

FCC TEST REPORT (15.407)

REPORT NO.: RF130904E05-1

MODEL NO.: J20H081

FCC ID: MCLJ20H081

RECEIVED: Sep. 04, 2013

TESTED: Sep. 12 to 28, 2013

ISSUED: Oct. 18, 2013

APPLICANT: Hon Hai PRECISION IND.CO.,LTD

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ISSUED BY: Bureau Veritas Consumer Products Services
(H.K.) Ltd., Taoyuan Branch Hsin Chu Laboratory

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF130904E05-1	Original release	Oct. 18, 2013

1. CERTIFICATION

PRODUCT: 802.11ac/abgn/BT wireless module
BRAND NAME: FOXCONN
MODEL NO.: J20H081
TEST SAMPLE: ENGINEERING SAMPLE
APPLICANT: Hon Hai PRECISION IND.CO.,LTD
TESTED: Sep. 12 to 28, 2013
STANDARDS: FCC Part 15, Subpart E (Section 15.407)
ANSI C63.10-2009

The above equipment (Model: J20H081) has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

PREPARED BY : Phoenix Huang , **DATE:** Oct. 18, 2013
(Phoenix Huang, Specialist)

APPROVED BY : May Chen , **DATE:** Oct. 18, 2013
(May Chen, Manager)

2. SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

For 5GHz, 5150~5350MHz & 5470~5600 & 5650~5725MHz

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 -5.82dB at 0.16562MHz
15.407(b)(1/2/3) (b)(6)	Spurious Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -0.4dB at 5350.00MHz
15.407(a)(1/2)	Transmit Power	PASS	Meet the requirement of limit.
15.407(a)(6)	Peak Power Excursion	PASS	Meet the requirement of limit.
15.407(a)(1/2)	Peak Power Spectral Density	PASS	Meet the requirement of limit.
15.407(g)	Frequency Stability	PASS	Meet the requirement of limit.
15.203	Antenna Requirement	PASS	No antenna connector is used.

NOTE: 1. For WLAN: The EUT was operating in 2400 ~ 2483.5MHz, 5.15~5.35GHz, 5.47~5.6GHz & 5.65~5.725GHz and 5.725~5.850GHz frequencies band. This report was recorded the RF parameters including 5.15~5.35GHz, 5.47~5.6GHz & 5.65~5.725GHz. For the 2400 ~ 2483.5MHz and 5.725~5.850GHz 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	2.98 dB
Radiated emissions (30MHz-1GHz)	5.63 dB
Radiated emissions (1GHz -6GHz)	3.73 dB
Radiated emissions (6GHz -18GHz)	3.90 dB
Radiated emissions (18GHz -40GHz)	4.11 dB

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

PRODUCT	802.11ac/abgn/BT wireless module
MODEL NO.	J20H081
POWER SUPPLY	DC 5V±5% 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 150Mbps 802.11ac: up to 433.3Mbps
OPERATING FREQUENCY	For 15.407 5GHz: 5.18 ~ 5.24GHz, 5.26 ~ 5.32GHz, 5.50 ~ 5.58GHz & 5.66GHz ~ 5.70GHz
	For 15.247 2.4GHz: 2.412 ~ 2.462GHz 5GHz: 5.745 ~ 5.825GHz
NUMBER OF CHANNEL	For 15.407 16 for 802.11a, 802.11n (HT20), 802.11ac (VHT20) 7 for 802.11n (HT40), 802.11ac (VHT40) 3 for 802.11ac (VHT80)
	For 15.247 (2.4GHz) 11 for 802.11b, 802.11g, 802.11n (HT20) For 15.247 (5GHz) 5 for 802.11a, 802.11n (HT20), 802.11ac (VHT20) 2 for 802.11n (HT40), 802.11ac (VHT40) 1 for 802.11ac (VHT80)

MAXIMUM OUTPUT POWER	For 15.407 802.11a: 153.462 mW 802.11ac (VHT20): 141.579mW 802.11ac (VHT40): 99.541mW 802.11ac (VHT80): 31.189mW For 15.247 (2.4GHz) 802.11b: 205.116mW 802.11g: 245.471mW 802.11n (HT20): 244.906mW For 15.247 (5GHz) 802.11a: 157.398mW 802.11ac (VHT20): 158.855mW 802.11ac (VHT40): 153.109mW 802.11ac (VHT80): 456.037mW
ANTENNA TYPE	Please see NOTE
DATA CABLE	NA
I/O PORTS	NA
ASSOCIATED DEVICES	NA

NOTE:

1. There are Bluetooth technology (BT3.0 without support HS) and WLAN (2.4GHz & 5GHz) technology used for the EUT.
2. The antennas provided to the EUT, please refer to the following table:

Transmitter Circuit	Gain (dBi) (Include cable loss)	Antenna Type	Connector Type	Frequency range (MHz to MHz)
Chain (0)	-0.4	PCB	NA	2400~2483.5
	1.12			5150~5850
Chain (1)	0.28	PCB	NA	2400~2483.5
	0.9			5150~5850

3. The EUT incorporates a SISO function without beam forming.

MODULATION MODE	TX/RX FUNCTION
802.11b	1TX/1RX (Diversity)
802.11g	1TX/1RX (Diversity)
802.11n (HT20) <2.4GHz>	1TX/1RX (Diversity)
802.11a	1TX/1RX (Diversity)
802.11n (HT20) <5GHz>	1TX/1RX (Diversity)
802.11n (HT40) <5GHz>	1TX/1RX (Diversity)
802.11ac (VHT20)	1TX/1RX (Diversity)
802.11ac (VHT40)	1TX/1RX (Diversity)
802.11ac (VHT80)	1TX/1RX (Diversity)

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)

4. 5GHz & BT technology can transmit at same time.

5. When the EUT operating in 802.11n, the software operation, which is defined by manufacturer, MCS (Modulation and Coding Schemes) from 0 to 7.

6. When the EUT operating in 802.11ac, the software operation, which is defined by manufacturer, MCS (Modulation and Coding Schemes) from 0 to 9.

7. The above EUT information was declared by the 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 ~ 5350MHz band:

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

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
36	5180 MHz	52	5260 MHz
40	5200 MHz	56	5280 MHz
44	5220 MHz	60	5300 MHz
48	5240 MHz	64	5320 MHz

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

CHANNEL	FREQUENCY
38	5190 MHz
46	5230 MHz
54	5270 MHz
62	5310 MHz

2 channels are provided for 802.11ac (VHT80):

CHANNEL	FREQUENCY
42	5210 MHz
58	5290 MHz

Operated in 5470MHz ~ 5600MHz & 5650MHz ~ 5725MHz bands:

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

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
100	5500 MHz	116	5580 MHz
104	5520 MHz	132	5660 MHz
108	5540 MHz	136	5680 MHz
112	5560 MHz	140	5700 MHz

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

CHANNEL	FREQUENCY
102	5510 MHz
110	5550 MHz
134	5670 MHz

1 channel is provided for 802.11ac (VHT80):

CHANNEL	FREQUENCY
106	5530 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: The EUT's antenna (PCB) had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **X-plane** (for below 1GHz) and **Z-plane** (for 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 140	60	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 140	60	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 140	36, 40, 48, 52, 60, 64, 100, 116, 132, 140	OFDM	BPSK	6
802.11ac (VHT20)	36 to 140	36, 40, 48, 52, 60, 64, 100, 116, 132, 140	OFDM	BPSK	6.5
802.11ac (VHT40)	38 to 134	38, 46, 54, 62, 102, 110, 134	OFDM	BPSK	13.5
802.11ac (VHT80)	42 to 106	42, 58, 106	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 140	36, 40, 48, 52, 60, 64, 100, 116, 132, 140	OFDM	BPSK	6
802.11ac (VHT20)	36 to 140	36, 40, 48, 52, 60, 64, 100, 116, 132, 140	OFDM	BPSK	6.5
802.11ac (VHT40)	38 to 134	38, 46, 54, 62, 102, 110, 134	OFDM	BPSK	13.5
802.11ac (VHT80)	42 to 106	42, 58, 106	OFDM	BPSK	29.3

TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER (SYSTEM)	TESTED BY
PLC	27deg. C, 52%RH	120Vac, 60Hz	Sean Huang
RE<1G	25deg. C, 65%RH	120Vac, 60Hz	Tim Ho
RE ³ 1G	23deg. C, 68%RH	120Vac, 60Hz	Chilin Lee
APCM	25deg. C, 60%RH	120Vac, 60Hz	Robert Cheng

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 D01 General UNII Test Procedures v01 r03

ANSI C63.10-2009

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

3.4 DUTY CYCLE OF TEST SIGNAL

If duty cycle of test signal is > 98 %, duty factor is not required.

If duty cycle of test signal is < 98%, duty factor shall be considered.

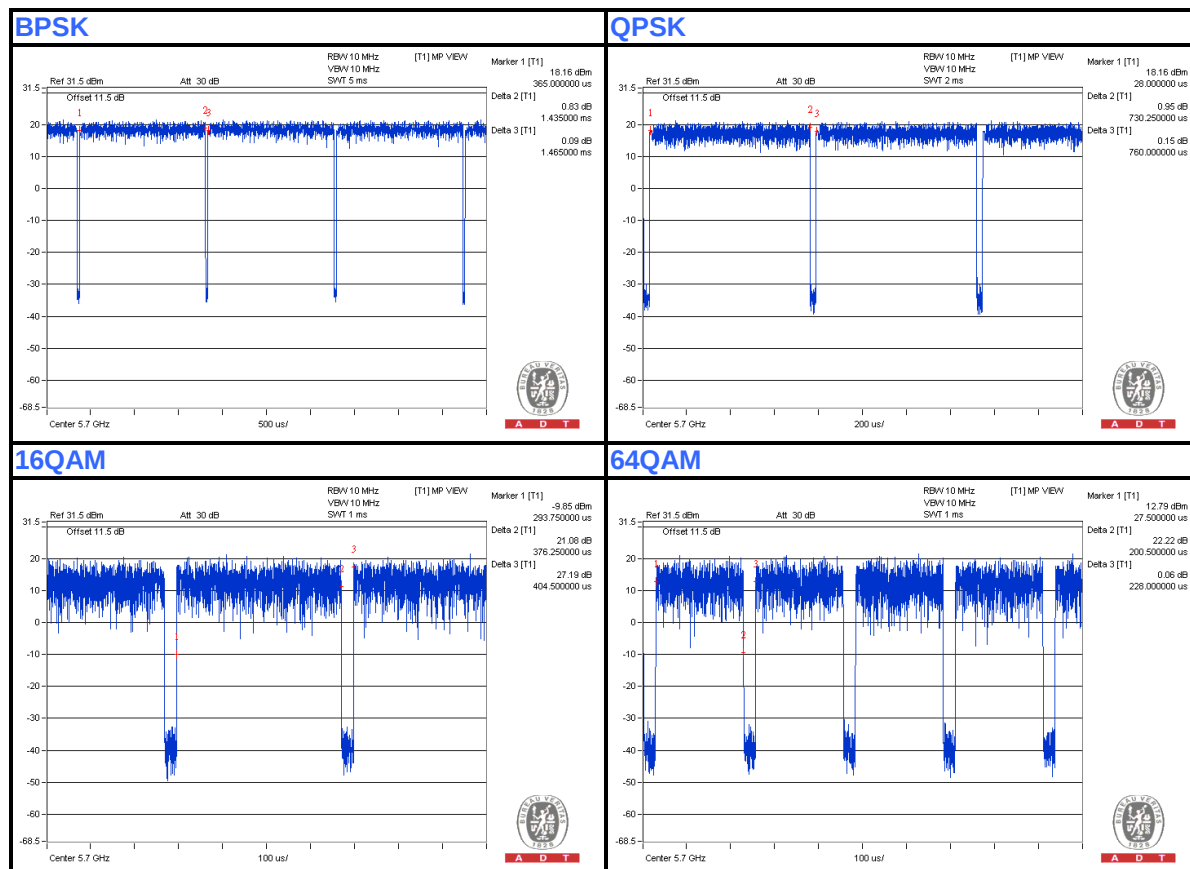
802.11a

BPSK: Duty cycle = 1.435 ms/1.465 ms = 0.98

QPSK: Duty cycle = 0.73 ms/0.76 ms = 0.961, Duty factor = $10 \cdot \log(1/0.961) = 0.17$

16QAM: Duty cycle = 0.376 ms/0.405 ms = 0.928, Duty factor = $10 \cdot \log(1/0.928) = 0.32$

64QAM: Duty cycle = 0.201 ms/0.228 ms = 0.882, Duty factor = $10 \cdot \log(1/0.882) = 0.55$



802.11ac (VHT20)

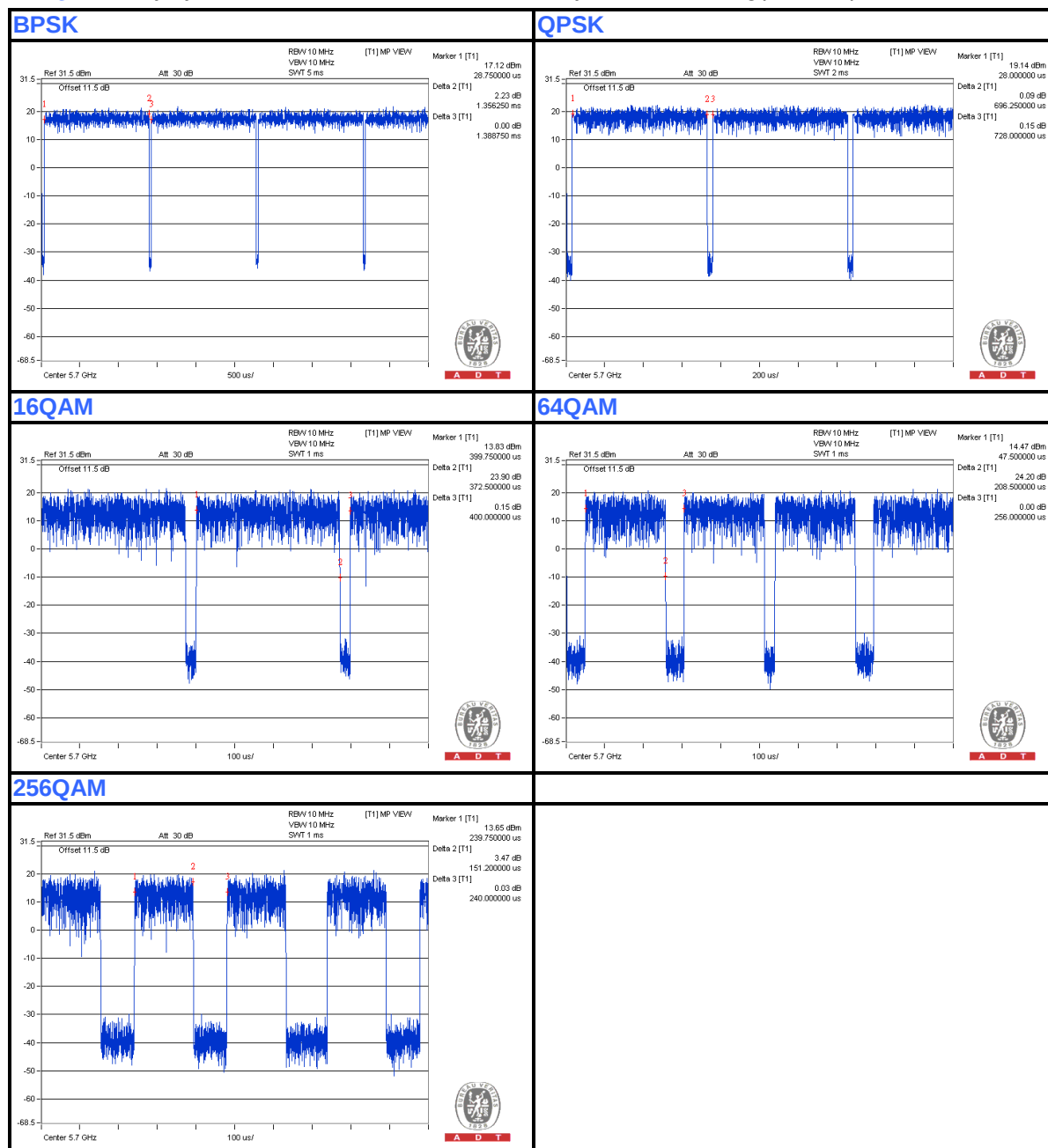
BPSK: Duty cycle = 1.356 ms/1.389 ms = 0.976, Duty factor = $10 \cdot \log(1/0.976) = 0.1$

QPSK: Duty cycle = 0.696 ms/0.728 ms = 0.956, Duty factor = $10 \cdot \log(1/0.956) = 0.2$

16QAM: Duty cycle = 0.373 ms/0.4 ms = 0.933, Duty factor = $10 \cdot \log(1/0.933) = 0.3$

64QAM: Duty cycle = 0.209 ms/0.256 ms = 0.816, Duty factor = $10 \cdot \log(1/0.816) = 0.88$

256QAM: Duty cycle = 0.151 ms/0.24 ms = 0.629, Duty factor = $10 \cdot \log(1/0.629) = 2.01$



802.11ac (VHT40)

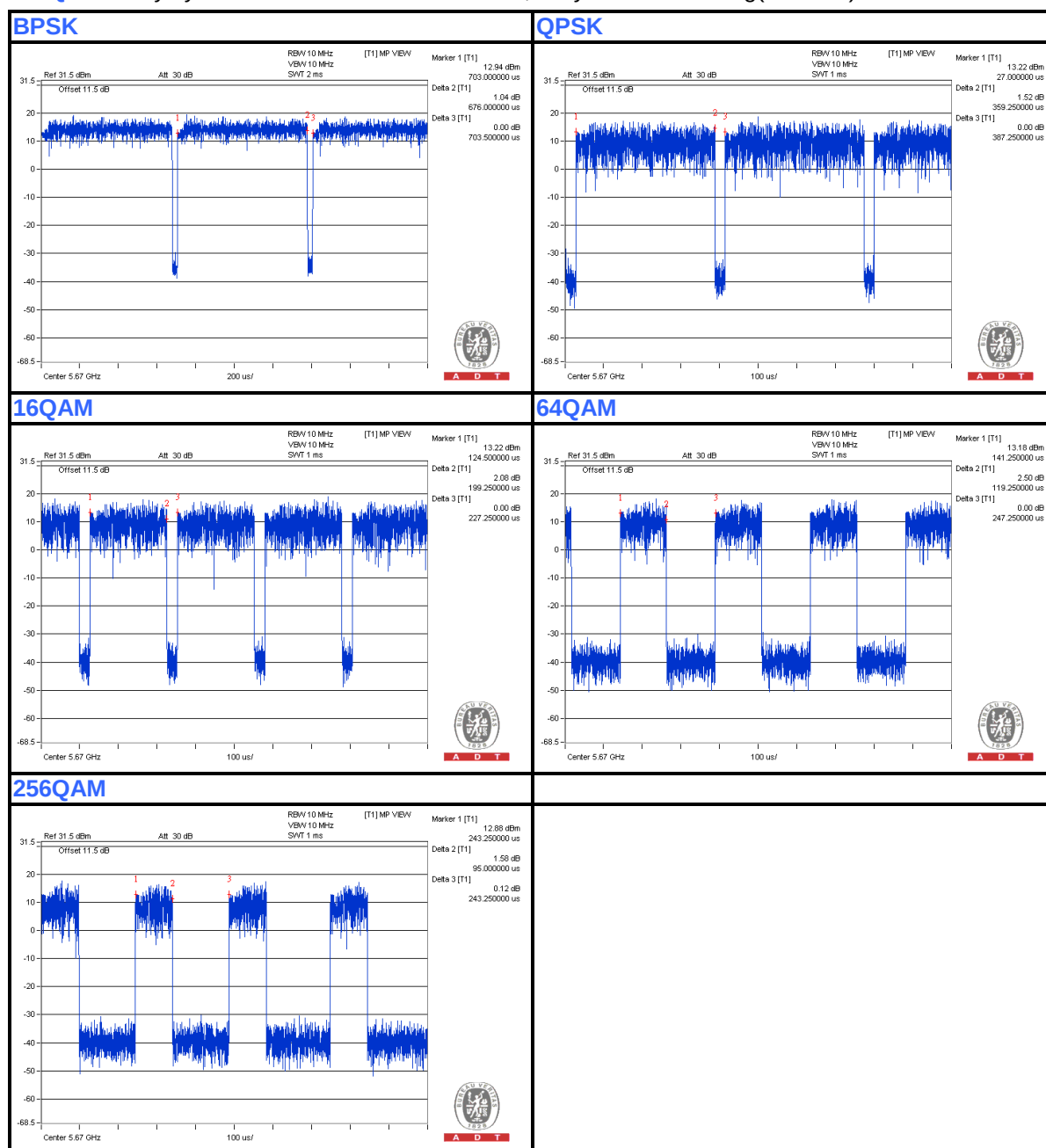
BPSK: Duty cycle = 0.676 ms/0.704 ms = 0.96, Duty factor = $10 * \log(1/0.96) = 0.18$

QPSK: Duty cycle = 0.359 ms/0.387 ms = 0.928, Duty factor = $10 * \log(1/0.928) = 0.33$

16QAM: Duty cycle = 0.199 ms/0.227 ms = 0.877, Duty factor = $10 * \log(1/0.877) = 0.57$

64QAM: Duty cycle = 0.119 ms/0.247 ms = 0.482, Duty factor = $10 * \log(1/0.482) = 3.17$

256QAM: Duty cycle = 0.095 ms/0.24 ms = 0.391, Duty factor = $10 * \log(1/0.391) = 4.08$



802.11ac (VHT80)

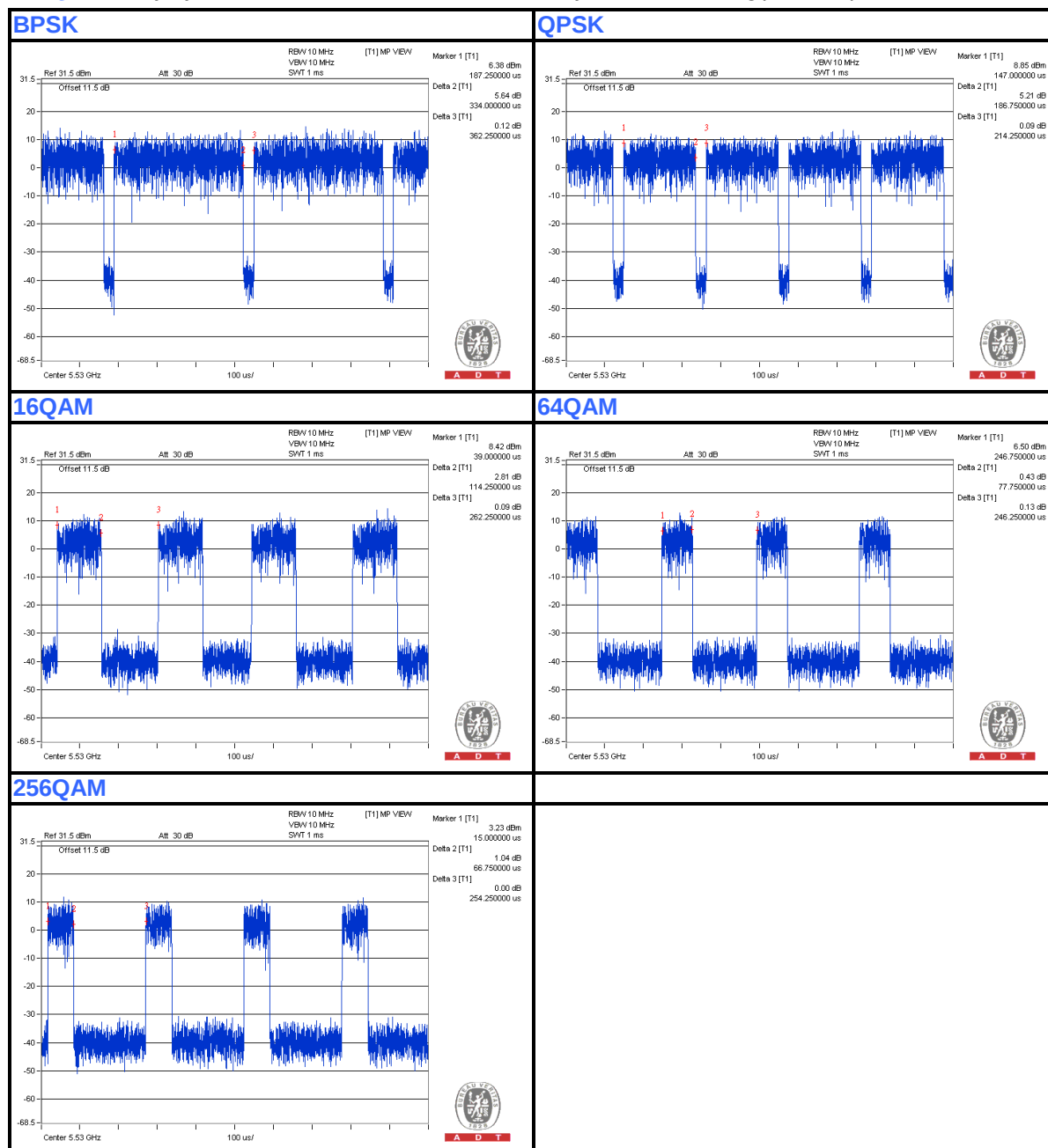
BPSK: Duty cycle = 0.334 ms/0.362 ms = 0.923, Duty factor = $10 \cdot \log(1/0.923) = 0.35$

QPSK: Duty cycle = 0.187 ms/0.214 ms = 0.874, Duty factor = $10 \cdot \log(1/0.874) = 0.59$

16QAM: Duty cycle = 0.114 ms/0.262 ms = 0.435, Duty factor = $10 \cdot \log(1/0.435) = 3.61$

64QAM: Duty cycle = 0.078 ms/0.246 ms = 0.317, Duty factor = $10 \cdot \log(1/0.317) = 4.99$

256QAM: Duty cycle = 0.067 ms/0.25 ms = 0.264, Duty factor = $10 \cdot \log(1/0.264) = 5.79$



3.5 DESCRIPTION OF SUPPORT UNITS

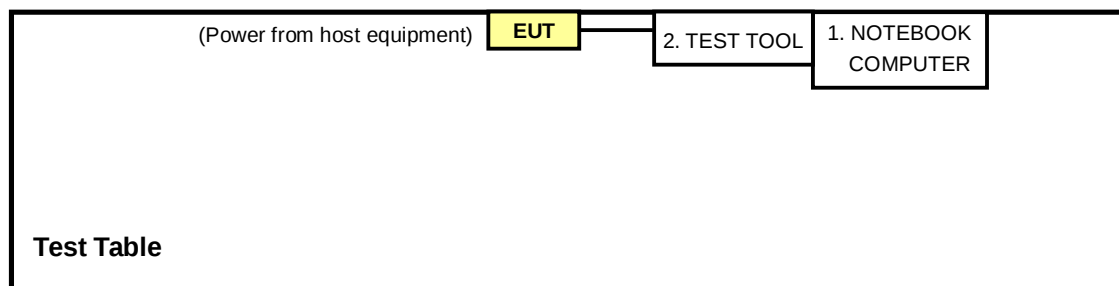
The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	NOTEBOOK COMPUTER (for other test items)	DELL	PP32LA	FSLB32S	FCC DoC
	NOTEBOOK COMPUTER (for Conducted Emission test)	DELL	D531	CN-0XM006-48 643-86L-4472	QDS-BRCM1019
2	TEST TOOL	FOXCONN	NA	NA	NA

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	NA
2	Data Cable, 0.1m

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

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	100287	Feb. 28, 2013	Feb. 27, 2014
Line-Impedance Stabilization Network (for EUT) ROHDE & SCHWARZ	ENV216	100071	Nov. 09, 2012	Nov. 08, 2013
Line-Impedance Stabilization Network (for Peripheral) ROHDE & SCHWARZ	ESH3-Z5	8487731004	Oct. 29, 2012	Oct. 28, 2013
RF Cable (JYEBAO)	5DFB	COACAB-001	May 27, 2013	May 26, 2014
50 ohms Terminator	50	3	Oct. 23, 2012	Oct. 22, 2013
50 ohms Terminator	N/A	EMC-04	Oct. 16, 2012	Oct. 15, 2013
Software ADT	BV ADT_Cond_V7.3.7 .3	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 test was performed in Shielded Room No. A.
3. The VCCI Con A Registration No. is C-817.
4. Tested Date: Sep. 24, 2013

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.

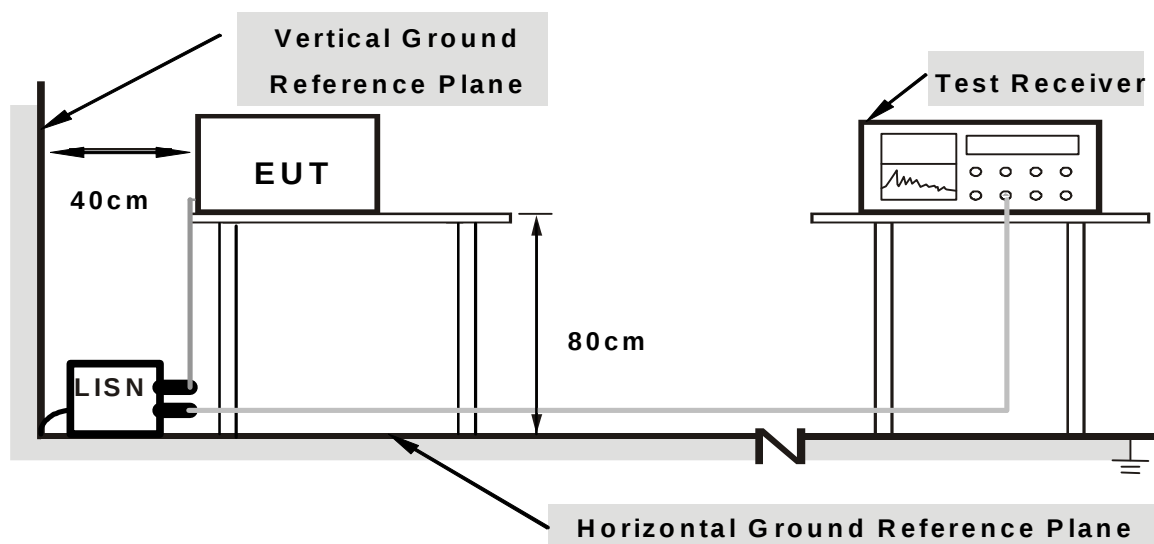
NOTE:

- 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.



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4.1.6 EUT OPERATING CONDITIONS

1. Connect the EUT with the support unit 1 (Notebook Computer) which is placed on a testing table.
2. The communication partner run test program "MT76xxU.exe [Rev2.0.10.0]" to enable EUT under transmission/receiving condition continuously at specific channel frequency.

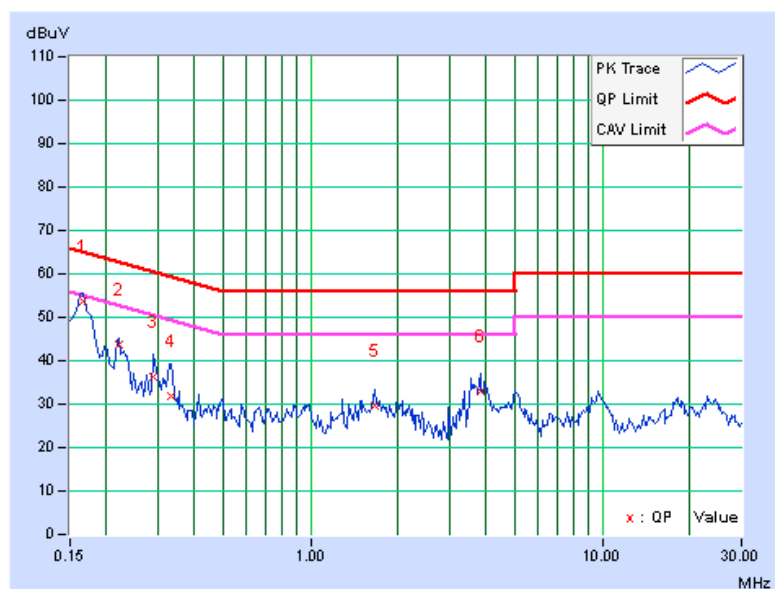
4.1.7 TEST RESULTS

PHASE	Line (L)	DETECTOR FUNCTION	Quasi-Peak (QP) / Average (AV)
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No	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
	[MHz]	Factor [dB]	Q.P. [dB (uV)]	AV. [dB (uV)]	Q.P. [dB (uV)]	AV. [dB (uV)]	Q.P. [dB (uV)]	AV. [dB (uV)]	Q.P. [dB]	AV. [dB]
1	0.16562	9.75	43.94	39.15	53.69	48.90	65.18	55.18	-11.48	-6.27
2	0.22031	9.76	34.09	25.82	43.85	35.58	62.81	52.81	-18.95	-17.22
3	0.29063	9.78	26.56	17.99	36.34	27.77	60.51	50.51	-24.17	-22.74
4	0.33359	9.79	22.24	8.66	32.03	18.45	59.36	49.36	-27.33	-30.91
5	1.65234	9.84	19.62	12.27	29.46	22.11	56.00	46.00	-26.54	-23.89
6	3.83594	9.90	22.92	10.61	32.82	20.51	56.00	46.00	-23.18	-25.49

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

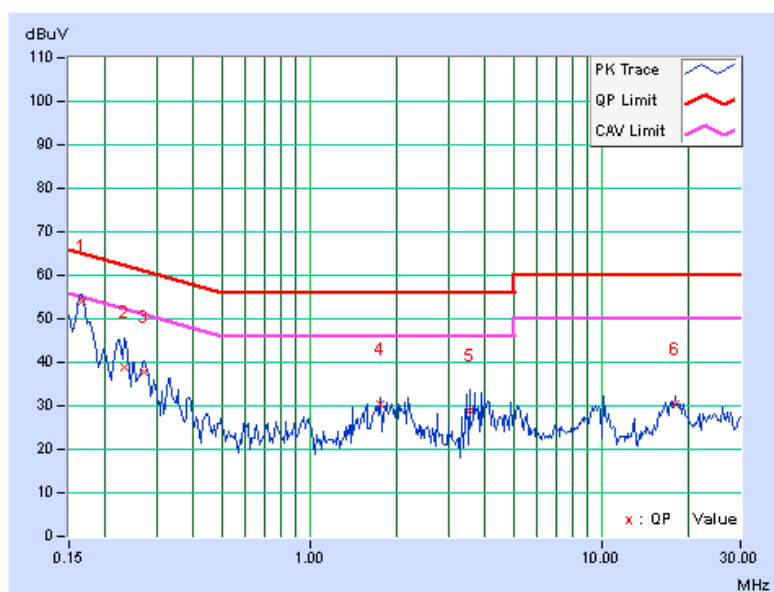


PHASE	Neutral (N)	DETECTOR FUNCTION	Quasi-Peak (QP) / Average (AV)
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	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
No		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16562	9.75	44.19	39.61	53.94	49.36	65.18	55.18	-11.24	-5.82
2	0.23203	9.76	29.21	15.31	38.97	25.07	62.38	52.38	-23.41	-27.31
3	0.27109	9.77	27.97	8.09	37.74	17.86	61.08	51.08	-23.35	-33.23
4	1.75391	9.84	20.52	12.80	30.36	22.64	56.00	46.00	-25.64	-23.36
5	3.54297	9.90	18.97	7.39	28.87	17.29	56.00	46.00	-27.13	-28.71
6	17.99219	10.24	20.11	15.69	30.35	25.93	60.00	50.00	-29.65	-24.07

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	
√	FIELD STRENGTH AT 3m (dBμV/m)	
	PK	AV
	74	54
	EIRP LIMIT (dBm)	EQUIVALENT FIELD STRENGTH AT 3m (dBμV/m)
	PK	PK
	-27	68.3

NOTE:

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

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



A D T

4.2.3 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
MXE EMI Receiver Agilent	N9038A	MY51210105	Jan. 29, 2013	Jan. 28, 2014
Pre-Amplifier Mini-Circuits	ZFL-1000VH2 B	AMP-ZFL-03	Nov. 14, 2012	Nov. 13, 2013
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-360	Mar. 19, 2013	Mar. 18, 2014
RF Cable	NA	CHGCAB_001	Oct. 06, 2012	Oct. 05, 2013
Horn_Antenna AISI	AIH.8018	0000320091110	Nov. 19, 2012	Nov. 18, 2013
Pre-Amplifier Agilent	8449B	3008A02578	June 25, 2013	June 24, 2014
RF Cable	NA	RF104-201 RF104-203 RF104-204	Dec. 25, 2012	Dec. 24, 2013
Spectrum Analyzer Agilent	E4446A	MY48250253	Aug. 28, 2013	Aug. 27, 2014
Pre-Amplifier SPACEK LABS	SLKKa-48-6	9K16	Nov. 14, 2012	Nov. 13, 2013
Horn_Antenna SCHWARZBECK	BBHA 9170	9170-424	Oct. 12, 2012	Oct. 11, 2013
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: Sep. 12 to 28, 2013

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:

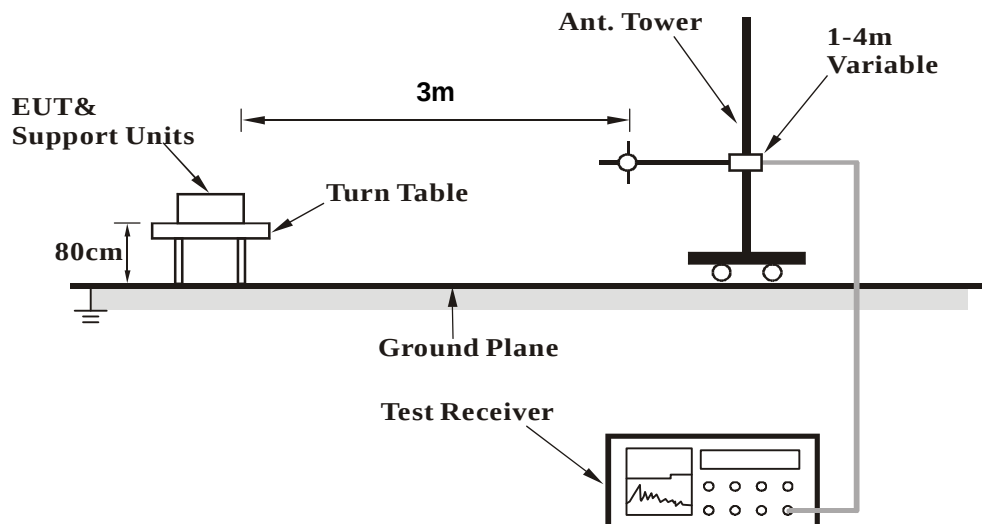
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 10 Hz for Average detection (AV) at frequency above 1GHz.
4. If the EUT transiting at duty cycle is < 98%, the duty cycle correction is required that emission.
5. All modes of operation were investigated and the worst-case emissions are reported.

4.2.5 DEVIATION FROM TEST STANDARD

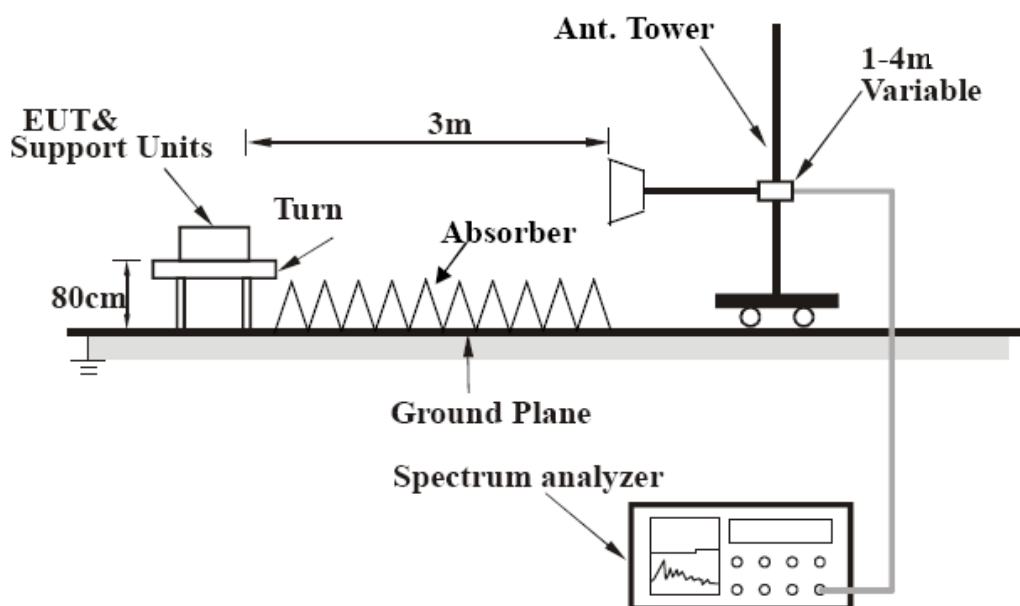
No deviation

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 60	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	146.10	30.7 QP	43.5	-12.8	2.00 H	102	44.30	-13.56
2	304.56	39.3 QP	46.0	-6.7	1.00 H	100	51.93	-12.60
3	548.71	32.6 QP	46.0	-13.4	2.00 H	239	39.54	-6.94
4	609.20	37.2 QP	46.0	-8.8	1.50 H	77	42.20	-5.04
5	719.10	30.3 QP	46.0	-15.7	1.00 H	42	34.02	-3.72
6	907.56	29.6 QP	46.0	-16.4	1.50 H	65	29.73	-0.13
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	49.70	29.5 QP	40.0	-10.5	1.00 V	317	43.08	-13.60
2	132.25	27.9 QP	43.5	-15.6	1.00 V	34	42.38	-14.48
3	253.52	30.1 QP	46.0	-15.9	2.00 V	173	44.58	-14.48
4	303.10	29.9 QP	46.0	-16.2	1.50 V	299	42.49	-12.64
5	609.30	30.8 QP	46.0	-15.3	1.50 V	57	35.79	-5.04
6	948.25	31.3 QP	46.0	-14.7	1.00 V	74	30.77	0.53

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

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	69.5 PK	74.0	-4.5	1.27 H	245	60.90	8.60
2	5150.00	53.5 AV	54.0	-0.5	1.27 H	245	44.90	8.60
3	*5180.00	107.7 PK			1.27 H	245	98.94	8.76
4	*5180.00	99.5 AV			1.27 H	245	90.74	8.76
5	#10360.00	48.9 PK	74.0	-25.1	1.15 H	29	33.36	15.54
6	#10360.00	36.6 AV	54.0	-17.4	1.15 H	29	21.06	15.54
7	15540.00	54.1 PK	74.0	-19.9	1.00 H	105	31.73	22.37
8	15540.00	41.3 AV	54.0	-12.7	1.00 H	105	18.93	22.37
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	66.5 PK	74.0	-7.5	1.00 V	296	57.90	8.60
2	5150.00	52.4 AV	54.0	-1.6	1.00 V	296	43.80	8.60
3	*5180.00	106.3 PK			1.00 V	296	97.54	8.76
4	*5180.00	97.7 AV			1.00 V	296	88.94	8.76
5	#10360.00	48.3 PK	74.0	-25.7	1.00 V	70	32.76	15.54
6	#10360.00	36.2 AV	54.0	-17.8	1.00 V	70	20.66	15.54
7	15540.00	53.9 PK	74.0	-20.1	1.00 V	109	31.53	22.37
8	15540.00	41.1 AV	54.0	-12.9	1.00 V	109	18.73	22.37

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 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	63.7 PK	74.0	-10.3	1.77 H	296	55.10	8.60
2	5150.00	48.5 AV	54.0	-5.5	1.77 H	296	39.90	8.60
3	*5200.00	113.2 PK			1.77 H	296	104.33	8.87
4	*5200.00	102.9 AV			1.77 H	296	94.03	8.87
5	#10400.00	48.6 PK	74.0	-25.4	1.15 H	24	33.42	15.18
6	#10400.00	36.2 AV	54.0	-17.8	1.15 H	24	21.02	15.18
7	15600.00	53.8 PK	74.0	-20.2	1.00 H	106	31.68	22.12
8	15600.00	41.7 AV	54.0	-12.3	1.00 H	106	19.58	22.12
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	60.0 PK	74.0	-14.0	1.00 V	296	51.40	8.60
2	5150.00	44.6 AV	54.0	-9.4	1.00 V	296	36.00	8.60
3	*5200.00	109.2 PK			1.00 V	296	100.33	8.87
4	*5200.00	98.9 AV			1.00 V	296	90.03	8.87
5	#10400.00	48.2 PK	74.0	-25.8	1.05 V	61	33.02	15.18
6	#10400.00	36.1 AV	54.0	-17.9	1.05 V	61	20.92	15.18
7	15600.00	54.7 PK	74.0	-19.3	1.02 V	121	32.58	22.12
8	15600.00	41.6 AV	54.0	-12.4	1.02 V	121	19.48	22.12

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 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	112.5 PK			1.80 H	308	103.49	9.01
2	*5240.00	102.4 AV			1.80 H	308	93.39	9.01
3	#10480.00	48.8 PK	74.0	-25.2	1.12 H	28	33.00	15.80
4	#10480.00	36.4 AV	54.0	-17.6	1.12 H	28	20.60	15.80
5	15720.00	54.1 PK	74.0	-19.9	1.04 H	120	32.30	21.80
6	15720.00	42.0 AV	54.0	-12.0	1.04 H	120	20.20	21.80
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	109.0 PK			1.03 V	293	99.99	9.01
2	*5240.00	98.8 AV			1.03 V	293	89.79	9.01
3	#10480.00	49.0 PK	74.0	-25.0	1.01 V	56	33.20	15.80
4	#10480.00	37.0 AV	54.0	-17.0	1.01 V	56	21.20	15.80
5	15720.00	54.9 PK	74.0	-19.1	1.02 V	117	33.10	21.80
6	15720.00	42.1 AV	54.0	-11.9	1.02 V	117	20.30	21.80

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 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	113.4 PK			1.80 H	289	104.33	9.07
2	*5260.00	103.3 AV			1.80 H	289	94.23	9.07
3	#10520.00	48.4 PK	74.0	-25.6	1.15 H	13	32.42	15.98
4	#10520.00	36.3 AV	54.0	-17.7	1.15 H	13	20.32	15.98
5	15780.00	53.2 PK	74.0	-20.8	1.02 H	94	31.21	21.99
6	15780.00	41.3 AV	54.0	-12.7	1.02 H	94	19.31	21.99
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	109.2 PK			1.05 V	124	100.13	9.07
2	*5260.00	98.9 AV			1.05 V	124	89.83	9.07
3	#10520.00	48.8 PK	74.0	-25.2	1.09 V	62	32.82	15.98
4	#10520.00	36.6 AV	54.0	-17.4	1.09 V	62	20.62	15.98
5	15780.00	54.5 PK	74.0	-19.5	1.05 V	134	32.51	21.99
6	15780.00	41.3 AV	54.0	-12.7	1.05 V	134	19.31	21.99

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 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	113.0 PK			1.70 H	297	103.79	9.21
2	*5300.00	102.8 AV			1.70 H	297	93.59	9.21
3	5350.00	63.8 PK	74.0	-10.2	1.70 H	297	54.49	9.31
4	5350.00	50.1 AV	54.0	-3.9	1.70 H	297	40.79	9.31
5	10600.00	50.1 PK	74.0	-23.9	1.09 H	142	33.98	16.12
6	10600.00	37.5 AV	54.0	-16.5	1.09 H	142	21.38	16.12
7	15900.00	53.2 PK	74.0	-20.8	1.00 H	112	31.10	22.10
8	15900.00	40.9 AV	54.0	-13.1	1.00 H	112	18.80	22.10
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	109.6 PK			1.11 V	118	100.39	9.21
2	*5300.00	99.2 AV			1.11 V	118	89.99	9.21
3	5350.00	59.1 PK	74.0	-14.9	1.11 V	118	49.79	9.31
4	5350.00	45.6 AV	54.0	-8.4	1.11 V	118	36.29	9.31
5	10600.00	48.8 PK	74.0	-25.2	1.00 V	53	32.68	16.12
6	10600.00	36.9 AV	54.0	-17.1	1.00 V	53	20.78	16.12
7	15900.00	54.1 PK	74.0	-19.9	1.05 V	136	32.00	22.10
8	15900.00	41.4 AV	54.0	-12.6	1.05 V	136	19.30	22.10

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.

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	107.5 PK			1.26 H	243	98.25	9.25
2	*5320.00	98.7 AV			1.26 H	243	89.45	9.25
3	5350.00	71.6 PK	74.0	-2.4	1.26 H	243	62.29	9.31
4	5350.00	53.5 AV	54.0	-0.5	1.26 H	243	44.19	9.31
5	10640.00	50.3 PK	74.0	-23.7	1.11 H	134	34.04	16.26
6	10640.00	37.9 AV	54.0	-16.1	1.11 H	134	21.64	16.26
7	15960.00	53.2 PK	74.0	-20.8	1.02 H	117	31.22	21.98
8	15960.00	40.9 AV	54.0	-13.1	1.02 H	117	18.92	21.98
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	*5320.00	103.7 PK			1.09 V	145	94.45	9.25
2	*5320.00	94.9 AV			1.09 V	145	85.65	9.25
3	5350.00	67.7 PK	74.0	-6.3	1.09 V	145	58.39	9.31
4	5350.00	49.4 AV	54.0	-4.6	1.09 V	145	40.09	9.31
5	10640.00	49.1 PK	74.0	-24.9	1.01 V	67	32.84	16.26
6	10640.00	37.2 AV	54.0	-16.8	1.01 V	67	20.94	16.26
7	15960.00	54.3 PK	74.0	-19.7	1.01 V	127	32.32	21.98
8	15960.00	41.7 AV	54.0	-12.3	1.01 V	127	19.72	21.98

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.

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	5460.00	62.6 PK	74.0	-11.4	1.40 H	241	52.95	9.65
2	5460.00	47.4 AV	54.0	-6.6	1.40 H	241	37.75	9.65
3	#5470.00	69.1 PK	74.0	-4.9	1.40 H	241	59.41	9.69
4	#5470.00	53.5 AV	54.0	-0.5	1.40 H	241	43.81	9.69
5	*5500.00	108.3 PK			1.40 H	241	98.49	9.81
6	*5500.00	99.1 AV			1.40 H	241	89.29	9.81
7	11000.00	48.7 PK	74.0	-25.3	1.11 H	26	31.10	17.60
8	11000.00	36.6 AV	54.0	-17.4	1.11 H	26	19.00	17.60
9	#16500.00	53.4 PK	74.0	-20.6	1.00 H	87	29.26	24.14
10	#16500.00	41.4 AV	54.0	-12.6	1.00 H	87	17.26	24.14
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	58.2 PK	74.0	-15.8	1.02 V	114	48.55	9.65
2	5460.00	43.0 AV	54.0	-11.0	1.02 V	114	33.35	9.65
3	#5470.00	64.9 PK	74.0	-9.1	1.02 V	114	55.21	9.69
4	#5470.00	49.6 AV	54.0	-4.4	1.02 V	114	39.91	9.69
5	*5500.00	104.0 PK			1.02 V	114	94.19	9.81
6	*5500.00	95.0 AV			1.02 V	114	85.19	9.81
7	11000.00	48.9 PK	74.0	-25.1	1.00 V	45	31.30	17.60
8	11000.00	36.9 AV	54.0	-17.1	1.00 V	45	19.30	17.60
9	#16500.00	54.6 PK	74.0	-19.4	1.05 V	146	30.46	24.14
10	#16500.00	41.8 AV	54.0	-12.2	1.05 V	146	17.66	24.14

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 116	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	56.6 PK	74.0	-17.4	1.82 H	293	46.91	9.69
2	#5470.00	43.7 AV	54.0	-10.3	1.82 H	293	34.01	9.69
3	*5580.00	111.9 PK			1.82 H	293	101.86	10.04
4	*5580.00	101.8 AV			1.82 H	293	91.76	10.04
5	11160.00	48.5 PK	74.0	-25.5	1.17 H	15	31.47	17.03
6	11160.00	36.5 AV	54.0	-17.5	1.17 H	15	19.47	17.03
7	#16740.00	53.6 PK	74.0	-20.4	1.03 H	79	29.10	24.50
8	#16740.00	41.4 AV	54.0	-12.6	1.03 H	79	16.90	24.50
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	52.2 PK	74.0	-21.8	1.01 V	104	42.51	9.69
2	#5470.00	39.5 AV	54.0	-14.5	1.01 V	104	29.81	9.69
3	*5580.00	108.0 PK			1.01 V	104	97.96	10.04
4	*5580.00	97.7 AV			1.01 V	104	87.66	10.04
5	11160.00	47.7 PK	74.0	-26.3	1.02 V	64	30.67	17.03
6	11160.00	36.1 AV	54.0	-17.9	1.02 V	64	19.07	17.03
7	#16740.00	54.3 PK	74.0	-19.7	1.09 V	148	29.80	24.50
8	#16740.00	41.6 AV	54.0	-12.4	1.09 V	148	17.10	24.50

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 132	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	*5660.00	110.6 PK			1.82 H	293	100.36	10.24
2	*5660.00	100.3 AV			1.82 H	293	90.06	10.24
3	#5725.00	59.3 PK	74.0	-14.7	1.82 H	293	48.92	10.38
4	#5725.00	44.6 AV	54.0	-9.4	1.82 H	293	34.22	10.38
5	11320.00	48.7 PK	74.0	-25.3	1.00 H	154	31.07	17.63
6	11320.00	35.8 AV	54.0	-18.2	1.00 H	154	18.17	17.63
7	#16980.00	55.9 PK	74.0	-18.1	1.00 H	146	30.46	25.44
8	#16980.00	43.5 AV	54.0	-10.5	1.00 H	146	18.06	25.44
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	*5660.00	106.7 PK			1.00 V	94	96.46	10.24
2	*5660.00	96.4 AV			1.00 V	94	86.16	10.24
3	#5725.00	55.3 PK	74.0	-18.7	1.00 V	94	44.92	10.38
4	#5725.00	40.8 AV	54.0	-13.2	1.00 V	94	30.42	10.38
5	11320.00	49.1 PK	74.0	-24.9	1.04 V	43	31.47	17.63
6	11320.00	37.0 AV	54.0	-17.0	1.04 V	43	19.37	17.63
7	#16980.00	53.6 PK	74.0	-20.4	1.07 V	157	28.16	25.44
8	#16980.00	41.0 AV	54.0	-13.0	1.07 V	157	15.56	25.44

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.

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	106.6 PK			1.38 H	245	96.26	10.34
2	*5700.00	96.3 AV			1.38 H	245	85.96	10.34
3	#5725.00	70.4 PK	74.0	-3.6	1.38 H	245	60.02	10.38
4	#5725.00	53.5 AV	54.0	-0.5	1.38 H	245	43.12	10.38
5	11400.00	49.1 PK	74.0	-24.9	1.16 H	34	31.58	17.52
6	11400.00	36.5 AV	54.0	-17.5	1.16 H	34	18.98	17.52
7	#17100.00	54.2 PK	74.0	-19.8	1.03 H	94	28.91	25.29
8	#17100.00	41.1 AV	54.0	-12.9	1.03 H	94	15.81	25.29
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	104.1 PK			1.10 V	22	93.76	10.34
2	*5700.00	93.9 AV			1.10 V	22	83.56	10.34
3	#5725.00	68.1 PK	74.0	-5.9	1.10 V	22	57.72	10.38
4	#5725.00	51.4 AV	54.0	-2.6	1.10 V	22	41.02	10.38
5	11400.00	49.2 PK	74.0	-24.8	1.01 V	36	31.68	17.52
6	11400.00	37.1 AV	54.0	-16.9	1.01 V	36	19.58	17.52
7	#17100.00	53.6 PK	74.0	-20.4	1.03 V	133	28.31	25.29
8	#17100.00	41.3 AV	54.0	-12.7	1.03 V	133	16.01	25.29

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.

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	71.3 PK	74.0	-2.7	1.32 H	244	62.70	8.60
2	5150.00	53.1 AV	54.0	-0.9	1.32 H	244	44.50	8.60
3	*5180.00	108.1 PK			1.32 H	244	99.34	8.76
4	*5180.00	98.0 AV			1.32 H	244	89.24	8.76
5	#10360.00	49.4 PK	74.0	-24.6	1.11 H	31	33.86	15.54
6	#10360.00	37.0 AV	54.0	-17.0	1.11 H	31	21.46	15.54
7	15540.00	54.2 PK	74.0	-19.8	1.00 H	106	31.83	22.37
8	15540.00	41.5 AV	54.0	-12.5	1.00 H	106	19.13	22.37
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	67.7 PK	74.0	-6.3	1.13 V	36	59.10	8.60
2	5150.00	49.4 AV	54.0	-4.6	1.13 V	36	40.80	8.60
3	*5180.00	103.4 PK			1.13 V	36	94.64	8.76
4	*5180.00	93.5 AV			1.13 V	36	84.74	8.76
5	#10360.00	48.7 PK	74.0	-25.3	1.10 V	41	33.16	15.54
6	#10360.00	36.6 AV	54.0	-17.4	1.10 V	41	21.06	15.54
7	15540.00	54.1 PK	74.0	-19.9	1.17 V	146	31.73	22.37
8	15540.00	41.3 AV	54.0	-12.7	1.17 V	146	18.93	22.37

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 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	113.7 PK			1.81 H	299	104.83	8.87
2	*5200.00	103.3 AV			1.81 H	299	94.43	8.87
3	#10400.00	48.2 PK	74.0	-25.8	1.11 H	33	33.02	15.18
4	#10400.00	35.7 AV	54.0	-18.3	1.11 H	33	20.52	15.18
5	15600.00	53.4 PK	74.0	-20.6	1.00 H	115	31.28	22.12
6	15600.00	41.4 AV	54.0	-12.6	1.00 H	115	19.28	22.12
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	110.0 PK			1.16 V	50	101.13	8.87
2	*5200.00	99.3 AV			1.16 V	50	90.43	8.87
3	#10400.00	48.3 PK	74.0	-25.7	1.05 V	50	33.12	15.18
4	#10400.00	36.4 AV	54.0	-17.6	1.05 V	50	21.22	15.18
5	15600.00	54.0 PK	74.0	-20.0	1.15 V	159	31.88	22.12
6	15600.00	41.5 AV	54.0	-12.5	1.15 V	159	19.38	22.12

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 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	113.5 PK			1.85 H	305	104.49	9.01
2	*5240.00	102.9 AV			1.85 H	305	93.89	9.01
3	#10480.00	47.6 PK	74.0	-26.4	1.12 H	30	31.80	15.80
4	#10480.00	35.3 AV	54.0	-18.7	1.12 H	30	19.50	15.80
5	15720.00	53.5 PK	74.0	-20.5	1.05 H	121	31.70	21.80
6	15720.00	41.3 AV	54.0	-12.7	1.05 H	121	19.50	21.80
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	109.1 PK			1.17 V	171	100.09	9.01
2	*5240.00	98.4 AV			1.17 V	171	89.39	9.01
3	#10480.00	48.0 PK	74.0	-26.0	1.00 V	56	32.20	15.80
4	#10480.00	35.7 AV	54.0	-18.3	1.00 V	56	19.90	15.80
5	15720.00	53.8 PK	74.0	-20.2	1.19 V	144	32.00	21.80
6	15720.00	41.4 AV	54.0	-12.6	1.19 V	144	19.60	21.80

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 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	114.0 PK			1.79 H	312	104.93	9.07
2	*5260.00	103.7 AV			1.79 H	312	94.63	9.07
3	#10520.00	49.3 PK	74.0	-24.7	1.16 H	35	33.32	15.98
4	#10520.00	36.5 AV	54.0	-17.5	1.16 H	35	20.52	15.98
5	15780.00	54.2 PK	74.0	-19.8	1.04 H	113	32.21	21.99
6	15780.00	41.3 AV	54.0	-12.7	1.04 H	113	19.31	21.99
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	109.6 PK			1.14 V	182	100.53	9.07
2	*5260.00	99.4 AV			1.14 V	182	90.33	9.07
3	#10520.00	49.7 PK	74.0	-24.3	1.00 V	52	33.72	15.98
4	#10520.00	37.5 AV	54.0	-16.5	1.00 V	52	21.52	15.98
5	15780.00	53.6 PK	74.0	-20.4	1.04 V	172	31.61	21.99
6	15780.00	41.1 AV	54.0	-12.9	1.04 V	172	19.11	21.99

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 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	113.5 PK			1.74 H	304	104.29	9.21
2	*5300.00	103.4 AV			1.74 H	304	94.19	9.21
3	10600.00	48.7 PK	74.0	-25.3	1.13 H	39	32.58	16.12
4	10600.00	36.2 AV	54.0	-17.8	1.13 H	39	20.08	16.12
5	15900.00	54.1 PK	74.0	-19.9	1.03 H	127	32.00	22.10
6	15900.00	41.1 AV	54.0	-12.9	1.03 H	127	19.00	22.10
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	109.2 PK			1.06 V	182	99.99	9.21
2	*5300.00	99.1 AV			1.06 V	182	89.89	9.21
3	10600.00	49.4 PK	74.0	-24.6	1.04 V	50	33.28	16.12
4	10600.00	37.1 AV	54.0	-16.9	1.04 V	50	20.98	16.12
5	15900.00	53.7 PK	74.0	-20.3	1.04 V	166	31.60	22.10
6	15900.00	41.2 AV	54.0	-12.8	1.04 V	166	19.10	22.10

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.

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	107.3 PK			1.45 H	241	98.05	9.25
2	*5320.00	97.5 AV			1.45 H	241	88.25	9.25
3	5350.00	70.3 PK	74.0	-3.7	1.45 H	241	60.99	9.31
4	5350.00	53.1 AV	54.0	-0.9	1.45 H	241	43.79	9.31
5	10640.00	49.0 PK	74.0	-25.0	1.14 H	33	32.74	16.26
6	10640.00	36.6 AV	54.0	-17.4	1.14 H	33	20.34	16.26
7	15960.00	53.8 PK	74.0	-20.2	1.04 H	132	31.82	21.98
8	15960.00	40.7 AV	54.0	-13.3	1.04 H	132	18.72	21.98
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	*5320.00	103.6 PK			1.06 V	187	94.35	9.25
2	*5320.00	93.6 AV			1.06 V	187	84.35	9.25
3	5350.00	66.0 PK	74.0	-8.0	1.06 V	187	56.69	9.31
4	5350.00	48.9 AV	54.0	-5.1	1.06 V	187	39.59	9.31
5	10640.00	49.0 PK	74.0	-25.0	1.08 V	37	32.74	16.26
6	10640.00	36.9 AV	54.0	-17.1	1.08 V	37	20.64	16.26
7	15960.00	54.1 PK	74.0	-19.9	1.10 V	153	32.12	21.98
8	15960.00	41.7 AV	54.0	-12.3	1.10 V	153	19.72	21.98

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.



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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	5460.00	62.6 PK	74.0	-11.4	1.64 H	304	52.95	9.65
2	5460.00	46.6 AV	54.0	-7.4	1.64 H	304	36.95	9.65
3	#5470.00	72.6 PK	74.0	-1.4	1.64 H	304	62.91	9.69
4	#5470.00	51.3 AV	54.0	-2.7	1.64 H	304	41.61	9.69
5	*5500.00	108.9 PK			1.64 H	304	99.09	9.81
6	*5500.00	99.1 AV			1.64 H	304	89.29	9.81
7	11000.00	48.6 PK	74.0	-25.4	1.19 H	38	31.00	17.60
8	11000.00	36.3 AV	54.0	-17.7	1.19 H	38	18.70	17.60
9	#16500.00	54.1 PK	74.0	-19.9	1.08 H	137	29.96	24.14
10	#16500.00	41.0 AV	54.0	-13.0	1.08 H	137	16.86	24.14
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	58.7 PK	74.0	-15.3	1.06 V	203	49.05	9.65
2	5460.00	42.9 AV	54.0	-11.1	1.06 V	203	33.25	9.65
3	#5470.00	68.4 PK	74.0	-5.6	1.06 V	203	58.71	9.69
4	#5470.00	47.2 AV	54.0	-6.8	1.06 V	203	37.51	9.69
5	*5500.00	104.5 PK			1.06 V	203	94.69	9.81
6	*5500.00	94.7 AV			1.06 V	203	84.89	9.81
7	11000.00	48.8 PK	74.0	-25.2	1.00 V	48	31.20	17.60
8	11000.00	36.7 AV	54.0	-17.3	1.00 V	48	19.10	17.60
9	#16500.00	54.1 PK	74.0	-19.9	1.03 V	170	29.96	24.14
10	#16500.00	41.2 AV	54.0	-12.8	1.03 V	170	17.06	24.14

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 116	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	*5580.00	113.4 PK			1.75 H	301	103.36	10.04
2	*5580.00	103.4 AV			1.75 H	301	93.36	10.04
3	11160.00	49.3 PK	74.0	-24.7	1.09 H	44	32.27	17.03
4	11160.00	36.7 AV	54.0	-17.3	1.09 H	44	19.67	17.03
5	#16740.00	54.9 PK	74.0	-19.1	1.00 H	131	30.40	24.50
6	#16740.00	41.6 AV	54.0	-12.4	1.00 H	131	17.10	24.50
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	*5580.00	109.9 PK			1.10 V	204	99.86	10.04
2	*5580.00	99.8 AV			1.10 V	204	89.76	10.04
3	11160.00	49.0 PK	74.0	-25.0	1.08 V	37	31.97	17.03
4	11160.00	36.4 AV	54.0	-17.6	1.08 V	37	19.37	17.03
5	#16740.00	54.2 PK	74.0	-19.8	1.06 V	143	29.70	24.50
6	#16740.00	41.5 AV	54.0	-12.5	1.06 V	143	17.00	24.50

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 132	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	*5660.00	113.9 PK			1.71 H	306	103.66	10.24
2	*5660.00	103.6 AV			1.71 H	306	93.36	10.24
3	11320.00	48.6 PK	74.0	-25.4	1.19 H	39	30.97	17.63
4	11320.00	36.2 AV	54.0	-17.8	1.19 H	39	18.57	17.63
5	#16980.00	54.0 PK	74.0	-20.0	1.05 H	121	28.56	25.44
6	#16980.00	41.0 AV	54.0	-13.0	1.05 H	121	15.56	25.44
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	*5660.00	109.8 PK			1.12 V	201	99.56	10.24
2	*5660.00	99.4 AV			1.12 V	201	89.16	10.24
3	11320.00	48.4 PK	74.0	-25.6	1.09 V	31	30.77	17.63
4	11320.00	36.6 AV	54.0	-17.4	1.09 V	31	18.97	17.63
5	#16980.00	54.5 PK	74.0	-19.5	1.09 V	157	29.06	25.44
6	#16980.00	42.0 AV	54.0	-12.0	1.09 V	157	16.56	25.44

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.

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	106.9 PK			1.63 H	304	96.56	10.34
2	*5700.00	97.0 AV			1.63 H	304	86.66	10.34
3	#5725.00	70.1 PK	74.0	-3.9	1.63 H	304	59.72	10.38
4	#5725.00	53.2 AV	54.0	-0.8	1.63 H	304	42.82	10.38
5	11400.00	49.6 PK	74.0	-24.4	1.19 H	23	32.08	17.52
6	11400.00	36.8 AV	54.0	-17.2	1.19 H	23	19.28	17.52
7	#17100.00	54.6 PK	74.0	-19.4	1.07 H	115	29.31	25.29
8	#17100.00	41.3 AV	54.0	-12.7	1.07 H	115	16.01	25.29
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	103.2 PK			1.08 V	204	92.86	10.34
2	*5700.00	93.4 AV			1.08 V	204	83.06	10.34
3	#5725.00	66.5 PK	74.0	-7.5	1.08 V	204	56.12	10.38
4	#5725.00	49.4 AV	54.0	-4.6	1.08 V	204	39.02	10.38
5	11400.00	47.9 PK	74.0	-26.1	1.10 V	28	30.38	17.52
6	11400.00	36.0 AV	54.0	-18.0	1.10 V	28	18.48	17.52
7	#17100.00	53.6 PK	74.0	-20.4	1.07 V	164	28.31	25.29
8	#17100.00	40.9 AV	54.0	-13.1	1.07 V	164	15.61	25.29

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 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	71.4 PK	74.0	-2.6	1.71 H	299	62.80	8.60
2	5150.00	53.1 AV	54.0	-0.9	1.71 H	299	44.50	8.60
3	*5190.00	104.4 PK			1.71 H	299	95.58	8.82
4	*5190.00	93.8 AV			1.71 H	299	84.98	8.82
5	#10380.00	48.4 PK	74.0	-25.6	1.22 H	30	33.03	15.37
6	#10380.00	36.1 AV	54.0	-17.9	1.22 H	30	20.73	15.37
7	15570.00	54.2 PK	74.0	-19.8	1.01 H	117	31.96	22.24
8	15570.00	41.1 AV	54.0	-12.9	1.01 H	117	18.86	22.24
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	67.4 PK	74.0	-6.6	1.03 V	220	58.80	8.60
2	5150.00	49.2 AV	54.0	-4.8	1.03 V	220	40.60	8.60
3	*5190.00	100.6 PK			1.03 V	220	91.78	8.82
4	*5190.00	90.1 AV			1.03 V	220	81.28	8.82
5	#10380.00	49.1 PK	74.0	-24.9	1.04 V	55	33.73	15.37
6	#10380.00	36.5 AV	54.0	-17.5	1.04 V	55	21.13	15.37
7	15570.00	53.4 PK	74.0	-20.6	1.12 V	163	31.16	22.24
8	15570.00	40.4 AV	54.0	-13.6	1.12 V	163	18.16	22.24

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 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	69.4 PK	74.0	-4.6	1.69 H	294	60.80	8.60
2	5150.00	53.2 AV	54.0	-0.8	1.69 H	294	44.60	8.60
3	*5230.00	110.4 PK			1.69 H	294	101.43	8.97
4	*5230.00	99.7 AV			1.69 H	294	90.73	8.97
5	#10460.00	49.0 PK	74.0	-25.0	1.13 H	45	33.36	15.64
6	#10460.00	36.2 AV	54.0	-17.8	1.13 H	45	20.56	15.64
7	15690.00	54.7 PK	74.0	-19.3	1.05 H	112	32.92	21.78
8	15690.00	41.5 AV	54.0	-12.5	1.05 H	112	19.72	21.78
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	65.3 PK	74.0	-8.7	1.02 V	213	56.70	8.60
2	5150.00	48.9 AV	54.0	-5.1	1.02 V	213	40.30	8.60
3	*5230.00	106.5 PK			1.02 V	213	97.53	8.97
4	*5230.00	95.5 AV			1.02 V	213	86.53	8.97
5	#10460.00	49.5 PK	74.0	-24.5	1.06 V	53	33.86	15.64
6	#10460.00	37.3 AV	54.0	-16.7	1.06 V	53	21.66	15.64
7	15690.00	54.5 PK	74.0	-19.5	1.07 V	171	32.72	21.78
8	15690.00	41.9 AV	54.0	-12.1	1.07 V	171	20.12	21.78

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 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	110.2 PK			1.70 H	298	101.09	9.11
2	*5270.00	99.4 AV			1.70 H	298	90.29	9.11
3	5350.00	70.8 PK	74.0	-3.2	1.70 H	298	61.49	9.31
4	5350.00	53.4 AV	54.0	-0.6	1.70 H	298	44.09	9.31
5	#10540.00	49.2 PK	74.0	-24.8	1.22 H	47	33.18	16.02
6	#10540.00	36.8 AV	54.0	-17.2	1.22 H	47	20.78	16.02
7	15810.00	54.1 PK	74.0	-19.9	1.02 H	114	32.05	22.05
8	15810.00	41.0 AV	54.0	-13.0	1.02 H	114	18.95	22.05
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	105.9 PK			1.05 V	208	96.79	9.11
2	*5270.00	95.4 AV			1.05 V	208	86.29	9.11
3	5350.00	66.5 PK	74.0	-7.5	1.05 V	208	57.19	9.31
4	5350.00	49.3 AV	54.0	-4.7	1.05 V	208	39.99	9.31
5	#10540.00	48.7 PK	74.0	-25.3	1.02 V	58	32.68	16.02
6	#10540.00	36.6 AV	54.0	-17.4	1.02 V	58	20.58	16.02
7	15810.00	53.2 PK	74.0	-20.8	1.04 V	141	31.15	22.05
8	15810.00	40.9 AV	54.0	-13.1	1.04 V	141	18.85	22.05

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 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	103.8 PK			1.72 H	305	94.57	9.23
2	*5310.00	93.6 AV			1.72 H	305	84.37	9.23
3	5350.00	70.7 PK	74.0	-3.3	1.72 H	305	61.39	9.31
4	5350.00	53.6 AV	54.0	-0.4	1.72 H	305	44.29	9.31
5	10620.00	49.7 PK	74.0	-24.3	1.16 H	25	33.52	16.18
6	10620.00	37.0 AV	54.0	-17.0	1.16 H	25	20.82	16.18
7	15930.00	54.3 PK	74.0	-19.7	1.09 H	116	32.25	22.05
8	15930.00	41.2 AV	54.0	-12.8	1.09 H	116	19.15	22.05
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	99.7 PK			1.01 V	214	90.47	9.23
2	*5310.00	89.5 AV			1.01 V	214	80.27	9.23
3	5350.00	66.9 PK	74.0	-7.1	1.01 V	214	57.59	9.31
4	5350.00	49.6 AV	54.0	-4.4	1.01 V	214	40.29	9.31
5	10620.00	49.8 PK	74.0	-24.2	1.03 V	50	33.62	16.18
6	10620.00	37.5 AV	54.0	-16.5	1.03 V	50	21.32	16.18
7	15930.00	54.0 PK	74.0	-20.0	1.13 V	152	31.95	22.05
8	15930.00	41.2 AV	54.0	-12.8	1.13 V	152	19.15	22.05

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.

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	1.65 H	300	52.25	9.65
2	5460.00	47.1 AV	54.0	-6.9	1.65 H	300	37.45	9.65
3	#5470.00	73.3 PK	74.0	-0.7	1.65 H	300	63.61	9.69
4	#5470.00	52.6 AV	54.0	-1.4	1.65 H	300	42.91	9.69
5	*5510.00	103.7 PK			1.65 H	300	93.86	9.84
6	*5510.00	93.2 AV			1.65 H	300	83.36	9.84
7	11020.00	48.6 PK	74.0	-25.4	1.24 H	38	31.11	17.49
8	11020.00	36.2 AV	54.0	-17.8	1.24 H	38	18.71	17.49
9	#16530.00	54.2 PK	74.0	-19.8	1.02 H	118	29.78	24.42
10	#16530.00	41.1 AV	54.0	-12.9	1.02 H	118	16.68	24.42
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	57.9 PK	74.0	-16.1	1.04 V	209	48.25	9.65
2	5460.00	42.9 AV	54.0	-11.1	1.04 V	209	33.25	9.65
3	#5470.00	69.2 PK	74.0	-4.8	1.04 V	209	59.51	9.69
4	#5470.00	48.3 AV	54.0	-5.7	1.04 V	209	38.61	9.69
5	*5510.00	99.2 PK			1.04 V	209	89.36	9.84
6	*5510.00	88.9 AV			1.04 V	209	79.06	9.84
7	11020.00	49.4 PK	74.0	-24.6	1.03 V	43	31.91	17.49
8	11020.00	37.1 AV	54.0	-16.9	1.03 V	43	19.61	17.49
9	#16530.00	53.8 PK	74.0	-20.2	1.13 V	154	29.38	24.42
10	#16530.00	41.3 AV	54.0	-12.7	1.13 V	154	16.88	24.42

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 110	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	72.5 PK	74.0	-1.5	1.65 H	297	62.81	9.69
2	#5470.00	53.5 AV	54.0	-0.5	1.65 H	297	43.81	9.69
3	*5550.00	108.7 PK			1.65 H	297	98.75	9.95
4	*5550.00	98.3 AV			1.65 H	297	88.35	9.95
5	11100.00	49.2 PK	74.0	-24.8	1.15 H	54	32.12	17.08
6	11100.00	36.9 AV	54.0	-17.1	1.15 H	54	19.82	17.08
7	#16650.00	54.0 PK	74.0	-20.0	1.05 H	112	29.24	24.76
8	#16650.00	40.9 AV	54.0	-13.1	1.05 H	112	16.14	24.76
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	69.0 PK	74.0	-5.0	1.09 V	212	59.31	9.69
2	#5470.00	50.0 AV	54.0	-4.0	1.09 V	212	40.31	9.69
3	*5550.00	104.2 PK			1.09 V	212	94.25	9.95
4	*5550.00	94.1 AV			1.09 V	212	84.15	9.95
5	11100.00	48.8 PK	74.0	-25.2	1.09 V	37	31.72	17.08
6	11100.00	36.4 AV	54.0	-17.6	1.09 V	37	19.32	17.08
7	#16650.00	53.4 PK	74.0	-20.6	1.12 V	158	28.64	24.76
8	#16650.00	40.6 AV	54.0	-13.4	1.12 V	158	15.84	24.76

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 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	105.2 PK			1.61 H	294	94.94	10.26
2	*5670.00	94.8 AV			1.61 H	294	84.54	10.26
3	#5725.00	69.2 PK	74.0	-4.8	1.62 H	294	58.82	10.38
4	#5725.00	53.4 AV	54.0	-0.6	1.62 H	294	43.02	10.38
5	11340.00	48.9 PK	74.0	-25.1	1.14 H	34	31.29	17.61
6	11340.00	36.2 AV	54.0	-17.8	1.14 H	34	18.59	17.61
7	#17010.00	54.8 PK	74.0	-19.2	1.02 H	108	29.28	25.52
8	#17010.00	41.5 AV	54.0	-12.5	1.02 H	108	15.98	25.52
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	101.6 PK			1.11 V	210	91.34	10.26
2	*5670.00	91.1 AV			1.11 V	210	80.84	10.26
3	#5725.00	65.3 PK	74.0	-8.7	1.11 V	210	54.92	10.38
4	#5725.00	49.6 AV	54.0	-4.4	1.11 V	210	39.22	10.38
5	11340.00	48.7 PK	74.0	-25.3	1.02 V	37	31.09	17.61
6	11340.00	36.9 AV	54.0	-17.1	1.02 V	37	19.29	17.61
7	#17010.00	55.0 PK	74.0	-19.0	1.07 V	145	29.48	25.52
8	#17010.00	42.0 AV	54.0	-12.0	1.07 V	145	16.48	25.52

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.

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	5150.00	69.3 PK	74.0	-4.7	1.71 H	298	60.70	8.60
2	5150.00	53.2 AV	54.0	-0.8	1.71 H	298	44.60	8.60
3	*5210.00	101.9 PK			1.71 H	298	93.00	8.90
4	*5210.00	90.4 AV			1.71 H	298	81.50	8.90
5	5350.00	54.5 PK	74.0	-19.5	1.71 H	298	45.19	9.31
6	5350.00	41.9 AV	54.0	-12.1	1.71 H	298	32.59	9.31
7	#10420.00	48.3 PK	74.0	-25.7	1.13 H	50	32.97	15.33
8	#10420.00	35.4 AV	54.0	-18.6	1.13 H	50	20.07	15.33
9	15630.00	54.0 PK	74.0	-20.0	1.08 H	126	31.99	22.01
10	15630.00	41.7 AV	54.0	-12.3	1.08 H	126	19.69	22.01
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	65.5 PK	74.0	-8.5	1.14 V	205	56.90	8.60
2	5150.00	49.3 AV	54.0	-4.7	1.14 V	205	40.70	8.60
3	*5210.00	98.3 PK			1.14 V	205	89.40	8.90
4	*5210.00	86.7 AV			1.14 V	205	77.80	8.90
5	5350.00	50.2 PK	74.0	-23.8	1.14 V	205	40.89	9.31
6	5350.00	37.8 AV	54.0	-16.2	1.14 V	205	28.49	9.31
7	#10420.00	49.4 PK	74.0	-24.6	1.09 V	51	34.07	15.33
8	#10420.00	37.0 AV	54.0	-17.0	1.09 V	51	21.67	15.33
9	15630.00	53.9 PK	74.0	-20.1	1.03 V	161	31.89	22.01
10	15630.00	41.3 AV	54.0	-12.7	1.03 V	161	19.29	22.01

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 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	5150.00	54.1 PK	74.0	-19.9	1.69 H	294	45.50	8.60
2	5150.00	41.2 AV	54.0	-12.8	1.69 H	294	32.60	8.60
3	*5290.00	101.2 PK			1.69 H	294	92.02	9.18
4	*5290.00	89.8 AV			1.69 H	294	80.62	9.18
5	5350.00	70.7 PK	74.0	-3.3	1.69 H	294	61.39	9.31
6	5350.00	53.1 AV	54.0	-0.9	1.69 H	294	43.79	9.31
7	#10580.00	48.6 PK	74.0	-25.4	1.17 H	45	32.51	16.09
8	#10580.00	36.2 AV	54.0	-17.8	1.17 H	45	20.11	16.09
9	15870.00	54.7 PK	74.0	-19.3	1.01 H	123	32.62	22.08
10	15870.00	41.5 AV	54.0	-12.5	1.01 H	123	19.42	22.08
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	50.1 PK	74.0	-23.9	1.10 V	200	41.50	8.60
2	5150.00	37.1 AV	54.0	-16.9	1.10 V	200	28.50	8.60
3	*5290.00	97.3 PK			1.10 V	200	88.12	9.18
4	*5290.00	86.1 AV			1.10 V	200	76.92	9.18
5	5350.00	65.9 PK	74.0	-8.1	1.10 V	200	56.59	9.31
6	5350.00	48.6 AV	54.0	-5.4	1.10 V	200	39.29	9.31
7	#10580.00	49.2 PK	74.0	-24.8	1.08 V	36	33.11	16.09
8	#10580.00	36.5 AV	54.0	-17.5	1.08 V	36	20.41	16.09
9	15870.00	54.1 PK	74.0	-19.9	1.12 V	146	32.02	22.08
10	15870.00	41.4 AV	54.0	-12.6	1.12 V	146	19.32	22.08

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 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	#5470.00	71.7 PK	74.0	-2.3	1.65 H	299	62.01	9.69
2	#5470.00	53.3 AV	54.0	-0.7	1.65 H	299	43.61	9.69
3	*5530.00	100.6 PK			1.65 H	299	90.70	9.90
4	*5530.00	89.6 AV			1.65 H	299	79.70	9.90
5	#5725.00	54.6 PK	74.0	-19.4	1.65 H	299	44.22	10.38
6	#5725.00	41.5 AV	54.0	-12.5	1.65 H	299	31.12	10.38
7	11060.00	48.3 PK	74.0	-25.7	1.14 H	40	31.01	17.29
8	11060.00	35.3 AV	54.0	-18.7	1.14 H	40	18.01	17.29
9	#16590.00	53.2 PK	74.0	-20.8	1.08 H	116	28.22	24.98
10	#16590.00	41.1 AV	54.0	-12.9	1.08 H	116	16.12	24.98
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	#5470.00	68.0 PK	74.0	-6.0	1.13 V	194	58.31	9.69
2	#5470.00	49.7 AV	54.0	-4.3	1.13 V	194	40.01	9.69
3	*5530.00	96.7 PK			1.13 V	194	86.80	9.90
4	*5530.00	85.4 AV			1.13 V	194	75.50	9.90
5	#5725.00	50.5 PK	74.0	-23.5	1.13 V	194	40.12	10.38
6	#5725.00	37.7 AV	54.0	-16.3	1.13 V	194	27.32	10.38
7	11060.00	49.9 PK	74.0	-24.1	1.08 V	51	32.61	17.29
8	11060.00	37.7 AV	54.0	-16.3	1.08 V	51	20.41	17.29
9	#16590.00	54.3 PK	74.0	-19.7	1.03 V	148	29.32	24.98
10	#16590.00	41.6 AV	54.0	-12.4	1.03 V	148	16.62	24.98

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

FREQUENCY BAND	LIMIT
5.150 ~ 5.250GHz	The lesser of 50mW (17dBm) or 4dBm + 10logB
5.250 ~ 5.350GHz	The lesser of 250mW (24dBm) or 11dBm + 10logB
5.470 ~ 5.725GHz	The lesser of 250mW (24dBm) or 11dBm + 10logB

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

4.3.2 TEST INSTRUMENTS

FOR POWER OUTPUT MEASUREMENT

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Power meter Anritsu	ML2495A	0824006	May 20, 2013	May 19, 2014
Power sensor Anritsu	MA2411B	0738172	May 20, 2013	May 19, 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 : Sep. 24, 2013

FOR 26dB OCCUPIED BANDWIDTH

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Spectrum Analyzer R&S	FSP 40	100036	Jan. 21, 2013	Jan. 20, 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 : Sep. 24, 2013

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

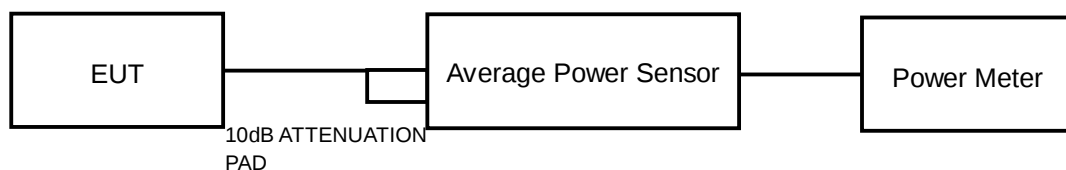
1. Set RBW = approximately 1% of the emission bandwidth.
2. Set the VBW > RBW.
3. Detector = Peak.
4. Trace mode = max hold.
5. Measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement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

4.3.4 DEVIATION FROM TEST STANDARD

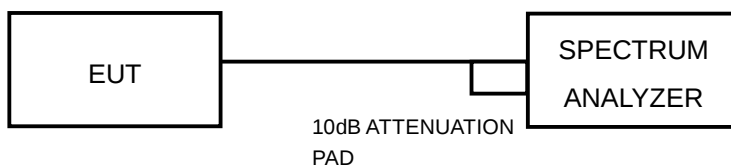
No deviation

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

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)	POWER LIMIT (dBm)	PASS/FAIL
36	5180	46.026	16.63	17	PASS
40	5200	45.394	16.57	17	PASS
48	5240	44.566	16.49	17	PASS
52	5260	149.624	21.75	24	PASS
60	5300	153.462	21.86	24	PASS
64	5320	55.590	17.45	24	PASS
100	5500	82.035	19.14	24	PASS
116	5580	128.233	21.08	24	PASS
132	5660	76.033	18.81	24	PASS
140	5700	38.994	15.91	24	PASS

26dB OCCUPIED BANDWIDTH:

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)
36	5180	27.41
40	5200	27.75
48	5240	26.78
52	5260	46.83
60	5300	47.05
64	5320	29.38
100	5500	36.27
116	5580	48.22
132	5660	39.97
140	5700	31.72

Note: For output power limitation is determined based on 26dBc bandwidth.

Power Limit = 4dBm + 10logB < UNII Band 1>			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
36	5180	27.41	18.37 > 17
40	5200	27.75	18.43 > 17
48	5240	26.78	18.27 > 17
Power Limit = 11dBm + 10logB < UNII Band 2~3>			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
52	5260	46.83	27.7 > 24
60	5300	47.05	27.72 > 24
64	5320	29.38	25.68 > 24
100	5500	36.27	26.59 > 24
116	5580	48.22	27.83 > 24
132	5660	39.97	27.01 > 24
140	5700	31.72	26.01 > 24

802.11ac (VHT20)

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)	POWER LIMIT (dBm)	PASS/FAIL
36	5180	48.865	16.89	17	PASS
40	5200	46.559	16.68	17	PASS
48	5240	46.238	16.65	17	PASS
52	5260	138.357	21.41	24	PASS
60	5300	141.579	21.51	24	PASS
64	5320	59.020	17.71	24	PASS
100	5500	58.210	17.65	24	PASS
116	5580	121.899	20.86	24	PASS
132	5660	77.090	18.87	24	PASS
140	5700	33.189	15.21	24	PASS

26dB OCCUPIED BANDWIDTH:

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)
36	5180	32.01
40	5200	29.61
48	5240	31.52
52	5260	49.58
60	5300	49.52
64	5320	33.45
100	5500	38.41
116	5580	52.84
132	5660	43.99
140	5700	28.85

Note: For output power limitation is determined based on 26dBc bandwidth.

Power Limit = 4dBm + 10logB < UNII Band 1>			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
36	5180	32.01	19.05 > 17
40	5200	29.61	18.71 > 17
48	5240	31.52	18.98 > 17
Power Limit = 11dBm + 10logB < UNII Band 2~3>			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
52	5260	49.58	27.95 > 24
60	5300	49.52	27.94 > 24
64	5320	33.45	26.24 > 24
100	5500	38.41	26.84 > 24
116	5580	52.84	28.22 > 24
132	5660	43.99	27.43 > 24
140	5700	28.85	25.6 > 24

802.11ac (VHT40)

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)	POWER LIMIT (dBm)	PASS/FAIL
38	5190	27.990	14.47	17	PASS
46	5230	49.659	16.96	17	PASS
54	5270	89.331	19.51	24	PASS
62	5310	30.269	14.81	24	PASS
102	5510	31.696	15.01	24	PASS
110	5550	99.541	19.98	24	PASS
134	5670	49.774	16.97	24	PASS

26dB OCCUPIED BANDWIDTH:

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)
38	5190	41.96
46	5230	69.35
54	5270	90.31
62	5310	41.67
102	5510	42.00
110	5550	93.85
134	5670	80.98

Note: For output power limitation is determined based on 26dBc bandwidth.

Power Limit = 4dBm + 10logB < UNII Band 1>			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
38	5190	41.96	20.22 > 17
46	5230	69.35	22.41 > 17
Power Limit = 11dBm + 10logB < UNII Band 2~3>			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
54	5270	90.31	30.55 > 24
62	5310	41.67	27.19 > 24
102	5510	42.00	27.23 > 24
110	5550	93.85	30.72 > 24
134	5670	80.98	30.08 > 24

802.11ac (VHT80)

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)	POWER LIMIT (dBm)	PASS/FAIL
42	5210	24.604	13.91	17	PASS
58	5290	25.763	14.11	24	PASS
106	5530	31.189	14.94	24	PASS

26dB OCCUPIED BANDWIDTH:

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)
42	5210	82.60
58	5290	82.42
106	5530	82.57

Note: For output power limitation is determined based on 26dBc bandwidth.

Power Limit = 4dBm + 10logB < UNII Band 1>			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
42	5210	82.60	23.16 > 17
Power Limit = 11dBm + 10logB < UNII Band 2~3>			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
58	5290	82.42	30.16 > 24
106	5530	82.57	30.16 > 24

4.4 PEAK POWER SPECTRAL DENSITY MEASUREMENT

4.4.1 LIMITS OF PEAK POWER SPECTRAL DENSITY MEASUREMENT

FREQUENCY BAND	LIMIT
5.15 ~ 5.25GHz	4dBm
5.25 ~ 5.35GHz	11dBm
5.47 ~ 5.725GHz	11dBm
5.725 ~ 5.825GHz	17dBm

4.4.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Spectrum Analyzer R&S	FSP40	100036	Jan. 21, 2013	Jan. 20, 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 : Sep. 26, 2013

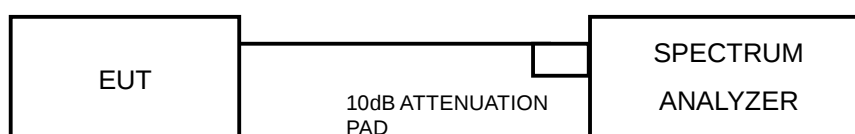
4.4.3 TEST PROCEDURES

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/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

802.11a

CHANNEL	FREQUENCY (MHz)	PSD (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
36	5180	3.62	4	PASS
40	5200	3.63	4	PASS
48	5240	3.44	4	PASS
52	5260	8.88	11	PASS
60	5300	8.72	11	PASS
64	5320	4.26	11	PASS
100	5500	5.82	11	PASS
116	5580	7.94	11	PASS
132	5660	5.64	11	PASS
140	5700	3.39	11	PASS

802.11ac (VHT20)

CHANNEL	CHANNEL FREQUENCY (MHz)	PSD W/O DUTY FACTOR (dBm)	DUTY FACTOR (dB)	TOTAL PSD WITH DUTY FACTOR (dBm)	MAX. LIMIT (dBm)	PASS/FAIL
36	5180	3.65	0.1	3.75	4	PASS
40	5200	3.63	0.1	3.73	4	PASS
48	5240	3.48	0.1	3.58	4	PASS
52	5260	8.47	0.1	8.57	11	PASS
60	5300	8.35	0.1	8.45	11	PASS
64	5320	4.34	0.1	4.44	11	PASS
100	5500	4.57	0.1	4.67	11	PASS
116	5580	7.61	0.1	7.71	11	PASS
132	5660	5.25	0.1	5.35	11	PASS
140	5700	2.19	0.1	2.29	11	PASS

NOTE: 1. Refer to section 3.4 for duty cycle spectrum plot.

802.11ac (VHT40)

CHANNEL	CHANNEL FREQUENCY (MHz)	PSD W/O DUTY FACTOR (dBm)	DUTY FACTOR (dB)	TOTAL PSD WITH DUTY FACTOR (dBm)	MAX. LIMIT (dBm)	PASS/FAIL
38	5190	-2.40	0.18	-2.22	4	PASS
46	5230	0.53	0.18	0.71	4	PASS
54	5270	3.07	0.18	3.25	11	PASS
62	5310	-2.19	0.18	-2.01	11	PASS
102	5510	-1.42	0.18	-1.24	11	PASS
110	5550	3.66	0.18	3.84	11	PASS
134	5670	0.42	0.18	0.60	11	PASS

NOTE: 1. Refer to section 3.4 for duty cycle spectrum plot.

802.11ac (VHT80)

CHANNEL	CHANNEL FREQUENCY (MHz)	PSD W/O DUTY FACTOR (dBm)	DUTY FACTOR (dB)	TOTAL PSD WITH DUTY FACTOR (dBm)	MAX. LIMIT (dBm)	PASS/FAIL
42	5210	-5.72	0.35	-5.37	4	PASS
58	5290	-5.21	0.35	-4.86	11	PASS
106	5530	-4.54	0.35	-4.19	11	PASS

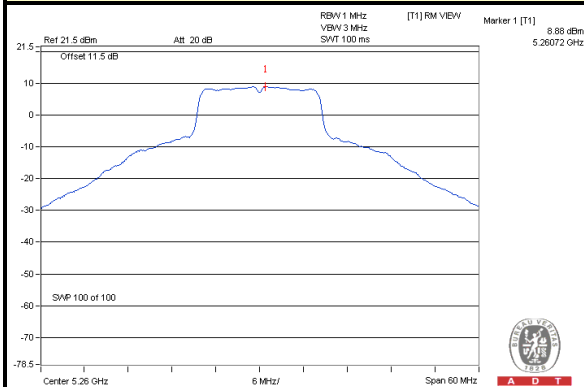
NOTE: 1. Refer to section 3.4 for duty cycle spectrum plot.



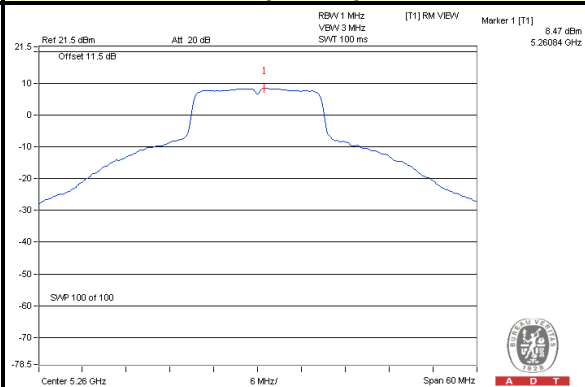
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SPECTRUM PLOT OF WORST VALUE

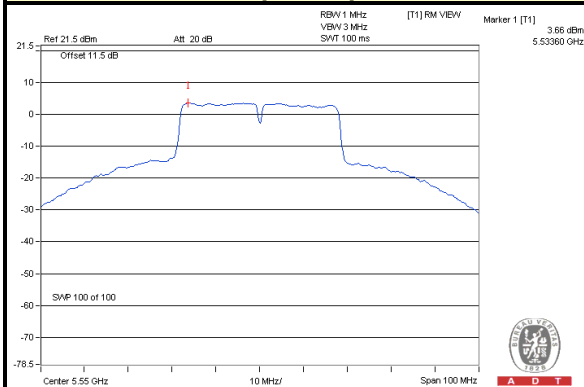
802.11a / CH52



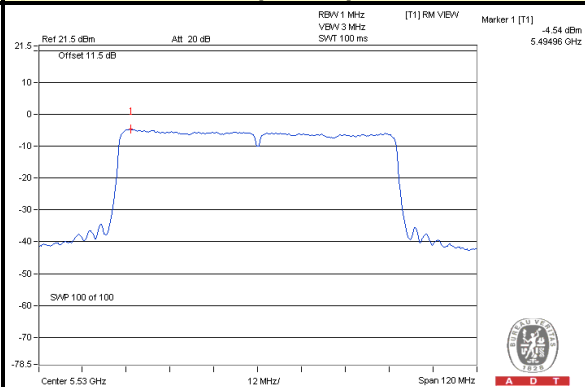
802.11ac (VHT20) / CH52



802.11ac (VHT40) / CH110



802.11ac (VHT80) / CH106



4.5 PEAK POWER EXCURSION MEASUREMENT

4.5.1 LIMITS OF PEAK POWER EXCURSION MEASUREMENT

Shall not exceed 13 dB

4.5.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Spectrum Analyzer R&S	FSP 40	100036	Jan. 21, 2013	Jan. 20, 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 : Sep. 26, 2013

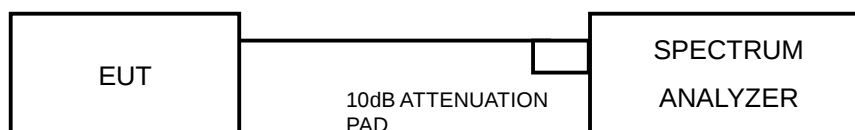
4.5.3 TEST PROCEDURE

1. Set RBW = 1 MHz, VBW $\geq$ 3 MHz, Detector = peak.
2. Trace mode = max-hold. Allow the sweeps to continue until the trace stabilizes.
3. Use the peak search function to find the peak of the spectrum.
4. Measure the PPSD.
5. Compute the ratio of the maximum of the peak-max-hold spectrum to the PPSD.

4.5.4 DEVIATION FROM TEST STANDARD

No deviation

4.5.5 TEST SETUP



4.5.6 EUT OPERATING CONDITIONS

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

4.5.7 TEST RESULTS

MODULATION MODE	MODULATION TYPE	CHANNEL FREQUENCY (MHz)	PEAK VALUE (dBm)	PPSD (dBm)	PEAK EXCURSION (dB)	LIMIT (dB)	PASS/ FAIL
802.11a	BPSK	5700	12.01	3.39	8.62	13	PASS
	QPSK		12.2	3.21	8.82	13	PASS
	16QAM		12.5	3.21	8.97	13	PASS
	64QAM		12.65	2.64	9.46	13	PASS

MODULATION MODE	MODULATION TYPE	CHAN. FREQ. (MHz)	PEAK VALUE (dBm)	PPSD WITHOUT DUTY FACTOR (dBm)	PPSD WITH DUTY FACTOR (dBm)	PEAK EXCURSION (dB)	LIMIT (dB)	PASS /FAIL
802.11ac (VHT20)	BPSK	5700	10.15	2.19	2.29	7.86	13	PASS
	QPSK		12.45	3.72	3.92	8.53	13	PASS
	16QAM		12.66	3.56	3.86	8.8	13	PASS
	64QAM		12.99	3.38	4.26	8.73	13	PASS
	256QAM		13.22	1.82	3.83	9.39	13	PASS
802.11ac (VHT40)	BPSK	5670	8.96	0.42	0.6	8.36	13	PASS
	QPSK		10.72	0.45	0.78	9.94	13	PASS
	16QAM		9.91	0.24	0.81	9.1	13	PASS
	64QAM		11.26	-1.22	1.95	9.31	13	PASS
	256QAM		10.56	-2.74	1.34	9.22	13	PASS
802.11ac (VHT80)	BPSK	5530	4.43	-4.54	-4.19	8.62	13	PASS
	QPSK		4.07	-5.22	-4.63	8.7	13	PASS
	16QAM		4.94	-6.94	-3.33	8.27	13	PASS
	64QAM		4.46	-7.91	-2.92	7.38	13	PASS
	256QAM		4.52	-9.84	-4.05	8.57	13	PASS

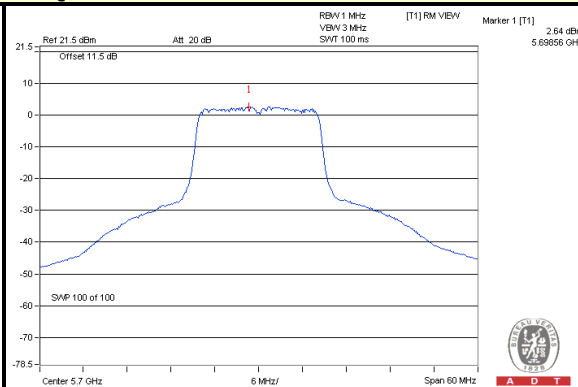
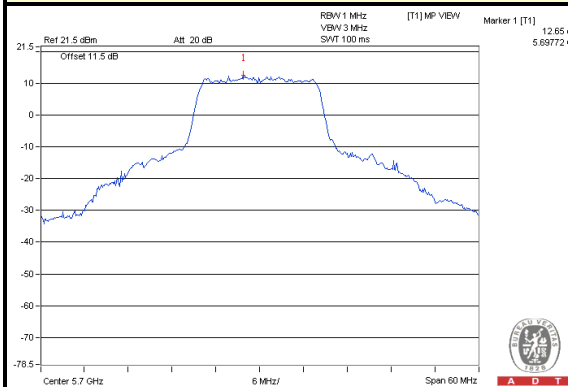
NOTE: 1. Refer to section 3.4 for duty cycle spectrum plot.



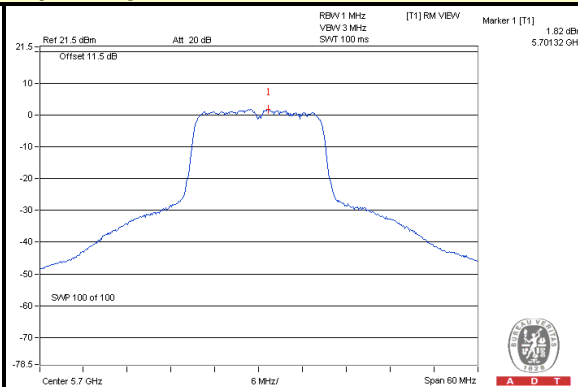
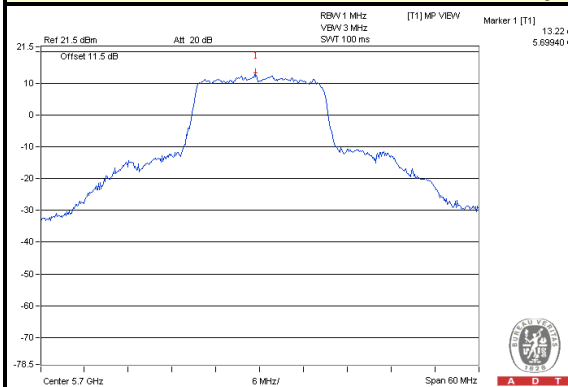
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SPECTRUM PLOT OF WORST VALUE

802.11a / 64QAM



802.11ac (VHT20) / 256QAM

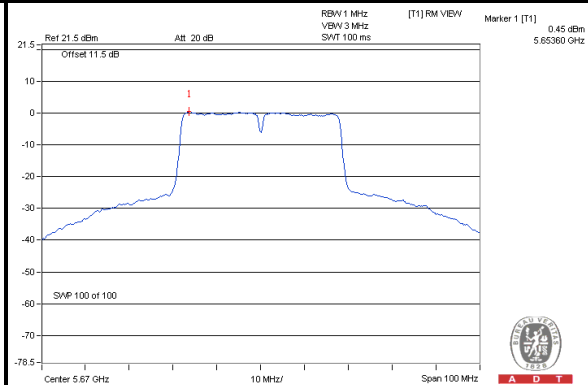
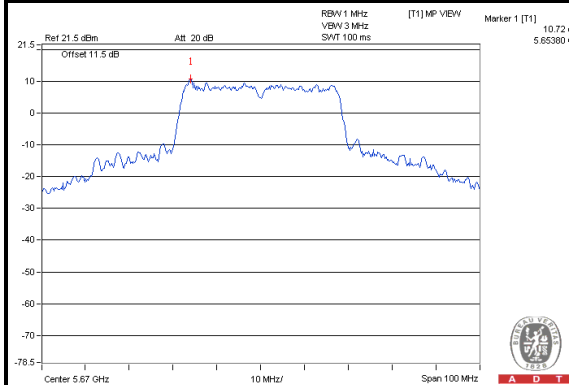




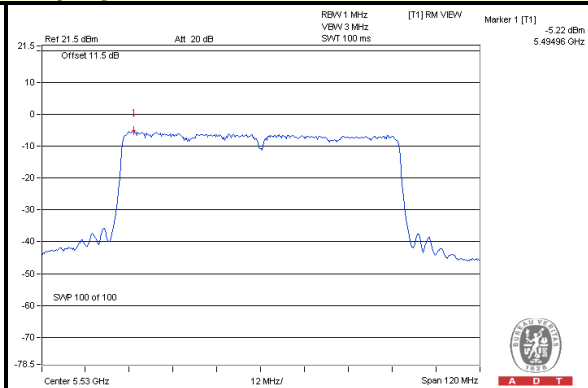
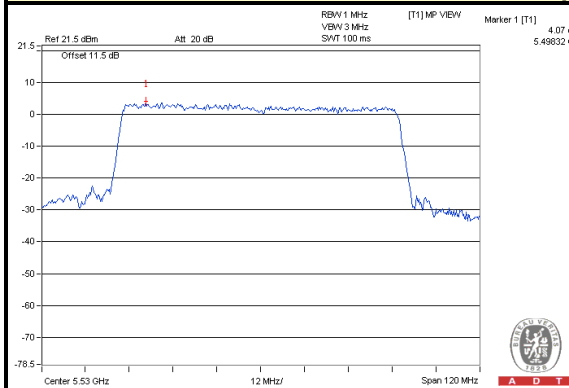
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SPECTRUM PLOT OF WORST VALUE

802.11ac (VHT40) / QPSK



802.11ac (VHT80) / QPSK



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4.6 FREQUENCY STABILITY

4.6.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT

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

4.6.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Spectrum Analyzer R&S	FSP 40	100036	Jan. 21, 2013	Jan. 20, 2014
Temperature & Humidity Chamber GIANTFORCE	GTH-150-40 -SP-AR	MAA0812-008	Jan. 17, 2013	Jan. 16, 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 : Sep. 26, 2013

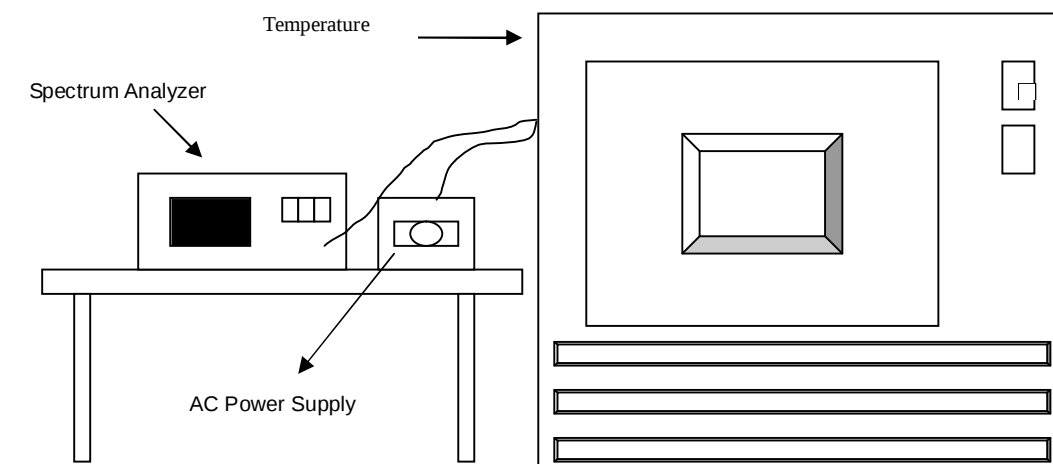
4.6.3 TEST PROCEDURE

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.

4.6.4 DEVIATION FROM TEST STANDARD

No deviation

4.6.5 TEST SETUP



4.6.6 EUT OPERATING CONDITION

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

4.6.7 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	5319.9937	-0.00012	5319.9938	-0.00012	5319.9882	-0.00022	5319.9917	-0.00016
40	120	5320.0124	0.00023	5320.0126	0.00024	5320.0118	0.00022	5320.0089	0.00017
30	120	5319.9938	-0.00012	5319.9937	-0.00012	5319.9954	-0.00009	5319.9936	-0.00012
20	120	5319.9994	-0.00001	5319.9947	-0.00010	5319.9964	-0.00007	5319.999	-0.00002
10	120	5319.9989	-0.00002	5320.0017	0.00003	5320.006	0.00011	5320.004	0.00008
0	120	5320.0074	0.00014	5320.0006	0.00001	5320.0001	0.00000	5320.0026	0.00005
-10	120	5319.9842	-0.00030	5319.9788	-0.00040	5319.976	-0.00045	5319.9827	-0.00033
-20	120	5319.9832	-0.00032	5319.9909	-0.00017	5319.9934	-0.00012	5319.9848	-0.00029
-30	120	5320.0173	0.00033	5320.0215	0.00040	5320.0162	0.00030	5320.0223	0.00042

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	5320.0004	0.00001	5319.9937	-0.00012	5319.9966	-0.00006	5319.9997	-0.00001
	120	5319.9994	-0.00001	5319.9947	-0.00010	5319.9964	-0.00007	5319.999	-0.00002
	102	5319.9997	-0.00001	5319.9941	-0.00011	5319.9969	-0.00006	5319.9996	-0.00001

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:

Tel: 886-3-5935343

Fax: 886-3-5935342

Hwa Ya EMC/RF/Safety/Telecom Lab:

Tel: 886-3-3183232

Fax: 886-3-3270892

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.

--- END ---