

TEST REPORT

Report No.: BCTC2411961763-4E

Applicant: Acer India PVT Limited

Product Name: Notebook

Test Model: TRAVELLITE TL15-53M

Tested Date: 2024-11-11 to 2024-11-20

Issued Date: 2024-11-20

Shenzhen BCTC Testing Co., Ltd.



FCC ID: 2A94K-TL15-53M

Product Name: Notebook

Trademark: 

Test Model: TRAVELLITE TL15-53M
TRAVELLITE TL15-53M-G2

Prepared For: Acer India PVT Limited

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Manufacturer: Acer India PVT Limited

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Sample Received Date: 2024-11-11

Sample tested Date: 2024-11-11 to 2024-11-20

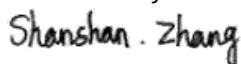
Issue Date: 2024-11-20

Report No.: BCTC2411961763-4E
FCC Part15 15.407

Test Standards: ANSI C63.10-2013
KDB 662911 D01 v02r01
KDB 789033 D02 v02r01

Test Results: PASS

Tested by:



Shanshan. Zhang / Project Handler

Approved by:



Zero Zhou/Reviewer

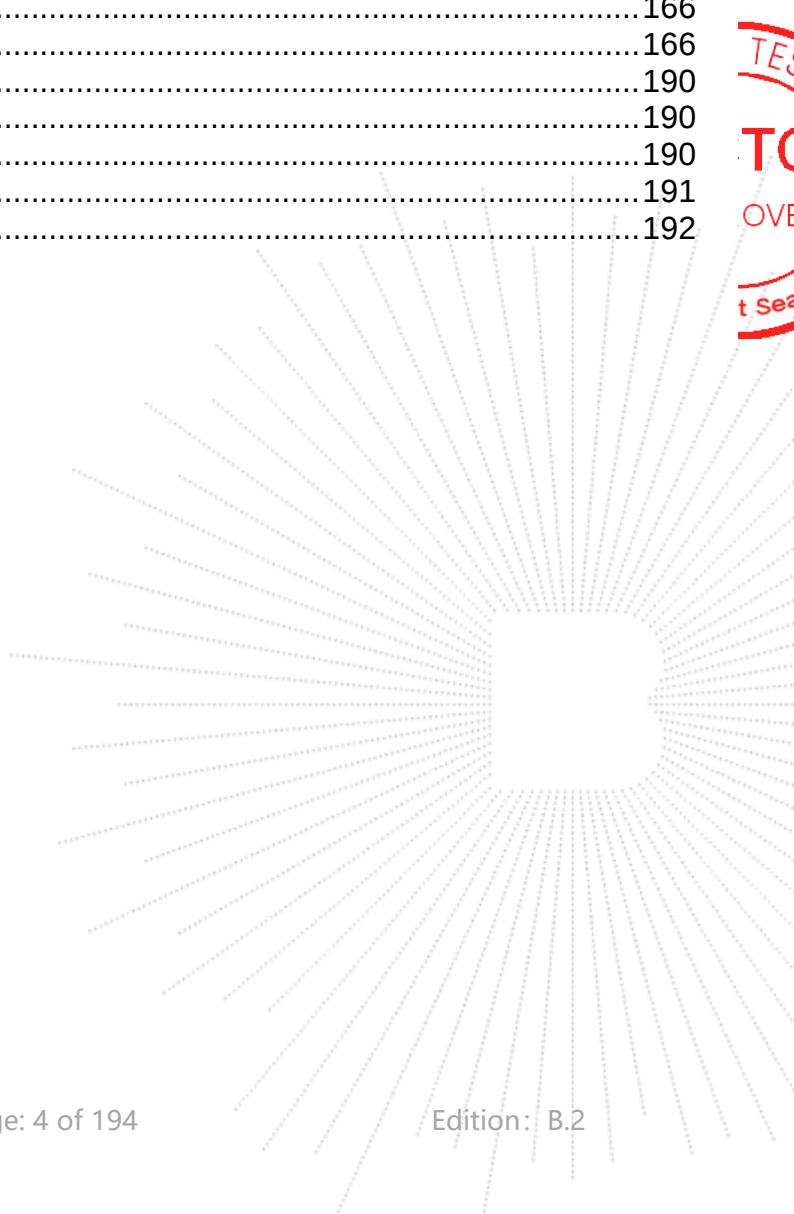
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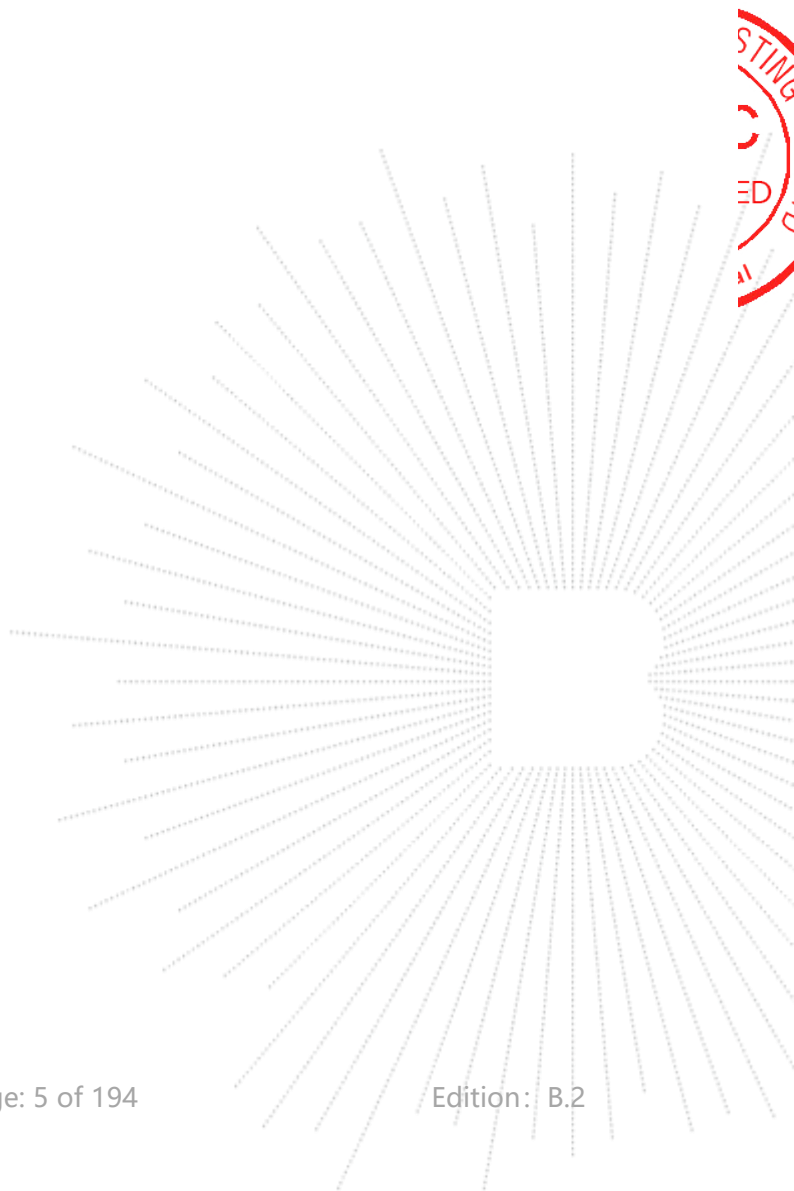
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(Note: N/A Means Not Applicable)



1. Version

Report No.	Issue Date	Description	Approved
BCTC2411961763-4E	2024-11-20	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

CO. LTD.

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(9kHz-30MHz)	U=3.7dB
2	3m chamber Radiated spurious emission(30MHz-1GHz)	U=4.3dB
3	3m chamber Radiated spurious emission(1GHz-18GHz)	U=4.5dB
4	3m chamber Radiated spurious emission(18GHz-40GHz)	U=3.34dB
5	Conducted Emission(150kHz-30MHz)	U=3.20dB
6	Conducted Adjacent channel power	U=1.38dB
7	Conducted output power uncertainty Above 1G	U=1.576dB
8	Conducted output power uncertainty below 1G	U=1.28dB
9	humidity uncertainty	U=5.3%
10	Temperature uncertainty	U=0.59°C

4. Product Information And Test Setup

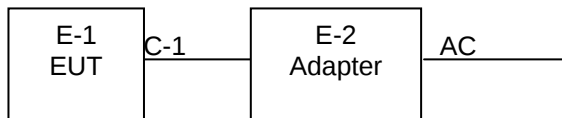
4.1 Product Information

Test Model:	TRAVELLITE TL15-53M TRAVELLITE TL15-53M-G2
Model differences:	All the model are the same circuit and RF module, except model names and appearance of the color.
Hardware Version:	N/A
Software Version:	N/A
IEEE 802.11 WLAN Mode Supported	802.11a/n/ac/ax(20MHz channel bandwidth) 802.11n/ac/ax(40MHz channel bandwidth) 802.11ac/ax(80MHz channel bandwidth)
Operation Frequency:	5180-5240MHz for 802.11a/n/ax(HT20); 5190-5230MHz for 802.11n/ax(HT40); 5210MHz for 802.11 ac/ax80; 5745-5825 MHz for 802.11a/n/ax(HT20); 5755-5795 MHz for 802.11n/ax(HT40); 5775MHz for 802.11 ac/ax80;
Data Rate	802.11a: 6,9,12,18,24,36,48,54Mbps; 802.11n(HT20/HT40): MCS0-MCS15; 802.11ac(VHT20): MCS0-MCS8 802.11ac(VHT40/VHT80): MCS0-MCS9 802.11ax (HE 20/HE 40/HE 80): MCS0-MCS11
Type of Modulation:	OFDM with BPSK/QPSK/16QAM/64QAM for 802.11a/n OFDM with BPSK/QPSK/16QAM/64QAM/256QAM for 802.11ac OFDMA with BPSK / BPSK_DCM /QPSK /QPSK_DCM /QAM16 /QAM16_DCM /QAM64 /QAM256 /QAM1024 for 802.11ax
Number Of Channel	4 channels for 802.11a/n20/ax20 in the 5180-5240MHz band ; 2 channels for 802.11 n40/ax40 in the 5190-5230MHz band ; 1 channels for 802.11 ac80/ax80 in the 5210MHz band ; 5 channels for 802.11a/n20/ax20 in the 5745-5825MHz band ; 2 channels for 802.11 n40/ax40 in the 5755-5795MHz band ; 1 channels for 802.11 ac80/ax80 in the 5775MHz band
Antenna installation:	Internal antenna
Antenna Gain:	WIFI(5.1GHz): Antenna A: 1.96 dBi, Antenna B: 5.42 dBi WIFI(5.8GHz): Antenna A: 3.56 dBi, Antenna B: 2.93 dBi Remark: ☒ The antenna gain of the product comes from the antenna report provided by the customer, and the test data is affected by the customer information. ☐ The antenna gain of the product is provided by the customer, and the test data is affected by the customer information.
Ratings:	DC 20V from adapter or DC 11.4V from battery
Adapter 1 Information:	MODEL: PA-1650-58 INPUT: 100-240V~ 1.6A 50-60Hz OUTPUT: 5.0V=3.0A/9.0V=3.0A/12.0V=3.0A/15.0V=3.0A/20.0V=3.25A
Adapter 2 Information:	MODEL: ADP-65KE D INPUT: 100-240V~ 1.7A 50-60Hz OUTPUT: 5.0V=3.0A/9.0V=3.0A/12.0V=3.0A/15.0V=3.0A/20.0V=3.25A

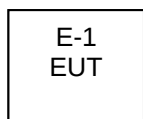
4.2 Test Setup Configuration

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.	Note
E-1	Notebook	Acer	TRAVELLITE TL15-53M	N/A	EUT
E-2	ADAPTER	N/A	PA-1650-58	N/A	EUT

Item	Shielded Type	Ferrite Core	Length	Note
C-1	N/A	N/A	3M	DC 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

5.1G

802.11a/n/ac/ax(20MHz) Carrier Frequency Channel							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
36	5180	44	5220	-	-	-	-
40	5200	48	5240	-	-	-	-

802.11n /ac/ax(40MHz) Carrier Frequency Channel							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
38	5190	-	-	-	-	-	-
46	5230	-	-	-	-	-	-

802.11ac/ax (80MHz) Carrier Frequency Channel	
Channel	Frequency (MHz)
42	5210

5.8G

802.11a/n/ac/ax(20 MHz) Carrier Frequency Channel							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
149	5745	153	5765	157	5785	161	5805
165	5825	-	-	-	-	-	-

802.11n/ac/ax 40MHz Carrier Frequency Channel					
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
151	5755	159	5795	-	-

802.11ac/ax 80MHz Carrier Frequency Channel	
Channel	Frequency (MHz)
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/ ax 20 CH36/ CH40/ CH 48 802.11a /n/ ac 20/ ax 20 CH149/ CH157/ CH 165
Mode 2	802.11n/ ac40/ ax 40 CH38/ CH 46 802.11n/ ac40/ ax 40 CH 151 / CH 159
Mode 3	802.11 ac80/ ax80 CH 42/CH 155
Mode 4	Link mode (Conducted emission & Radiated emission)

Note:

- (1) The measurements are performed at all Bit Rate of Transmitter, the worst data was reported.
- (2) We're testing antenna A data.
- (3) This product does not support RU mode.

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	phwfw02372_22.10.0.7tools		
Parameters	DEF	DEF	DEF

4.7 Antenna

5.1G

1)For power spectral density(PSD) measurements,
 $\text{Array Gain} = 10\log(\text{NANT}/\text{NSS})\text{dB} = 10\log(2/1) = 3.01\text{dB}$,
 So the directional gain for PSD is 8.43 dBi

2)For power measurements,
 The Array gain=0 dB for $\text{NANT} \leq 4$,
 So the directional gain for Power measurements is 5.42 dBi

Antenna	Brand	Model Name	Antenna Type	Gain (dBi)	NOTE
A	N/A	N/A	Internal antenna	1.96	N/A
B	N/A	N/A	Internal antenna	5.42	N/A

5.8G

1)For power spectral density(PSD) measurements,
 $\text{Array Gain} = 10\log(\text{NANT}/\text{NSS})\text{dB} = 10\log(2/1) = 3.01\text{dB}$,
 So the directional gain for PSD is 6.57 dB

2)For power measurements,
 The Array gain=0 dB for $\text{NANT} \leq 4$,
 So the directional gain for Power measurements is 3.56 dBi

Antenna	Brand	Model Name	Antenna Type	Gain (dBi)	NOTE
A	N/A	N/A	Internal antenna	3.56	N/A
B	N/A	N/A	Internal antenna	2.93	N/A

Directional gain may be calculated by using the formulas applicable to equal gain antennas with GANT set equal to the gain of the antenna having the highest gain.

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, Zhancheng, 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

A2LA certificate registration number is: CN1212

ISED Registered No.: 23583

ISED CAB identifier: CN0017

5.2 Test Instrument Used

Conducted Emissions Test					
Equipment	Manufacturer	Model#	Serial#	Last Cal.	Next Cal.
Receiver	R&S	ESR3	102075	May 16, 2024	May 15, 2025
LISN	R&S	ENV216	101375	May 16, 2024	May 15, 2025
Software	Frad	EZ-EMC	EMC-CON 3A1	\	\
Pulse limiter	Schwarzbeck	VTSD9561-F	01323	May 16, 2024	May 15, 2025
RF cables 9kHz-30MHz	Huber+Suhnar	\	B1702988-0008	May 16, 2024	May 15, 2025

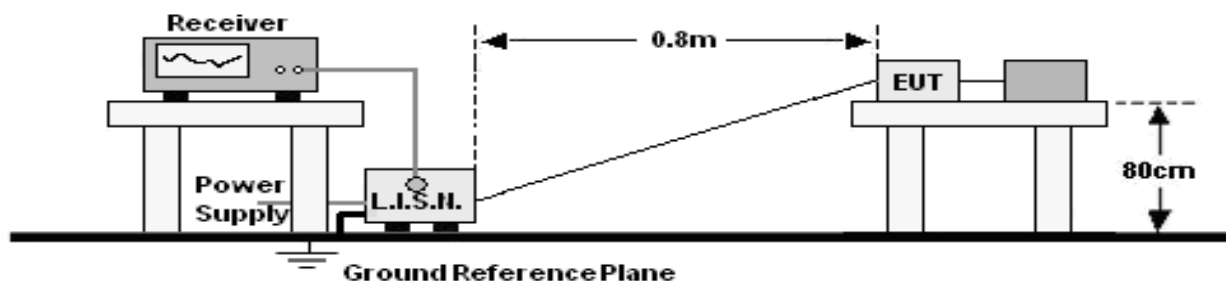
RF Conducted Test					
Equipment	Manufacturer	Model#	Serial#	Last Cal.	Next Cal.
Power meter	Keysight	E4419	\	May 16, 2024	May 15, 2025
Power Sensor (AV)	Keysight	E9300A	\	May 16, 2024	May 15, 2025
Signal Analyzer20kHz- 26.5GHz	Keysight	N9020A	MY49100060	May 16, 2024	May 15, 2025
Spectrum Analyzer9kHz- 40GHz	R&S	FSP40	100363	May 16, 2024	May 15, 2025
Radio frequency control box	MAIWEI	MW100-RFC B	\	\	\
Software	MAIWEI	MTS 8310	\	\	\

Radiated Emissions Test (966 Chamber02)					
Equipment	Manufacturer	Model#	Serial#	Last Cal.	Next Cal.
966 chamber	SKET	966 Room	966	Oct. 31. 2024	Oct. 30. 2027
Receiver	R&S	ESR3	102075	May 16, 2024	May 15, 2025
Receiver	R&S	ESRI7	100010	Oct. 31. 2024	Oct. 30. 2025
Amplifier	SKET	LNPA-30M01 G-30	SK2021082004	Oct. 31. 2024	Oct. 30. 2025
TRILOG Broadband Antenna	Schwarzbeck	VULB9168	1323	May 21, 2024	May 20, 2025
Loop Antenna(9KHz- 30MHz)	Schwarzbeck	FMZB1519B	00014	May 21, 2024	May 20, 2025
Amplifier	SKET	LAPA_01G1 8G-45dB	SK202104090 1	May 16, 2024	May 15, 2025
Horn Antenna	Schwarzbeck	BBHA9120D	1541	May 21, 2024	May 20, 2025
Amplifier(18GH z-40GHz)	MITEQ	TTA1840-35- HG	2034381	May 16, 2024	May 15, 2025
Horn Antenn(18GHz- 40GHz)	Schwarzbeck	BBHA9170	00822	May 21, 2024	May 20, 2025
Spectrum Analyzer9kHz-4 0GHz	R&S	FSP40	100363	May 16, 2024	May 15, 2025
Software	Frad	EZ-EMC	FA-03A2 RE	\	\
Cable 30MHz-18GHZ	SKET	RC_18G-N- M/N-M-3M	#05	May 16, 2024	May 15, 2025

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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:

- *Decreasing linearly with logarithm of frequency.
- 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

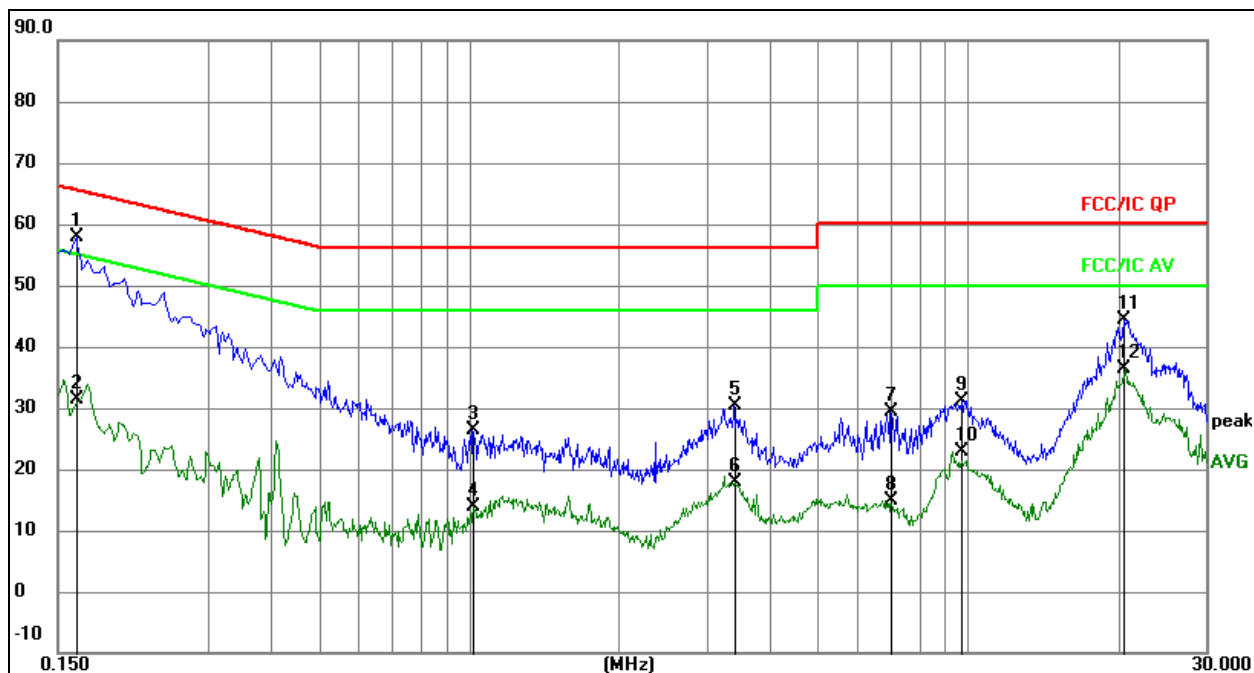
- The Product was placed on a nonconductive table 0.8 m above the horizontal ground reference plane, and 0.4 m from the vertical ground reference plane, and connected to the main through Line Impedance Stability Network (L.I.S.N).
- The RBW of the receiver was set at 9 kHz in 150 kHz ~ 30MHz with Peak 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.
- 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 Mode:	Mode 4(Adapter 1)	Test Voltage :	AC120V/60Hz

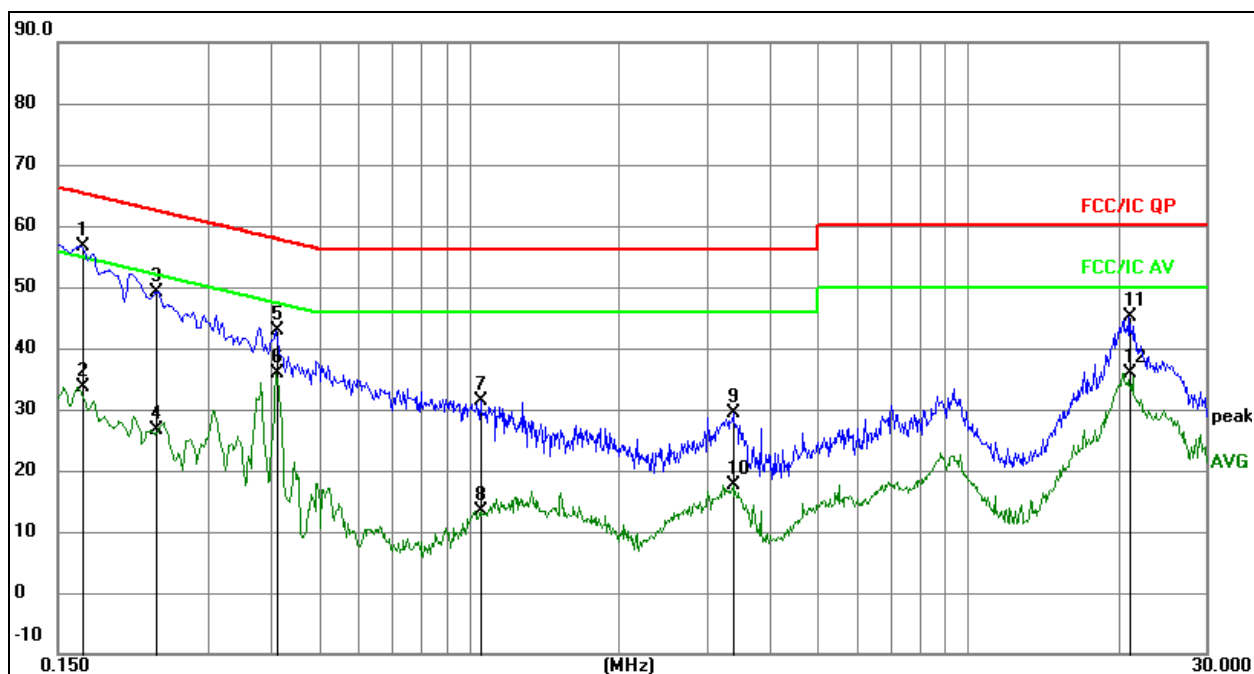


Remark:

1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.
3. Measurement = Reading Level + Correct Factor
4. Over = Measurement - Limit

No.	Mk.	Freq. MHz	Reading Level dB	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector
1	*	0.1633	37.74	20.07	57.81	65.29	-7.48	QP
2		0.1633	11.37	20.07	31.44	55.29	-23.85	AVG
3		1.0157	6.38	20.09	26.47	56.00	-29.53	QP
4		1.0157	-6.26	20.09	13.83	46.00	-32.17	AVG
5		3.3994	10.23	20.13	30.36	56.00	-25.64	QP
6		3.3994	-2.27	20.13	17.86	46.00	-28.14	AVG
7		6.9878	9.11	20.16	29.27	60.00	-30.73	QP
8		6.9878	-5.25	20.16	14.91	50.00	-35.09	AVG
9		9.7051	11.01	20.17	31.18	60.00	-28.82	QP
10		9.7051	2.62	20.17	22.79	50.00	-27.21	AVG
11		20.4854	24.09	20.33	44.42	60.00	-15.58	QP
12		20.4854	16.05	20.33	36.38	50.00	-13.62	AVG

Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101KPa	Phase :	N
Test Mode:	Mode 4(Adapter 1)	Test Voltage :	AC120V/60Hz

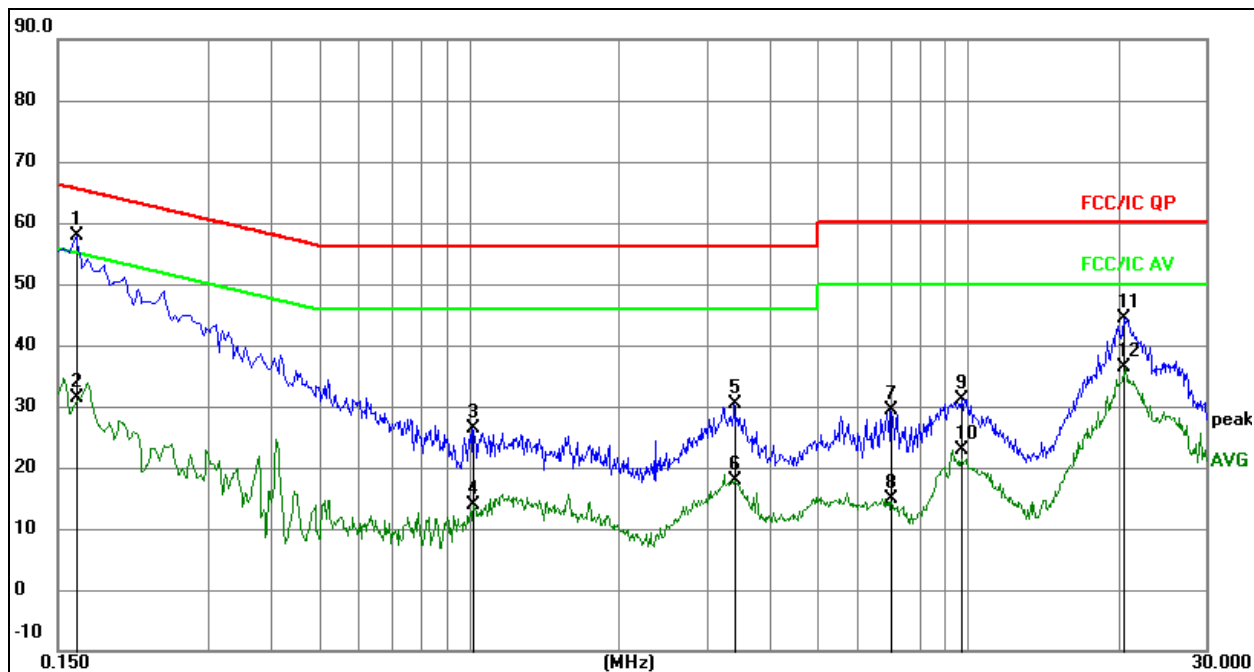


Remark:

1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.
3. Measurement = Reading Level + Correct Factor
4. Over = Measurement - Limit

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector
		MHz		dB	dBuV	dBuV	dB	
1	*	0.1680	36.67	20.07	56.74	65.06	-8.32	QP
2		0.1680	13.65	20.07	33.72	55.06	-21.34	AVG
3		0.2355	29.13	20.07	49.20	62.25	-13.05	QP
4		0.2355	6.46	20.07	26.53	52.25	-25.72	AVG
5		0.4110	22.82	20.08	42.90	57.63	-14.73	QP
6		0.4110	15.80	20.08	35.88	47.63	-11.75	AVG
7		1.0544	11.22	20.09	31.31	56.00	-24.69	QP
8		1.0544	-6.64	20.09	13.45	46.00	-32.55	AVG
9		3.3855	9.15	20.13	29.28	56.00	-26.72	QP
10		3.3855	-2.43	20.13	17.70	46.00	-28.30	AVG
11		21.0435	24.81	20.32	45.13	60.00	-14.87	QP
12		21.0435	15.63	20.32	35.95	50.00	-14.05	AVG

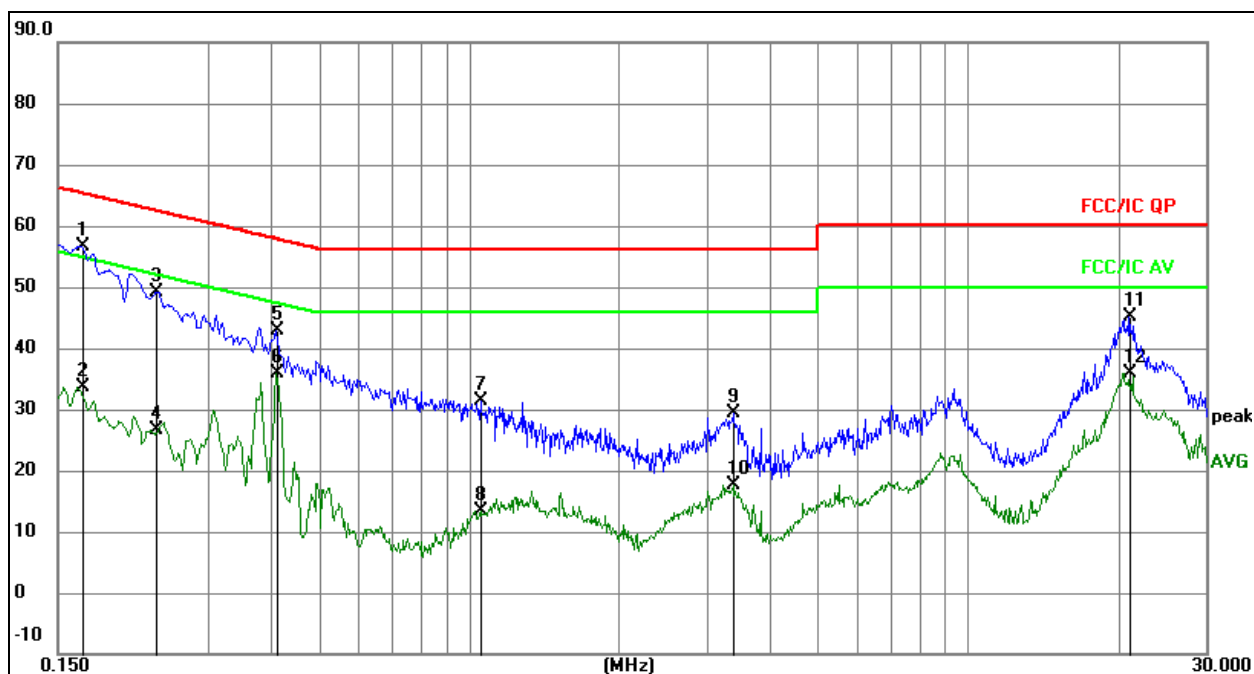
Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101KPa	Phase :	L
Test Mode:	Mode 4(Adapter 2)	Test Voltage :	AC120V/60Hz


Remark:

1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.
3. Measurement = Reading Level + Correct Factor
4. Over = Measurement - Limit

No.	Mk.	Freq. MHz	Reading Level	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector
1	*	0.1633	37.74	20.07	57.81	65.29	-7.48	QP
2		0.1633	11.37	20.07	31.44	55.29	-23.85	AVG
3		1.0157	6.38	20.09	26.47	56.00	-29.53	QP
4		1.0157	-6.26	20.09	13.83	46.00	-32.17	AVG
5		3.3994	10.23	20.13	30.36	56.00	-25.64	QP
6		3.3994	-2.27	20.13	17.86	46.00	-28.14	AVG
7		6.9878	9.11	20.16	29.27	60.00	-30.73	QP
8		6.9878	-5.25	20.16	14.91	50.00	-35.09	AVG
9		9.7051	11.01	20.17	31.18	60.00	-28.82	QP
10		9.7051	2.62	20.17	22.79	50.00	-27.21	AVG
11		20.4854	24.09	20.33	44.42	60.00	-15.58	QP
12		20.4854	16.05	20.33	36.38	50.00	-13.62	AVG

Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101KPa	Phase :	N
Test Mode:	Mode 4(Adapter 2)	Test Voltage :	AC120V/60Hz



Remark:

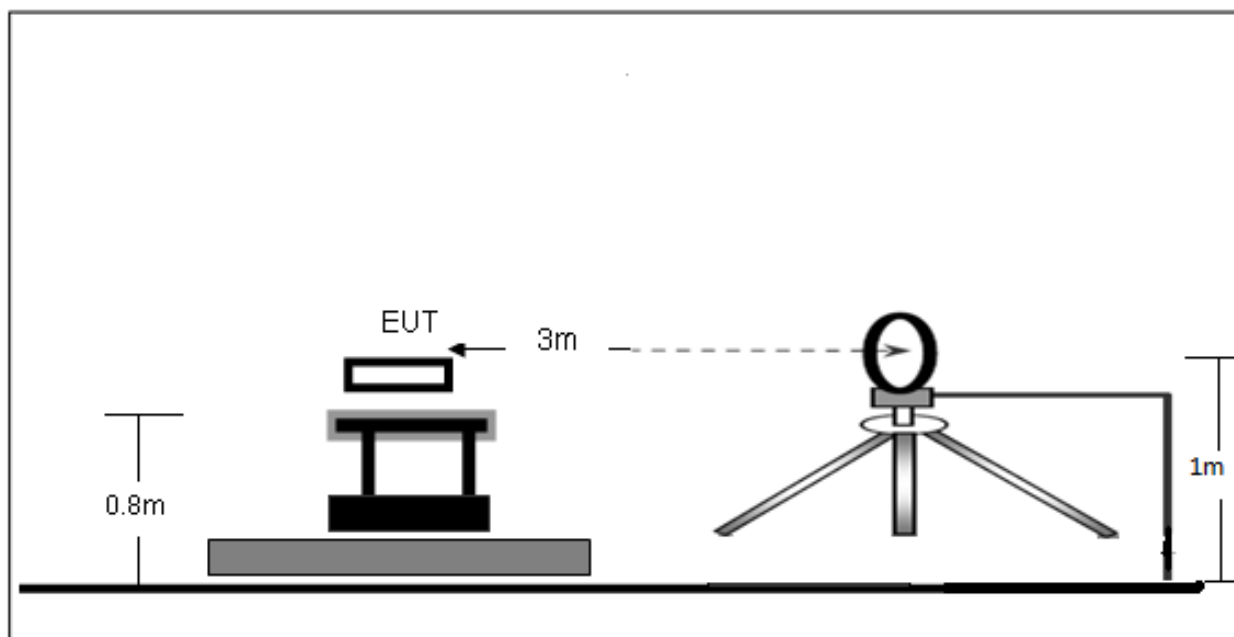
1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.
3. Measurement = Reading Level + Correct Factor
4. Over = Measurement - Limit

No.	Mk.	Freq. MHz	Reading Level dB	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector
1	*	0.1680	36.67	20.07	56.74	65.06	-8.32	QP
2		0.1680	13.65	20.07	33.72	55.06	-21.34	AVG
3		0.2355	29.13	20.07	49.20	62.25	-13.05	QP
4		0.2355	6.46	20.07	26.53	52.25	-25.72	AVG
5		0.4110	22.82	20.08	42.90	57.63	-14.73	QP
6		0.4110	15.80	20.08	35.88	47.63	-11.75	AVG
7		1.0544	11.22	20.09	31.31	56.00	-24.69	QP
8		1.0544	-6.64	20.09	13.45	46.00	-32.55	AVG
9		3.3855	9.15	20.13	29.28	56.00	-26.72	QP
10		3.3855	-2.43	20.13	17.70	46.00	-28.30	AVG
11		21.0435	24.81	20.32	45.13	60.00	-14.87	QP
12		21.0435	15.63	20.32	35.95	50.00	-14.05	AVG

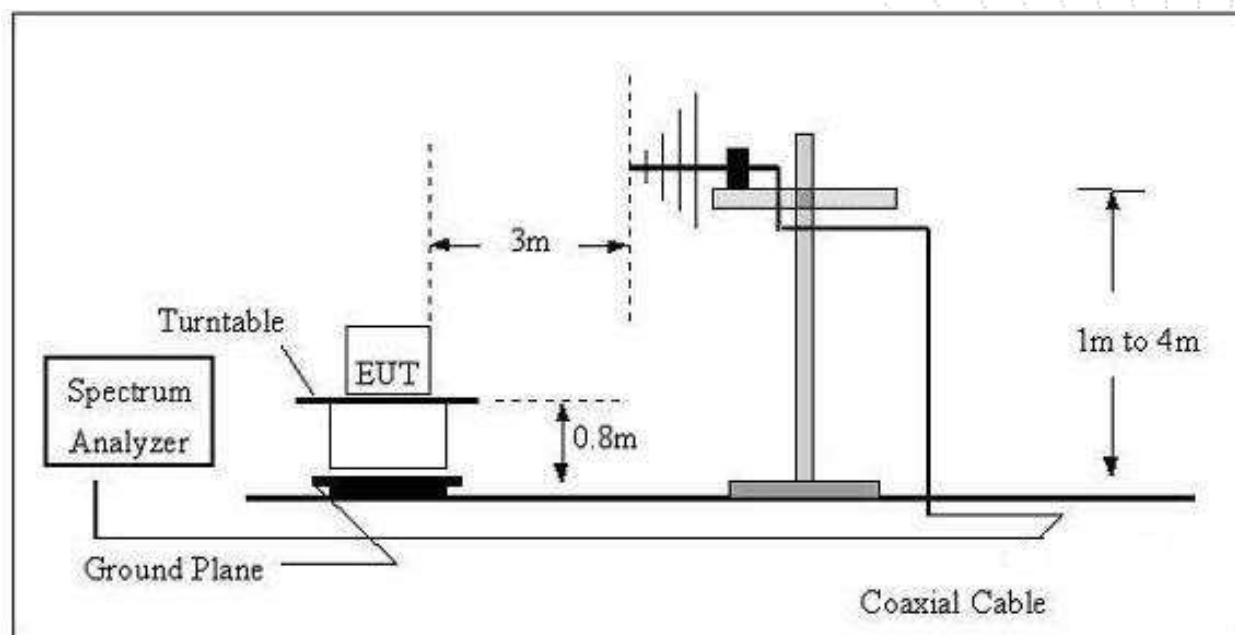
7. Radiated Emissions

7.1 Block Diagram Of Test Setup

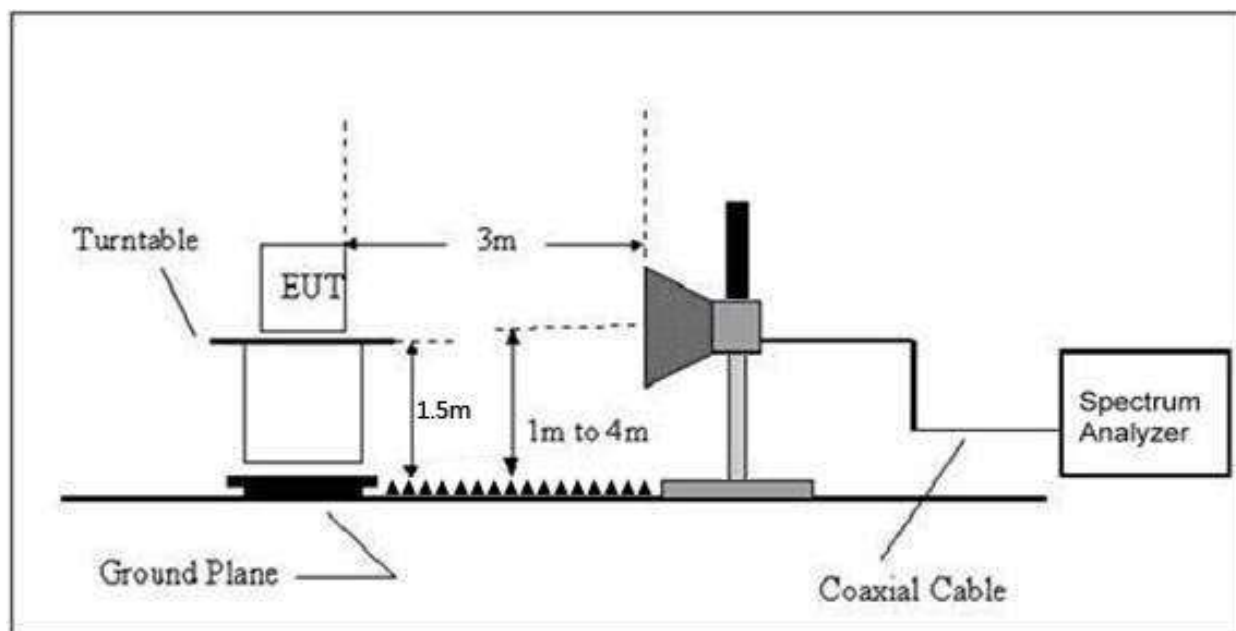
(A) Radiated Emission Test-Up Frequency Below 30MHz



(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 (MHz)	Field Strength uV/m	Distance (m)	Field Strength Limit at 3m Distance	
			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:	54%
Pressure:	101KPa	Test Voltage :	AC 120V/60Hz, DC 11.4V
Test Mode:	Mode 4	Polarization :	--

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

Note:

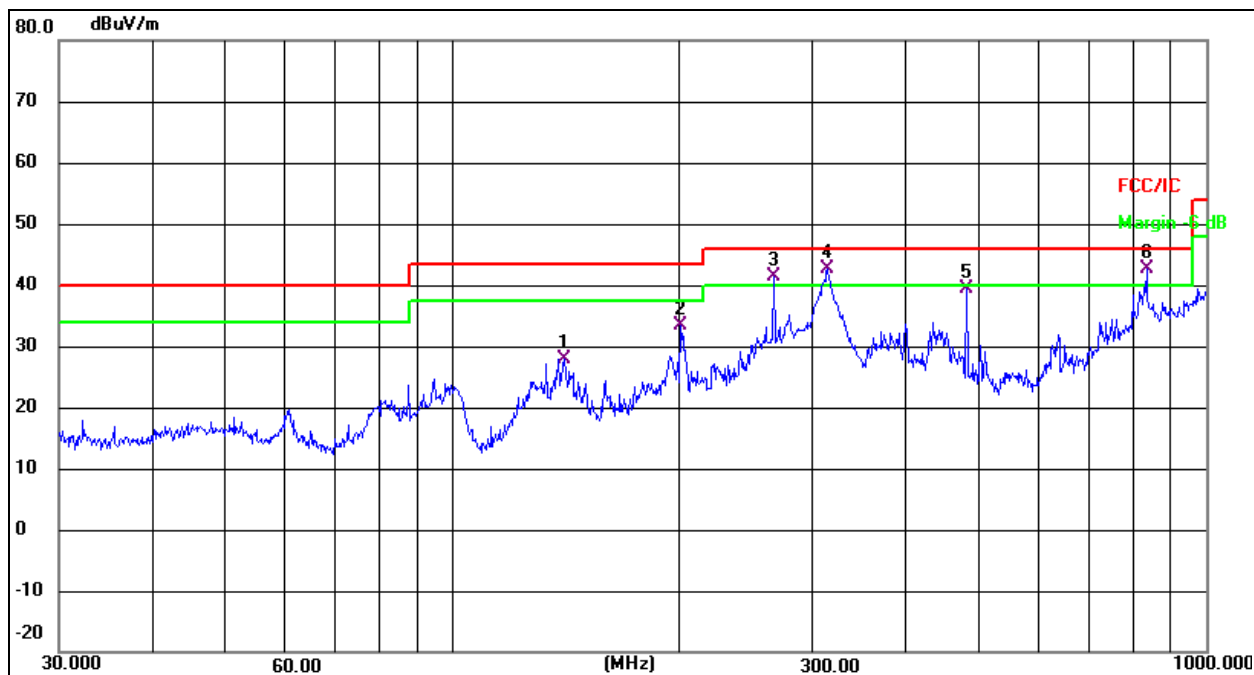
The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

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

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

Between 30MHz – 1GHz

Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101KPa	Phase :	Horizontal
Test Mode:	Mode 4(Adapter 1)	Test Voltage :	AC 120V/60Hz

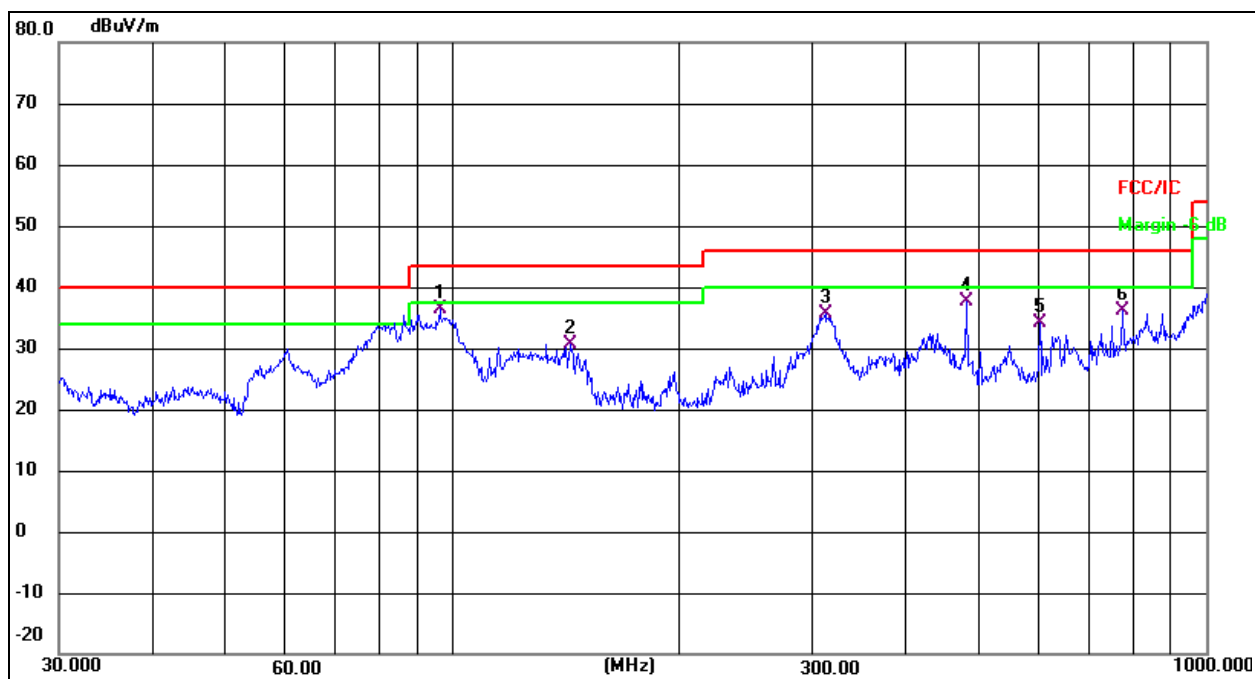


Remark:

1. Factor = Antenna Factor + Cable Loss – Pre-amplifier.
2. Measurement = Reading Level + Correct Factor
3. Over = Measurement - Limit

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	140.8351	39.62	-11.69	27.93	43.50	-15.57	QP
2	200.6881	48.06	-14.57	33.49	43.50	-10.01	QP
3 !	266.6089	53.11	-11.67	41.44	46.00	-4.56	QP
4 !	314.3765	52.76	-10.17	42.59	46.00	-3.41	QP
5	480.5276	44.99	-5.55	39.44	46.00	-6.56	QP
6 *	833.3171	41.90	0.77	42.67	46.00	-3.33	QP

Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101KPa	Phase :	Vertical
Test Mode:	Mode 4(Adapter 1)	Test Voltage :	AC 120V/60Hz



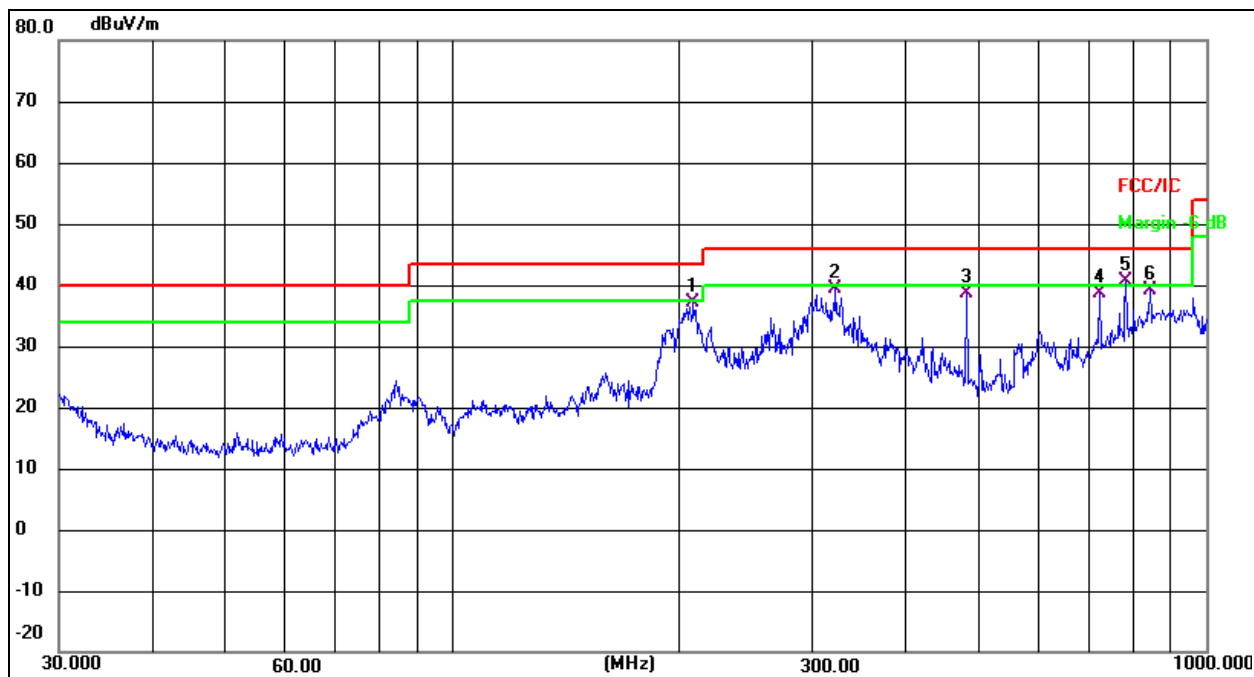
Remark:

1. Factor = Antenna Factor + Cable Loss – Pre-amplifier.
2. Measurement = Reading Level + Correct Factor
3. Over = Measurement - Limit

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 !	84.7019	50.39	-15.96	34.43	40.00	-5.57	QP
2	374.6225	44.94	-8.36	36.58	46.00	-9.42	QP
3	434.0651	42.27	-6.78	35.49	46.00	-10.51	QP
4	601.4265	40.19	-2.57	37.62	46.00	-8.38	QP
5 *	721.7259	41.04	-0.20	40.84	46.00	-5.16	QP
6	782.3453	36.43	0.34	36.77	46.00	-9.23	QP

CO.LTD

Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101KPa	Phase :	Horizontal
Test Mode:	Mode 4(Adapter 2)	Test Voltage :	AC 120V/60Hz

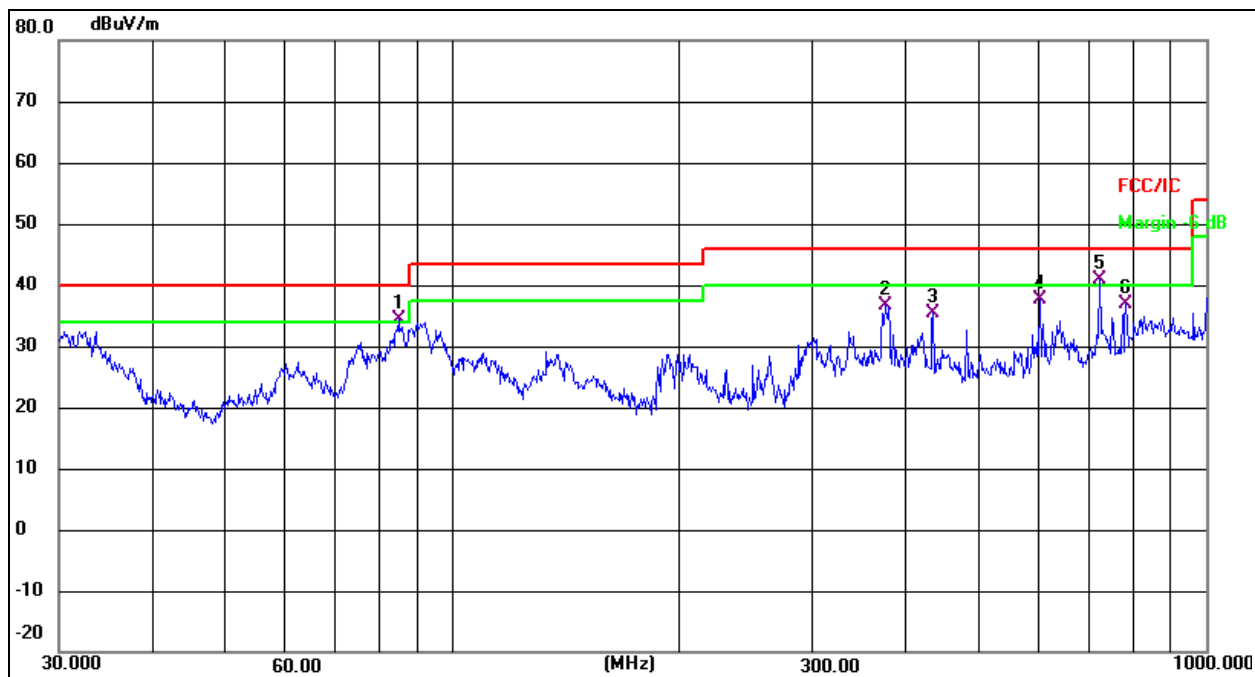


Remark:

- Factor = Antenna Factor + Cable Loss – Pre-amplifier.
- Measurement = Reading Level + Correct Factor
- Over = Measurement - Limit

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	208.5803	51.27	-14.26	37.01	43.50	-6.49	QP
2	322.1886	49.23	-9.93	39.30	46.00	-6.70	QP
3	480.5276	44.23	-5.67	38.56	46.00	-7.44	QP
4	721.7259	38.88	-0.20	38.68	46.00	-7.32	QP
5 *	782.3453	40.24	0.34	40.58	46.00	-5.42	QP
6	842.1296	38.14	1.09	39.23	46.00	-6.77	QP

Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101KPa	Phase :	Vertical
Test Mode:	Mode 4(Adapter 2)	Test Voltage :	AC 120V/60Hz

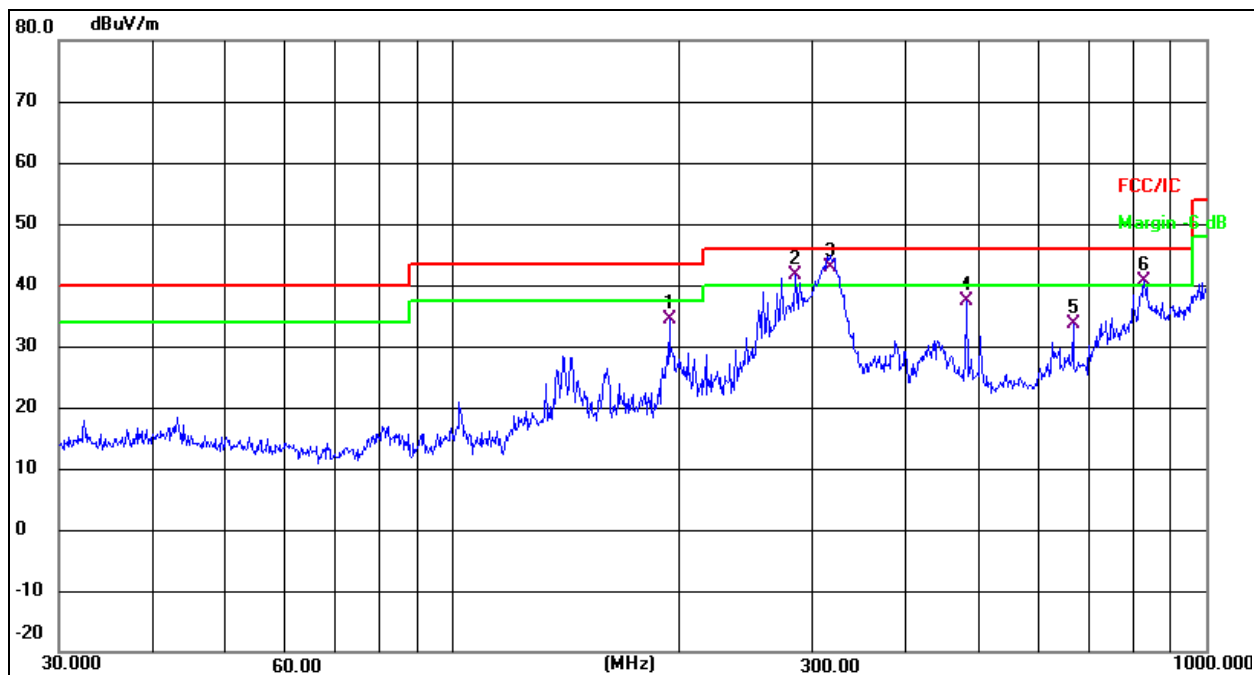


Remark:

1. Factor = Antenna Factor + Cable Loss – Pre-amplifier.
2. Measurement = Reading Level + Correct Factor
3. Over = Measurement - Limit

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	96.0986	51.76	-15.43	36.33	43.50	-7.17	QP
2	143.3261	42.07	-11.47	30.60	43.50	-12.90	QP
3	312.1794	45.75	-10.23	35.52	46.00	-10.48	QP
4	480.5276	43.16	-5.55	37.61	46.00	-8.39	QP
5	601.4265	36.71	-2.57	34.14	46.00	-11.86	QP
6	774.1584	35.83	0.40	36.23	46.00	-9.77	QP

Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101KPa	Phase :	Horizontal
Test Mode:	Mode 4	Test Voltage :	DC 11.4V

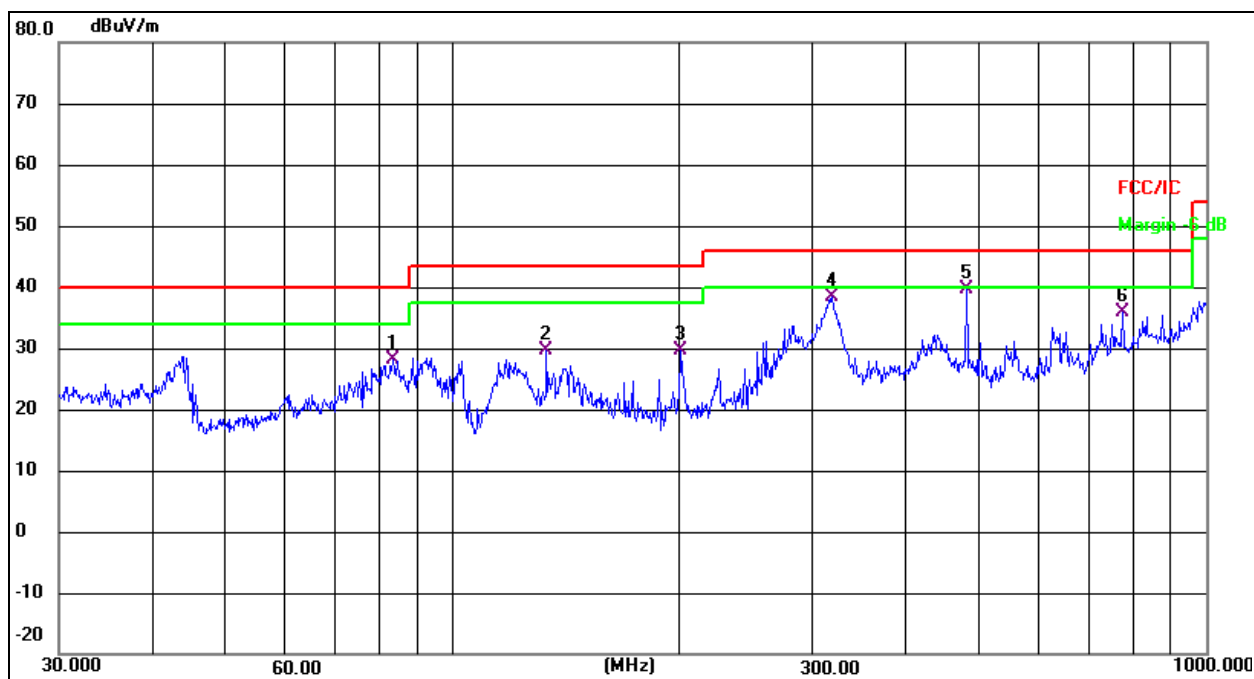


Remark:

1. Factor = Antenna Factor + Cable Loss – Pre-amplifier.
2. Measurement = Reading Level + Correct Factor
3. Over = Measurement - Limit

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	193.7728	48.63	-14.14	34.49	43.50	-9.01	QP
2 !	284.9767	52.61	-11.08	41.53	46.00	-4.47	QP
3 *	317.3090	52.99	-10.08	42.91	46.00	-3.09	QP
4	480.5276	42.87	-5.55	37.32	46.00	-8.68	QP
5	665.8035	34.79	-1.08	33.71	46.00	-12.29	QP
6 !	827.4934	39.82	0.72	40.54	46.00	-5.46	QP

Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101KPa	Phase :	Vertical
Test Mode:	Mode 4	Test Voltage :	DC 11.4V



Remark:

- Factor = Antenna Factor + Cable Loss – Pre-amplifier.
- Measurement = Reading Level + Correct Factor
- Over = Measurement - Limit

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	83.2298	44.24	-16.00	28.24	40.00	-11.76	QP
2	133.1511	41.95	-12.35	29.60	43.50	-13.90	QP
3	200.6881	44.30	-14.57	29.73	43.50	-13.77	QP
4	318.8170	48.31	-10.04	38.27	46.00	-7.73	QP
5 *	480.5276	45.19	-5.55	39.64	46.00	-6.36	QP
6	774.1584	35.47	0.40	35.87	46.00	-10.13	QP

Between 1GHz – 40GHz

Test Mode:	TX(5.1G) - 802.11a
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Polar	Frequency	Reading Level	Correct Factor	Measurement	Limits	Over	Detector Type
(H/V)	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Low Channel (5180 MHz)-Above 1G							
Vertical	4434.140	73.54	-20.73	52.81	68.2	-15.39	PK
Vertical	4434.140	59.88	-20.73	39.15	54	-14.85	AV
Vertical	10360.192	61.62	-9.36	52.26	68.2	-15.94	PK
Vertical	10360.192	49.10	-9.36	39.74	54	-14.26	AV
Vertical	15540.139	64.26	-7.84	56.42	74	-17.58	PK
Vertical	15540.139	49.94	-7.84	42.10	54	-11.90	AV
Horizontal	4434.116	72.00	-20.73	51.27	68.2	-16.93	PK
Horizontal	4434.116	59.33	-20.73	38.60	54	-15.40	AV
Horizontal	10360.127	64.42	-9.36	55.06	68.2	-13.14	PK
Horizontal	10360.127	49.94	-9.36	40.58	54	-13.42	AV
Horizontal	15540.160	61.57	-7.84	53.73	74	-20.27	PK
Horizontal	15540.160	49.20	-7.84	41.36	54	-12.64	AV
Middle Channel (5200 MHz)-Above 1G							
Vertical	4592.136	71.07	-20.42	50.66	74	-23.34	PK
Vertical	4592.136	59.81	-20.42	39.40	54	-14.60	AV
Vertical	10400.111	64.45	-9.30	55.15	68.2	-13.05	PK
Vertical	10400.111	49.76	-9.30	40.46	54	-13.54	AV
Vertical	15600.156	61.37	-7.82	53.55	74	-20.45	PK
Vertical	15600.156	49.39	-7.82	41.57	54	-12.43	AV
Horizontal	4592.033	73.07	-20.42	52.65	74	-21.35	PK
Horizontal	4592.033	59.57	-20.42	39.15	54	-14.85	AV
Horizontal	10400.009	63.27	-9.30	53.97	68.2	-14.23	PK
Horizontal	10400.009	49.72	-9.30	40.42	54	-13.58	AV
Horizontal	15600.152	64.50	-7.82	56.68	74	-17.32	PK
Horizontal	15600.152	49.87	-7.82	42.05	54	-11.95	AV
High Channel (5240 MHz)-Above 1G							
Vertical	4739.185	74.55	-20.12	54.42	74	-19.58	PK
Vertical	4739.185	59.08	-20.12	38.96	54	-15.04	AV
Vertical	10480.053	63.63	-9.18	54.45	68.2	-13.75	PK
Vertical	10480.053	49.89	-9.18	40.71	54	-13.29	AV
Vertical	15720.021	60.56	-7.78	52.78	74	-21.22	PK
Vertical	15720.021	49.71	-7.78	41.93	54	-12.07	AV
Horizontal	4739.176	73.53	-20.12	53.41	74	-20.59	PK
Horizontal	4739.176	59.06	-20.12	38.93	54	-15.07	AV
Horizontal	10480.069	64.14	-9.18	54.96	68.2	-13.24	PK
Horizontal	10480.069	49.74	-9.18	40.56	54	-13.44	AV
Horizontal	15720.189	60.89	-7.78	53.11	74	-20.89	PK
Horizontal	15720.189	49.35	-7.78	41.57	54	-12.43	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.

The worst case is Antenna A

Test Mode:	TX(5.1G) - 802.11n-HT20
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Polar	Frequency	Reading Level	Correct Factor	Measurement	Limits	Over	Detector Type
(H/V)	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Low Channel (5180 MHz)-Above 1G							
Vertical	4434.141	74.65	-20.73	53.91	68.2	-14.29	PK
Vertical	4434.141	59.86	-20.73	39.12	54	-14.88	AV
Vertical	10360.107	63.43	-9.36	54.07	68.2	-14.13	PK
Vertical	10360.107	49.82	-9.36	40.46	54	-13.54	AV
Vertical	15540.006	63.57	-7.84	55.73	74	-18.27	PK
Vertical	15540.006	49.68	-7.84	41.84	54	-12.16	AV
Horizontal	4434.000	72.06	-20.73	51.32	68.2	-16.88	PK
Horizontal	4434.000	59.58	-20.73	38.85	54	-15.15	AV
Horizontal	10360.001	64.66	-9.36	55.30	68.2	-12.90	PK
Horizontal	10360.001	49.61	-9.36	40.25	54	-13.75	AV
Horizontal	15540.130	60.31	-7.84	52.47	74	-21.53	PK
Horizontal	15540.130	49.90	-7.84	42.06	54	-11.94	AV
Middle Channel (5200 MHz)-Above 1G							
Vertical	4592.192	71.75	-20.42	51.34	74	-22.66	PK
Vertical	4592.192	59.57	-20.42	39.15	54	-14.85	AV
Vertical	10400.140	64.10	-9.30	54.80	68.2	-13.40	PK
Vertical	10400.140	49.56	-9.30	40.26	54	-13.74	AV
Vertical	15600.003	63.66	-7.82	55.84	74	-18.16	PK
Vertical	15600.003	49.81	-7.82	41.99	54	-12.01	AV
Horizontal	4592.040	73.44	-20.42	53.02	74	-20.98	PK
Horizontal	4592.040	59.43	-20.42	39.02	54	-14.98	AV
Horizontal	10400.091	64.20	-9.30	54.90	68.2	-13.30	PK
Horizontal	10400.091	49.86	-9.30	40.56	54	-13.44	AV
Horizontal	15600.184	61.95	-7.82	54.13	74	-19.87	PK
Horizontal	15600.184	49.11	-7.82	41.29	54	-12.71	AV
High Channel (5240 MHz)-Above 1G							
Vertical	4739.141	71.61	-20.12	51.49	74	-22.51	PK
Vertical	4739.141	59.45	-20.12	39.33	54	-14.67	AV
Vertical	10480.105	63.21	-9.18	54.03	68.2	-14.17	PK
Vertical	10480.105	49.78	-9.18	40.60	54	-13.40	AV
Vertical	15720.094	64.07	-7.78	56.29	74	-17.71	PK
Vertical	15720.094	49.73	-7.78	41.95	54	-12.05	AV
Horizontal	4739.089	74.52	-20.12	54.40	74	-19.60	PK
Horizontal	4739.089	59.39	-20.12	39.27	54	-14.73	AV
Horizontal	10480.118	62.56	-9.18	53.38	68.2	-14.82	PK
Horizontal	10480.118	49.81	-9.18	40.63	54	-13.37	AV
Horizontal	15720.067	61.27	-7.78	53.49	74	-20.51	PK
Horizontal	15720.067	49.14	-7.78	41.36	54	-12.64	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 is MIMO Mode.

Test Mode:	TX(5.1G) - 802.11n-HT40
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Polar	Frequency	Reading Level	Correct Factor	Measurement	Limits	Over	Detector Type
(H/V)	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Low Channel (5190 MHz)-Above 1G							
Vertical	4434.108	74.50	-20.73	53.77	68.2	-14.43	PK
Vertical	4434.108	59.89	-20.73	39.15	54	-14.85	AV
Vertical	10380.136	64.52	-9.33	55.19	68.2	-13.01	PK
Vertical	10380.136	49.67	-9.33	40.34	54	-13.66	AV
Vertical	15570.195	63.58	-7.83	55.75	74	-18.25	PK
Vertical	15570.195	49.34	-7.83	41.51	54	-12.49	AV
Horizontal	4434.035	72.91	-20.73	52.18	74	-21.82	PK
Horizontal	4434.035	59.47	-20.73	38.74	54	-15.26	AV
Horizontal	10380.074	64.54	-9.33	55.21	68.2	-12.99	PK
Horizontal	10380.074	49.38	-9.33	40.05	54	-13.95	AV
Horizontal	15570.098	62.51	-7.83	54.68	74	-19.32	PK
Horizontal	15570.098	49.27	-7.83	41.44	54	-12.56	AV
Middle Channel (5230 MHz)-Above 1G							
Vertical	4739.061	70.37	-20.12	50.24	68.2	-17.96	PK
Vertical	4739.061	59.14	-20.12	39.01	54	-14.99	AV
Vertical	10460.009	63.85	-9.21	54.64	68.2	-13.56	PK
Vertical	10460.009	49.56	-9.21	40.35	54	-13.65	AV
Vertical	15690.044	63.60	-7.79	55.81	74	-18.19	PK
Vertical	15690.044	49.07	-7.79	41.28	54	-12.72	AV
Horizontal	4739.117	70.09	-20.12	49.97	68.2	-18.23	PK
Horizontal	4739.117	59.81	-20.12	39.69	54	-14.31	AV
Horizontal	10460.018	62.63	-9.21	53.42	68.2	-14.78	PK
Horizontal	10460.018	49.65	-9.21	40.44	54	-13.56	AV
Horizontal	15690.067	62.84	-7.79	55.05	74	-18.95	PK
Horizontal	15690.067	49.33	-7.79	41.54	54	-12.46	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 is MIMO Mode.

Test Mode:	TX(5.1G) - 802.11ac-HT20
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Polar	Frequency	Reading Level	Correct Factor	Measurement	Limits	Over	Detector Type
(H/V)	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Low Channel (5180 MHz)-Above 1G							
Vertical	4434.058	73.20	-20.73	52.47	68.2	-15.73	PK
Vertical	4434.058	59.59	-20.73	38.86	54	-15.14	AV
Vertical	10360.064	60.21	-9.36	50.85	68.2	-17.35	PK
Vertical	10360.064	49.63	-9.36	40.27	54	-13.73	AV
Vertical	15540.011	63.24	-7.84	55.40	74	-18.60	PK
Vertical	15540.011	49.58	-7.84	41.74	54	-12.26	AV
Horizontal	4434.188	71.30	-20.73	50.57	68.2	-17.63	PK
Horizontal	4434.188	59.92	-20.73	39.19	54	-14.81	AV
Horizontal	10360.027	64.62	-9.36	55.26	68.2	-12.94	PK
Horizontal	10360.027	49.94	-9.36	40.58	54	-13.42	AV
Horizontal	15540.180	61.53	-7.84	53.69	74	-20.31	PK
Horizontal	15540.180	49.20	-7.84	41.36	54	-12.64	AV
Middle Channel (5200 MHz)-Above 1G							
Vertical	4592.182	70.77	-20.42	50.35	74	-23.65	PK
Vertical	4592.182	59.44	-20.42	39.03	54	-14.97	AV
Vertical	10400.103	62.84	-9.30	53.54	68.2	-14.66	PK
Vertical	10400.103	49.10	-9.30	39.80	54	-14.20	AV
Vertical	15600.027	63.48	-7.82	55.66	74	-18.34	PK
Vertical	15600.027	49.77	-7.82	41.95	54	-12.05	AV
Horizontal	4592.078	73.58	-20.42	53.16	74	-20.84	PK
Horizontal	4592.078	59.84	-20.42	39.42	54	-14.58	AV
Horizontal	10400.187	61.83	-9.30	52.53	68.2	-15.67	PK
Horizontal	10400.187	49.73	-9.30	40.43	54	-13.57	AV
Horizontal	15600.156	61.43	-7.82	53.61	74	-20.39	PK
Horizontal	15600.156	49.92	-7.82	42.10	54	-11.90	AV
High Channel (5240 MHz)-Above 1G							
Vertical	4739.114	72.35	-20.12	52.23	74	-21.77	PK
Vertical	4739.114	59.89	-20.12	39.77	54	-14.23	AV
Vertical	10480.006	60.18	-9.18	51.00	68.2	-17.20	PK
Vertical	10480.006	49.88	-9.18	40.70	54	-13.30	AV
Vertical	15720.143	62.44	-7.78	54.66	74	-19.34	PK
Vertical	15720.143	49.32	-7.78	41.54	54	-12.46	AV
Horizontal	4739.153	73.52	-20.12	53.39	74	-20.61	PK
Horizontal	4739.153	59.40	-20.12	39.28	54	-14.72	AV
Horizontal	10480.022	62.59	-9.18	53.41	68.2	-14.79	PK
Horizontal	10480.022	49.27	-9.18	40.09	54	-13.91	AV
Horizontal	15720.185	61.22	-7.78	53.44	74	-20.56	PK
Horizontal	15720.185	49.53	-7.78	41.75	54	-12.25	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 is MIMO Mode.

Test Mode:	TX(5.1G) - 802.11ac-HT40
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Polar	Frequency	Reading Level	Correct Factor	Measurement	Limits	Over	Detector Type
(H/V)	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Low Channel (5190 MHz)-Above 1G							
Vertical	4434.022	74.40	-20.73	53.67	68.2	-14.53	PK
Vertical	4434.022	59.31	-20.73	38.58	54	-15.42	AV
Vertical	10380.091	64.26	-9.33	54.93	68.2	-13.27	PK
Vertical	10380.091	49.01	-9.33	39.68	54	-14.32	AV
Vertical	15570.150	61.63	-7.83	53.80	74	-20.20	PK
Vertical	15570.150	49.24	-7.83	41.41	54	-12.59	AV
Horizontal	4434.118	72.64	-20.73	51.90	74	-22.10	PK
Horizontal	4434.118	59.98	-20.73	39.25	54	-14.75	AV
Horizontal	10380.077	62.83	-9.33	53.50	68.2	-14.70	PK
Horizontal	10380.077	49.66	-9.33	40.33	54	-13.67	AV
Horizontal	15570.108	60.10	-7.83	52.27	74	-21.73	PK
Horizontal	15570.108	49.81	-7.83	41.98	54	-12.02	AV
Middle Channel (5230 MHz)-Above 1G							
Vertical	4739.072	73.91	-20.12	53.78	68.2	-14.42	PK
Vertical	4739.072	59.59	-20.12	39.47	54	-14.53	AV
Vertical	10460.134	62.65	-9.21	53.44	68.2	-14.76	PK
Vertical	10460.134	49.73	-9.21	40.52	54	-13.48	AV
Vertical	15690.168	64.81	-7.79	57.02	74	-16.98	PK
Vertical	15690.168	49.27	-7.79	41.48	54	-12.52	AV
Horizontal	4739.045	74.97	-20.12	54.85	68.2	-13.35	PK
Horizontal	4739.045	59.34	-20.12	39.22	54	-14.78	AV
Horizontal	10460.039	64.75	-9.21	55.54	68.2	-12.66	PK
Horizontal	10460.039	49.37	-9.21	40.16	54	-13.84	AV
Horizontal	15690.199	61.64	-7.79	53.85	74	-20.15	PK
Horizontal	15690.199	49.63	-7.79	41.84	54	-12.16	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 is MIMO Mode.

Test Mode:	TX(5.1G) - 802.11ac 80
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Polar	Frequency	Reading Level	Correct Factor	Measurement	Limits	Over	Detector Type
(H/V)	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Low Channel (5210 MHz)-Above 1G							
Vertical	4434.039	72.84	-20.73	52.11	68.2	-16.09	PK
Vertical	4434.039	59.04	-20.73	38.31	54	-15.69	AV
Vertical	10420.153	64.67	-9.27	55.40	68.2	-12.80	PK
Vertical	10420.153	49.69	-9.27	40.42	54	-13.58	AV
Vertical	15630.149	63.23	-7.81	55.42	74	-18.58	PK
Vertical	15630.149	49.45	-7.81	41.64	54	-12.36	AV
Horizontal	4434.051	71.73	-20.73	51.00	68.2	-17.20	PK
Horizontal	4434.051	59.51	-20.73	38.78	54	-15.22	AV
Horizontal	10420.140	42.23	9.27	51.50	68.2	-16.70	PK
Horizontal	10420.140	29.94	9.27	39.21	54	-14.79	AV
Horizontal	15630.188	62.18	-7.81	54.37	74	-19.63	PK
Horizontal	15630.188	49.52	-7.81	41.71	54	-12.29	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 is MIMO Mode.

Test Mode:	TX(5.1G) - 802.11ax-HT20
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Polar	Frequency	Reading Level	Correct Factor	Measurement	Limits	Over	Detector Type
(H/V)	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Low Channel (5180 MHz)-Above 1G							
Vertical	4434.161	73.95	-20.73	53.22	68.2	-14.98	PK
Vertical	4434.161	59.44	-20.73	38.71	54	-15.29	AV
Vertical	10360.123	63.66	-9.36	54.30	68.2	-13.90	PK
Vertical	10360.123	49.62	-9.36	40.26	54	-13.74	AV
Vertical	15540.155	62.96	-7.84	55.12	74	-18.88	PK
Vertical	15540.155	49.50	-7.84	41.66	54	-12.34	AV
Horizontal	4434.181	72.89	-20.73	52.15	68.2	-16.05	PK
Horizontal	4434.181	59.54	-20.73	38.81	54	-15.19	AV
Horizontal	10360.166	63.89	-9.36	54.53	68.2	-13.67	PK
Horizontal	10360.166	49.01	-9.36	39.65	54	-14.35	AV
Horizontal	15540.086	63.21	-7.84	55.37	74	-18.63	PK
Horizontal	15540.086	49.99	-7.84	42.15	54	-11.85	AV
Middle Channel (5200 MHz)-Above 1G							
Vertical	4592.097	70.42	-20.42	50.01	74	-23.99	PK
Vertical	4592.097	59.55	-20.42	39.14	54	-14.86	AV
Vertical	10400.047	61.83	-9.30	52.53	68.2	-15.67	PK
Vertical	10400.047	49.14	-9.30	39.84	54	-14.16	AV
Vertical	15600.184	63.66	-7.82	55.84	74	-18.16	PK
Vertical	15600.184	49.69	-7.82	41.87	54	-12.13	AV
Horizontal	4592.151	74.59	-20.42	54.18	74	-19.82	PK
Horizontal	4592.151	59.88	-20.42	39.46	54	-14.54	AV
Horizontal	10400.117	62.83	-9.30	53.53	68.2	-14.67	PK
Horizontal	10400.117	49.57	-9.30	40.27	54	-13.73	AV
Horizontal	15600.178	64.56	-7.82	56.74	74	-17.26	PK
Horizontal	15600.178	49.94	-7.82	42.12	54	-11.88	AV
High Channel (5240 MHz)-Above 1G							
Vertical	4739.021	74.05	-20.12	53.93	74	-20.07	PK
Vertical	4739.021	59.66	-20.12	39.53	54	-14.47	AV
Vertical	10480.018	64.98	-9.18	55.80	68.2	-12.40	PK
Vertical	10480.018	49.09	-9.18	39.91	54	-14.09	AV
Vertical	15720.025	63.06	-7.78	55.28	74	-18.72	PK
Vertical	15720.025	49.99	-7.78	42.21	54	-11.79	AV
Horizontal	4739.033	71.18	-20.12	51.06	74	-22.94	PK
Horizontal	4739.033	59.26	-20.12	39.14	54	-14.86	AV
Horizontal	10480.044	60.20	-9.18	51.02	68.2	-17.18	PK
Horizontal	10480.044	49.89	-9.18	40.71	54	-13.29	AV
Horizontal	15720.188	61.47	-7.78	53.69	74	-20.31	PK
Horizontal	15720.188	49.96	-7.78	42.18	54	-11.82	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 is MIMO Mode.

Test Mode:	TX(5.1G) - 802.11ax-HT40
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Polar	Frequency	Reading Level	Correct Factor	Measurement	Limits	Over	Detector Type
(H/V)	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Low Channel (5190 MHz)-Above 1G							
Vertical	4434.016	72.59	-20.73	51.86	68.2	-16.34	PK
Vertical	4434.016	59.57	-20.73	38.84	54	-15.16	AV
Vertical	10380.109	63.41	-9.33	54.08	68.2	-14.12	PK
Vertical	10380.109	49.81	-9.33	40.48	54	-13.52	AV
Vertical	15570.003	60.13	-7.83	52.30	74	-21.70	PK
Vertical	15570.003	49.75	-7.83	41.92	54	-12.08	AV
Horizontal	4434.057	70.35	-20.73	49.62	74	-24.38	PK
Horizontal	4434.057	59.05	-20.73	38.32	54	-15.68	AV
Horizontal	10380.084	61.41	-9.33	52.08	68.2	-16.12	PK
Horizontal	10380.084	49.05	-9.33	39.72	54	-14.28	AV
Horizontal	15570.186	64.33	-7.83	56.50	74	-17.50	PK
Horizontal	15570.186	49.58	-7.83	41.75	54	-12.25	AV
Middle Channel (5230 MHz)-Above 1G							
Vertical	4739.075	70.95	-20.12	50.83	68.2	-17.37	PK
Vertical	4739.075	59.99	-20.12	39.87	54	-14.13	AV
Vertical	10460.039	63.75	-9.21	54.54	68.2	-13.66	PK
Vertical	10460.039	49.77	-9.21	40.56	54	-13.44	AV
Vertical	15690.027	61.33	-7.79	53.54	74	-20.46	PK
Vertical	15690.027	49.12	-7.79	41.33	54	-12.67	AV
Horizontal	4739.096	71.82	-20.12	51.70	68.2	-16.50	PK
Horizontal	4739.096	59.26	-20.12	39.14	54	-14.86	AV
Horizontal	10460.074	61.85	-9.21	52.64	68.2	-15.56	PK
Horizontal	10460.074	49.42	-9.21	40.21	54	-13.79	AV
Horizontal	15690.178	63.34	-7.79	55.55	74	-18.45	PK
Horizontal	15690.178	49.99	-7.79	42.20	54	-11.80	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 is MIMO Mode.

Test Mode:	TX(5.1G) - 802.11ax 80
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Polar	Frequency	Reading Level	Correct Factor	Measurement	Limits	Over	Detector Type
(H/V)	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Low Channel (5210 MHz)-Above 1G							
Vertical	4434.194	71.71	-20.73	50.98	68.2	-17.22	PK
Vertical	4434.194	59.35	-20.73	38.62	54	-15.38	AV
Vertical	10420.087	64.92	-9.27	55.65	68.2	-12.55	PK
Vertical	10420.087	49.23	-9.27	39.96	54	-14.04	AV
Vertical	15630.004	64.05	-7.81	56.24	74	-17.76	PK
Vertical	15630.004	49.60	-7.81	41.79	54	-12.21	AV
Horizontal	4434.018	71.24	-20.73	50.51	68.2	-17.69	PK
Horizontal	4434.018	59.72	-20.73	38.99	54	-15.01	AV
Horizontal	10420.016	44.66	9.27	53.93	68.2	-14.27	PK
Horizontal	10420.016	29.27	9.27	38.54	54	-15.46	AV
Horizontal	15630.018	60.72	-7.81	52.91	74	-21.09	PK
Horizontal	15630.018	49.22	-7.81	41.41	54	-12.59	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 is MIMO Mode.

Test Mode:	TX (5.8G) -- 802.11a
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Polar	Frequency	Reading Level	Correct Factor	Measurement	Limits	Over	Detector Type
(H/V)	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Low Channel (5745 MHz)-Above 1G							
Vertical	4679.035	70.65	-20.24	50.41	74	-23.59	PK
Vertical	4679.035	59.77	-20.24	39.53	54	-14.47	AV
Vertical	11490.026	64.26	-8.79	55.47	68.2	-12.73	PK
Vertical	11490.026	49.05	-8.79	40.26	54	-13.74	AV
Vertical	17235.135	59.83	-3.18	56.65	68.2	-11.55	PK
Vertical	17235.135	44.42	-3.18	41.24	54	-12.76	AV
Horizontal	4679.048	73.15	-20.73	52.42	74	-21.58	PK
Horizontal	4679.048	59.41	-20.73	38.68	54	-15.32	AV
Horizontal	11490.071	62.86	-8.79	54.07	68.2	-14.13	PK
Horizontal	11490.071	49.47	-8.79	40.68	54	-13.32	AV
Horizontal	17235.172	59.38	-3.18	56.20	68.2	-12.00	PK
Horizontal	17235.172	44.34	-3.18	41.16	54	-12.84	AV
Middle Channel (5785 MHz)-Above 1G							
Vertical	4592.187	72.95	-20.42	52.53	74	-21.47	PK
Vertical	4592.187	59.33	-20.42	38.91	54	-15.09	AV
Vertical	11570.022	60.23	-8.86	51.37	68.2	-16.83	PK
Vertical	11570.022	49.81	-8.86	40.95	54	-13.05	AV
Vertical	17355.060	57.89	-2.52	55.37	68.2	-12.83	PK
Vertical	17355.060	44.02	-2.52	41.50	54	-12.50	AV
Horizontal	4592.150	74.36	-20.42	53.94	74	-20.06	PK
Horizontal	4592.150	59.34	-20.42	38.93	54	-15.07	AV
Horizontal	11570.018	60.04	-8.86	51.18	68.2	-17.02	PK
Horizontal	11570.018	49.07	-8.86	40.21	54	-13.79	AV
Horizontal	17355.119	55.22	-2.52	52.70	68.2	-15.50	PK
Horizontal	17355.119	44.15	-2.52	41.63	54	-12.37	AV
High Channel (5825 MHz)-Above 1G							
Vertical	6039.096	74.07	-18.93	55.13	68.2	-13.07	PK
Vertical	6039.096	59.67	-18.93	40.74	54	-13.26	AV
Vertical	11650.138	62.93	-8.92	54.01	74	-19.99	PK
Vertical	11650.138	49.72	-8.92	40.80	54	-13.20	AV
Vertical	17475.005	59.12	-1.86	57.26	68.2	-10.94	PK
Vertical	17475.005	44.20	-1.86	42.34	54	-11.66	AV
Horizontal	6039.011	74.91	-18.93	55.97	68.2	-12.23	PK
Horizontal	6039.011	59.06	-18.93	40.13	54	-13.87	AV
Horizontal	11650.079	63.96	-8.92	55.04	74	-18.96	PK
Horizontal	11650.079	50.00	-8.92	41.08	54	-12.92	AV
Horizontal	17475.066	55.83	-1.86	53.97	68.2	-14.23	PK
Horizontal	17475.066	44.25	-1.86	42.39	54	-11.61	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.

The worst case is Antenna A

Test Mode: TX (5.8G) --802.11n-HT20

Polar	Frequency	Reading Level	Correct Factor	Measurement	Limits	Over	Detector Type
(H/V)	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Low Channel (5745 MHz)-Above 1G							
Vertical	4679.016	71.89	-20.24	51.65	74	-22.35	PK
Vertical	4679.016	59.27	-20.24	39.03	54	-14.97	AV
Vertical	11490.001	60.79	-8.79	52.00	68.2	-16.20	PK
Vertical	11490.001	49.15	-8.79	40.36	54	-13.64	AV
Vertical	17235.196	56.43	-3.18	53.25	68.2	-14.95	PK
Vertical	17235.196	44.96	-3.18	41.78	54	-12.22	AV
Horizontal	4679.050	73.72	-20.24	53.48	74	-20.52	PK
Horizontal	4679.050	59.22	-20.24	38.98	54	-15.02	AV
Horizontal	11490.071	64.81	-8.79	56.02	68.2	-12.18	PK
Horizontal	11490.071	49.45	-8.79	40.66	54	-13.34	AV
Horizontal	17235.132	57.98	-3.18	54.80	68.2	-13.40	PK
Horizontal	17235.132	44.53	-3.18	41.35	54	-12.65	AV
Middle Channel (5785 MHz)-Above 1G							
Vertical	4592.044	73.56	-20.42	53.15	74	-20.85	PK
Vertical	4592.044	59.88	-20.42	39.46	54	-14.54	AV
Vertical	11570.193	62.57	-8.86	53.71	68.2	-14.49	PK
Vertical	11570.193	49.99	-8.86	41.13	54	-12.87	AV
Vertical	17355.159	56.45	-2.52	53.93	68.2	-14.27	PK
Vertical	17355.159	44.32	-2.52	41.80	54	-12.20	AV
Horizontal	4592.056	70.61	-20.42	50.19	74	-23.81	PK
Horizontal	4592.056	59.34	-20.42	38.92	54	-15.08	AV
Horizontal	11570.078	64.77	-8.86	55.91	68.2	-12.29	PK
Horizontal	11570.078	49.66	-8.86	40.80	54	-13.20	AV
Horizontal	17355.133	59.60	-2.52	57.08	68.2	-11.12	PK
Horizontal	17355.133	44.61	-2.52	42.09	54	-11.91	AV
High Channel (5825 MHz)-Above 1G							
Vertical	6039.139	71.31	-18.93	52.38	68.2	-15.82	PK
Vertical	6039.139	59.75	-18.93	40.82	54	-13.18	AV
Vertical	11650.068	60.79	-8.92	51.87	74	-22.13	PK
Vertical	11650.068	49.19	-8.92	40.27	54	-13.73	AV
Vertical	17475.080	55.70	-1.86	53.84	68.2	-14.36	PK
Vertical	17475.080	44.32	-1.86	42.46	54	-11.54	AV
Horizontal	6039.038	72.69	-18.93	53.76	68.2	-14.44	PK
Horizontal	6039.038	59.29	-18.93	40.36	54	-13.64	AV
Horizontal	11650.129	62.15	-8.92	53.23	74	-20.77	PK
Horizontal	11650.129	49.08	-8.92	40.16	54	-13.84	AV
Horizontal	17475.089	57.43	-1.86	55.57	68.2	-12.63	PK
Horizontal	17475.089	44.32	-1.86	42.46	54	-11.54	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 is MIMO Mode.

Test Mode:	TX (5.8G) -- 802.11n-HT40
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Polar	Frequency	Reading Level	Correct Factor	Measurement	Limits	Over	Detector Type
(H/V)	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Low Channel (5755 MHz)-Above 1G							
Vertical	4679.068	70.19	-20.24	49.95	74	-24.05	PK
Vertical	4679.068	59.68	-20.24	39.44	54	-14.56	AV
Vertical	11510.158	63.12	-8.81	54.31	74	-19.69	PK
Vertical	11510.158	49.18	-8.81	40.37	54	-13.63	AV
Vertical	17265.104	57.79	-3.01	54.78	68.2	-13.42	PK
Vertical	17265.104	44.50	-3.01	41.49	54	-12.51	AV
Horizontal	4679.118	73.22	-20.24	52.98	74	-21.02	PK
Horizontal	4679.118	59.40	-20.24	39.16	54	-14.84	AV
Horizontal	11510.018	64.80	-8.81	55.99	74	-18.01	PK
Horizontal	11510.018	49.68	-8.81	40.87	54	-13.13	AV
Horizontal	17265.073	57.08	-3.01	54.07	68.2	-14.13	PK
Horizontal	17265.073	44.09	-3.01	41.08	54	-12.92	AV
Middle Channel (5795 MHz)-Above 1G							
Vertical	6039.147	74.39	-18.93	55.46	68.2	-12.74	PK
Vertical	6039.147	59.27	-18.93	40.34	54	-13.66	AV
Vertical	11590.096	61.27	-8.87	52.40	74	-21.60	PK
Vertical	11590.096	49.63	-8.87	40.76	54	-13.24	AV
Vertical	17385.002	58.86	-2.35	56.51	68.2	-11.69	PK
Vertical	17385.002	44.11	-2.35	41.76	54	-12.24	AV
Horizontal	6039.106	73.27	-18.93	54.34	68.2	-13.86	PK
Horizontal	6039.106	59.12	-18.93	40.19	54	-13.81	AV
Horizontal	11590.105	64.58	-8.87	55.71	74	-18.29	PK
Horizontal	11590.105	49.28	-8.87	40.41	54	-13.59	AV
Horizontal	17385.010	56.11	-2.35	53.76	68.2	-14.44	PK
Horizontal	17385.010	44.97	-2.35	42.62	54	-11.38	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 is MIMO Mode.

Test Mode: TX (5.8G) --802.11ac-HT20

Polar	Frequency	Reading Level	Correct Factor	Measurement	Limits	Over	Detector Type
(H/V)	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Low Channel (5745 MHz)-Above 1G							
Vertical	4679.157	72.92	-20.24	52.68	74	-21.32	PK
Vertical	4679.157	59.88	-20.24	39.64	54	-14.36	AV
Vertical	11490.096	61.18	-8.79	52.39	68.2	-15.81	PK
Vertical	11490.096	49.52	-8.79	40.73	54	-13.27	AV
Vertical	17235.124	55.20	-3.18	52.02	68.2	-16.18	PK
Vertical	17235.124	44.54	-3.18	41.36	54	-12.64	AV
Horizontal	4679.157	74.59	-20.24	54.35	74	-19.65	PK
Horizontal	4679.157	59.55	-20.24	39.31	54	-14.69	AV
Horizontal	11490.055	64.18	-8.79	55.39	68.2	-12.81	PK
Horizontal	11490.055	49.45	-8.79	40.66	54	-13.34	AV
Horizontal	17235.134	56.83	-3.18	53.65	68.2	-14.55	PK
Horizontal	17235.134	44.27	-3.18	41.09	54	-12.91	AV
Middle Channel (5785 MHz)-Above 1G							
Vertical	4592.006	70.91	-20.42	50.49	74	-23.51	PK
Vertical	4592.006	59.01	-20.42	38.60	54	-15.40	AV
Vertical	11570.068	61.50	-8.86	52.64	68.2	-15.56	PK
Vertical	11570.068	49.05	-8.86	40.19	54	-13.81	AV
Vertical	17355.088	55.67	-2.52	53.15	68.2	-15.05	PK
Vertical	17355.088	44.06	-2.52	41.54	54	-12.46	AV
Horizontal	4592.153	74.34	-20.42	53.93	74	-20.07	PK
Horizontal	4592.153	59.63	-20.42	39.21	54	-14.79	AV
Horizontal	11570.091	63.05	-8.86	54.19	68.2	-14.01	PK
Horizontal	11570.091	49.11	-8.86	40.25	54	-13.75	AV
Horizontal	17355.046	56.58	-2.52	54.06	68.2	-14.14	PK
Horizontal	17355.046	44.35	-2.52	41.83	54	-12.17	AV
High Channel (5825 MHz)-Above 1G							
Vertical	6039.167	72.47	-18.93	53.54	68.2	-14.66	PK
Vertical	6039.167	59.33	-18.93	40.40	54	-13.60	AV
Vertical	11650.025	64.40	-8.92	55.48	74	-18.52	PK
Vertical	11650.025	49.93	-8.92	41.01	54	-12.99	AV
Vertical	17475.077	56.08	-1.86	54.22	68.2	-13.98	PK
Vertical	17475.077	44.23	-1.86	42.37	54	-11.63	AV
Horizontal	6039.129	70.87	-18.93	51.93	68.2	-16.27	PK
Horizontal	6039.129	59.05	-18.93	40.12	54	-13.88	AV
Horizontal	11650.146	60.58	-8.92	51.66	74	-22.34	PK
Horizontal	11650.146	49.55	-8.92	40.63	54	-13.37	AV
Horizontal	17475.140	59.62	-1.86	57.76	68.2	-10.44	PK
Horizontal	17475.140	44.32	-1.86	42.46	54	-11.54	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 is MIMO Mode.

Test Mode :	TX (5.8G) -- 802.11ac-HT40
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Polar (H/V)	Frequency (MHz)	Reading Level (dBuV/m)	Correct Factor (dB)	Measure- ment (dBuV/m)	Limits (dBuV/m)	Over (dB)	Detector Type
Low Channel (5755 MHz)-Above 1G							
Vertical	4679.106	73.03	-20.24	52.79	74	-21.21	PK
Vertical	4679.106	59.33	-20.24	39.08	54	-14.92	AV
Vertical	11510.114	60.59	-8.81	51.78	74	-22.22	PK
Vertical	11510.114	49.75	-8.81	40.94	54	-13.06	AV
Vertical	17265.141	59.59	-3.01	56.58	68.2	-11.62	PK
Vertical	17265.141	45.00	-3.01	41.99	54	-12.01	AV
Horizontal	4679.127	72.56	-20.24	52.32	74	-21.68	PK
Horizontal	4679.127	59.76	-20.24	39.52	54	-14.48	AV
Horizontal	11510.160	63.24	-8.81	54.43	74	-19.57	PK
Horizontal	11510.160	49.44	-8.81	40.63	54	-13.37	AV
Horizontal	17265.080	59.70	-3.01	56.69	68.2	-11.51	PK
Horizontal	17265.080	44.17	-3.01	41.16	54	-12.84	AV
Middle Channel (5795 MHz)-Above 1G							
Vertical	6039.148	73.04	-18.93	54.11	68.2	-14.09	PK
Vertical	6039.148	59.59	-18.93	40.66	54	-13.34	AV
Vertical	11590.164	62.31	-8.87	53.44	74	-20.56	PK
Vertical	11590.164	49.55	-8.87	40.68	54	-13.32	AV
Vertical	17385.199	58.75	-2.35	56.40	68.2	-11.80	PK
Vertical	17385.199	44.12	-2.35	41.77	54	-12.23	AV
Horizontal	6039.134	70.25	-18.93	51.32	68.2	-16.88	PK
Horizontal	6039.134	59.84	-18.93	40.91	54	-13.09	AV
Horizontal	11590.084	62.52	-8.87	53.65	74	-20.35	PK
Horizontal	11590.084	49.90	-8.87	41.03	54	-12.97	AV
Horizontal	17385.062	56.08	-2.35	53.73	68.2	-14.47	PK
Horizontal	17385.062	44.91	-2.35	42.56	54	-11.44	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 is MIMO Mode.

Test Mode :	TX (5.8G) -- 802.11ac 80
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Polar (H/V)	Frequency (MHz)	Reading Level (dBuV/m)	Correct Factor (dB)	Measure- ment (dBuV/m)	Limits (dBuV/m)	Over (dB)	Detector Type
Low Channel (5775 MHz)-Above 1G							
Vertical	4679.146	70.85	-20.24	50.61	74	-23.39	PK
Vertical	4679.146	59.00	-20.24	38.76	54	-15.24	AV
Vertical	11550.188	64.73	-8.84	55.89	74	-18.11	PK
Vertical	11550.188	49.29	-8.84	40.45	54	-13.55	AV
Vertical	17325.192	56.42	-2.68	53.74	68.2	-14.46	PK
Vertical	17325.192	44.02	-2.68	41.34	54	-12.66	AV
Horizontal	4679.106	71.59	-20.24	51.35	74	-22.65	PK
Horizontal	4679.106	59.93	-20.24	39.69	54	-14.31	AV
Horizontal	11550.061	62.12	-8.84	53.28	74	-20.72	PK
Horizontal	11550.061	49.20	-8.84	40.36	54	-13.64	AV
Horizontal	17325.012	57.47	-2.68	54.79	68.2	-13.41	PK
Horizontal	17325.012	44.66	-2.68	41.98	54	-12.02	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 is MIMO Mode.

Test Mode: TX (5.8G) --802.11ax-HT20

Polar	Frequency	Reading Level	Correct Factor	Measurement	Limits	Over	Detector Type
(H/V)	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Low Channel (5745 MHz)-Above 1G							
Vertical	4679.170	74.18	-20.24	53.94	74	-20.06	PK
Vertical	4679.170	59.72	-20.24	39.48	54	-14.52	AV
Vertical	11490.189	61.58	-8.79	52.79	68.2	-15.41	PK
Vertical	11490.189	49.88	-8.79	41.09	54	-12.91	AV
Vertical	17235.113	58.47	-3.18	55.29	68.2	-12.91	PK
Vertical	17235.113	44.98	-3.18	41.80	54	-12.20	AV
Horizontal	4679.060	73.62	-20.24	53.37	74	-20.63	PK
Horizontal	4679.060	59.18	-20.24	38.94	54	-15.06	AV
Horizontal	11490.051	63.09	-8.79	54.30	68.2	-13.90	PK
Horizontal	11490.051	49.98	-8.79	41.19	54	-12.81	AV
Horizontal	17235.078	55.29	-3.18	52.11	68.2	-16.09	PK
Horizontal	17235.078	44.28	-3.18	41.10	54	-12.90	AV
Middle Channel (5785 MHz)-Above 1G							
Vertical	4592.181	70.05	-20.42	49.64	74	-24.36	PK
Vertical	4592.181	59.35	-20.42	38.94	54	-15.06	AV
Vertical	11570.176	60.80	-8.86	51.94	68.2	-16.26	PK
Vertical	11570.176	49.32	-8.86	40.46	54	-13.54	AV
Vertical	17355.167	58.67	-2.52	56.15	68.2	-12.05	PK
Vertical	17355.167	44.25	-2.52	41.73	54	-12.27	AV
Horizontal	4592.029	72.50	-20.42	52.09	74	-21.91	PK
Horizontal	4592.029	59.75	-20.42	39.34	54	-14.66	AV
Horizontal	11570.071	60.18	-8.86	51.32	68.2	-16.88	PK
Horizontal	11570.071	49.15	-8.86	40.29	54	-13.71	AV
Horizontal	17355.066	55.64	-2.52	53.12	68.2	-15.08	PK
Horizontal	17355.066	44.99	-2.52	42.47	54	-11.53	AV
High Channel (5825 MHz)-Above 1G							
Vertical	6039.059	72.41	-18.93	53.48	68.2	-14.72	PK
Vertical	6039.059	59.60	-18.93	40.66	54	-13.34	AV
Vertical	11650.049	64.62	-8.92	55.70	74	-18.30	PK
Vertical	11650.049	49.76	-8.92	40.84	54	-13.16	AV
Vertical	17475.144	59.14	-1.86	57.28	68.2	-10.92	PK
Vertical	17475.144	44.93	-1.86	43.07	54	-10.93	AV
Horizontal	6039.045	71.44	-18.93	52.51	68.2	-15.69	PK
Horizontal	6039.045	59.79	-18.93	40.86	54	-13.14	AV
Horizontal	11650.079	61.77	-8.92	52.85	74	-21.15	PK
Horizontal	11650.079	49.69	-8.92	40.77	54	-13.23	AV
Horizontal	17475.196	57.03	-1.86	55.17	68.2	-13.03	PK
Horizontal	17475.196	44.52	-1.86	42.66	54	-11.34	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 is MIMO Mode.

Test Mode :	TX (5.8G) -- 802.11ax-HT40
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Polar (H/V)	Frequency (MHz)	Reading Level (dBuV/m)	Correct Factor (dB)	Measure- ment (dBuV/m)	Limits (dBuV/m)	Over (dB)	Detector Type
Low Channel (5755 MHz)-Above 1G							
Vertical	4679.102	70.06	-20.24	49.82	74	-24.18	PK
Vertical	4679.102	59.13	-20.24	38.89	54	-15.11	AV
Vertical	11510.072	62.02	-8.81	53.21	74	-20.79	PK
Vertical	11510.072	49.78	-8.81	40.97	54	-13.03	AV
Vertical	17265.016	55.98	-3.01	52.97	68.2	-15.23	PK
Vertical	17265.016	44.90	-3.01	41.89	54	-12.11	AV
Horizontal	4679.164	72.56	-20.24	52.32	74	-21.68	PK
Horizontal	4679.164	59.24	-20.24	39.00	54	-15.00	AV
Horizontal	11510.169	64.10	-8.81	55.29	74	-18.71	PK
Horizontal	11510.169	49.24	-8.81	40.43	54	-13.57	AV
Horizontal	17265.001	55.28	-3.01	52.27	68.2	-15.93	PK
Horizontal	17265.001	44.02	-3.01	41.01	54	-12.99	AV
Middle Channel (5795 MHz)-Above 1G							
Vertical	6039.093	70.52	-18.93	51.58	68.2	-16.62	PK
Vertical	6039.093	59.56	-18.93	40.63	54	-13.37	AV
Vertical	11590.110	60.25	-8.87	51.38	74	-22.62	PK
Vertical	11590.110	49.39	-8.87	40.52	54	-13.48	AV
Vertical	17385.128	55.49	-2.35	53.14	68.2	-15.06	PK
Vertical	17385.128	44.61	-2.35	42.26	54	-11.74	AV
Horizontal	6039.164	70.29	-18.93	51.36	68.2	-16.84	PK
Horizontal	6039.164	59.79	-18.93	40.86	54	-13.14	AV
Horizontal	11590.125	60.41	-8.87	51.54	74	-22.46	PK
Horizontal	11590.125	49.56	-8.87	40.69	54	-13.31	AV
Horizontal	17385.045	56.40	-2.35	54.05	68.2	-14.15	PK
Horizontal	17385.045	44.42	-2.35	42.07	54	-11.93	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 is MIMO Mode.

Test Mode :	TX (5.8G) -- 802.11ax 80
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Polar (H/V)	Frequency (MHz)	Reading Level (dBuV/m)	Correct Factor (dB)	Measure- ment (dBuV/m)	Limits (dBuV/m)	Over (dB)	Detector Type
Low Channel (5775 MHz)-Above 1G							
Vertical	4679.162	70.08	-20.24	49.84	74	-24.16	PK
Vertical	4679.162	59.37	-20.24	39.13	54	-14.87	AV
Vertical	11550.135	63.63	-8.84	54.79	74	-19.21	PK
Vertical	11550.135	49.84	-8.84	41.00	54	-13.00	AV
Vertical	17325.048	55.84	-2.68	53.16	68.2	-15.04	PK
Vertical	17325.048	44.01	-2.68	41.33	54	-12.67	AV
Horizontal	4679.129	73.73	-20.24	53.49	74	-20.51	PK
Horizontal	4679.129	59.16	-20.24	38.92	54	-15.08	AV
Horizontal	11550.061	63.27	-8.84	54.43	74	-19.57	PK
Horizontal	11550.061	49.33	-8.84	40.49	54	-13.51	AV
Horizontal	17325.085	55.77	-2.68	53.09	68.2	-15.11	PK
Horizontal	17325.085	44.36	-2.68	41.68	54	-12.32	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 is MIMO Mode.

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 $RBW (< 500 \text{ KHz})$ is the reduced resolution bandwidth of the spectrum analyzer set during measurement.

d) If measurement bandwidth of Maximum PSD is specified in 1 MHz, add $10\log(1\text{MHz}/RBW)$ to the measured result, whereas $RBW (< 1 \text{ MHz})$ is the reduced resolution bandwidth of spectrum analyzer set during measurement.

e) Care must be taken to ensure that the measurements are performed during a period of continuous transmission or are corrected upward for duty cycle.

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