FCC TEST REPORT (15.407)

REPORT NO.:	RF140128E04-1
MODEL NO.:	FXE2000-DG
FCC ID:	PQRFXE2000-DG
RECEIVED:	Jan. 28, 2014
TESTED:	Feb. 10 to Mar. 08, 2014
ISSUED:	Apr. 01, 2014
APPLICANT:	Contec Co., Ltd.
ADDRESS:	3-9-31, Himesato, Nishiyodogawa-ku Osaka Japan 555-0025
ISSUED BY:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch Hsin Chu Laboratory
LAB ADDRESS :	No. 81-1, Lu Liao Keng, 9th Ling, Wu Lung Tsuen, Chiung Lin Hsiang, Hsin Chu Hsien 307, Taiwan, R.O.C.
TEST LOCATION (1):	No. 81-1, Lu Liao Keng, 9th Ling, Wu Lung Tsuen, Chiung Lin Hsiang, Hsin Chu Hsien 307, Taiwan, R.O.C.
TEST LOCATION (2):	No. 49, Ln. 206, Wende Rd., Shangshan Tsuen, Chiung Lin Hsiang, Hsin Chu Hsien 307, Taiwan, R.O.C.

This report should not be used by the client to claim product certification, approval, or endorsement by TAF or any government agencies.

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF140128E04-1	Original release	Apr. 01, 2014

1. CERTIFICATION

PRODUCT:	Wireless LAN Adapter
BRAND NAME:	CONTEC
MODEL NO.:	FXE2000-DG
TEST SAMPLE:	ENGINEERING SAMPLE
APPLICANT:	Contec Co., Ltd.
TESTED:	Feb. 10 to Mar. 08, 2014
STANDARDS:	**FCC Part 15, Subpart E (Section 15.407)**
	ANSI C63.10-2009

The above equipment (Model: FXE2000-DG) 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:** Apr. 01, 2014
(Phoenix Huang, Specialist)

APPROVED BY : , **DATE:** Apr. 01, 2014
(May Chen, Manager)

2. SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC PART 15, SUBPART E (SECTION 15.407)			
STANDARD SECTION	**TEST TYPE**	**RESULT**	**REMARK**
15.407(b)(6)	AC Power Conducted Emission	PASS	Meet the requirement of limit. Minimum passing margin is -8.53dB at 0.50156MHz
15.407(b/1/2/3)(b)(6)	Spurious Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -0.4dB at 5470.00MHz
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	Antenna connector is U.FL not a standard connector.

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)	5.37 dB
Radiated emissions (1GHz -6GHz) for Chamber G	3.65 dB
Radiated emissions (1GHz -6GHz) for Chamber H	3.72 dB
Radiated emissions (6GHz -18GHz) for Chamber G	3.88 dB
Radiated emissions (6GHz -18GHz) for Chamber H	4.00 dB
Radiated emissions (18GHz -40GHz)	4.11 dB

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

PRODUCT	Wireless LAN Adapter
MODEL NO.	FXE2000-DG
POWER SUPPLY	DC 5V from power adapter
MODULATION TYPE	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
MODULATION TECHNOLOGY	DSSS,OFDM
TRANSFER RATE	802.11b: up to 11Mbps 802.11a/g: up to 54Mbps 802.11n: up to 300Mbps
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) 7 for 802.11n (HT40)
	For 15.247 (2.4GHz) 11 for 802.11b, 802.11g, 802.11n (HT20) 7 for 802.11n (HT40) **For 15.247 (5GHz)** 5 for 802.11a, 802.11n (HT20) 2 for 802.11n (HT40)

MAXIMUM OUTPUT POWER	**For 15.407** 802.11a: 55.700mW 802.11n (HT20): 53.423mW 802.11n (HT40): 54.645mW **For 15.247(2.4GHz)** 802.11b: 120.318mW 802.11g: 835.103mW 802.11n (HT20): 559.429mW 802.11n (HT40): 532.945mW **For 15.247(5GHz)** 802.11a: 399.714mW 802.11n (HT20): 413.316mW 802.11n (HT40): 402.163mW
ANTENNA TYPE	Please see NOTE
DATA CABLE	NA
I/O PORTS	Refer to user's manual
ASSOCIATED DEVICES	Adapter x1

NOTE:

1. 2.4GHz and 5GHz technology cannot transmit at same time.
2. The EUT must be supplied with a power adapter as following table:

Brand	Model No.	Spec.
Sino-American	SA115B-05U	Input: 100-240V, 0.4A, 50-60Hz AC input cable: 1.85m, unshielded Output: 5V, 2.0A, 10W DC output cable: 1.9m, unshielded

3. The antennas provided to the EUT, please refer to the following table:

Transmitter Circuit	Brand	Model	Gain (dBi) (Exclude cable loss)	Cable Loss (dB)	Net Gain (dBi) (Include cable loss)	Antenna Type	Connecter Type	Frequency range (GHz to GHz)	Cable Length (cm)
Chain (0)	FDK	A3001	2	1	1	Chip	U.FL	2.4~2.4835	6
			1	2	-1			5.15~5.85	
Chain (1)	FDK	A3001	2	1.5	0.5	Chip	U.FL	2.4~2.4835	16
			1	2.5	-1.5			5.15~5.85	

4. The EUT incorporates a MIMO function without beam forming.

MODULATION MODE	Data Rate (MCS)	Tx/Rx FUNCTION
802.11a	6 ~ 54Mbps	2TX / 2RX
802.11b	1 ~ 11Mbps	2TX / 2RX
802.11g	6 ~ 54Mbps	2TX / 2RX
802.11n (HT20)	MCS 0~7	1TX / 1RX
	MCS 8~15	2TX / 2RX
802.11n (HT40)	MCS 0~7	1TX / 1RX
	MCS 8~15	2TX / 2RX

5. When the EUT operating in 802.11n, the software operation, which is defined by manufacturer, MCS (Modulation and Coding Schemes) from 0 to 15.
6. 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):

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):

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

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

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

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):

CHANNEL	FREQUENCY
102	5510 MHz
110	5550 MHz
134	5670 MHz

3.2.1 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	PLC	RE < 1G	RE ³ 1G	APCM	
-	√	√	√	√	-

Where **PLC:** Power Line Conducted Emission **RE < 1G:** Radiated Emission below 1GHz

RE ³ 1G: Radiated Emission above 1GHz **APCM:** Antenna Port Conducted Measurement

NOTE: 1. The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **Y-plane** (for below 1GHz) and **Z-plane** (for above 1GHz of 5GHz)**.**

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	100	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	100	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
802.11n (HT20)	36 to 140	36, 40, 48, 52, 60, 64, 100, 116, 132, 140	OFDM	BPSK	13
802.11n (HT40)	38 to 134	38, 46, 54, 62, 102, 110, 134	OFDM	BPSK	27

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
802.11n (HT20)	36 to 140	36, 40, 48, 52, 60, 64, 100, 116, 132, 140	OFDM	BPSK	13
802.11n (HT40)	38 to 134	38, 46, 54, 62, 102, 110, 134	OFDM	BPSK	27

TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
PLC	21deg. C,68%RH	120Vac, 60Hz	Jason Huang
RE<1G	24deg. C, 68%RH	120Vac, 60Hz	Tim Ho
RE≥1G	24deg. C, 67%RH	120Vac, 60Hz	Robert Cheng
	25deg. C, 65%RH	120Vac, 60Hz	Nelson Teng
APCM	25deg. C, 60%RH	120Vac, 60Hz	Nelson Teng

3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS

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

FCC Part 15, Subpart E (15.407)

789033 D01 General UNII Test Procedures v01 r03

662911 D01 Multiple Transmitter Output v02r01

ANSI C63.10-2009

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

3.4 DUTY CYCLE OF TEST SIGNAL

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

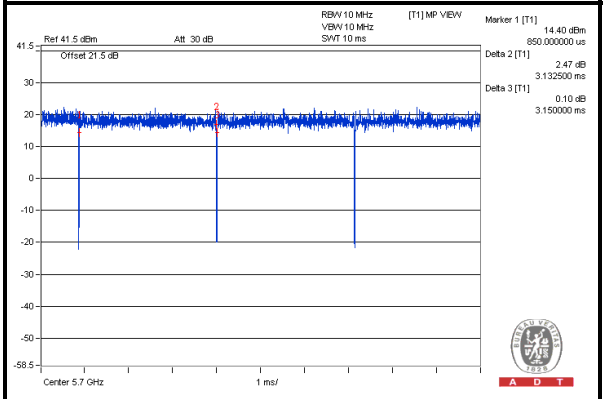
BPSK: Duty cycle = 3.132 ms/3.153 ms = 0.994

QPSK: Duty cycle = 1.579 ms/1.595 ms = 0.99

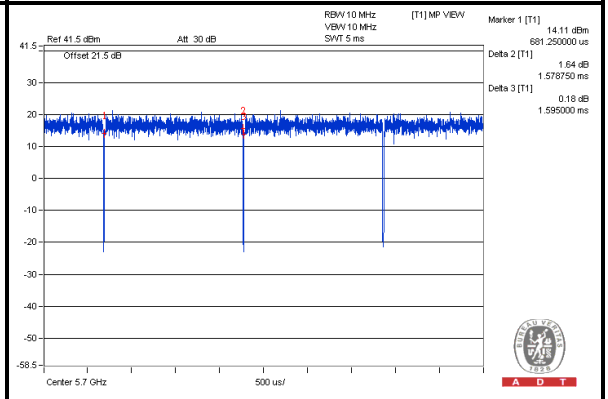
16QAM: Duty cycle = 0.797 ms/0.815 ms = 0.978, Duty factor = 10 * log(1/0.978) = 0.1

64QAM: Duty cycle = 0.409 ms/0.426 ms = 0.96, Duty factor = 10 * log(1/0.96) = 0.18

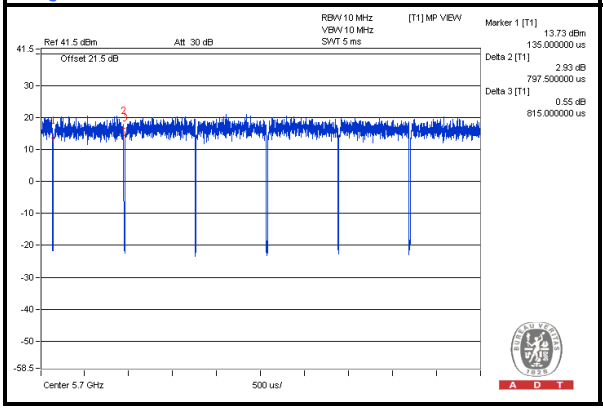
BPSK



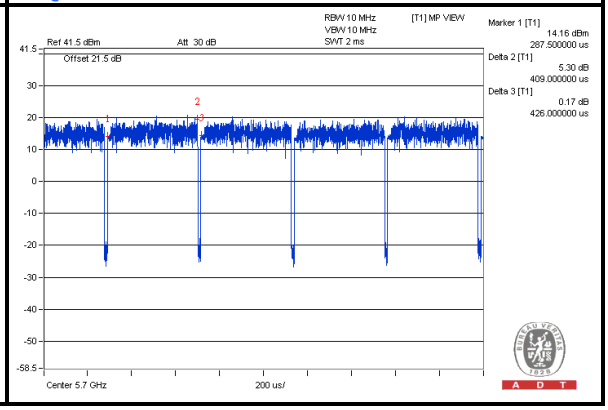
QPSK



16QAM



64QAM



802.11n (HT20)

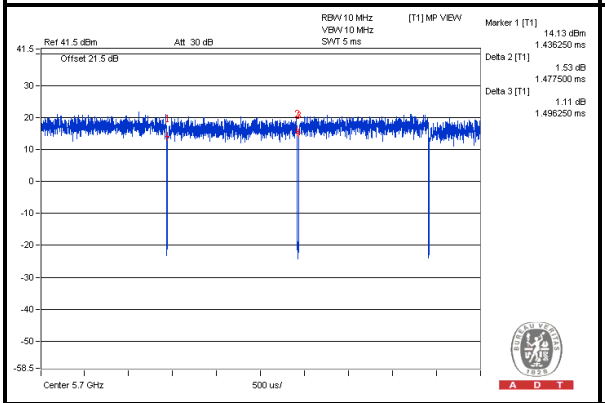
BPSK: Duty cycle = 1.477 ms/1.496 ms = 0.987

QPSK: Duty cycle = 1.475 ms/1.491 ms = 0.989

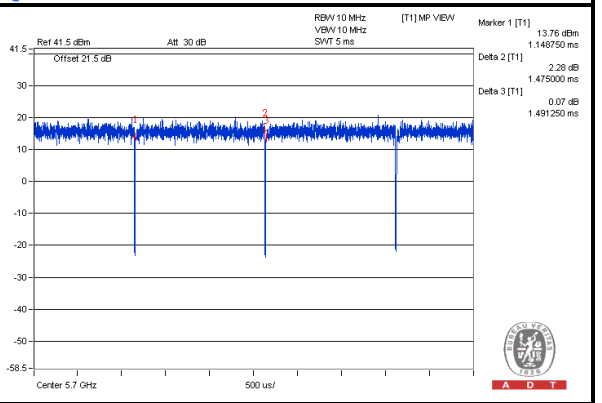
16QAM: Duty cycle = 0.752 ms/0.771 ms = 0.975, Duty factor = 10 * log(1/0.975) = 0.11

64QAM: Duty cycle = 0.395 ms/0.411 ms = 0.961, Duty factor = 10 * log(1/0.961) = 0.17

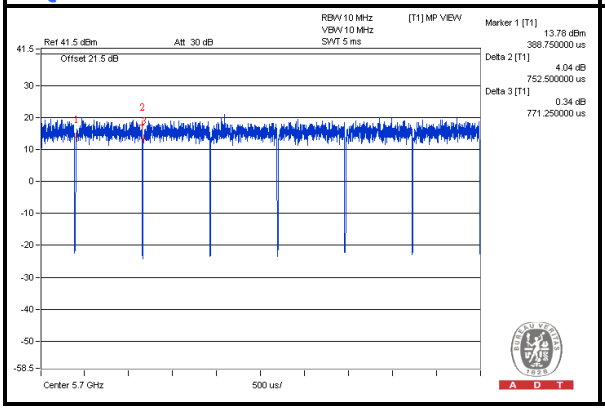
BPSK



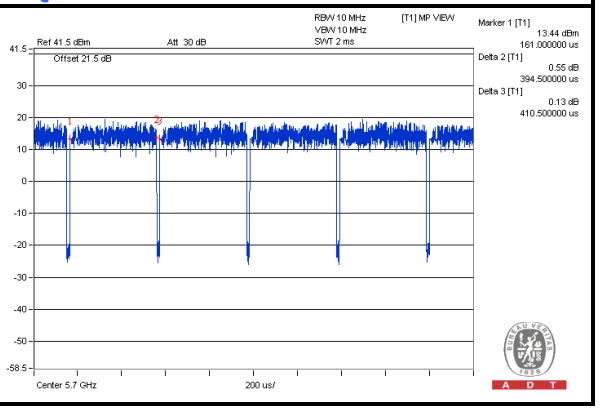
QPSK



16QAM



64QAM



802.11n (HT40)

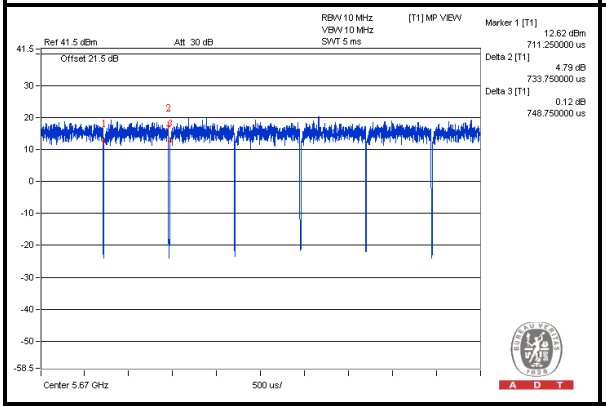
BPSK: Duty cycle = 0.734 ms/0.749 ms = 0.98

QPSK: Duty cycle = 0.729 ms/0.745 ms = 0.979, Duty factor = 10 * log(1/0.979) = 0.09

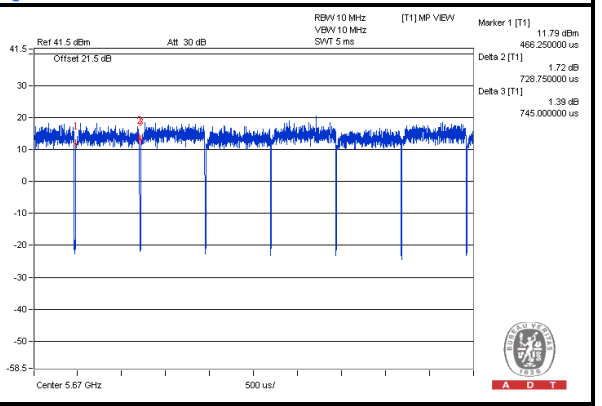
16QAM: Duty cycle = 0.384 ms/0.398 ms = 0.965, Duty factor = 10 * log(1/0.965) = 0.16

64QAM: Duty cycle = 0.211 ms/0.226 ms = 0.934, Duty factor = 10 * log(1/0.934) = 0.3

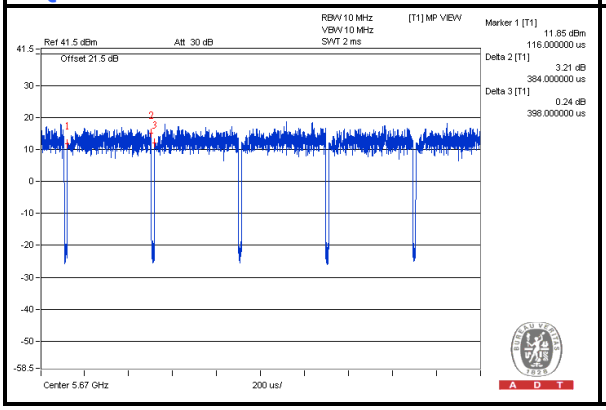
BPSK



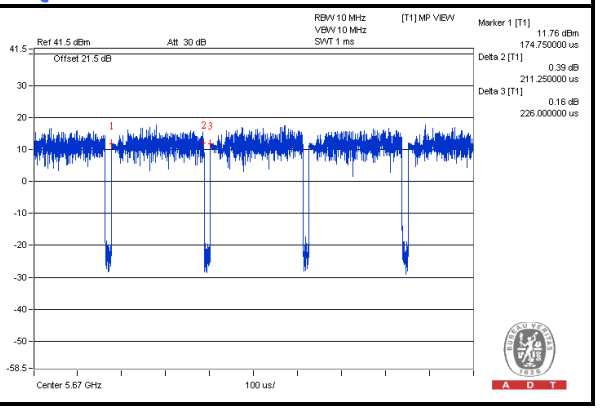
QPSK



16QAM



64QAM



3.5 DESCRIPTION OF SUPPORT UNITS

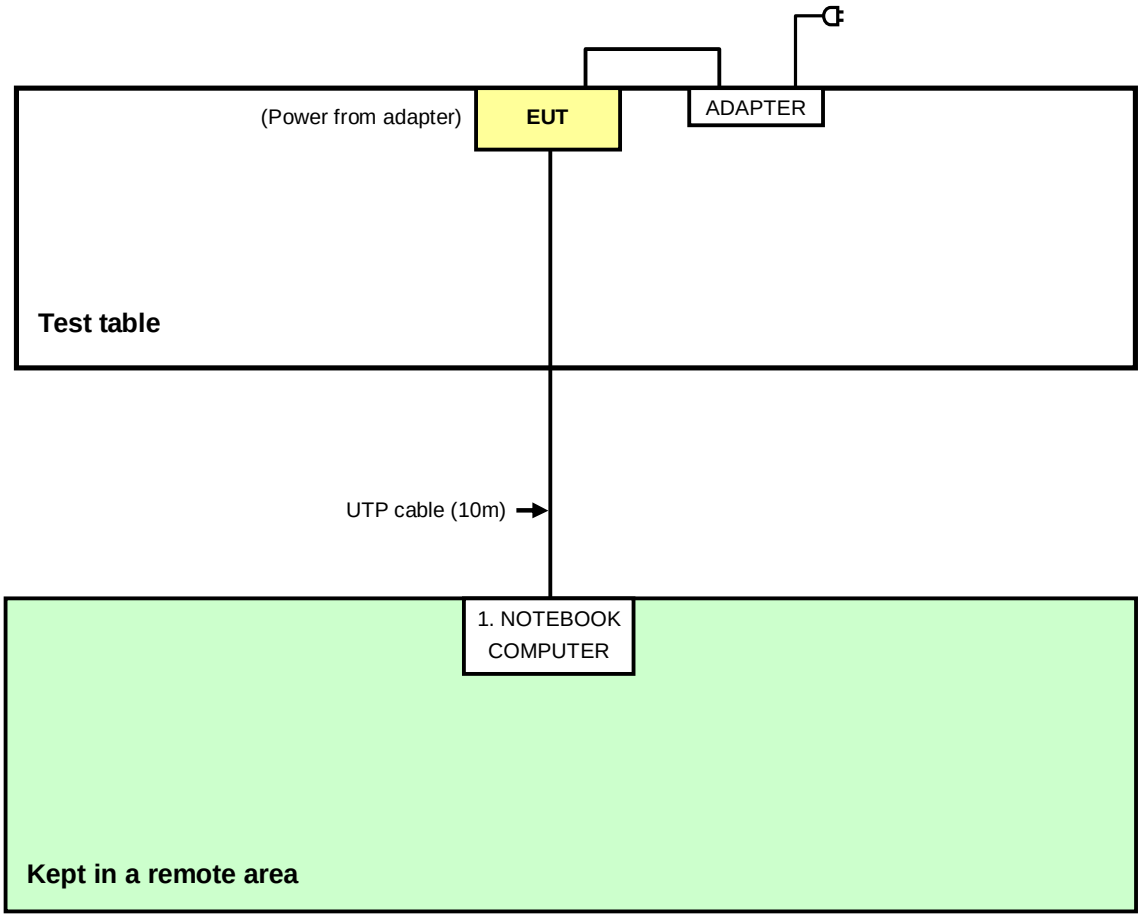
The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

No.	Product	Brand	Model No.	Serial No.	FCC ID
1	NOTEBOOK COMPUTER	DELL	PP32LA	FSLB32S	FCC DoC

No.	Signal cable description
1	UTP Cable, 10m

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 (dBμV)	
	Quasi-peak	Average
0.15-0.5 0.5-5 5-30	66 to 56 56 60	56 to 46 46 50

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

4.1.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver ROHDE & SCHWARZ	ESCS 30	100375	Mar. 08, 2013	Mar. 07, 2014
Line-Impedance Stabilization Network (for EUT) SCHWARZBECK	NSLK8127	8127-522	Sep. 05, 2013	Sep. 04, 2014
Line-Impedance Stabilization Network (for Peripheral)	ENV216	100072	June 06, 2013	June 05, 2014
RF Cable (JYEBAO)	5DFB	COCCAB-001	Mar. 11, 2013	Mar. 10, 2014
50 ohms Terminator	50	EMC-03	Sep. 24, 2013	Sep. 23, 2014
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. C.
3 The VCCI Con C Registration No. is C-3611.
4 Tested Date: Feb. 10, 2014

4.1.3 TEST PROCEDURES

a. 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.

b. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.

c. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

d. The frequency range from 150kHz to 30MHz was searched. Emission level under (Limit – 20dB) was not recorded.

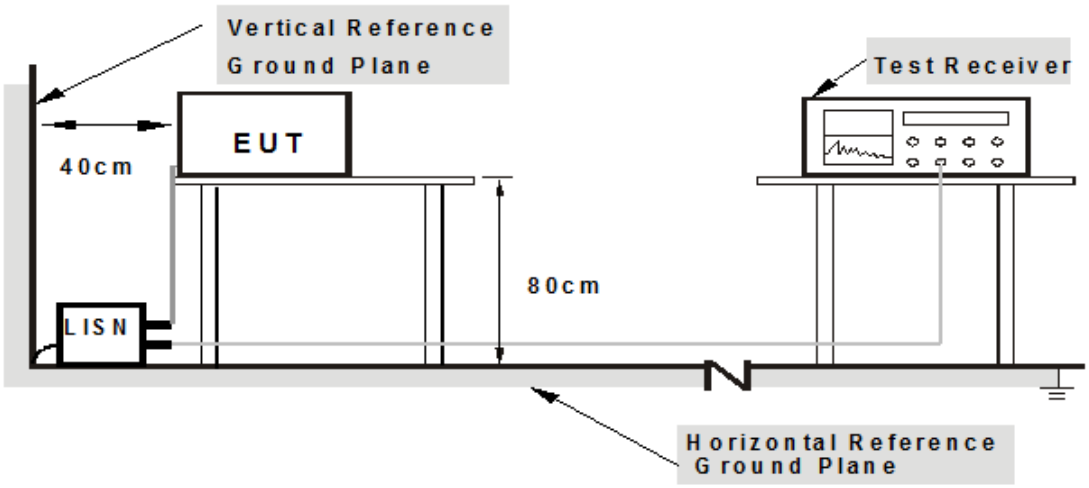
NOTE:

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

4.1.4 DEVIATION FROM TEST STANDARD

No deviation

4.1.5 TEST SETUP



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

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

4.1.6 EUT OPERATING CONDITIONS

1. Place the EUT on testing table.
2. Prepare computer system (support unit 1) to act as communication partner.
3. The communication partner runs test program “art.bat[rev 0.7]” to enable EUT under transmission/receiving condition continuously at specific channel frequency.

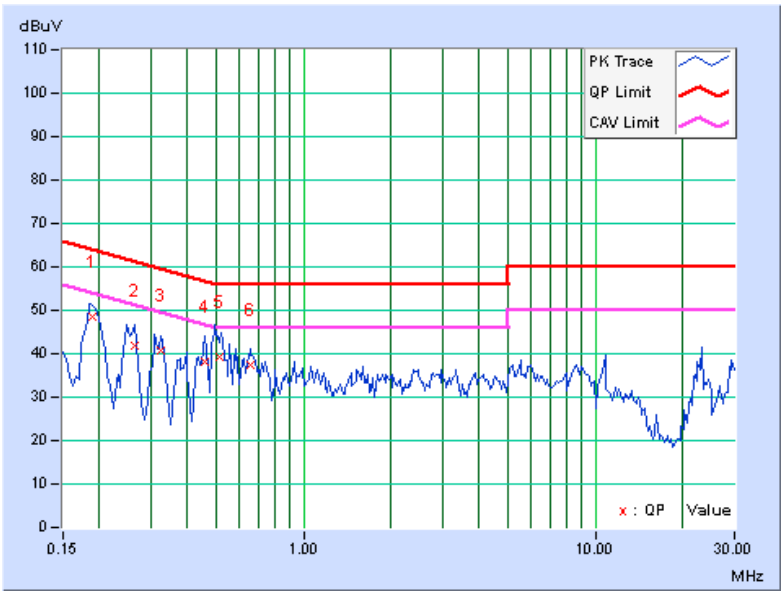
4.1.7 TEST RESULTS

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

	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	0.18906	0.10	48.34	42.15	48.44	42.25	64.08	54.08	-15.64	-11.83
2	0.26328	0.11	41.77	35.34	41.88	35.45	61.33	51.33	-19.44	-15.87
3	0.32578	0.13	40.63	37.30	40.76	37.43	59.56	49.56	-18.80	-12.13
4	0.45859	0.14	38.11	34.32	38.25	34.46	56.72	46.72	-18.47	-12.26
5	0.51441	0.15	39.11	37.28	39.26	37.43	56.00	46.00	-16.74	-8.57
6	0.65781	0.15	37.40	34.65	37.55	34.80	56.00	46.00	-18.45	-11.20

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

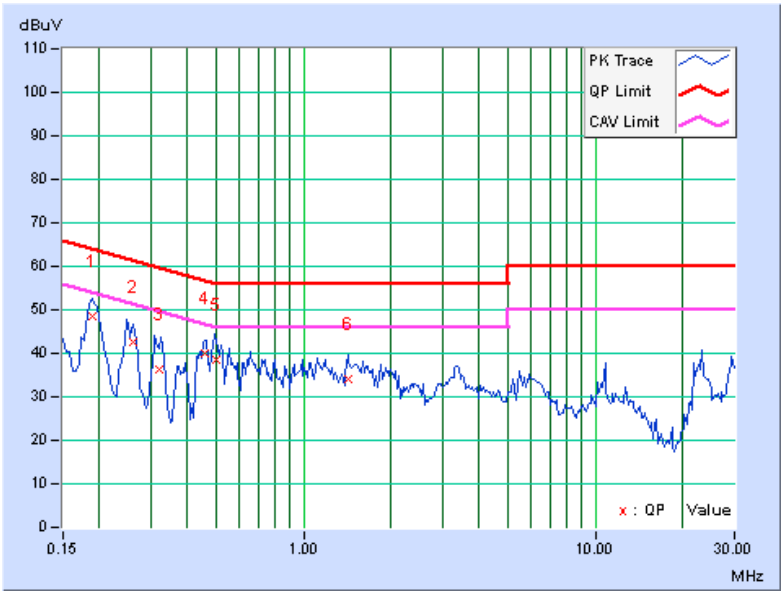


PHASE	Neutral (N)	DETECTOR FUNCTION	Quasi-Peak (QP) / Average (AV)

	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	0.18906	0.10	48.46	38.70	48.56	38.80	64.08	54.08	-15.52	-15.28
2	0.25938	0.11	42.34	35.10	42.45	35.21	61.45	51.45	-19.00	-16.24
3	0.31841	0.12	36.14	30.90	36.26	31.02	59.75	49.75	-23.48	-18.72
4	0.45859	0.14	39.99	37.27	40.13	37.41	56.72	46.72	-16.59	-9.31
5	**0.50156**	**0.15**	**38.22**	**37.32**	**38.37**	**37.47**	**56.00**	**46.00**	**-17.63**	**-8.53**
6	1.41797	0.19	33.95	27.93	34.14	28.12	56.00	46.00	-21.86	-17.88

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:

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

4.2.3 TEST INSTRUMENTS

For below 1GHz & UNII Band 2~3 above 1GHz test

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
MXE EMI Receiver Agilent	N9038A	MY51210105	Jan. 21,2014	Jan. 20,2015
Pre-Amplifier Mini-Circuits	ZFL-1000VH2 B	AMP-ZFL-03	Nov. 13, 2013	Nov. 12, 2014
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-360	Mar. 19, 2013	Mar. 18, 2014
RF Cable	NA	CHGCAB_001	Oct. 05, 2013	Oct. 04, 2014
Spectrum Analyzer R&S	FSV40	100964	July 15, 2013	July 14, 2014
Horn_Antenna AISI	AIH.8018	0000320091110	Nov. 18, 2013	Nov. 17, 2014
Pre-Amplifier Agilent	8449B	3008A02578	June 25, 2013	June 24, 2014
RF Cable	NA	RF104-201 RF104-203 RF104-204	Dec. 12, 2013	Dec. 11, 2014
Spectrum Analyzer Agilent	E4446A	MY48250253	Aug. 28, 2013	Aug. 27, 2014
Pre-Amplifier SPACEK LABS	SLKKa-48-6	9K16	Nov. 13, 2013	Nov. 12, 2014
Horn_Antenna SCHWARZBECK	BBHA 9170	9170-424	Oct. 08, 2013	Oct. 07, 2014
Software	ADT_Radiated _V8.7.07	NA	NA	NA
Antenna Tower & Turn Table CT	NA	NA	NA	NA

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The horn antenna, preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
3 The test was performed in 966 Chamber No. G.
4. The FCC Site Registration No. is 966073.
5 The VCCI Site Registration No. is G-137.
6 The CANADA Site Registration No. is IC 7450H-2.
7 Tested Date: Feb. 13 to Mar. 08, 2014

For UNII Band 1 above 1GHz test

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
MXE EMI Receiver Agilent	N9038A	MY50010156	Jan. 15, 2014	Jan. 14, 2015
Pre-Amplifier Mini-Circuits	ZFL-1000VH2 B	AMP-ZFL-04	Nov. 13, 2013	Nov. 12, 2014
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-361	Mar. 25, 2013	Mar. 24, 2014
RF Cable	NA	CHHCAB_001	Oct. 06, 2013	Oct. 05, 2014
Spectrum Analyzer R&S	FSV40	100964	July 15, 2013	July 14, 2014
Horn_Antenna AISI	AIH.8018	0000220091110	Dec. 06, 2013	Dec. 05, 2014
Pre-Amplifier Agilent	8449B	3008A01923	Oct. 29, 2013	Oct. 28, 2014
RF Cable	NA	RF104-205 RF104-207 RF104-202	Dec. 12, 2013	Dec. 11, 2014
Spectrum Analyzer Agilent	E4446A	MY48250253	Aug. 28, 2013	Aug. 27, 2014
Pre-Amplifier SPACEK LABS	SLKKa-48-6	9K16	Nov. 13, 2013	Nov. 12, 2014
Horn_Antenna SCHWARZBECK	BBHA 9170	9170-424	Oct. 08, 2013	Oct. 07, 2014
Software	ADT_Radiated _V8.7.07	NA	NA	NA
Antenna Tower & Turn Table CT	NA	NA	NA	NA

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The horn antenna, preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
3 The test was performed in 966 Chamber No. H.
4. The FCC Site Registration No. is 797305.
5 The CANADA Site Registration No. is IC 7450H-3.
6 Tested Date: Feb. 13, 2014

4.2.4 TEST PROCEDURES

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

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

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

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

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

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

Note:

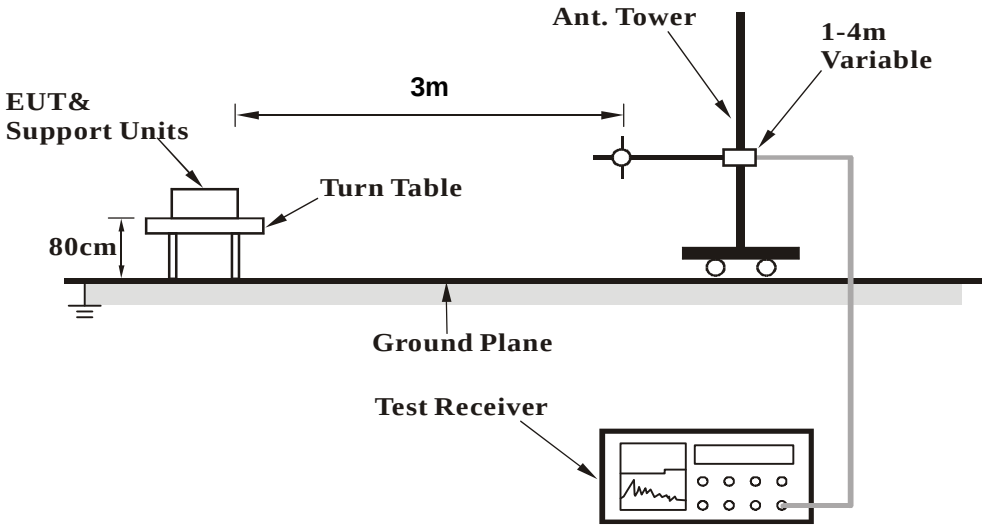
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.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

4.2.5 DEVIATION FROM TEST STANDARD

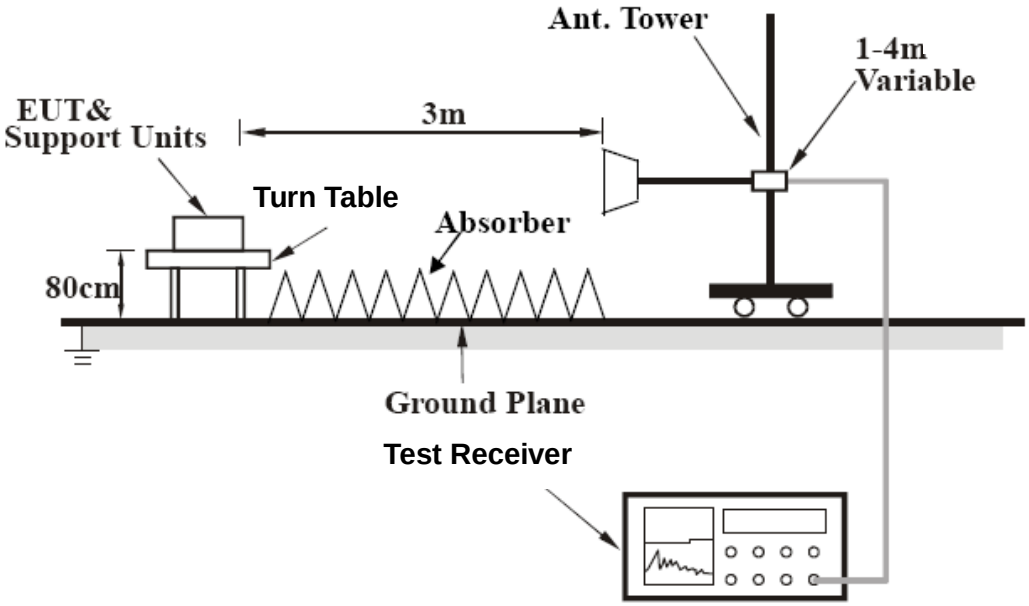
No deviation

4.2.6 TEST SETUP

<Frequency Range below 1GHz>



<Frequency Range above 1GHz>



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

4.2.7 EUT OPERATING CONDITION

Same as 4.1.6

4.2.8 TEST RESULTS

BELOW 1GHz WORST-CASE DATA

802.11a

CHANNEL	TX Channel 100	**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	108.81	39.3 QP	43.5	-4.2	1.50 H	306	55.60	-16.28
2	250.00	36.2 QP	46.0	-9.9	1.00 H	285	50.46	-14.31
3	340.01	39.7 QP	46.0	-6.4	1.00 H	32	51.04	-11.39
4	680.00	35.8 QP	46.0	-10.2	1.00 H	321	39.69	-3.89
5	875.02	44.7 QP	46.0	-1.3	1.50 H	207	45.22	-0.48
6	1000.00	41.8 QP	54.0	-12.3	1.00 H	277	40.34	1.41
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	50.61	37.5 QP	40.0	-2.5	1.00 V	31	51.05	-13.59
2	64.78	35.5 QP	40.0	-4.5	1.00 V	316	50.25	-14.71
3	340.01	35.3 QP	46.0	-10.7	1.50 V	0	46.65	-11.39
4	680.00	39.2 QP	46.0	-6.8	2.00 V	345	43.12	-3.89
5	849.99	42.4 QP	46.0	-3.6	1.00 V	162	43.24	-0.88
6	875.02	40.5 QP	46.0	-5.5	1.00 V	45	41.02	-0.48

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) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	**FREQ. (MHz)**	**EMISSION LEVEL (dBuV/m)**	**LIMIT (dBuV/m)**	**MARGIN (dB)**	**ANTENNA HEIGHT (m)**	**TABLE ANGLE (Degree)**	**RAW VALUE (dBuV)**	**CORRECTION FACTOR (dB/m)**
1	5150.00	55.8 PK	74.0	-18.2	1.90 H	142	12.23	43.57
2	5150.00	44.9 AV	54.0	-9.1	1.90 H	142	1.33	43.57
3	*5180.00	101.4 PK			1.82 H	139	57.76	43.64
4	*5180.00	89.2 AV			1.82 H	139	45.56	43.64
5	#10360.00	52.8 PK	74.0	-21.2	1.05 H	315	2.06	50.74
6	#10360.00	40.9 AV	54.0	-13.1	1.05 H	315	-9.84	50.74
7	15540.00	59.8 PK	74.0	-14.2	1.00 H	191	3.74	56.06
8	15540.00	46.4 AV	54.0	-7.6	1.00 H	191	-9.66	56.06
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	62.5 PK	74.0	-11.5	1.08 V	66	18.93	43.57
2	5150.00	49.6 AV	54.0	-4.4	1.08 V	66	6.03	43.57
3	*5180.00	107.3 PK			1.00 V	71	63.66	43.64
4	*5180.00	95.1 AV			1.00 V	71	51.46	43.64
5	#10360.00	53.7 PK	74.0	-20.3	1.38 V	105	2.96	50.74
6	#10360.00	41.9 AV	54.0	-12.1	1.38 V	105	-8.84	50.74
7	15540.00	61.5 PK	74.0	-12.5	1.29 V	360	5.44	56.06
8	15540.00	48.8 AV	54.0	-5.2	1.29 V	360	-7.26	56.06

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	101.2 PK			1.91 H	123	57.52	43.68
2	*5200.00	89.1 AV			1.91 H	123	45.42	43.68
3	#10400.00	53.0 PK	74.0	-21.0	1.04 H	303	2.33	50.67
4	#10400.00	40.8 AV	54.0	-13.2	1.04 H	303	-9.87	50.67
5	15600.00	59.2 PK	74.0	-14.8	1.00 H	183	3.19	56.01
6	15600.00	46.1 AV	54.0	-7.9	1.00 H	183	-9.91	56.01
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	*5200.00	107.6 PK			1.00 V	70	63.92	43.68
2	*5200.00	95.4 AV			1.00 V	70	51.72	43.68
3	#10400.00	53.5 PK	74.0	-20.5	1.44 V	92	2.83	50.67
4	#10400.00	41.9 AV	54.0	-12.1	1.44 V	92	-8.77	50.67
5	15600.00	61.7 PK	74.0	-12.3	1.31 V	360	5.69	56.01
6	15600.00	49.0 AV	54.0	-5.0	1.31 V	360	-7.01	56.01

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.

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	101.3 PK			1.88 H	109	57.57	43.73
2	*5240.00	88.9 AV			1.88 H	109	45.17	43.73
3	5350.00	55.2 PK	74.0	-18.8	1.82 H	127	11.31	43.89
4	5350.00	44.5 AV	54.0	-9.5	1.82 H	127	0.61	43.89
5	#10480.00	52.6 PK	74.0	-21.4	1.07 H	329	1.57	51.03
6	#10480.00	40.6 AV	54.0	-13.4	1.07 H	329	-10.43	51.03
7	15720.00	59.8 PK	74.0	-14.2	1.00 H	186	3.92	55.88
8	15720.00	46.4 AV	54.0	-7.6	1.00 H	186	-9.48	55.88
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	107.3 PK			1.03 V	75	63.57	43.73
2	*5240.00	95.1 AV			1.03 V	75	51.37	43.73
3	5350.00	56.6 PK	74.0	-17.4	1.03 V	75	12.71	43.89
4	5350.00	44.5 AV	54.0	-9.5	1.03 V	75	0.61	43.89
5	#10480.00	53.4 PK	74.0	-20.6	1.43 V	101	2.37	51.03
6	#10480.00	41.6 AV	54.0	-12.4	1.43 V	101	-9.43	51.03
7	15720.00	61.1 PK	74.0	-12.9	1.30 V	360	5.22	55.88
8	15720.00	48.6 AV	54.0	-5.4	1.30 V	360	-7.28	55.88

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	5150.00	52.9 PK	74.0	-21.1	1.00 H	147	11.46	41.44
2	5150.00	42.9 AV	54.0	-11.1	1.00 H	147	1.46	41.44
3	*5260.00	104.2 PK			1.00 H	147	62.58	41.62
4	*5260.00	95.7 AV			1.00 H	147	54.08	41.62
5	#10520.00	53.0 PK	74.0	-21.0	1.18 H	121	4.79	48.21
6	#10520.00	40.9 AV	54.0	-13.1	1.18 H	121	-7.31	48.21
7	15780.00	59.6 PK	74.0	-14.4	1.10 H	140	6.44	53.16
8	15780.00	46.3 AV	54.0	-7.7	1.10 H	140	-6.86	53.16
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	53.3 PK	74.0	-20.7	1.00 V	99	11.86	41.44
2	5150.00	44.7 AV	54.0	-9.3	1.00 V	99	3.26	41.44
3	*5260.00	107.8 PK			1.00 V	99	66.18	41.62
4	*5260.00	99.8 AV			1.00 V	99	58.18	41.62
5	#10520.00	53.5 PK	74.0	-20.5	1.39 V	128	5.29	48.21
6	#10520.00	42.2 AV	54.0	-11.8	1.39 V	128	-6.01	48.21
7	15780.00	60.8 PK	74.0	-13.2	1.24 V	188	7.64	53.16
8	15780.00	48.1 AV	54.0	-5.9	1.24 V	188	-5.06	53.16

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	103.9 PK			1.04 H	152	62.14	41.76
2	*5300.00	95.3 AV			1.04 H	152	53.54	41.76
3	10600.00	52.6 PK	74.0	-21.4	1.23 H	126	4.32	48.28
4	10600.00	40.7 AV	54.0	-13.3	1.23 H	126	-7.58	48.28
5	15900.00	60.1 PK	74.0	-13.9	1.11 H	141	6.30	53.80
6	15900.00	46.5 AV	54.0	-7.5	1.11 H	141	-7.30	53.80
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	*5300.00	107.8 PK			1.02 V	111	66.04	41.76
2	*5300.00	99.9 AV			1.02 V	111	58.14	41.76
3	10600.00	53.0 PK	74.0	-21.0	1.44 V	121	4.72	48.28
4	10600.00	41.9 AV	54.0	-12.1	1.44 V	121	-6.38	48.28
5	15900.00	61.2 PK	74.0	-12.8	1.29 V	193	7.40	53.80
6	15900.00	48.3 AV	54.0	-5.7	1.29 V	193	-5.50	53.80

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.

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	104.5 PK			1.05 H	149	62.68	41.82
2	*5320.00	95.8 AV			1.05 H	149	53.98	41.82
3	5350.00	52.9 PK	74.0	-21.1	1.02 H	140	10.99	41.91
4	5350.00	43.0 AV	54.0	-11.0	1.02 H	140	1.09	41.91
5	10640.00	52.7 PK	74.0	-21.3	1.25 H	116	4.43	48.27
6	10640.00	40.9 AV	54.0	-13.1	1.25 H	116	-7.37	48.27
7	15960.00	60.2 PK	74.0	-13.8	1.17 H	133	6.80	53.40
8	15960.00	46.5 AV	54.0	-7.5	1.17 H	133	-6.90	53.40
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	108.3 PK			1.21 V	99	66.48	41.82
2	*5320.00	100.1 AV			1.21 V	99	58.28	41.82
3	5350.00	55.6 PK	74.0	-18.4	1.21 V	99	13.69	41.91
4	5350.00	44.1 AV	54.0	-9.9	1.21 V	99	2.19	41.91
5	10640.00	53.0 PK	74.0	-21.0	1.42 V	123	4.73	48.27
6	10640.00	41.9 AV	54.0	-12.1	1.42 V	123	-6.37	48.27
7	15960.00	60.9 PK	74.0	-13.1	1.33 V	206	7.50	53.40
8	15960.00	48.1 AV	54.0	-5.9	1.33 V	206	-5.30	53.40

REMARKS:

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

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	58.0 PK	74.0	-16.0	1.34 H	122	15.77	42.23
2	5460.00	46.6 AV	54.0	-7.4	1.34 H	122	4.37	42.23
3	#5470.00	65.2 PK	74.0	-8.8	1.34 H	122	22.94	42.26
4	#5470.00	48.9 AV	54.0	-5.1	1.34 H	122	6.64	42.26
5	*5500.00	108.6 PK			1.34 H	122	66.25	42.35
6	*5500.00	100.6 AV			1.34 H	122	58.25	42.35
7	11000.00	56.5 PK	74.0	-17.5	1.14 H	113	7.30	49.20
8	11000.00	44.7 AV	54.0	-9.3	1.14 H	113	-4.50	49.20
9	#16500.00	59.7 PK	74.0	-14.3	1.04 H	140	4.66	55.04
10	#16500.00	46.1 AV	54.0	-7.9	1.04 H	140	-8.94	55.04
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	59.4 PK	74.0	-14.6	1.15 V	102	17.17	42.23
2	5460.00	48.6 AV	54.0	-5.4	1.15 V	102	6.37	42.23
3	#5470.00	70.4 PK	74.0	-3.6	1.15 V	102	28.14	42.26
4	#5470.00	52.0 AV	54.0	-2.0	1.15 V	102	9.74	42.26
5	*5500.00	111.9 PK			1.15 V	102	69.55	42.35
6	*5500.00	103.2 AV			1.15 V	102	60.85	42.35
7	11000.00	56.2 PK	74.0	-17.8	1.37 V	124	7.00	49.20
8	11000.00	44.8 AV	54.0	-9.2	1.37 V	124	-4.40	49.20
9	#16500.00	61.2 PK	74.0	-12.8	1.25 V	202	6.16	55.04
10	#16500.00	48.6 AV	54.0	-5.4	1.25 V	202	-6.44	55.04

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	109.5 PK			1.17 H	337	66.90	42.60
2	*5580.00	100.8 AV			1.17 H	337	58.20	42.60
3	11160.00	56.2 PK	74.0	-17.8	1.17 H	117	7.37	48.83
4	11160.00	44.3 AV	54.0	-9.7	1.17 H	117	-4.53	48.83
5	#16740.00	59.3 PK	74.0	-14.7	1.00 H	151	4.01	55.29
6	#16740.00	46.0 AV	54.0	-8.0	1.00 H	151	-9.29	55.29
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	*5580.00	110.8 PK			1.00 V	98	68.20	42.60
2	*5580.00	103.2 AV			1.00 V	98	60.60	42.60
3	11160.00	56.0 PK	74.0	-18.0	1.35 V	113	7.17	48.83
4	11160.00	44.8 AV	54.0	-9.2	1.35 V	113	-4.03	48.83
5	#16740.00	60.6 PK	74.0	-13.4	1.26 V	217	5.31	55.29
6	#16740.00	48.2 AV	54.0	-5.8	1.26 V	217	-7.09	55.29

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.

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	108.9 PK			1.13 H	345	66.04	42.86
2	*5660.00	100.4 AV			1.13 H	345	57.54	42.86
3	11320.00	56.1 PK	74.0	-17.9	1.12 H	117	6.63	49.47
4	11320.00	44.2 AV	54.0	-9.8	1.12 H	117	-5.27	49.47
5	#16980.00	59.5 PK	74.0	-14.5	1.05 H	156	4.41	55.09
6	#16980.00	46.0 AV	54.0	-8.0	1.05 H	156	-9.09	55.09
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	111.0 PK			1.00 V	87	68.14	42.86
2	*5660.00	103.2 AV			1.00 V	87	60.34	42.86
3	11320.00	56.0 PK	74.0	-18.0	1.39 V	110	6.53	49.47
4	11320.00	44.8 AV	54.0	-9.2	1.39 V	110	-4.67	49.47
5	#16980.00	60.2 PK	74.0	-13.8	1.30 V	223	5.11	55.09
6	#16980.00	47.9 AV	54.0	-6.1	1.30 V	223	-7.19	55.09

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	107.2 PK			1.35 H	344	64.21	42.99
2	*5700.00	99.3 AV			1.35 H	344	56.31	42.99
3	#5725.00	68.3 PK	74.0	-5.7	1.35 H	344	25.25	43.05
4	#5725.00	49.5 AV	54.0	-4.5	1.35 H	344	6.45	43.05
5	11400.00	56.6 PK	74.0	-17.4	1.17 H	120	7.43	49.17
6	11400.00	44.7 AV	54.0	-9.3	1.17 H	120	-4.47	49.17
7	#17100.00	59.3 PK	74.0	-14.7	1.00 H	155	3.26	56.04
8	#17100.00	45.7 AV	54.0	-8.3	1.00 H	155	-10.34	56.04
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	111.6 PK			1.11 V	98	68.61	42.99
2	*5700.00	103.8 AV			1.11 V	98	60.81	42.99
3	#5725.00	70.7 PK	74.0	-3.3	1.11 V	98	27.65	43.05
4	#5725.00	52.8 AV	54.0	-1.2	1.11 V	98	9.75	43.05
5	11400.00	55.9 PK	74.0	-18.1	1.40 V	125	6.73	49.17
6	11400.00	45.0 AV	54.0	-9.0	1.40 V	125	-4.17	49.17
7	#17100.00	60.3 PK	74.0	-13.7	1.28 V	225	4.26	56.04
8	#17100.00	47.8 AV	54.0	-6.2	1.28 V	225	-8.24	56.04

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.

802.11n (HT20)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	55.4 PK	74.0	-18.6	1.88 H	132	11.83	43.57
2	5150.00	44.6 AV	54.0	-9.4	1.88 H	132	1.03	43.57
3	*5180.00	101.3 PK			1.88 H	123	57.66	43.64
4	*5180.00	89.5 AV			1.88 H	123	45.86	43.64
5	#10360.00	52.6 PK	74.0	-21.4	1.10 H	318	1.86	50.74
6	#10360.00	40.5 AV	54.0	-13.5	1.10 H	318	-10.24	50.74
7	15540.00	59.2 PK	74.0	-14.8	1.01 H	203	3.14	56.06
8	15540.00	46.1 AV	54.0	-7.9	1.01 H	203	-9.96	56.06
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	61.5 PK	74.0	-12.5	1.03 V	81	17.93	43.57
2	5150.00	49.4 AV	54.0	-4.6	1.03 V	81	5.83	43.57
3	*5180.00	107.1 PK			1.03 V	81	63.46	43.64
4	*5180.00	95.8 AV			1.03 V	81	52.16	43.64
5	#10360.00	53.4 PK	74.0	-20.6	1.33 V	102	2.66	50.74
6	#10360.00	42.0 AV	54.0	-12.0	1.33 V	102	-8.74	50.74
7	15540.00	61.0 PK	74.0	-13.0	1.30 V	348	4.94	56.06
8	15540.00	48.6 AV	54.0	-5.4	1.30 V	348	-7.46	56.06

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	101.3 PK			1.89 H	113	57.62	43.68
2	*5200.00	89.5 AV			1.89 H	113	45.82	43.68
3	#10400.00	52.8 PK	74.0	-21.2	1.06 H	319	2.13	50.67
4	#10400.00	41.0 AV	54.0	-13.0	1.06 H	319	-9.67	50.67
5	15600.00	60.0 PK	74.0	-14.0	1.00 H	176	3.99	56.01
6	15600.00	46.4 AV	54.0	-7.6	1.00 H	176	-9.61	56.01
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	*5200.00	107.2 PK			1.01 V	80	63.52	43.68
2	*5200.00	95.6 AV			1.01 V	80	51.92	43.68
3	#10400.00	53.3 PK	74.0	-20.7	1.18 V	87	2.63	50.67
4	#10400.00	42.2 AV	54.0	-11.8	1.18 V	87	-8.47	50.67
5	15600.00	60.8 PK	74.0	-13.2	1.35 V	336	4.79	56.01
6	15600.00	48.7 AV	54.0	-5.3	1.35 V	336	-7.31	56.01

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.

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	101.6 PK			1.86 H	121	57.87	43.73
2	*5240.00	89.9 AV			1.86 H	121	46.17	43.73
3	5350.00	55.4 PK	74.0	-18.6	1.91 H	137	11.51	43.89
4	5350.00	44.4 AV	54.0	-9.6	1.91 H	137	0.51	43.89
5	#10480.00	52.1 PK	74.0	-21.9	1.03 H	330	1.07	51.03
6	#10480.00	40.5 AV	54.0	-13.5	1.03 H	330	-10.53	51.03
7	15720.00	59.3 PK	74.0	-14.7	1.02 H	203	3.42	55.88
8	15720.00	46.1 AV	54.0	-7.9	1.02 H	203	-9.78	55.88
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	107.1 PK			1.02 V	80	63.37	43.73
2	*5240.00	95.4 AV			1.02 V	80	51.67	43.73
3	5350.00	56.9 PK	74.0	-17.1	1.02 V	80	13.01	43.89
4	5350.00	44.2 AV	54.0	-9.8	1.02 V	80	0.31	43.89
5	#10480.00	53.7 PK	74.0	-20.3	1.28 V	88	2.67	51.03
6	#10480.00	42.2 AV	54.0	-11.8	1.28 V	88	-8.83	51.03
7	15720.00	59.9 PK	74.0	-14.1	1.35 V	350	4.02	55.88
8	15720.00	48.2 AV	54.0	-5.8	1.35 V	350	-7.68	55.88

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	5150.00	53.1 PK	74.0	-20.9	1.00 H	137	11.66	41.44
2	5150.00	43.3 AV	54.0	-10.7	1.00 H	137	1.86	41.44
3	*5260.00	104.2 PK			1.00 H	149	62.58	41.62
4	*5260.00	95.6 AV			1.00 H	149	53.98	41.62
5	#10520.00	53.1 PK	74.0	-20.9	1.24 H	132	4.89	48.21
6	#10520.00	40.8 AV	54.0	-13.2	1.24 H	132	-7.41	48.21
7	15780.00	59.7 PK	74.0	-14.3	1.06 H	149	6.54	53.16
8	15780.00	46.4 AV	54.0	-7.6	1.06 H	149	-6.76	53.16
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	52.9 PK	74.0	-21.1	1.05 V	95	11.46	41.44
2	5150.00	44.6 AV	54.0	-9.4	1.05 V	95	3.16	41.44
3	*5260.00	108.0 PK			1.01 V	95	66.38	41.62
4	*5260.00	99.7 AV			1.01 V	95	58.08	41.62
5	#10520.00	53.5 PK	74.0	-20.5	1.35 V	121	5.29	48.21
6	#10520.00	42.1 AV	54.0	-11.9	1.35 V	121	-6.11	48.21
7	15780.00	60.7 PK	74.0	-13.3	1.19 V	202	7.54	53.16
8	15780.00	47.9 AV	54.0	-6.1	1.19 V	202	-5.26	53.16

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	104.3 PK			1.00 H	141	62.54	41.76
2	*5300.00	95.5 AV			1.00 H	141	53.74	41.76
3	10600.00	53.7 PK	74.0	-20.3	1.27 H	128	5.42	48.28
4	10600.00	41.3 AV	54.0	-12.7	1.27 H	128	-6.98	48.28
5	15900.00	59.8 PK	74.0	-14.2	1.09 H	143	6.00	53.80
6	15900.00	46.7 AV	54.0	-7.3	1.09 H	143	-7.10	53.80
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	*5300.00	108.5 PK			1.00 V	98	66.74	41.76
2	*5300.00	100.1 AV			1.00 V	98	58.34	41.76
3	10600.00	53.9 PK	74.0	-20.1	1.36 V	134	5.62	48.28
4	10600.00	42.3 AV	54.0	-11.7	1.36 V	134	-5.98	48.28
5	15900.00	61.0 PK	74.0	-13.0	1.18 V	194	7.20	53.80
6	15900.00	48.3 AV	54.0	-5.7	1.18 V	194	-5.50	53.80

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.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	103.8 PK			1.00 H	146	61.98	41.82
2	*5320.00	95.3 AV			1.00 H	146	53.48	41.82
3	5350.00	52.9 PK	74.0	-21.1	1.00 H	146	10.99	41.91
4	5350.00	42.9 AV	54.0	-11.1	1.00 H	146	0.99	41.91
5	10640.00	52.8 PK	74.0	-21.2	1.26 H	125	4.53	48.27
6	10640.00	41.0 AV	54.0	-13.0	1.26 H	125	-7.27	48.27
7	15960.00	60.0 PK	74.0	-14.0	1.23 H	120	6.60	53.40
8	15960.00	46.3 AV	54.0	-7.7	1.23 H	120	-7.10	53.40
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	108.1 PK			1.20 V	85	66.28	41.82
2	*5320.00	99.7 AV			1.20 V	85	57.88	41.82
3	5350.00	55.8 PK	74.0	-18.2	1.20 V	85	13.89	41.91
4	5350.00	44.6 AV	54.0	-9.4	1.20 V	85	2.69	41.91
5	10640.00	52.7 PK	74.0	-21.3	1.47 V	110	4.43	48.27
6	10640.00	41.8 AV	54.0	-12.2	1.47 V	110	-6.47	48.27
7	15960.00	60.9 PK	74.0	-13.1	1.35 V	206	7.50	53.40
8	15960.00	48.2 AV	54.0	-5.8	1.35 V	206	-5.20	53.40

REMARKS:

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

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	58.2 PK	74.0	-15.8	1.33 H	125	15.97	42.23
2	5460.00	46.6 AV	54.0	-7.4	1.33 H	125	4.37	42.23
3	#5470.00	64.8 PK	74.0	-9.2	1.33 H	125	22.54	42.26
4	#5470.00	48.6 AV	54.0	-5.4	1.33 H	125	6.34	42.26
5	*5500.00	108.6 PK			1.33 H	125	66.25	42.35
6	*5500.00	100.9 AV			1.33 H	125	58.55	42.35
7	11000.00	56.7 PK	74.0	-17.3	1.12 H	113	7.50	49.20
8	11000.00	44.6 AV	54.0	-9.4	1.12 H	113	-4.60	49.20
9	#16500.00	59.5 PK	74.0	-14.5	1.02 H	130	4.46	55.04
10	#16500.00	46.0 AV	54.0	-8.0	1.02 H	130	-9.04	55.04
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	58.9 PK	74.0	-15.1	1.13 V	108	16.67	42.23
2	5460.00	48.3 AV	54.0	-5.7	1.13 V	108	6.07	42.23
3	#5470.00	70.3 PK	74.0	-3.7	1.13 V	108	28.04	42.26
4	#5470.00	51.9 AV	54.0	-2.1	1.13 V	108	9.64	42.26
5	*5500.00	112.4 PK			1.13 V	108	70.05	42.35
6	*5500.00	103.4 AV			1.13 V	108	61.05	42.35
7	11000.00	55.5 PK	74.0	-18.5	1.42 V	131	6.30	49.20
8	11000.00	44.3 AV	54.0	-9.7	1.42 V	131	-4.90	49.20
9	#16500.00	61.5 PK	74.0	-12.5	1.30 V	216	6.46	55.04
10	#16500.00	49.1 AV	54.0	-4.9	1.30 V	216	-5.94	55.04

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	109.4 PK			1.12 H	348	66.80	42.60
2	*5580.00	100.6 AV			1.12 H	348	58.00	42.60
3	11160.00	56.3 PK	74.0	-17.7	1.18 H	126	7.47	48.83
4	11160.00	44.5 AV	54.0	-9.5	1.18 H	126	-4.33	48.83
5	#16740.00	59.4 PK	74.0	-14.6	1.05 H	159	4.11	55.29
6	#16740.00	45.9 AV	54.0	-8.1	1.05 H	159	-9.39	55.29
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	*5580.00	111.3 PK			1.03 V	99	68.70	42.60
2	*5580.00	103.5 AV			1.03 V	99	60.90	42.60
3	11160.00	55.8 PK	74.0	-18.2	1.30 V	126	6.97	48.83
4	11160.00	44.9 AV	54.0	-9.1	1.30 V	126	-3.93	48.83
5	#16740.00	60.3 PK	74.0	-13.7	1.25 V	232	5.01	55.29
6	#16740.00	47.9 AV	54.0	-6.1	1.25 V	232	-7.39	55.29

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.

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	109.7 PK			1.14 H	358	66.84	42.86
2	*5660.00	101.0 AV			1.14 H	358	58.14	42.86
3	11320.00	56.2 PK	74.0	-17.8	1.24 H	122	6.73	49.47
4	11320.00	44.6 AV	54.0	-9.4	1.24 H	122	-4.87	49.47
5	#16980.00	59.3 PK	74.0	-14.7	1.03 H	166	4.21	55.09
6	#16980.00	45.7 AV	54.0	-8.3	1.03 H	166	-9.39	55.09
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	110.6 PK			1.03 V	89	67.74	42.86
2	*5660.00	103.1 AV			1.03 V	89	60.24	42.86
3	11320.00	55.6 PK	74.0	-18.4	1.25 V	133	6.13	49.47
4	11320.00	44.9 AV	54.0	-9.1	1.25 V	133	-4.57	49.47
5	#16980.00	60.1 PK	74.0	-13.9	1.20 V	217	5.01	55.09
6	#16980.00	47.4 AV	54.0	-6.6	1.20 V	217	-7.69	55.09

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	107.0 PK			1.29 H	334	64.01	42.99
2	*5700.00	99.4 AV			1.29 H	334	56.41	42.99
3	#5725.00	68.6 PK	74.0	-5.4	1.29 H	334	25.55	43.05
4	#5725.00	49.5 AV	54.0	-4.5	1.29 H	334	6.45	43.05
5	11400.00	56.7 PK	74.0	-17.3	1.20 H	126	7.53	49.17
6	11400.00	45.0 AV	54.0	-9.0	1.20 H	126	-4.17	49.17
7	#17100.00	59.2 PK	74.0	-14.8	1.00 H	145	3.16	56.04
8	#17100.00	45.7 AV	54.0	-8.3	1.00 H	145	-10.34	56.04
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	110.4 PK			1.10 V	98	67.41	42.99
2	*5700.00	102.2 AV			1.10 V	98	59.21	42.99
3	#5725.00	72.5 PK	74.0	-1.5	1.10 V	98	29.45	43.05
4	#5725.00	52.7 AV	54.0	-1.3	1.10 V	98	9.65	43.05
5	11400.00	56.3 PK	74.0	-17.7	1.34 V	127	7.13	49.17
6	11400.00	45.5 AV	54.0	-8.5	1.34 V	127	-3.67	49.17
7	#17100.00	59.9 PK	74.0	-14.1	1.22 V	236	3.86	56.04
8	#17100.00	47.5 AV	54.0	-6.5	1.22 V	236	-8.54	56.04

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.

802.11n (HT40)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	55.2 PK	74.0	-18.8	1.89 H	130	11.63	43.57
2	5150.00	44.2 AV	54.0	-9.8	1.89 H	130	0.63	43.57
3	*5190.00	97.4 PK			1.86 H	120	53.74	43.66
4	*5190.00	86.1 AV			1.86 H	120	42.44	43.66
5	#10380.00	52.8 PK	74.0	-21.2	1.06 H	324	2.09	50.71
6	#10380.00	41.0 AV	54.0	-13.0	1.06 H	324	-9.71	50.71
7	15570.00	60.0 PK	74.0	-14.0	1.03 H	180	3.97	56.03
8	15570.00	46.4 AV	54.0	-7.6	1.03 H	180	-9.63	56.03
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	65.1 PK	74.0	-8.9	1.01 V	85	21.53	43.57
2	5150.00	52.1 AV	54.0	-1.9	1.01 V	85	8.53	43.57
3	*5190.00	103.9 PK			1.01 V	85	60.24	43.66
4	*5190.00	92.3 AV			1.01 V	85	48.64	43.66
5	#10380.00	52.8 PK	74.0	-21.2	1.38 V	88	2.09	50.71
6	#10380.00	41.6 AV	54.0	-12.4	1.38 V	88	-9.11	50.71
7	15570.00	61.4 PK	74.0	-12.6	1.24 V	360	5.37	56.03
8	15570.00	48.8 AV	54.0	-5.2	1.24 V	360	-7.23	56.03

REMARKS:

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

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	*5230.00	97.7 PK			1.88 H	119	53.98	43.72
2	*5230.00	86.3 AV			1.88 H	119	42.58	43.72
3	5350.00	55.1 PK	74.0	-18.9	1.83 H	133	11.21	43.89
4	5350.00	44.5 AV	54.0	-9.5	1.83 H	133	0.61	43.89
5	#10460.00	52.4 PK	74.0	-21.6	1.03 H	321	1.46	50.94
6	#10460.00	40.8 AV	54.0	-13.2	1.03 H	321	-10.14	50.94
7	15690.00	59.4 PK	74.0	-14.6	1.00 H	199	3.48	55.92
8	15690.00	46.0 AV	54.0	-8.0	1.00 H	199	-9.92	55.92
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5230.00	104.4 PK			1.01 V	86	60.68	43.72
2	*5230.00	92.5 AV			1.01 V	86	48.78	43.72
3	5350.00	57.0 PK	74.0	-17.0	1.07 V	86	13.11	43.89
4	5350.00	44.5 AV	54.0	-9.5	1.07 V	86	0.61	43.89
5	#10460.00	53.3 PK	74.0	-20.7	1.37 V	103	2.36	50.94
6	#10460.00	41.7 AV	54.0	-12.3	1.37 V	103	-9.24	50.94
7	15690.00	60.7 PK	74.0	-13.3	1.25 V	333	4.78	55.92
8	15690.00	48.5 AV	54.0	-5.5	1.25 V	333	-7.42	55.92

REMARKS:

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

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	5150.00	52.4 PK	74.0	-21.6	1.63 H	116	10.96	41.44
2	5150.00	41.3 AV	54.0	-12.7	1.63 H	116	-0.14	41.44
3	*5270.00	100.1 PK			1.63 H	116	58.44	41.66
4	*5270.00	89.8 AV			1.63 H	116	48.14	41.66
5	#10540.00	52.4 PK	74.0	-21.6	1.15 H	120	4.17	48.23
6	#10540.00	40.6 AV	54.0	-13.4	1.15 H	120	-7.63	48.23
7	15810.00	59.2 PK	74.0	-14.8	1.13 H	143	6.01	53.19
8	15810.00	45.9 AV	54.0	-8.1	1.13 H	143	-7.29	53.19
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	54.1 PK	74.0	-19.9	1.20 V	81	12.66	41.44
2	5150.00	42.0 AV	54.0	-12.0	1.20 V	81	0.56	41.44
3	*5270.00	104.9 PK			1.20 V	81	63.24	41.66
4	*5270.00	94.9 AV			1.20 V	81	53.24	41.66
5	#10540.00	52.9 PK	74.0	-21.1	1.34 V	114	4.67	48.23
6	#10540.00	41.8 AV	54.0	-12.2	1.34 V	114	-6.43	48.23
7	15810.00	60.4 PK	74.0	-13.6	1.30 V	196	7.21	53.19
8	15810.00	47.7 AV	54.0	-6.3	1.30 V	196	-5.49	53.19

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	100.2 PK			1.64 H	124	58.42	41.78
2	*5310.00	90.0 AV			1.64 H	124	48.22	41.78
3	5350.00	57.9 PK	74.0	-16.1	1.64 H	124	15.99	41.91
4	5350.00	47.2 AV	54.0	-6.8	1.64 H	124	5.29	41.91
5	10620.00	53.0 PK	74.0	-21.0	1.15 H	113	4.73	48.27
6	10620.00	41.0 AV	54.0	-13.0	1.15 H	113	-7.27	48.27
7	15930.00	58.8 PK	74.0	-15.2	1.17 H	144	5.20	53.60
8	15930.00	45.4 AV	54.0	-8.6	1.17 H	144	-8.20	53.60
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5310.00	104.2 PK			1.20 V	100	62.42	41.78
2	*5310.00	94.8 AV			1.20 V	100	53.02	41.78
3	5350.00	65.3 PK	74.0	-8.7	1.20 V	100	23.39	41.91
4	5350.00	50.8 AV	54.0	-3.2	1.20 V	100	8.89	41.91
5	10620.00	53.3 PK	74.0	-20.7	1.32 V	122	5.03	48.27
6	10620.00	42.2 AV	54.0	-11.8	1.32 V	122	-6.07	48.27
7	15930.00	60.3 PK	74.0	-13.7	1.28 V	185	6.70	53.60
8	15930.00	47.4 AV	54.0	-6.6	1.28 V	185	-6.20	53.60

REMARKS:

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

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	61.5 PK	74.0	-12.5	1.34 H	135	19.27	42.23
2	5460.00	48.1 AV	54.0	-5.9	1.34 H	135	5.87	42.23
3	#5470.00	64.4 PK	74.0	-9.6	1.34 H	135	22.14	42.26
4	#5470.00	53.1 AV	54.0	-0.9	1.34 H	135	10.84	42.26
5	*5510.00	103.7 PK			1.34 H	135	61.32	42.38
6	*5510.00	93.8 AV			1.34 H	135	51.42	42.38
7	11020.00	57.4 PK	74.0	-16.6	1.10 H	98	8.27	49.13
8	11020.00	45.1 AV	54.0	-8.9	1.10 H	98	-4.03	49.13
9	#16530.00	59.6 PK	74.0	-14.4	1.04 H	140	4.51	55.09
10	#16530.00	46.2 AV	54.0	-7.8	1.04 H	140	-8.89	55.09
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	60.5 PK	74.0	-13.5	1.11 V	99	18.27	42.23
2	5460.00	48.5 AV	54.0	-5.5	1.11 V	99	6.27	42.23
3	#5470.00	66.2 PK	74.0	-7.8	1.11 V	99	23.94	42.26
4	**#5470.00**	**53.6 AV**	**54.0**	**-0.4**	**1.11 V**	**99**	**11.34**	**42.26**
5	*5510.00	104.2 PK			1.11 V	99	61.82	42.38
6	*5510.00	94.4 AV			1.11 V	99	52.02	42.38
7	11020.00	55.6 PK	74.0	-18.4	1.41 V	124	6.47	49.13
8	11020.00	44.6 AV	54.0	-9.4	1.41 V	124	-4.53	49.13
9	#16530.00	61.4 PK	74.0	-12.6	1.31 V	224	6.31	55.09
10	#16530.00	48.8 AV	54.0	-5.2	1.31 V	224	-6.29	55.09

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	*5550.00	105.5 PK			1.02 H	359	62.99	42.51
2	*5550.00	94.6 AV			1.02 H	359	52.09	42.51
3	11100.00	55.8 PK	74.0	-18.2	1.05 H	124	6.91	48.89
4	11100.00	43.9 AV	54.0	-10.1	1.05 H	124	-4.99	48.89
5	#16650.00	59.6 PK	74.0	-14.4	1.00 H	134	4.37	55.23
6	#16650.00	46.5 AV	54.0	-7.5	1.00 H	134	-8.73	55.23
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	*5550.00	107.9 PK			1.09 V	87	65.39	42.51
2	*5550.00	97.8 AV			1.09 V	87	55.29	42.51
3	11100.00	55.5 PK	74.0	-18.5	1.48 V	136	6.61	48.89
4	11100.00	44.4 AV	54.0	-9.6	1.48 V	136	-4.49	48.89
5	#16650.00	60.6 PK	74.0	-13.4	1.34 V	201	5.37	55.23
6	#16650.00	47.8 AV	54.0	-6.2	1.34 V	201	-7.43	55.23

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	105.5 PK			1.01 H	349	62.61	42.89
2	*5670.00	94.9 AV			1.01 H	349	52.01	42.89
3	#5725.00	64.3 PK	74.0	-9.7	1.01 H	349	21.25	43.05
4	#5725.00	48.4 AV	54.0	-5.6	1.01 H	349	5.35	43.05
5	11340.00	56.4 PK	74.0	-17.6	1.08 H	113	7.00	49.40
6	11340.00	44.4 AV	54.0	-9.6	1.08 H	113	-5.00	49.40
7	#17010.00	59.7 PK	74.0	-14.3	1.00 H	124	4.57	55.13
8	#17010.00	46.4 AV	54.0	-7.6	1.00 H	124	-8.73	55.13
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	*5670.00	107.5 PK			1.11 V	100	64.61	42.89
2	*5670.00	97.6 AV			1.11 V	100	54.71	42.89
3	#5725.00	68.2 PK	74.0	-5.8	1.11 V	100	25.15	43.05
4	#5725.00	51.5 AV	54.0	-2.5	1.11 V	100	8.45	43.05
5	11340.00	55.4 PK	74.0	-18.6	1.42 V	128	6.00	49.40
6	11340.00	44.2 AV	54.0	-9.8	1.42 V	128	-5.20	49.40
7	#17010.00	60.8 PK	74.0	-13.2	1.32 V	208	5.67	55.13
8	#17010.00	48.3 AV	54.0	-5.7	1.32 V	208	-6.83	55.13

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
5.15 – 5.25GHz	The lesser of 50mW (17dBm) or 4dBm + 10logB
5.25 – 5.35GHz	The lesser of 250mW (24dBm) or 11dBm + 10logB
5.47 – 5.725GHz	The lesser of 250mW (24dBm) or 11dBm + 10logB
5.725 – 5.825GHz	The lesser of 1W (30dBm) or 17dBm + 10logB

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

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

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

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

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

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

4.3.2 TEST INSTRUMENTS

FOR POWER OUTPUT MEASUREMENT

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Power meter Anritsu	ML2495A	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 : Feb. 14, 2014

FOR 26dB OCCUPIED BANDWIDTH

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Spectrum Analyzer R&S	FSP 40	100036	Jan. 21, 2014	Jan. 20, 2015

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. Tested date : Feb. 14, 2014

4.3.3 TEST PROCEDURE

FOR POWER OUTPUT MEASUREMENT

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

FOR 26dB OCCUPIED BANDWIDTH

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

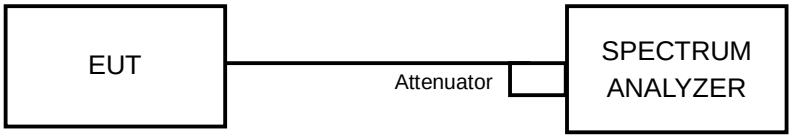
4.3.4 DEVIATION FROM TEST STANDARD

No deviation

4.3.5 TEST SETUP

FOR POWER OUTPUT MEASUREMENT

FOR 26dB OCCUPIED BANDWIDTH



4.3.6 EUT OPERATING CONDITIONS

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

4.3.7 TEST RESULTS

802.11a

POWER OUTPUT:

CHAN.	CHAN. FREQ. (MHz)	AVERAGE POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	POWER LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
36	5180	10.93	11.82	27.593	14.41	17	PASS
40	5200	10.91	11.67	27.020	14.32	17	PASS
48	5240	10.96	11.79	27.575	14.41	17	PASS
52	5260	10.65	10.38	22.528	13.53	24	PASS
60	5300	10.54	10.41	22.314	13.49	24	PASS
64	5320	10.23	10.61	22.052	13.43	24	PASS
100	5500	12.56	15.76	55.700	17.46	24	PASS
116	5580	12.95	15.21	52.913	17.24	24	PASS
132	5660	12.73	14.11	44.513	16.48	24	PASS
140	5700	10.88	12.37	29.504	14.70	24	PASS

26dB OCCUPIED BANDWIDTH:

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)	
		CHAIN 0	CHAIN 1
36	5180	24.58	23.89
40	5200	24.79	23.95
48	5240	24.79	23.94
52	5260	25.04	25.08
60	5300	24.10	25.18
64	5320	24.52	24.98
100	5500	25.68	25.11
116	5580	25.12	24.70
132	5660	27.52	25.74
140	5700	24.48	25.73

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	23.89	17.78 > 17
40	5200	23.95	17.79 > 17
48	5240	23.94	17.79 > 17
Power Limit = 11dBm + 10logB < UNII Band 2~3>			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
52	5260	25.04	24.98 > 24
60	5300	24.10	24.82 > 24
64	5320	24.52	24.89 > 24
100	5500	25.11	24.99 > 24
116	5580	24.70	24.92 > 24
132	5660	25.74	25.1 > 24
140	5700	24.48	24.88 > 24

802.11n (HT20)

POWER OUTPUT:

CHAN.	CHAN. FREQ. (MHz)	AVERAGE POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	POWER LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
36	5180	10.92	11.41	26.195	14.18	17	PASS
40	5200	10.93	11.47	26.416	14.22	17	PASS
48	5240	10.95	11.56	26.767	14.28	17	PASS
52	5260	10.73	10.37	22.719	13.56	24	PASS
60	5300	10.20	10.31	21.211	13.27	24	PASS
64	5320	10.49	10.51	22.440	13.51	24	PASS
100	5500	12.29	15.25	50.440	17.03	24	PASS
116	5580	13.22	15.11	53.423	17.28	24	PASS
132	5660	12.87	14.21	45.727	16.60	24	PASS
140	5700	10.43	11.87	26.423	14.22	24	PASS

26dB OCCUPIED BANDWIDTH:

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)	
		CHAIN 0	CHAIN 1
36	5180	24.71	24.11
40	5200	24.51	25.57
48	5240	24.33	24.75
52	5260	24.80	24.73
60	5300	24.52	24.44
64	5320	24.65	24.83
100	5500	25.42	24.77
116	5580	25.13	25.54
132	5660	24.47	25.84
140	5700	26.06	24.87

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	24.11	17.82 > 17
40	5200	24.51	17.89 > 17
48	5240	24.33	17.86 > 17
Power Limit = 11dBm + 10logB < UNII Band 2~3>			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
52	5260	24.73	24.93 > 24
60	5300	24.44	24.88 > 24
64	5320	24.65	24.91 > 24
100	5500	24.77	24.93 > 24
116	5580	25.13	25 > 24
132	5660	24.47	24.88 > 24
140	5700	24.87	24.95 > 24

802.11n (HT40)

POWER OUTPUT:

CHAN.	CHAN. FREQ. (MHz)	AVERAGE POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	POWER LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
38	5190	10.94	11.25	25.752	14.11	17	PASS
46	5230	10.97	11.34	26.117	14.17	17	PASS
54	5270	9.96	10.14	20.236	13.06	24	PASS
62	5310	9.95	10.68	21.581	13.34	24	PASS
102	5510	12.42	14.44	45.255	16.56	24	PASS
110	5550	13.58	15.03	54.645	17.38	24	PASS
134	5670	12.44	13.31	38.968	15.91	24	PASS

26dB OCCUPIED BANDWIDTH:

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)	
		CHAIN 0	CHAIN 1
38	5190	50.59	51.55
46	5230	50.43	51.85
54	5270	52.91	52.83
62	5310	51.65	51.81
102	5510	50.93	50.87
110	5550	51.70	51.43
134	5670	51.68	51.79

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	50.59	21.04 > 17
46	5230	50.43	21.02 > 17
Power Limit = 11dBm + 10logB < UNII Band 2~3>			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
54	5270	52.83	28.22 > 24
62	5310	51.65	28.13 > 24
102	5510	50.87	28.06 > 24
110	5550	51.43	28.11 > 24
134	5670	51.68	28.13 > 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, 2014	Jan. 20, 2015

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. Tested date : Feb. 14, 2014

4.4.3 TEST PROCEDURES

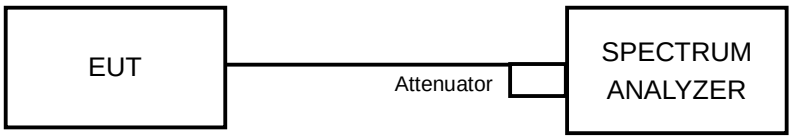
Using method SA-1

1. Set span to encompass the entire emission bandwidth (EBW) of the signal.
2. Set RBW = 1 MHz, Set VBW ≥ 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

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

CHAN.	CHANNEL FREQUENCY (MHz)	PSD (dBm)		TOTAL POWER DENSITY (dBm)	MAX. LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1			
36	5180	-3.10	-2.63	0.15	4	PASS
40	5200	-2.87	-2.55	0.30	4	PASS
48	5240	-2.79	-2.46	0.39	4	PASS
52	5260	-2.08	-2.29	0.83	11	PASS
60	5300	-2.26	-2.70	0.54	11	PASS
64	5320	-2.15	-2.71	0.59	11	PASS
100	5500	2.80	0.33	4.75	11	PASS
116	5580	3.01	1.12	5.18	11	PASS
132	5660	2.82	1.10	5.05	11	PASS
140	5700	1.14	-1.00	3.21	11	PASS

NOTE:

1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20})^2$ / 2] = 1.76dBi < 6dBi , so the power density limit shall not be reduced.

802.11n (HT20)

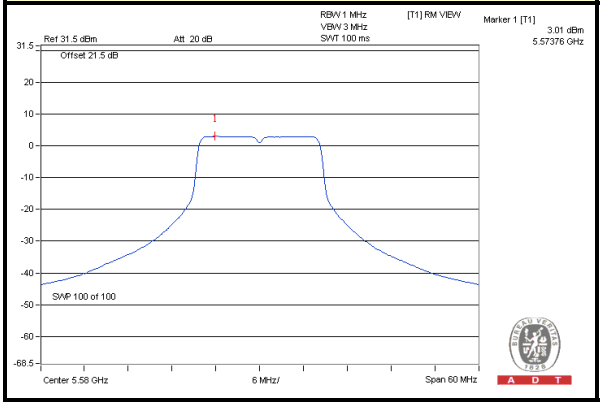
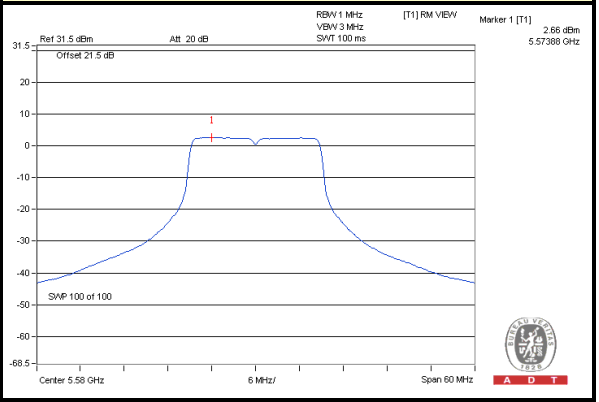
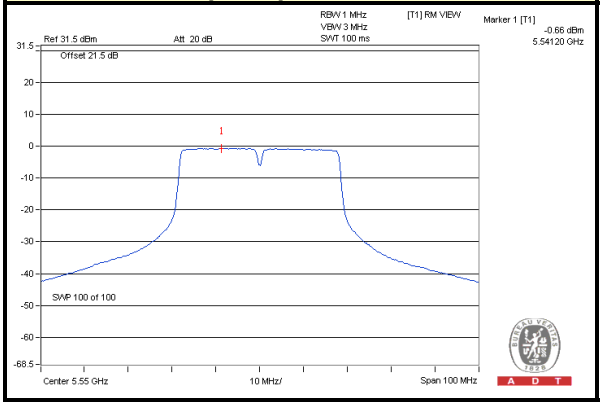
CHAN.	CHANNEL FREQUENCY (MHz)	PSD (dBm)		TOTAL POWER DENSITY (dBm)	MAX. LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1			
36	5180	-3.42	-3.04	-0.22	4	PASS
40	5200	-3.20	-2.85	-0.01	4	PASS
48	5240	-3.08	-2.71	0.12	4	PASS
52	5260	-2.49	-2.43	0.55	11	PASS
60	5300	-2.48	-3.21	0.18	11	PASS
64	5320	-2.49	-3.08	0.23	11	PASS
100	5500	1.98	-0.39	3.96	11	PASS
116	5580	2.66	0.73	4.81	11	PASS
132	5660	2.50	0.96	4.81	11	PASS
140	5700	0.44	-1.02	2.78	11	PASS

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

802.11n (HT40)

CHAN.	CHANNEL FREQUENCY (MHz)	PSD (dBm)		TOTAL POWER DENSITY (dBm)	MAX. LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1			
38	5190	-6.43	-5.58	-2.97	4	PASS
46	5230	-5.99	-5.60	-2.78	4	PASS
54	5270	-5.67	-5.90	-2.77	11	PASS
62	5310	-5.65	-5.95	-2.79	11	PASS
102	5510	-1.88	-4.11	0.16	11	PASS
110	5550	-0.66	-2.21	1.64	11	PASS
134	5670	-1.11	-2.38	1.31	11	PASS

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

SPECTRUM PLOT OF WORST VALUE	
802.11a_Chain 0 / CH116	**802.11n (HT20)_Chain 0 / CH116**
	
802.11n (HT40)_Chain 0 / CH110	
	

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, 2014	Jan. 20, 2015

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. Tested date : Feb. 14, 2014

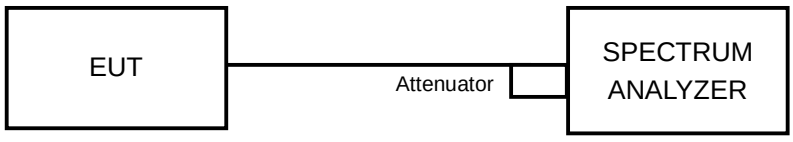
4.5.3 TEST PROCEDURE

1. Set RBW = 1 MHz, VBW ≥ 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

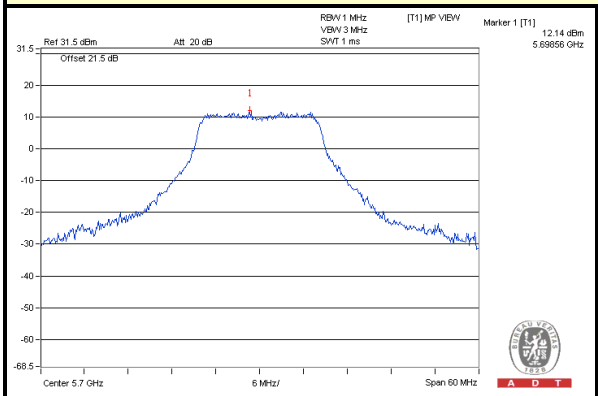
MODULATION MODE	MODULATION TYPE	CHANNEL FREQUENCY (MHz)	PEAK VALUE (dBm)	PPSD (dBm)	PEAK EXCURSION (dB)	LIMIT (dB)	PASS/ FAIL
802.11a	BPSK	5700	12.14	1.14	11	13	PASS
	QPSK		10.01	0	10.01	13	PASS
802.11n (HT20)	BPSK	5700	11.78	0.44	11.34	13	PASS
	QPSK		9.94	-0.93	10.87	13	PASS
802.11n (HT40)	BPSK	5670	10.12	-1.11	11.23	13	PASS

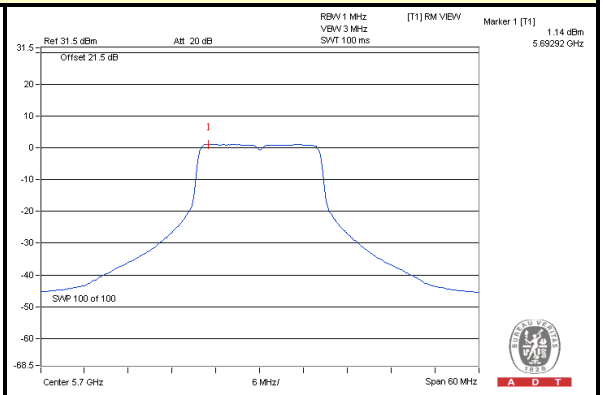
MODULATION MODE	MODULATION TYPE	CHAN. FREQ. (MHz)	PEAK VALUE (dBm)	PPSD WITHOUT DUTY FACTOR (dBm)	PPSD WITH DUTY FACTOR (dBm)	PEAK EXCURSION (dB)	LIMIT (dB)	PASS /FAIL
802.11a	16QAM	5700	11.05	-0.03	0.07	10.98	13	PASS
	64QAM		10.07	-0.04	0.14	9.93	13	PASS
802.11n (HT20)	16QAM	5700	9.85	-0.87	-0.76	10.61	13	PASS
	64QAM		10.55	-0.92	-0.75	11.3	13	PASS
802.11n (HT40)	QPSK	5670	8.64	-2.35	-2.26	10.9	13	PASS
	16QAM		9.31	-2.34	-2.18	11.49	13	PASS
	64QAM		9.09	-2.38	-2.08	11.17	13	PASS

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

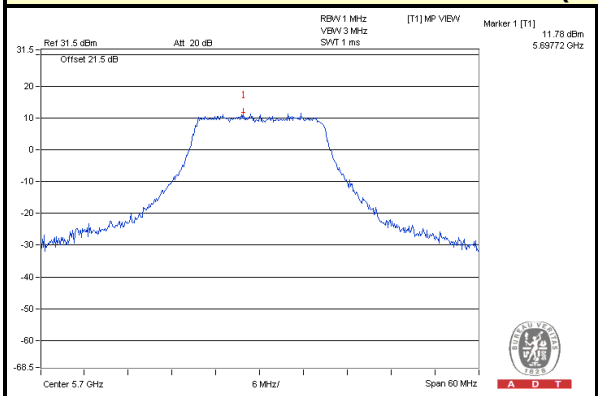
SPECTRUM PLOT OF WORST VALUE

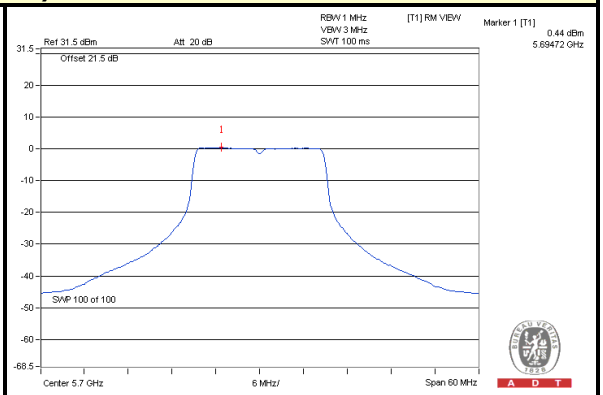
802.11a / BPSK



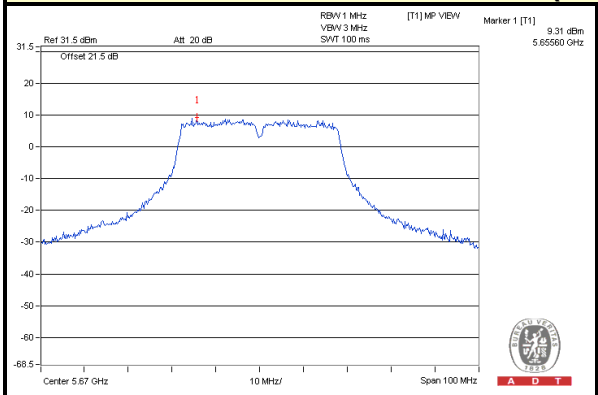


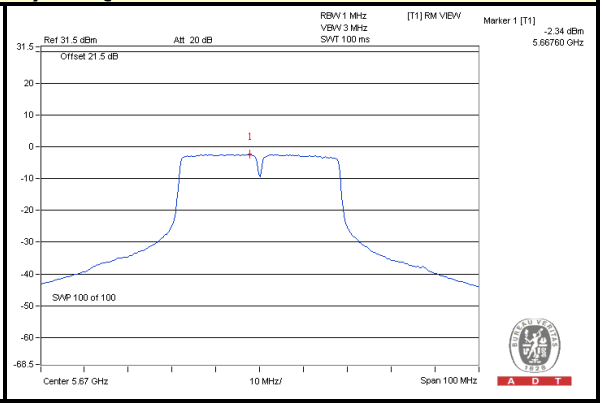
802.11n (HT20) / BPSK





802.11n (HT40) / 16QAM





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, 2014	Jan. 20, 2015
Temperature & Humidity Chamber GIANTFORCE	GTH-150-40 -SP-AR	MAA0812-008	Jan. 13, 2014	Jan. 12, 2015

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. Tested date : Feb. 14, 2014

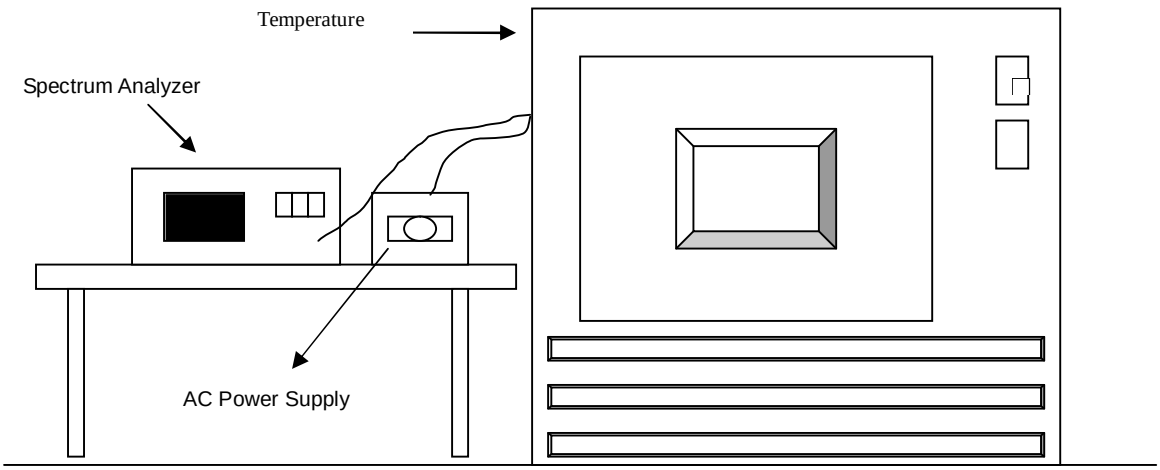
4.6.3 TEST PROCEDURE

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

FREQUEMCY STABILITY VERSUS TEMP.									
OPERATING FREQUENCY: 5320MHz									
TEMP. (℃)	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	5320.0308	0.00058	5320.0267	0.00050	5320.0287	0.00054	5320.0223	0.00042
40	120	5320.0146	0.00027	5320.015	0.00028	5320.0125	0.00023	5320.02	0.00038
30	120	5319.992	-0.00015	5319.9946	-0.00010	5319.9855	-0.00027	5319.9937	-0.00012
20	120	5320.0012	0.00002	5319.9928	-0.00014	5320.0008	0.00002	5319.9934	-0.00012
10	120	5319.9786	-0.00040	5319.989	-0.00021	5319.9826	-0.00033	5319.9844	-0.00029
0	120	5320.0182	0.00034	5320.0178	0.00033	5320.0155	0.00029	5320.014	0.00026
-10	120	5319.9922	-0.00015	5319.9928	-0.00014	5319.9889	-0.00021	5319.9897	-0.00019
-20	120	5319.9924	-0.00014	5319.9901	-0.00019	5319.9935	-0.00012	5319.9966	-0.00006
-30	120	5320.001	0.00002	5320.0056	0.00011	5320.0005	0.00001	5320.0044	0.00008

FREQUEMCY STABILITY VERSUS VOLTAGE									
OPERATING FREQUENCY: 5320MHz									
TEMP. (℃)	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	5320.0008	0.00002	5319.9931	-0.00013	5320.0013	0.00002	5319.9938	-0.00012
	120	5320.0012	0.00002	5319.9928	-0.00014	5320.0008	0.00002	5319.9934	-0.00012
	102	5320.0021	0.00004	5319.9933	-0.00013	5320.0003	0.00001	5319.9929	-0.00013

5. PHOTOGRAPHS OF THE TEST CONFIGURATION

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

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.

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 ---