

FCC TEST REPORT (WLAN 15.407)

REPORT NO.: RF140606E01-1

MODEL NO.: T77H526

FCC ID: MCLT77H526

RECEIVED: June 06, 2014

TESTED: June 18 to July 02, 2014

ISSUED: July 09, 2014

APPLICANT: Hon Hai PRECISION IND.CO.,LTD

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ISSUED BY: Bureau Veritas Consumer Products Services
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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF140606E01-1	Original release	July 09, 2014

1. CERTIFICATION

PRODUCT: 802.11ac+802.11abgn + BT4.0+BT3.0+BT2.1/EDR
Module

BRAND NAME: FOXCONN

MODEL NO.: T77H526

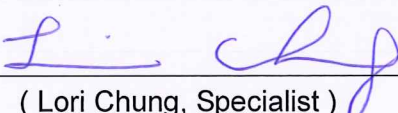
TEST SAMPLE: ENGINEERING SAMPLE

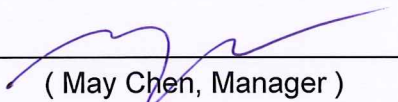
APPLICANT: Hon Hai PRECISION IND.CO.,LTD

TESTED: June 18 to July 02, 2014

STANDARDS: FCC Part 15, Subpart E (Section 15.407)
ANSI C63.10-2009

The above equipment (Model: T77H526) 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 : , **DATE:** July 09, 2014
(Lori Chung, Specialist)

APPROVED BY : , **DATE:** July 09, 2014
(May Chen, Manager)

2. SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC PART 15, SUBPART E (SECTION 15.407)			
STANDARD SECTION	TEST TYPE	RESULT	REMARK
15.407(b)(6)	AC Power Conducted Emission	PASS	Meet the requirement of limit. Minimum passing margin is -21.59dB at 0.36484MHz
15.407 (b)(1/2/3/4/6)	Radiated Emissions & Band Edge Measurement	PASS	Meet the requirement of limit. Minimum passing margin is -0.3dB at 5470.00MHz.
15.407(a/1/2/3)	Transmit Power	PASS	Meet the requirement of limit.
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 IPEX not a standard connector.

- NOTE:** 1. For WLAN: The EUT was operating in 2400 ~ 2483.5MHz, 5.15~5.35GHz, 5.47~5.725GHz and 5.725~5.850GHz frequencies band. This report was recorded the RF parameters including 5.15~5.35GHz, 5.47~5.725GHz and 5.725~5.850GHz. For the 2400 ~ 2483.5MHz RF parameters was recorded in another test report.
2. The DFS report was recorded in another test report.

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:

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k=2$.

Measurement	Value
Conducted emissions	2.86 dB
Radiated emissions (30MHz-1GHz)	5.43 dB
Radiated emissions (1GHz -6GHz)	3.65 dB
Radiated emissions (6GHz -18GHz)	3.88 dB
Radiated emissions (18GHz -40GHz)	4.11 dB

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT (WLAN)

PRODUCT	802.11ac+802.11abgn + BT4.0+BT3.0+BT2.1/EDR Module
MODEL NO.	T77H526
POWER SUPPLY	5Vdc (from host equipment)
MODULATION TYPE	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM 256QAM for OFDM in 11ac mode only
MODULATION TECHNOLOGY	DSSS,OFDM
TRANSFER RATE	802.11b: up to 11Mbps 802.11a / g: up to 54Mbps 802.11n: up to 300Mbps 802.11ac: up to 866.7Mbps
OPERATING FREQUENCY	For 15.407 5.18 ~ 5.24GHz, 5.26 ~ 5.32GHz, 5.50 ~ 5.70GHz, 5.745 ~ 5.825GHz
	For 15.247 2.412 ~ 2.462GHz
NUMBER OF CHANNEL	For 15.407 24 for 802.11a, 802.11n (HT20), 802.11ac (VHT20) 11 for 802.11n (HT40), 802.11ac (VHT40) 5 for 802.11ac (VHT80)
	For 15.247 11 for 802.11b, 802.11g, 802.11n (HT20) 7 for 802.11n (HT40)
MAXIMUM OUTPUT POWER	For 15.407 802.11a: 56.013mW 802.11ac (VHT20): 57.161mW 802.11ac (VHT40): 51.021mW 802.11ac (VHT80): 50.873mW For 15.247 802.11b: 113.018mW 802.11g: 606.691mW 802.11n (HT20): 603.594mW 802.11n (HT40): 472.94mW
ANTENNA TYPE	Please see NOTE
DATA CABLE	NA
I/O PORTS	Refer to user's manual
ASSOCIATED DEVICES	NA

NOTE:

1. There are Bluetooth 4.0 and WLAN technology used for the EUT.
2. For WLAN, 2.4GHz and 5GHz technology can not transmit at same time.
3. WLAN and Bluetooth technology can transmit at same time.
4. Radiated emissions of the simultaneous operation (WLAN & Bluetooth) has been evaluated and no non-compliance was found.
5. The antennas provided to the EUT, please refer to the following table:

Antenna No.	Transmitter Circuit	Brand	Model	Antenna Gain(dBi) <include cable loss>	Cable Loss (dB)	Frequency range (MHz to MHz)	Antenna Type	Connector Type	Cable Length (mm)
1	Chain (0)	Wistron Neweb Corporation	DC33001KT00 (Main port)	1.54	1.38	2400~2500	PIFA	I-PEX	363
				1.26	1.98	5150~5350			
				0.57	2.04	5470~5725			
				1.23	2.08	5725~5850			
2	Chain (1)	Wistron Neweb Corporation	DC33001KT10 (Aux port)	0.63	2.13	2400~2500	PIFA	I-PEX	593
				0.16	3.11	5150~5350			
				0.35	3.21	5470~5725			
				1.84	3.27	5725~5850			

6. The EUT incorporates a MIMO function without beamforming.

MODULATION MODE	DATA RATE (MCS)	TX & RX CONFIGURATION	
802.11a	6 ~ 54Mbps	2TX	2RX
802.11b	1 ~ 11Mbps	2TX	2RX
802.11g	6 ~ 54Mbps	2TX	2RX
802.11n (HT20)	MCS 0~7	2TX	2RX
	MCS 8~15	2TX	2RX
802.11n (HT40)	MCS 0~7	2TX	2RX
	MCS 8~15	2TX	2RX
802.11ac (VHT20) (5GHz)	MCS0~8 (256QAM) Nss= 1	2TX	2RX
	MCS0~8 (256QAM) Nss= 2	2TX	2RX
802.11ac (VHT40) (5GHz)	MCS0~9 (256QAM) Nss= 1	2TX	2RX
	MCS0~9 (256QAM) Nss= 2	2TX	2RX
802.11ac (VHT80) (5GHz)	MCS0~9 (256QAM) Nss= 1	2TX	2RX
	MCS0~9 (256QAM) Nss= 2	2TX	2RX

Note: 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 3.2.1)

7. The above EUT information was declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or user's manual.

3.2 DESCRIPTION OF TEST MODES

Operated in 5150 ~ 5250MHz band:

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

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):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
38	5190 MHz	46	5230 MHz

1 channel is provided for 802.11ac (VHT80):

CHANNEL	FREQUENCY
42	5210 MHz

Operated in 5250 ~ 5350MHz band:

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

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):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
54	5270 MHz	62	5310 MHz

1 channel is provided for 802.11ac (VHT80):

CHANNEL	FREQUENCY
58	5290 MHz

Operated in 5470MHz ~ 5725MHz bands:

11 channels are provided for 802.11a, 802.11n (HT20), 802.11ac (VHT20):

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		

5 channels are provided for 802.11n (HT40), 802.11ac (VHT40):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
102	5510 MHz	126	5630 MHz
110	5550 MHz	134	5670 MHz
118	5590 MHz		

2 channels are provided for 802.11ac (VHT80):

CHANNEL	FREQUENCY
106	5530 MHz
122	5610 MHz

Operated in 5725 ~ 5850MHz band:

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

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):

CHANNEL	FREQUENCY
151	5755 MHz
159	5795 MHz

1 channel is provided for 802.11ac (VHT80):

CHANNEL	FREQUENCY
155	5775 MHz

3.2.1 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	PLC	RE < 1G	RE ≥ 1G	APCM	
-	√	√	√	√	-

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

NOTE: 1. The EUT's antenna (PIFA) had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **X-plane (below 1GHz)** and **Z-plane (above 1GHz)**.

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 and antenna ports (if EUT with antenna diversity architecture).
- ☒ Following channel(s) was (were) selected for the final test as listed below.

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11a	36 to 165	157	OFDM	BPSK	6

RADIATED EMISSION TEST (BELOW 1 GHz):

- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- ☒ Following channel(s) was (were) selected for the final test as listed below.

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11a	36 to 165	157	OFDM	BPSK	6

RADIATED EMISSION TEST (ABOVE 1 GHz):

- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- ☒ Following channel(s) was (were) selected for the final test as listed below.

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11a	36 to 165	36, 40, 48, 52, 60, 64, 100, 120, 140, 149, 157, 165	OFDM	BPSK	6
802.11ac (VHT20)	36 to 165	36, 40, 48, 52, 60, 64, 100, 120, 140, 149, 157, 165	OFDM	BPSK	6.5
802.11ac (VHT40)	38 to 159	38, 46, 54, 62, 102, 118, 134, 151, 159	OFDM	BPSK	13.5
802.11ac (VHT80)	42 to 155	42, 58, 106, 122, 155	OFDM	BPSK	29.3

ANTENNA PORT CONDUCTED MEASUREMENT:

- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- ☒ Following channel(s) was (were) selected for the final test as listed below.

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11a	36 to 165	36, 40, 48, 52, 60, 64, 100, 120, 140, 149, 157, 165	OFDM	BPSK	6
802.11ac (VHT20)	36 to 165	36, 40, 48, 52, 60, 64, 100, 120, 140, 149, 157, 165	OFDM	BPSK	6.5
802.11ac (VHT40)	38 to 159	38, 46, 54, 62, 102, 118, 134, 151, 159	OFDM	BPSK	13.5
802.11ac (VHT80)	42 to 155	42, 58, 106, 122, 155	OFDM	BPSK	29.3



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TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER (SYSTEM)	TESTED BY
PLC	25deg. C, 70%RH	120Vac, 60Hz	Mike Hsieh
RE<1G	26deg. C, 75%RH	120Vac, 60Hz	Tim Ho Gary Cheng
RE≥1G	25deg. C, 65%RH	120Vac, 60Hz	Nelson Teng
APCM	25deg. C, 60%RH	120Vac, 60Hz	Nelson Teng

3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS

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)

789033 D02 General UNII Test Procedures New Rules v01

662911 D01 Multiple Transmitter Output v02r01

ANSI C63.10-2009

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

3.4 DUTY CYCLE OF TEST SIGNAL

Duty cycle of test signal is 100 %, duty factor is not required.



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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.

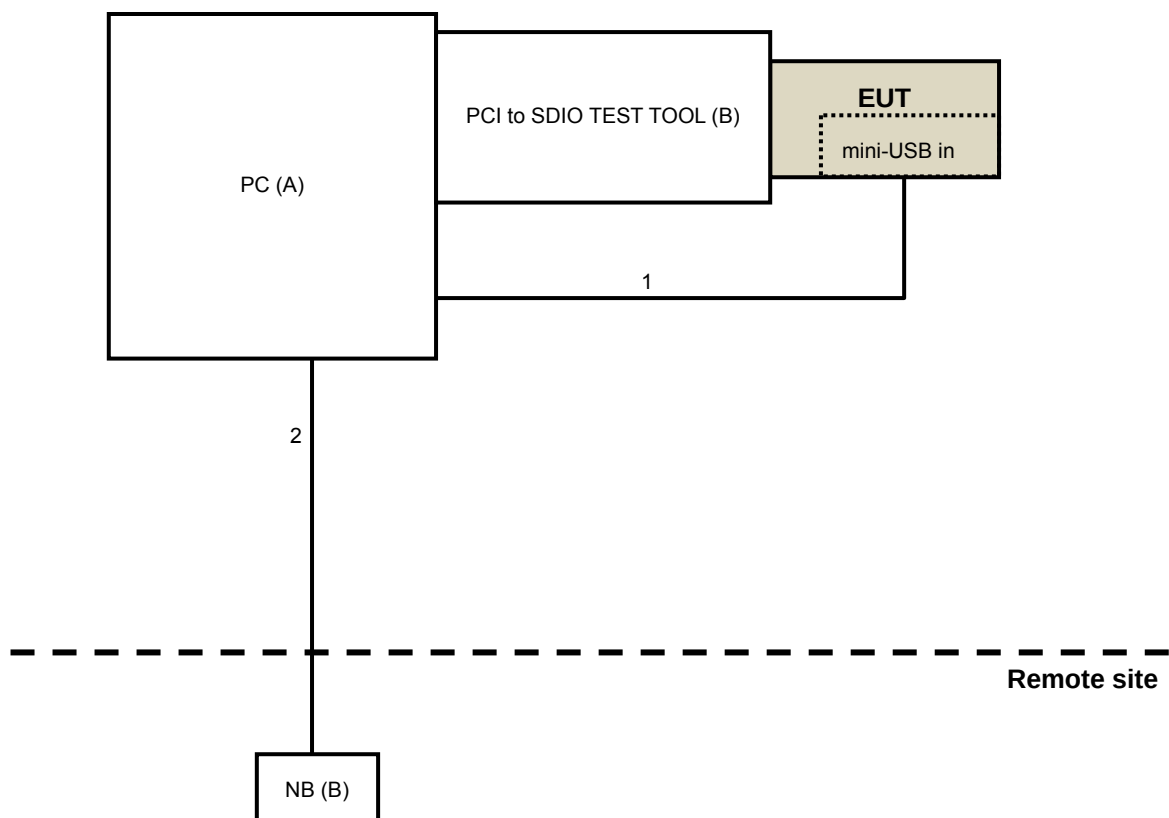
No.	Product	Brand	Model No.	Serial No.	FCC ID	Remark
A	PC	DELL	DCNE	HRJB32S	FCC DoC	Provided by Lab
B	PCI to SDIO TEST TOOL	Foxconn	NA	NA	NA	Supplied by client
C	NB	DELL	PP32LA	DSL32S	FCC DoC	Provided by Lab

NOTE:

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

No.	Cable	Qty.	Length (m)	Shielded (Yes/ No)	Cores (Number)	Remark
1.	mini USB to USB	1	1	No	0	Provided by Lab
2.	UTP RJ-45	1	10	No	0	Provided by Lab

3.6 CONFIGURATION OF SYSTEM UNDER TEST



4. TEST TYPES AND RESULTS

4.1 CONDUCTED EMISSION MEASUREMENT

4.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

FREQUENCY OF EMISSION (MHz)	CONDUCTED LIMIT (dB μ V)	
	Quasi-peak	Average
0.15-0.5	66 to 56	56 to 46
0.5-5	56	46
5-30	60	50

- NOTE:** 1. The lower limit shall apply at the transition frequencies.
2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50 MHz.

4.1.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver ROHDE & SCHWARZ	ESCS 30	100375	Apr. 29, 2014	Apr. 28, 2015
Line-Impedance Stabilization Network (for EUT) SCHWARZBECK	NSLK8127	8127-522	Sep. 12, 2013	Sep. 11, 2014
Line-Impedance Stabilization Network (for Peripheral)	ENV216	100071	Nov. 13, 2013	Nov. 12, 2014
RF Cable (JYEBAO)	5DFB	COCCAB-001	Mar. 10, 2014	Mar. 09, 2015
50 ohms Terminator	N/A	EMC-03	Sep. 24, 2013	Sep. 23, 2014
50 ohms Terminator	N/A	EMC-02	Oct. 01, 2013	Sep. 30, 2014
Software ADT	BV ADT_Cond_V7.3.7. 3	NA	NA	NA

Note:

- The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
- The test was performed in Shielded Room No. C.
- The VCCI Con C Registration No. is C-3611.
- Tested Date: June 27, 2014

4.1.3 TEST PROCEDURES

- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN.
- The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.
- Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- The frequency range from 150kHz to 30MHz was searched. Emission level under (Limit – 20dB) was not recorded.

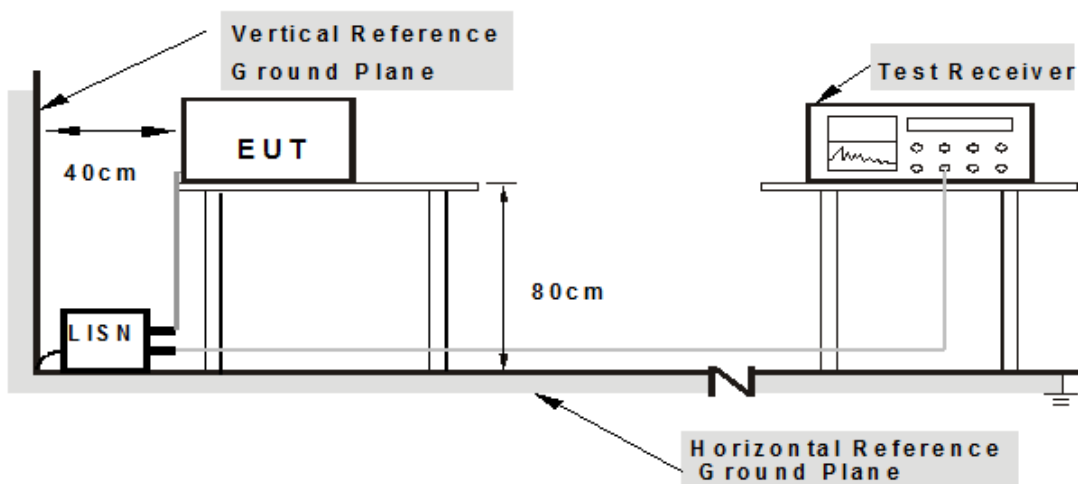
NOTE:

- The resolution bandwidth of test receiver is 9kHz for Quasi-peak detection (QP) & Average detection (AV).

4.1.4 DEVIATION FROM TEST STANDARD

No deviation

4.1.5 TEST SETUP



Note: 1. Support units were connected to second LISN.

For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

4.1.6 EUT OPERATING CONDITIONS

1. Connect the EUT with the support unit A (PC) which is placed on a testing table.
2. The communication partner run test program “DutApiMimoBtFmBrdigeUart.exe [WIN-X86-2.1.0.44-14.2.201.p98]” to enable EUT under transmission/receiving condition continuously at specific channel frequency.

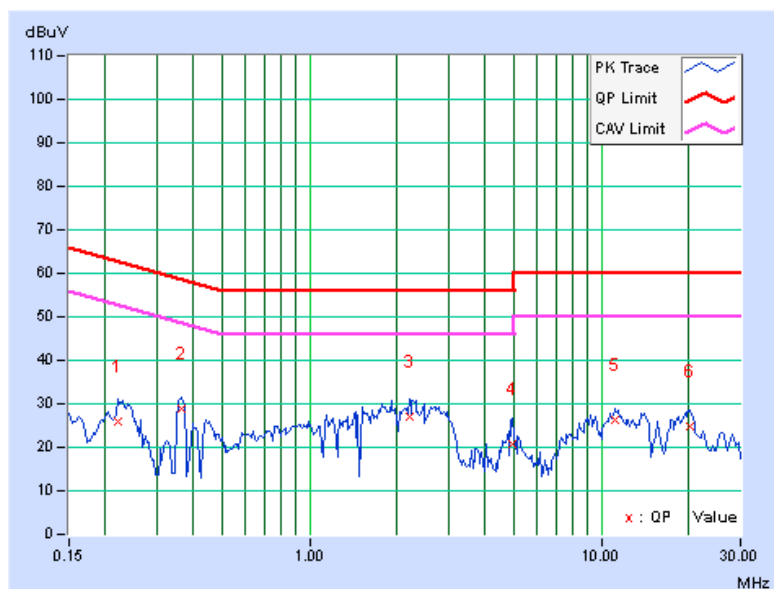
4.1.7 TEST RESULTS

PHASE	Line (L)	DETECTOR FUNCTION	Quasi-Peak (QP) / Average (AV)
-------	----------	-------------------	--------------------------------

No	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
	[MHz]	Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
		(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.22031	0.07	25.76	19.06	25.83	19.13	62.81	52.81	-36.98	-33.68
2	0.36484	0.09	28.87	26.94	28.96	27.03	58.62	48.62	-29.66	-21.59
3	2.19531	0.18	26.84	19.18	27.02	19.36	56.00	46.00	-28.98	-26.64
4	4.97266	0.29	20.45	6.81	20.74	7.10	56.00	46.00	-35.26	-38.90
5	11.13281	0.48	25.67	18.99	26.15	19.47	60.00	50.00	-33.85	-30.53
6	20.24609	0.72	23.96	18.48	24.68	19.20	60.00	50.00	-35.32	-30.80

REMARKS:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission Level – Limit value
4. Correction Factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value

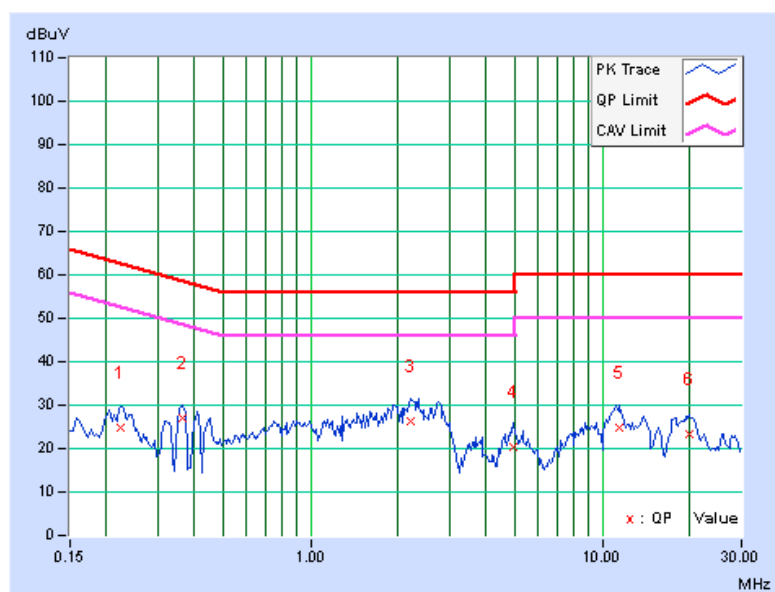


PHASE	Neutral (N)	DETECTOR FUNCTION	Quasi-Peak (QP) / Average (AV)
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	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
No		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.22422	0.07	24.85	20.03	24.92	20.10	62.66	52.66	-37.74	-32.56
2	0.36484	0.09	26.86	24.90	26.95	24.99	58.62	48.62	-31.67	-23.63
3	2.19141	0.19	26.06	18.61	26.25	18.80	56.00	46.00	-29.75	-27.20
4	4.97266	0.29	20.11	8.81	20.40	9.10	56.00	46.00	-35.60	-36.90
5	11.45313	0.49	24.29	16.99	24.78	17.48	60.00	50.00	-35.22	-32.52
6	19.85156	0.70	22.51	16.80	23.21	17.50	60.00	50.00	-36.79	-32.50

REMARKS:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission Level – Limit value
4. Correction Factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value



4.2 RADIATED EMISSION AND BANDEDGE MEASUREMENT

4.2.1 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.

4.2.2 LIMITS OF UNWANTED EMISSION OUT OF THE RESTRICTED BANDS

APPLICABLE TO	LIMIT	
789033 D02 General UNII Test Procedures New Rules v01	FIELD STRENGTH AT 3m	
	PK:74 (dBμV/m)	AV:54 (dBμV/m)
APPLICABLE TO	EIRP LIMIT	EQUIVALENT FIELD STRENGTH AT 3m
15.407(b)(1)	PK:-27 (dBm/MHz)	PK:68.2(dBμV/m)
15.407(b)(2)		
15.407(b)(3)		
15.407(b)(4)	PK:-27 (dBm/MHz) ^{*1} PK:-17 (dBm/MHz) ^{*2}	PK: 68.2(dBμV/m) ^{*1} PK:78.2 (dBμV/m) ^{*2}

NOTE: ^{*1} beyond 10MHz of the band edge ^{*2} within 10 MHz of band edge

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

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



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4.2.3 TEST INSTRUMENTS

For Below 1GHz test:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
MXE EMI Receiver Agilent	N9038A	MY50010156	Jan. 15, 2014	Jan. 14, 2015
Pre-Amplifier Mini-Circuits	ZFL-1000VH2 B	AMP-ZFL-04	Nov. 13, 2013	Nov. 12, 2014
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-361	Feb. 27, 2014	Feb. 26, 2015
RF Cable	NA	CHHCAB_001	Oct. 06, 2013	Oct. 05, 2014
Spectrum Analyzer R&S	FSV40	100964	July 15, 2013	July 14, 2014
Horn_Antenna AISI	AIH.8018	0000220091110	Dec. 06, 2013	Dec. 05, 2014
Pre-Amplifier Agilent	8449B	3008A01923	Oct. 29, 2013	Oct. 28, 2014
RF Cable	NA	RF104-205 RF104-207 RF104-202	Dec. 12, 2013	Dec. 11, 2014
Spectrum Analyzer Agilent	E4446A	MY48250253	Aug. 28, 2013	Aug. 27, 2014
Pre-Amplifier SPACEK LABS	SLKKa-48-6	9K16	Nov. 13, 2013	Nov. 12, 2014
Horn_Antenna SCHWARZBECK	BBHA 9170	9170-424	Oct. 08, 2013	Oct. 07, 2014
Software	ADT_Radiated _V8.7.07	NA	NA	NA
Antenna Tower & Turn Table CT	NA	NA	NA	NA

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 horn antenna, preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
- 3 The test was performed in 966 Chamber No. H.
4. The FCC Site Registration No. is 797305.
- 5 The CANADA Site Registration No. is IC 7450H-3.
- 6 Tested Date: June 18, 2014



A D T

For Above 1GHz test:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
MXE EMI Receiver Agilent	N9038A	MY51210105	Jan. 21, 2014	Jan. 20, 2015
Pre-Amplifier Mini-Circuits	ZFL-1000VH2 B	AMP-ZFL-03	Nov. 13, 2013	Nov. 12, 2014
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-360	Feb. 26, 2014	Feb. 25, 2015
RF Cable	NA	CHGCAB_001	Oct. 05, 2013	Oct. 04, 2014
Spectrum Analyzer R&S	FSV40	100964	July 15, 2013	July 14, 2014
Horn_Antenna AISI	AIH.8018	0000320091110	Nov. 18, 2013	Nov. 17, 2014
Pre-Amplifier Agilent	8449B	3008A01923	Oct. 29, 2013	Oct. 28, 2014
RF Cable	NA	RF104-201 RF104-203 RF104-204	Dec. 12, 2013	Dec. 11, 2014
Spectrum Analyzer Agilent	E4446A	MY48250253	Aug. 28, 2013	Aug. 27, 2014
Pre-Amplifier SPACEK LABS	SLKKa-48-6	9K16	Nov. 13, 2013	Nov. 12, 2014
Horn_Antenna SCHWARZBECK	BBHA 9170	9170-424	Oct. 08, 2013	Oct. 07, 2014
Software	ADT_Radiated _V8.7.07	NA	NA	NA
Antenna Tower & Turn Table CT	NA	NA	NA	NA

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 horn antenna, preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
- 3 The test was performed in 966 Chamber No. G.
4. The FCC Site Registration No. is 966073.
- 5 The VCCI Site Registration No. is G-137.
- 6 The CANADA Site Registration No. is IC 7450H-2.
- 7 Tested Date: June 28, 2014

4.2.4 TEST PROCEDURES

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The 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.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. 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.
- f. The test-receiver system was set to peak and average detect 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:

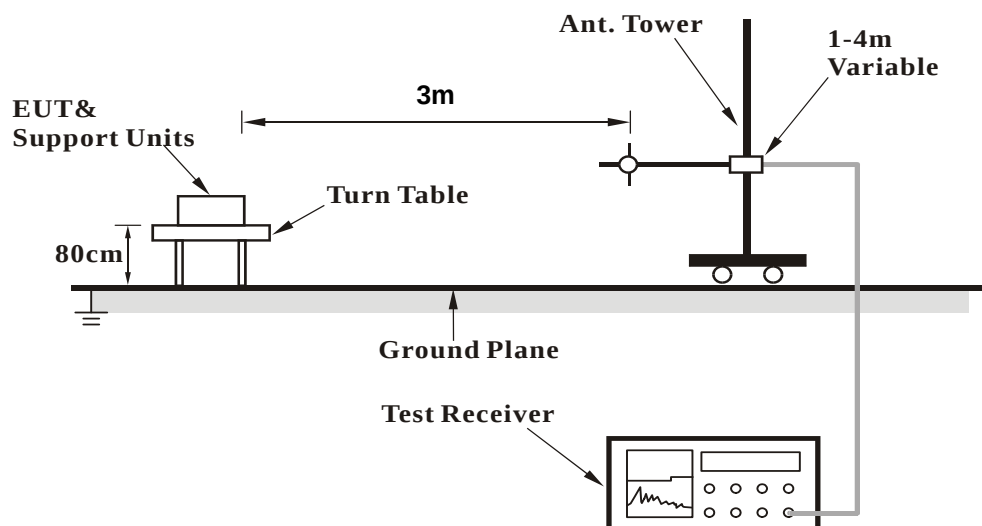
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 3MHz for RMS Average (Duty cycle < 98%) for Average detection (AV) at frequency above 1GHz, then the measurement results was added to a correction factor ($10 \log(1/\text{duty cycle})$).
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 10Hz (Duty cycle $\geq 98\%$) for Average detection (AV) at frequency above 1GHz.
5. All modes of operation were investigated and the worst-case emissions are reported.

4.2.5 DEVIATION FROM TEST STANDARD

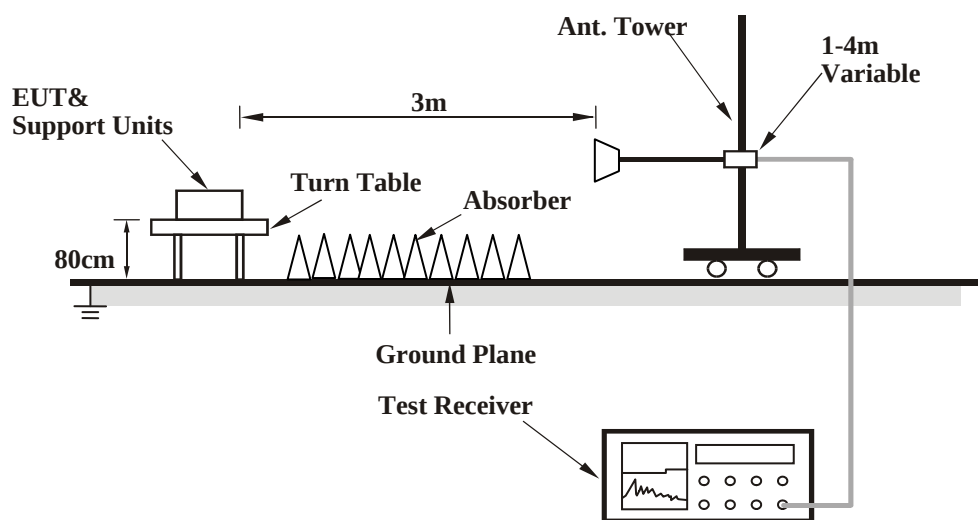
No deviation

4.2.6 TEST SETUP

<Frequency Range below 1GHz>



<Frequency Range above 1GHz>



For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

4.2.7 EUT OPERATING CONDITION

Same as 4.1.6

4.2.8 TEST RESULTS

BELOW 1GHz WORST-CASE DATA

802.11a

CHANNEL	TX Channel 157	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	Below 1GHz		

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	120.43	32.8 QP	43.5	-10.7	1.55 H	216	47.78	-14.97
2	133.51	40.5 QP	43.5	-3.0	1.93 H	120	54.37	-13.87
3	165.70	40.3 QP	43.5	-3.2	1.53 H	148	53.57	-13.26
4	266.69	42.9 QP	46.0	-3.1	1.00 H	120	56.38	-13.44
5	334.11	40.0 QP	46.0	-6.0	1.00 H	214	51.02	-11.00
6	400.33	35.3 QP	46.0	-10.7	1.93 H	20	45.00	-9.69
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	133.74	40.0 QP	43.5	-3.5	1.00 V	302	53.81	-13.85
2	156.76	36.4 QP	43.5	-7.1	1.05 V	287	49.27	-12.90
3	166.74	40.4 QP	43.5	-3.1	1.95 V	108	53.73	-13.35
4	266.60	43.0 QP	46.0	-3.0	1.53 V	360	56.44	-13.44
5	282.50	35.5 QP	46.0	-10.5	2.00 V	40	48.22	-12.73
6	332.38	36.8 QP	46.0	-9.2	1.53 V	241	47.76	-11.00

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value

ABOVE 1GHz DATA

802.11a

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

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	5150.00	68.3 PK	74.0	-5.7	1.21 H	233	61.50	6.80
2	5150.00	50.6 AV	54.0	-3.4	1.21 H	233	43.80	6.80
3	*5180.00	104.7 PK			1.21 H	233	97.75	6.95
4	*5180.00	95.8 AV			1.21 H	233	88.85	6.95
5	#10360.00	52.7 PK	74.0	-21.3	1.22 H	24	39.59	13.11
6	#10360.00	40.6 AV	54.0	-13.4	1.22 H	24	27.49	13.11
7	15540.00	59.4 PK	74.0	-14.6	1.23 H	13	40.71	18.69
8	15540.00	47.8 AV	54.0	-6.2	1.23 H	13	29.11	18.69
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	5150.00	67.5 PK	74.0	-6.5	1.29 V	272	60.70	6.80
2	5150.00	53.2 AV	54.0	-0.8	1.29 V	272	46.40	6.80
3	*5180.00	108.8 PK			1.29 V	272	101.85	6.95
4	*5180.00	99.5 AV			1.29 V	272	92.55	6.95
5	#10360.00	53.6 PK	74.0	-20.4	1.24 V	298	40.49	13.11
6	#10360.00	44.7 AV	54.0	-9.3	1.24 V	298	31.59	13.11
7	15540.00	63.0 PK	74.0	-11.0	1.38 V	285	44.31	18.69
8	15540.00	49.9 AV	54.0	-4.1	1.38 V	285	31.21	18.69

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.



A D T

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

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	*5200.00	106.4 PK			1.17 H	232	99.35	7.05
2	*5200.00	97.3 AV			1.17 H	232	90.25	7.05
3	#10400.00	53.0 PK	74.0	-21.0	1.25 H	10	39.78	13.22
4	#10400.00	40.6 AV	54.0	-13.4	1.25 H	10	27.38	13.22
5	15600.00	59.5 PK	74.0	-14.5	1.28 H	28	40.80	18.70
6	15600.00	47.9 AV	54.0	-6.1	1.28 H	28	29.20	18.70
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	*5200.00	109.4 PK			1.30 V	278	102.35	7.05
2	*5200.00	100.2 AV			1.30 V	278	93.15	7.05
3	#10400.00	53.0 PK	74.0	-21.0	1.22 V	288	39.78	13.22
4	#10400.00	44.4 AV	54.0	-9.6	1.22 V	288	31.18	13.22
5	15600.00	63.1 PK	74.0	-10.9	1.37 V	299	44.40	18.70
6	15600.00	49.9 AV	54.0	-4.1	1.37 V	299	31.20	18.70

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.



A D T

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

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	*5240.00	104.5 PK			1.21 H	237	97.34	7.16
2	*5240.00	95.9 AV			1.21 H	237	88.74	7.16
3	#10480.00	52.9 PK	74.0	-21.1	1.17 H	27	39.74	13.16
4	#10480.00	41.1 AV	54.0	-12.9	1.17 H	27	27.94	13.16
5	15720.00	59.2 PK	74.0	-14.8	1.17 H	18	40.80	18.40
6	15720.00	47.5 AV	54.0	-6.5	1.17 H	18	29.10	18.40
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	*5240.00	108.7 PK			1.29 V	284	101.54	7.16
2	*5240.00	99.8 AV			1.29 V	284	92.64	7.16
3	#10480.00	53.7 PK	74.0	-20.3	1.28 V	288	40.54	13.16
4	#10480.00	44.5 AV	54.0	-9.5	1.28 V	288	31.34	13.16
5	15720.00	63.4 PK	74.0	-10.6	1.36 V	283	45.00	18.40
6	15720.00	50.1 AV	54.0	-3.9	1.36 V	283	31.70	18.40

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.



A D T

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

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	*5260.00	105.1 PK			1.25 H	239	97.92	7.18
2	*5260.00	96.2 AV			1.25 H	239	89.02	7.18
3	#10520.00	53.0 PK	74.0	-21.0	1.26 H	13	39.78	13.22
4	#10520.00	40.6 AV	54.0	-13.4	1.26 H	13	27.38	13.22
5	15780.00	59.4 PK	74.0	-14.6	1.23 H	0	40.89	18.51
6	15780.00	47.8 AV	54.0	-6.2	1.23 H	0	29.29	18.51

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	*5260.00	105.1 PK			1.25 V	239	97.92	7.18
2	*5260.00	109.0 PK			1.28 V	265	101.82	7.18
3	*5260.00	96.2 AV			1.25 V	239	89.02	7.18
4	*5260.00	99.8 AV			1.28 V	265	92.62	7.18
5	#10520.00	53.0 PK	74.0	-21.0	1.26 V	13	39.78	13.22
6	#10520.00	53.3 PK	74.0	-20.7	1.20 V	291	40.08	13.22
7	#10520.00	40.6 AV	54.0	-13.4	1.26 V	13	27.38	13.22
8	#10520.00	44.5 AV	54.0	-9.5	1.20 V	291	31.28	13.22
9	15780.00	59.4 PK	74.0	-14.6	1.23 V	0	40.89	18.51
10	15780.00	63.7 PK	74.0	-10.3	1.34 V	278	45.19	18.51
11	15780.00	47.8 AV	54.0	-6.2	1.23 V	0	29.29	18.51
12	15780.00	50.3 AV	54.0	-3.7	1.34 V	278	31.79	18.51

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.



A D T

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

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	*5300.00	106.5 PK			1.21 H	233	99.21	7.29
2	*5300.00	97.5 AV			1.21 H	233	90.21	7.29
3	10600.00	52.9 PK	74.0	-21.1	1.20 H	19	39.37	13.53
4	10600.00	40.5 AV	54.0	-13.5	1.20 H	19	26.97	13.53
5	15900.00	59.4 PK	74.0	-14.6	1.29 H	28	40.75	18.65
6	15900.00	47.6 AV	54.0	-6.4	1.29 H	28	28.95	18.65
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	*5300.00	109.5 PK			1.31 V	256	102.21	7.29
2	*5300.00	100.1 AV			1.31 V	256	92.81	7.29
3	10600.00	53.6 PK	74.0	-20.4	1.20 V	284	40.07	13.53
4	10600.00	44.9 AV	54.0	-9.1	1.20 V	284	31.37	13.53
5	15900.00	62.9 PK	74.0	-11.1	1.43 V	290	44.25	18.65
6	15900.00	49.6 AV	54.0	-4.4	1.43 V	290	30.95	18.65

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.



A D T

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

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	*5320.00	103.4 PK			1.16 H	245	96.02	7.38
2	*5320.00	94.3 AV			1.16 H	245	86.92	7.38
3	5350.00	66.4 PK	74.0	-7.6	1.16 H	245	58.91	7.49
4	5350.00	50.3 AV	54.0	-3.7	1.16 H	245	42.81	7.49
5	10640.00	53.2 PK	74.0	-20.8	1.22 H	15	39.57	13.63
6	10640.00	41.0 AV	54.0	-13.0	1.22 H	15	27.37	13.63
7	15960.00	58.9 PK	74.0	-15.1	1.27 H	3	40.29	18.61
8	15960.00	47.3 AV	54.0	-6.7	1.27 H	3	28.69	18.61

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	*5320.00	106.4 PK			1.00 V	272	99.02	7.38
2	*5320.00	98.2 AV			1.00 V	272	90.82	7.38
3	5350.00	68.5 PK	74.0	-5.5	1.00 V	272	61.01	7.49
4	5350.00	52.3 AV	54.0	-1.7	1.00 V	272	44.81	7.49
5	10640.00	53.9 PK	74.0	-20.1	1.20 V	296	40.27	13.63
6	10640.00	45.1 AV	54.0	-8.9	1.20 V	296	31.47	13.63
7	15960.00	63.3 PK	74.0	-10.7	1.36 V	294	44.69	18.61
8	15960.00	50.3 AV	54.0	-3.7	1.36 V	294	31.69	18.61

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.



A D T

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

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	#5470.00	68.2 PK	74.0	-5.8	1.17 H	246	60.27	7.93
2	#5470.00	51.2 AV	54.0	-2.8	1.17 H	246	43.27	7.93
3	*5500.00	102.7 PK			1.17 H	246	94.68	8.02
4	*5500.00	93.2 AV			1.17 H	246	85.18	8.02
5	11000.00	53.5 PK	74.0	-20.5	1.22 H	29	39.08	14.42
6	11000.00	41.5 AV	54.0	-12.5	1.22 H	29	27.08	14.42
7	#16500.00	58.8 PK	74.0	-15.2	1.28 H	10	37.86	20.94
8	#16500.00	47.4 AV	54.0	-6.6	1.28 H	10	26.46	20.94
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	#5470.00	70.0 PK	74.0	-4.0	1.29 V	302	62.07	7.93
2	#5470.00	53.7 AV	54.0	-0.3	1.29 V	302	45.77	7.93
3	*5500.00	106.6 PK			1.29 V	297	98.58	8.02
4	*5500.00	97.5 AV			1.29 V	297	89.48	8.02
5	11000.00	52.3 PK	74.0	-21.7	1.26 V	308	37.88	14.42
6	11000.00	44.0 AV	54.0	-10.0	1.26 V	308	29.58	14.42
7	#16500.00	61.3 PK	74.0	-12.7	1.36 V	289	40.36	20.94
8	#16500.00	48.6 AV	54.0	-5.4	1.36 V	289	27.66	20.94

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.



A D T

CHANNEL	TX Channel 120	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

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	#5470.00	51.3 PK	74.0	-22.7	1.22 H	222	43.37	7.93
2	#5470.00	39.2 AV	54.0	-14.8	1.22 H	222	31.27	7.93
3	*5600.00	106.0 PK			1.22 H	222	97.79	8.21
4	*5600.00	97.1 AV			1.22 H	222	88.89	8.21
5	#5725.00	49.3 PK	74.0	-24.7	1.22 H	222	40.91	8.39
6	#5725.00	39.8 AV	54.0	-14.2	1.22 H	222	31.41	8.39
7	11200.00	52.6 PK	74.0	-21.4	1.23 H	17	38.34	14.26
8	11200.00	40.5 AV	54.0	-13.5	1.23 H	17	26.24	14.26
9	#16800.00	59.7 PK	74.0	-14.3	1.31 H	38	38.40	21.30
10	#16800.00	47.8 AV	54.0	-6.2	1.31 H	38	26.50	21.30

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	#5470.00	53.1 PK	74.0	-20.9	1.00 V	357	45.17	7.93
2	#5470.00	40.9 AV	54.0	-13.1	1.00 V	357	32.97	7.93
3	*5600.00	109.0 PK			1.00 V	357	100.79	8.21
4	*5600.00	100.7 AV			1.00 V	357	92.49	8.21
5	#5725.00	51.7 PK	74.0	-22.3	1.00 V	357	43.31	8.39
6	#5725.00	41.7 AV	54.0	-12.3	1.00 V	357	33.31	8.39
7	11200.00	53.6 PK	74.0	-20.4	1.23 V	308	39.34	14.26
8	11200.00	44.8 AV	54.0	-9.2	1.23 V	308	30.54	14.26
9	#16800.00	63.6 PK	74.0	-10.4	1.39 V	280	42.30	21.30
10	#16800.00	50.4 AV	54.0	-3.6	1.39 V	280	29.10	21.30

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.



A D T

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

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	*5700.00	102.7 PK			1.20 H	246	94.35	8.35
2	*5700.00	93.5 AV			1.20 H	246	85.15	8.35
3	#5725.00	68.8 PK	74.0	-5.2	1.20 H	246	60.41	8.39
4	#5725.00	51.7 AV	54.0	-2.3	1.20 H	246	43.31	8.39
5	11400.00	53.5 PK	74.0	-20.5	1.22 H	37	39.08	14.42
6	11400.00	41.5 AV	54.0	-12.5	1.22 H	37	27.08	14.42
7	#17100.00	58.9 PK	74.0	-15.1	1.27 H	16	37.13	21.77
8	#17100.00	47.7 AV	54.0	-6.3	1.27 H	16	25.93	21.77

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	*5700.00	106.9 PK			1.26 V	279	98.55	8.35
2	*5700.00	97.5 AV			1.26 V	279	89.15	8.35
3	#5725.00	70.8 PK	74.0	-3.2	1.26 V	279	62.41	8.39
4	#5725.00	50.5 AV	54.0	-3.5	1.26 V	279	42.11	8.39
5	11400.00	52.8 PK	74.0	-21.2	1.25 V	304	38.38	14.42
6	11400.00	44.4 AV	54.0	-9.6	1.25 V	304	29.98	14.42
7	#17100.00	61.1 PK	74.0	-12.9	1.41 V	293	39.33	21.77
8	#17100.00	48.7 AV	54.0	-5.3	1.41 V	293	26.93	21.77

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.



A D T

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

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	#5715.00	67.3 PK	74.0	-6.7	1.21 H	236	58.93	8.37
2	#5715.00	50.3 AV	54.0	-3.7	1.21 H	236	41.93	8.37
3	#5722.80	75.4 PK	78.2	-2.8	1.21 H	236	67.01	8.39
4	*5745.00	103.5 PK			1.21 H	236	95.08	8.42
5	*5745.00	95.3 AV			1.21 H	236	86.88	8.42
6	11490.00	50.2 PK	74.0	-23.8	1.24 H	11	35.85	14.35
7	11490.00	40.1 AV	54.0	-13.9	1.24 H	11	25.75	14.35
8	#17235.00	58.8 PK	74.0	-15.2	1.29 H	0	36.36	22.44
9	#17235.00	47.0 AV	54.0	-7.0	1.29 H	0	24.56	22.44

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	#5715.00	69.7 PK	74.0	-4.3	1.28 V	288	61.33	8.37
2	#5715.00	52.0 AV	54.0	-2.0	1.28 V	288	43.63	8.37
3	#5722.80	77.4 PK	78.2	-0.8	1.18 V	262	69.01	8.39
4	*5745.00	108.7 PK			1.26 V	266	100.28	8.42
5	*5745.00	99.2 AV			1.26 V	266	90.78	8.42
6	11490.00	53.1 PK	74.0	-20.9	1.30 V	300	38.75	14.35
7	11490.00	42.7 AV	54.0	-11.3	1.30 V	300	28.35	14.35
8	#17235.00	63.4 PK	74.0	-10.6	1.38 V	277	40.96	22.44
9	#17235.00	50.2 AV	54.0	-3.8	1.38 V	277	27.76	22.44

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.



A D T

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

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	*5785.00	103.4 PK			1.14 H	233	94.91	8.49
2	*5785.00	95.3 AV			1.14 H	233	86.81	8.49
3	11570.00	49.8 PK	74.0	-24.2	1.20 H	18	35.49	14.31
4	11570.00	40.0 AV	54.0	-14.0	1.20 H	18	25.69	14.31
5	#17355.00	58.3 PK	74.0	-15.7	1.23 H	0	35.30	23.00
6	#17355.00	46.6 AV	54.0	-7.4	1.23 H	0	23.60	23.00
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	*5785.00	109.3 PK			1.28 V	262	100.81	8.49
2	*5785.00	100.6 AV			1.28 V	262	92.11	8.49
3	11570.00	53.2 PK	74.0	-20.8	1.27 V	311	38.89	14.31
4	11570.00	43.0 AV	54.0	-11.0	1.27 V	311	28.69	14.31
5	#17355.00	63.9 PK	74.0	-10.1	1.32 V	263	40.90	23.00
6	#17355.00	50.4 AV	54.0	-3.6	1.32 V	263	27.40	23.00

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.



A D T

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

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	*5825.00	101.3 PK			1.18 H	233	92.71	8.59
2	*5825.00	92.4 AV			1.18 H	233	83.81	8.59
3	#5850.00	70.2 PK	78.2	-8.0	1.18 H	233	61.53	8.67
4	#5860.00	63.2 PK	74.0	-10.8	1.18 H	233	54.49	8.71
5	#5860.00	41.8 AV	54.0	-12.2	1.18 H	233	33.09	8.71
6	11650.00	50.3 PK	74.0	-23.7	1.18 H	13	35.92	14.38
7	11650.00	38.4 AV	54.0	-15.6	1.18 H	13	24.02	14.38
8	#17475.00	60.1 PK	74.0	-13.9	1.19 H	9	36.80	23.30
9	#17475.00	47.6 AV	54.0	-6.4	1.19 H	9	24.30	23.30

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	*5825.00	105.5 PK			1.29 V	262	96.91	8.59
2	*5825.00	96.6 AV			1.29 V	262	88.01	8.59
3	#5850.00	73.0 PK	78.2	-5.2	1.16 V	360	64.33	8.67
4	#5860.00	65.1 PK	74.0	-8.9	1.25 V	360	56.39	8.71
5	#5860.00	44.5 AV	54.0	-9.5	1.25 V	360	35.79	8.71
6	11650.00	52.6 PK	74.0	-21.4	1.25 V	293	38.22	14.38
7	11650.00	42.5 AV	54.0	-11.5	1.25 V	293	28.12	14.38
8	#17475.00	63.2 PK	74.0	-10.8	1.42 V	281	39.90	23.30
9	#17475.00	49.9 AV	54.0	-4.1	1.42 V	281	26.60	23.30

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.



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802.11ac (VHT20)

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

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	5150.00	66.8 PK	74.0	-7.2	1.15 H	242	60.00	6.80
2	5150.00	50.5 AV	54.0	-3.5	1.15 H	242	43.70	6.80
3	*5180.00	103.0 PK			1.21 H	242	96.05	6.95
4	*5180.00	94.1 AV			1.21 H	242	87.15	6.95
5	#10360.00	53.7 PK	74.0	-20.3	1.21 H	24	40.59	13.11
6	#10360.00	41.4 AV	54.0	-12.6	1.21 H	24	28.29	13.11
7	15540.00	59.4 PK	74.0	-14.6	1.22 H	0	40.71	18.69
8	15540.00	47.5 AV	54.0	-6.5	1.22 H	0	28.81	18.69
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	5150.00	67.0 PK	74.0	-7.0	1.00 V	265	60.20	6.80
2	5150.00	50.9 AV	54.0	-3.1	1.00 V	265	44.10	6.80
3	*5180.00	106.6 PK			1.00 V	265	99.65	6.95
4	*5180.00	98.7 AV			1.00 V	265	91.75	6.95
5	#10360.00	53.9 PK	74.0	-20.1	1.22 V	280	40.79	13.11
6	#10360.00	45.0 AV	54.0	-9.0	1.22 V	280	31.89	13.11
7	15540.00	63.3 PK	74.0	-10.7	1.31 V	282	44.61	18.69
8	15540.00	50.5 AV	54.0	-3.5	1.31 V	282	31.81	18.69

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.



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

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	5150.00	57.3 PK	74.0	-16.7	1.23 H	216	50.50	6.80
2	5150.00	40.6 AV	54.0	-13.4	1.23 H	216	33.80	6.80
3	*5200.00	106.1 PK			1.23 H	216	99.05	7.05
4	*5200.00	96.9 AV			1.23 H	216	89.85	7.05
5	#10400.00	52.4 PK	74.0	-21.6	1.21 H	15	39.18	13.22
6	#10400.00	40.6 AV	54.0	-13.4	1.21 H	15	27.38	13.22
7	15600.00	59.3 PK	74.0	-14.7	1.27 H	30	40.60	18.70
8	15600.00	47.6 AV	54.0	-6.4	1.27 H	30	28.90	18.70
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	5150.00	59.5 PK	74.0	-14.5	1.00 V	265	52.70	6.80
2	5150.00	42.3 AV	54.0	-11.7	1.00 V	265	35.50	6.80
3	*5200.00	108.0 PK			1.00 V	265	100.95	7.05
4	*5200.00	100.7 AV			1.00 V	265	93.65	7.05
5	#10400.00	53.5 PK	74.0	-20.5	1.21 V	306	40.28	13.22
6	#10400.00	44.7 AV	54.0	-9.3	1.21 V	306	31.48	13.22
7	15600.00	63.5 PK	74.0	-10.5	1.32 V	295	44.80	18.70
8	15600.00	50.5 AV	54.0	-3.5	1.32 V	295	31.80	18.70

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.



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

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	*5240.00	106.6 PK			1.22 H	214	99.44	7.16
2	*5240.00	97.2 AV			1.22 H	214	90.04	7.16
3	#10480.00	52.4 PK	74.0	-21.6	1.27 H	21	39.24	13.16
4	#10480.00	40.8 AV	54.0	-13.2	1.27 H	21	27.64	13.16
5	15720.00	59.3 PK	74.0	-14.7	1.30 H	43	40.90	18.40
6	15720.00	47.5 AV	54.0	-6.5	1.30 H	43	29.10	18.40

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	*5240.00	107.9 PK			1.10 V	261	100.74	7.16
2	*5240.00	100.7 AV			1.10 V	261	93.54	7.16
3	#10480.00	54.2 PK	74.0	-19.8	1.24 V	283	41.04	13.16
4	#10480.00	45.1 AV	54.0	-8.9	1.24 V	283	31.94	13.16
5	15720.00	63.5 PK	74.0	-10.5	1.34 V	287	45.10	18.40
6	15720.00	50.6 AV	54.0	-3.4	1.34 V	287	32.20	18.40

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.



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

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	*5260.00	106.1 PK			1.24 H	216	98.92	7.18
2	*5260.00	97.2 AV			1.24 H	216	90.02	7.18
3	#10520.00	52.7 PK	74.0	-21.3	1.27 H	15	39.48	13.22
4	#10520.00	40.8 AV	54.0	-13.2	1.27 H	15	27.58	13.22
5	15780.00	59.3 PK	74.0	-14.7	1.23 H	15	40.79	18.51
6	15780.00	47.6 AV	54.0	-6.4	1.23 H	15	29.09	18.51
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	*5260.00	107.3 PK			1.06 V	264	100.12	7.18
2	*5260.00	100.3 AV			1.06 V	264	93.12	7.18
3	#10520.00	53.9 PK	74.0	-20.1	1.16 V	292	40.68	13.22
4	#10520.00	45.0 AV	54.0	-9.0	1.16 V	292	31.78	13.22
5	15780.00	63.4 PK	74.0	-10.6	1.37 V	300	44.89	18.51
6	15780.00	50.5 AV	54.0	-3.5	1.37 V	300	31.99	18.51

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.



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

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	*5300.00	106.2 PK			1.26 H	221	98.91	7.29
2	*5300.00	97.3 AV			1.26 H	221	90.01	7.29
3	10600.00	52.3 PK	74.0	-21.7	1.18 H	6	38.77	13.53
4	10600.00	40.5 AV	54.0	-13.5	1.18 H	6	26.97	13.53
5	15900.00	59.4 PK	74.0	-14.6	1.21 H	16	40.75	18.65
6	15900.00	47.4 AV	54.0	-6.6	1.21 H	16	28.75	18.65
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	*5300.00	108.2 PK			1.05 V	251	100.91	7.29
2	*5300.00	100.9 AV			1.05 V	251	93.61	7.29
3	10600.00	54.5 PK	74.0	-19.5	1.16 V	302	40.97	13.53
4	10600.00	45.5 AV	54.0	-8.5	1.16 V	302	31.97	13.53
5	15900.00	63.4 PK	74.0	-10.6	1.34 V	287	44.75	18.65
6	15900.00	50.2 AV	54.0	-3.8	1.34 V	287	31.55	18.65

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.



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

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	*5320.00	105.7 PK			1.19 H	222	98.32	7.38
2	*5320.00	96.5 AV			1.19 H	222	89.12	7.38
3	5350.00	65.4 PK	74.0	-8.6	1.19 H	222	57.91	7.49
4	5350.00	51.1 AV	54.0	-2.9	1.19 H	222	43.61	7.49
5	10640.00	52.5 PK	74.0	-21.5	1.24 H	7	38.87	13.63
6	10640.00	40.4 AV	54.0	-13.6	1.24 H	7	26.77	13.63
7	15960.00	59.3 PK	74.0	-14.7	1.28 H	24	40.69	18.61
8	15960.00	47.5 AV	54.0	-6.5	1.28 H	24	28.89	18.61
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	*5320.00	107.4 PK			1.14 V	276	100.02	7.38
2	*5320.00	100.2 AV			1.14 V	276	92.82	7.38
3	5350.00	67.7 PK	74.0	-6.3	1.14 V	276	60.21	7.49
4	5350.00	53.1 AV	54.0	-0.9	1.14 V	276	45.61	7.49
5	10640.00	53.7 PK	74.0	-20.3	1.19 V	308	40.07	13.63
6	10640.00	44.8 AV	54.0	-9.2	1.19 V	308	31.17	13.63
7	15960.00	63.4 PK	74.0	-10.6	1.39 V	308	44.79	18.61
8	15960.00	50.6 AV	54.0	-3.4	1.39 V	308	31.99	18.61

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.



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

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	#5470.00	65.4 PK	74.0	-8.6	1.16 H	149	57.47	7.93
2	#5470.00	49.3 AV	54.0	-4.7	1.16 H	149	41.37	7.93
3	*5500.00	102.9 PK			1.18 H	249	94.88	8.02
4	*5500.00	94.1 AV			1.18 H	249	86.08	8.02
5	11000.00	53.8 PK	74.0	-20.2	1.20 H	23	39.38	14.42
6	11000.00	41.6 AV	54.0	-12.4	1.20 H	23	27.18	14.42
7	#16500.00	61.2 PK	74.0	-12.8	1.18 H	15	40.26	20.94
8	#16500.00	48.7 AV	54.0	-5.3	1.18 H	15	27.76	20.94

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	#5470.00	67.8 PK	74.0	-6.2	1.02 V	346	59.87	7.93
2	#5470.00	51.1 AV	54.0	-2.9	1.02 V	346	43.17	7.93
3	*5500.00	105.7 PK			1.02 V	346	97.68	8.02
4	*5500.00	98.0 AV			1.02 V	346	89.98	8.02
5	11000.00	53.6 PK	74.0	-20.4	1.23 V	299	39.18	14.42
6	11000.00	45.0 AV	54.0	-9.0	1.23 V	299	30.58	14.42
7	#16500.00	63.9 PK	74.0	-10.1	1.35 V	303	42.96	20.94
8	#16500.00	50.8 AV	54.0	-3.2	1.35 V	303	29.86	20.94

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.



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CHANNEL	TX Channel 120	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

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	#5470.00	50.1 PK	74.0	-23.9	1.23 H	226	42.17	7.93
2	#5470.00	39.4 AV	54.0	-14.6	1.23 H	226	31.47	7.93
3	*5600.00	106.1 PK			1.23 H	227	97.89	8.21
4	*5600.00	96.6 AV			1.23 H	227	88.39	8.21
5	#5725.00	45.3 PK	74.0	-28.7	1.23 H	227	36.91	8.39
6	#5725.00	32.1 AV	54.0	-21.9	1.23 H	227	23.71	8.39
7	11200.00	51.7 PK	74.0	-22.3	1.18 H	14	37.44	14.26
8	11200.00	40.1 AV	54.0	-13.9	1.18 H	14	25.84	14.26
9	#16800.00	59.5 PK	74.0	-14.5	1.24 H	25	38.20	21.30
10	#16800.00	47.8 AV	54.0	-6.2	1.24 H	25	26.50	21.30

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	#5470.00	52.6 PK	74.0	-21.4	1.00 V	356	44.67	7.93
2	#5470.00	41.1 AV	54.0	-12.9	1.00 V	356	33.17	7.93
3	*5600.00	108.1 PK			1.00 V	356	99.89	8.21
4	*5600.00	100.4 AV			1.00 V	356	92.19	8.21
5	#5725.00	46.7 PK	74.0	-27.3	1.00 V	356	38.31	8.39
6	#5725.00	33.8 AV	54.0	-20.2	1.00 V	356	25.41	8.39
7	11200.00	53.7 PK	74.0	-20.3	1.18 V	296	39.44	14.26
8	11200.00	44.5 AV	54.0	-9.5	1.18 V	296	30.24	14.26
9	#16800.00	63.6 PK	74.0	-10.4	1.43 V	300	42.30	21.30
10	#16800.00	50.6 AV	54.0	-3.4	1.43 V	300	29.30	21.30

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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

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	*5700.00	102.6 PK			1.22 H	249	94.25	8.35
2	*5700.00	93.2 AV			1.22 H	249	84.85	8.35
3	#5725.00	64.8 PK	74.0	-9.2	1.22 H	249	56.41	8.39
4	#5725.00	48.6 AV	54.0	-5.4	1.22 H	249	40.21	8.39
5	11400.00	53.2 PK	74.0	-20.8	1.19 H	8	38.78	14.42
6	11400.00	41.2 AV	54.0	-12.8	1.19 H	8	26.78	14.42
7	#17100.00	60.9 PK	74.0	-13.1	1.19 H	7	39.13	21.77
8	#17100.00	48.6 AV	54.0	-5.4	1.19 H	7	26.83	21.77
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	*5700.00	105.2 PK			1.21 V	291	96.85	8.35
2	*5700.00	97.6 AV			1.21 V	291	89.25	8.35
3	#5725.00	66.4 PK	74.0	-7.6	1.20 V	284	58.01	8.39
4	#5725.00	50.0 AV	54.0	-4.0	1.20 V	284	41.61	8.39
5	11400.00	53.0 PK	74.0	-21.0	1.25 V	286	38.58	14.42
6	11400.00	44.6 AV	54.0	-9.4	1.25 V	286	30.18	14.42
7	#17100.00	63.9 PK	74.0	-10.1	1.33 V	303	42.13	21.77
8	#17100.00	51.0 AV	54.0	-3.0	1.33 V	303	29.23	21.77

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.



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

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	#5715.00	65.3 PK	74.0	-8.7	1.20 H	233	56.93	8.37
2	#5715.00	49.3 AV	54.0	-4.7	1.20 H	233	40.93	8.37
3	#5725.00	75.4 PK	78.2	-2.8	1.20 H	233	67.01	8.39
4	*5745.00	103.2 PK			1.20 H	233	94.78	8.42
5	*5745.00	95.2 AV			1.20 H	233	86.78	8.42
6	11490.00	49.9 PK	74.0	-24.1	1.22 H	8	35.55	14.35
7	11490.00	40.1 AV	54.0	-13.9	1.22 H	8	25.75	14.35
8	#17235.00	58.8 PK	74.0	-15.2	1.24 H	11	36.36	22.44
9	#17235.00	47.2 AV	54.0	-6.8	1.24 H	11	24.76	22.44

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	#5715.00	67.8 PK	74.0	-6.2	1.18 V	268	59.43	8.37
2	#5715.00	51.5 AV	54.0	-2.5	1.18 V	268	43.13	8.37
3	#5725.00	77.8 PK	78.2	-0.4	1.17 V	260	69.41	8.39
4	*5745.00	107.3 PK			1.18 V	260	98.88	8.42
5	*5745.00	98.5 AV			1.18 V	260	90.08	8.42
6	11490.00	52.5 PK	74.0	-21.5	1.36 V	296	38.15	14.35
7	11490.00	42.3 AV	54.0	-11.7	1.36 V	296	27.95	14.35
8	#17235.00	62.3 PK	74.0	-11.7	1.35 V	263	39.86	22.44
9	#17235.00	49.2 AV	54.0	-4.8	1.35 V	263	26.76	22.44

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.



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

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	#5725.00	61.6 PK	78.2	-16.6	1.20 H	218	53.21	8.39
2	*5785.00	103.3 PK			1.20 H	218	94.81	8.49
3	*5785.00	95.4 AV			1.20 H	218	86.91	8.49
4	11570.00	49.6 PK	74.0	-24.4	1.18 H	16	35.29	14.31
5	11570.00	40.4 AV	54.0	-13.6	1.18 H	16	26.09	14.31
6	#17355.00	57.8 PK	74.0	-16.2	1.18 H	0	34.80	23.00
7	#17355.00	46.3 AV	54.0	-7.7	1.18 H	0	23.30	23.00

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	#5725.00	63.2 PK	78.2	-15.0	1.17 V	258	54.81	8.39
2	*5785.00	109.2 PK			1.17 V	258	100.71	8.49
3	*5785.00	100.1 AV			1.17 V	258	91.61	8.49
4	11570.00	52.5 PK	74.0	-21.5	1.30 V	321	38.19	14.31
5	11570.00	42.8 AV	54.0	-11.2	1.30 V	321	28.49	14.31
6	#17355.00	64.0 PK	74.0	-10.0	1.31 V	279	41.00	23.00
7	#17355.00	50.5 AV	54.0	-3.5	1.31 V	279	27.50	23.00

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.



A D T

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

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	*5825.00	103.1 PK			1.15 H	248	94.51	8.59
2	*5825.00	95.3 AV			1.15 H	248	86.71	8.59
3	#5850.00	69.4 PK	78.2	-8.8	1.23 H	243	60.73	8.67
4	#5860.00	64.3 PK	74.0	-9.7	1.20 H	242	55.59	8.71
5	#5860.00	45.3 AV	54.0	-8.7	1.20 H	242	36.59	8.71
6	11650.00	49.6 PK	74.0	-24.4	1.16 H	12	35.22	14.38
7	11650.00	40.0 AV	54.0	-14.0	1.16 H	12	25.62	14.38
8	#17475.00	59.0 PK	74.0	-15.0	1.22 H	15	35.70	23.30
9	#17475.00	47.2 AV	54.0	-6.8	1.22 H	15	23.90	23.30

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	*5825.00	106.7 PK			1.29 V	260	98.11	8.59
2	*5825.00	98.4 AV			1.29 V	260	89.81	8.59
3	#5850.00	73.5 PK	78.2	-4.7	1.29 V	260	64.83	8.67
4	#5860.00	66.3 PK	74.0	-7.7	1.28 V	258	57.59	8.71
5	#5860.00	48.2 AV	54.0	-5.8	1.28 V	258	39.49	8.71
6	11650.00	52.2 PK	74.0	-21.8	1.32 V	308	37.82	14.38
7	11650.00	42.3 AV	54.0	-11.7	1.32 V	308	27.92	14.38
8	#17475.00	63.2 PK	74.0	-10.8	1.41 V	282	39.90	23.30
9	#17475.00	50.1 AV	54.0	-3.9	1.41 V	282	26.80	23.30

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.



A D T

802.11ac (VHT40)

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

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	5150.00	61.8 PK	74.0	-12.2	1.29 H	266	55.00	6.80
2	5150.00	49.6 AV	54.0	-4.4	1.29 H	266	42.80	6.80
3	*5190.00	97.2 PK			1.29 H	266	90.20	7.00
4	*5190.00	88.6 AV			1.29 H	266	81.60	7.00
5	#10380.00	47.6 PK	74.0	-26.4	1.18 H	9	34.43	13.17
6	#10380.00	38.2 AV	54.0	-15.8	1.18 H	9	25.03	13.17
7	15570.00	58.4 PK	74.0	-15.6	1.17 H	12	39.71	18.69
8	15570.00	46.3 AV	54.0	-7.7	1.17 H	12	27.61	18.69
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	5150.00	63.5 PK	74.0	-10.5	1.29 V	286	56.70	6.80
2	5150.00	51.6 AV	54.0	-2.4	1.29 V	286	44.80	6.80
3	*5190.00	101.1 PK			1.00 V	265	94.10	7.00
4	*5190.00	92.5 AV			1.00 V	265	85.50	7.00
5	#10380.00	50.4 PK	74.0	-23.6	1.27 V	298	37.23	13.17
6	#10380.00	41.3 AV	54.0	-12.7	1.27 V	298	28.13	13.17
7	15570.00	60.3 PK	74.0	-13.7	1.29 V	293	41.61	18.69
8	15570.00	48.1 AV	54.0	-5.9	1.29 V	293	29.41	18.69

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.



A D T

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

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	5150.00	58.3 PK	74.0	-15.7	1.23 H	257	51.50	6.80
2	5150.00	45.3 AV	54.0	-8.7	1.23 H	257	38.50	6.80
3	*5230.00	101.5 PK			1.23 H	257	94.38	7.12
4	*5230.00	92.4 AV			1.23 H	257	85.28	7.12
5	#10460.00	52.9 PK	74.0	-21.1	1.20 H	18	39.72	13.18
6	#10460.00	40.8 AV	54.0	-13.2	1.20 H	18	27.62	13.18
7	15690.00	59.3 PK	74.0	-14.7	1.21 H	18	40.92	18.38
8	15690.00	47.6 AV	54.0	-6.4	1.21 H	18	29.22	18.38
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	5150.00	61.8 PK	74.0	-12.2	1.02 V	262	55.00	6.80
2	5150.00	46.9 AV	54.0	-7.1	1.02 V	262	40.10	6.80
3	*5230.00	105.0 PK			1.02 V	262	97.88	7.12
4	*5230.00	96.7 AV			1.02 V	262	89.58	7.12
5	#10460.00	51.4 PK	74.0	-22.6	1.27 V	298	38.22	13.18
6	#10460.00	43.0 AV	54.0	-11.0	1.27 V	298	29.82	13.18
7	15690.00	61.9 PK	74.0	-12.1	1.29 V	293	43.52	18.38
8	15690.00	49.2 AV	54.0	-4.8	1.29 V	293	30.82	18.38

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.



A D T

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

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	*5270.00	100.1 PK			1.14 H	250	92.88	7.22
2	*5270.00	91.4 AV			1.14 H	250	84.18	7.22
3	5350.00	53.3 PK	74.0	-20.7	1.14 H	250	45.81	7.49
4	5350.00	40.3 AV	54.0	-13.7	1.14 H	250	32.81	7.49
5	#10540.00	51.3 PK	74.0	-22.7	1.23 H	15	38.01	13.29
6	#10540.00	40.6 AV	54.0	-13.4	1.23 H	15	27.31	13.29
7	15810.00	59.4 PK	74.0	-14.6	1.20 H	7	40.83	18.57
8	15810.00	47.6 AV	54.0	-6.4	1.20 H	7	29.03	18.57

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	*5270.00	104.4 PK			1.00 V	260	97.18	7.22
2	*5270.00	95.3 AV			1.00 V	260	88.08	7.22
3	5350.00	56.1 PK	74.0	-17.9	1.00 V	260	48.61	7.49
4	5350.00	42.4 AV	54.0	-11.6	1.00 V	260	34.91	7.49
5	#10540.00	50.8 PK	74.0	-23.2	1.22 V	291	37.51	13.29
6	#10540.00	42.7 AV	54.0	-11.3	1.22 V	291	29.41	13.29
7	15810.00	61.9 PK	74.0	-12.1	1.27 V	297	43.33	18.57
8	15810.00	49.2 AV	54.0	-4.8	1.27 V	297	30.63	18.57

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.



A D T

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

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	*5310.00	100.1 PK			1.34 H	258	92.77	7.33
2	*5310.00	89.6 AV			1.34 H	258	82.27	7.33
3	5350.00	66.5 PK	74.0	-7.5	1.34 H	258	59.01	7.49
4	5350.00	51.0 AV	54.0	-3.0	1.34 H	258	43.51	7.49
5	10620.00	48.3 PK	74.0	-25.7	1.15 H	25	34.71	13.59
6	10620.00	38.4 AV	54.0	-15.6	1.15 H	25	24.81	13.59
7	15930.00	59.1 PK	74.0	-14.9	1.17 H	12	40.46	18.64
8	15930.00	46.7 AV	54.0	-7.3	1.17 H	12	28.06	18.64

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	*5310.00	103.8 PK			1.00 V	279	96.47	7.33
2	*5310.00	93.3 AV			1.00 V	279	85.97	7.33
3	5350.00	68.9 PK	74.0	-5.1	1.23 V	43	61.41	7.49
4	5350.00	53.5 AV	54.0	-0.5	1.23 V	43	46.01	7.49
5	10620.00	50.3 PK	74.0	-23.7	1.28 V	290	36.71	13.59
6	10620.00	41.4 AV	54.0	-12.6	1.28 V	290	27.81	13.59
7	15930.00	61.0 PK	74.0	-13.0	1.29 V	291	42.36	18.64
8	15930.00	48.6 AV	54.0	-5.4	1.29 V	291	29.96	18.64

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.



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

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	5460.00	61.9 PK	74.0	-12.1	1.26 H	258	54.00	7.90
2	5460.00	49.9 AV	54.0	-4.1	1.26 H	258	42.00	7.90
3	#5470.00	64.3 PK	74.0	-9.7	1.26 H	258	56.37	7.93
4	#5470.00	50.1 AV	54.0	-3.9	1.26 H	258	42.17	7.93
5	*5510.00	96.6 PK			1.26 H	258	88.56	8.04
6	*5510.00	88.1 AV			1.26 H	258	80.06	8.04
7	11020.00	46.9 PK	74.0	-27.1	1.22 H	9	32.53	14.37
8	11020.00	37.3 AV	54.0	-16.7	1.22 H	9	22.93	14.37
9	#16530.00	58.6 PK	74.0	-15.4	1.22 H	26	37.68	20.92
10	#16530.00	46.7 AV	54.0	-7.3	1.22 H	26	25.78	20.92

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	5460.00	65.8 PK	74.0	-8.2	1.26 V	268	57.90	7.90
2	5460.00	51.8 AV	54.0	-2.2	1.26 V	268	43.90	7.90
3	#5470.00	66.7 PK	74.0	-7.3	1.15 V	284	58.77	7.93
4	#5470.00	52.5 AV	54.0	-1.5	1.15 V	284	44.57	7.93
5	*5510.00	101.5 PK			1.15 V	284	93.46	8.04
6	*5510.00	92.5 AV			1.15 V	284	84.46	8.04
7	11020.00	50.3 PK	74.0	-23.7	1.29 V	308	35.93	14.37
8	11020.00	41.4 AV	54.0	-12.6	1.29 V	308	27.03	14.37
9	#16530.00	60.0 PK	74.0	-14.0	1.25 V	281	39.08	20.92
10	#16530.00	48.0 AV	54.0	-6.0	1.25 V	281	27.08	20.92

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.



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CHANNEL	TX Channel 118	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

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	*5590.00	99.7 PK			1.15 H	220	91.51	8.19
2	*5590.00	91.2 AV			1.15 H	220	83.01	8.19
3	11180.00	51.9 PK	74.0	-22.1	1.29 H	30	37.65	14.25
4	11180.00	41.0 AV	54.0	-13.0	1.29 H	30	26.75	14.25
5	#16770.00	59.1 PK	74.0	-14.9	1.13 H	8	37.89	21.21
6	#16770.00	47.3 AV	54.0	-6.7	1.13 H	8	26.09	21.21
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	*5590.00	105.1 PK			1.26 V	285	96.91	8.19
2	*5590.00	95.8 AV			1.26 V	285	87.61	8.19
3	11180.00	51.4 PK	74.0	-22.6	1.19 V	300	37.15	14.25
4	11180.00	43.0 AV	54.0	-11.0	1.19 V	300	28.75	14.25
5	#16770.00	62.1 PK	74.0	-11.9	1.22 V	298	40.89	21.21
6	#16770.00	49.5 AV	54.0	-4.5	1.22 V	298	28.29	21.21

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.



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

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	*5670.00	100.4 PK			1.31 H	265	92.09	8.31
2	*5670.00	89.8 AV			1.31 H	265	81.49	8.31
3	#5725.00	64.8 PK	74.0	-9.2	1.31 H	265	56.41	8.39
4	#5725.00	49.7 AV	54.0	-4.3	1.31 H	265	41.31	8.39
5	11340.00	47.4 PK	74.0	-26.6	1.21 H	16	33.08	14.32
6	11340.00	37.4 AV	54.0	-16.6	1.21 H	16	23.08	14.32
7	#17010.00	60.3 PK	74.0	-13.7	1.12 H	10	38.77	21.53
8	#17010.00	46.5 AV	54.0	-7.5	1.12 H	10	24.97	21.53

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	*5670.00	102.9 PK			1.13 V	273	94.59	8.31
2	*5670.00	93.1 AV			1.13 V	273	84.79	8.31
3	#5725.00	65.5 PK	74.0	-8.5	1.45 V	277	57.11	8.39
4	#5725.00	51.7 AV	54.0	-2.3	1.45 V	277	43.31	8.39
5	11340.00	51.0 PK	74.0	-23.0	1.20 V	289	36.68	14.32
6	11340.00	42.9 AV	54.0	-11.1	1.20 V	289	28.58	14.32
7	#17010.00	62.1 PK	74.0	-11.9	1.20 V	287	40.57	21.53
8	#17010.00	49.4 AV	54.0	-4.6	1.20 V	287	27.87	21.53

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.



A D T

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

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	#5712.90	66.4 PK	74.0	-7.6	1.16 H	230	58.03	8.37
2	#5712.90	50.4 AV	54.0	-3.6	1.16 H	230	42.03	8.37
3	#5725.00	60.1 PK	78.2	-18.1	1.18 H	222	51.71	8.39
4	*5755.00	100.4 PK			1.16 H	220	91.96	8.44
5	*5755.00	91.8 AV			1.16 H	220	83.36	8.44
6	11510.00	50.7 PK	74.0	-23.3	1.06 H	10	36.36	14.34
7	11510.00	39.0 AV	54.0	-15.0	1.06 H	10	24.66	14.34
8	#17265.00	60.1 PK	74.0	-13.9	1.11 H	12	37.42	22.68
9	#17265.00	47.2 AV	54.0	-6.8	1.11 H	12	24.52	22.68

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	#5712.90	68.9 PK	74.0	-5.1	1.17 V	265	60.53	8.37
2	#5712.90	52.5 AV	54.0	-1.5	1.17 V	265	44.13	8.37
3	#5725.00	74.3 PK	78.2	-3.9	1.17 V	261	65.91	8.39
4	*5755.00	103.9 PK			1.28 V	262	95.46	8.44
5	*5755.00	94.2 AV			1.28 V	262	85.76	8.44
6	11510.00	50.3 PK	74.0	-23.7	1.31 V	295	35.96	14.34
7	11510.00	40.3 AV	54.0	-13.7	1.31 V	295	25.96	14.34
8	#17265.00	61.4 PK	74.0	-12.6	1.40 V	271	38.72	22.68
9	#17265.00	49.3 AV	54.0	-4.7	1.40 V	271	26.62	22.68

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.



A D T

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

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	*5795.00	101.4 PK			1.15 H	224	92.90	8.50
2	*5795.00	93.6 AV			1.15 H	224	85.10	8.50
3	#5850.00	65.4 PK	78.2	-12.8	1.23 H	233	56.73	8.67
4	#5860.00	60.3 PK	74.0	-13.7	1.15 H	224	51.59	8.71
5	#5860.00	47.6 AV	54.0	-6.4	1.15 H	224	38.89	8.71
6	11590.00	50.8 PK	74.0	-23.2	1.09 H	8	36.50	14.30
7	11590.00	39.2 AV	54.0	-14.8	1.09 H	8	24.90	14.30
8	#17385.00	59.5 PK	74.0	-14.5	1.11 H	10	36.47	23.03
9	#17385.00	47.1 AV	54.0	-6.9	1.11 H	10	24.07	23.03

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	*5795.00	106.1 PK			1.28 V	260	97.60	8.50
2	*5795.00	96.5 AV			1.28 V	260	88.00	8.50
3	#5850.00	67.9 PK	78.2	-10.3	1.28 V	260	59.23	8.67
4	#5860.00	62.1 PK	74.0	-11.9	1.18 V	257	53.39	8.71
5	#5860.00	49.5 AV	54.0	-4.5	1.18 V	257	40.79	8.71
6	11590.00	50.1 PK	74.0	-23.9	1.33 V	283	35.80	14.30
7	11590.00	40.1 AV	54.0	-13.9	1.33 V	283	25.80	14.30
8	#17385.00	60.9 PK	74.0	-13.1	1.36 V	273	37.87	23.03
9	#17385.00	48.8 AV	54.0	-5.2	1.36 V	273	25.77	23.03

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.



A D T

802.11ac (VHT80)

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

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	5140.60	66.5 PK	74.0	-7.5	1.31 H	260	59.74	6.76
2	5140.60	51.4 AV	54.0	-2.6	1.31 H	260	44.64	6.76
3	*5210.00	91.4 PK			1.31 H	260	84.34	7.06
4	*5210.00	80.3 AV			1.31 H	260	73.24	7.06
5	#10420.00	47.5 PK	74.0	-26.5	1.17 H	15	34.30	13.20
6	#10420.00	37.3 AV	54.0	-16.7	1.17 H	15	24.10	13.20
7	15630.00	59.8 PK	74.0	-14.2	1.11 H	12	41.20	18.60
8	15630.00	46.4 AV	54.0	-7.6	1.11 H	12	27.80	18.60
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	5140.60	68.1 PK	74.0	-5.9	1.02 V	263	61.34	6.76
2	5140.60	53.0 AV	54.0	-1.0	1.02 V	263	46.24	6.76
3	*5210.00	95.1 PK			1.01 V	274	88.04	7.06
4	*5210.00	85.4 AV			1.01 V	274	78.34	7.06
5	#10420.00	48.3 PK	74.0	-25.7	1.12 V	277	35.10	13.20
6	#10420.00	40.6 AV	54.0	-13.4	1.12 V	277	27.40	13.20
7	15630.00	60.3 PK	74.0	-13.7	1.21 V	282	41.70	18.60
8	15630.00	47.2 AV	54.0	-6.8	1.21 V	282	28.60	18.60

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.



A D T

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

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	*5290.00	91.3 PK			1.35 H	253	84.02	7.28
2	*5290.00	81.4 AV			1.35 H	253	74.12	7.28
3	5360.70	66.9 PK	74.0	-7.1	1.35 H	253	59.35	7.55
4	5360.70	50.8 AV	54.0	-3.2	1.35 H	253	43.25	7.55
5	#10580.00	47.9 PK	74.0	-26.1	1.19 H	25	34.45	13.45
6	#10580.00	37.7 AV	54.0	-16.3	1.19 H	25	24.25	13.45
7	15870.00	58.5 PK	74.0	-15.5	1.16 H	4	39.88	18.62
8	15870.00	45.6 AV	54.0	-8.4	1.16 H	4	26.98	18.62
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	*5290.00	95.1 PK			1.00 V	260	87.82	7.28
2	*5290.00	86.3 AV			1.00 V	260	79.02	7.28
3	5360.70	69.3 PK	74.0	-4.7	1.10 V	279	61.75	7.55
4	5360.70	52.7 AV	54.0	-1.3	1.10 V	279	45.15	7.55
5	#10580.00	48.5 PK	74.0	-25.5	1.16 V	276	35.05	13.45
6	#10580.00	40.6 AV	54.0	-13.4	1.16 V	276	27.15	13.45
7	15870.00	60.1 PK	74.0	-13.9	1.17 V	269	41.48	18.62
8	15870.00	47.1 AV	54.0	-6.9	1.17 V	269	28.48	18.62

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.



A D T

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

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	5458.70	66.6 PK	74.0	-7.4	1.30 H	246	58.70	7.90
2	5458.70	50.4 AV	54.0	-3.6	1.30 H	246	42.50	7.90
3	*5530.00	90.6 PK			1.30 H	246	82.52	8.08
4	*5530.00	80.3 AV			1.30 H	246	72.22	8.08
5	11060.00	47.3 PK	74.0	-26.7	1.19 H	12	33.00	14.30
6	11060.00	37.3 AV	54.0	-16.7	1.19 H	12	23.00	14.30
7	#16590.00	59.4 PK	74.0	-14.6	1.14 H	25	38.50	20.90
8	#16590.00	45.9 AV	54.0	-8.1	1.14 H	25	25.00	20.90

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	5458.70	68.9 PK	74.0	-5.1	1.02 V	347	61.00	7.90
2	5458.70	52.5 AV	54.0	-1.5	1.02 V	347	44.60	7.90
3	*5530.00	94.7 PK			1.00 V	348	86.62	8.08
4	*5530.00	84.6 AV			1.00 V	348	76.52	8.08
5	11060.00	48.3 PK	74.0	-25.7	1.16 V	285	34.00	14.30
6	11060.00	40.8 AV	54.0	-13.2	1.16 V	285	26.50	14.30
7	#16590.00	59.3 PK	74.0	-14.7	1.23 V	297	38.40	20.90
8	#16590.00	46.4 AV	54.0	-7.6	1.23 V	297	25.50	20.90

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.



A D T

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

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	*5610.00	96.3 PK			1.31 H	246	88.07	8.23
2	*5610.00	87.3 AV			1.31 H	246	79.07	8.23
3	#5725.00	67.1 PK	74.0	-6.9	1.31 H	246	58.71	8.39
4	#5725.00	49.7 AV	54.0	-4.3	1.31 H	246	41.31	8.39
5	11220.00	48.0 PK	74.0	-26.0	1.14 H	19	33.74	14.26
6	11220.00	37.8 AV	54.0	-16.2	1.14 H	19	23.54	14.26
7	#16830.00	57.1 PK	74.0	-16.9	1.20 H	15	35.75	21.35
8	#16830.00	44.5 AV	54.0	-9.5	1.20 H	15	23.15	21.35

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	*5610.00	100.7 PK			1.04 V	271	92.47	8.23
2	*5610.00	90.9 AV			1.04 V	271	82.67	8.23
3	#5725.00	70.3 PK	74.0	-3.7	1.25 V	291	61.91	8.39
4	#5725.00	52.5 AV	54.0	-1.5	1.25 V	291	44.11	8.39
5	11220.00	47.4 PK	74.0	-26.6	1.19 V	278	33.14	14.26
6	11220.00	39.9 AV	54.0	-14.1	1.19 V	278	25.64	14.26
7	#16830.00	60.4 PK	74.0	-13.6	1.21 V	261	39.05	21.35
8	#16830.00	47.2 AV	54.0	-6.8	1.21 V	261	25.85	21.35

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.



A D T

CHANNEL	TX Channel 155	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

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	#5712.90	66.4 PK	74.0	-7.6	1.16 H	224	58.03	8.37
2	#5712.90	50.2 AV	54.0	-3.8	1.16 H	224	41.83	8.37
3	#5725.00	68.3 PK	78.2	-9.9	1.19 H	236	59.91	8.39
4	*5775.00	98.3 PK			1.19 H	212	89.83	8.47
5	*5775.00	89.1 AV			1.19 H	212	80.63	8.47
6	#5850.00	64.3 PK	78.2	-13.9	1.19 H	212	55.63	8.67
7	#5864.00	62.1 PK	74.0	-11.9	1.19 H	212	53.37	8.73
8	#5864.00	45.4 AV	54.0	-8.6	1.19 H	212	36.67	8.73
9	11550.00	50.7 PK	74.0	-23.3	1.03 H	10	36.38	14.32
10	11550.00	38.9 AV	54.0	-15.1	1.03 H	10	24.58	14.32
11	#17325.00	59.8 PK	74.0	-14.2	1.09 H	24	36.82	22.98
12	#17325.00	46.9 AV	54.0	-7.1	1.09 H	24	23.92	22.98

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	#5712.90	66.4 PK	74.0	-7.6	1.17 V	265	58.03	8.37
2	#5712.90	52.7 AV	54.0	-1.3	1.17 V	265	44.33	8.37
3	#5725.00	70.2 PK	78.2	-8.0	1.18 V	260	61.81	8.39
4	*5775.00	102.8 PK			1.18 V	260	94.33	8.47
5	*5775.00	93.7 AV			1.18 V	260	85.23	8.47
6	#5850.00	66.4 PK	78.2	-11.8	1.18 V	260	57.73	8.67
7	#5864.00	64.9 PK	74.0	-9.1	1.18 V	260	56.17	8.73
8	#5864.00	47.4 AV	54.0	-6.6	1.18 V	260	38.67	8.73
9	11550.00	50.0 PK	74.0	-24.0	1.26 V	291	35.68	14.32
10	11550.00	40.2 AV	54.0	-13.8	1.26 V	291	25.88	14.32
11	#17325.00	60.7 PK	74.0	-13.3	1.34 V	257	37.72	22.98
12	#17325.00	48.8 AV	54.0	-5.2	1.34 V	257	25.82	22.98

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

4.3 TRANSMIT POWER MEASUREMENT

4.3.1 LIMITS OF TRANSMIT POWER MEASUREMENT

Operation Band	EUT Category		LIMIT
U-NII-1		Outdoor Access Point	1 Watt (30 dBm) (Max. e.i.r.p $\leq$ 125mW(21 dBm) at any elevation angle above 30 degrees as measured from the horizon)
		Fixed point-to-point Access Point	1 Watt (30 dBm)
		Indoor Access Point	1 Watt (30 dBm)
	√	Mobile and Portable client device	250mW (24 dBm)
U-NII-2A	---		250mW (24 dBm) or 11 dBm+10 log B*
U-NII-2C	---		250mW (24 dBm) or 11 dBm+10 log B*
U-NII-3	---		1 Watt (30 dBm)

Note: Where B is the 26dB emission bandwidth in MHz.

Per KDB 662911 D01 Multiple Transmitter Output Method of conducted output power measurement on IEEE 802.11 devices,

Array Gain = 0 dB (i.e., no array gain) for NANT $\leq$ 4;

Array Gain = 0 dB (i.e., no array gain) for channel widths $\geq$ 40 MHz for any NANT;

Array Gain = 5 log(NANT/NSS) dB or 3 dB, whichever is less for 20-MHz channel widths with NANT $\geq$ 5.

For power measurements on all other devices: Array Gain = 10 log(NANT/NSS) dB.

4.3.2 TEST INSTRUMENTS

FOR POWER OUTPUT MEASUREMENT

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Power meter Anritsu	ML2495A	1014008	Apr. 30, 2014	Apr. 29, 2015
Power sensor Anritsu	MA2411B	0917122	Apr. 30, 2014	Apr. 29, 2015

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. Tested date : July 02, 2014

FOR 26dB OCCUPIED BANDWIDTH

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
SPECTRUM ANALYZER R&S	FSV 40	100964	July 15, 2013	July 14, 2014

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. Tested date : July 02, 2014

4.3.3 TEST PROCEDURE

FOR POWER OUTPUT MEASUREMENT

Method PM is used to perform output power measurement, trigger and gating function of wide band power meter is enabled to measure max output power of TX on burst. Duty factor is not added to measured value.

FOR 26dB OCCUPIED BANDWIDTH

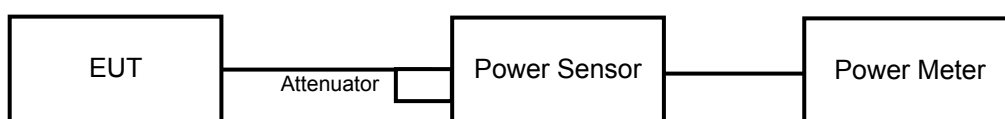
1. Set RBW = approximately 1% of the emission bandwidth.
2. Set the VBW > RBW.
3. Detector = Peak.
4. Trace mode = max hold.
5. Measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement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

4.3.4 DEVIATION FROM TEST STANDARD

No deviation

4.3.5 TEST SETUP

FOR POWER OUTPUT MEASUREMENT



FOR 26dB OCCUPIED BANDWIDTH



4.3.6 EUT OPERATING CONDITIONS

The software provided by client to enable the EUT under transmission condition continuously at specific channel frequencies individually.

4.3.7 TEST RESULTS

802.11a

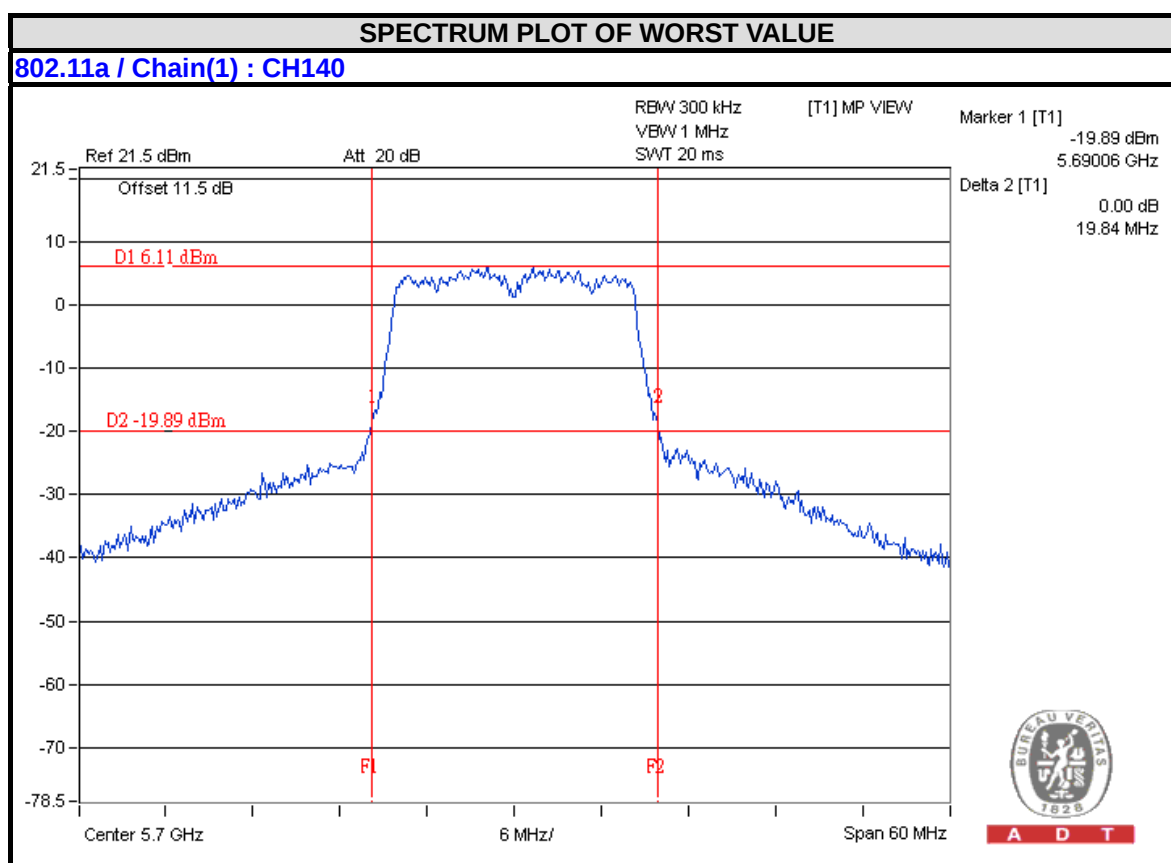
CHAN.	CHAN. FREQ. (MHz)	AVERAGE POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	POWER LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
36	5180	14.15	14.15	52.004	17.16	24	PASS
40	5200	13.93	13.96	49.606	16.96	24	PASS
48	5240	14.21	14.08	51.949	17.16	24	PASS
52	5260	14.13	14.07	51.409	17.11	24	PASS
60	5300	14.21	14.11	52.126	17.17	24	PASS
64	5320	14.17	14.14	52.064	17.17	23.99	PASS
100	5500	14.01	14.11	50.94	17.07	24	PASS
120	5600	13.68	14.16	49.397	16.94	24	PASS
140	5700	12.63	12.76	37.203	15.71	23.97	PASS
149	5745	14.21	14.38	53.779	17.31	30	PASS
157	5785	14.62	14.32	56.013	17.48	30	PASS
165	5825	14.32	14.21	53.403	17.28	30	PASS

26dB OCCUPIED BANDWIDTH:

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)	
		CHAIN 0	CHAIN 1
36	5180	21.20	23.11
40	5200	22.52	23.22
48	5240	21.57	23.19
52	5260	20.25	25.94
60	5300	20.23	26.03
64	5320	19.92	24.06
100	5500	24.16	22.27
120	5600	22.52	24.18
140	5700	20.26	19.84

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth.

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
52	5260	20.25	24.06 > 24
60	5300	20.23	24.05 > 24
64	5320	19.92	23.99 < 24
100	5500	22.27	24.47 > 24
120	5600	22.52	24.52 > 24
140	5700	19.84	23.97 < 24



802.11ac (VHT20)

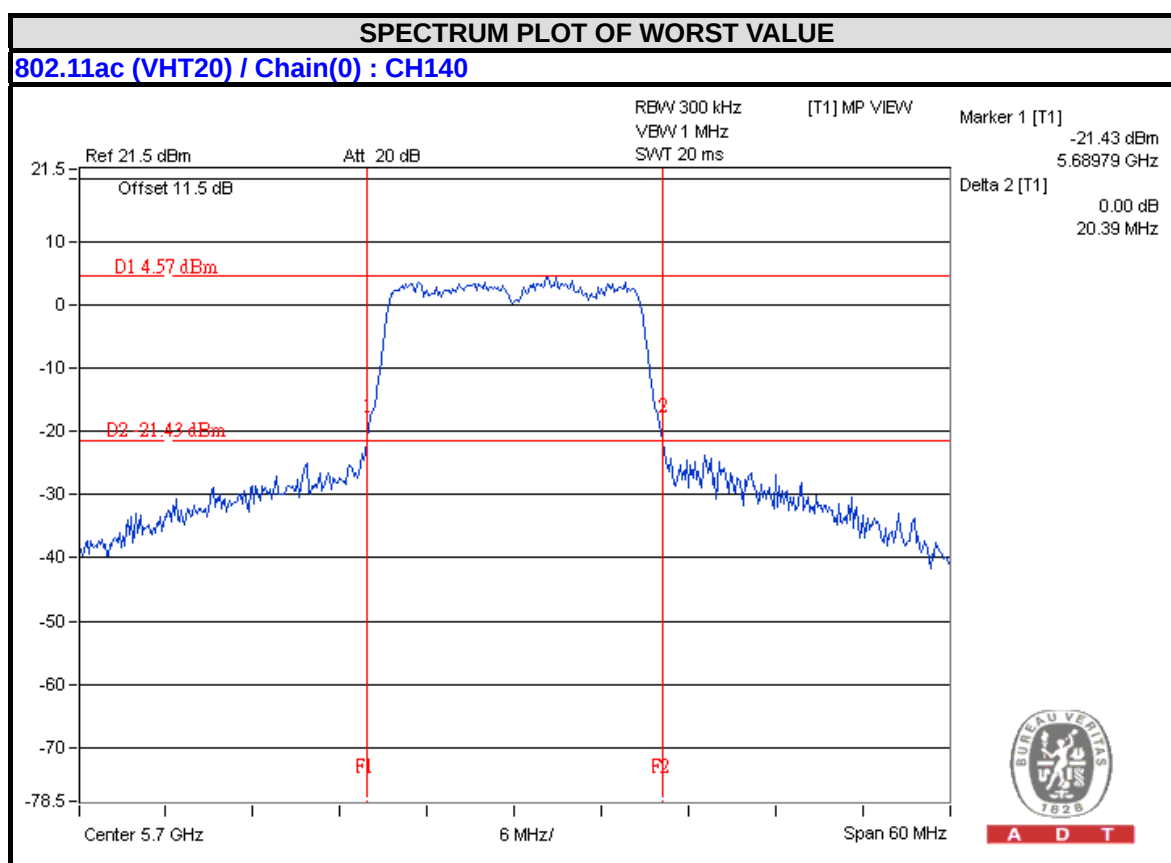
CHAN.	CHAN. FREQ. (MHz)	AVERAGE POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	POWER LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
36	5180	14.12	14.15	51.825	17.15	24	PASS
40	5200	14.08	14.03	50.879	17.07	24	PASS
48	5240	14.03	14.07	50.82	17.06	24	PASS
52	5260	14.06	14.08	51.054	17.08	24	PASS
60	5300	14.05	14.08	50.996	17.08	24	PASS
64	5320	14.11	14.06	51.231	17.10	24	PASS
100	5500	14.01	14.08	50.763	17.06	24	PASS
120	5600	13.69	14.22	49.812	16.97	24	PASS
140	5700	12.62	12.76	37.161	15.70	24	PASS
149	5745	14.23	14.29	53.338	17.27	30	PASS
157	5785	14.64	14.48	57.161	17.57	30	PASS
165	5825	14.60	14.34	56.004	17.48	30	PASS

26dB OCCUPIED BANDWIDTH:

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)	
		CHAIN 0	CHAIN 1
36	5180	26.32	30.65
40	5200	23.06	23.97
48	5240	22.16	28.51
52	5260	31.40	28.50
60	5300	27.07	34.54
64	5320	26.61	29.68
100	5500	28.74	37.95
120	5600	24.36	24.34
140	5700	20.39	22.24

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth.

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
52	5260	28.50	25.54 > 24
60	5300	27.07	25.32 > 24
64	5320	26.61	25.25 > 24
100	5500	28.74	25.58 > 24
120	5600	24.34	24.86 > 24
140	5700	20.39	24.09 > 24



802.11ac (VHT40)

CHAN.	CHAN. FREQ. (MHz)	AVERAGE POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	POWER LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
38	5190	10.62	10.67	23.203	13.66	24	PASS
46	5230	13.91	13.85	48.87	16.89	24	PASS
54	5270	13.56	13.61	45.66	16.60	24	PASS
62	5310	13.55	13.58	45.449	16.58	24	PASS
102	5510	13.62	13.64	46.135	16.64	24	PASS
118	5590	13.51	14.14	48.381	16.85	24	PASS
134	5670	13.34	13.46	43.759	16.41	24	PASS
151	5755	12.04	13.09	36.366	15.61	30	PASS
159	5795	14.31	13.81	51.021	17.08	30	PASS

26dB OCCUPIED BANDWIDTH:

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)	
		CHAIN 0	CHAIN 1
38	5190	41.86	41.23
46	5230	65.62	59.83
54	5270	59.87	59.76
62	5310	46.21	56.49
102	5510	54.06	56.13
118	5590	49.84	65.06
134	5670	46.24	50.27

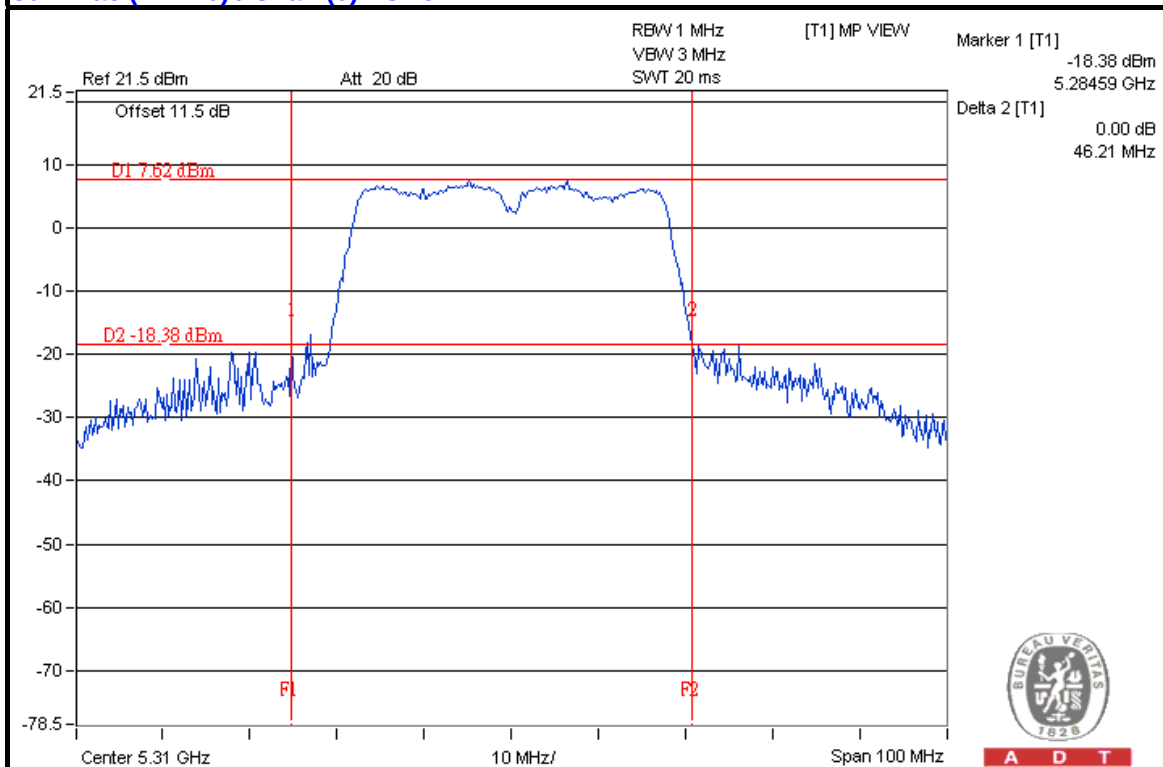
Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth.

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >

Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
54	5270	59.76	28.76 > 24
62	5310	46.21	27.64 > 24
102	5510	54.06	28.32 > 24
118	5590	49.84	27.97 > 24
134	5670	46.24	27.65 > 24

SPECTRUM PLOT OF WORST VALUE

802.11ac (VHT40) / Chain(0) : CH62



802.11ac (VHT80)

CHAN.	CHAN. FREQ. (MHz)	AVERAGE POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	POWER LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
42	5210	9.36	9.23	17.005	12.31	24	PASS
58	5290	9.42	9.23	17.125	12.34	24	PASS
106	5530	8.19	8.24	13.26	11.23	24	PASS
122	5610	13.85	14.25	50.873	17.06	24	PASS
155	5775	8.37	9.04	14.888	11.73	30	PASS

26dB OCCUPIED BANDWIDTH:

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)	
		CHAIN 0	CHAIN 1
42	5210	82.09	82.19
58	5290	82.35	150.18
106	5530	143.48	144.22
122	5610	160.00	160.00

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth.

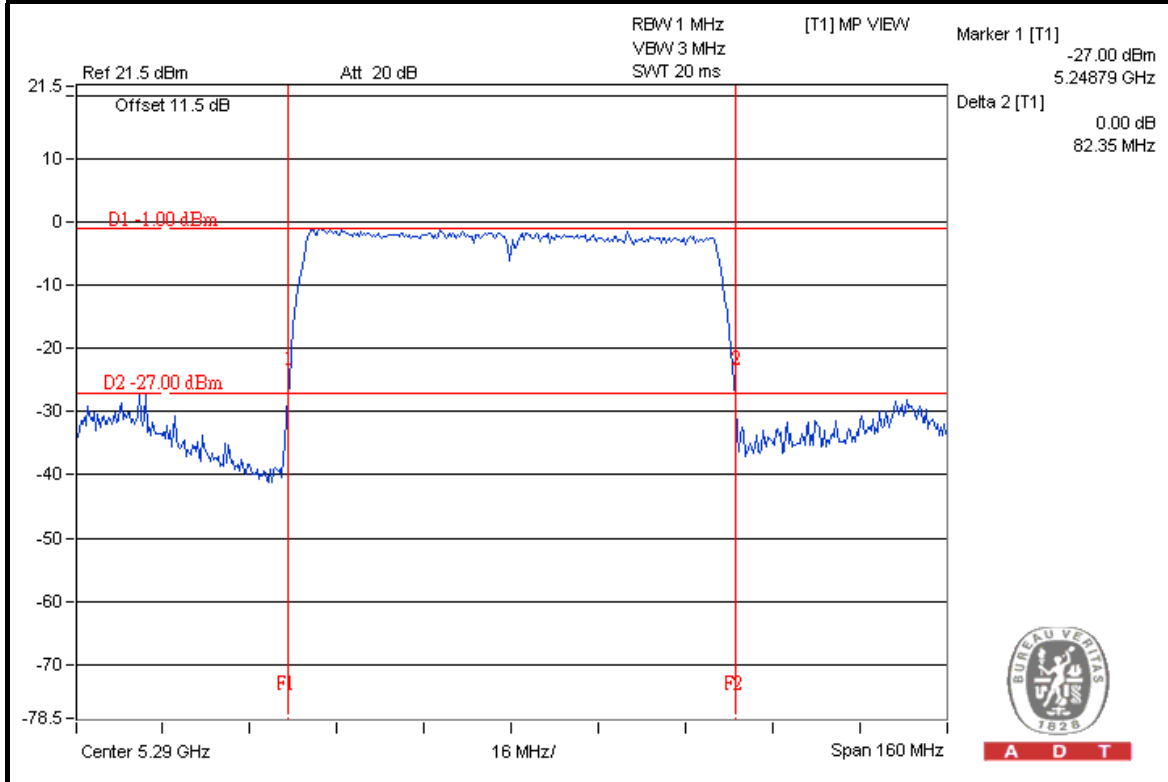
Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
58	5290	82.35	30.15 > 24
106	5530	143.48	32.56 > 24
122	5610	160.00	33.04 > 24



A D T

SPECTRUM PLOT OF WORST VALUE

802.11ac (VHT80) / Chain(0) : CH58





A D T

4.4 PEAK POWER SPECTRAL DENSITY MEASUREMENT

4.4.1 LIMITS OF PEAK POWER SPECTRAL DENSITY MEASUREMENT

Operation Band	EUT Category		LIMIT
U-NII-1		Outdoor Access Point	17dBm/ MHz
		Fixed point-to-point Access Point	
		Indoor Access Point	
	√	Mobile and Portable client device	11dBm/ MHz
U-NII-2A	---		11dBm/ MHz
U-NII-2C	---		11dBm/ MHz
U-NII-3	---		30dBm/ 500kHz

4.4.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
SPECTRUM ANALYZER R&S	FSV 40	100964	July 15, 2013	July 14, 2014

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. Tested date : July 02, 2014

4.4.3 TEST PROCEDURES

For U-NII-1, U-NII-2A & U-NII-2C:

1. Set span to encompass the entire emission bandwidth (EBW) of the signal.
2. Set RBW = 1 MHz, Set VBW $\geq$ 3 MHz, Detector = RMS
3. Sweep time = auto, trigger set to "free run".
4. Trace average at least 100 traces in power averaging mode.
5. Record the max value and for duty cycle of test signal is $< 98\%$ add $10 \log (1/\text{duty cycle})$

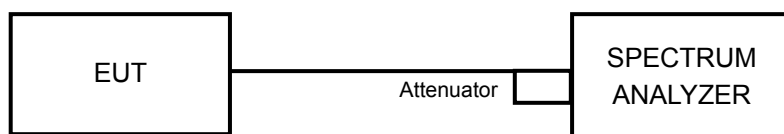
For U-NII-3:

1. Set span to encompass the entire emission bandwidth (EBW) of the signal.
2. Set RBW = 300 kHz, Set VBW $\geq$ 1 MHz, Detector = RMS
3. Use the peak marker function to determine the maximum power level in any 300 kHz band segment within the fundamental EBW.
4. Scale the observed power level to an equivalent value in 500 kHz by adjusting (reducing) the measured power by a bandwidth correction factor (BWCF) where $\text{BWCF} = 10\log(500 \text{ kHz}/300\text{kHz})$
5. Sweep time = auto, trigger set to "free run".
6. Trace average at least 100 traces in power averaging mode.
7. Record the max value and for duty cycle of test signal is $< 98\%$ add $10 \log (1/\text{duty cycle})$

4.4.4 DEVIATION FROM TEST STANDARD

No deviation

4.4.5 TEST SETUP



4.4.6 EUT OPERATING CONDITIONS

Same as 4.3.6

4.4.7 TEST RESULTS

For U-NII-1, U-NII-2A & U-NII-2C:

802.11a

CHANNEL	CHANNEL FREQUENCY (MHz)	PSD (dBm)		TOTAL POWER DENSITY (dBm)	MAX. LIMIT (dBm)	PASS/FAIL
		CHAIN 0	CHAIN 1			
36	5180	-2.17	0.00	2.06	11	PASS
40	5200	0.30	1.64	4.03	11	PASS
48	5240	0.07	-0.67	2.73	11	PASS
52	5260	-1.13	0.58	2.82	11	PASS
60	5300	-2.52	-0.06	1.89	11	PASS
64	5320	-1.58	0.17	2.39	11	PASS
100	5500	-1.14	0.52	2.78	11	PASS
120	5600	-0.13	0.39	3.15	11	PASS
140	5700	-0.53	0.74	3.16	11	PASS

NOTE: 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.

2. **5150~5250MHz:** Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 3.74\text{dBi} < 6\text{dBi}$, so the power density limit shall not be reduced.

5250~5350MHz: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 3.74\text{dBi} < 6\text{dBi}$, so the power density limit shall not be reduced.

5470~5725MHz: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 3.47\text{dBi} < 6\text{dBi}$, so the power density limit shall not be reduced.

802.11ac (VHT20)

CHANNEL	CHANNEL FREQUENCY (MHz)	PSD (dBm)		TOTAL POWER DENSITY (dBm)	MAX. LIMIT (dBm)	PASS/FAIL
		CHAIN 0	CHAIN 1			
36	5180	-1.72	-0.44	1.98	11	PASS
40	5200	-1.88	1.53	3.16	11	PASS
48	5240	-2.30	0.49	2.33	11	PASS
52	5260	-1.91	0.51	2.48	11	PASS
60	5300	-2.07	-0.10	2.04	11	PASS
64	5320	-0.92	-0.64	2.23	11	PASS
100	5500	-0.66	-0.08	2.65	11	PASS
120	5600	-1.37	-0.60	2.04	11	PASS
140	5700	-4.55	0.19	1.45	11	PASS

NOTE: 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.

2. **5150~5250MHz:** Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 3.74\text{dBi} < 6\text{dBi}$, so the power density limit shall not be reduced.

5250~5350MHz: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 3.74\text{dBi} < 6\text{dBi}$, so the power density limit shall not be reduced.

5470~5725MHz: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 3.47\text{dBi} < 6\text{dBi}$, so the power density limit shall not be reduced.

802.11ac (VHT40)

CHANNEL	CHANNEL FREQUENCY (MHz)	PSD (dBm)		TOTAL POWER DENSITY (dBm)	MAX. LIMIT (dBm)	PASS/FAIL
		CHAIN 0	CHAIN 1			
38	5190	-7.64	-9.60	-5.50	11	PASS
46	5230	-4.34	-3.58	-0.93	11	PASS
54	5270	-5.69	-3.93	-1.71	11	PASS
62	5310	-5.32	-4.16	-1.69	11	PASS
102	5510	-4.26	-3.26	-0.72	11	PASS
118	5590	-6.06	-4.76	-2.35	11	PASS
134	5670	-5.60	-5.80	-2.69	11	PASS

NOTE: 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.

2. **5150~5250MHz:** Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 3.74\text{dBi} < 6\text{dBi}$, so the power density limit shall not be reduced.

5250~5350MHz: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 3.74\text{dBi} < 6\text{dBi}$, so the power density limit shall not be reduced.

5470~5725MHz: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 3.47\text{dBi} < 6\text{dBi}$, so the power density limit shall not be reduced.

802.11ac (VHT80)

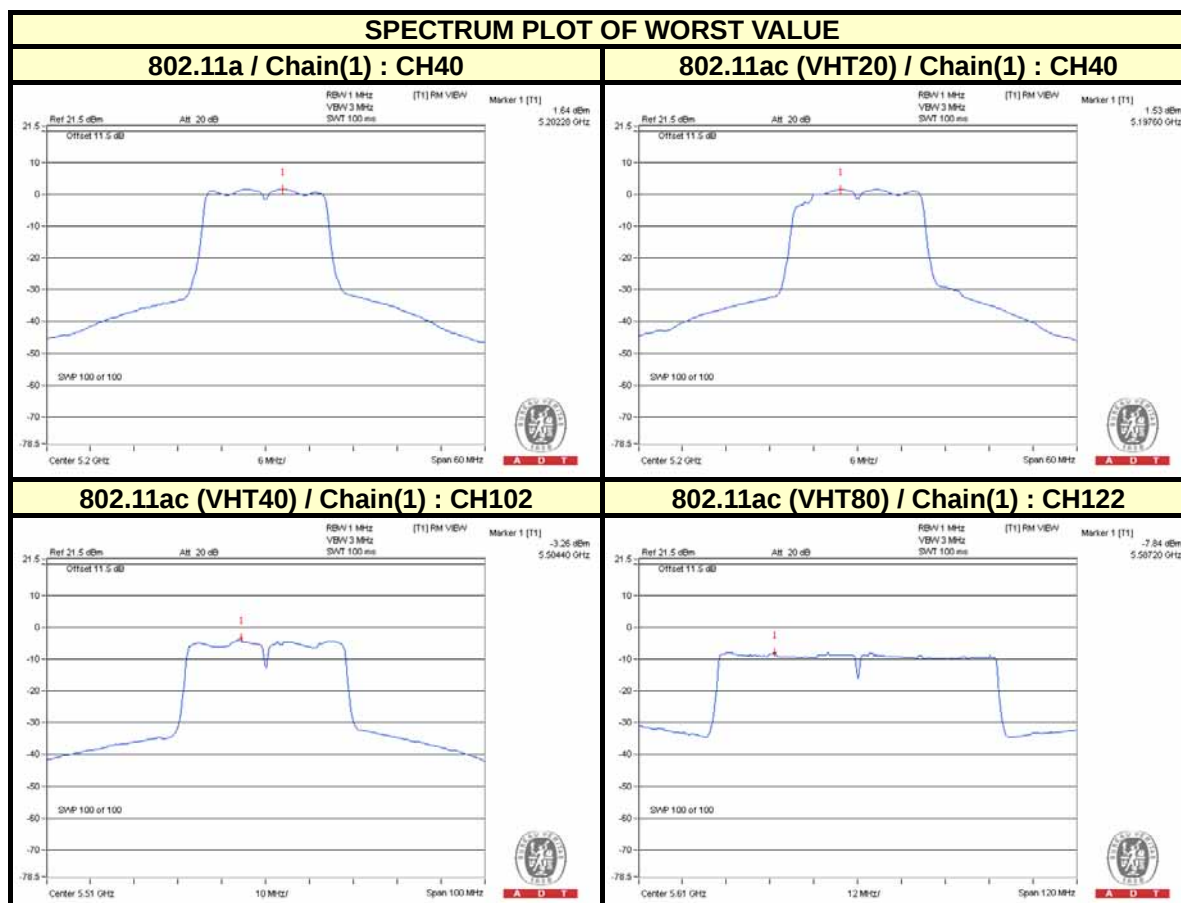
CHANNEL	CHANNEL FREQUENCY (MHz)	PSD (dBm)		TOTAL POWER DENSITY (dBm)	MAX. LIMIT (dBm)	PASS/FAIL
		CHAIN 0	CHAIN 1			
42	5210	-14.01	-12.49	-10.17	11	PASS
58	5290	-13.39	-12.62	-9.98	11	PASS
106	5530	-12.88	-12.63	-9.74	11	PASS
122	5610	-9.36	-8.00	-5.62	11	PASS

NOTE: 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.

2. **5150~5250MHz:** Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 3.74\text{dBi} < 6\text{dBi}$, so the power density limit shall not be reduced.

5250~5350MHz: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 3.74\text{dBi} < 6\text{dBi}$, so the power density limit shall not be reduced.

5470~5725MHz: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 3.47\text{dBi} < 6\text{dBi}$, so the power density limit shall not be reduced.



For U-NII-3:

802.11a

TX CHAIN	CHANNEL	FREQUENCY (MHz)	PSD (dBm/300kHz)	PSD (dBm/500kHz)	10 log (N=2) dB	TOTAL PSD (dBm/500kHz)	LIMIT (dBm/500kHz)	PASS /FAIL
0	149	5745	-8.77	-6.55	3.01	-3.54	30	PASS
	157	5785	-8.23	-6.01	3.01	-3.00	30	PASS
	165	5825	-8.38	-6.16	3.01	-3.15	30	PASS
1	149	5745	-7.05	-4.83	3.01	-1.82	30	PASS
	157	5785	-6.84	-4.62	3.01	-1.61	30	PASS
	165	5825	-7.68	-5.46	3.01	-2.45	30	PASS

NOTE: 1. 5725~5825MHz: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 4.55\text{dBi} < 6\text{dBi}$, so the power density limit shall not be reduced.

802.11ac (VHT20)

TX CHAIN	CHANNEL	FREQUENCY (MHz)	PSD (dBm/300kHz)	PSD (dBm/500kHz)	10 log (N=2) dB	TOTAL PSD (dBm/500kHz)	LIMIT (dBm/500kHz)	PASS /FAIL
0	149	5745	-9.31	-7.09	3.01	-4.08	30	PASS
	157	5785	-8.70	-6.48	3.01	-3.47	30	PASS
	165	5825	-8.33	-6.11	3.01	-3.10	30	PASS
1	149	5745	-8.11	-5.89	3.01	-2.88	30	PASS
	157	5785	-7.20	-4.98	3.01	-1.97	30	PASS
	165	5825	-7.81	-5.59	3.01	-2.58	30	PASS

NOTE: 1. 5725~5825MHz: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 4.55\text{dBi} < 6\text{dBi}$, so the power density limit shall not be reduced.

802.11ac (VHT40)

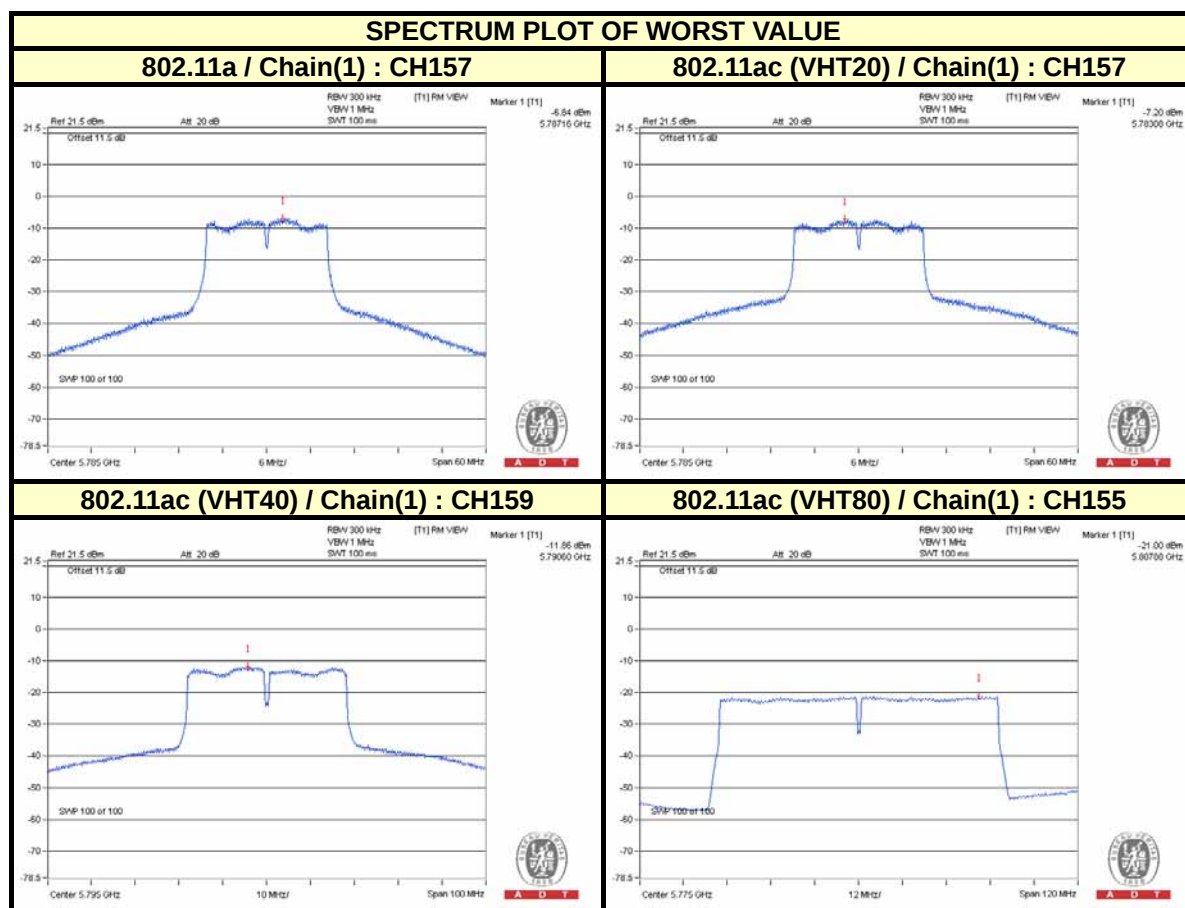
TX CHAIN	CHANNEL	FREQUENCY (MHz)	PSD (dBm/300kHz)	PSD (dBm/500kHz)	10 log (N=2) dB	TOTAL PSD (dBm/500kHz)	LIMIT (dBm/500kHz)	PASS /FAIL
0	151	5755	-14.27	-12.05	3.01	-9.04	30	PASS
	159	5795	-12.74	-10.52	3.01	-7.51	30	PASS
1	151	5755	-13.81	-11.59	3.01	-8.58	30	PASS
	159	5795	-11.86	-9.64	3.01	-6.63	30	PASS

NOTE: 1. 5725~5825MHz: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 4.55\text{dBi} < 6\text{dBi}$, so the power density limit shall not be reduced.

802.11ac (VHT80)

TX CHAIN	CHANNEL	FREQUENCY (MHz)	PSD (dBm/300kHz)	PSD (dBm/500kHz)	10 log (N=2) dB	TOTAL PSD (dBm/500kHz)	LIMIT (dBm/500kHz)	PASS /FAIL
0	155	5775	-21.65	-19.43	3.01	-16.42	30	PASS
1	155	5775	-21.00	-18.78	3.01	-15.77	30	PASS

NOTE: 1. 5725~5825MHz: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 4.55\text{dBi} < 6\text{dBi}$, so the power density limit shall not be reduced.



4.5 FREQUENCY STABILITY

4.5.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT

The frequency of the carrier signal shall be maintained within band of operation

4.5.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
SPECTRUM ANALYZER R&S	FSV 40	100964	July 15, 2013	July 14, 2014
Temperature & Humidity Chamber GIANTFORCE	GTH-150-40-SP -AR	MAA0812-008	Jan. 13, 2014	Jan. 12, 2015

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. Tested date : July 02, 2014

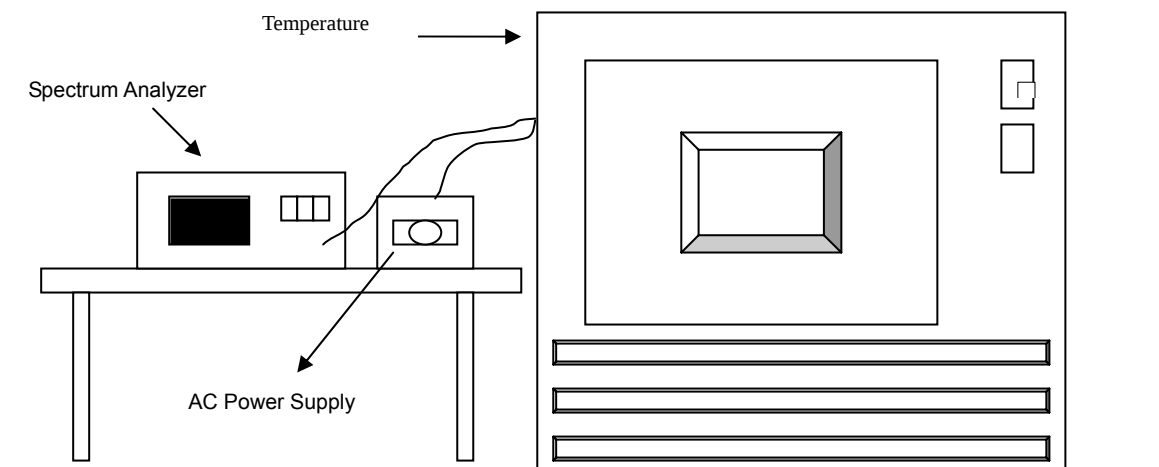
4.5.3 TEST PROCEDURE

1. The EUT was placed inside the environmental test chamber and powered by nominal AC voltage.
2. Turn the EUT on and couple its output to a spectrum analyzer.
3. Turn the EUT off and set the chamber to the highest temperature specified.
4. Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize, turn the EUT on and measure the operating frequency after 2, 5, and 10 minutes.
5. Repeat step 2 and 3 with the temperature chamber set to the lowest temperature.
6. The test chamber was allowed to stabilize at +20 degree C for a minimum of 30 minutes. The supply voltage was then adjusted on the EUT from 85% to 115% and the frequency record.

4.5.4 DEVIATION FROM TEST STANDARD

No deviation

4.5.5 TEST SETUP



4.5.6 EUT OPERATING CONDITION

Set the EUT transmit at un-modulation mode to test frequency stability.

4.5.7 TEST RESULTS

FREQUENCY STABILITY VERSUS TEMP.									
OPERATING FREQUENCY: 5320MHz									
TEMP. (°C)	POWER SUPPLY (Vac)	0 MINUTE		2 MINUTE		5 MINUTE		10 MINUTE	
		Measured Frequency	Frequency Drift	Measured Frequency	Frequency Drift	Measured Frequency	Frequency Drift	Measured Frequency	Frequency Drift
		(MHz)	%	(MHz)	%	(MHz)	%	(MHz)	%
50	120	5319.9712	-0.00054	5319.9754	-0.00046	5319.972	-0.00053	5319.9743	-0.00048
40	120	5320.0112	0.00021	5320.0114	0.00021	5320.009	0.00017	5320.0104	0.00020
30	120	5320.0233	0.00044	5320.022	0.00041	5320.0267	0.00050	5320.0218	0.00041
20	120	5319.9728	-0.00051	5319.9732	-0.00050	5319.9763	-0.00045	5319.972	-0.00053
10	120	5319.9899	-0.00019	5319.9933	-0.00013	5319.9897	-0.00019	5319.9892	-0.00020
0	120	5320.0107	0.00020	5320.0156	0.00029	5320.0119	0.00022	5320.0107	0.00020
-10	120	5320.0108	0.00020	5320.0127	0.00024	5320.0099	0.00019	5320.0104	0.00020
-20	120	5320.0235	0.00044	5320.0209	0.00039	5320.0207	0.00039	5320.0211	0.00040
-30	120	5320.0141	0.00027	5320.0135	0.00025	5320.0167	0.00031	5320.0122	0.00023

FREQUENCY STABILITY VERSUS VOLTAGE									
OPERATING FREQUENCY: 5320MHz									
TEMP. (°C)	POWER SUPPLY (Vac)	0 MINUTE		2 MINUTE		5 MINUTE		10 MINUTE	
		Measured Frequency	Frequency Drift	Measured Frequency	Frequency Drift	Measured Frequency	Frequency Drift	Measured Frequency	Frequency Drift
		(MHz)	%	(MHz)	%	(MHz)	%	(MHz)	%
20	138	5319.9731	-0.00051	5319.9739	-0.00049	5319.9757	-0.00046	5319.9713	-0.00054
	120	5319.9728	-0.00051	5319.9732	-0.00050	5319.9763	-0.00045	5319.972	-0.00053
	102	5319.9735	-0.00050	5319.9736	-0.00050	5319.9765	-0.00044	5319.973	-0.00051

4.6 6dB BANDWIDTH MEASUREMENT

4.6.1 LIMITS OF 6dB BANDWIDTH MEASUREMENT

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

4.6.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
SPECTRUM ANALYZER R&S	FSV 40	100964	July 15, 2013	July 14, 2014

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. Tested date : July 02, 2014

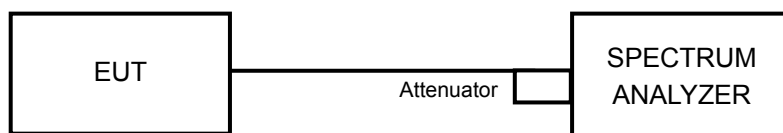
4.6.3 TEST PROCEDURE

1. Set resolution bandwidth (RBW) = 100kHz.
2. Set the video bandwidth (VBW) $\geq 3 \times$ RBW, Detector = Peak.
3. Trace mode = max hold.
4. Sweep = auto couple.
5. Measure the maximum width of the emission that is constrained by the frequencies associated with the two amplitude points (upper and lower) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission

4.6.4 DEVIATION FROM TEST STANDARD

No deviation

4.6.5 TEST SETUP



4.6.6 EUT OPERATING CONDITIONS

The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

4.6.7 TEST RESULTS

802.11a

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1		
149	5745	16.61	16.60	0.5	PASS
157	5785	16.60	16.58	0.5	PASS
165	5825	16.61	16.55	0.5	PASS

802.11ac (VHT20)

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1		
149	5745	17.72	17.75	0.5	PASS
157	5785	17.73	17.67	0.5	PASS
165	5825	17.72	17.69	0.5	PASS

802.11ac (VHT40)

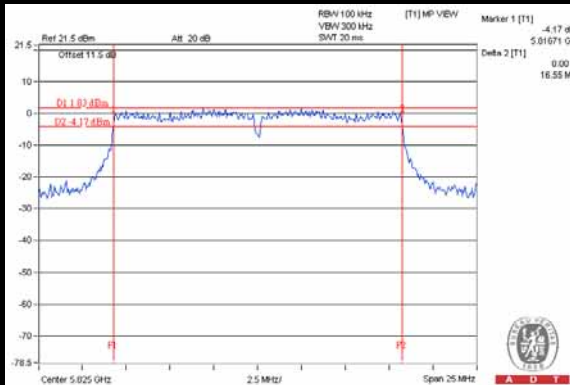
CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1		
151	5755	36.44	36.51	0.5	PASS
159	5795	36.55	36.53	0.5	PASS

802.11ac (VHT80)

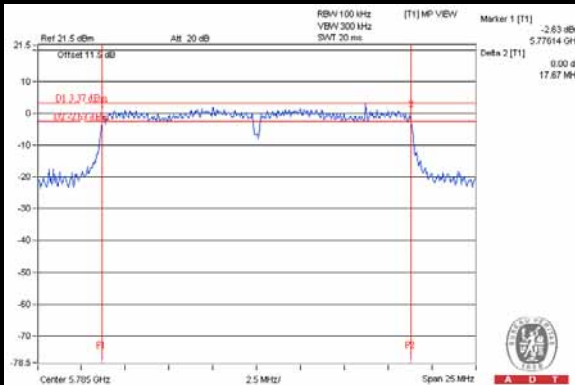
CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1		
155	5775	76.82	76.77	0.5	PASS

SPECTRUM PLOT OF WORST VALUE

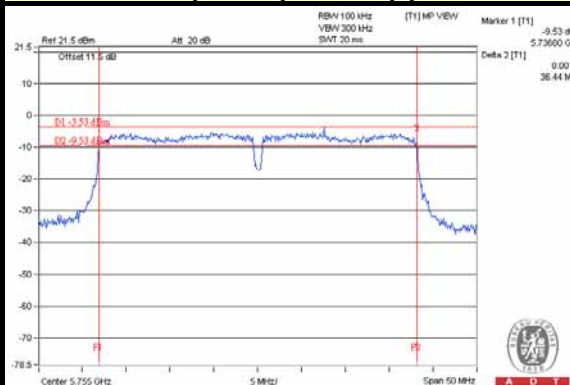
802.11a / Chain(1) : CH165



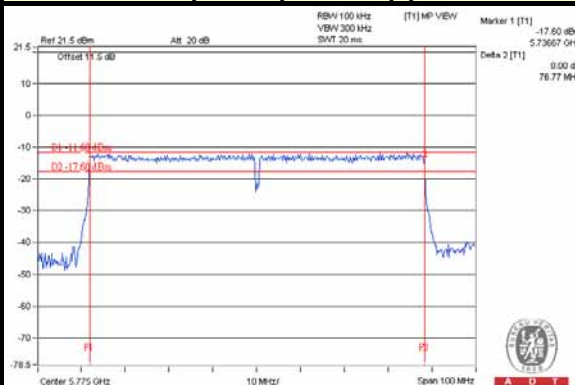
802.11ac (VHT20) / Chain(1) : CH157



802.11ac (VHT40) / Chain(0) : CH151



802.11ac (VHT80) / Chain(1) : CH155



5. PHOTOGRAPHS OF THE TEST CONFIGURATION

Please refer to the attached file (Test Setup Photo).



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6. INFORMATION ON THE TESTING LABORATORIES

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved according to ISO/IEC 17025.

If you have any comments, please feel free to contact us at the following:

Linko EMC/RF Lab:

Tel: 886-2-26052180

Fax: 886-2-26052943

Hsin Chu EMC/RF Lab:

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Email: service.adt@tw.bureauveritas.com

Web Site: www.bureauveritas-adt.com

The address and road map of all our labs can be found in our web site also.



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7. APPENDIX A - MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB

No modifications were made to the EUT by the lab during the test.

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