FCC Test Report

Report No.:	RF160914E09G
FCC ID:	UXX-S5A643A
Test Model:	S5A643A
Series Model:	S5A644A
Received Date:	Mar. 15, 2019
Test Date:	Apr. 02 to 10, 2019
Issued Date:	May 02, 2019
Applicant:	Cradlepoint, Inc
Address:	1111 W. Jefferson Street, Suite 400,Boise, ID 83702 USA
Issued By:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch Hsin Chu Laboratory
Lab Address:	E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300, Taiwan R.O.C.
Test Location:	E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300, Taiwan R.O.C.
FCC Registration / Designation Number:	723255 / TW2022

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Release Control Record

Issue No.	Description	Date Issued
RF160914E09G	Original release.	May 02, 2019

1 Certificate of Conformity

Product: 2x2 Dual Band Concurrent AP

Brand: Cradlepoint

Test Model: S5A643A

Series Model: S5A644A

Sample Status: ENGINEERING SAMPLE

Applicant: Cradlepoint, Inc

Test Date: Apr. 02 to 10, 2019

Standards: 47 CFR FCC Part 15, Subpart C (Section 15.247)
ANSI C63.10: 2013

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

Prepared by : _____ , **Date:** May 02, 2019
Wendy Wu / Specialist

Approved by : _____ , **Date:** May 02, 2019
May Chen / Manager

2 Summary of Test Results

47 CFR FCC Part 15, Subpart C (Section 15.247)			
FCC Clause	Test Item	Result	Remarks
15.205 / 15.209 / 15.247(d)	Radiated Emissions and Band Edge Measurement	PASS	Meet the requirement of limit. Minimum passing margin is -0.3dB at 2483.50MHz.
15.247(b)	Conducted power	PASS	Meet the requirement of limit.

Note:

1. This report is prepared for FCC class II permissive change.
2. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

2.1 Measurement Uncertainty

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

Measurement	Frequency	Expanded Uncertainty (k=2) (±)
Radiated Emissions up to 1 GHz	30MHz ~ 1GHz	4.8 dB
Radiated Emissions above 1 GHz	1GHz ~ 6GHz	5.0 dB
	6GHz ~ 18GHz	5.0 dB
	18GHz ~ 40GHz	5.3 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	2x2 Dual Band Concurrent AP
Brand	Cradlepoint
Test Model	S5A643A
Series Model	S5A644A
Status of EUT	ENGINEERING SAMPLE
Power Supply Rating	12Vdc from power adapter
Modulation Type	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM 256QAM for OFDM in 11ac mode only.
Modulation Technology	DSSS, OFDM
Transfer Rate	802.11b: up to 11Mbps 802.11a/g: up to 54Mbps 802.11n: up to 600Mbps 802.11ac: up to 1733.3Mbps
Operating Frequency	**2.4GHz:** 2.412 ~ 2.462GHz **5GHz:** 5.18 ~ 5.24GHz, 5.26 ~ 5.32GHz, 5.50 ~ 5.58GHz & 5.66 ~ 5.70GHz, 5.745 ~ 5.825GHz
Number of Channel	**2.4GHz:** 802.11b, 802.11g, 802.11n (HT20): 11 802.11n (HT40): 7 **5GHz:** 802.11a, 802.11n (HT20), 802.11ac (VHT20): 21 802.11n (HT40), 802.11ac (VHT40): 9 802.11ac (VHT80): 4
Output Power	**2.4GHz:** **CDD Mode:** 589.71mW **Beamforming Mode:** 590.041mW **5GHz:** **CDD Mode:** **5.18 ~ 5.24GHz:** 170.344mW **5.26 ~ 5.32GHz:** 208.225mW **5.50 ~ 5.58GHz & 5.66 ~ 5.70GHz:** 200.296mW **5.745 ~ 5.825GHz:** 331.536mW **Beamforming Mode:** **5.18 ~ 5.24GHz:** 142.879mW **5.26 ~ 5.32GHz:** 162.767mW **5.50 ~ 5.58GHz & 5.66 ~ 5.70GHz:** 155.813mW **5.745 ~ 5.825GHz:** 327.997mW
Antenna Type	Refer to Note
Antenna Connector	Refer to Note
Accessory Device	Adapter x 1
Data Cable Supplied	NA

Note:

1. This report is prepared for FCC class II permissive change. The difference as the following:
   - Added new antennas

Original					
Ant Set	Antenna No.	Antenna Gain(dBi) Including cable loss	Frequency Range (GHz)	Antenna Type	Connector Type
1	1	4.49	2.4~2.4835	Dipole	R-SMA
		4.56	5.15~5.25		
		4.56	5.25~5.35		
		4.63	5.47~5.725		
		4.44	5.725~5.85		
	2	4.49	2.4~2.4835	Dipole	R-SMA
		4.56	5.15~5.25		
		4.56	5.25~5.35		
		4.63	5.47~5.725		
		4.44	5.725~5.85		

Newly					
Ant Set	Element	Antenna Gain(dBi) Including cable loss	Frequency Range (GHz)	Antenna Type	Connector Type
2	WLAN (Chain 1 & 2)	1.5	2400-2.500	PIFA	R-SMA
		2	5150-5250		
		2	5250-5350		
		1.9	5470-5725		
		1.9	5725-5900		
	LTE (Chain 1 & 2)	3.8	698-960	PIFA	SMA
		4.4	1710-3800		
	GNSS (Chain 1)	RX only: 26dB (with LNA)	1562-1612	Patch	SMA
3	WLAN (Chain 1, 2, 3, 4)	1.5	2400-2.500	Monopole	R-SMA
		1	5150-5250		
		1	5250-5350		
		0.9	5470-5725		
		0.9	5725-5900		
	LTE (Chain 1, 2, 3, 4)	3.8	698-960	PIFA	SMA
		5.4	1710-3800		
	GNSS (Chain 1)	RX only: 26dB (with LNA)	1562-1612	Patch	SMA

Note:
1. Max. gain was selected for Antenna Port Conducted Measurement test.
2. For Antenna set 3, WLAN chain 1 & 2 and LTE chain 1 & 2 was selected by the applicant requirement. And there was not any function for other WLAN and LTE chain.

2. According to above condition, only radiated Emissions and Conducted power need to be performed. And all data weres verified to meet the requirements.

3. All models are listed as below.

Model	Different			
	WiFi function	LTE function	Embedded radio	SKU
S5A643A	V	V	Model: MC7455 (FCC ID: N7NMC7455)	IBR900LP6
S5A644A	V	-	-	IBR900NM

From the above models, the worse case was found in model: **S5A643A**. Therefore only the test data of the model was recorded in this report.

4. The EUT (S5A643A) contains certified 3G/LTE modular which FCC ID: N7NMC7455.
5. There are WLAN, GPS and WWAN(LTE) technology used for the EUT.
6. Simultaneously transmission condition.

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

7. The EUT must be supplied with a power adapter and following different models could be chosen as following table:

No	Brand	Model No.	Spec.
1	Asian Power Devices Inc.	WA-36A12R	Input: 100-240V~50-60Hz, 0.9A Max. Output: 12V / 3A DC output cable: 1.45m, unshielded
2	LEI	MU30-P120200-A1	Input: 100-240V~50/60Hz, 0.8A Output: 12V / 2A DC output cable: 1.5m, unshielded
3	Ten Pao International Inc.	S024WM1200150	Input: 100-240V~50/60Hz 600mA Max. Output: 12V / 1500mA DC output cable: 2m, unshielded
Note: In original report, for radiated emissions test, the EUT was pre-tested with above adapters, the worst case was found in adapter 3. Therefore only the test data of the adapter was recorded in this report.			

8. The EUT incorporates a MIMO function:

2.4GHz Band		
MODULATION MODE	**TX & RX CONFIGURATION**	
802.11b	2TX	2RX
802.11g	2TX	2RX
802.11n (HT20)	2TX	2RX
802.11n (HT40)	2TX	2RX
5GHz Band		
MODULATION MODE	**TX & RX CONFIGURATION**	
802.11a	2TX	2RX
802.11n (HT20)	2TX	2RX
802.11n (HT40)	2TX	2RX
802.11ac (VHT20)	2TX	2RX
802.11ac (VHT40)	2TX	2RX
802.11ac (VHT80)	2TX	2RX
Note: 1. All of modulation mode support beamforming function except 802.11a/b/g modulation mode. 2. The modulation and bandwidth are similar for 802.11n mode for 20MHz / 40MHz and 802.11ac mode for 20MHz / 40MHz, therefore investigated worst case to representative mode in test report. (Final test mode refer section 3.2.1)		

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

3.2 Description of Test Modes

11 channels are provided for 802.11b, 802.11g and 802.11n (HT20):

Channel	Frequency	Channel	Frequency
1	2412MHz	7	2442MHz
2	2417MHz	8	2447MHz
3	2422MHz	9	2452MHz
4	2427MHz	10	2457MHz
5	2432MHz	11	2462MHz
6	2437MHz		

7 channels are provided for 802.11n (HT40):

Channel	Frequency	Channel	Frequency
3	2422MHz	7	2442MHz
4	2427MHz	8	2447MHz
5	2432MHz	9	2452MHz
6	2437MHz		

3.2.1 Test Mode Applicability and Tested Channel Detail

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

Where **RE≥1G:** Radiated Emission above 1GHz & Bandedge Measurement **RE<1G:** Radiated Emission below 1GHz
APCM: Antenna Port Conducted Measurement

NOTE: 1. The EUT had been pre-tested on the positioned of each 2 axis. The worst case was found when positioned on **X-plane**.

Radiated Emission Test (Above 1GHz):

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

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

CDD Mode					
MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1
802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6
802.11n (HT20)	1 to 11	1, 6, 11	OFDM	BPSK	6.5
802.11n (HT40)	3 to 9	3, 6, 9	OFDM	BPSK	13.5

Radiated Emission Test (Below 1GHz):

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

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

CDD Mode					
MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11n (HT20)	1 to 11	6	OFDM	BPSK	6.5

Antenna Port Conducted Measurement:

☒ This item includes all test value of each mode, but only includes spectrum plot of worst value of each mode.

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

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

CDD Mode					
MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1
802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6
802.11n (HT20)	1 to 11	1, 6, 11	OFDM	BPSK	6.5
802.11n (HT40)	3 to 9	3, 6, 9	OFDM	BPSK	13.5
Beamforming Mode					
MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11n (HT20)	1 to 11	1, 6, 11	OFDM	BPSK	6.5
802.11n (HT40)	3 to 9	3, 6, 9	OFDM	BPSK	13.5

Test Condition:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE≥1G	25deg. C, 65%RH	120Vac, 60Hz	Nelson Teng
RE<1G	23deg. C, 68%RH	120Vac, 60Hz	Robert Cheng
APCM	25deg. C, 60%RH	120Vac, 60Hz	Nelson Teng

3.3 Description of Support Units

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

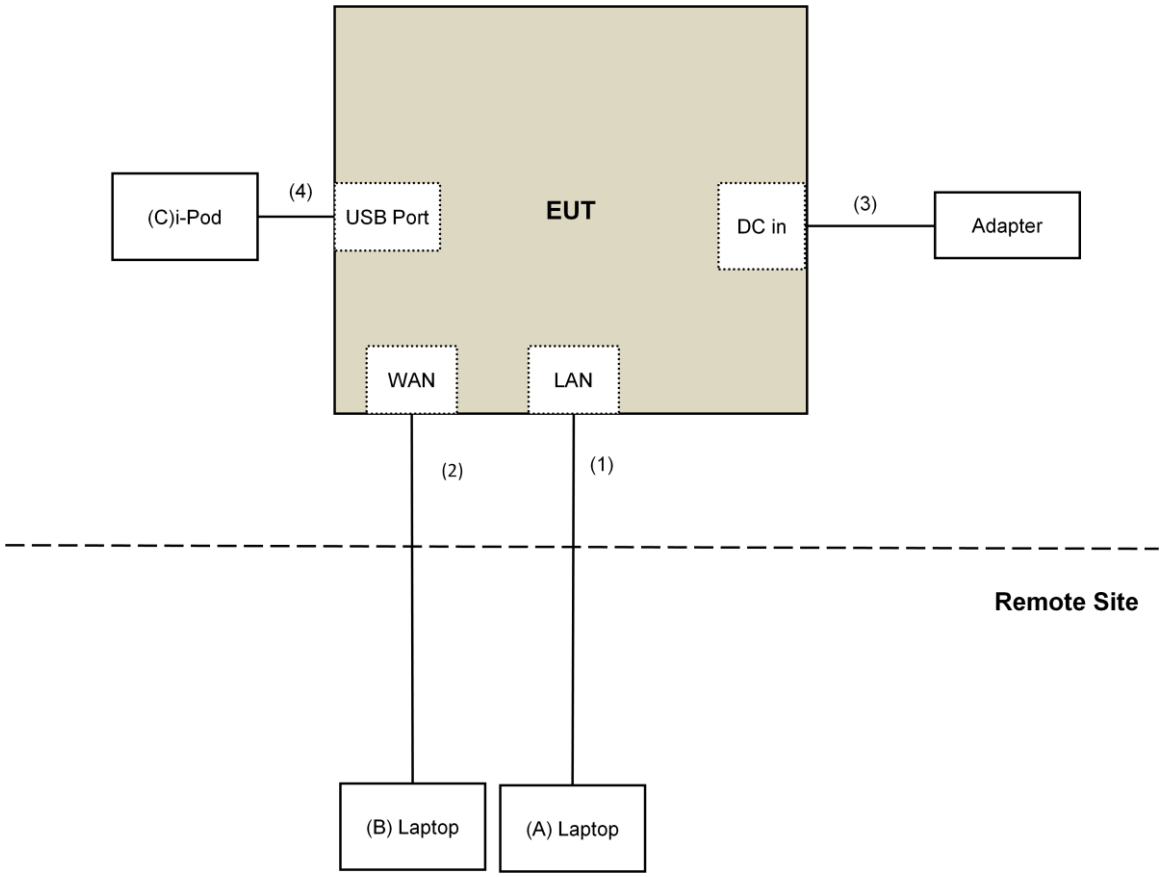
ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Laptop	DELL	E5430	HYV4VY1	FCC DoC	Provided by Lab
B.	Laptop	DELL	PP32LA	FSLB32S	FCC DoC	Provided by Lab
C.	i-Pod	Apple	MD778TA/A	CC4JMFL0F4T1	NA	Provided by Lab

Note:

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

ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	RJ-45 Cable	1	10	No	0	Provided by Lab
2.	RJ-45 Cable	1	10	No	0	Provided by Lab
3.	DC Cable	1	2	No	0	Supplied by client
4.	USB Cable	1	0.1	Yes	0	Provided by Lab

3.3.1 Configuration of System under Test



3.4 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 C (15.247)
KDB 558074 D01 15.247 Meas Guidance v05r02
KDB 662911 D01 Multiple Transmitter Output v02r01
ANSI C63.10-2013

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

4 Test Types and Results

4.1 Radiated Emission and Bandedge Measurement

4.1.1 Limits of Radiated Emission and Bandedge Measurement

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table. Other emissions shall be at least 20dB below the highest level of the desired power:

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.

4.1.2 Test Instruments

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver ESR7 R&S	ESR7	102026	Apr. 18, 2018	Apr. 17, 2019
Spectrum Analyzer Keysight	N9030B	MY57141948	June 01, 2018	May 31, 2019
Pre-Amplifier EMCI	EMC001340	980142	Jan. 25, 2019	Jan. 24, 2020
Loop Antenna(*) Electro-Metrics	EM-6879	269	Sep. 07, 2018	Sep. 06, 2019
RF Cable	NA	LOOPCAB-001	Jan. 14, 2019	Jan. 13, 2020
RF Cable	NA	LOOPCAB-002	Jan. 14, 2019	Jan. 13, 2020
Pre-Amplifier EMCI	EMC330N	980538	May 07, 2018	May 06, 2019
Trilog Broadband Antenna SCHWARZBECK	VULB9168	AMP-ZFL-05	May 07, 2018	May 06, 2019
RF Cable	8D	966-5-1	May 07, 2018	May 06, 2019
RF Cable	8D	966-5-2	May 07, 2018	May 06, 2019
RF Cable	8D	966-5-3	May 07, 2018	May 06, 2019
Fixed attenuator Mini-Circuits	UNAT-5+	PAD-ATT5-02	Jan. 28, 2019	Jan. 27, 2020
Horn_Antenna SCHWARZBECK	BBHA 9120D	9120D-1819	Nov. 25, 2018	Nov. 24, 2019
Pre-Amplifier EMCI	EMC12630SE	980509	May 07, 2018	May 06, 2019
RF Cable EMCI	EMC104-SM-SM-1500	180503	May 07, 2018	May 06, 2019
RF Cable EMCI	EMC104-SM-SM-2000	180501	May 07, 2018	May 06, 2019
RF Cable EMCI	EMC104-SM-SM-6000	180505	May 07, 2018	May 06, 2019
Pre-Amplifier EMCI	EMC184045SE	980387	Jan. 28, 2019	Jan. 27, 2020
Horn_Antenna SCHWARZBECK	BBHA 9170	BBHA9170519	Nov. 25, 2018	Nov. 24, 2019
RF Cable	EMC102-KM-KM-1200	160924	Jan. 28, 2019	Jan. 27, 2020
RF Cable	EMC102-KM-KM-1200	160925	Jan. 28, 2019	Jan. 27, 2020
Software	ADT_Radiated_V8.7.08	NA	NA	NA
Boresight Antenna Tower & Turn Table Max-Full	MF-7802BS	MF780208530	NA	NA
Spectrum Analyzer R&S	FSV40	100964	June 20, 2018	June 19, 2019
Power meter Anritsu	ML2495A	1014008	May 09, 2018	May 08, 2019
Power sensor Anritsu	MA2411B	0917122	May 09, 2018	May 08, 2019

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 calibration interval of the above test instruments is 24 months and the calibrations are traceable to NML/ROC and NIST/USA.
3. The test was performed in 966 Chamber No. 5.
4. Loop antenna was used for all emissions below 30 MHz.
5. Tested Date: Apr. 02 to 03, 2019

4.1.3 Test Procedures

For Radiated emission below 30MHz

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

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

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

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

NOTE:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 9kHz at frequency below 30MHz.

For Radiated emission above 30MHz

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

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 detects function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

Note:

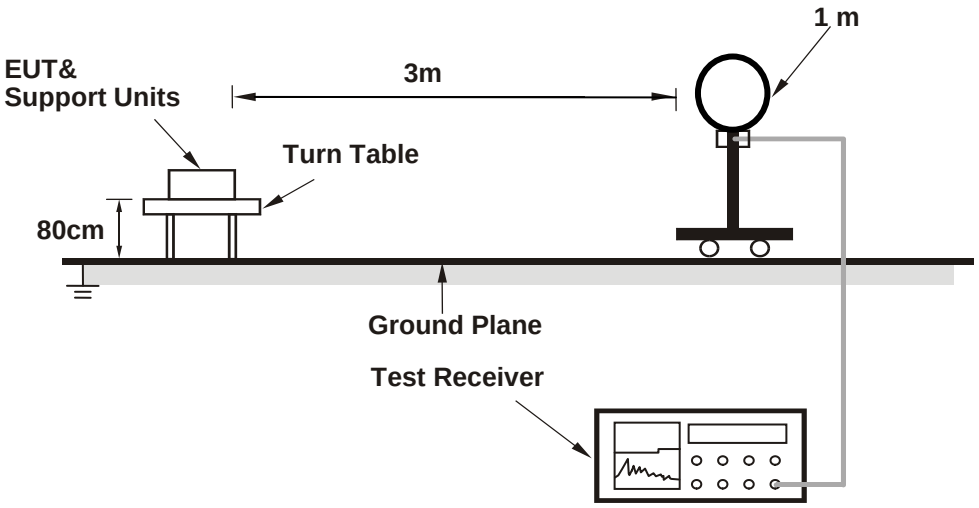
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.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

4.1.4 Deviation from Test Standard

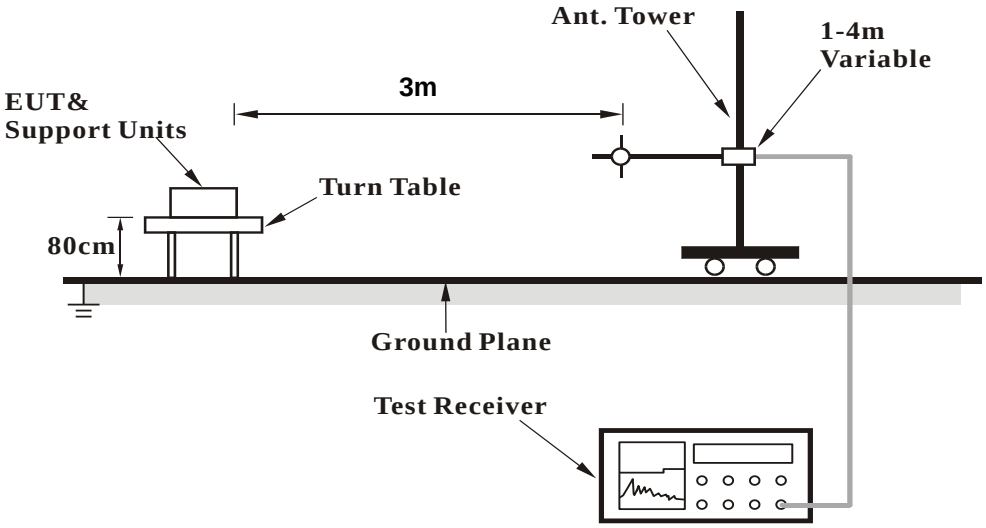
No deviation.

4.1.5 Test Setup

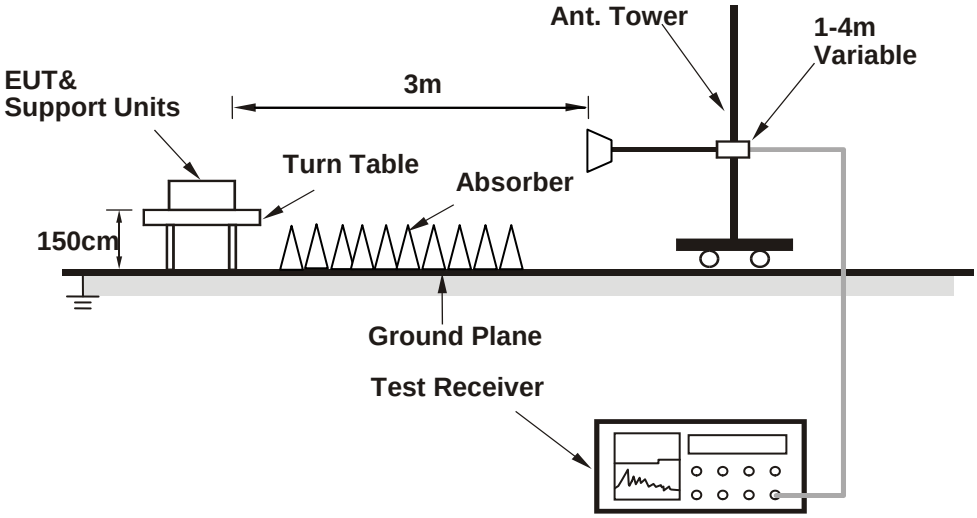
For Radiated emission below 30MHz



For Radiated emission 30MHz to 1GHz



For Radiated emission above 1GHz



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

4.1.6 EUT Operating Conditions

a. Connected the EUT with the Laptop which is placed on remote site.
b. Contorlling software (QDART-connectivity (1.0.44)) has been activated to set the EUT on specific status.

4.1.7 Test Results

Antenna Set 2

Above 1GHz Data:

802.11b

CHANNEL	TX Channel 1	**DETECTOR FUNCTION**	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

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	2390.00	53.5 PK	74.0	-20.5	1.40 H	227	56.7	-3.2
2	2390.00	47.1 AV	54.0	-6.9	1.40 H	227	50.3	-3.2
3	*2412.00	107.2 PK			1.40 H	227	110.4	-3.2
4	*2412.00	104.4 AV			1.40 H	227	107.6	-3.2
5	4824.00	43.9 PK	74.0	-30.1	2.27 H	254	43.1	0.8
6	4824.00	37.3 AV	54.0	-16.7	2.27 H	254	36.5	0.8
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	**FREQ. (MHz)**	**EMISSION LEVEL (dBuV/m)**	**LIMIT (dBuV/m)**	**MARGIN (dB)**	**ANTENNA HEIGHT (m)**	**TABLE ANGLE (Degree)**	**RAW VALUE (dBuV)**	**CORRECTION FACTOR (dB/m)**
1	2390.00	58.6 PK	74.0	-15.4	1.56 V	355	61.8	-3.2
2	2390.00	53.6 AV	54.0	-0.4	1.56 V	355	56.8	-3.2
3	*2412.00	113.5 PK			1.56 V	355	116.7	-3.2
4	*2412.00	110.4 AV			1.56 V	355	113.6	-3.2
5	4824.00	45.5 PK	74.0	-28.5	3.65 V	213	44.7	0.8
6	4824.00	39.9 AV	54.0	-14.1	3.65 V	213	39.1	0.8

REMARKS:

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

CHANNEL	TX Channel 6	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

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	2390.00	47.9 PK	74.0	-26.1	1.37 H	267	51.1	-3.2
2	2390.00	41.1 AV	54.0	-12.9	1.37 H	267	44.3	-3.2
3	*2437.00	107.5 PK			1.37 H	267	110.5	-3.0
4	*2437.00	105.0 AV			1.37 H	267	108.0	-3.0
5	2483.50	48.9 PK	74.0	-25.1	1.37 H	267	52.0	-3.1
6	2483.50	40.8 AV	54.0	-13.2	1.37 H	267	43.9	-3.1
7	4874.00	43.1 PK	74.0	-30.9	2.24 H	251	42.4	0.7
8	4874.00	36.7 AV	54.0	-17.3	2.24 H	251	36.0	0.7
9	7311.00	47.3 PK	74.0	-26.7	2.57 H	70	40.6	6.7
10	7311.00	35.7 AV	54.0	-18.3	2.57 H	70	29.0	6.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	53.3 PK	74.0	-20.7	1.57 V	359	56.5	-3.2
2	2390.00	46.6 AV	54.0	-7.4	1.57 V	359	49.8	-3.2
3	*2437.00	113.6 PK			1.57 V	359	116.6	-3.0
4	*2437.00	110.3 AV			1.57 V	359	113.3	-3.0
5	2483.50	53.3 PK	74.0	-20.7	1.57 V	359	56.4	-3.1
6	2483.50	45.2 AV	54.0	-8.8	1.57 V	359	48.3	-3.1
7	4874.00	45.1 PK	74.0	-28.9	3.61 V	186	44.4	0.7
8	4874.00	39.3 AV	54.0	-14.7	3.61 V	186	38.6	0.7
9	7311.00	48.4 PK	74.0	-25.6	1.14 V	326	41.7	6.7
10	7311.00	38.3 AV	54.0	-15.7	1.14 V	326	31.6	6.7

REMARKS:

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

CHANNEL	TX Channel 11	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

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	*2462.00	110.6 PK			1.44 H	241	113.7	-3.1
2	*2462.00	108.7 AV			1.44 H	241	111.8	-3.1
3	2483.50	54.0 PK	74.0	-20.0	1.44 H	241	57.1	-3.1
4	2483.50	48.0 AV	54.0	-6.0	1.44 H	241	51.1	-3.1
5	4924.00	43.2 PK	74.0	-30.8	2.25 H	258	42.4	0.8
6	4924.00	36.9 AV	54.0	-17.1	2.25 H	258	36.1	0.8
7	7386.00	46.7 PK	74.0	-27.3	2.63 H	34	39.7	7.0
8	7386.00	35.3 AV	54.0	-18.7	2.63 H	34	28.3	7.0
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	116.5 PK			1.62 V	352	119.6	-3.1
2	*2462.00	113.6 AV			1.62 V	352	116.7	-3.1
3	2483.50	59.6 PK	74.0	-14.4	1.62 V	352	62.7	-3.1
4	2483.50	53.4 AV	54.0	-0.6	1.62 V	352	56.5	-3.1
5	4924.00	44.6 PK	74.0	-29.4	3.67 V	206	43.8	0.8
6	4924.00	39.0 AV	54.0	-15.0	3.67 V	206	38.2	0.8
7	7386.00	48.6 PK	74.0	-25.4	1.03 V	320	41.6	7.0
8	7386.00	38.5 AV	54.0	-15.5	1.03 V	320	31.5	7.0

REMARKS:

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

802.11g

CHANNEL	TX Channel 1	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

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	2390.00	68.0 PK	74.0	-6.0	2.20 H	37	71.2	-3.2
2	2390.00	45.8 AV	54.0	-8.2	2.20 H	37	49.0	-3.2
3	*2412.00	107.8 PK			2.20 H	37	111.0	-3.2
4	*2412.00	95.9 AV			2.20 H	37	99.1	-3.2
5	4824.00	43.9 PK	74.0	-30.1	2.23 H	244	43.1	0.8
6	4824.00	37.3 AV	54.0	-16.7	2.23 H	244	36.5	0.8
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	73.2 PK	74.0	-0.8	1.43 V	340	76.4	-3.2
2	2390.00	52.1 AV	54.0	-1.9	1.43 V	340	55.3	-3.2
3	*2412.00	114.2 PK			1.43 V	340	117.4	-3.2
4	*2412.00	102.4 AV			1.43 V	340	105.6	-3.2
5	4824.00	45.0 PK	74.0	-29.0	3.58 V	175	44.2	0.8
6	4824.00	39.5 AV	54.0	-14.5	3.58 V	175	38.7	0.8

REMARKS:

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

CHANNEL	TX Channel 6	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

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	*2437.00	113.3 PK			2.11 H	60	116.3	-3.0
2	*2437.00	101.1 AV			2.11 H	60	104.1	-3.0
3	4874.00	43.5 PK	74.0	-30.5	2.29 H	244	42.8	0.7
4	4874.00	36.6 AV	54.0	-17.4	2.29 H	244	35.9	0.7
5	7311.00	46.7 PK	74.0	-27.3	2.62 H	32	40.0	6.7
6	7311.00	35.3 AV	54.0	-18.7	2.62 H	32	28.6	6.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	118.8 PK			1.52 V	342	121.8	-3.0
2	*2437.00	106.9 AV			1.52 V	342	109.9	-3.0
3	4874.00	45.4 PK	74.0	-28.6	3.64 V	205	44.7	0.7
4	4874.00	39.5 AV	54.0	-14.5	3.64 V	205	38.8	0.7
5	7311.00	48.1 PK	74.0	-25.9	1.07 V	356	41.4	6.7
6	7311.00	38.4 AV	54.0	-15.6	1.07 V	356	31.7	6.7

REMARKS:

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

CHANNEL	TX Channel 11	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

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	*2462.00	109.8 PK			2.09 H	63	112.9	-3.1
2	*2462.00	98.0 AV			2.09 H	63	101.1	-3.1
3	2483.50	66.3 PK	74.0	-7.7	2.09 H	63	69.4	-3.1
4	2483.50	46.5 AV	54.0	-7.5	2.09 H	63	49.6	-3.1
5	4924.00	43.4 PK	74.0	-30.6	2.34 H	244	42.6	0.8
6	4924.00	36.7 AV	54.0	-17.3	2.34 H	244	35.9	0.8
7	7386.00	47.8 PK	74.0	-26.2	2.60 H	27	40.8	7.0
8	7386.00	36.4 AV	54.0	-17.6	2.60 H	27	29.4	7.0
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	115.8 PK			1.68 V	347	118.9	-3.1
2	*2462.00	103.6 AV			1.68 V	347	106.7	-3.1
3	2483.50	72.5 PK	74.0	-1.5	1.68 V	347	75.6	-3.1
4	2483.50	52.2 AV	54.0	-1.8	1.68 V	347	55.3	-3.1
5	4924.00	45.8 PK	74.0	-28.2	3.55 V	180	45.0	0.8
6	4924.00	40.2 AV	54.0	-13.8	3.55 V	180	39.4	0.8
7	7386.00	48.8 PK	74.0	-25.2	1.06 V	342	41.8	7.0
8	7386.00	38.2 AV	54.0	-15.8	1.06 V	342	31.2	7.0

REMARKS:

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

802.11n (HT20)

CHANNEL	TX Channel 1	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

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	2390.00	68.4 PK	74.0	-5.6	2.16 H	22	71.6	-3.2
2	2390.00	44.9 AV	54.0	-9.1	2.16 H	22	48.1	-3.2
3	*2412.00	109.7 PK			2.16 H	22	112.9	-3.2
4	*2412.00	98.5 AV			2.16 H	22	101.7	-3.2
5	4824.00	44.2 PK	74.0	-29.8	2.19 H	203	43.4	0.8
6	4824.00	37.3 AV	54.0	-16.7	2.19 H	203	36.5	0.8
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	73.6 PK	74.0	-0.4	1.83 V	315	76.8	-3.2
2	2390.00	50.6 AV	54.0	-3.4	1.83 V	315	53.8	-3.2
3	*2412.00	116.6 PK			1.83 V	315	119.8	-3.2
4	*2412.00	104.6 AV			1.83 V	315	107.8	-3.2
5	4824.00	45.6 PK	74.0	-28.4	3.57 V	213	44.8	0.8
6	4824.00	40.1 AV	54.0	-13.9	3.57 V	213	39.3	0.8

REMARKS:

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

CHANNEL	TX Channel 6	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

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	2390.00	50.9 PK	74.0	-23.1	2.15 H	69	54.1	-3.2
2	2390.00	37.1 AV	54.0	-16.9	2.15 H	69	40.3	-3.2
3	*2437.00	114.4 PK			2.15 H	69	117.4	-3.0
4	*2437.00	103.5 AV			2.15 H	69	106.5	-3.0
5	2483.50	61.6 PK	74.0	-12.4	2.15 H	69	64.7	-3.1
6	2483.50	44.5 AV	54.0	-9.5	2.15 H	69	47.6	-3.1
7	4874.00	43.6 PK	74.0	-30.4	2.29 H	214	42.9	0.7
8	4874.00	36.6 AV	54.0	-17.4	2.29 H	214	35.9	0.7
9	7311.00	46.3 PK	74.0	-27.7	2.59 H	42	39.6	6.7
10	7311.00	35.0 AV	54.0	-19.0	2.59 H	42	28.3	6.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	61.1 PK	74.0	-12.9	1.72 V	322	64.3	-3.2
2	2390.00	43.0 AV	54.0	-11.0	1.72 V	322	46.2	-3.2
3	*2437.00	120.4 PK			1.72 V	322	123.4	-3.0
4	*2437.00	109.0 AV			1.72 V	322	112.0	-3.0
5	2483.50	66.9 PK	74.0	-7.1	1.72 V	322	70.0	-3.1
6	2483.50	50.1 AV	54.0	-3.9	1.72 V	322	53.2	-3.1
7	4874.00	45.8 PK	74.0	-28.2	3.57 V	210	45.1	0.7
8	4874.00	39.6 AV	54.0	-14.4	3.57 V	210	38.9	0.7
9	7311.00	48.5 PK	74.0	-25.5	1.03 V	336	41.8	6.7
10	7311.00	38.1 AV	54.0	-15.9	1.03 V	336	31.4	6.7

REMARKS:

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

CHANNEL	TX Channel 11	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

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	*2462.00	109.6 PK			2.15 H	62	112.7	-3.1
2	*2462.00	98.5 AV			2.15 H	62	101.6	-3.1
3	2483.50	66.8 PK	74.0	-7.2	2.15 H	62	69.9	-3.1
4	2483.50	47.1 AV	54.0	-6.9	2.15 H	62	50.2	-3.1
5	4924.00	43.2 PK	74.0	-30.8	2.32 H	235	42.4	0.8
6	4924.00	36.6 AV	54.0	-17.4	2.32 H	235	35.8	0.8
7	7386.00	48.2 PK	74.0	-25.8	2.57 H	34	41.2	7.0
8	7386.00	36.7 AV	54.0	-17.3	2.57 H	34	29.7	7.0
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	116.7 PK			1.56 V	322	119.8	-3.1
2	*2462.00	104.9 AV			1.56 V	322	108.0	-3.1
3	2483.50	73.0 PK	74.0	-1.0	1.56 V	322	76.1	-3.1
4	2483.50	53.3 AV	54.0	-0.7	1.56 V	322	56.4	-3.1
5	4924.00	45.4 PK	74.0	-28.6	3.57 V	169	44.6	0.8
6	4924.00	39.2 AV	54.0	-14.8	3.57 V	169	38.4	0.8
7	7386.00	47.9 PK	74.0	-26.1	1.00 V	358	40.9	7.0
8	7386.00	37.2 AV	54.0	-16.8	1.00 V	358	30.2	7.0

REMARKS:

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

802.11n (HT40)

CHANNEL	TX Channel 3	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

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	2390.00	65.9 PK	74.0	-8.1	2.10 H	33	69.1	-3.2
2	2390.00	46.7 AV	54.0	-7.3	2.10 H	33	49.9	-3.2
3	*2422.00	100.4 PK			2.10 H	33	103.6	-3.2
4	*2422.00	89.4 AV			2.10 H	33	92.6	-3.2
5	4844.00	41.3 PK	74.0	-32.7	2.38 H	245	40.5	0.8
6	4844.00	35.5 AV	54.0	-18.5	2.38 H	245	34.7	0.8
7	7266.00	46.6 PK	74.0	-27.4	2.54 H	58	39.9	6.7
8	7266.00	35.5 AV	54.0	-18.5	2.54 H	58	28.8	6.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	73.4 PK	74.0	-0.6	1.53 V	326	76.6	-3.2
2	2390.00	53.2 AV	54.0	-0.8	1.53 V	326	56.4	-3.2
3	*2422.00	110.6 PK			1.53 V	326	113.8	-3.2
4	*2422.00	99.1 AV			1.53 V	326	102.3	-3.2
5	4844.00	45.4 PK	74.0	-28.6	3.54 V	195	44.6	0.8
6	4844.00	39.5 AV	54.0	-14.5	3.54 V	195	38.7	0.8
7	7266.00	47.8 PK	74.0	-26.2	1.03 V	339	41.1	6.7
8	7266.00	37.0 AV	54.0	-17.0	1.03 V	339	30.3	6.7

REMARKS:

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

CHANNEL	TX Channel 6	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

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	2390.00	60.5 PK	74.0	-13.5	2.05 H	46	63.7	-3.2
2	2390.00	46.7 AV	54.0	-7.3	2.05 H	46	49.9	-3.2
3	*2437.00	104.5 PK			2.05 H	46	107.5	-3.0
4	*2437.00	92.5 AV			2.05 H	46	95.5	-3.0
5	2483.50	60.4 PK	74.0	-13.6	2.05 H	46	63.5	-3.1
6	2483.50	46.8 AV	54.0	-7.2	2.05 H	46	49.9	-3.1
7	4874.00	41.8 PK	74.0	-32.2	2.40 H	244	41.1	0.7
8	4874.00	36.3 AV	54.0	-17.7	2.40 H	244	35.6	0.7
9	7311.00	46.9 PK	74.0	-27.1	2.57 H	70	40.2	6.7
10	7311.00	35.8 AV	54.0	-18.2	2.57 H	70	29.1	6.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	68.3 PK	74.0	-5.7	1.39 V	360	71.5	-3.2
2	2390.00	52.7 AV	54.0	-1.3	1.39 V	360	55.9	-3.2
3	*2437.00	112.0 PK			1.39 V	360	115.0	-3.0
4	*2437.00	100.1 AV			1.39 V	360	103.1	-3.0
5	2483.50	68.7 PK	74.0	-5.3	1.39 V	360	71.8	-3.1
6	2483.50	52.9 AV	54.0	-1.1	1.39 V	360	56.0	-3.1
7	4874.00	46.1 PK	74.0	-27.9	3.51 V	187	45.4	0.7
8	4874.00	39.9 AV	54.0	-14.1	3.51 V	187	39.2	0.7
9	7311.00	48.7 PK	74.0	-25.3	1.09 V	334	42.0	6.7
10	7311.00	37.9 AV	54.0	-16.1	1.09 V	334	31.2	6.7

REMARKS:

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

CHANNEL	TX Channel 9	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

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	*2452.00	100.1 PK			2.22 H	28	103.2	-3.1
2	*2452.00	89.4 AV			2.22 H	28	92.5	-3.1
3	2483.50	66.0 PK	74.0	-8.0	2.22 H	28	69.1	-3.1
4	2483.50	46.6 AV	54.0	-7.4	2.22 H	28	49.7	-3.1
5	4904.00	41.8 PK	74.0	-32.2	2.41 H	253	41.1	0.7
6	4904.00	36.1 AV	54.0	-17.9	2.41 H	253	35.4	0.7
7	7356.00	46.0 PK	74.0	-28.0	2.54 H	58	39.1	6.9
8	7356.00	34.9 AV	54.0	-19.1	2.54 H	58	28.0	6.9
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2452.00	109.4 PK			1.71 V	360	112.5	-3.1
2	*2452.00	98.0 AV			1.71 V	360	101.1	-3.1
3	2483.50	73.5 PK	74.0	-0.5	1.71 V	360	76.6	-3.1
4	**2483.50**	**53.7 AV**	**54.0**	**-0.3**	**1.71 V**	**360**	**56.8**	**-3.1**
5	4904.00	46.1 PK	74.0	-27.9	3.54 V	181	45.4	0.7
6	4904.00	39.7 AV	54.0	-14.3	3.54 V	181	39.0	0.7
7	7356.00	48.0 PK	74.0	-26.0	1.11 V	343	41.1	6.9
8	7356.00	37.9 AV	54.0	-16.1	1.11 V	343	31.0	6.9

REMARKS:

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

Below 1GHz Data:

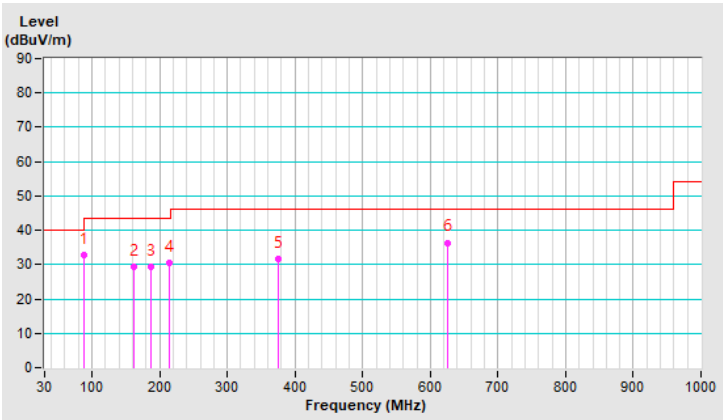
802.11n (HT20)

CHANNEL	TX Channel 6	**DETECTOR FUNCTION**	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 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	87.57	32.8 QP	40.0	-7.2	2.00 H	84	51.4	-18.6
2	161.95	29.2 QP	43.5	-14.3	1.71 H	66	42.1	-12.9
3	187.02	29.5 QP	43.5	-14.0	1.42 H	144	44.8	-15.3
4	215.12	30.6 QP	43.5	-12.9	1.42 H	88	46.2	-15.6
5	375.30	31.5 QP	46.0	-14.5	1.20 H	100	42.1	-10.6
6	625.41	36.4 QP	46.0	-9.6	1.47 H	85	41.4	-5.0

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30MHz~1000MHz.
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

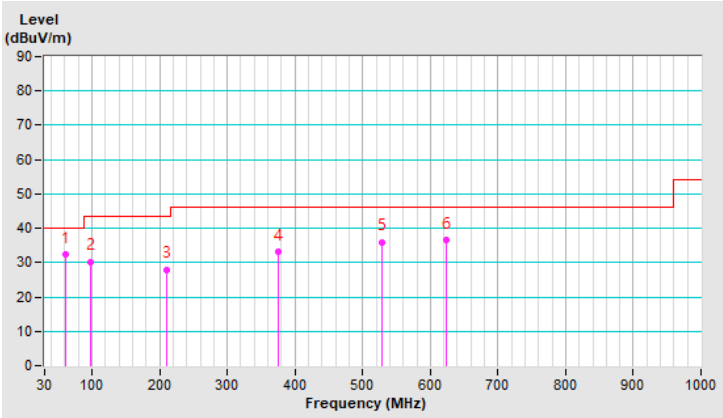


CHANNEL	TX Channel 6	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		

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	60.57	32.4 QP	40.0	-7.6	1.20 V	100	46.3	-13.9
2	98.29	30.3 QP	43.5	-13.2	1.65 V	134	48.0	-17.7
3	210.19	28.0 QP	43.5	-15.5	1.32 V	200	43.7	-15.7
4	375.28	33.3 QP	46.0	-12.7	1.74 V	211	43.9	-10.6
5	529.24	36.0 QP	46.0	-10.0	1.65 V	100	43.2	-7.2
6	624.32	36.7 QP	46.0	-9.3	1.47 V	100	41.7	-5.0

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30MHz~1000MHz.
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.



Antenna Set 3

Above 1GHz Data:

802.11b

CHANNEL	TX Channel 1	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

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	2390.00	54.3 PK	74.0	-19.7	1.40 H	223	57.5	-3.2
2	2390.00	47.6 AV	54.0	-6.4	1.40 H	223	50.8	-3.2
3	*2412.00	106.7 PK			1.40 H	223	109.9	-3.2
4	*2412.00	103.9 AV			1.40 H	223	107.1	-3.2
5	4824.00	43.9 PK	74.0	-30.1	2.25 H	252	43.1	0.8
6	4824.00	37.5 AV	54.0	-16.5	2.25 H	252	36.7	0.8
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	59.2 PK	74.0	-14.8	1.51 V	340	62.4	-3.2
2	2390.00	53.6 AV	54.0	-0.4	1.51 V	340	56.8	-3.2
3	*2412.00	113.3 PK			1.51 V	340	116.5	-3.2
4	*2412.00	110.2 AV			1.51 V	340	113.4	-3.2
5	4824.00	45.4 PK	74.0	-28.6	3.65 V	225	44.6	0.8
6	4824.00	40.1 AV	54.0	-13.9	3.65 V	225	39.3	0.8

REMARKS:

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

CHANNEL	TX Channel 6	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

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	2390.00	48.4 PK	74.0	-25.6	1.38 H	261	51.6	-3.2
2	2390.00	41.4 AV	54.0	-12.6	1.38 H	261	44.6	-3.2
3	*2437.00	107.4 PK			1.38 H	261	110.4	-3.0
4	*2437.00	105.2 AV			1.38 H	261	108.2	-3.0
5	2483.50	49.4 PK	74.0	-24.6	1.38 H	261	52.5	-3.1
6	2483.50	41.0 AV	54.0	-13.0	1.38 H	261	44.1	-3.1
7	4874.00	42.6 PK	74.0	-31.4	2.27 H	238	41.9	0.7
8	4874.00	36.3 AV	54.0	-17.7	2.27 H	238	35.6	0.7
9	7311.00	47.1 PK	74.0	-26.9	2.54 H	60	40.4	6.7
10	7311.00	35.5 AV	54.0	-18.5	2.54 H	60	28.8	6.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	53.3 PK	74.0	-20.7	1.55 V	360	56.5	-3.2
2	2390.00	46.4 AV	54.0	-7.6	1.55 V	360	49.6	-3.2
3	*2437.00	113.3 PK			1.55 V	360	116.3	-3.0
4	*2437.00	110.2 AV			1.55 V	360	113.2	-3.0
5	2483.50	53.1 PK	74.0	-20.9	1.55 V	360	56.2	-3.1
6	2483.50	44.7 AV	54.0	-9.3	1.55 V	360	47.8	-3.1
7	4874.00	44.6 PK	74.0	-29.4	3.62 V	173	43.9	0.7
8	4874.00	38.9 AV	54.0	-15.1	3.62 V	173	38.2	0.7
9	7311.00	47.9 PK	74.0	-26.1	1.17 V	314	41.2	6.7
10	7311.00	38.0 AV	54.0	-16.0	1.17 V	314	31.3	6.7

REMARKS:

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

CHANNEL	TX Channel 11	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

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	*2462.00	109.9 PK			1.43 H	229	113.0	-3.1
2	*2462.00	107.9 AV			1.43 H	229	111.0	-3.1
3	2483.50	54.5 PK	74.0	-19.5	1.41 H	228	57.6	-3.1
4	2483.50	48.5 AV	54.0	-5.5	1.41 H	228	51.6	-3.1
5	4924.00	43.3 PK	74.0	-30.7	2.26 H	251	42.5	0.8
6	4924.00	36.9 AV	54.0	-17.1	2.26 H	251	36.1	0.8
7	7386.00	47.1 PK	74.0	-26.9	2.64 H	42	40.1	7.0
8	7386.00	35.7 AV	54.0	-18.3	2.64 H	42	28.7	7.0
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	115.2 PK			1.60 V	360	118.3	-3.1
2	*2462.00	112.0 AV			1.60 V	360	115.1	-3.1
3	2483.50	59.6 PK	74.0	-14.4	1.63 V	356	62.7	-3.1
4	2483.50	53.2 AV	54.0	-0.8	1.63 V	356	56.3	-3.1
5	4924.00	45.2 PK	74.0	-28.8	3.64 V	214	44.4	0.8
6	4924.00	39.5 AV	54.0	-14.5	3.64 V	214	38.7	0.8
7	7386.00	48.8 PK	74.0	-25.2	1.07 V	308	41.8	7.0
8	7386.00	38.9 AV	54.0	-15.1	1.07 V	308	31.9	7.0

REMARKS:

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

802.11g

CHANNEL	TX Channel 1	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

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	2390.00	68.0 PK	74.0	-6.0	2.25 H	53	71.2	-3.2
2	2390.00	45.7 AV	54.0	-8.3	2.25 H	53	48.9	-3.2
3	*2412.00	107.7 PK			2.25 H	53	110.9	-3.2
4	*2412.00	95.7 AV			2.25 H	53	98.9	-3.2
5	4824.00	44.2 PK	74.0	-29.8	2.27 H	252	43.4	0.8
6	4824.00	37.4 AV	54.0	-16.6	2.27 H	252	36.6	0.8
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	72.7 PK	74.0	-1.3	1.45 V	331	75.9	-3.2
2	2390.00	51.7 AV	54.0	-2.3	1.45 V	331	54.9	-3.2
3	*2412.00	114.4 PK			1.45 V	331	117.6	-3.2
4	*2412.00	102.6 AV			1.45 V	331	105.8	-3.2
5	4824.00	44.8 PK	74.0	-29.2	3.57 V	175	44.0	0.8
6	4824.00	39.2 AV	54.0	-14.8	3.57 V	175	38.4	0.8

REMARKS:

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

CHANNEL	TX Channel 6	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

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	2390.00	57.6 PK	74.0	-16.4	2.07 H	44	60.8	-3.2
2	2390.00	41.7 AV	54.0	-12.3	2.07 H	44	44.9	-3.2
3	*2437.00	113.2 PK			2.07 H	44	116.2	-3.0
4	*2437.00	100.7 AV			2.07 H	44	103.7	-3.0
5	2483.50	59.3 PK	74.0	-14.7	2.07 H	44	62.4	-3.1
6	2483.50	42.6 AV	54.0	-11.4	2.07 H	44	45.7	-3.1
7	4874.00	43.3 PK	74.0	-30.7	2.28 H	254	42.6	0.7
8	4874.00	36.7 AV	54.0	-17.3	2.28 H	254	36.0	0.7
9	7311.00	46.8 PK	74.0	-27.2	2.64 H	37	40.1	6.7
10	7311.00	35.2 AV	54.0	-18.8	2.64 H	37	28.5	6.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	62.5 PK	74.0	-11.5	1.50 V	351	65.7	-3.2
2	2390.00	46.1 AV	54.0	-7.9	1.50 V	351	49.3	-3.2
3	*2437.00	118.4 PK			1.50 V	351	121.4	-3.0
4	*2437.00	106.6 AV			1.50 V	351	109.6	-3.0
5	2483.50	65.7 PK	74.0	-8.3	1.50 V	351	68.8	-3.1
6	2483.50	49.3 AV	54.0	-4.7	1.50 V	351	52.4	-3.1
7	4874.00	45.8 PK	74.0	-28.2	3.65 V	219	45.1	0.7
8	4874.00	39.8 AV	54.0	-14.2	3.65 V	219	39.1	0.7
9	7311.00	47.7 PK	74.0	-26.3	1.10 V	357	41.0	6.7
10	7311.00	38.0 AV	54.0	-16.0	1.10 V	357	31.3	6.7

REMARKS:

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

CHANNEL	TX Channel 11	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

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	*2462.00	109.8 PK			2.08 H	59	112.9	-3.1
2	*2462.00	97.7 AV			2.08 H	59	100.8	-3.1
3	2483.50	66.5 PK	74.0	-7.5	2.08 H	59	69.6	-3.1
4	2483.50	46.6 AV	54.0	-7.4	2.08 H	59	49.7	-3.1
5	4924.00	43.6 PK	74.0	-30.4	2.34 H	248	42.8	0.8
6	4924.00	36.6 AV	54.0	-17.4	2.34 H	248	35.8	0.8
7	7386.00	47.6 PK	74.0	-26.4	2.62 H	42	40.6	7.0
8	7386.00	36.1 AV	54.0	-17.9	2.62 H	42	29.1	7.0
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	116.1 PK			1.66 V	360	119.2	-3.1
2	*2462.00	103.6 AV			1.66 V	360	106.7	-3.1
3	2483.50	73.0 PK	74.0	-1.0	1.66 V	360	76.1	-3.1
4	2483.50	52.5 AV	54.0	-1.5	1.66 V	360	55.6	-3.1
5	4924.00	46.2 PK	74.0	-27.8	3.59 V	181	45.4	0.8
6	4924.00	40.4 AV	54.0	-13.6	3.59 V	181	39.6	0.8
7	7386.00	48.7 PK	74.0	-25.3	1.04 V	340	41.7	7.0
8	7386.00	38.0 AV	54.0	-16.0	1.04 V	340	31.0	7.0

REMARKS:

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

802.11n (HT20)

CHANNEL	TX Channel 1	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

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	2390.00	68.4 PK	74.0	-5.6	2.17 H	18	71.6	-3.2
2	2390.00	44.7 AV	54.0	-9.3	2.17 H	18	47.9	-3.2
3	*2412.00	109.9 PK			2.17 H	18	113.1	-3.2
4	*2412.00	98.9 AV			2.17 H	18	102.1	-3.2
5	4824.00	43.9 PK	74.0	-30.1	2.24 H	187	43.1	0.8
6	4824.00	37.2 AV	54.0	-16.8	2.24 H	187	36.4	0.8
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	73.4 PK	74.0	-0.6	1.79 V	308	76.6	-3.2
2	2390.00	50.4 AV	54.0	-3.6	1.79 V	308	53.6	-3.2
3	*2412.00	116.5 PK			1.79 V	308	119.7	-3.2
4	*2412.00	104.3 AV			1.79 V	308	107.5	-3.2
5	4824.00	44.9 PK	74.0	-29.1	3.60 V	209	44.1	0.8
6	4824.00	39.6 AV	54.0	-14.4	3.60 V	209	38.8	0.8

REMARKS:

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

CHANNEL	TX Channel 6	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

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	2390.00	50.6 PK	74.0	-23.4	2.12 H	60	53.8	-3.2
2	2390.00	36.8 AV	54.0	-17.2	2.12 H	60	40.0	-3.2
3	*2437.00	114.0 PK			2.12 H	60	117.0	-3.0
4	*2437.00	103.2 AV			2.12 H	60	106.2	-3.0
5	2483.50	61.5 PK	74.0	-12.5	2.12 H	60	64.6	-3.1
6	2483.50	44.6 AV	54.0	-9.4	2.12 H	60	47.7	-3.1
7	4874.00	43.4 PK	74.0	-30.6	2.25 H	226	42.7	0.7
8	4874.00	36.3 AV	54.0	-17.7	2.25 H	226	35.6	0.7
9	7311.00	46.3 PK	74.0	-27.7	2.58 H	27	39.6	6.7
10	7311.00	34.8 AV	54.0	-19.2	2.58 H	27	28.1	6.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	61.3 PK	74.0	-12.7	1.69 V	324	64.5	-3.2
2	2390.00	43.2 AV	54.0	-10.8	1.69 V	324	46.4	-3.2
3	*2437.00	120.7 PK			1.69 V	324	123.7	-3.0
4	*2437.00	109.3 AV			1.69 V	324	112.3	-3.0
5	2483.50	67.0 PK	74.0	-7.0	1.69 V	324	70.1	-3.1
6	2483.50	50.3 AV	54.0	-3.7	1.69 V	324	53.4	-3.1
7	4874.00	46.1 PK	74.0	-27.9	3.62 V	203	45.4	0.7
8	4874.00	39.7 AV	54.0	-14.3	3.62 V	203	39.0	0.7
9	7311.00	49.1 PK	74.0	-24.9	1.00 V	338	42.4	6.7
10	7311.00	38.6 AV	54.0	-15.4	1.00 V	338	31.9	6.7

REMARKS:

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

CHANNEL	TX Channel 11	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

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	*2462.00	110.0 PK			2.18 H	51	113.1	-3.1
2	*2462.00	98.8 AV			2.18 H	51	101.9	-3.1
3	2483.50	66.4 PK	74.0	-7.6	2.18 H	51	69.5	-3.1
4	2483.50	46.6 AV	54.0	-7.4	2.18 H	51	49.7	-3.1
5	4924.00	43.3 PK	74.0	-30.7	2.37 H	247	42.5	0.8
6	4924.00	36.8 AV	54.0	-17.2	2.37 H	247	36.0	0.8
7	7386.00	47.9 PK	74.0	-26.1	2.54 H	41	40.9	7.0
8	7386.00	36.2 AV	54.0	-17.8	2.54 H	41	29.2	7.0
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	117.0 PK			1.52 V	324	120.1	-3.1
2	*2462.00	105.2 AV			1.52 V	324	108.3	-3.1
3	2483.50	72.9 PK	74.0	-1.1	1.52 V	324	76.0	-3.1
4	2483.50	53.0 AV	54.0	-1.0	1.52 V	324	56.1	-3.1
5	4924.00	44.9 PK	74.0	-29.1	3.60 V	176	44.1	0.8
6	4924.00	38.8 AV	54.0	-15.2	3.60 V	176	38.0	0.8
7	7386.00	47.6 PK	74.0	-26.4	1.03 V	358	40.6	7.0
8	7386.00	36.9 AV	54.0	-17.1	1.03 V	358	29.9	7.0

REMARKS:

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

802.11n (HT40)

CHANNEL	TX Channel 3	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

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	2390.00	66.5 PK	74.0	-7.5	2.14 H	28	69.7	-3.2
2	2390.00	47.2 AV	54.0	-6.8	2.14 H	28	50.4	-3.2
3	*2422.00	99.9 PK			2.14 H	28	103.1	-3.2
4	*2422.00	89.0 AV			2.14 H	28	92.2	-3.2
5	4844.00	41.2 PK	74.0	-32.8	2.33 H	245	40.4	0.8
6	4844.00	35.3 AV	54.0	-18.7	2.33 H	245	34.5	0.8
7	7266.00	46.8 PK	74.0	-27.2	2.51 H	52	40.1	6.7
8	7266.00	35.5 AV	54.0	-18.5	2.51 H	52	28.8	6.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	73.5 PK	74.0	-0.5	1.55 V	317	76.7	-3.2
2	2390.00	53.0 AV	54.0	-1.0	1.55 V	317	56.2	-3.2
3	*2422.00	110.8 PK			1.55 V	317	114.0	-3.2
4	*2422.00	99.0 AV			1.55 V	317	102.2	-3.2
5	4844.00	45.2 PK	74.0	-28.8	3.59 V	202	44.4	0.8
6	4844.00	39.2 AV	54.0	-14.8	3.59 V	202	38.4	0.8
7	7266.00	47.9 PK	74.0	-26.1	1.00 V	352	41.2	6.7
8	7266.00	37.3 AV	54.0	-16.7	1.00 V	352	30.6	6.7

REMARKS:

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

CHANNEL	TX Channel 6	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

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	2390.00	61.1 PK	74.0	-12.9	2.07 H	43	64.3	-3.2
2	2390.00	47.1 AV	54.0	-6.9	2.07 H	43	50.3	-3.2
3	*2437.00	104.5 PK			2.07 H	43	107.5	-3.0
4	*2437.00	92.3 AV			2.07 H	43	95.3	-3.0
5	2483.50	60.9 PK	74.0	-13.1	2.07 H	43	64.0	-3.1
6	2483.50	47.3 AV	54.0	-6.7	2.07 H	43	50.4	-3.1
7	4874.00	42.1 PK	74.0	-31.9	2.36 H	257	41.4	0.7
8	4874.00	36.7 AV	54.0	-17.3	2.36 H	257	36.0	0.7
9	7311.00	46.6 PK	74.0	-27.4	2.61 H	59	39.9	6.7
10	7311.00	35.6 AV	54.0	-18.4	2.61 H	59	28.9	6.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	68.0 PK	74.0	-6.0	1.40 V	355	71.2	-3.2
2	2390.00	52.7 AV	54.0	-1.3	1.40 V	355	55.9	-3.2
3	*2437.00	112.2 PK			1.40 V	355	115.2	-3.0
4	*2437.00	100.4 AV			1.40 V	355	103.4	-3.0
5	2483.50	68.7 PK	74.0	-5.3	1.40 V	355	71.8	-3.1
6	2483.50	53.1 AV	54.0	-0.9	1.40 V	355	56.2	-3.1
7	4874.00	46.0 PK	74.0	-28.0	3.52 V	195	45.3	0.7
8	4874.00	39.7 AV	54.0	-14.3	3.52 V	195	39.0	0.7
9	7311.00	49.0 PK	74.0	-25.0	1.10 V	330	42.3	6.7
10	7311.00	38.2 AV	54.0	-15.8	1.10 V	330	31.5	6.7

REMARKS:

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

CHANNEL	TX Channel 9	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

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	*2452.00	100.5 PK			2.24 H	13	103.6	-3.1
2	*2452.00	89.6 AV			2.24 H	13	92.7	-3.1
3	2483.50	66.1 PK	74.0	-7.9	2.24 H	13	69.2	-3.1
4	2483.50	46.8 AV	54.0	-7.2	2.24 H	13	49.9	-3.1
5	4904.00	41.8 PK	74.0	-32.2	2.41 H	260	41.1	0.7
6	4904.00	36.0 AV	54.0	-18.0	2.41 H	260	35.3	0.7
7	7356.00	45.9 PK	74.0	-28.1	2.51 H	58	39.0	6.9
8	7356.00	34.9 AV	54.0	-19.1	2.51 H	58	28.0	6.9
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2452.00	108.6 PK			1.73 V	360	111.7	-3.1
2	*2452.00	97.5 AV			1.73 V	360	100.6	-3.1
3	2483.50	73.5 PK	74.0	-0.5	1.73 V	360	76.6	-3.1
4	**2483.50**	**53.7 AV**	**54.0**	**-0.3**	**1.73 V**	**360**	**56.8**	**-3.1**
5	4904.00	45.8 PK	74.0	-28.2	3.56 V	189	45.1	0.7
6	4904.00	39.7 AV	54.0	-14.3	3.56 V	189	39.0	0.7
7	7356.00	48.5 PK	74.0	-25.5	1.08 V	339	41.6	6.9
8	7356.00	38.2 AV	54.0	-15.8	1.08 V	339	31.3	6.9

REMARKS:

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

Below 1GHz Data:

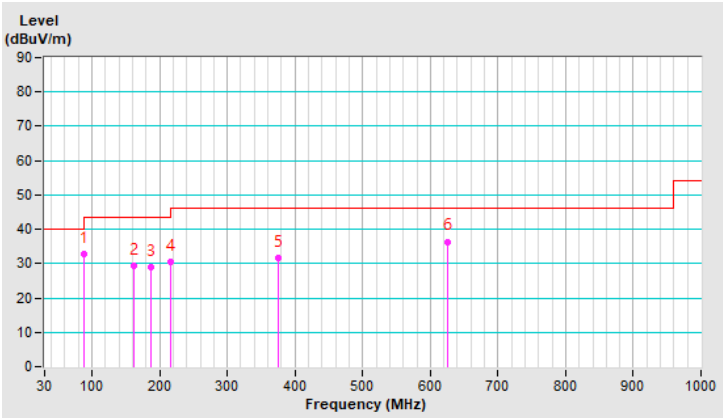
802.11n (HT20)

CHANNEL	TX Channel 6	**DETECTOR FUNCTION**	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 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	87.43	32.7 QP	40.0	-7.3	2.09 H	90	51.3	-18.6
2	161.86	29.2 QP	43.5	-14.3	1.76 H	71	42.1	-12.9
3	187.49	29.1 QP	43.5	-14.4	1.35 H	145	44.4	-15.3
4	215.59	30.6 QP	43.5	-12.9	1.47 H	90	46.2	-15.6
5	375.68	31.5 QP	46.0	-14.5	1.15 H	98	42.1	-10.6
6	625.82	36.4 QP	46.0	-9.6	1.50 H	93	41.4	-5.0

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30MHz~1000MHz.
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

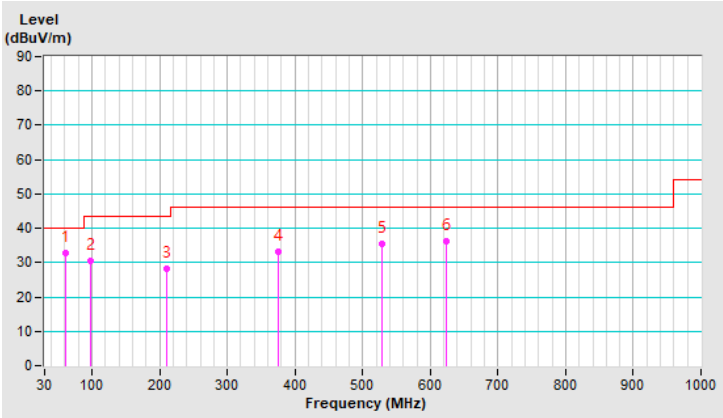


CHANNEL	TX Channel 6	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		

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	60.83	32.7 QP	40.0	-7.3	1.20 V	103	46.8	-14.1
2	98.43	30.5 QP	43.5	-13.0	1.69 V	136	48.2	-17.7
3	210.45	28.3 QP	43.5	-15.2	1.32 V	205	44.0	-15.7
4	375.43	33.0 QP	46.0	-13.0	1.77 V	208	43.6	-10.6
5	529.40	35.6 QP	46.0	-10.4	1.69 V	95	42.8	-7.2
6	624.53	36.3 QP	46.0	-9.7	1.47 V	97	41.3	-5.0

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30MHz~1000MHz.
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.



4.2 Conducted Output Power Measurement

4.2.1 Limits of Conducted Output Power Measurement

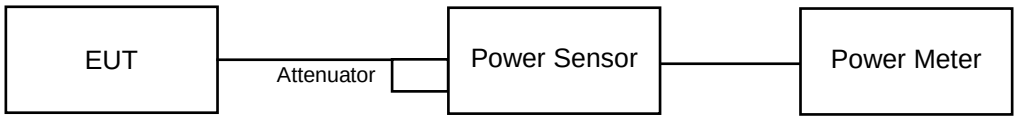
For systems using digital modulation in the 2400–2483.5 MHz bands: 1 Watt (30dBm)

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 $N_{ANT} \leq 4$;
Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N_{ANT};
Array Gain = 5 log(N_{ANT}/N_{SS}) dB or 3 dB, whichever is less for 20-MHz channel widths with $N_{ANT} \geq 5$.

For power measurements on all other devices: Array Gain = 10 log(N_{ANT}/N_{SS}) dB.

4.2.2 Test Setup



4.2.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.2.4 Test Procedures

A peak power sensor was used on the output port of the EUT. A power meter was used to read the response of the peak power sensor. Record the power level.

Average power sensor was 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..

4.2.5 Deviation from Test Standard

No deviation.

4.2.6 EUT Operating Conditions

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

4.2.7 Test Results

CDD Mode

FOR PEAK POWER

802.11b

Chan.	Freq. (MHz)	Peak Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
1	2412	22.82	22.44	366.814	25.64	30.00	Pass
6	2437	23.23	23.00	409.904	26.13	30.00	Pass
11	2462	22.79	21.25	323.46	25.10	30.00	Pass

802.11g

Chan.	Freq. (MHz)	Peak Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
1	2412	23.51	23.06	426.69	26.30	30.00	Pass
6	2437	24.46	24.92	589.71	27.71	30.00	Pass
11	2462	24.44	24.15	537.987	27.31	30.00	Pass

802.11n (HT20)

Chan.	Freq. (MHz)	Peak Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
1	2412	23.54	22.97	424.097	26.27	30.00	Pass
6	2437	24.45	24.87	585.514	27.68	30.00	Pass
11	2462	23.78	23.17	446.272	26.50	30.00	Pass

802.11n (HT40)

Chan.	Freq. (MHz)	Peak Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
3	2422	22.74	22.42	362.514	25.59	30.00	Pass
6	2437	23.83	24.02	493.894	26.94	30.00	Pass
9	2452	22.95	22.10	359.423	25.56	30.00	Pass

FOR AVERAGE POWER

802.11b

Chan.	Frequency (MHz)	Avg. Power (dBm)		Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1		
1	2412	20.65	20.11	218.71	23.40
6	2437	21.28	21.15	264.593	24.23
11	2462	20.24	18.91	183.486	22.64

802.11g

Chan.	Frequency (MHz)	Avg. Power (dBm)		Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1		
1	2412	15.67	15.11	69.332	18.41
6	2437	19.72	20.07	195.381	22.91
11	2462	17.06	15.81	88.923	19.49

802.11n (HT20)

Chan.	Frequency (MHz)	Avg. Power (dBm)		Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1		
1	2412	15.71	15.61	73.631	18.67
6	2437	19.91	20.01	198.18	22.97
11	2462	16.55	15.12	77.695	18.90

802.11n (HT40)

Chan.	Frequency (MHz)	Avg. Power (dBm)		Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1		
3	2422	14.21	13.79	50.296	17.02
6	2437	17.03	16.87	99.107	19.96
9	2452	14.96	14.26	58.002	17.63

Beamforming Mode

FOR PEAK POWER

802.11b

Chan.	Freq. (MHz)	Peak Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
1	2412	22.58	22.02	340.355	25.32	28.50	Pass
6	2437	24.52	24.87	590.041	27.71	28.50	Pass
11	2462	23.21	22.75	397.776	26.00	28.50	Pass

Note: Directional gain = 4.49dBi + 10log(2) = 7.5dBi > 6dBi , so the power limit shall be reduced to 30-(7.50-6) = 28.50dBm.

802.11g

Chan.	Freq. (MHz)	Peak Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
1	2412	20.89	21.44	262.06	24.18	28.50	Pass
6	2437	23.07	23.61	432.383	26.36	28.50	Pass
11	2462	20.79	20.20	224.663	23.52	28.50	Pass

Note: Directional gain = 4.49dBi + 10log(2) = 7.5dBi > 6dBi , so the power limit shall be reduced to 30-(7.50-6) = 28.50dBm.

FOR AVERAGE POWER

802.11n (HT20)

Chan.	Frequency (MHz)	Avg. Power (dBm)		Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1		
1	2412	13.64	13.81	47.165	16.74
6	2437	19.12	19.35	167.757	22.25
11	2462	15.63	14.66	65.801	18.18

802.11n (HT40)

Chan.	Frequency (MHz)	Avg. Power (dBm)		Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1		
3	2422	12.30	12.05	33.014	15.19
6	2437	14.75	14.42	57.523	17.60
9	2452	11.84	11.36	28.953	14.62

5 Pictures of Test Arrangements

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

Appendix – Information of 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 FCC recognized accredited test firms and accredited according to ISO/IEC 17025.

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

Linkou EMC/RF Lab
Tel: 886-2-26052180
Fax: 886-2-26051924

Hsin Chu EMC/RF/Telecom Lab
Tel: 886-3-6668565
Fax: 886-3-6668323

Hwa Ya EMC/RF/Safety Lab
Tel: 886-3-3183232
Fax: 886-3-3270892

Email: service.adt@tw.bureauveritas.com
Web Site: www.bureauveritas-adt.com

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

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