FCC Test Report (WLAN)

Report No.:	RF190716E01-7
FCC ID:	J9C-QCNFA524
Test Model:	QCNFA524
Received Date:	July 16, 2019
Test Date:	Sep. 20 to Nov. 19, 2019
Issued Date:	Nov. 19, 2019
Applicant:	Qualcomm Technologies, Inc.
Address:	5775 Morehouse Drive, San Diego, CA 92121-1714
Issued By:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch Hsin Chu Laboratory
Lab Address:	E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300, Taiwa.
Test Location:	E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300, Taiwan.
FCC Registration / Designation Number:	723255 / TW2022

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Release Control Record

Issue No.	Description	Date Issued
RF190716E01-7	Original release.	Nov. 19, 2019

1 Certificate of Conformity

Product:	Wi-Fi 6 + BT 5.1 M.2 1216 Module
Brand:	Qualcomm
Test Model:	QCNFA524
Sample Status:	ENGINEERING SAMPLE
Applicant:	Qualcomm Technologies, Inc.
Test Date:	Sep. 20 to Nov. 19, 2019
Standard:	47 CFR FCC Part 15, Subpart E (Section 15.407) ANSI C63.10: 2013

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

Prepared by : Phoenix Huang , **Date:** Nov. 19, 2019

Phoenix Huang / Specialist

Approved by : , **Date:** Nov. 19, 2019

Clark Lin / Technical Manager

2 Summary of Test Results

47 CFR FCC Part 15, Subpart E (Section 15.407)			
FCC Clause	Test Item	Result	Remarks
15.407(b)(6)	AC Power Conducted Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -12.40dB at 0.57969 MHz.
15.407(b) (1/2/3/4(i/ii)/6)	Radiated Emissions & Band Edge Measurement*	Pass	Meet the requirement of limit. Minimum passing margin is -3.0dB at 5350.10 MHz.
15.407(a)(1/2/3)	Max Average Transmit Power	Pass	Meet the requirement of limit.
---	Occupied Bandwidth Measurement	-	Reference only.
15.407(a)(1/2/3)	Peak Power Spectral Density	Pass	Meet the requirement of limit.
15.407(e)	6dB bandwidth	Pass	Meet the requirement of limit. (U-NII-3 Band only)
15.407(g)	Frequency Stability	Pass	Meet the requirement of limit.
15.203	Antenna Requirement	Pass	Antenna connector is i-pex (MHF2) not a standard connector.

*For U-NII-3 band compliance with rule part 15.407(b)(4)(i), the OOBE test plots were recorded in Annex A.

Note:
Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

2.1 Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

Measurement	Frequency	Expanded Uncertainty (k=2) (±)
Conducted Emissions at mains ports	150kHz ~ 30MHz	1.8 dB
Radiated Emissions up to 1 GHz	9kHz ~ 30MHz	3.0 dB
	30MHz ~ 1GHz	4.9 dB
Radiated Emissions above 1 GHz	1GHz ~ 6GHz	5.1 dB
	6GHz ~ 18GHz	4.9 dB
	18GHz ~ 40GHz	5.2 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT (WLAN)

Product	Wi-Fi 6 + BT 5.1 M.2 1216 Module
Brand	Qualcomm
Test Model	QCNFA524
Status of EUT	ENGINEERING SAMPLE
Power Supply Rating	3.3Vdc from host equipment
Modulation Type	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM 256QAM for OFDM in 11ac mode and VHT20/40 in 2.4GHz mode 1024QAM for OFDMA in 11ax HE mode
Modulation Technology	DSSS, OFDM, OFDMA
Transfer Rate	802.11b: up to 11Mbps 802.11a/g: up to 54Mbps 802.11n: up to 300Mbps 802.11ac: up to 866.7Mbps 802.11ax: up to 1201.0Mbps
Operating Frequency	**2.4GHz:** 2.412 ~ 2.472GHz **5GHz:** 5.18~ 5.24GHz, 5.26 ~ 5.32GHz, 5.5 ~ 5.72GHz, 5.745 ~ 5.825GHz
Number of Channel	**2.4GHz:** 802.11b, 802.11g, 802.11n (HT20), VHT20, 802.11ax (HE20): 13 802.11n (HT40), VHT40, 802.11ax (HE40): 9 **5GHz:** 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20): 25 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40): 12 802.11ac (VHT80), 802.11ax (HE80): 6
Output Power	**2.4GHz:** 717.852mW **5.18 ~ 5.24GHz:** 212.001mW **5.26 ~ 5.32GHz:** 212.131mW **5.5 ~ 5.72GHz:** 162.037mW **5.745 ~ 5.825GHz:** 206.482mW
Antenna Type	Refer to section 3.2
Antenna Connector	Refer to section 3.2
Accessory Device	NA
Cable Supplied	NA

Note:

1. This device of WLAN (2.4GHz & 5GHz U-NII-1 Band) can support hotspot mode.
2. The EUT incorporates a MIMO function:

2.4GHz Band		
MODULATION MODE	**TX & RX CONFIGURATION**	
802.11b	2TX	2RX
802.11g	2TX	2RX
802.11n (HT20)	2TX	2RX
802.11n (HT40)	2TX	2RX
VHT20	2TX	2RX
VHT40	2TX	2RX
802.11ax (HE20)	2TX	2RX
802.11ax (HE40)	2TX	2RX
802.11ax (RU26/52/106/242/484)	2TX	2RX
5GHz Band		
MODULATION MODE	**TX & RX CONFIGURATION**	
802.11a	2TX	2RX
802.11n (HT20)	2TX	2RX
802.11n (HT40)	2TX	2RX
802.11ac (VHT20)	2TX	2RX
802.11ac (VHT40)	2TX	2RX
802.11ac (VHT80)	2TX	2RX
802.11ax (HE20)	2TX	2RX
802.11ax (HE40)	2TX	2RX
802.11ax (HE80)	2TX	2RX
802.11ax (RU26/52/106/242/484/996)	2TX	2RX

Note:

1. The EUT support Beamforming and non-beamforming mode, therefore both mode were investigated and the worst case scenario was identified. The worst case data (Beamforming mode) were presented in test report.
2. The modulation and bandwidth are similar for 802.11n mode for 20MHz (40MHz) and 802.11ac mode for 20MHz (40MHz), therefore investigated worst case to representative mode in test report. (Final test mode refer section 3.3.1)

3. Simultaneously transmission condition.

Condition	Technology	
1	WLAN (2.4GHz)	WLAN (5GHz)
2	WLAN (5GHz)	Bluetooth
Note: The emission of the simultaneous operation has been evaluated and no non-compliance was found.		

4. The device of WLAN (2.4GHz) and Bluetooth technology can't transmit simultaneously, it was used timely shared coexistence technology.
5. The above EUT information is declared by manufacturer and for more detailed features description, please refers to the manufacturer's specifications or user's manual.

3.2 Description of Antenna

The antenna gain was declared by client; please refer to the following table:

Ant. No.	Brand	Model	Antenna Net gain	Frequency range (GHz)	Cable Loss (dBi)	Ant. Type	Connector Type	Cable Length (mm)
1	WNC	81.EBJ15.005	3.00	2.4~2.4835	1.15	PIFA	i-pex(MHF2)	300
			2.56	5.15~5.35	1.70			
			4.76	5.47~5.725	1.74			
			4.76	5.725~5.850	1.79			
2	WNC	81.EBJ15.005	3.62	2.4~2.4835	1.15	PIFA	i-pex(MHF2)	300
			3.08	5.15~5.35	1.70			
			3.31	5.47~5.725	1.74			
			2.42	5.725~5.850	1.79			

Note: 1. Above antenna gains of antenna are Total (H+V).

Following antenna combination(s) was (were) selected as representative mode for test or evaluate in this report as listed.

5150~5850MHz:

Transmitter Circuit	Brand	Model	Ant. Type	5GHz Gain with cable loss (dBi)	5GHz Cable Loss (dB)	Connector Type	Cable Length (mm)
Chain (0)+(1)	WNC	81.EBJ15.005	PIFA	5.15~5.35: 3.08 5.47~5.725: 4.76 5.725~5.850: 4.76	5.15~5.35: 1.70 5.47~5.725: 1.74 5.725~5.850: 1.76	i-pex(MHF2)	300

3.3 Description of Test Modes

FOR 5180 ~ 5240MHz

4 channels are provided for 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20):

Channel	Frequency	Channel	Frequency
36	5180 MHz	44	5220 MHz
40	5200 MHz	48	5240 MHz

2 channels are provided for 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40):

Channel	Frequency	Channel	Frequency
38	5190 MHz	46	5230 MHz

1 channel is provided for 802.11ac (VHT80), 802.11ax (HE80):

Channel	Frequency
42	5210 MHz

FOR 5260 ~ 5320MHz

4 channels are provided for 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20):

Channel	Frequency	Channel	Frequency
52	5260 MHz	60	5300 MHz
56	5280 MHz	64	5320 MHz

2 channels are provided for 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40):

Channel	Frequency	Channel	Frequency
54	5270 MHz	62	5310 MHz

1 channel is provided for 802.11ac (VHT80), 802.11ax (HE80):

Channel	Frequency
58	5290 MHz

FOR 5500 ~ 5720MHz

12 channels are provided for 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20):

Channel	Frequency	Channel	Frequency
100	5500 MHz	124	5620 MHz
104	5520 MHz	128	5640 MHz
108	5540 MHz	132	5660 MHz
112	5560 MHz	136	5680 MHz
116	5580 MHz	140	5700 MHz
120	5600 MHz	144	5720 MHz

6 channels are provided for 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40):

Channel	Frequency	Channel	Frequency
102	5510 MHz	126	5630 MHz
110	5550 MHz	134	5670 MHz
118	5590 MHz	142	5710 MHz

3 channels are provided for 802.11ac (VHT80), 802.11ax (HE80):

Channel	Frequency	Channel	Frequency
106	5530 MHz	138	5690 MHz
122	5610 MHz		

FOR 5745 ~ 5825MHz:

5 channels are provided for 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20):

Channel	Frequency	Channel	Frequency
149	5745 MHz	161	5805 MHz
153	5765 MHz	165	5825 MHz
157	5785 MHz		

2 channels are provided for 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE20):

Channel	Frequency	Channel	Frequency
151	5755 MHz	159	5795 MHz

1 channel is provided for 802.11ac (VHT80), 802.11ax (HE20):

Channel	Frequency
155	5775 MHz

3.3.1 Test Mode Applicability and Tested Channel Detail

EUT Configure Mode	Applicable To				Description
	RE≥1G	RE<1G	PLC	APCM	
-	√	√	√	√	-

Where **RE≥1G:** Radiated Emission above 1GHz **RE<1G:** Radiated Emission below 1GHz
PLC: Power Line Conducted Emission **APCM:** Antenna Port Conducted Measurement

Radiated Emission Test (Above 1GHz):

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates, RU configurations and antenna ports (if EUT with antenna diversity architecture).

☒ Following channel(s) was (were) selected for the final test as listed below.

Mode	FREQ. Band (MHz)	Available Channel	Tested Channel	Modulation Technology	MODULATION TYPE	Data Rate Parameter
802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	BPSK	36Mb/s
802.11ac (VHT20)		36 to 48	36, 40, 48	OFDM	BPSK	MCS4
802.11ac (VHT40)		38 to 46	38, 46	OFDM	BPSK	MCS4
802.11ac (VHT80)		42	42	OFDM	BPSK	MCS4
802.11ax (HE20)		36 to 48	36, 40, 48	OFDM	BPSK	MCS4
802.11ax (HE40)		38 to 46	38, 46	OFDM	BPSK	MCS4
802.11ax (HE80)		42	42	OFDM	BPSK	MCS4
802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	BPSK	36Mb/s
802.11ac (VHT20)		52 to 64	52, 60, 64	OFDM	BPSK	MCS4
802.11ac (VHT40)		54 to 62	54, 62	OFDM	BPSK	MCS4
802.11ac (VHT80)		58	58	OFDM	BPSK	MCS4
802.11ax (HE20)		52 to 64	52, 60, 64	OFDM	BPSK	MCS4
802.11ax (HE40)		54 to 62	54, 62	OFDM	BPSK	MCS4
802.11ax (HE80)		58	58	OFDM	BPSK	MCS4
802.11a	5500-5720	100 to 144	100, 116, 140, 144	OFDM	BPSK	36Mb/s
802.11ac (VHT20)		100 to 144	100, 116, 140, 144	OFDM	BPSK	MCS4
802.11ac (VHT40)		102 to 142	102, 110, 134, 142	OFDM	BPSK	MCS4
802.11ac (VHT80)		106 to 138	106, 122, 138	OFDM	BPSK	MCS4
802.11ax (HE20)		100 to 144	100, 116, 140, 144	OFDM	BPSK	MCS4
802.11ax (HE40)		102 to 142	102, 110, 134, 142	OFDM	BPSK	MCS4
802.11ax (HE80)		106 to 138	106, 122, 138	OFDM	BPSK	MCS4
802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	BPSK	36Mb/s
802.11ac (VHT20)		149 to 165	149, 157, 165	OFDM	BPSK	MCS4
802.11ac (VHT40)		151 to 159	151, 159	OFDM	BPSK	MCS4
802.11ac (VHT80)		155	155	OFDM	BPSK	MCS4
802.11ax (HE20)		149 to 165	149, 157, 165	OFDM	BPSK	MCS4
802.11ax (HE40)		151 to 159	151, 159	OFDM	BPSK	MCS4
802.11ax (HE80)		155	155	OFDM	BPSK	MCS4

Preamble (MHz)	FREQ. Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate Parameter	RU Configuration		
							RU26	RU106	RU242
20	5180-5240	36 to 48	36 40 48	OFDMA	BPSK	MCS4	26/0 26/0 26/8	106/53 106/53 106/54	242/61
	5260-5320	52 to 64	52 60 64	OFDMA	BPSK	MCS4	26/0 26/8 26/8	106/53 106/54 106/54	242/61
	5500-5720	100 to 144	100 116 140 144	OFDMA	BPSK	MCS4	26/0 26/0 26/8 26/8	106/53 106/53 106/54 106/54	242/61
	5745-5825	149 to 165	149 157 165	OFDMA	BPSK	MCS4	26/0 26/8 26/8	106/53 106/54 106/54	242/61
Preamble (MHz)	FREQ. Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate Parameter	RU Configuration		
							RU26	RU242	RU484
40	5180-5240	38 to 46	38 46	OFDMA	BPSK	MCS4	26/9 26/27	242/62 242/63	484/65
	5260-5320	54 to 62	54 62	OFDMA	BPSK	MCS4	26/9 26/27	242/62 242/63	484/65
	5500-5720	102 to 142	102 110 134 142	OFDMA	BPSK	MCS4	26/9 26/27 26/9 26/27	242/62 242/63 242/62 242/63	484/65
	5745-5825	151 to 159	151 159	OFDMA	BPSK	MCS4	26/9 26/27	242/62 242/63	484/65
Preamble (MHz)	FREQ. Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate Parameter	RU Configuration		
							RU996		
80	5180-5240	42	42	OFDMA	BPSK	MCS4	996/67		
	5260-5320	58	58	OFDMA	BPSK	MCS4	996/67		
	5500-5720	106 to 138	106 122 138	OFDMA	BPSK	MCS4	996/67		
	5745-5825	155	155	OFDMA	BPSK	MCS4	996/67		

Note:
1. For 20MHz Preamble, the Conducted spurious emission worst case was found in RU26 and Bandedge was found in RU106.
2. For 40MHz Preamble, the Conducted spurious emission worst case was found in RU26 and Bandedge was found in RU242.

Radiated Emission Test (Below 1GHz):

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates, RU configurations and antenna ports (if EUT with antenna diversity architecture).

☒ Following channel(s) was (were) selected for the final test as listed below.

Mode	FREQ. Band (MHz)	Available Channel	Tested Channel	Modulation Technology	MODULATION TYPE	Data Rate Parameter	RU Configuration
802.11ax (HE40)	5180-5240 5260-5320 5500-5720 5745-5825	38 to 46 54 to 62 102 to 142 151 to 159	151	OFDMA	BPSK	MCS0	-

Power Line Conducted Emission Test:

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates, RU configurations and antenna ports (if EUT with antenna diversity architecture).

☒ Following channel(s) was (were) selected for the final test as listed below.

Mode	FREQ. Band (MHz)	Available Channel	Tested Channel	Modulation Technology	MODULATION TYPE	Data Rate Parameter	RU Configuration
802.11ax (HE40)	5180-5240 5260-5320 5500-5720 5745-5825	38 to 46 54 to 62 102 to 142 151 to 159	151	OFDMA	BPSK	MCS0	-

Antenna Port Conducted Measurement:

☒ This item includes all test value of each mode, but only includes spectrum plot of worst value of each mode.
☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates, RU configurations and antenna ports (if EUT with antenna diversity architecture).
☒ Following channel(s) was (were) selected for the final test as listed below.

Mode	FREQ. Band (MHz)	Available Channel	Tested Channel	Modulation Technology	MODULATION TYPE	Data Rate Parameter
802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	BPSK	36Mb/s
802.11ac (VHT20)		36 to 48	36, 40, 48	OFDM	BPSK	MCS4
802.11ac (VHT40)		38 to 46	38, 46	OFDM	BPSK	MCS4
802.11ac (VHT80)		42	42	OFDM	BPSK	MCS4
802.11ax (HE20)		36 to 48	36, 40, 48	OFDM	BPSK	MCS4
802.11ax (HE40)		38 to 46	38, 46	OFDM	BPSK	MCS4
802.11ax (HE80)		42	42	OFDM	BPSK	MCS4
802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	BPSK	36Mb/s
802.11ac (VHT20)		52 to 64	52, 60, 64	OFDM	BPSK	MCS4
802.11ac (VHT40)		54 to 62	54, 62	OFDM	BPSK	MCS4
802.11ac (VHT80)		58	58	OFDM	BPSK	MCS4
802.11ax (HE20)		52 to 64	52, 60, 64	OFDM	BPSK	MCS4
802.11ax (HE40)		54 to 62	54, 62	OFDM	BPSK	MCS4
802.11ax (HE80)		58	58	OFDM	BPSK	MCS4
802.11a	5500-5720	100 to 144	100, 116, 140, 144	OFDM	BPSK	36Mb/s
802.11ac (VHT20)		100 to 144	100, 116, 140, 144	OFDM	BPSK	MCS4
802.11ac (VHT40)		102 to 142	102, 110, 134, 142	OFDM	BPSK	MCS4
802.11ac (VHT80)		106 to 138	106, 122, 138	OFDM	BPSK	MCS4
802.11ax (HE20)		100 to 144	100, 116, 140, 144	OFDM	BPSK	MCS4
802.11ax (HE40)		102 to 142	102, 110, 134, 142	OFDM	BPSK	MCS4
802.11ax (HE80)		106 to 138	106, 122, 138	OFDM	BPSK	MCS4
802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	BPSK	36Mb/s
802.11ac (VHT20)		149 to 165	149, 157, 165	OFDM	BPSK	MCS4
802.11ac (VHT40)		151 to 159	151, 159	OFDM	BPSK	MCS4
802.11ac (VHT80)		155	155	OFDM	BPSK	MCS4
802.11ax (HE20)		149 to 165	149, 157, 165	OFDM	BPSK	MCS4
802.11ax (HE40)		151 to 159	151, 159	OFDM	BPSK	MCS4
802.11ax (HE80)		155	155	OFDM	BPSK	MCS4

Preamble (MHz)	FREQ. Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate Parameter	RU Configuration			
							RU26	RU52	RU 106	RU 242
20	5180-5240	36 to 48	36	OFDMA	BPSK	MCS4	26/0	52/37	106/53	242/61
			40				26/0	52/37	106/53	
			48				26/8	52/40	106/54	
	5260-5320	52 to 64	52	OFDMA	BPSK	MCS4	26/0	52/37	106/53	242/61
			60				26/8	52/40	106/54	
			64				26/8	52/40	106/54	
	5500-5720	100 to 144	100	OFDMA	BPSK	MCS4	26/0	52/37	106/53	242/61
			116				26/0	52/37	106/53	
			140				26/8	52/40	106/54	
			144				26/0, 26/8	52/37, 52/40	106/53, 106/54	
	5745-5825	149 to 165	149	OFDMA	BPSK	MCS4	26/0	52/37	106/53	242/61
			157				26/8	52/40	106/54	
			165				26/8	52/40	106/54	

Preamble (MHz)	FREQ. Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate Parameter	RU Configuration				
							RU26	RU52	RU106	RU242	RU 484
40	5180-5240	38 to 46	38	OFDMA	BPSK	MCS4	26/9	52/41	106/55	242/62	484/65
			46				26/27	52/48	106/58	242/63	
	5260-5320	54 to 62	54	OFDMA	BPSK	MCS4	26/9	52/41	106/55	242/62	484/65
			62				26/27	52/48	106/58	242/63	
	5500-5720	102 to 142	102	OFDMA	BPSK	MCS4	26/9	52/41	106/55	242/62	484/65
			110				26/27	52/48	106/58	242/63	
			134				26/9	52/41	106/55	242/62	
			142				26/27	52/48	106/58	242/63	
	5745-5825	151 to 159	151	OFDMA	BPSK	MCS4	26/9	52/41	106/55	242/62	484/65
			159				26/27	52/48	106/58	242/63	

Preamble (MHz)	FREQ. Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate Parameter	RU Configuration
							RU996
80	5180-5240	42	42	OFDMA	BPSK	MCS4	996/67
	5260-5320	58	58	OFDMA	BPSK	MCS4	996/67
	5500-5720	106 to 138	106	OFDMA	BPSK	MCS4	996/67
			122				
			138				
	5745-5825	155	155	OFDMA	BPSK	MCS4	996/67

Test Condition:

Applicable To	Environmental Conditions	Input Power (system)	Tested By
RE≥1G	22deg. C, 71%RH 25deg. C, 69%RH	120Vac, 60Hz	Jeff Lee Andy Ho
RE<1G	22deg. C, 71%RH	120Vac, 60Hz	Jeff Lee
PLC	24deg. C, 75%RH	120Vac, 60Hz	Andy Ho
APCM	25deg. C, 60%RH	120Vac, 60Hz	Robert Cheng

3.4 Duty Cycle of Test Signal

If duty cycle of test signal is ≥ 98 %, duty factor is not required.
If duty cycle of test signal is < 98%, duty factor shall be considered.

802.11a: Duty cycle = 0.346 ms/0.873 ms = 0.396, Duty factor = 10 * log (1/Duty cycle) = 4.02

802.11ac (VHT20): Duty cycle = 5.421 ms/5.47 ms = 0.991

802.11ac (VHT40): Duty cycle = 5.422 ms/5.461 ms = 0.993

802.11ac (VHT80): Duty cycle = 5.415 ms/5.462 ms = 0.991

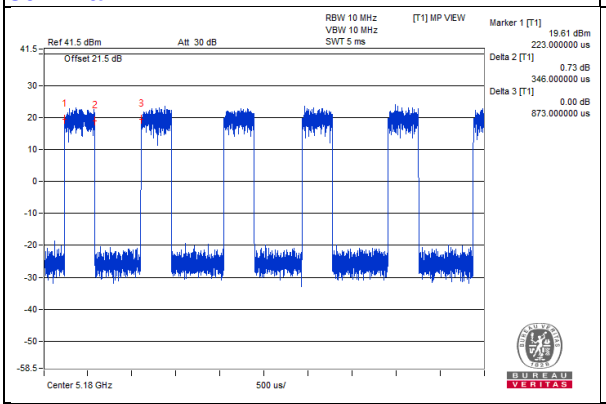
802.11ax (HE20): Duty cycle = 5.434 ms/5.486 ms = 0.991

802.11ax (HE40): Duty cycle = 5.437 ms/5.475 ms = 0.993

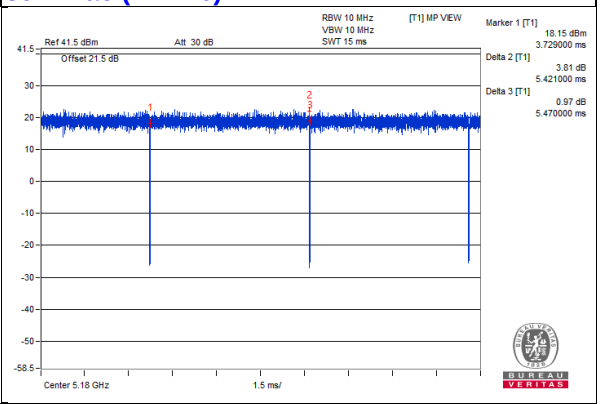
802.11ax (HE80): Duty cycle = 5.44 ms/5.483 ms = 0.992

20MHz Preamble (RU26): Duty cycle = 4.6/4.705 = 0.978, Duty factor = 10 * log(1/Duty cycle) = 0.1
20MHz Preamble (RU52): Duty cycle = 4.41/4.548 = 0.97, Duty factor = 10 * log(1/Duty cycle) = 0.13
20MHz Preamble (RU106): Duty cycle = 4.05/4.196 = 0.965, Duty factor = 10 * log(1/Duty cycle) = 0.15
20MHz Preamble (RU242): Duty cycle = 1.158/1.654 = 0.70, Duty factor = 10 * log(1/Duty cycle) = 1.55
40MHz Preamble (RU26): Duty cycle = 4.605/4.705 = 0.9793, Duty factor = 10 * log(1/Duty cycle) = 0.09
40MHz Preamble (RU52): Duty cycle = 3.232/3.38 = 0.956, Duty factor = 10 * log(1/Duty cycle) = 0.19
40MHz Preamble (RU106): Duty cycle = 4.052/4.181 = 0.969, Duty factor = 10 * log(1/Duty cycle) = 0.14
40MHz Preamble (RU242): Duty cycle = 1.157/1.844 = 0.627, Duty factor = 10 * log(1/Duty cycle) = 2.02
40MHz Preamble (RU484): Duty cycle = 0.615/1.903 = 0.323, Duty factor = 10 * log(1/Duty cycle) = 4.91
80MHz Preamble (RU996): Duty cycle = 0.33/1.933 = 0.171, Duty factor = 10 * log(1/Duty cycle) = 7.68

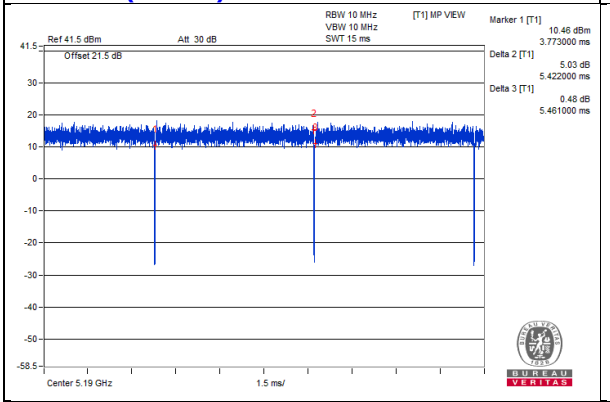
802.11a



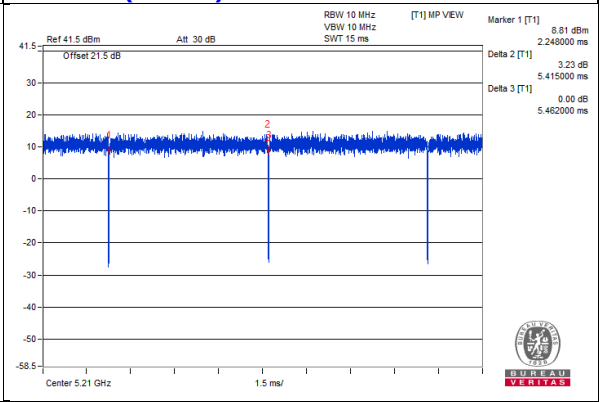
802.11ac (VHT20)



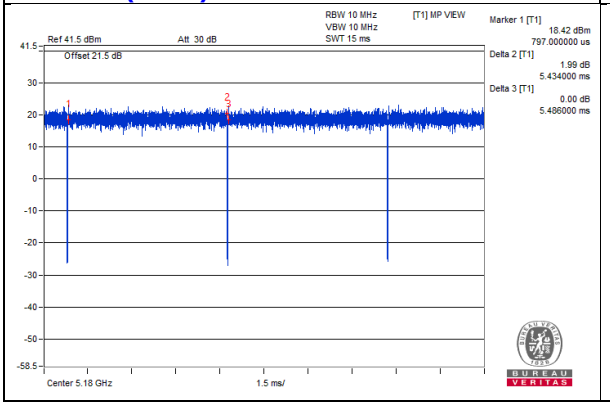
802.11ac (VHT40)



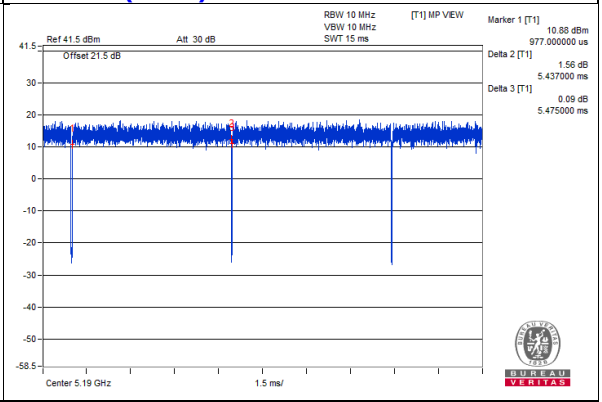
802.11ac (VHT80)



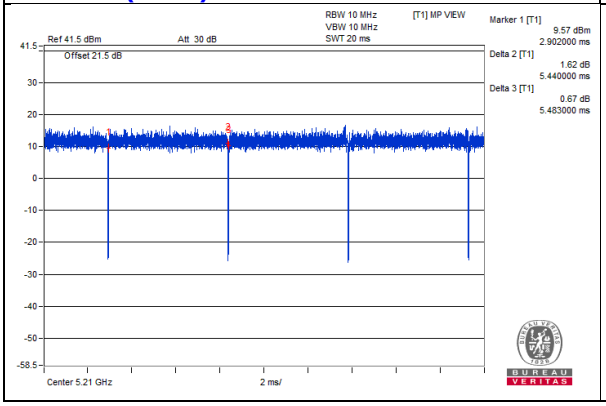
802.11ax (HE20)



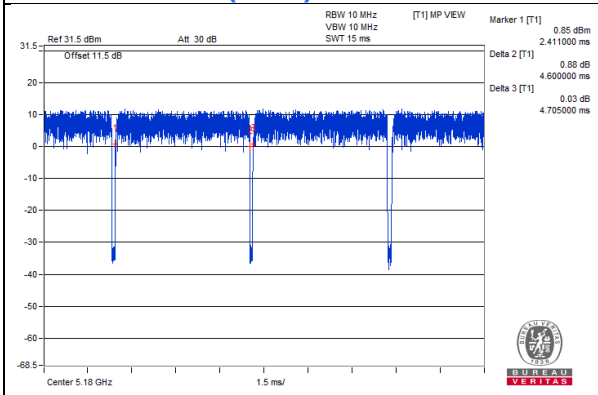
802.11ax (HE40)



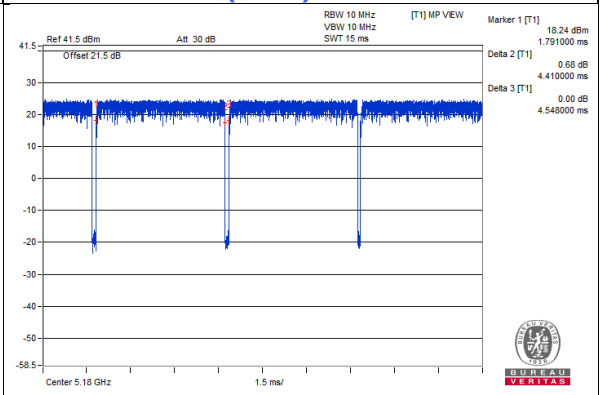
802.11ax (HE80)



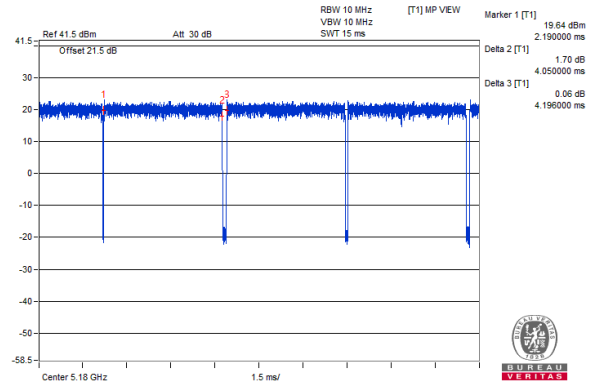
20MHz Preamble (RU26)



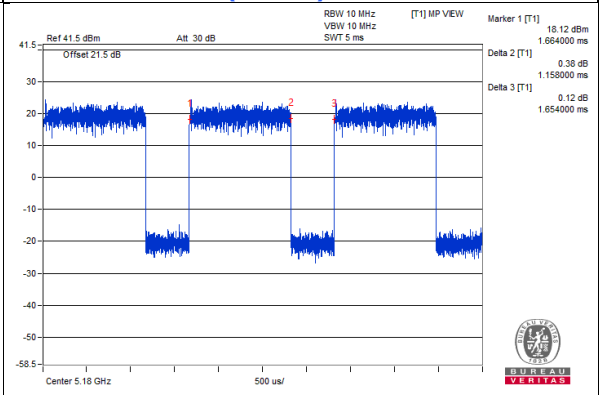
20MHz Preamble (RU52)



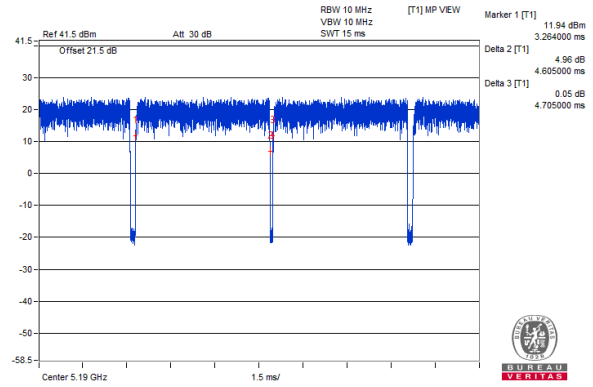
20MHz Preamble (RU106)



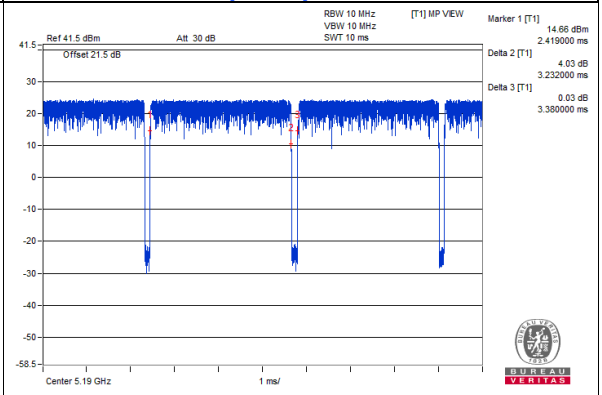
20MHz Preamble (RU242)



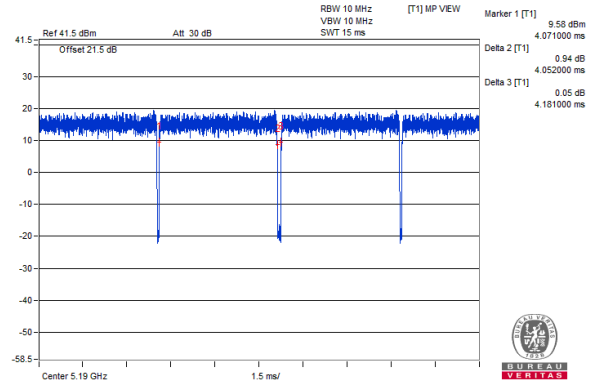
40MHz Preamble (RU26)



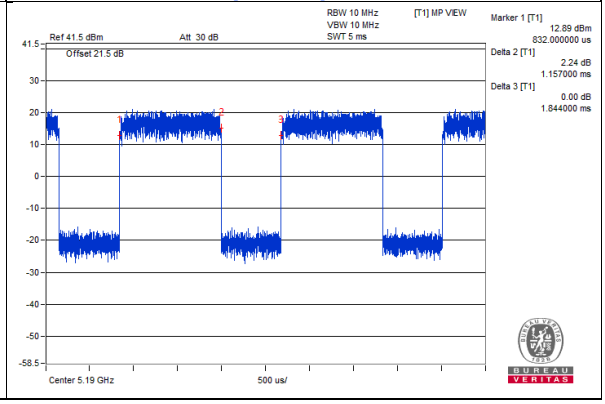
40MHz Preamble (RU52)



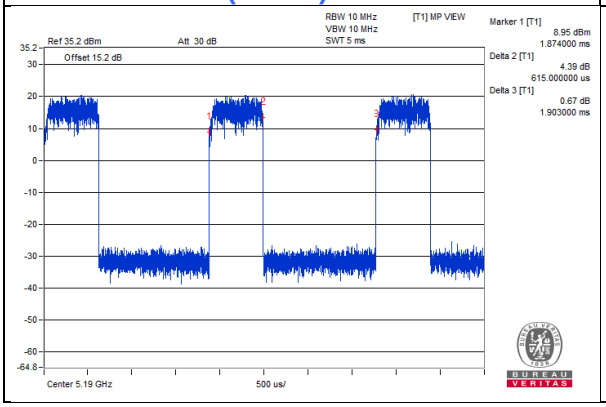
40MHz Preamble (RU106)



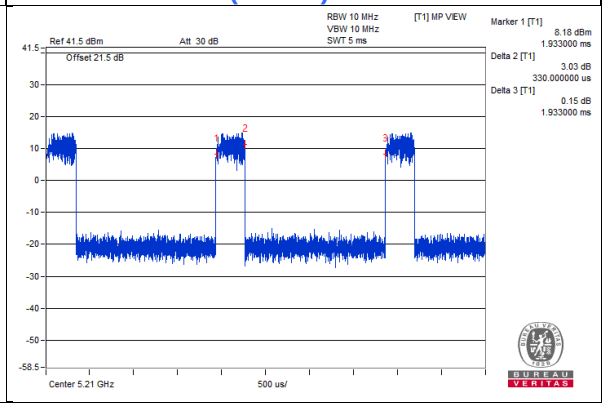
40MHz Preamble (RU242)



40MHz Preamble (RU484)



80MHz Preamble (RU996)



3.5 Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Laptop	DELL	E5420	FHNR4S1	NA	Provided by Lab
B.	Test Tool	Qualcomm	NA	NA	NA	Supplied by client
C.	Adapter	PHIHONG	PSAA12A-120L6	NA	NA	Supplied by client
D.	Laptop	DELL	E6230	4BGVYW1	NA	Provided by Lab

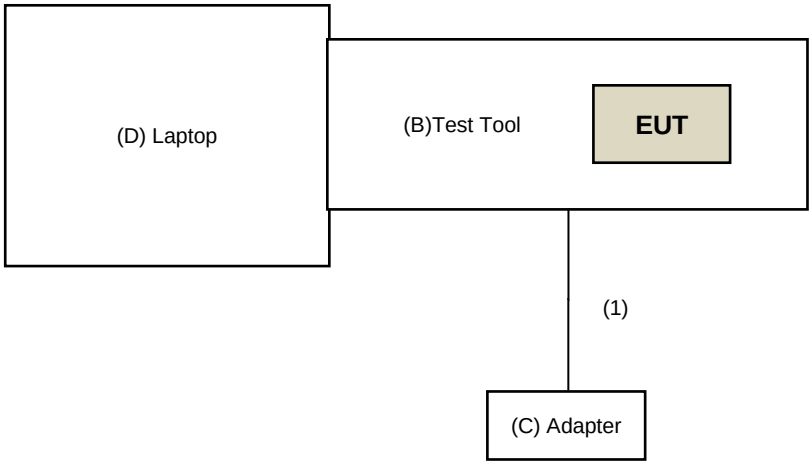
Note:

1. All power cords of the above support units are non-shielded (1.8m).

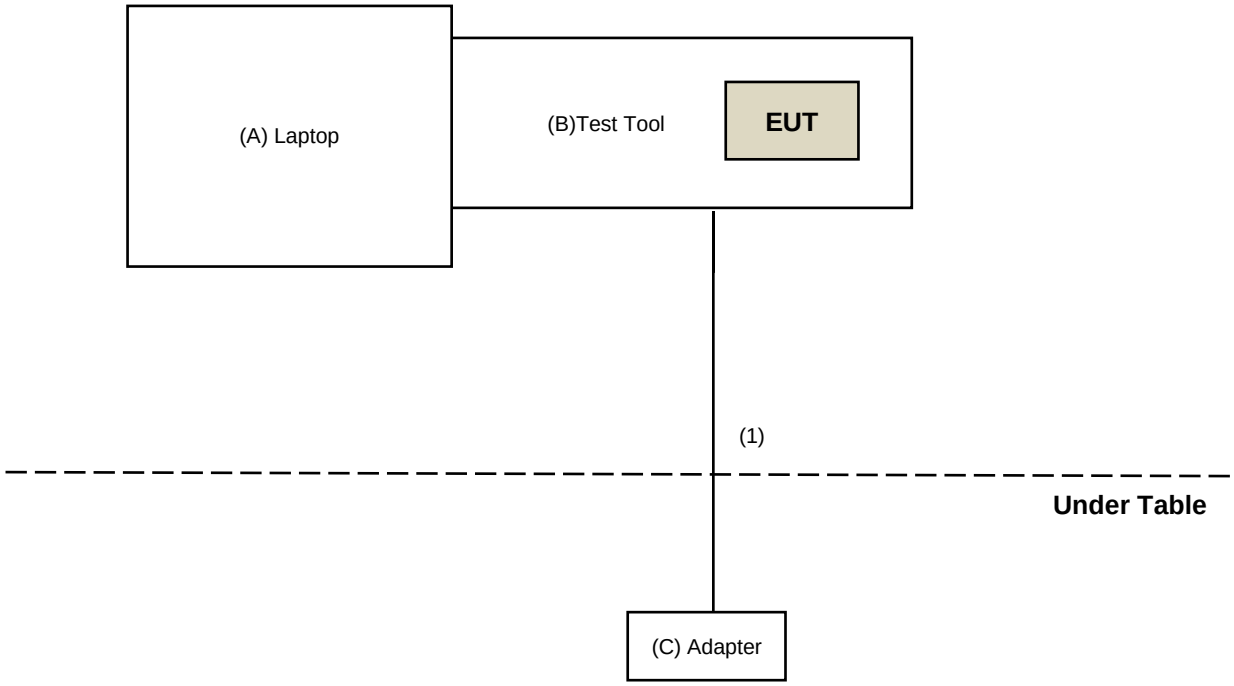
ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	DC Cable	1	1.3	No	0	Provided by Lab

3.5.1 Configuration of System under Test

For Conducted Emissions test:



For other test:



3.6 General Description of Applied Standard

The EUT is a RF Product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

FCC Part 15, Subpart E (15.407)
KDB 789033 D02 General UNII Test Procedure New Rules v02r01
KDB 662911 D01 Multiple Transmitter Output v02r01
ANSI C63.10-2013

All test items have been performed and recorded as per the above standards.

4 Test Types and Results

4.1 Radiated Emission and Bandedge Measurement (Radiated Versus Conducted)

4.1.1 Limits of Radiated Emission and Bandedge Measurement

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table.

Frequencies (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 ~ 0.490	2400/F(kHz)	300
0.490 ~ 1.705	24000/F(kHz)	30
1.705 ~ 30.0	30	30
30 ~ 88	100	3
88 ~ 216	150	3
216 ~ 960	200	3
Above 960	500	3

NOTE:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. For frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.

Limits of unwanted emission out of the restricted bands

<table>
<tr><td colspan="3">Applicable To</td><td colspan="2">Limit</td></tr>
<tr><td colspan="3" rowspan="2">789033 D02 General UNII Test Procedure New Rules v02r01</td><td colspan="2">Field Strength at 3m</td></tr>
<tr><td>PK:74 (dBµV/m)</td><td>AV:54 (dBµV/m)</td></tr>
<tr><td>Frequency Band</td><td colspan="2">Applicable To</td><td>EIRP Limit</td><td>Equivalent Field Strength at 3m</td></tr>
<tr><td>5150~5250 MHz</td><td colspan="2">15.407(b)(1)</td><td rowspan="3">PK:-27 (dBm/MHz)</td><td rowspan="3">PK:68.2(dBµV/m)</td></tr>
<tr><td>5250~5350 MHz</td><td colspan="2">15.407(b)(2)</td></tr>
<tr><td>5470~5725 MHz</td><td colspan="2">15.407(b)(3)</td></tr>
<tr><td rowspan="2">5725~5850 MHz</td><td>☒</td><td>15.407(b)(4)(i)</td><td>PK:-27 (dBm/MHz) *1
PK:10 (dBm/MHz) *2
PK:15.6 (dBm/MHz) *3
PK:27 (dBm/MHz) *4</td><td>PK: 68.2(dBµV/m) *1
PK:105.2 (dBµV/m) *2
PK: 110.8(dBµV/m) *3
PK:122.2 (dBµV/m) *4</td></tr>
<tr><td>☐</td><td>15.407(b)(4)(ii)</td><td colspan="2">Emission limits in section 15.247(d)</td></tr>
<tr><td colspan="5">*1 beyond 75 MHz or more above of the band edge.
*2 below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above.
*3 below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above.
*4 from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.</td></tr>
</table>

Note:

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

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

4.1.2 Test Instruments

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver ESR7 R&S	ESR7	102026	Apr. 24, 2019	Apr. 23, 2020
Spectrum Analyzer Keysight	N9030B	MY57141948	May 25, 2019	May 24, 2020
Pre-Amplifier EMCI	EMC001340	980142	May 30, 2019	May 29, 2020
Loop Antenna Electro-Metrics	EM-6879	264	Jan. 22, 2019	Jan. 21, 2020
RF Cable	NA	LOOPCAB-001	Jan. 14, 2019	Jan. 13, 2020
RF Cable	NA	LOOPCAB-002	Jan. 14, 2019	Jan. 13, 2020
Pre-Amplifier EMCI	EMC330N	980538	Apr. 30, 2019	Apr. 29, 2020
Trilog Broadband Antenna SCHWARZBECK	VULB9168	9168-0842	Nov. 21, 2018	Nov. 20, 2019
RF Cable	8D	966-5-1	May 03, 2019	May 02, 2020
RF Cable	8D	966-5-2	May 03, 2019	May 02, 2020
RF Cable	8D	966-5-3	May 03, 2019	May 02, 2020
Fixed attenuator Mini-Circuits	UNAT-5+	PAD-ATT5-02	Jan. 28, 2019	Jan. 27, 2020
Horn_Antenna SCHWARZBECK	BBHA 9120D	9120D-1819	Nov. 25, 2018	Nov. 24, 2019
Pre-Amplifier EMCI	EMC12630SE	980509	May 03, 2019	May 02, 2020
RF Cable EMCI	EMC104-SM-SM-1500	180503	May 03, 2019	May 02, 2020
RF Cable EMCI	EMC104-SM-SM-2000	180501	May 03, 2019	May 02, 2020
RF Cable EMCI	EMC104-SM-SM-6000	180505	May 03, 2019	May 02, 2020
Pre-Amplifier EMCI	EMC184045SE	980387	Jan. 28, 2019	Jan. 27, 2020
Horn_Antenna SCHWARZBECK	BBHA 9170	BBHA9170519	Nov. 25, 2018	Nov. 24, 2019
RF Cable	EMC102-KM-KM-1200	160924	Jan. 28, 2019	Jan. 27, 2020
RF Cable	EMC102-KM-KM-1200	160925	Jan. 28, 2019	Jan. 27, 2020
Software	ADT_Radiated_V8.7.08	NA	NA	NA
Boresight Antenna Tower & Turn Table Max-Full	MF-7802BS	MF780208530	NA	NA
Spectrum Analyzer R&S	FSV40	100964	June 04, 2019	June 03, 2020
Power meter Anritsu	ML2495A	1014008	May 13, 2019	May 12, 2020
Power sensor Anritsu	MA2411B	0917122	May 13, 2019	May 12, 2020
Fixed Attenuator Mini-Circuits	MDCS18N-10	MDCS18N-10-01	Apr. 15, 2019	Apr. 14, 2020
AC Power Source Extech Electronics	6205	1440452	NA	NA
Temperature & Humidity Chamber Giant Force	GTH-150-40-SP-AR	MAA0812-008	Jan. 09, 2019	Jan. 08, 2020
True RMS Clamp Meter FLUKE	325	31130711WS	May 21, 2019	May 20, 2020

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in 966 Chamber No. 5.
3. Loop antenna was used for all emissions below 30 MHz.
4. Tested Date: Sep. 20 to Nov. 19, 2019

4.1.3 Test Procedure

Following FCC KDB 789033 D02 General UNII Test Procedures:

Radiated versus Conducted Measurements.

The unwanted emission limits in both the restricted and non-restricted bands are based on antenna-port conducted measurements in conjunction with cabinet emissions tests are permitted to demonstrate compliance.

The following steps was performed:

a. Cabinet emissions measurements. Radiated measurement was performed to ensure that cabinet emissions are below the emission limits. For the cabinet-emission measurements the antenna was replaced by a termination matching the nominal impedance of the antenna.

b. Conducted tests was performed using equipment that matches the nominal impedance of the antenna assembly used with the EUT.

c. EIRP calculation. A value representative of an upper bound on out-of-band antenna gain (in dBi) shall be added to the measured antenna-port conducted emission power to compute EIRP within the specified measurement bandwidth. (For emissions in the restricted bands, additional calculations are required to convert EIRP to field strength at the specified distance.) The upper bound on antenna gain for a device with a single RF output shall be selected as the maximum in-band gain of the antenna across all operating bands or 2 dBi, whichever is greater.

d. EIRP adjustments for multiple outputs. (Follow the procedures specified in FCC KDB Publication 662911)

e. For all of Radiation emission test

For Radiated emission below 30MHz

e-1.1. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter chamber room. The table was rotated 360 degrees to determine the position of the highest radiation.

e-1.2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

e-1.3. Parallel, perpendicular, and ground-parallel orientations of the antenna are set to make the measurement.

e-1.4. For each suspected emission, the EUT was arranged to its worst case and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

e-1.5. The test-receiver system was set to Quasi-Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

Note:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 9kHz at frequency below 30MHz.
2. KDB 414788 OATS and Chamber Correlation Justification
   -Based on FCC 15.31(f)(2) : measurements may be performed at a distance closer than that specified in the regulations; however, an attempts should be made to avoid making measurements in the near field.
   -OATs and chamber correlation testing had been performed and chamber measured test result is the worst case test result.

For Radiated emission above 30MHz

e-2.1. The EUT was placed on the top of a rotating table 0.8 meters (for 30MHz ~ 1GHz) / 1.5 meters (for above 1GHz) above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.

e-2.2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

e-2.3. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

e-2.4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

e-2.5. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.

e-2.6. The test-receiver system was set to peak and average detects function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

Note:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is ≥ 1/T (Duty cycle < 98%) or 10Hz (Duty cycle ≥ 98%) for Average detection (AV) at frequency above 1GHz.
4. All modes of operation were investigated and the worst-case emissions are reported.

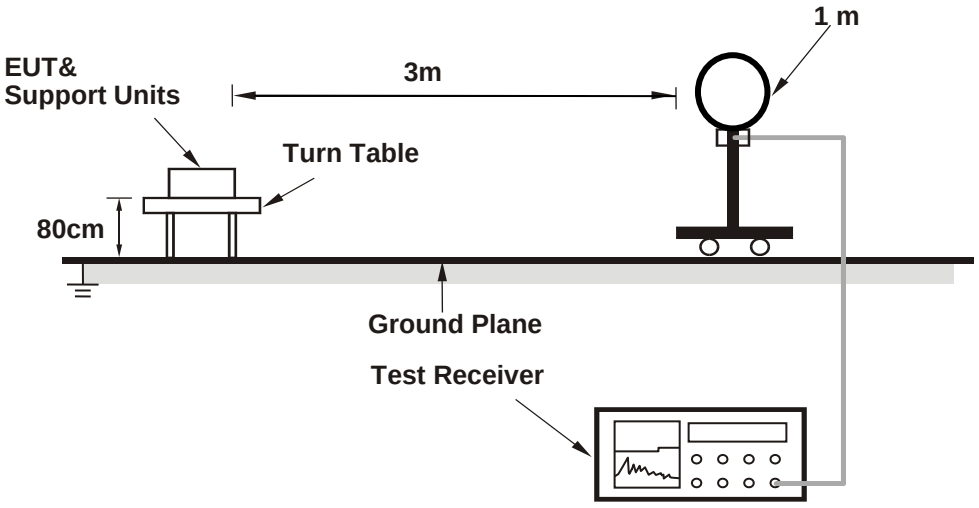
4.1.4 Deviation from Test Standard

No deviation.

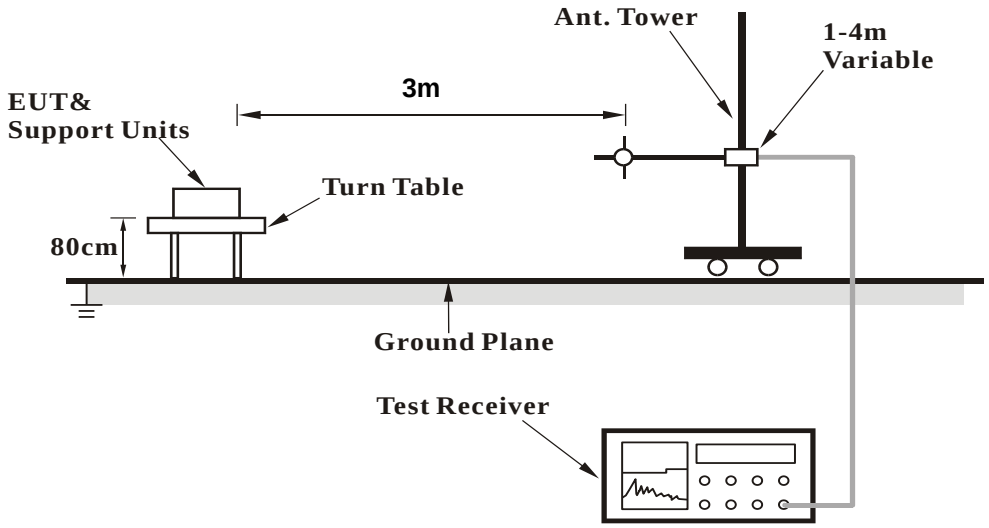
4.1.5 Test Setup

For radiated configuration:

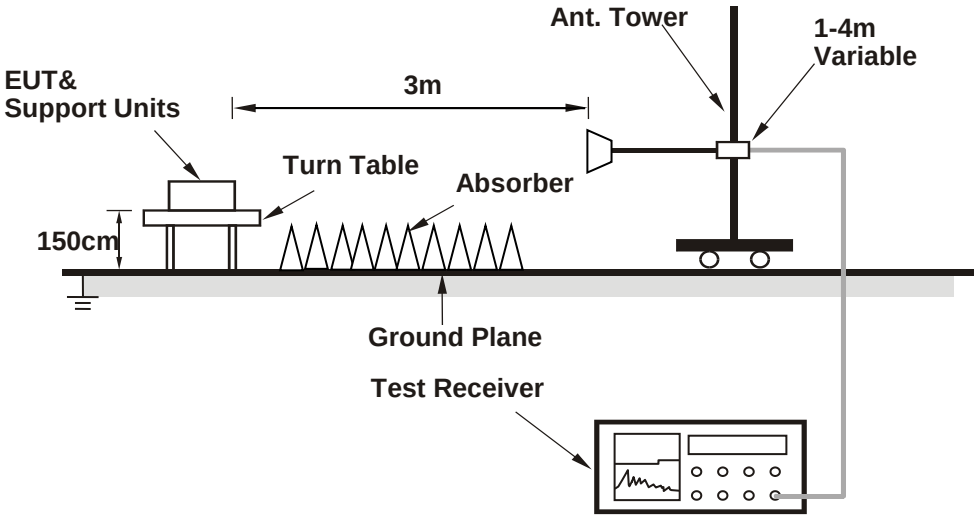
For Radiated emission below 30MHz



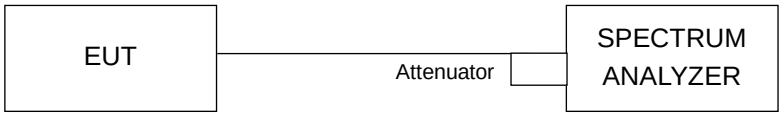
For Radiated emission 30MHz to 1GHz



For Radiated emission above 1GHz



For conducted configuration:



For the actual test configuration, please refer to the attached file (Test Setup Photo).

4.1.6 EUT Operating Condition

a. Connected the EUT with the Laptop which is placed on the testing table.
b. Controlling software (QRCT 4.0.00136.0) has been activated to set the EUT under transmission condition continuously at specific channel frenquency.

4.1.7 Test Results (Radiated Measurement)

Radiated versus Conducted Measurement	
☐ Conducted measurement	☒ Radiated measurement
For Radiated measurement: The level of unwanted emissions was measured when radiated by the cabinet or structure of the equipment with the antenna connector(s) terminated by a specified load (cabinet radiation) For Conducted measurement: The level of unwanted emissions was measured as their power in a specified load (conducted spurious emissions).	

Radiated test was done with 50ohm terminator on antenna port

Above 1GHz Data:

802.11a

CHANNEL	TX Channel 36	**DETECTOR FUNCTION**	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	**FREQ. (MHz)**	**EMISSION LEVEL (dBuV/m)**	**LIMIT (dBuV/m)**	**MARGIN (dB)**	**ANTENNA HEIGHT (m)**	**TABLE ANGLE (Degree)**	**RAW VALUE (dBuV)**	**CORRECTION FACTOR (dB/m)**
1	#10360.00	46.6 PK	68.2	-21.6	1.55 H	257	34.5	12.1
2	15540.00	45.8 PK	74.0	-28.2	1.14 H	44	33.6	12.2
3	15540.00	33.8 AV	54.0	-20.2	1.14 H	44	21.6	12.2
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	**FREQ. (MHz)**	**EMISSION LEVEL (dBuV/m)**	**LIMIT (dBuV/m)**	**MARGIN (dB)**	**ANTENNA HEIGHT (m)**	**TABLE ANGLE (Degree)**	**RAW VALUE (dBuV)**	**CORRECTION FACTOR (dB/m)**
1	#10360.00	46.4 PK	68.2	-21.8	2.44 V	209	34.3	12.1
2	15540.00	46.0 PK	74.0	-28.0	1.83 V	38	33.8	12.2
3	15540.00	33.4 AV	54.0	-20.6	1.83 V	38	21.2	12.2

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 40	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#10400.00	47.3 PK	68.2	-20.9	1.39 H	258	34.9	12.4
2	15600.00	55.8 PK	74.0	-18.2	1.10 H	43	43.8	12.0
3	15600.00	38.8 AV	54.0	-15.2	1.10 H	43	26.8	12.0
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#10400.00	47.9 PK	68.2	-20.3	2.33 V	212	35.5	12.4
2	15600.00	49.7 PK	74.0	-24.3	1.94 V	24	37.7	12.0
3	15600.00	37.0 AV	54.0	-17.0	1.94 V	24	25.0	12.0

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 48	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#10480.00	47.3 PK	68.2	-20.9	1.38 H	269	34.5	12.8
2	15720.00	55.6 PK	74.0	-18.4	1.09 H	29	44.0	11.6
3	15720.00	38.7 AV	54.0	-15.3	1.09 H	29	27.1	11.6
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#10480.00	47.3 PK	68.2	-20.9	2.36 V	196	34.5	12.8
2	15720.00	49.7 PK	74.0	-24.3	1.93 V	25	38.1	11.6
3	15720.00	36.8 AV	54.0	-17.2	1.93 V	25	25.2	11.6

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 52	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#10520.00	47.9 PK	68.2	-20.3	1.61 H	235	35.1	12.8
2	15780.00	51.4 PK	74.0	-22.6	1.10 H	38	39.7	11.7
3	15780.00	37.1 AV	54.0	-16.9	1.10 H	38	25.4	11.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#10520.00	47.9 PK	68.2	-20.3	2.33 V	215	35.1	12.8
2	15780.00	51.6 PK	74.0	-22.4	2.24 V	41	39.9	11.7
3	15780.00	37.1 AV	54.0	-16.9	2.24 V	41	25.4	11.7

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 60	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	10600.00	48.4 PK	74.0	-25.6	1.56 H	235	35.3	13.1
2	10600.00	36.1 AV	54.0	-17.9	1.56 H	235	23.0	13.1
3	15900.00	51.7 PK	74.0	-22.3	1.12 H	32	40.2	11.5
4	15900.00	36.7 AV	54.0	-17.3	1.12 H	32	25.2	11.5
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	10600.00	47.7 PK	74.0	-26.3	2.32 V	217	34.6	13.1
2	10600.00	36.3 AV	54.0	-17.7	2.32 V	217	23.2	13.1
3	15900.00	52.0 PK	74.0	-22.0	2.21 V	52	40.5	11.5
4	15900.00	37.4 AV	54.0	-16.6	2.21 V	52	25.9	11.5

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.

CHANNEL	TX Channel 64	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	10640.00	48.2 PK	74.0	-25.8	1.50 H	248	35.0	13.2
2	10640.00	36.1 AV	54.0	-17.9	1.50 H	248	22.9	13.2
3	15960.00	44.4 PK	74.0	-29.6	1.00 H	34	32.9	11.5
4	15960.00	32.7 AV	54.0	-21.3	1.00 H	34	21.2	11.5
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	10640.00	48.2 PK	74.0	-25.8	2.43 V	200	35.0	13.2
2	10640.00	36.2 AV	54.0	-17.8	2.43 V	200	23.0	13.2
3	15960.00	44.1 PK	74.0	-29.9	1.76 V	45	32.6	11.5
4	15960.00	32.6 AV	54.0	-21.4	1.76 V	45	21.1	11.5

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.

CHANNEL	TX Channel 100	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11000.00	47.8 PK	74.0	-26.2	1.48 H	246	34.2	13.6
2	11000.00	35.8 AV	54.0	-18.2	1.48 H	246	22.2	13.6
3	#16500.00	45.0 PK	68.2	-23.2	1.00 H	35	30.8	14.2
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11000.00	48.0 PK	74.0	-26.0	2.44 V	209	34.4	13.6
2	11000.00	36.2 AV	54.0	-17.8	2.44 V	209	22.6	13.6
3	#16500.00	43.4 PK	68.2	-24.8	1.74 V	41	29.2	14.2

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 116	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11160.00	47.5 PK	74.0	-26.5	1.64 H	251	34.8	12.7
2	11160.00	35.8 AV	54.0	-18.2	1.64 H	251	23.1	12.7
3	#16740.00	54.8 PK	68.2	-13.4	1.10 H	49	38.9	15.9
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11160.00	47.9 PK	74.0	-26.1	2.73 V	216	35.2	12.7
2	11160.00	36.5 AV	54.0	-17.5	2.73 V	216	23.8	12.7
3	#16740.00	53.2 PK	68.2	-15.0	2.06 V	61	37.3	15.9

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 140	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11400.00	47.6 PK	74.0	-26.4	1.42 H	259	34.1	13.5
2	11400.00	35.5 AV	54.0	-18.5	1.42 H	259	22.0	13.5
3	#17100.00	44.5 PK	68.2	-23.7	1.00 H	41	27.7	16.8
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11400.00	47.9 PK	74.0	-26.1	2.40 V	198	34.4	13.5
2	11400.00	35.9 AV	54.0	-18.1	2.40 V	198	22.4	13.5
3	#17100.00	43.8 PK	68.2	-24.4	1.73 V	44	27.0	16.8

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 144	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11440.00	47.3 PK	74.0	-26.7	1.68 H	255	33.6	13.7
2	11440.00	35.5 AV	54.0	-18.5	1.68 H	255	21.8	13.7
3	#17160.00	55.1 PK	68.2	-13.1	1.16 H	36	37.8	17.3
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11440.00	47.4 PK	74.0	-26.6	2.76 V	210	33.7	13.7
2	11440.00	36.2 AV	54.0	-17.8	2.76 V	210	22.5	13.7
3	#17160.00	53.7 PK	68.2	-14.5	2.04 V	75	36.4	17.3

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 149	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11490.00	48.9 PK	74.0	-25.1	1.98 H	236	34.8	14.1
2	11490.00	37.0 AV	54.0	-17.0	1.98 H	236	22.9	14.1
3	#17235.00	51.2 PK	68.2	-17.0	1.07 H	36	33.5	17.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11490.00	49.2 PK	74.0	-24.8	1.44 V	323	35.1	14.1
2	11490.00	37.1 AV	54.0	-16.9	1.44 V	323	23.0	14.1
3	#17235.00	52.3 PK	68.2	-15.9	2.21 V	75	34.6	17.7

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 157	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11570.00	48.7 PK	74.0	-25.3	1.94 H	249	34.6	14.1
2	11570.00	36.7 AV	54.0	-17.3	1.94 H	249	22.6	14.1
3	#17355.00	52.4 PK	68.2	-15.8	1.05 H	43	34.1	18.3
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11570.00	48.9 PK	74.0	-25.1	1.50 V	329	34.8	14.1
2	11570.00	36.7 AV	54.0	-17.3	1.50 V	329	22.6	14.1
3	#17355.00	52.6 PK	68.2	-15.6	2.16 V	71	34.3	18.3

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 165	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11650.00	49.3 PK	74.0	-24.7	1.88 H	250	35.4	13.9
2	11650.00	37.0 AV	54.0	-17.0	1.88 H	250	23.1	13.9
3	#17475.00	51.1 PK	68.2	-17.1	1.13 H	45	31.6	19.5
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11650.00	49.2 PK	74.0	-24.8	1.47 V	336	35.3	13.9
2	11650.00	36.8 AV	54.0	-17.2	1.47 V	336	22.9	13.9
3	#17475.00	52.7 PK	68.2	-15.5	2.18 V	71	33.2	19.5

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " # ": The radiated frequency is out of the restricted band.

TX_High

ABOVE 1GHz DATA

802.11ac (VHT20)

CHANNEL	TX Channel 36	**DETECTOR FUNCTION**	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	**FREQ. (MHz)**	**EMISSION LEVEL (dBuV/m)**	**LIMIT (dBuV/m)**	**MARGIN (dB)**	**ANTENNA HEIGHT (m)**	**TABLE ANGLE (Degree)**	**RAW VALUE (dBuV)**	**CORRECTION FACTOR (dB/m)**
1	#10360.00	48.9 PK	68.2	-19.3	1.55 H	260	36.8	12.1
2	15540.00	43.9 PK	74.0	-30.1	1.00 H	49	31.7	12.2
3	15540.00	32.5 AV	54.0	-21.5	1.00 H	49	20.3	12.2
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	**FREQ. (MHz)**	**EMISSION LEVEL (dBuV/m)**	**LIMIT (dBuV/m)**	**MARGIN (dB)**	**ANTENNA HEIGHT (m)**	**TABLE ANGLE (Degree)**	**RAW VALUE (dBuV)**	**CORRECTION FACTOR (dB/m)**
1	#10360.00	48.7 PK	68.2	-19.5	2.40 V	198	36.6	12.1
2	15540.00	44.2 PK	74.0	-29.8	1.77 V	48	32.0	12.2
3	15540.00	32.5 AV	54.0	-21.5	1.77 V	48	20.3	12.2

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 40	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#10400.00	48.9 PK	68.2	-19.3	1.98 H	236	36.5	12.4
2	15600.00	51.0 PK	74.0	-23.0	1.09 H	26	39.0	12.0
3	15600.00	36.6 AV	54.0	-17.4	1.09 H	26	24.6	12.0
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#10400.00	49.3 PK	68.2	-18.9	1.48 V	320	36.9	12.4
2	15600.00	51.7 PK	74.0	-22.3	2.18 V	35	39.7	12.0
3	15600.00	37.4 AV	54.0	-16.6	2.18 V	35	25.4	12.0

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 48	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#10480.00	48.6 PK	68.2	-19.6	2.04 H	250	35.8	12.8
2	15720.00	51.3 PK	74.0	-22.7	1.08 H	35	39.7	11.6
3	15720.00	36.5 AV	54.0	-17.5	1.08 H	35	24.9	11.6
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#10480.00	49.6 PK	68.2	-18.6	1.48 V	308	36.8	12.8
2	15720.00	52.1 PK	74.0	-21.9	2.19 V	42	40.5	11.6
3	15720.00	37.6 AV	54.0	-16.4	2.19 V	42	26.0	11.6

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 52	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#10520.00	48.8 PK	68.2	-19.4	2.00 H	242	36.0	12.8
2	15780.00	51.6 PK	74.0	-22.4	1.07 H	48	39.9	11.7
3	15780.00	36.9 AV	54.0	-17.1	1.07 H	48	25.2	11.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#10520.00	50.0 PK	68.2	-18.2	1.49 V	316	37.2	12.8
2	15780.00	51.2 PK	74.0	-22.8	1.15 V	209	39.5	11.7
3	15780.00	38.3 AV	54.0	-15.7	1.15 V	209	26.6	11.7

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 60	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	10600.00	49.3 PK	74.0	-24.7	1.83 H	260	36.2	13.1
2	10600.00	36.7 AV	54.0	-17.3	1.83 H	260	23.6	13.1
3	15900.00	51.7 PK	74.0	-22.3	1.06 H	47	40.2	11.5
4	15900.00	37.0 AV	54.0	-17.0	1.06 H	47	25.5	11.5
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	10600.00	49.1 PK	74.0	-24.9	1.44 V	337	36.0	13.1
2	10600.00	36.8 AV	54.0	-17.2	1.44 V	337	23.7	13.1
3	15900.00	50.8 PK	74.0	-23.2	1.14 V	222	39.3	11.5
4	15900.00	38.0 AV	54.0	-16.0	1.14 V	222	26.5	11.5

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.

CHANNEL	TX Channel 64	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	10640.00	48.4 PK	74.0	-25.6	1.53 H	235	35.2	13.2
2	10640.00	36.1 AV	54.0	-17.9	1.53 H	235	22.9	13.2
3	15960.00	43.9 PK	74.0	-30.1	1.00 H	38	32.4	11.5
4	15960.00	32.5 AV	54.0	-21.5	1.00 H	38	21.0	11.5
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	10640.00	48.1 PK	74.0	-25.9	2.40 V	193	34.9	13.2
2	10640.00	35.9 AV	54.0	-18.1	2.40 V	193	22.7	13.2
3	15960.00	43.5 PK	74.0	-30.5	1.71 V	39	32.0	11.5
4	15960.00	32.1 AV	54.0	-21.9	1.71 V	39	20.6	11.5

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.

CHANNEL	TX Channel 100	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11000.00	48.0 PK	74.0	-26.0	1.51 H	224	34.4	13.6
2	11000.00	35.7 AV	54.0	-18.3	1.51 H	224	22.1	13.6
3	#16500.00	43.5 PK	68.2	-24.7	1.00 H	54	29.3	14.2
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11000.00	47.6 PK	74.0	-26.4	2.40 V	183	34.0	13.6
2	11000.00	35.6 AV	54.0	-18.4	2.40 V	183	22.0	13.6
3	#16500.00	43.1 PK	68.2	-25.1	1.77 V	49	28.9	14.2

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 116	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11160.00	47.1 PK	74.0	-26.9	1.73 H	244	34.4	12.7
2	11160.00	35.1 AV	54.0	-18.9	1.73 H	244	22.4	12.7
3	#16740.00	55.0 PK	68.2	-13.2	1.19 H	20	39.1	15.9
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11160.00	47.5 PK	74.0	-26.5	2.78 V	207	34.8	12.7
2	11160.00	36.4 AV	54.0	-17.6	2.78 V	207	23.7	12.7
3	#16740.00	53.8 PK	68.2	-14.4	2.03 V	83	37.9	15.9

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 140	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11400.00	48.0 PK	74.0	-26.0	1.57 H	249	34.5	13.5
2	11400.00	35.7 AV	54.0	-18.3	1.57 H	249	22.2	13.5
3	#17100.00	44.5 PK	68.2	-23.7	1.00 H	57	27.7	16.8
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11400.00	48.1 PK	74.0	-25.9	2.34 V	179	34.6	13.5
2	11400.00	36.0 AV	54.0	-18.0	2.34 V	179	22.5	13.5
3	#17100.00	43.9 PK	68.2	-24.3	1.73 V	31	27.1	16.8

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 144	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11440.00	47.5 PK	74.0	-26.5	1.73 H	233	33.8	13.7
2	11440.00	35.4 AV	54.0	-18.6	1.73 H	233	21.7	13.7
3	#17160.00	53.9 PK	68.2	-14.3	1.17 H	7	36.6	17.3
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11440.00	47.5 PK	74.0	-26.5	2.79 V	212	33.8	13.7
2	11440.00	36.4 AV	54.0	-17.6	2.79 V	212	22.7	13.7
3	#17160.00	53.8 PK	68.2	-14.4	2.09 V	92	36.5	17.3

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 149	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11490.00	46.9 PK	74.0	-27.1	1.68 H	253	32.8	14.1
2	11490.00	34.7 AV	54.0	-19.3	1.68 H	253	20.6	14.1
3	#17235.00	54.6 PK	68.2	-13.6	1.23 H	28	36.9	17.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11490.00	47.0 PK	74.0	-27.0	2.76 V	221	32.9	14.1
2	11490.00	36.0 AV	54.0	-18.0	2.76 V	221	21.9	14.1
3	#17235.00	54.0 PK	68.2	-14.2	2.03 V	91	36.3	17.7

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 157	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11570.00	47.1 PK	74.0	-26.9	1.65 H	267	33.0	14.1
2	11570.00	34.7 AV	54.0	-19.3	1.65 H	267	20.6	14.1
3	#17355.00	54.7 PK	68.2	-13.5	1.26 H	33	36.4	18.3
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11570.00	47.7 PK	74.0	-26.3	2.74 V	228	33.6	14.1
2	11570.00	36.4 AV	54.0	-17.6	2.74 V	228	22.3	14.1
3	#17355.00	53.6 PK	68.2	-14.6	1.98 V	93	35.3	18.3

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 165	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11650.00	47.1 PK	74.0	-26.9	1.68 H	270	33.2	13.9
2	11650.00	34.8 AV	54.0	-19.2	1.68 H	270	20.9	13.9
3	#17475.00	53.6 PK	68.2	-14.6	1.24 H	35	34.1	19.5
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11650.00	48.0 PK	74.0	-26.0	2.69 V	220	34.1	13.9
2	11650.00	36.7 AV	54.0	-17.3	2.69 V	220	22.8	13.9
3	#17475.00	53.2 PK	68.2	-15.0	1.96 V	96	33.7	19.5

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " # ": The radiated frequency is out of the restricted band.

802.11ac (VHT40)

CHANNEL	TX Channel 38	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#10380.00	49.2 PK	68.2	-19.0	1.49 H	270	36.9	12.3
2	15570.00	43.6 PK	74.0	-30.4	1.00 H	48	31.4	12.2
3	15570.00	32.2 AV	54.0	-21.8	1.00 H	48	20.0	12.2
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#10380.00	49.0 PK	68.2	-19.2	2.44 V	197	36.7	12.3
2	15570.00	44.4 PK	74.0	-29.6	1.73 V	47	32.2	12.2
3	15570.00	32.7 AV	54.0	-21.3	1.73 V	47	20.5	12.2

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 46	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#10460.00	48.5 PK	68.2	-19.7	2.01 H	247	35.8	12.7
2	15690.00	51.8 PK	74.0	-22.2	1.07 H	49	40.2	11.6
3	15690.00	36.9 AV	54.0	-17.1	1.07 H	49	25.3	11.6
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#10460.00	49.1 PK	68.2	-19.1	1.48 V	298	36.4	12.7
2	15690.00	51.5 PK	74.0	-22.5	2.17 V	32	39.9	11.6
3	15690.00	37.3 AV	54.0	-16.7	2.17 V	32	25.7	11.6

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 54	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#10540.00	49.2 PK	68.2	-19.0	1.97 H	232	36.3	12.9
2	15810.00	52.0 PK	74.0	-22.0	1.01 H	39	40.3	11.7
3	15810.00	37.2 AV	54.0	-16.8	1.01 H	39	25.5	11.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#10540.00	49.1 PK	68.2	-19.1	1.44 V	313	36.2	12.9
2	15810.00	51.3 PK	74.0	-22.7	2.12 V	23	39.6	11.7
3	15810.00	36.8 AV	54.0	-17.2	2.12 V	23	25.1	11.7

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 62	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	10620.00	47.8 PK	74.0	-26.2	1.53 H	220	34.7	13.1
2	10620.00	35.3 AV	54.0	-18.7	1.53 H	220	22.2	13.1
3	15930.00	44.1 PK	74.0	-29.9	1.00 H	58	32.6	11.5
4	15930.00	32.7 AV	54.0	-21.3	1.00 H	58	21.2	11.5
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	10620.00	47.5 PK	74.0	-26.5	2.36 V	196	34.4	13.1
2	10620.00	35.5 AV	54.0	-18.5	2.36 V	196	22.4	13.1
3	15930.00	43.8 PK	74.0	-30.2	1.74 V	53	32.3	11.5
4	15930.00	32.3 AV	54.0	-21.7	1.74 V	53	20.8	11.5

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.

CHANNEL	TX Channel 102	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11020.00	47.7 PK	74.0	-26.3	1.51 H	208	34.3	13.4
2	11020.00	35.4 AV	54.0	-18.6	1.51 H	208	22.0	13.4
3	#16530.00	44.5 PK	68.2	-23.7	1.00 H	70	30.0	14.5
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11020.00	47.2 PK	74.0	-26.8	2.37 V	188	33.8	13.4
2	11020.00	35.3 AV	54.0	-18.7	2.37 V	188	21.9	13.4
3	#16530.00	43.4 PK	68.2	-24.8	1.76 V	68	28.9	14.5

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 110	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11100.00	48.1 PK	74.0	-25.9	1.58 H	249	35.2	12.9
2	11100.00	35.9 AV	54.0	-18.1	1.58 H	249	23.0	12.9
3	#16650.00	43.6 PK	68.2	-24.6	1.00 H	23	28.4	15.2
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11100.00	47.8 PK	74.0	-26.2	2.44 V	205	34.9	12.9
2	11100.00	35.6 AV	54.0	-18.4	2.44 V	205	22.7	12.9
3	#16650.00	43.4 PK	68.2	-24.8	1.76 V	34	28.2	15.2

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 134	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11340.00	47.9 PK	74.0	-26.1	1.54 H	209	34.9	13.0
2	11340.00	35.5 AV	54.0	-18.5	1.54 H	209	22.5	13.0
3	#17010.00	44.3 PK	68.2	-23.9	1.00 H	73	27.4	16.9
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11340.00	47.2 PK	74.0	-26.8	2.37 V	189	34.2	13.0
2	11340.00	35.2 AV	54.0	-18.8	2.37 V	189	22.2	13.0
3	#17010.00	43.9 PK	68.2	-24.3	1.68 V	56	27.0	16.9

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 142	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11420.00	47.1 PK	74.0	-26.9	1.66 H	260	33.5	13.6
2	11420.00	34.8 AV	54.0	-19.2	1.66 H	260	21.2	13.6
3	#17130.00	52.2 PK	68.2	-16.0	1.26 H	32	35.1	17.1
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11420.00	47.9 PK	74.0	-26.1	2.70 V	216	34.3	13.6
2	11420.00	36.3 AV	54.0	-17.7	2.70 V	216	22.7	13.6
3	#17130.00	52.1 PK	68.2	-16.1	1.98 V	82	35.0	17.1

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 151	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11510.00	47.2 PK	74.0	-26.8	1.63 H	251	33.1	14.1
2	11510.00	35.2 AV	54.0	-18.8	1.63 H	251	21.1	14.1
3	#17265.00	53.3 PK	68.2	-14.9	1.00 H	36	35.5	17.8
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11510.00	48.3 PK	74.0	-25.7	2.73 V	206	34.2	14.1
2	11510.00	36.6 AV	54.0	-17.4	2.73 V	206	22.5	14.1
3	#17265.00	53.0 PK	68.2	-15.2	2.09 V	19	35.2	17.8

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 159	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11590.00	46.9 PK	74.0	-27.1	1.65 H	258	32.8	14.1
2	11590.00	34.7 AV	54.0	-19.3	1.65 H	258	20.6	14.1
3	#17385.00	53.2 PK	68.2	-15.0	1.00 H	34	34.7	18.5
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11590.00	48.8 PK	74.0	-25.2	2.75 V	192	34.7	14.1
2	11590.00	36.8 AV	54.0	-17.2	2.75 V	192	22.7	14.1
3	#17385.00	52.7 PK	68.2	-15.5	2.09 V	14	34.2	18.5

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " # ": The radiated frequency is out of the restricted band.

802.11ac (VHT80)

CHANNEL	TX Channel 42	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#10420.00	49.4 PK	68.2	-18.8	1.53 H	282	37.0	12.4
2	15630.00	43.4 PK	74.0	-30.6	1.00 H	35	31.6	11.8
3	15630.00	32.0 AV	54.0	-22.0	1.00 H	35	20.2	11.8
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#10420.00	49.7 PK	68.2	-18.5	2.49 V	187	37.3	12.4
2	15630.00	44.5 PK	74.0	-29.5	1.69 V	44	32.7	11.8
3	15630.00	32.7 AV	54.0	-21.3	1.69 V	44	20.9	11.8

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 58	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#10580.00	50.0 PK	68.2	-18.2	1.51 H	267	37.1	12.9
2	15870.00	43.7 PK	74.0	-30.3	1.00 H	34	32.1	11.6
3	15870.00	31.5 AV	54.0	-22.5	1.00 H	34	19.9	11.6
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#10580.00	49.6 PK	68.2	-18.6	2.47 V	180	36.7	12.9
2	15870.00	44.3 PK	74.0	-29.7	1.68 V	33	32.7	11.6
3	15870.00	32.4 AV	54.0	-21.6	1.68 V	33	20.8	11.6

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 106	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11060.00	47.6 PK	74.0	-26.4	1.50 H	208	34.4	13.2
2	11060.00	35.3 AV	54.0	-18.7	1.50 H	208	22.1	13.2
3	#16590.00	44.8 PK	68.2	-23.4	1.00 H	74	30.0	14.8
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11060.00	47.1 PK	74.0	-26.9	2.34 V	183	33.9	13.2
2	11060.00	34.9 AV	54.0	-19.1	2.34 V	183	21.7	13.2
3	#16590.00	43.9 PK	68.2	-24.3	1.81 V	73	29.1	14.8

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 122	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11220.00	48.0 PK	74.0	-26.0	1.50 H	220	35.4	12.6
2	11220.00	35.6 AV	54.0	-18.4	1.50 H	220	23.0	12.6
3	#16830.00	44.0 PK	68.2	-24.2	1.00 H	39	27.7	16.3
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11220.00	46.8 PK	74.0	-27.2	2.36 V	186	34.2	12.6
2	11220.00	34.6 AV	54.0	-19.4	2.36 V	186	22.0	12.6
3	#16830.00	44.7 PK	68.2	-23.5	1.74 V	51	28.4	16.3

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " # ": The radiated frequency is out of the restricted band.