11AC20
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Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Cable loss (dB)	Antenn a Factor dB/m	Preamp Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
Low Channel (5745 MHz)-Above 1G									
V	4679.163	63.73	5.94	35.40	44.00	61.07	74.00	-12.93	PK
V	4679.163	43.32	5.94	35.40	44.00	40.66	54.00	-13.34	AV
V	11490.000	62.90	8.46	39.75	44.50	66.61	68.20	-1.59	PK
V	11490.000	43.83	8.46	39.75	44.50	47.54	54.00	-6.46	AV
V	17235.060	60.78	10.12	38.80	44.10	65.60	74.00	-8.40	PK
V	17235.060	43.02	10.12	38.80	42.70	49.24	54.00	-4.76	AV
H	4679.138	63.28	5.94	35.18	44.00	60.40	74.00	-13.60	PK
H	4679.138	43.68	5.94	35.18	44.00	40.80	54.00	-13.20	AV
H	11490.176	53.73	8.46	38.71	44.50	56.40	68.20	-11.80	PK
H	11490.176	43.23	8.46	38.71	44.50	45.90	54.00	-8.10	AV
H	17235.147	54.74	10.12	38.38	44.10	59.14	74.00	-14.86	PK
H	17235.147	44.44	10.12	38.38	44.10	48.84	54.00	-5.16	AV
middle Channel (5785 MHz)-Above 1G									
V	4592.069	62.98	6.48	36.35	44.05	61.76	74.00	-12.24	PK
V	4592.069	43.60	6.48	36.35	44.05	42.38	54.00	-11.62	AV
V	11570.087	60.74	8.47	37.88	44.51	62.58	68.20	-5.62	PK
V	11570.087	43.01	8.47	37.88	44.51	44.85	54.00	-9.15	AV
V	17355.021	60.59	10.12	38.80	44.10	65.41	74.00	-8.59	PK
V	17355.021	43.62	10.12	38.80	42.70	49.84	54.00	-4.16	AV
H	4592.142	60.34	6.48	36.37	44.05	59.14	74.00	-14.86	PK
H	4592.142	43.84	6.48	36.37	44.05	42.64	54.00	-11.36	AV
H	11570.075	54.54	8.47	38.64	44.50	57.15	68.20	-11.05	PK
H	11570.075	40.82	8.47	38.64	44.50	43.43	54.00	-10.57	AV
H	17355.081	52.45	10.12	38.38	44.10	56.85	74.00	-17.15	PK
H	17355.081	44.21	10.12	38.38	44.10	48.61	54.00	-5.39	AV
High Channel (5825 MHz)-Above 1G									
V	6039.059	64.96	7.10	37.24	43.50	65.80	68.20	-2.40	PK
V	6039.059	43.19	7.10	37.24	43.50	44.03	54.00	-9.97	AV
V	11650.127	64.21	8.46	37.68	44.50	65.85	74.00	-8.15	PK
V	11650.127	43.15	8.46	37.68	44.50	44.79	54.00	-9.21	AV
V	17475.139	62.36	10.12	38.80	44.10	67.18	68.20	-1.02	PK
V	17475.139	43.33	10.12	38.80	42.70	49.55	54.00	-4.45	AV
H	6039.144	60.05	7.10	37.24	43.50	60.89	68.20	-7.31	PK
H	6039.144	43.62	7.10	37.24	43.50	44.46	54.00	-9.54	AV
H	11650.136	50.36	8.46	38.57	44.50	52.89	74.00	-21.11	PK
H	11650.136	40.85	8.46	38.57	44.50	43.38	54.00	-10.62	AV
H	17475.027	53.71	10.12	38.38	44.10	58.11	68.20	-10.09	PK
H	17475.027	41.36	10.12	38.38	44.10	45.76	54.00	-8.24	AV

Note: PK value is lower than the Average value limit, So average didn't record.

The 26.5-40G amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.

Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Test Mode : TX (5.8G) -- 802.11AC40

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Cable loss (dB)	Antenn a Factor dB/m	Preamp Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
Low Channel (5755 MHz)-Above 1G									
V	4679.037	63.54	5.94	35.40	44.00	60.88	74.00	-13.12	PK
V	4679.037	43.01	5.94	35.40	44.00	40.35	54.00	-13.65	AV
V	11510.198	60.37	8.46	39.75	44.50	64.08	68.20	-4.12	PK
V	11510.198	43.02	8.46	39.75	44.50	46.73	54.00	-7.27	AV
V	17265.063	63.38	10.12	38.80	44.10	68.20	74.00	-5.80	PK
V	17265.063	43.33	10.12	38.80	42.70	49.55	54.00	-4.45	AV
H	4679.072	62.93	5.94	35.18	44.00	60.05	74.00	-13.95	PK
H	4679.072	43.74	5.94	35.18	44.00	40.86	54.00	-13.14	AV
H	11510.147	51.23	8.46	38.71	44.50	53.90	68.20	-14.30	PK
H	11510.147	41.04	8.46	38.71	44.50	43.71	54.00	-10.29	AV
H	17265.171	53.31	10.12	38.38	44.10	57.71	74.00	-16.29	PK
H	17265.171	41.59	10.12	38.38	44.10	45.99	54.00	-8.01	AV
middle Channel (5795 MHz)-Above 1G									
V	6039.053	63.14	6.48	36.35	44.05	61.92	68.20	-6.28	PK
V	6039.053	43.48	6.48	36.35	44.05	42.26	54.00	-11.74	AV
V	11590.017	64.36	8.47	37.88	44.51	66.20	74.00	-7.80	PK
V	11590.017	43.72	8.47	37.88	44.51	45.56	54.00	-8.44	AV
V	17385.109	60.28	10.12	38.80	44.10	65.10	68.20	-3.10	PK
V	17385.109	43.20	10.12	38.80	42.70	49.42	54.00	-4.58	AV
H	6039.149	63.31	6.48	36.37	44.05	62.11	68.20	-6.09	PK
H	6039.149	43.78	6.48	36.37	44.05	42.58	54.00	-11.42	AV
H	11590.101	51.44	8.47	38.64	44.50	54.05	74.00	-19.95	PK
H	11590.101	40.41	8.47	38.64	44.50	43.02	54.00	-10.98	AV
H	17385.093	52.36	10.12	38.38	44.10	56.76	68.20	-11.44	PK
H	17385.093	43.72	10.12	38.38	44.10	48.12	54.00	-5.88	AV

Note: PK value is lower than the Average value limit, So average didn't record.

The 26.5-40G amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.

Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Test Mode :	TX(5.8G) - 802.11 AC80
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Polar (H/V)	Frequency (MHz)	Meter Reading (dBUV)	Cable loss (dB)	Antenn a Factor (dB/m)	Preamp Factor (dB)	Emission Level (dBUV/m)	Limits (dBUV/m)	Margin (dB)	Detector Type
(5775 MHz)-Above 1G									
V	4679.013	60.71	5.94	35.40	44.00	58.05	74.00	-15.95	PK
V	4679.013	43.53	5.94	35.40	44.00	40.87	54.00	-13.13	AV
V	11550.153	60.71	8.46	39.75	44.50	64.42	68.20	-3.78	PK
V	11550.153	43.40	8.46	39.75	44.50	47.11	54.00	-6.89	AV
V	17325.063	62.64	10.12	38.80	44.10	67.46	74.00	-6.54	PK
V	17325.063	43.36	10.12	38.80	42.70	49.58	54.00	-4.42	AV
H	4679.065	62.78	5.94	35.18	44.00	59.90	74.00	-14.10	PK
H	4679.065	43.16	5.94	35.18	44.00	40.28	54.00	-13.72	AV
H	11550.099	52.36	8.46	38.71	44.50	55.03	68.20	-13.17	PK
H	11550.099	40.42	8.46	38.71	44.50	43.09	54.00	-10.91	AV
H	17325.191	52.73	10.12	38.38	44.10	57.13	74.00	-16.87	PK
H	17325.191	43.39	10.12	38.38	44.10	47.79	54.00	-6.21	AV

Note: PK value is lower than the Average value limit, So average didn't record.

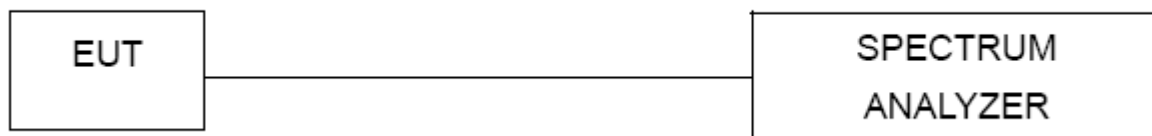
The 26.5-40G amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.

Emission level (dBUV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

8. POWER SPECTRAL DENSITY TEST

8.1 Block Diagram Of Test Setup



8.2 Limit

For the band 5.15-5.25 GHz,

(i) For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 17 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. The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm).

(ii) For an indoor access point operating in the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 17 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.

(iii) For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power or maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power and maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

(iv) 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.

For the band 5.725-5.85 GHz

(3) For the band 5.725-5.85 GHz, the maximum power spectral density shall not exceed

30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, 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.

8.3 Test procedure

For devices operating in the bands 5.15-5.25 GHz, 5.25-5.35 GHz, and 5.47-5.725 GHz, the above procedures make use of 1 MHz RBW to satisfy directly the 1 MHz reference bandwidth specified in § 15.407(a)(5). For devices operating in the band 5.725-5.85 GHz, the rules specify a measurement bandwidth of 500 kHz. Many spectrum analyzers do not have 500 kHz RBW, thus a narrower RBW may need to be used. The rules permit the use of a RBWs less than 1 MHz, or 500 kHz, “provided that the measured power is integrated over the full reference bandwidth” to show the total power over the specified measurement bandwidth (i.e., 1 MHz, or 500 kHz). If measurements are performed using a reduced resolution bandwidth (< 1 MHz, or < 500 kHz) and integrated over 1 MHz, or 500 KHz bandwidth, the following adjustments to the procedures apply:

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

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

8.4 EUT operating Conditions

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

8.5 Test Result

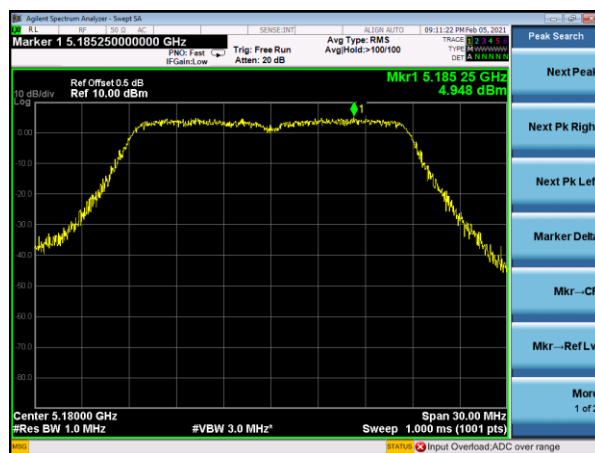
Temperature :	26 °C	Relative Humidity :	54%
Pressure :	101kPa	Test Voltage :	AC120V/60Hz
Test Mode :	TX Frequency U-NII-1 (5180-5240MHz)		

Mode	Frequency	Measured Power Density (dBm/MHz)	Limit (dBm/MHz)	Result
802.11 a	5180 MHz	5.939	17	PASS
	5200 MHz	4.953	17	PASS
	5240 MHz	4.638	17	PASS
802.11 n20	5180 MHz	4.948	17	PASS
	5200 MHz	5.113	17	PASS
	5240 MHz	4.968	17	PASS
802.11 n40	5190 MHz	3.448	17	PASS
	5230 MHz	4.817	17	PASS
802.11 AC20	5180 MHz	4.997	17	PASS
	5200 MHz	5.056	17	PASS
	5240 MHz	5.022	17	PASS
802.11 AC40	5190 MHz	3.454	17	PASS
	5230 MHz	3.507	17	PASS
802.11 AC80	5210 MHz	2.464	17	PASS

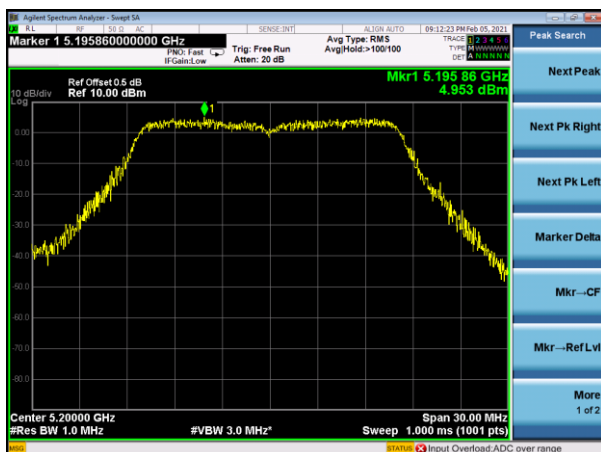
(802.11a) PSD plot on channel 36



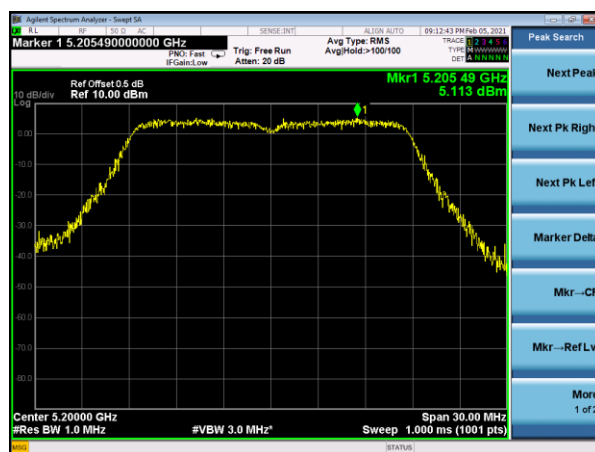
(802.11n20) PSD plot on channel 36



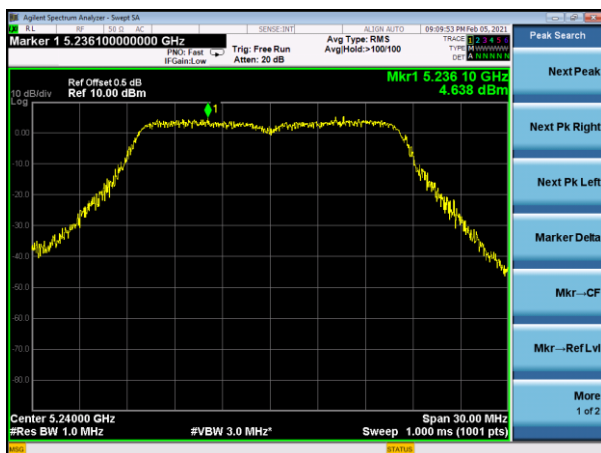
(802.11a) PSD plot on channel 40



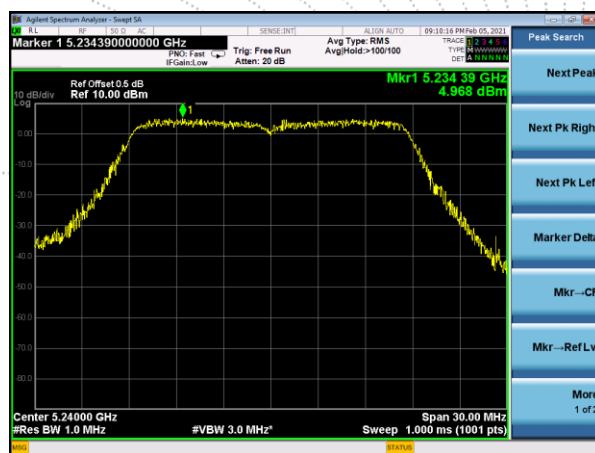
(802.11n20) PSD plot on channel 40



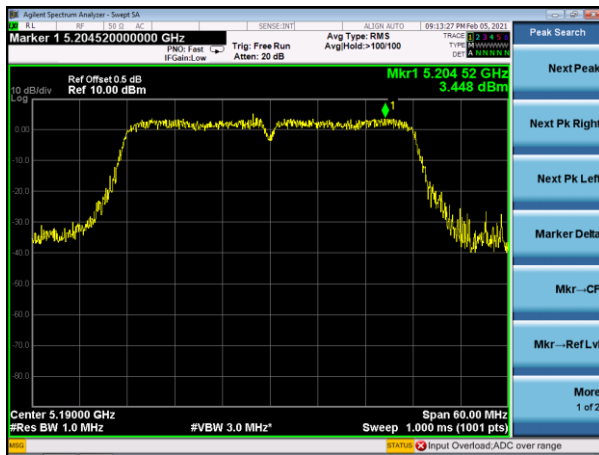
(802.11a) PSD plot on channel 48



(802.11n20) PSD plot on channel 48



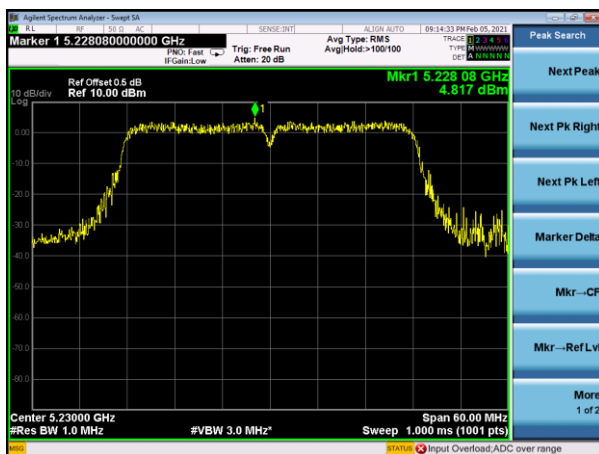
(802.11n40) PSD plot on channel 38



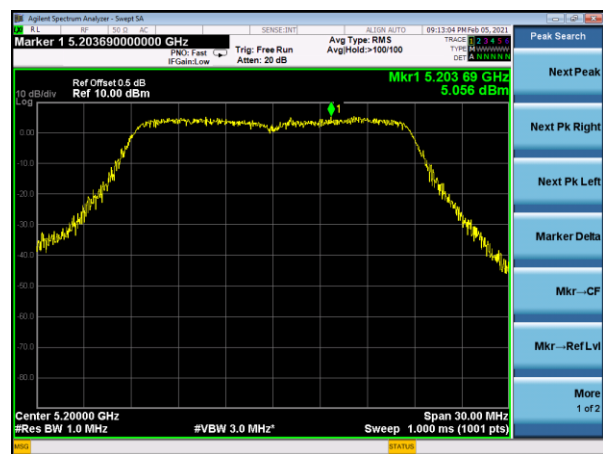
(802.11ac20) PSD plot on channel 36



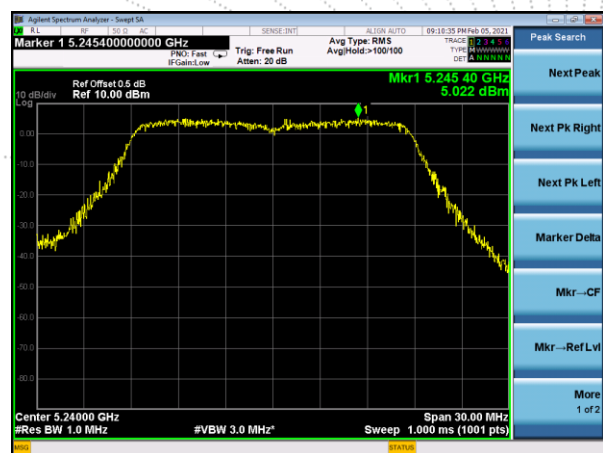
(802.11n40) PSD plot on channel 46



(802.11ac20) PSD plot on channel 40



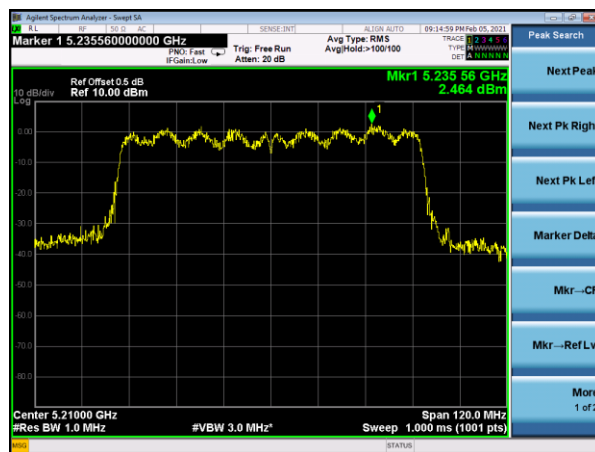
(802.11ac20) PSD plot on channel 48



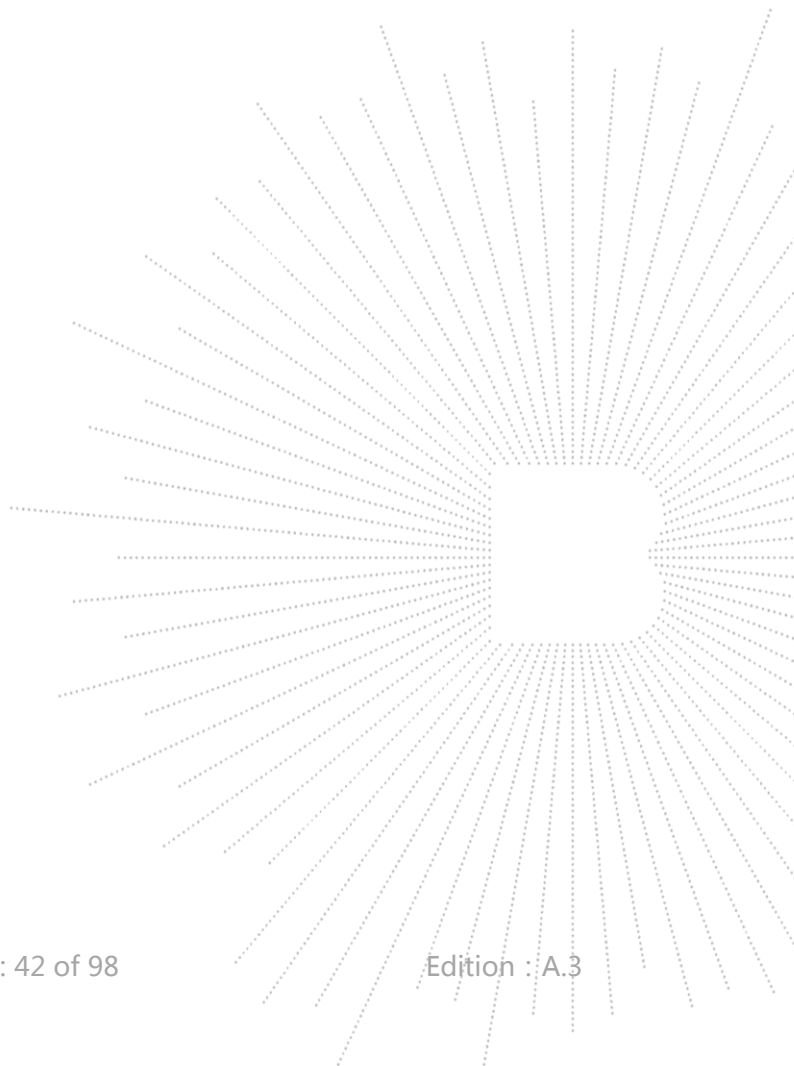
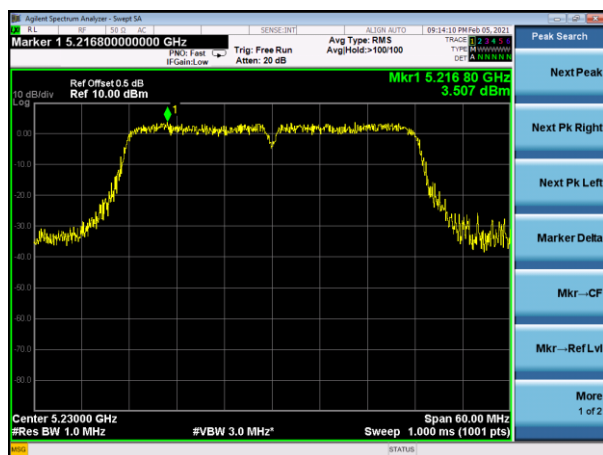
(802.11ac40) PSD plot on channel 38



(802.11ac80) PSD plot on channel 42



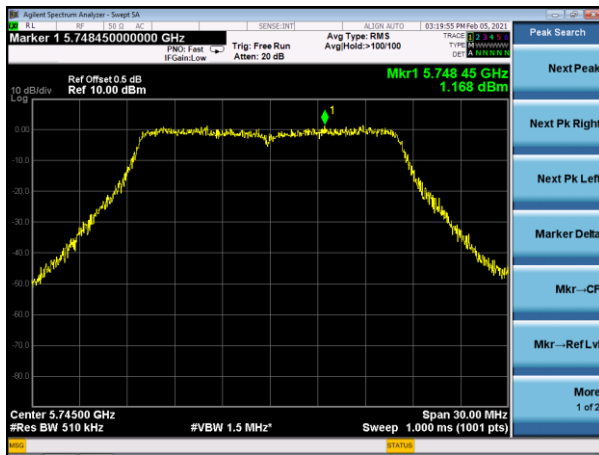
(802.11ac40) PSD plot on channel 46



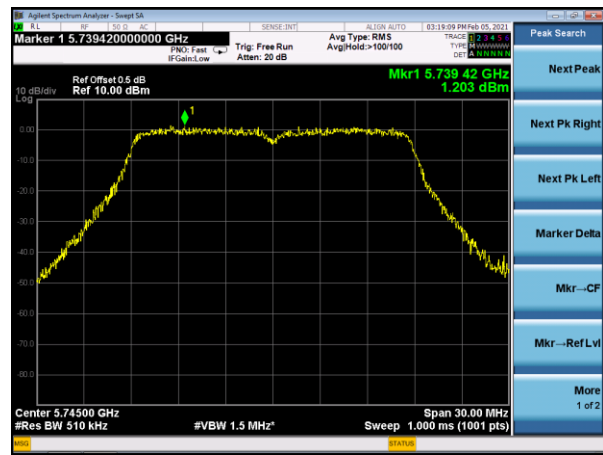
Temperature :	26 °C	Relative Humidity :	54%
Pressure :	101kPa	Test Voltage :	AC120V/60Hz
Test Mode :	TX Frequency U-NII-3 (5745-5825MHz)		

Mode	Frequency	Measured Power Density (dBm/500kHz)	Limit (dBm/500kHz)	Result
802.11 a	5745 MHz	1.168	30	PASS
	5785 MHz	1.041	30	PASS
	5825 MHz	1.605	30	PASS
802.11 n20	5745 MHz	1.203	30	PASS
	5785 MHz	1.178	30	PASS
	5825 MHz	1.322	30	PASS
802.11 n40	5755 MHz	-0.724	30	PASS
	5795 MHz	-0.293	30	PASS
802.11 AC20	5745 MHz	1.517	30	PASS
	5785 MHz	0.732	30	PASS
	5825 MHz	1.230	30	PASS
802.11 AC40	5755 MHz	-0.849	30	PASS
	5795 MHz	0.416	30	PASS
802.11 AC80	5775 MHz	-2.089	30	PASS

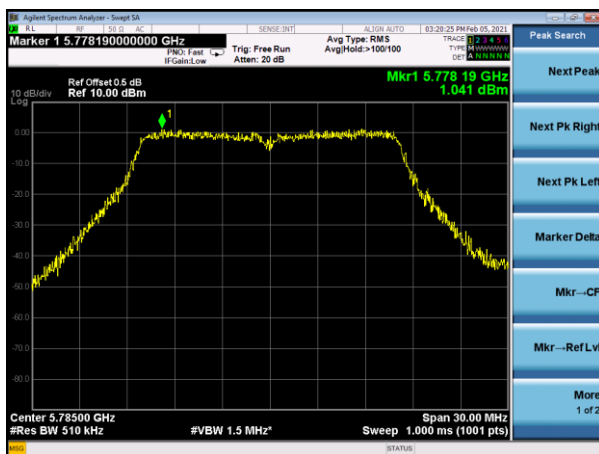
(802.11a) PSD plot on channel 149



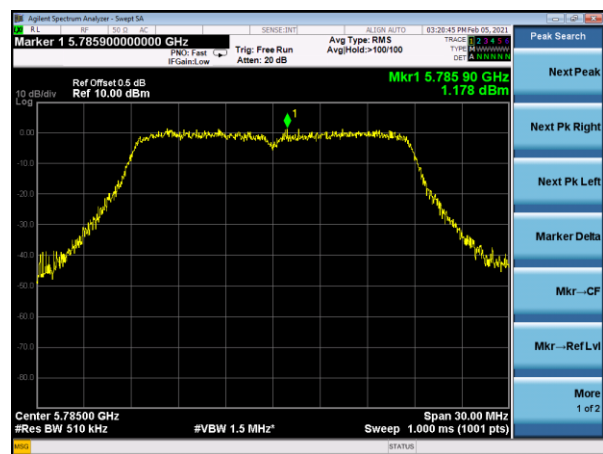
(802.11n20) PSD plot on channel 149



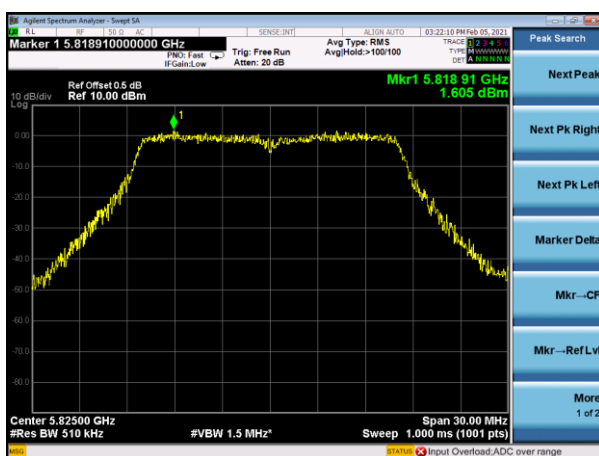
(802.11a) PSD plot on channel 157



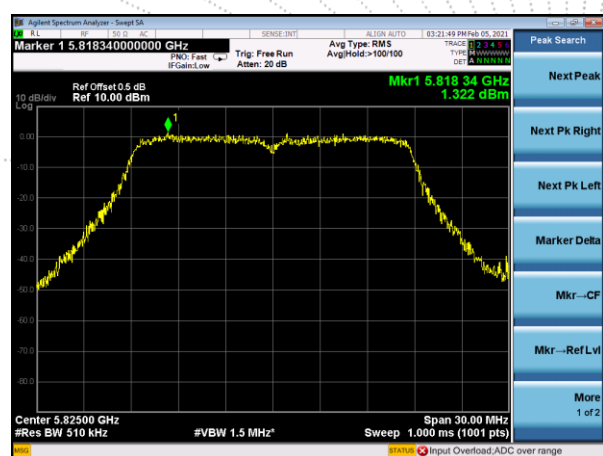
(802.11n20) PSD plot on channel 157



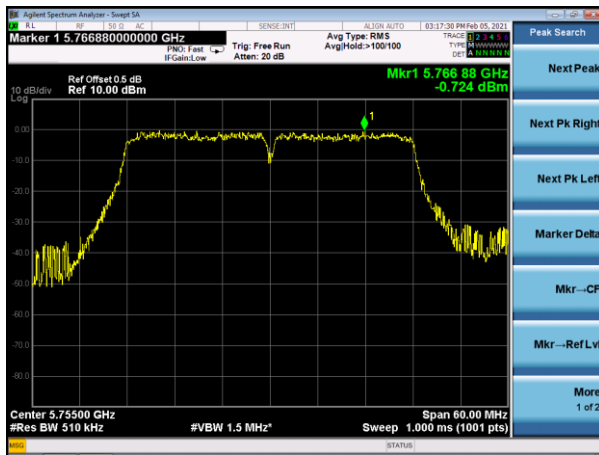
(802.11a) PSD plot on channel 165



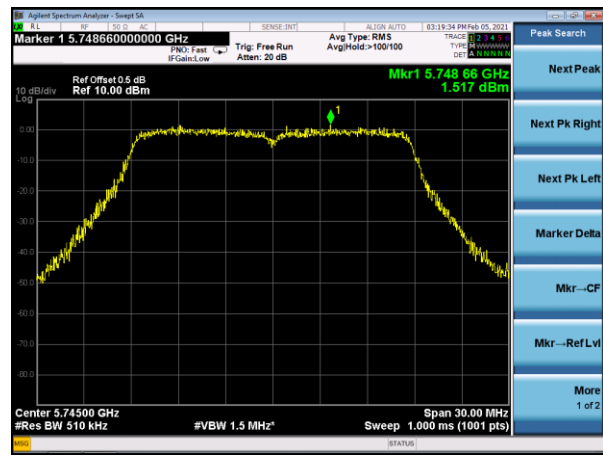
(802.11n20) PSD plot on channel 165



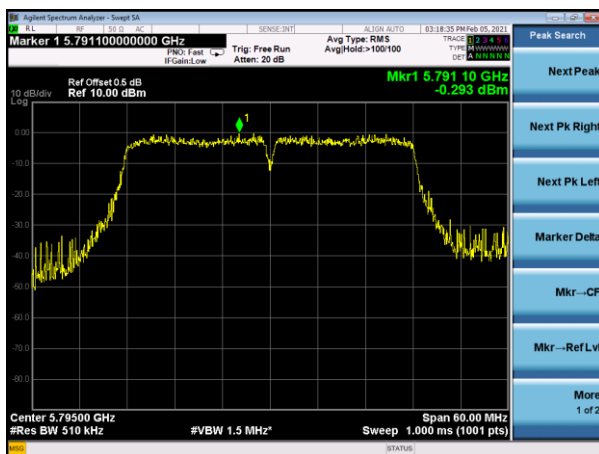
(802.11n40) PSD plot on channel 151



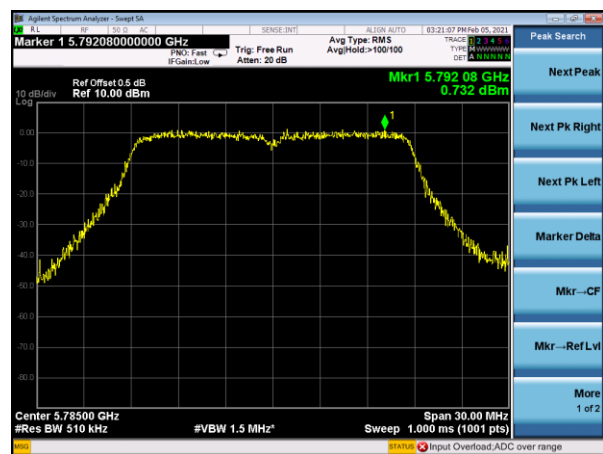
(802.11ac20) PSD plot on channel 149



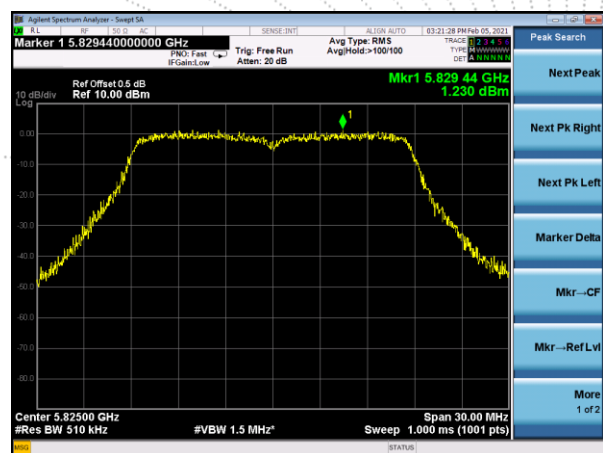
(802.11n40) PSD plot on channel 159



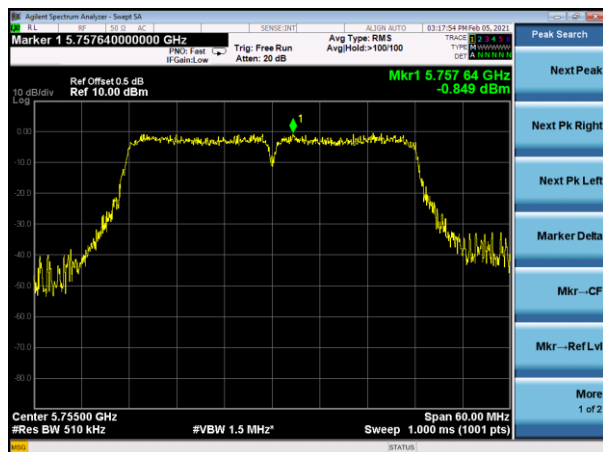
(802.11ac20) PSD plot on channel 157



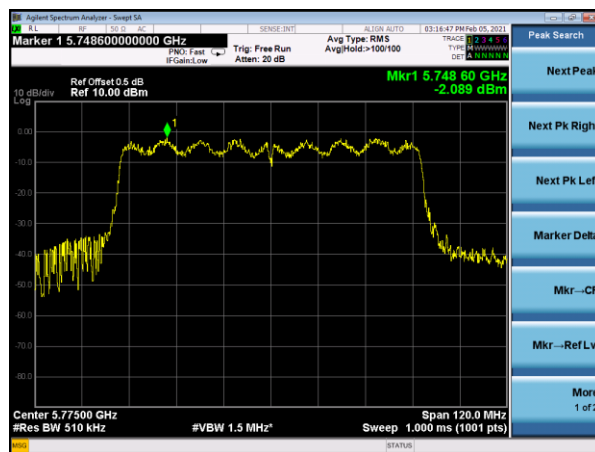
(802.11ac20) PSD plot on channel 165



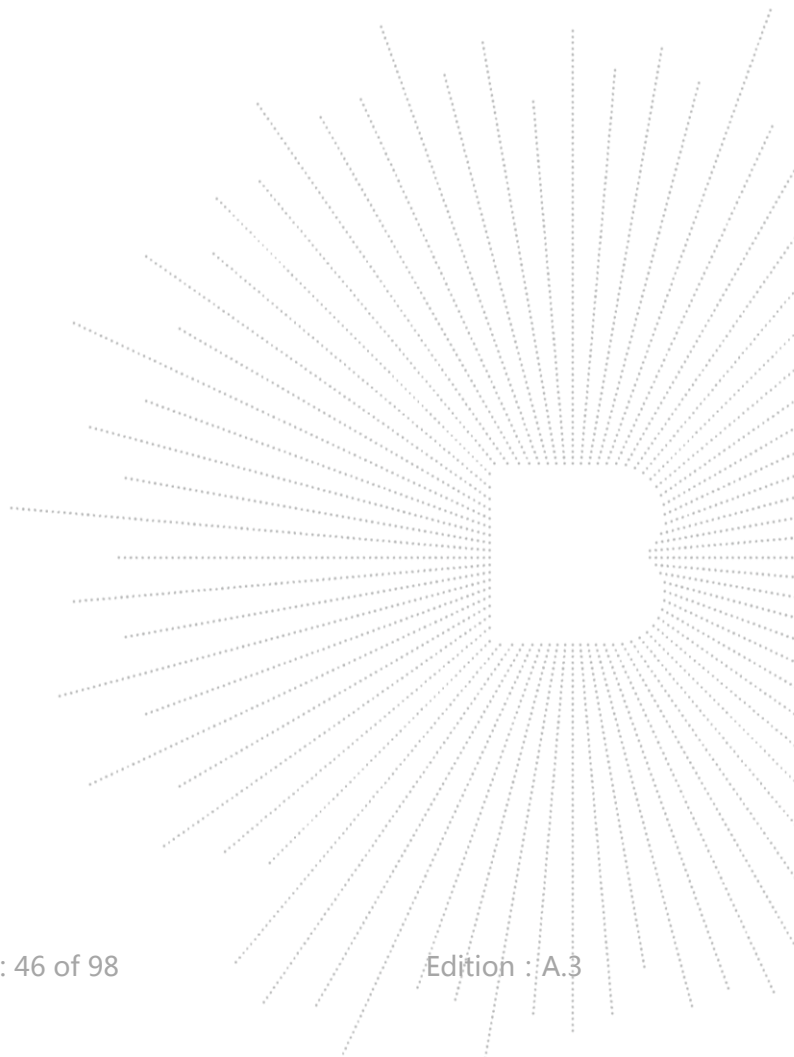
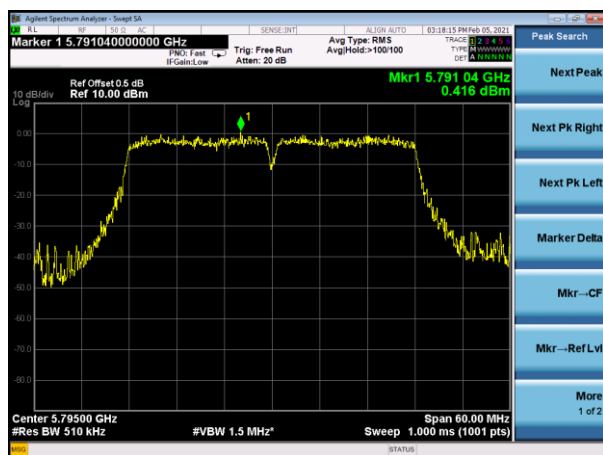
(802.11ac40) PSD plot on channel 151



(802.11ac80) PSD plot on channel 155

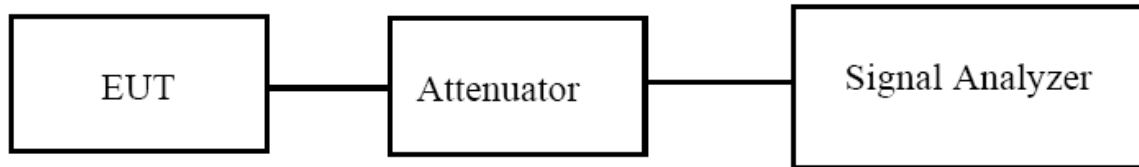


(802.11ac40) PSD plot on channel 159



9. 26DB & 6DB & 99% EMISSION BANDWIDTH

9.1 Block Diagram Of Test Setup



9.2 Limit

The maximum power spectral density is measured as a conducted emission by direct connection of a calibrated test instrument to the equipment under test. If the device cannot be connected directly, alternative techniques acceptable to the Commission may be used. Measurements in the 5.725-5.85 GHz band are made over a reference bandwidth of 500 kHz or the 26 dB emission bandwidth of the device, whichever is less. Measurements in the 5.15-5.25 GHz, 5.25-5.35 GHz, and the 5.47-5.725 GHz bands are made over a bandwidth of 1 MHz or the 26 dB emission bandwidth of the device, whichever is less. A narrower resolution bandwidth can be used, provided that the measured power is integrated over the full reference bandwidth.

9.3 Test procedure

- a) Set RBW = approximately 1% of the emission bandwidth.
- b) Set the VBW > RBW.
- c) Detector = Peak.
- d) Trace mode = max hold.
- e) Measure the maximum width of the emission that is 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%.

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

1. Set center frequency to the nominal EUT channel center frequency.
2. Set span = 1.5 times to 5.0 times the OBW.
3. Set RBW = 1 % to 5 % of the OBW
4. Set VBW $\geq 3 \cdot$ RBW
5. Video averaging is not permitted. Where practical, a sample detection and single sweep mode shall be used. Otherwise, peak detection and max hold mode (until the trace stabilizes) shall be used.
6. Use the 99 % power bandwidth function of the instrument (if available).
7. If the instrument does not have a 99 % power bandwidth function, the trace data points are recovered and directly summed in power units. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5 % of the total is reached; that frequency is recorded as the lower frequency. The process is repeated until 99.5 % of the total is reached; that frequency is recorded as the upper frequency. The 99% occupied bandwidth is the difference between these two frequencies.

9.4 EUT operating Conditions

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

9.5 Test Result

Temperature :	26 °C	Relative Humidity :	54%
Pressure :	101kPa	Test Voltage :	AC120V/60Hz
Test Mode :	TX Frequency U-NII-1 (5180-5240MHz)		

Mode	Channel	Frequency (MHz)	99% bandwidth (MHz)	26dB bandwidth (MHz)	Limit MHz	Result
802.11a	CH36	5180	16.632	20.60	N/A	Pass
	CH40	5200	16.696	20.98	N/A	Pass
	CH48	5240	16.645	20.66	N/A	Pass
802.11 n20	CH36	5180	17.713	21.16	N/A	Pass
	CH40	5200	17.711	21.21	N/A	Pass
	CH48	5240	17.737	21.20	N/A	Pass
802.11 n40	CH 38	5190	36.545	42.36	N/A	Pass
	CH 46	5230	36.415	43.12	N/A	Pass
802.11 AC20	CH36	5180	17.732	21.19	N/A	Pass
	CH40	5200	17.787	21.23	N/A	Pass
	CH48	5240	17.682	21.44	N/A	Pass
802.11 AC40	CH 38	5190	36.526	43.02	N/A	Pass
	CH 46	5230	36.485	43.05	N/A	Pass
802.11 AC80	CH 42	5210	75.333	81.79	N/A	Pass