FCC Test Report

Report No.:	RF180611E06
FCC ID:	H8NTCG220E27
Test Model:	TCG220-E27
Received Date:	June 11, 2018
Test Date:	June 16 to 30, 2018
Issued Date:	July 18, 2018
Applicant:	ASKEY COMPUTER CORP.
Address:	10F, NO.119, JIANKANG RD., ZHONGHE DIST., NEW TAIPEI CITY 23585, TAIWAN, R.O.C.
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

Testing Laboratory
2022

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Release Control Record

Issue No.	Description	Date Issued
RF180611E06	Original release.	July 18, 2018

1 Certificate of Conformity

Product:	Cable Modem
Brand:	Askey
Test Model:	TCG220-E27
Sample Status:	ENGINEERING SAMPLE
Applicant:	ASKEY COMPUTER CORP.
Test Date:	June 16 to 30, 2018
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 : Phoenix Huang , **Date:** July 18, 2018

Phoenix Huang / Specialist

Approved by : , **Date:** July 18, 2018

Max Chen / Manager

2 Summary of Test Results

47 CFR FCC Part 15, Subpart C (Section 15.247)			
FCC Clause	Test Item	Result	Remarks
15.207	AC Power Conducted Emission	Pass	Meet the requirement of limit. Minimum passing margin is -9.47dB at 4.17578MHz.
15.205 / 15.209 / 15.247(d)	Radiated Emissions and Band Edge Measurement	Pass	Meet the requirement of limit. Minimum passing margin is -0.1dB at 2390.00MHz, 2485.20MHz and 2483.50MHz.
15.247(d)	Antenna Port Emission	Pass	Meet the requirement of limit.
15.247(a)(2)	6dB bandwidth	Pass	Meet the requirement of limit.
15.247(b)	Conducted power	Pass	Meet the requirement of limit.
15.247(e)	Power Spectral Density	Pass	Meet the requirement of limit.
15.203	Antenna Requirement	Pass	Antenna connector is i-pex(MHF) not a standard connector.

2.1 Measurement Uncertainty

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

Measurement	Frequency	Expanded Uncertainty (k=2) (±)
Conducted Emissions at mains ports	150kHz ~ 30MHz	1.84 dB
Radiated Emissions up to 1 GHz	30MHz ~ 1GHz	5.33 dB
Radiated Emissions above 1 GHz	1GHz ~ 6GHz	5.10 dB
	6GHz ~ 18GHz	4.85 dB
	18GHz ~ 40GHz	5.24 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	Cable Modem
Brand	Askey
Test Model	TCG220-E27
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
Modulation Technology	DSSS, OFDM
Transfer Rate	802.11b: up to 11Mbps 802.11a/g: up to 54Mbps 802.11n: up to 300Mbps
Operating Frequency	**2.4GHz:** 2.412 ~ 2.462GHz **5GHz:** 5.18~ 5.24GHz, 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): 9 802.11n (HT40): 4
Output Power	**2.4GHz:** 616.076mW **5GHz:** **5.18 ~ 5.24GHz:** 113.687mW **5.745 ~ 5.825GHz:** 299.696mW
Antenna Type	Refer to Note
Antenna Connector	Refer to Note
Accessory Device	Adapter x1
Data Cable Supplied	NA

Note:

1. There are WLAN (2.4G) and WLAN (5G) technology used for the EUT. The EUT has below radios as following table:

Radio 1	Radio 2
WLAN (2.4GHz)	WLAN (5GHz)

2. Simultaneously transmission condition.

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

3. The EUT must be supplied from power adapter and following different models could be chosen as following table:

No.	Brand	Model No.	Spec.
1	SHENZHEN FRECOM	F18L10-120150SPAU	Input: 100-240Vac, 0.6A, 50/60Hz Output: 12V, 1.5A DC output cable: Unshielded 1.5m
2	APD	WB-18Q12FU	Input: 100-240Vac, 0.6A, 50-60Hz Output: 12V, 1.5A DC output cable: Unshielded 1.5m
Note: For radiated emissions test, the EUT was pre-tested with above Adapter 1 & 2, the worst case was found in Adapter 2. Therefore only the test data of the Adapter 2 was recorded in this report.			

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

For 2.4GHz Band					
Ant. No.	Brand	Ant. Net Gain (dBi)	Freq. range (GHz)	Ant. Type	Connecter Type
1	Askey	2.5	2.4~2.4835	PCB	i-pex(MHF)
2		2.5	2.4~2.4835		NA
For 5GHz Band					
Ant. No.	Brand	Ant. Net Gain (dBi)	Freq. range (GHz)	Ant. Type	Connecter Type
1	Askey	2.5	5.15~5.85	Dipole	i-pex(MHF)
2		2.5	5.15~5.85		i-pex(MHF)

5. The EUT incorporates a MIMO function.

2.4GHz Band			
MODULATION MODE	**DATA RATE (MCS)**	**TX & RX CONFIGURATION**	
802.11b	1 ~ 11Mbps	1TX (Fixed Chain 0)	2RX
802.11g	6 ~ 54Mbps	2TX	2RX
802.11n (HT20)	MCS 0~7	2TX	2RX
	MCS 8~15	2TX	2RX
802.11n (HT40)	MCS 0~7	2TX	2RX
	MCS 8~15	2TX	2RX
5GHz Band			
MODULATION MODE	**DATA RATE (MCS)**	**TX & RX CONFIGURATION**	
802.11a	6 ~ 54Mbps	2TX	2RX
802.11n (HT20)	MCS 0~7	2TX	2RX
	MCS 8~15	2TX	2RX
802.11n (HT40)	MCS 0~7	2TX	2RX
	MCS 8~15	2TX	2RX

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

7 channels are provided for 802.11n (HT40):

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

3.2.1 Test Mode Applicability and Tested Channel Detail

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	RE≥1G	RE<1G	PLC	APCM	
1	√	√	√	√	With Adapter 2
2	-	-	√	-	With Adapter 1

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

PLC: Power Line Conducted Emission **APCM:** Antenna Port Conducted Measurement

Note: "-" means no effect.

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.

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11b	1 to 11	1, 6, 10, 11	DSSS	DBPSK	1
802.11g	1 to 11	1, 2, 3, 6, 9, 10, 11	OFDM	BPSK	6
802.11n (HT20)	1 to 11	1, 2, 6, 10, 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.

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11g	1 to 11	6	OFDM	BPSK	6

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)
802.11g	1 to 11	6	OFDM	BPSK	6

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.

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11b	1 to 11	1, 6, 10, 11	DSSS	DBPSK	1
802.11g	1 to 11	1, 2, 3, 6, 9, 10, 11	OFDM	BPSK	6
802.11n (HT20)	1 to 11	1, 2, 6, 10, 11	OFDM	BPSK	6.5
802.11n (HT40)	3 to 9	3, 6, 9	OFDM	BPSK	13.5

Test Condition:

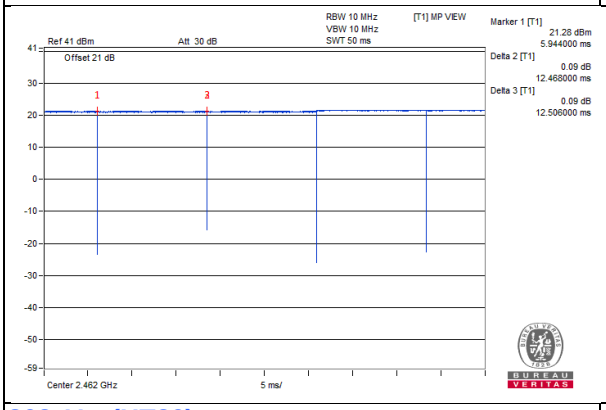
APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE≥1G	22deg. C, 62%RH	120Vac, 60Hz	Steven Chiang
RE<1G	22deg. C, 69%RH	120Vac, 60Hz	Frank Chuang
PLC	23deg. C, 75%RH	120Vac, 60Hz	Andy Ho
	25deg. C, 75%RH	120Vac, 60Hz	Andy Ho
APCM	25deg. C, 65%RH	120Vac, 60Hz	Jyunchun Lin

3.3 Duty Cycle of Test Signal

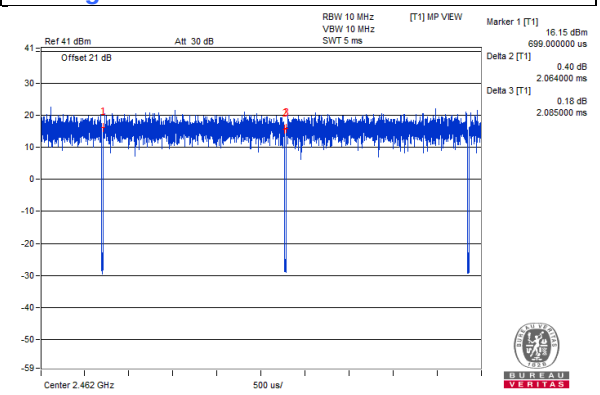
If duty cycle of test signal is ≥ 98 %, duty factor is not required.
If duty cycle of test signal is < 98%, duty factor shall be considered.

802.11b: Duty cycle = 12.468 ms/12.506 ms = 0.997
802.11g: Duty cycle = 2.064 ms/2.085 ms = 0.99
802.11n (HT20): Duty cycle = 1.907 ms/1.928 ms = 0.989
802.11n (HT40): Duty cycle = 0.931 ms/0.952 ms = 0.978, Duty factor = 10 * log (1/Duty cycle) = 0.1

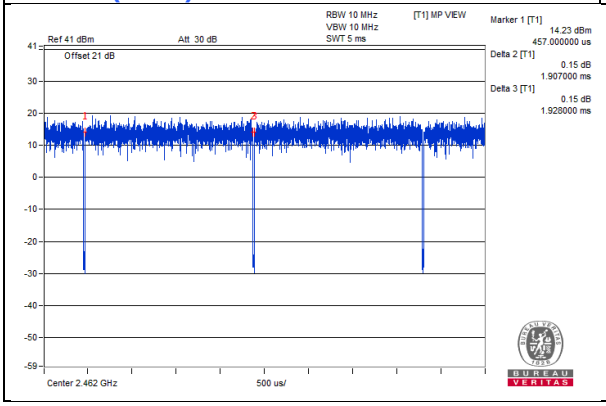
802.11b



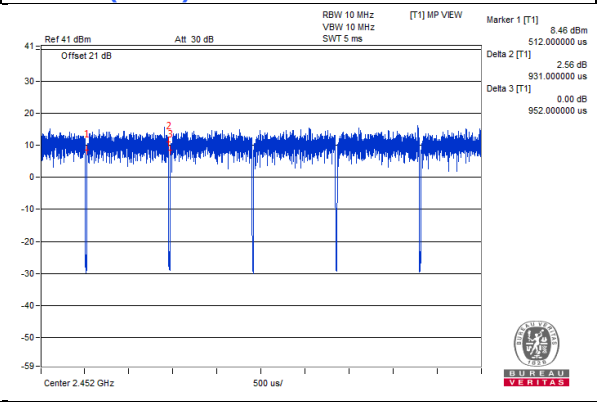
802.11g



802.11n (HT20)



802.11n (HT40)



3.4 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.

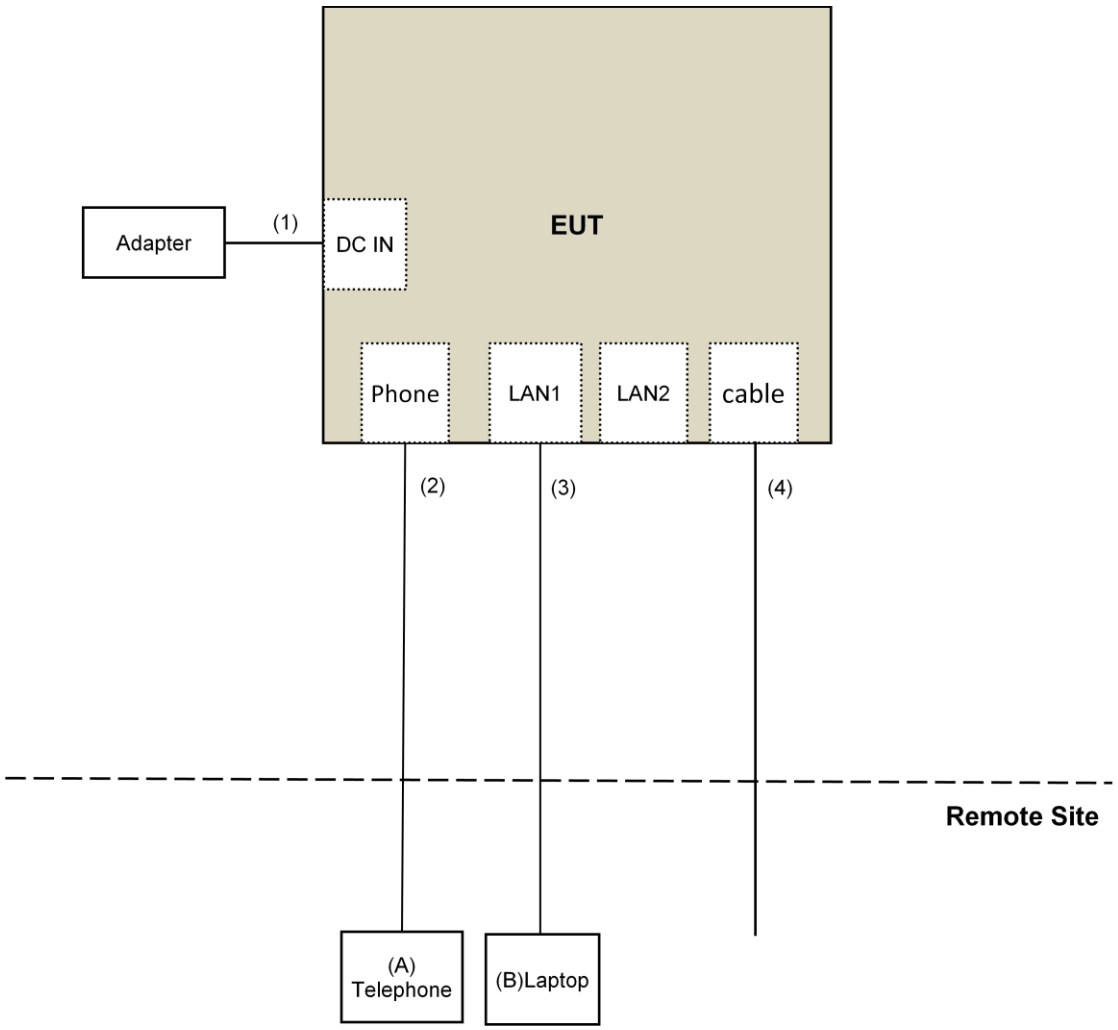
ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Telephone	WONDER	WD-303	7C17KA 04011	NA	Provided by Lab
B.	Laptop	DELL	E5430	HYV4VY1	FCC DoC	Provided by Lab

Note:

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

ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	DC Cable	1	1.5	No	0	Supplied by client
2.	RJ-11 Cable	1	10	No	0	Provided by Lab
3.	RJ-45 Cable	1	10	No	0	Provided by Lab
4.	Coaxial Cable	1	10	Yes	0	Provided by Lab

3.4.1 Configuration of System under Test



3.5 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 DTS Meas Guidance v04
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 Keysight	N9038A	MY54450088	July 08, 2017	July 07, 2018
Pre-Amplifier EMCI	EMC001340	980142	Feb. 09, 2018	Feb. 08, 2019
Loop Antenna(*) Electro-Metrics	EM-6879	264	Dec. 16, 2016	Dec. 15, 2018
RF Cable	NA	LOOPCAB-001 LOOPCAB-002	Jan. 15, 2018	Jan. 14, 2019
Pre-Amplifier Mini-Circuits	ZFL-1000VH2B	AMP-ZFL-01	Nov. 09, 2017	Nov. 08, 2018
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-406	Nov. 29, 2017	Nov. 28, 2018
RF Cable	8D	966-4-1 966-4-2 966-4-3	Mar. 21, 2018	Mar. 20, 2019
Fixed attenuator Mini-Circuits	UNAT-5+	PAD-3m-4-01	Oct. 03, 2017	Oct. 02, 2018
Horn_Antenna SCHWARZBECK	BBHA 9120D	9120D-783	Dec. 12, 2017	Dec. 11, 2018
Pre-Amplifier EMCI	EMC12630SE	980385	Jan. 29, 2018	Jan. 28, 2019
RF Cable	EMC104-SM-SM-1200 EMC104-SM-SM-2000 EMC104-SM-SM-5000	160923 150318 150321	Jan. 29, 2018	Jan. 28, 2019
Pre-Amplifier EMCI	EMC184045SE	980387	Jan. 29, 2018	Jan. 28, 2019
Horn_Antenna SCHWARZBECK	BBHA 9170	BBHA9170608	Dec. 14, 2017	Dec. 13, 2018
RF Cable	EMC102-KM-KM-1200	160925	Jan. 29, 2018	Jan. 28, 2019
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. 4.
4. The CANADA Site Registration No. is 20331-2
5. Loop antenna was used for all emissions below 30 MHz.
6. Tested Date: June 20 to 30, 2018

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:

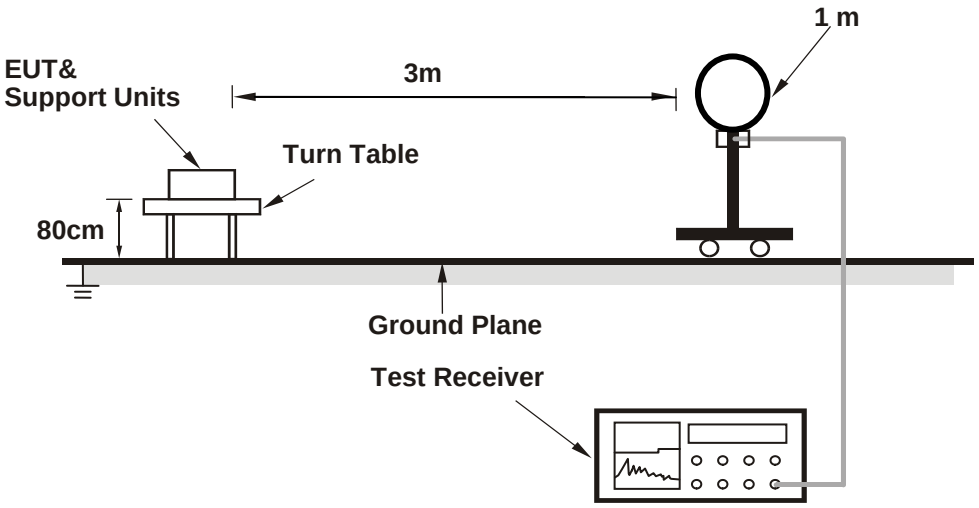
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
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

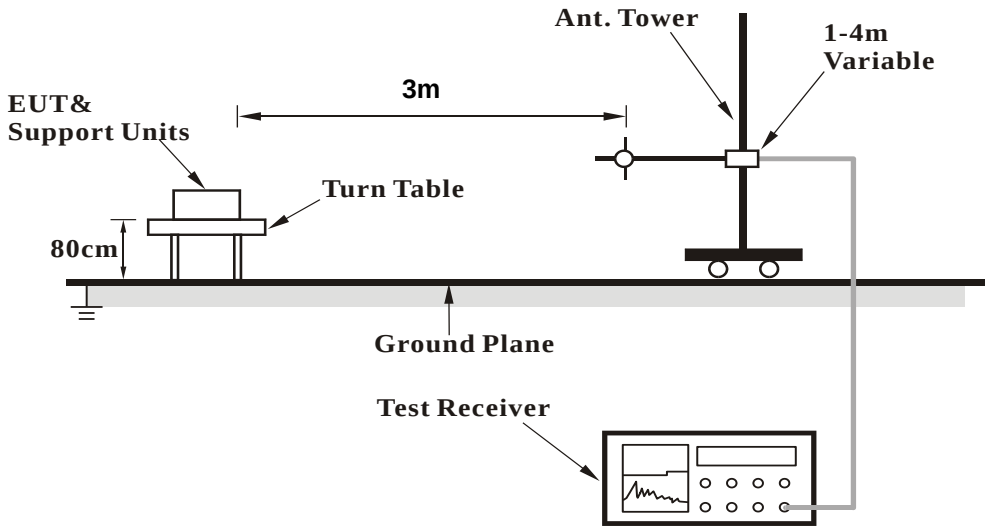
No deviation.

4.1.5 Test Setup

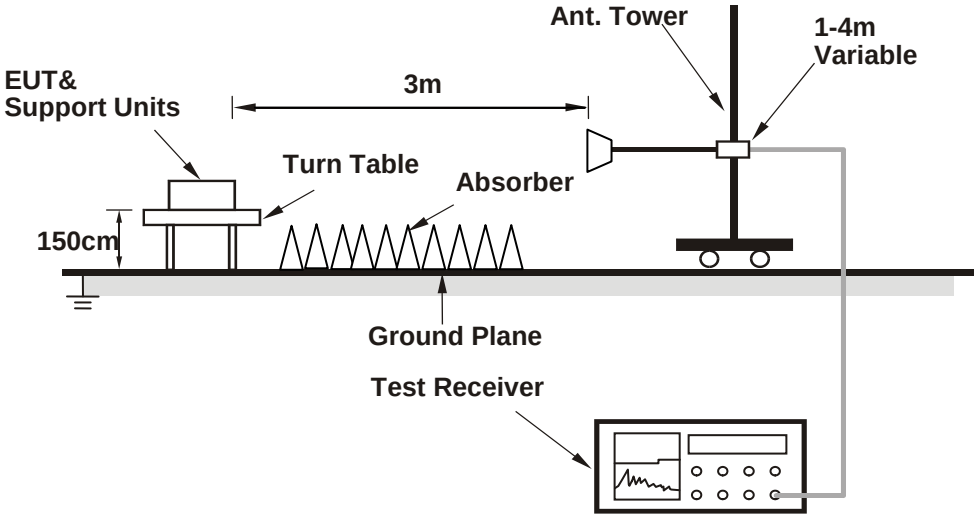
For Radiated emission below 30MHz



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. Controlling software (MTool 2.0.1.0) has been activated to set the EUT on specific status.

4.1.7 Test Results

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	2387.20	62.2 PK	74.0	-11.8	2.40 H	34	64.4	-2.2
2	2387.20	53.8 AV	54.0	-0.2	2.40 H	34	56.0	-2.2
3	2390.00	61.5 PK	74.0	-12.5	2.40 H	34	63.7	-2.2
4	2390.00	53.1 AV	54.0	-0.9	2.40 H	34	55.3	-2.2
5	*2412.00	107.9 PK			2.40 H	34	110.3	-2.4
6	*2412.00	105.9 AV			2.40 H	34	108.3	-2.4
7	4824.00	48.5 PK	74.0	-25.5	1.27 H	335	46.7	1.8
8	4824.00	47.2 AV	54.0	-6.8	1.27 H	335	45.4	1.8
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	2387.20	60.9 PK	74.0	-13.1	1.98 V	79	63.1	-2.2
2	2387.20	53.4 AV	54.0	-0.6	1.98 V	79	55.6	-2.2
3	2390.00	60.0 PK	74.0	-14.0	1.98 V	79	62.2	-2.2
4	2390.00	52.5 AV	54.0	-1.5	1.98 V	79	54.7	-2.2
5	*2412.00	107.6 PK			1.98 V	79	110.0	-2.4
6	*2412.00	105.5 AV			1.98 V	79	107.9	-2.4
7	4824.00	52.1 PK	74.0	-21.9	3.30 V	302	50.3	1.8
8	4824.00	51.5 AV	54.0	-2.5	3.30 V	302	49.7	1.8

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

CHANNEL	TX Channel 6	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		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	2390.00	57.9 PK	74.0	-16.1	1.93 H	39	60.1	-2.2
2	2390.00	47.8 AV	54.0	-6.2	1.93 H	39	50.0	-2.2
3	*2437.00	108.1 PK			1.93 H	39	110.7	-2.6
4	*2437.00	106.8 AV			1.93 H	39	109.4	-2.6
5	2483.50	60.6 PK	74.0	-13.4	1.93 H	39	63.0	-2.4
6	2483.50	48.8 AV	54.0	-5.2	1.93 H	39	51.2	-2.4
7	4874.00	48.9 PK	74.0	-25.1	1.26 H	328	46.9	2.0
8	4874.00	47.3 AV	54.0	-6.7	1.26 H	328	45.3	2.0
9	7311.00	40.1 PK	74.0	-33.9	1.16 H	293	31.7	8.4
10	7311.00	35.4 AV	54.0	-18.6	1.16 H	293	27.0	8.4
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	56.7 PK	74.0	-17.3	2.32 V	83	58.9	-2.2
2	2390.00	46.4 AV	54.0	-7.6	2.32 V	83	48.6	-2.2
3	*2437.00	107.7 PK			2.32 V	83	110.3	-2.6
4	*2437.00	105.4 AV			2.32 V	83	108.0	-2.6
5	2483.50	58.9 PK	74.0	-15.1	2.32 V	83	61.3	-2.4
6	2483.50	47.9 AV	54.0	-6.1	2.32 V	83	50.3	-2.4
7	4874.00	55.1 PK	74.0	-18.9	3.43 V	302	53.1	2.0
8	4874.00	53.8 AV	54.0	-0.2	3.43 V	302	51.8	2.0
9	7311.00	51.8 PK	74.0	-22.2	2.02 V	277	43.4	8.4
10	7311.00	46.9 AV	54.0	-7.1	2.02 V	277	38.5	8.4

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 10	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	*2457.00	107.4 PK			2.09 H	159	110.0	-2.6
2	*2457.00	105.8 AV			2.09 H	159	108.4	-2.6
3	2483.50	57.6 PK	74.0	-16.4	2.09 H	159	60.0	-2.4
4	2483.50	45.3 AV	54.0	-8.7	2.09 H	159	47.7	-2.4
5	4914.00	48.0 PK	74.0	-26.0	1.25 H	348	46.0	2.0
6	4914.00	46.8 AV	54.0	-7.2	1.25 H	348	44.8	2.0
7	7371.00	40.3 PK	74.0	-33.7	1.17 H	304	31.7	8.6
8	7371.00	36.0 AV	54.0	-18.0	1.17 H	304	27.4	8.6
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2457.00	107.1 PK			2.34 V	89	109.7	-2.6
2	*2457.00	105.0 AV			2.34 V	89	107.6	-2.6
3	2483.50	58.1 PK	74.0	-15.9	2.50 V	79	60.5	-2.4
4	2483.50	46.4 AV	54.0	-7.6	2.50 V	79	48.8	-2.4
5	4914.00	54.7 PK	74.0	-19.3	1.39 V	313	52.7	2.0
6	4914.00	53.8 AV	54.0	-0.2	1.39 V	313	51.8	2.0
7	7371.00	45.3 PK	74.0	-28.7	1.77 V	268	36.7	8.6
8	7371.00	40.4 AV	54.0	-13.6	1.77 V	268	31.8	8.6

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
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	107.4 PK			2.43 H	49	110.0	-2.6
2	*2462.00	104.8 AV			2.43 H	49	107.4	-2.6
3	2483.50	60.9 PK	74.0	-13.1	2.43 H	49	63.3	-2.4
4	2483.50	53.7 AV	54.0	-0.3	2.43 H	49	56.1	-2.4
5	4924.00	48.7 PK	74.0	-25.3	1.28 H	342	46.7	2.0
6	4924.00	47.2 AV	54.0	-6.8	1.28 H	342	45.2	2.0
7	7386.00	40.2 PK	74.0	-33.8	1.12 H	301	31.6	8.6
8	7386.00	35.7 AV	54.0	-18.3	1.12 H	301	27.1	8.6
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	106.5 PK			1.96 V	75	109.1	-2.6
2	*2462.00	104.6 AV			1.96 V	75	107.2	-2.6
3	2483.50	60.4 PK	74.0	-13.6	1.96 V	75	62.8	-2.4
4	2483.50	53.2 AV	54.0	-0.8	1.96 V	75	55.6	-2.4
5	4924.00	51.2 PK	74.0	-22.8	3.12 V	314	49.2	2.0
6	4924.00	50.7 AV	54.0	-3.3	3.12 V	314	48.7	2.0
7	7386.00	45.4 PK	74.0	-28.6	1.78 V	261	36.8	8.6
8	7386.00	40.4 AV	54.0	-13.6	1.78 V	261	31.8	8.6

REMARKS:

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

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CHANNEL	TX Channel 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	68.3 PK	74.0	-5.7	1.81 H	37	70.5	-2.2
2	2390.00	51.7 AV	54.0	-2.3	1.81 H	37	53.9	-2.2
3	*2412.00	107.6 PK			1.81 H	37	110.0	-2.4
4	*2412.00	97.3 AV			1.81 H	37	99.7	-2.4
5	4824.00	44.6 PK	74.0	-29.4	1.24 H	345	42.8	1.8
6	4824.00	30.1 AV	54.0	-23.9	1.24 H	345	28.3	1.8
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	68.8 PK	74.0	-5.2	2.08 V	93	71.0	-2.2
2	2390.00	53.7 AV	54.0	-0.3	2.08 V	93	55.9	-2.2
3	*2412.00	109.4 PK			2.08 V	93	111.8	-2.4
4	*2412.00	100.2 AV			2.08 V	93	102.6	-2.4
5	4824.00	46.4 PK	74.0	-27.6	1.01 V	290	44.6	1.8
6	4824.00	32.7 AV	54.0	-21.3	1.01 V	290	30.9	1.8

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

CHANNEL	TX Channel 2	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	68.7 PK	74.0	-5.3	2.11 H	149	70.9	-2.2
2	2390.00	51.9 AV	54.0	-2.1	2.11 H	149	54.1	-2.2
3	*2417.00	109.4 PK			2.11 H	149	111.8	-2.4
4	*2417.00	98.9 AV			2.11 H	149	101.3	-2.4
5	4834.00	45.6 PK	74.0	-28.4	1.24 H	349	43.8	1.8
6	4834.00	31.5 AV	54.0	-22.5	1.24 H	349	29.7	1.8
7	7251.00	45.1 PK	74.0	-28.9	1.12 H	310	37.0	8.1
8	7251.00	32.4 AV	54.0	-21.6	1.12 H	310	24.3	8.1
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	71.7 PK	74.0	-2.3	2.55 V	95	73.9	-2.2
2	2390.00	53.8 AV	54.0	-0.2	2.55 V	95	56.0	-2.2
3	*2417.00	111.7 PK			2.55 V	95	114.1	-2.4
4	*2417.00	101.7 AV			2.55 V	95	104.1	-2.4
5	4834.00	47.1 PK	74.0	-26.9	1.17 V	306	45.3	1.8
6	4834.00	33.0 AV	54.0	-21.0	1.17 V	306	31.2	1.8
7	7251.00	46.1 PK	74.0	-27.9	1.41 V	217	38.0	8.1
8	7251.00	35.4 AV	54.0	-18.6	1.41 V	217	27.3	8.1

REMARKS:

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

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	68.7 PK	74.0	-5.3	2.03 H	154	70.9	-2.2
2	2390.00	51.9 AV	54.0	-2.1	2.03 H	154	54.1	-2.2
3	*2422.00	110.1 PK			2.03 H	154	112.6	-2.5
4	*2422.00	99.5 AV			2.03 H	154	102.0	-2.5
5	4844.00	53.1 PK	74.0	-20.9	1.24 H	342	51.3	1.8
6	4844.00	42.2 AV	54.0	-11.8	1.24 H	342	40.4	1.8
7	7266.00	45.6 PK	74.0	-28.4	1.16 H	299	37.4	8.2
8	7266.00	33.0 AV	54.0	-21.0	1.16 H	299	24.8	8.2
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	73.1 PK	74.0	-0.9	2.54 V	95	75.3	-2.2
2	**2390.00**	**53.9 AV**	**54.0**	**-0.1**	**2.54 V**	**95**	**56.1**	**-2.2**
3	*2422.00	112.2 PK			2.54 V	95	114.7	-2.5
4	*2422.00	102.3 AV			2.54 V	95	104.8	-2.5
5	4844.00	52.9 PK	74.0	-21.1	1.11 V	307	51.1	1.8
6	4844.00	43.2 AV	54.0	-10.8	1.11 V	307	41.4	1.8
7	7266.00	46.9 PK	74.0	-27.1	1.43 V	224	38.7	8.2
8	7266.00	36.3 AV	54.0	-17.7	1.43 V	224	28.1	8.2

REMARKS:

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

CHANNEL	TX Channel 6	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		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	2390.00	66.8 PK	74.0	-7.2	2.06 H	161	69.0	-2.2
2	2390.00	52.0 AV	54.0	-2.0	2.06 H	161	54.2	-2.2
3	*2437.00	112.8 PK			2.06 H	161	115.4	-2.6
4	*2437.00	103.1 AV			2.06 H	161	105.7	-2.6
5	2483.50	70.5 PK	74.0	-3.5	2.06 H	161	72.9	-2.4
6	2483.50	52.4 AV	54.0	-1.6	2.06 H	161	54.8	-2.4
7	2485.20	71.1 PK	74.0	-2.9	2.06 H	161	73.5	-2.4
8	2485.20	53.0 AV	54.0	-1.0	2.06 H	161	55.4	-2.4
9	4874.00	57.8 PK	74.0	-16.2	1.31 H	32	55.8	2.0
10	4874.00	46.1 AV	54.0	-7.9	1.31 H	32	44.1	2.0
11	7311.00	47.3 PK	74.0	-26.7	1.50 H	236	38.9	8.4
12	7311.00	34.2 AV	54.0	-19.8	1.50 H	236	25.8	8.4
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	70.3 PK	74.0	-3.7	2.48 V	89	72.5	-2.2
2	2390.00	53.8 AV	54.0	-0.2	2.48 V	89	56.0	-2.2
3	*2437.00	116.2 PK			2.48 V	89	118.8	-2.6
4	*2437.00	106.1 AV			2.48 V	89	108.7	-2.6
5	2483.50	71.2 PK	74.0	-2.8	2.48 V	89	73.6	-2.4
6	2483.50	53.1 AV	54.0	-0.9	2.48 V	89	55.5	-2.4
7	2485.20	71.9 PK	74.0	-2.1	2.48 V	89	74.3	-2.4
8	**2485.20**	**53.9 AV**	**54.0**	**-0.1**	**2.48 V**	**89**	**56.3**	**-2.4**
9	4874.00	57.6 PK	74.0	-16.4	1.15 V	292	55.6	2.0
10	4874.00	48.5 AV	54.0	-5.5	1.15 V	292	46.5	2.0
11	7311.00	51.7 PK	74.0	-22.3	1.48 V	223	43.3	8.4
12	7311.00	42.3 AV	54.0	-11.7	1.48 V	223	33.9	8.4

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 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	111.4 PK			2.07 H	167	114.0	-2.6
2	*2452.00	100.1 AV			2.07 H	167	102.7	-2.6
3	2483.50	67.7 PK	74.0	-6.3	2.07 H	167	70.1	-2.4
4	2483.50	51.4 AV	54.0	-2.6	2.07 H	167	53.8	-2.4
5	4904.00	53.9 PK	74.0	-20.1	1.20 H	340	51.9	2.0
6	4904.00	43.1 AV	54.0	-10.9	1.20 H	340	41.1	2.0
7	7356.00	42.6 PK	74.0	-31.4	1.19 H	311	34.0	8.6
8	7356.00	30.5 AV	54.0	-23.5	1.19 H	311	21.9	8.6
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2452.00	113.2 PK			2.67 V	98	115.8	-2.6
2	*2452.00	102.8 AV			2.67 V	98	105.4	-2.6
3	2483.50	73.8 PK	74.0	-0.2	2.67 V	98	76.2	-2.4
4	2483.50	53.8 AV	54.0	-0.2	2.67 V	98	56.2	-2.4
5	4904.00	54.6 PK	74.0	-19.4	1.17 V	279	52.6	2.0
6	4904.00	45.1 AV	54.0	-8.9	1.17 V	279	43.1	2.0
7	7356.00	46.5 PK	74.0	-27.5	1.54 V	224	37.9	8.6
8	7356.00	36.4 AV	54.0	-17.6	1.54 V	224	27.8	8.6

REMARKS:

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

CHANNEL	TX Channel 10	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	*2457.00	100.1 PK			2.04 H	151	102.7	-2.6
2	*2457.00	98.9 AV			2.04 H	151	101.5	-2.6
3	2483.50	68.0 PK	74.0	-6.0	2.04 H	151	70.4	-2.4
4	2483.50	51.4 AV	54.0	-2.6	2.04 H	151	53.8	-2.4
5	4914.00	45.5 PK	74.0	-28.5	1.19 H	343	43.5	2.0
6	4914.00	31.6 AV	54.0	-22.4	1.19 H	343	29.6	2.0
7	7371.00	42.6 PK	74.0	-31.4	1.12 H	309	34.0	8.6
8	7371.00	30.8 AV	54.0	-23.2	1.12 H	309	22.2	8.6
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2457.00	111.5 PK			2.67 V	99	114.1	-2.6
2	*2457.00	101.6 AV			2.67 V	99	104.2	-2.6
3	2483.50	73.6 PK	74.0	-0.4	2.67 V	99	76.0	-2.4
4	2483.50	53.7 AV	54.0	-0.3	2.67 V	99	56.1	-2.4
5	4914.00	53.9 PK	74.0	-20.1	1.16 V	301	51.9	2.0
6	4914.00	44.1 AV	54.0	-9.9	1.16 V	301	42.1	2.0
7	7371.00	43.5 PK	74.0	-30.5	1.51 V	235	34.9	8.6
8	7371.00	33.4 AV	54.0	-20.6	1.51 V	235	24.8	8.6

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
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	108.7 PK			2.32 H	152	111.3	-2.6
2	*2462.00	98.9 AV			2.32 H	152	101.5	-2.6
3	2483.50	71.4 PK	74.0	-2.6	2.32 H	152	73.8	-2.4
4	2483.50	53.6 AV	54.0	-0.4	2.32 H	152	56.0	-2.4
5	4924.00	44.4 PK	74.0	-29.6	1.22 H	359	42.4	2.0
6	4924.00	29.9 AV	54.0	-24.1	1.22 H	359	27.9	2.0
7	7386.00	42.7 PK	74.0	-31.3	1.16 H	303	34.1	8.6
8	7386.00	30.4 AV	54.0	-23.6	1.16 H	303	21.8	8.6
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	110.1 PK			2.15 V	76	112.7	-2.6
2	*2462.00	100.5 AV			2.15 V	76	103.1	-2.6
3	2483.50	71.6 PK	74.0	-2.4	2.15 V	76	74.0	-2.4
4	2483.50	53.8 AV	54.0	-0.2	2.15 V	76	56.2	-2.4
5	4924.00	46.4 PK	74.0	-27.6	1.20 V	278	44.4	2.0
6	4924.00	32.5 AV	54.0	-21.5	1.20 V	278	30.5	2.0
7	7386.00	43.3 PK	74.0	-30.7	1.45 V	229	34.7	8.6
8	7386.00	30.3 AV	54.0	-23.7	1.45 V	229	21.7	8.6

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
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	2388.90	67.8 PK	74.0	-6.2	2.00 H	154	70.0	-2.2
2	2388.90	51.3 AV	54.0	-2.7	2.00 H	154	53.5	-2.2
3	2390.00	67.3 PK	74.0	-6.7	2.00 H	154	69.5	-2.2
4	2390.00	51.0 AV	54.0	-3.0	2.00 H	154	53.2	-2.2
5	*2412.00	106.7 PK			2.00 H	154	109.1	-2.4
6	*2412.00	96.5 AV			2.00 H	154	98.9	-2.4
7	4824.00	45.1 PK	74.0	-28.9	1.19 H	333	43.3	1.8
8	4824.00	30.5 AV	54.0	-23.5	1.19 H	333	28.7	1.8
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	2388.90	72.1 PK	74.0	-1.9	2.34 V	55	74.3	-2.2
2	2388.90	53.8 AV	54.0	-0.2	2.34 V	55	56.0	-2.2
3	2390.00	71.8 PK	74.0	-2.2	2.34 V	55	74.0	-2.2
4	2390.00	53.5 AV	54.0	-0.5	2.34 V	55	55.7	-2.2
5	*2412.00	108.4 PK			2.34 V	55	110.8	-2.4
6	*2412.00	98.3 AV			2.34 V	55	100.7	-2.4
7	4824.00	46.1 PK	74.0	-27.9	1.20 V	304	44.3	1.8
8	4824.00	32.3 AV	54.0	-21.7	1.20 V	304	30.5	1.8

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

CHANNEL	TX Channel 2	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		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	2390.00	68.3 PK	74.0	-5.7	2.08 H	176	70.5	-2.2
2	2390.00	51.8 AV	54.0	-2.2	2.08 H	176	54.0	-2.2
3	*2417.00	109.8 PK			2.08 H	176	112.2	-2.4
4	*2417.00	97.8 AV			2.08 H	176	100.2	-2.4
5	4834.00	45.4 PK	74.0	-28.6	1.26 H	338	43.6	1.8
6	4834.00	31.4 AV	54.0	-22.6	1.26 H	338	29.6	1.8
7	7251.00	42.6 PK	74.0	-31.4	1.17 H	289	34.5	8.1
8	7251.00	31.0 AV	54.0	-23.0	1.17 H	289	22.9	8.1
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	72.6 PK	74.0	-1.4	2.50 V	100	74.8	-2.2
2	2390.00	53.7 AV	54.0	-0.3	2.50 V	100	55.9	-2.2
3	*2417.00	111.4 PK			2.50 V	100	113.8	-2.4
4	*2417.00	99.2 AV			2.50 V	100	101.6	-2.4
5	4834.00	47.8 PK	74.0	-26.2	1.09 V	284	46.0	1.8
6	4834.00	33.5 AV	54.0	-20.5	1.09 V	284	31.7	1.8
7	7251.00	46.1 PK	74.0	-27.9	1.45 V	214	38.0	8.1
8	7251.00	35.4 AV	54.0	-18.6	1.45 V	214	27.3	8.1

REMARKS:

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

CHANNEL	TX Channel 6	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		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	2388.80	68.3 PK	74.0	-5.7	2.02 H	162	70.5	-2.2
2	2388.80	51.6 AV	54.0	-2.4	2.02 H	162	53.8	-2.2
3	2390.00	67.9 PK	74.0	-6.1	2.02 H	162	70.1	-2.2
4	2390.00	51.2 AV	54.0	-2.8	2.02 H	162	53.4	-2.2
5	*2437.00	112.6 PK			2.02 H	162	115.2	-2.6
6	*2437.00	101.5 AV			2.02 H	162	104.1	-2.6
7	2483.50	67.6 PK	74.0	-6.4	2.02 H	162	70.0	-2.4
8	2483.50	50.8 AV	54.0	-3.2	2.02 H	162	53.2	-2.4
9	4874.00	57.3 PK	74.0	-16.7	1.29 H	351	55.3	2.0
10	4874.00	45.8 AV	54.0	-8.2	1.29 H	351	43.8	2.0
11	7311.00	47.6 PK	74.0	-26.4	1.18 H	319	39.2	8.4
12	7311.00	34.2 AV	54.0	-19.8	1.18 H	319	25.8	8.4
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	2388.80	70.5 PK	74.0	-3.5	2.33 V	56	72.7	-2.2
2	2388.80	53.7 AV	54.0	-0.3	2.33 V	56	55.9	-2.2
3	2390.00	70.0 PK	74.0	-4.0	2.33 V	56	72.2	-2.2
4	2390.00	53.2 AV	54.0	-0.8	2.33 V	56	55.4	-2.2
5	*2437.00	114.1 PK			2.33 V	56	116.7	-2.6
6	*2437.00	103.1 AV			2.33 V	56	105.7	-2.6
7	2483.50	70.0 PK	74.0	-4.0	2.33 V	56	72.4	-2.4
8	2483.50	52.2 AV	54.0	-1.8	2.33 V	56	54.6	-2.4
9	4874.00	57.7 PK	74.0	-16.3	1.10 V	302	55.7	2.0
10	4874.00	48.5 AV	54.0	-5.5	1.10 V	302	46.5	2.0
11	7311.00	51.7 PK	74.0	-22.3	1.50 V	234	43.3	8.4
12	7311.00	42.5 AV	54.0	-11.5	1.50 V	234	34.1	8.4

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 10	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	*2457.00	109.6 PK			2.04 H	159	112.2	-2.6
2	*2457.00	97.8 AV			2.04 H	159	100.4	-2.6
3	2483.50	68.1 PK	74.0	-5.9	2.04 H	159	70.5	-2.4
4	2483.50	51.4 AV	54.0	-2.6	2.04 H	159	53.8	-2.4
5	4914.00	45.8 PK	74.0	-28.2	1.24 H	353	43.8	2.0
6	4914.00	31.8 AV	54.0	-22.2	1.24 H	353	29.8	2.0
7	7371.00	42.9 PK	74.0	-31.1	1.15 H	318	34.3	8.6
8	7371.00	30.7 AV	54.0	-23.3	1.15 H	318	22.1	8.6
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2457.00	111.2 PK			2.17 V	102	113.8	-2.6
2	*2457.00	99.7 AV			2.17 V	102	102.3	-2.6
3	2483.50	73.7 PK	74.0	-0.3	2.17 V	102	76.1	-2.4
4	**2483.50**	**53.9 AV**	**54.0**	**-0.1**	**2.17 V**	**102**	**56.3**	**-2.4**
5	4914.00	47.3 PK	74.0	-26.7	1.10 V	287	45.3	2.0
6	4914.00	33.0 AV	54.0	-21.0	1.10 V	287	31.0	2.0
7	7371.00	46.6 PK	74.0	-27.4	1.43 V	231	38.0	8.6
8	7371.00	35.8 AV	54.0	-18.2	1.43 V	231	27.2	8.6

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
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	106.8 PK			2.05 H	176	109.4	-2.6
2	*2462.00	96.0 AV			2.05 H	176	98.6	-2.6
3	2483.50	67.9 PK	74.0	-6.1	2.05 H	176	70.3	-2.4
4	2483.50	51.6 AV	54.0	-2.4	2.05 H	176	54.0	-2.4
5	4924.00	44.3 PK	74.0	-29.7	1.26 H	338	42.3	2.0
6	4924.00	29.9 AV	54.0	-24.1	1.26 H	338	27.9	2.0
7	7386.00	42.3 PK	74.0	-31.7	1.19 H	297	33.7	8.6
8	7386.00	30.1 AV	54.0	-23.9	1.19 H	297	21.5	8.6
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	108.5 PK			2.19 V	47	111.1	-2.6
2	*2462.00	97.8 AV			2.19 V	47	100.4	-2.6
3	2483.50	69.6 PK	74.0	-4.4	2.19 V	47	72.0	-2.4
4	2483.50	53.8 AV	54.0	-0.2	2.19 V	47	56.2	-2.4
5	4924.00	46.0 PK	74.0	-28.0	1.09 V	296	44.0	2.0
6	4924.00	32.2 AV	54.0	-21.8	1.09 V	296	30.2	2.0
7	7386.00	43.4 PK	74.0	-30.6	1.42 V	233	34.8	8.6
8	7386.00	30.4 AV	54.0	-23.6	1.42 V	233	21.8	8.6

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
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	2388.90	67.7 PK	74.0	-6.3	2.34 H	28	69.9	-2.2
2	2388.90	51.8 AV	54.0	-2.2	2.34 H	28	54.0	-2.2
3	2390.00	67.1 PK	74.0	-6.9	2.34 H	28	69.3	-2.2
4	2390.00	51.3 AV	54.0	-2.7	2.34 H	28	53.5	-2.2
5	*2422.00	103.1 PK			2.34 H	28	105.6	-2.5
6	*2422.00	91.8 AV			2.34 H	28	94.3	-2.5
7	4844.00	44.1 PK	74.0	-29.9	1.24 H	334	42.3	1.8
8	4844.00	30.2 AV	54.0	-23.8	1.24 H	334	28.4	1.8
9	7266.00	43.0 PK	74.0	-31.0	1.17 H	310	34.8	8.2
10	7266.00	30.2 AV	54.0	-23.8	1.17 H	310	22.0	8.2
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2388.90	69.7 PK	74.0	-4.3	1.92 V	58	71.9	-2.2
2	2388.90	53.8 AV	54.0	-0.2	1.92 V	58	56.0	-2.2
3	2390.00	69.5 PK	74.0	-4.5	1.92 V	58	71.7	-2.2
4	2390.00	53.2 AV	54.0	-0.8	1.92 V	58	55.4	-2.2
5	*2422.00	103.3 PK			1.92 V	58	105.8	-2.5
6	*2422.00	93.2 AV			1.92 V	58	95.7	-2.5
7	4844.00	44.2 PK	74.0	-29.8	1.20 V	284	42.4	1.8
8	4844.00	30.1 AV	54.0	-23.9	1.20 V	284	28.3	1.8
9	7266.00	43.1 PK	74.0	-30.9	1.48 V	236	34.9	8.2
10	7266.00	30.1 AV	54.0	-23.9	1.48 V	236	21.9	8.2

REMARKS:

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

CHANNEL	TX Channel 6	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		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	2389.10	65.8 PK	74.0	-8.2	2.10 H	169	68.0	-2.2
2	2389.10	52.0 AV	54.0	-2.0	2.10 H	169	54.2	-2.2
3	2390.00	65.6 PK	74.0	-8.4	2.10 H	169	67.8	-2.2
4	2390.00	51.7 AV	54.0	-2.3	2.10 H	169	53.9	-2.2
5	*2437.00	103.8 PK			2.10 H	169	106.4	-2.6
6	*2437.00	92.9 AV			2.10 H	169	95.5	-2.6
7	2483.50	67.8 PK	74.0	-6.2	2.10 H	169	70.2	-2.4
8	2483.50	50.8 AV	54.0	-3.2	2.10 H	169	53.2	-2.4
9	4874.00	43.6 PK	74.0	-30.4	1.20 H	359	41.6	2.0
10	4874.00	29.7 AV	54.0	-24.3	1.20 H	359	27.7	2.0
11	7311.00	43.3 PK	74.0	-30.7	1.17 H	303	34.9	8.4
12	7311.00	30.2 AV	54.0	-23.8	1.17 H	303	21.8	8.4
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	2389.10	70.7 PK	74.0	-3.3	1.95 V	57	72.9	-2.2
2	2389.10	53.8 AV	54.0	-0.2	1.95 V	57	56.0	-2.2
3	2390.00	70.5 PK	74.0	-3.5	1.95 V	57	72.7	-2.2
4	2390.00	53.5 AV	54.0	-0.5	1.95 V	57	55.7	-2.2
5	*2437.00	106.6 PK			1.95 V	57	109.2	-2.6
6	*2437.00	95.3 AV			1.95 V	57	97.9	-2.6
7	2483.50	69.4 PK	74.0	-4.6	1.95 V	57	71.8	-2.4
8	2483.50	52.4 AV	54.0	-1.6	1.95 V	57	54.8	-2.4
9	4874.00	43.8 PK	74.0	-30.2	1.09 V	281	41.8	2.0
10	4874.00	30.0 AV	54.0	-24.0	1.09 V	281	28.0	2.0
11	7311.00	43.5 PK	74.0	-30.5	1.52 V	216	35.1	8.4
12	7311.00	30.6 AV	54.0	-23.4	1.52 V	216	22.2	8.4

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 9	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		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	*2452.00	101.8 PK			2.07 H	169	104.4	-2.6
2	*2452.00	90.2 AV			2.07 H	169	92.8	-2.6
3	2483.50	64.9 PK	74.0	-9.1	2.07 H	169	67.3	-2.4
4	2483.50	51.3 AV	54.0	-2.7	2.07 H	169	53.7	-2.4
5	2485.40	65.3 PK	74.0	-8.7	2.07 H	169	67.7	-2.4
6	2485.40	51.6 AV	54.0	-2.4	2.07 H	169	54.0	-2.4
7	4904.00	44.1 PK	74.0	-29.9	1.28 H	333	42.1	2.0
8	4904.00	30.0 AV	54.0	-24.0	1.28 H	333	28.0	2.0
9	7356.00	43.2 PK	74.0	-30.8	1.18 H	300	34.6	8.6
10	7356.00	30.4 AV	54.0	-23.6	1.18 H	300	21.8	8.6
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2452.00	104.0 PK			1.64 V	53	106.6	-2.6
2	*2452.00	92.9 AV			1.64 V	53	95.5	-2.6
3	2483.50	70.5 PK	74.0	-3.5	1.64 V	53	72.9	-2.4
4	2483.50	53.4 AV	54.0	-0.6	1.64 V	53	55.8	-2.4
5	2485.40	70.7 PK	74.0	-3.3	1.64 V	53	73.1	-2.4
6	2485.40	53.7 AV	54.0	-0.3	1.64 V	53	56.1	-2.4
7	4904.00	44.6 PK	74.0	-29.4	1.20 V	304	42.6	2.0
8	4904.00	30.2 AV	54.0	-23.8	1.20 V	304	28.2	2.0
9	7356.00	43.2 PK	74.0	-30.8	1.49 V	208	34.6	8.6
10	7356.00	30.1 AV	54.0	-23.9	1.49 V	208	21.5	8.6

REMARKS:

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

Below 1GHz Data:

802.11g

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	30.05	35.4 QP	40.0	-4.6	1.00 H	357	44.4	-9.0
2	88.76	30.5 QP	43.5	-13.0	2.00 H	84	44.1	-13.6
3	203.90	35.1 QP	43.5	-8.4	1.50 H	284	46.2	-11.1
4	250.00	31.4 QP	46.0	-14.6	1.00 H	302	40.3	-8.9
5	345.06	31.5 QP	46.0	-14.5	1.00 H	316	37.4	-5.9
6	499.99	32.0 QP	46.0	-14.0	1.50 H	328	33.8	-1.8
7	533.21	32.7 QP	46.0	-13.3	1.50 H	184	33.8	-1.1
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	110.46	31.8 QP	43.5	-11.7	1.00 V	19	42.5	-10.7
2	205.35	29.7 QP	43.5	-13.8	1.00 V	360	40.8	-11.1
3	358.85	34.1 QP	46.0	-11.9	1.50 V	277	39.5	-5.4
4	533.24	30.6 QP	46.0	-15.4	1.00 V	269	31.7	-1.1
5	613.50	29.6 QP	46.0	-16.4	1.00 V	186	28.6	1.0
6	952.42	33.0 QP	46.0	-13.0	1.00 V	60	27.0	6.0

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

4.2 Conducted Emission Measurement

4.2.1 Limits of Conducted Emission Measurement

Frequency (MHz)	Conducted Limit (dBuV)	
	Quasi-peak	Average
0.15 - 0.5	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30.0	60	50

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

4.2.2 Test Instruments

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver R&S	ESCS 30	847124/029	Nov. 01, 2017	Oct. 31, 2018
Line-Impedance Stabilization Network (for EUT) R&S	ESH3-Z5	848773/004	Nov. 15, 2017	Nov. 14, 2018
Line-Impedance Stabilization Network (for Peripheral) R&S	ENV216	100072	June 04, 2018	June 03, 2019
50 ohms Terminator	N/A	EMC-02	Sep. 22, 2017	Sep. 21, 2018
RF Cable	5D-FB	COCCAB-001	Sep. 29, 2017	Sep. 28, 2018
Fixed attenuator EMCI	STI02-2200-10	003	Mar. 16, 2018	Mar. 15, 2019
Software BVADT	BVADT_Cond_ V7.3.7.4	NA	NA	NA

Note:

1. The calibration interval of the above test instruments are 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in Conduction 1.
3 Tested Date: June 16 to 18, 2018

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

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

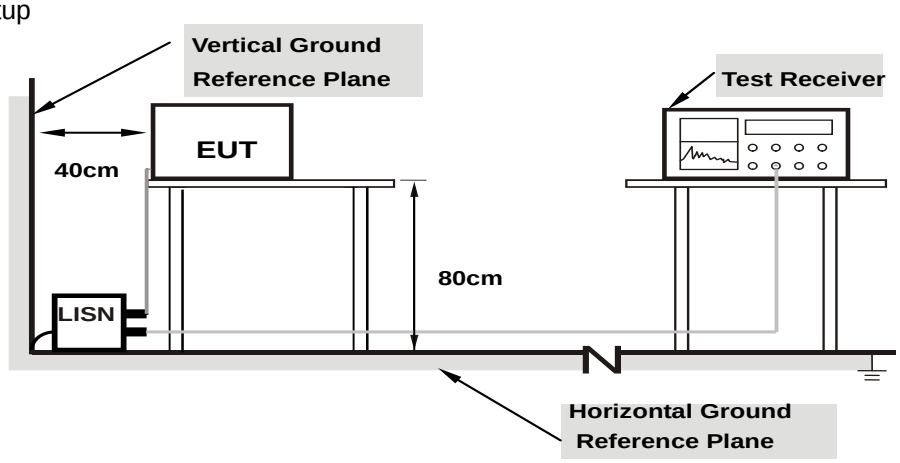
c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

Note: The resolution bandwidth and video bandwidth of test receiver is 9kHz for quasi-peak detection (QP) and average detection (AV) at frequency 0.15MHz-30MHz.

4.2.4 Deviation from Test Standard

No deviation.

4.2.5 Test Setup



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

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

4.2.6 EUT Operating Conditions

Same as 4.1.6.

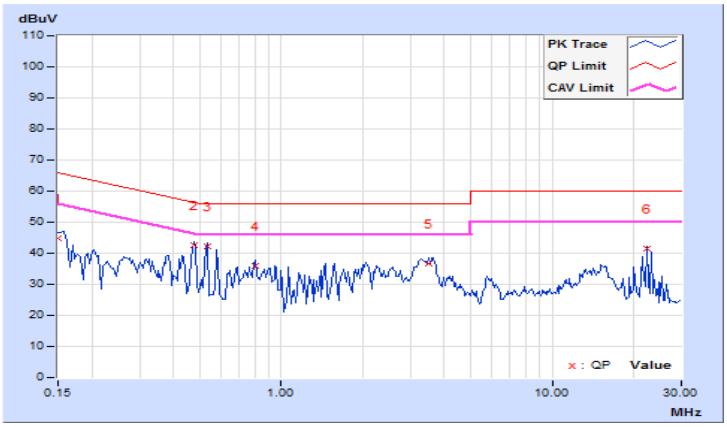
4.2.7 Test Results (Mode 1)

Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	10.05	34.89	22.77	44.94	32.82	66.00	56.00	-21.06	-23.18
2	0.47422	10.13	32.40	25.11	42.53	35.24	56.44	46.44	-13.91	-11.20
3	0.53281	10.13	32.26	25.82	42.39	35.95	56.00	46.00	-13.61	-10.05
4	0.79844	10.15	25.84	21.20	35.99	31.35	56.00	46.00	-20.01	-14.65
5	3.49219	10.31	26.30	17.49	36.61	27.80	56.00	46.00	-19.39	-18.20
6	22.34375	11.43	29.95	28.99	41.38	40.42	60.00	50.00	-18.62	-9.58

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

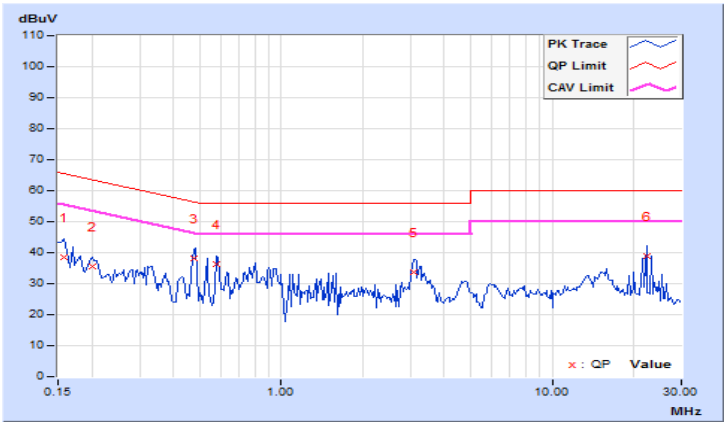


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15781	9.96	28.49	15.09	38.45	25.05	65.58	55.58	-27.13	-30.53
2	0.20078	9.97	25.60	13.46	35.57	23.43	63.58	53.58	-28.01	-30.15
3	0.47422	10.02	28.15	17.72	38.17	27.74	56.44	46.44	-18.27	-18.70
4	0.57969	10.03	26.31	20.85	36.34	30.88	56.00	46.00	-19.66	-15.12
5	3.09766	10.15	23.65	12.10	33.80	22.25	56.00	46.00	-22.20	-23.75
6	22.33984	11.19	27.66	21.17	38.85	32.36	60.00	50.00	-21.15	-17.64

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



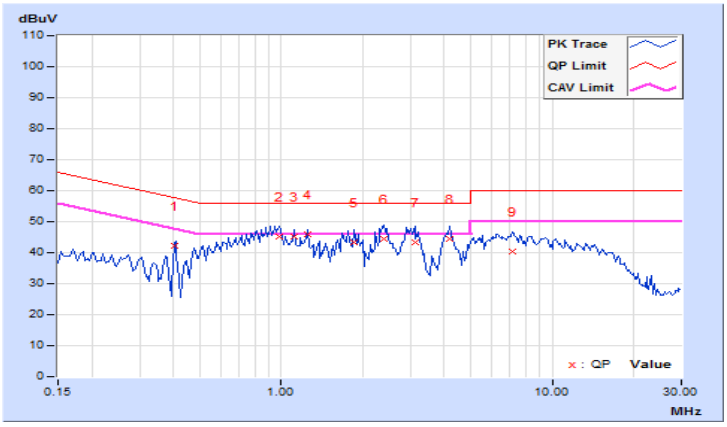
4.2.8 Test Results (Mode 2)

Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.40391	10.12	32.11	23.18	42.23	33.30	57.77	47.77	-15.54	-14.47
2	0.98203	10.17	34.98	25.74	45.15	35.91	56.00	46.00	-10.85	-10.09
3	1.11719	10.18	34.94	25.09	45.12	35.27	56.00	46.00	-10.88	-10.73
4	1.24609	10.18	35.80	22.27	45.98	32.45	56.00	46.00	-10.02	-13.55
5	1.85938	10.21	32.99	23.07	43.20	33.28	56.00	46.00	-12.80	-12.72
6	2.40234	10.24	34.03	25.12	44.27	35.36	56.00	46.00	-11.73	-10.64
7	3.11328	10.29	33.02	25.77	43.31	36.06	56.00	46.00	-12.69	-9.94
8	**4.17578**	**10.35**	**34.12**	**26.18**	**44.47**	**36.53**	**56.00**	**46.00**	**-11.53**	**-9.47**
9	7.14844	10.53	29.96	23.04	40.49	33.57	60.00	50.00	-19.51	-16.43

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

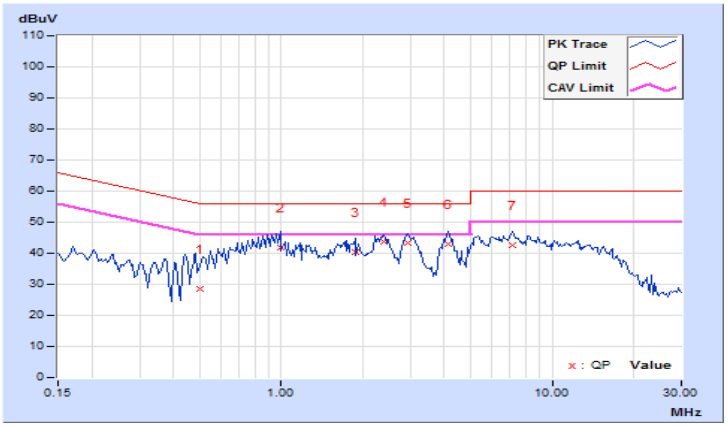


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.50000	10.02	18.43	8.16	28.45	18.18	56.00	46.00	-27.55	-27.82
2	0.99375	10.04	31.84	24.36	41.88	34.40	56.00	46.00	-14.12	-11.60
3	1.88281	10.09	30.38	22.12	40.47	32.21	56.00	46.00	-15.53	-13.79
4	2.39453	10.12	33.52	25.30	43.64	35.42	56.00	46.00	-12.36	-10.58
5	2.94922	10.14	33.11	23.69	43.25	33.83	56.00	46.00	-12.75	-12.17
6	4.14844	10.20	32.59	24.49	42.79	34.69	56.00	46.00	-13.21	-11.31
7	7.09766	10.37	32.07	23.92	42.44	34.29	60.00	50.00	-17.56	-15.71

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

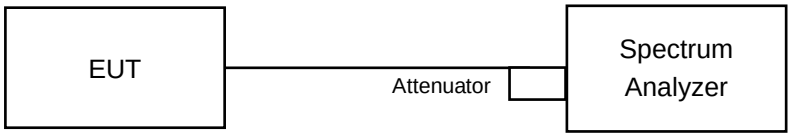


4.3 6dB Bandwidth Measurement

4.3.1 Limits of 6dB Bandwidth Measurement

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

4.3.2 Test Setup



4.3.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.3.4 Test Procedure

a. Set resolution bandwidth (RBW) = 100kHz
b. Set the video bandwidth (VBW) ≥ 3 x RBW, Detector = Peak.
c. Trace mode = max hold.
d. Sweep = auto couple.
e. Measure the maximum width of the emission that is constrained by the frequencies associated with the two amplitude points (upper and lower) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission

4.3.5 Deviation from Test Standard

No deviation.

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 Result

802.11b

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
1	2412	8.15	0.5	Pass
6	2437	8.59	0.5	Pass
10	2457	8.14	0.5	Pass
11	2462	8.12	0.5	Pass

802.11g

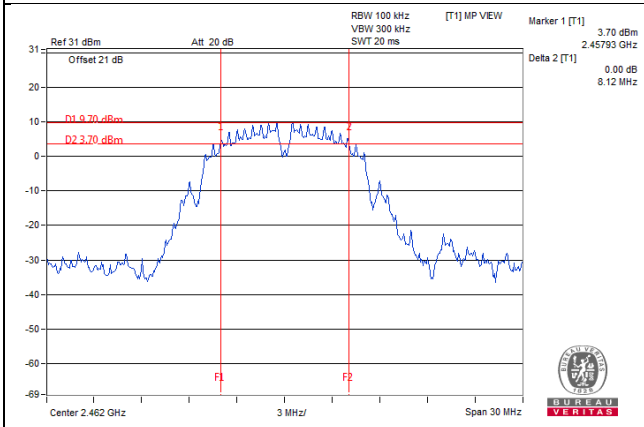
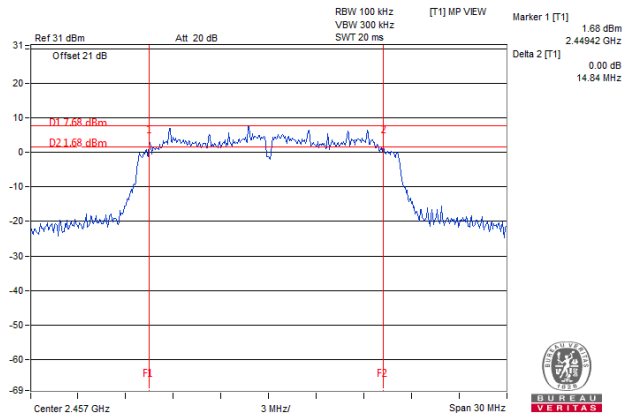
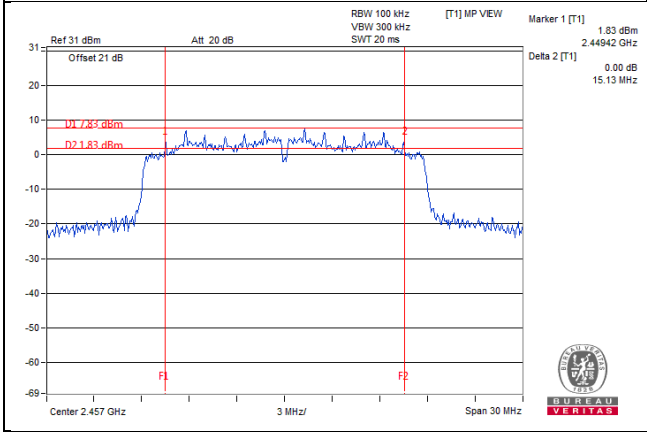
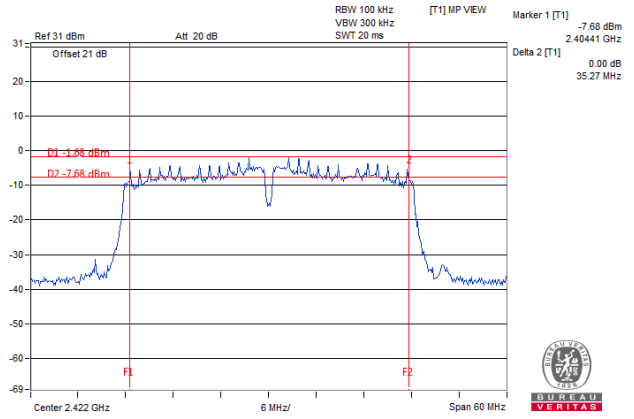
Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
1	2412	15.08	15.16	0.5	Pass
2	2417	15.17	15.16	0.5	Pass
3	2422	15.17	15.19	0.5	Pass
6	2437	15.15	15.18	0.5	Pass
9	2452	15.15	15.16	0.5	Pass
10	2457	14.84	15.18	0.5	Pass
11	2462	15.17	15.76	0.5	Pass

802.11n (HT20)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
1	2412	15.16	16.11	0.5	Pass
2	2417	15.14	15.74	0.5	Pass
6	2437	15.16	15.76	0.5	Pass
10	2457	15.13	16.11	0.5	Pass
11	2462	15.17	16.33	0.5	Pass

802.11n (HT40)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
3	2422	35.27	35.71	0.5	Pass
6	2437	35.31	36.39	0.5	Pass
9	2452	35.35	35.86	0.5	Pass

Spectrum Plot of Worst Value	
802.11b / CH11	**802.11g_Chain 0 / CH10**
	
802.11n (HT20) _Chain 0 / CH10	**802.11n (HT40) _Chain 0 / CH3**
	

4.4 Conducted Output Power Measurement

4.4.1 Limits of Conducted Output Power Measurement

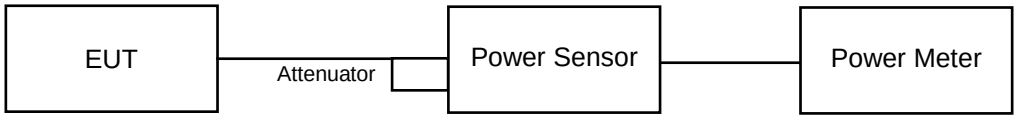
For systems using digital modulation in the 2400–2483.5 MHz bands: 1 Watt (30dBm)

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.

4.4.2 Test Setup



4.4.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.4.4 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.

4.4.5 Deviation from Test Standard

No deviation.

4.4.6 EUT Operating Conditions

Same as Item 4.3.6.

4.4.7 Test Results

FOR PEAK POWER

802.11b

Channel	Frequency (MHz)	Peak Power (mW)	Peak Power (dBm)	Limit (dBm)	Pass/Fail
1	2412	175.792	22.45	30	Pass
6	2437	247.172	23.93	30	Pass
10	2457	211.836	23.26	30	Pass
11	2462	148.936	21.73	30	Pass

802.11g

Chan.	Chan. Freq. (MHz)	Peak Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
1	2412	23.20	23.52	433.835	26.37	30	Pass
2	2417	23.92	23.82	487.595	26.88	30	Pass
3	2422	24.34	24.02	523.992	27.19	30	Pass
6	2437	24.79	24.98	616.076	27.90	30	Pass
9	2452	24.28	24.06	522.6	27.18	30	Pass
10	2457	23.46	23.88	466.163	26.69	30	Pass
11	2462	23.50	23.62	454.016	26.57	30	Pass

802.11n (HT20)

Chan.	Chan. Freq. (MHz)	Peak Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
1	2412	22.16	23.09	368.141	25.66	30	Pass
2	2417	23.49	24.01	475.125	26.77	30	Pass
6	2437	24.60	24.78	589.011	27.70	30	Pass
10	2457	23.86	23.79	482.552	26.84	30	Pass
11	2462	22.14	23.26	375.518	25.75	30	Pass

802.11n (HT40)

Chan.	Chan. Freq. (MHz)	Peak Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
3	2422	20.17	22.39	277.372	24.43	30	Pass
6	2437	21.74	23.18	357.249	25.53	30	Pass
9	2452	18.94	21.64	224.224	23.51	30	Pass

FOR AVERAGE POWER

802.11b

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)
1	2412	82.604	19.17
6	2437	125.314	20.98
10	2457	90.782	19.58
11	2462	61.235	17.87

802.11g

Channel	Frequency (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1		
1	2412	13.70	14.97	54.847	17.39
2	2417	17.27	16.88	102.086	20.09
3	2422	18.00	17.89	124.614	20.96
6	2437	19.61	21.51	232.99	23.67
9	2452	18.87	18.23	143.617	21.57
10	2457	17.42	17.22	107.931	20.33
11	2462	13.93	15.40	59.391	17.74

802.11n (HT20)

Channel	Frequency (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1		
1	2412	13.11	14.53	48.843	16.89
2	2417	16.94	16.57	94.825	19.77
6	2437	19.04	20.34	188.311	22.75
10	2457	17.60	16.64	103.676	20.16
11	2462	11.96	13.95	40.535	16.08

802.11n (HT40)

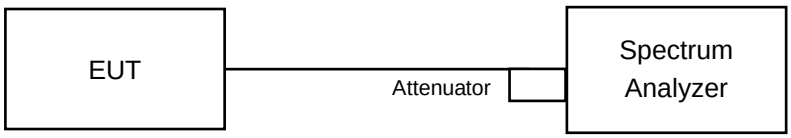
Channel	Frequency (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1		
3	2422	11.00	12.41	30.007	14.77
6	2437	12.67	14.36	45.783	16.61
9	2452	10.71	12.37	29.034	14.63

4.5 Power Spectral Density Measurement

4.5.1 Limits of Power Spectral Density Measurement

The Maximum of Power Spectral Density Measurement is 8dBm in any 3 kHz.

4.5.2 Test Setup



4.5.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.5.4 Test Procedure

a. Set analyzer center frequency to DTS channel center frequency.
b. Set the span to 1.5 times the DTS bandwidth.
c. Set the RBW to: 3 kHz ≤ RBW ≤ 100 kHz.
d. Set the VBW ≥ 3 × RBW.
e. Detector = peak.
f. Sweep time = auto couple.
g. Trace mode = max hold.
h. Allow trace to fully stabilize.
i. Use the peak marker function to determine the maximum amplitude level within the RBW.

4.5.5 Deviation from Test Standard

No deviation.

4.5.6 EUT Operating Condition

Same as Item 4.3.6

4.5.7 Test Results

802.11b

Channel	Frequency (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Pass /Fail
1	2412	-4.06	8	Pass
6	2437	-1.78	8	Pass
10	2457	-2.76	8	Pass
11	2462	-4.64	8	Pass

Note: The max gain = 2.5dBi < 6dBi, so the power density limit shall not be reduced.

802.11g

TX chain	Channel	Freq. (MHz)	PSD (dBm/3kHz)	10 log (N=2) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	Pass /Fail
0	1	2412	-12.07	3.01	-9.06	8	Pass
	2	2417	-7.76	3.01	-4.75	8	Pass
	3	2422	-6.32	3.01	-3.31	8	Pass
	6	2437	-4.88	3.01	-1.87	8	Pass
	9	2452	-7.36	3.01	-4.35	8	Pass
	10	2457	-6.61	3.01	-3.60	8	Pass
	11	2462	-9.89	3.01	-6.88	8	Pass
1	1	2412	-9.86	3.01	-6.85	8	Pass
	2	2417	-7.44	3.01	-4.43	8	Pass
	3	2422	-6.51	3.01	-3.50	8	Pass
	6	2437	-4.02	3.01	-1.01	8	Pass
	9	2452	-7.41	3.01	-4.40	8	Pass
	10	2457	-7.68	3.01	-4.67	8	Pass
	11	2462	-9.22	3.01	-6.21	8	Pass

Note: The directional gain = 2.5dBi + 10log(2) = 5.51dBi < 6dBi, so the power density limit shall not be reduced.

802.11n (HT20)

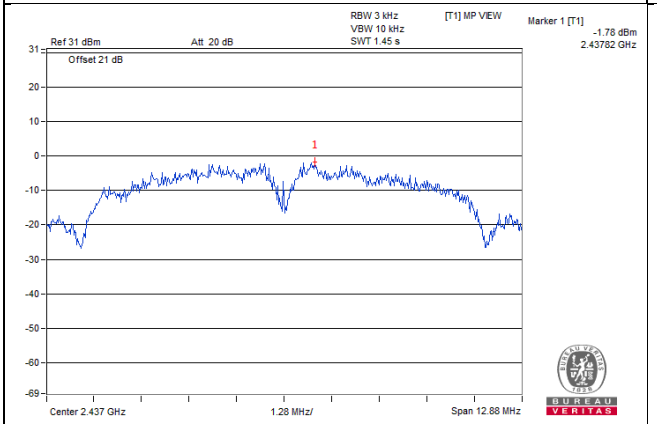
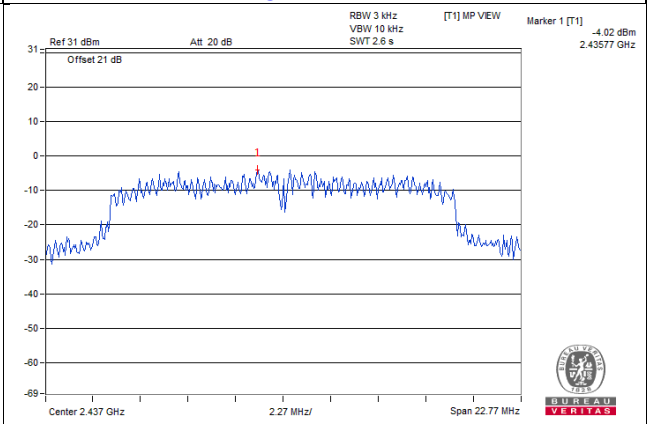
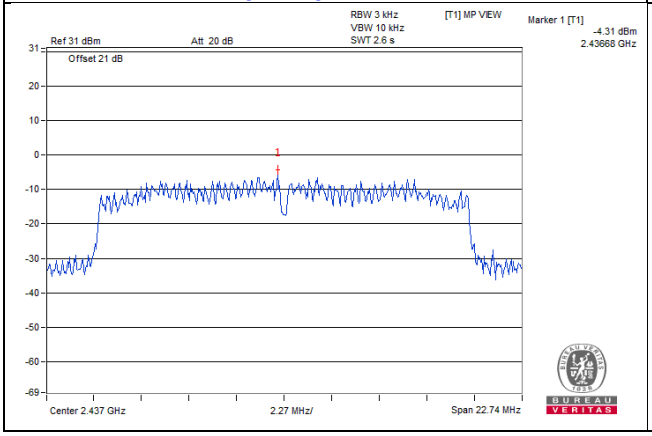
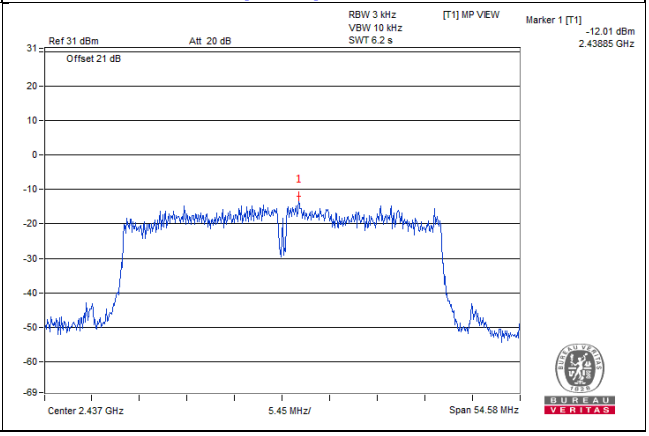
TX chain	Channel	Freq. (MHz)	PSD (dBm/3kHz)	10 log (N=2) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	Pass /Fail
0	1	2412	-9.66	3.01	-6.65	8	Pass
	2	2417	-7.37	3.01	-4.36	8	Pass
	6	2437	-4.31	3.01	-1.30	8	Pass
	10	2457	-7.22	3.01	-4.21	8	Pass
	11	2462	-13.19	3.01	-10.18	8	Pass
1	1	2412	-9.63	3.01	-6.62	8	Pass
	2	2417	-8.33	3.01	-5.32	8	Pass
	6	2437	-4.73	3.01	-1.72	8	Pass
	10	2457	-8.93	3.01	-5.92	8	Pass
	11	2462	-11.09	3.01	-8.08	8	Pass

Note: The directional gain = 2.5dBi + 10log(2) = 5.51dBi < 6dBi, so the power density limit shall not be reduced.

802.11n (HT40)

TX chain	Channel	Freq. (MHz)	PSD (dBm/3kHz)	10 log (N=2) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	Pass /Fail
0	3	2422	-16.82	3.01	-13.81	8	Pass
	6	2437	-14.58	3.01	-11.57	8	Pass
	9	2452	-15.59	3.01	-12.58	8	Pass
1	3	2422	-15.78	3.01	-12.77	8	Pass
	6	2437	-12.01	3.01	-9.00	8	Pass
	9	2452	-14.90	3.01	-11.89	8	Pass

Note: The directional gain = 2.5dBi + 10log(2) = 5.51dBi < 6dBi, so the power density limit shall not be reduced.

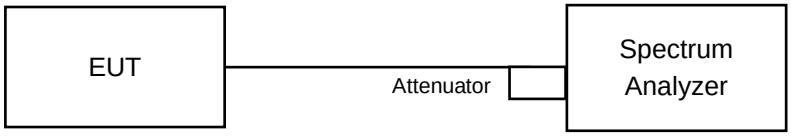
Spectrum Plot of Worst Value	
802.11b / CH6	**802.11g_Chain 1 / CH6**
	
802.11n (HT20)_Chain 0 / CH6	**802.11n (HT40)_Chain 1 / CH6**
	

4.6 Conducted Out of Band Emission Measurement

4.6.1 Limits of Conducted Out of Band Emission Measurement

Below 20dB of the highest emission level of operating band (in 100kHz Resolution Bandwidth).

4.6.2 Test Setup



4.6.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.6.4 Test Procedure

MEASUREMENT PROCEDURE REF

1. Set the RBW = 100 kHz.
2. Set the VBW ≥ 300 kHz.
3. Detector = peak.
4. Sweep time = auto couple.
5. Trace mode = max hold.
6. Allow trace to fully stabilize.
7. Use the peak marker function to determine the maximum power level in any 100 kHz band segment within the fundamental EBW.

MEASUREMENT PROCEDURE OOBE

1. Set RBW = 100 kHz.
2. Set VBW ≥ 300 kHz.
3. Detector = peak.
4. Sweep = auto couple.
5. Trace Mode = max hold.
6. Allow trace to fully stabilize.
7. Use the peak marker function to determine the maximum amplitude level.

4.6.5 Deviation from Test Standard

No deviation.

4.6.6 EUT Operating Condition

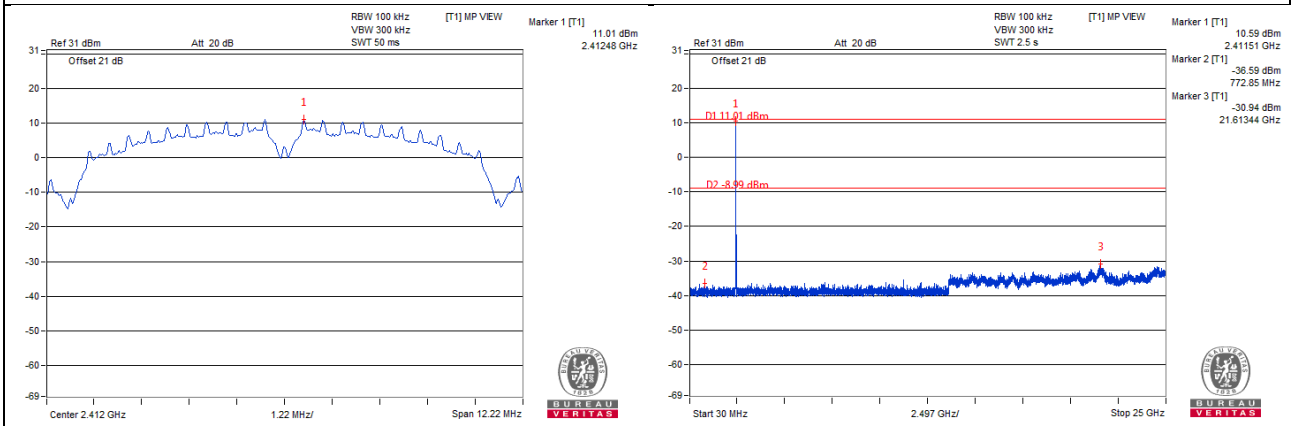
Same as Item 4.3.6

4.6.7 Test Results

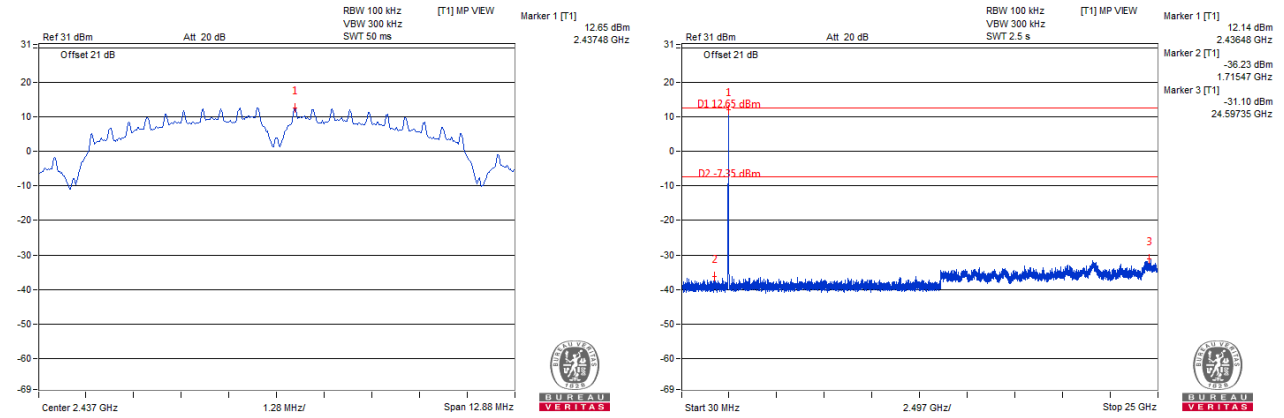
The spectrum plots are attached on the following pages. D1 line indicates the highest level, and D2 line indicates the 20dB offset below D1. It shows compliance with the requirement.

802.11b

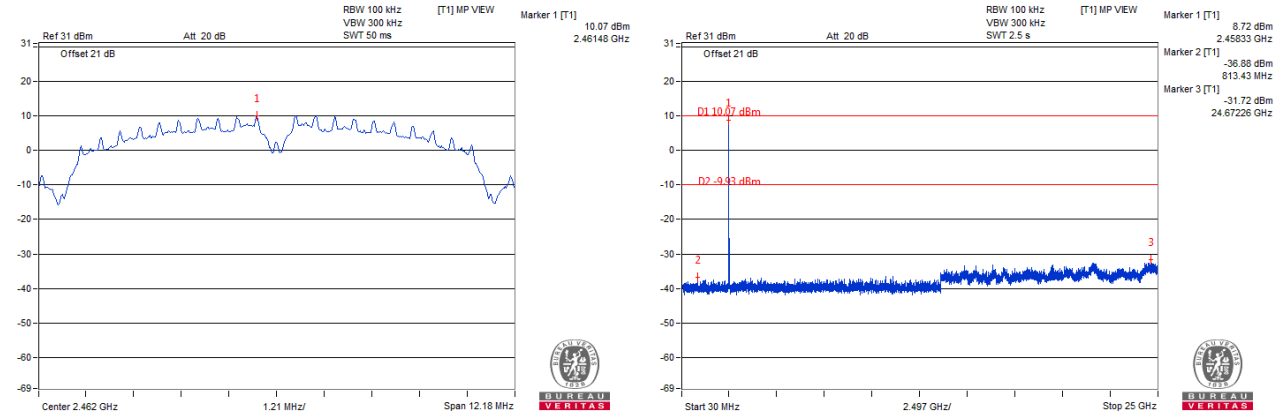
CH 1



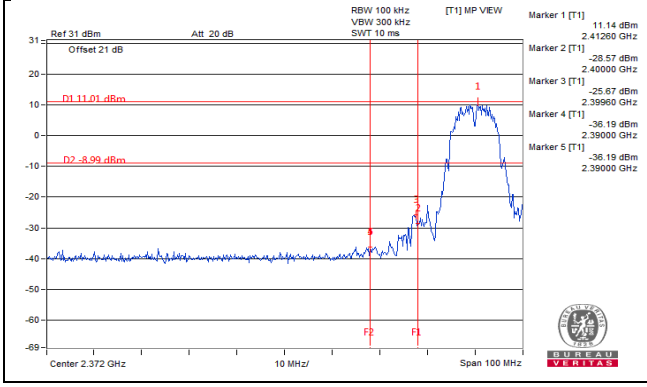
CH 6



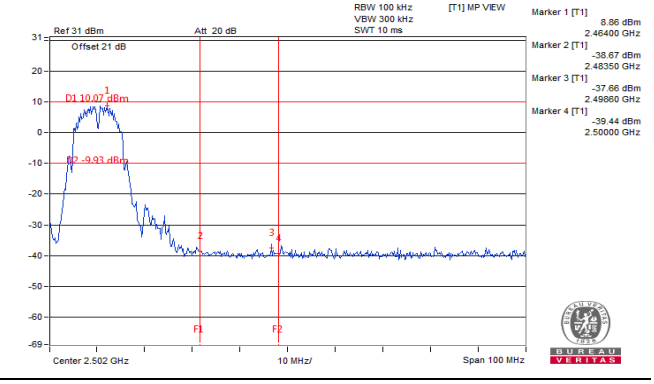
CH 11



CH 1 Band edge



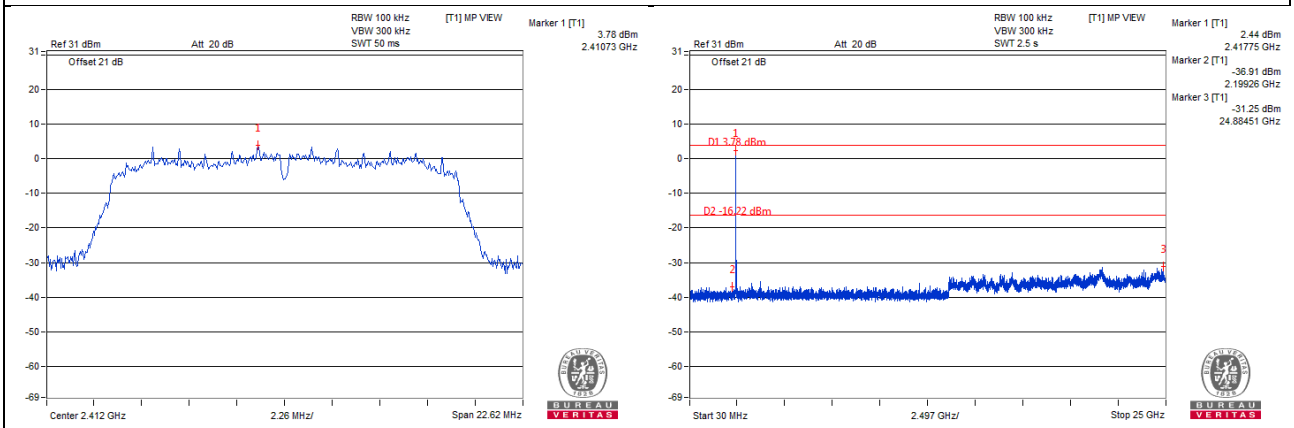
CH 11 Band edge



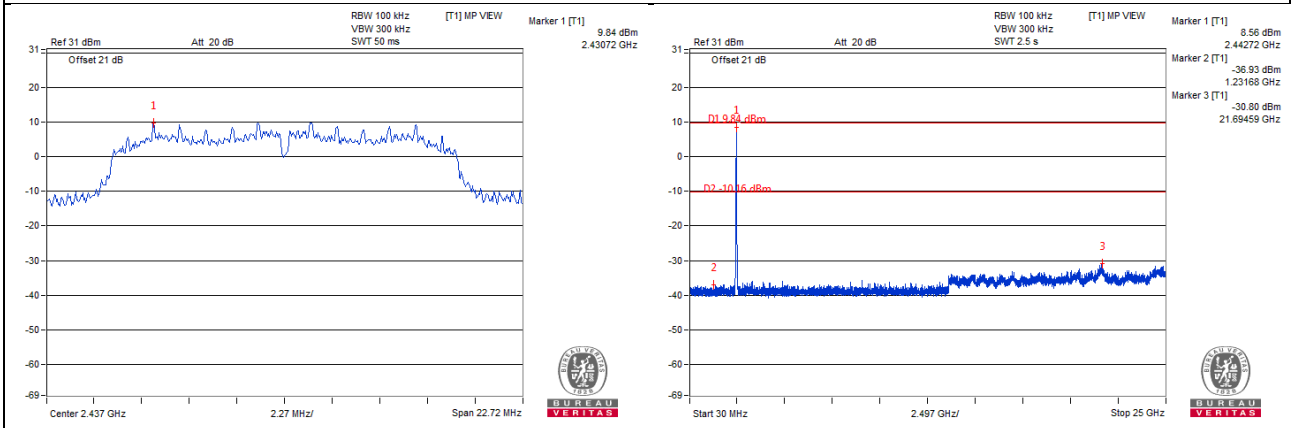
802.11g

Chain 0

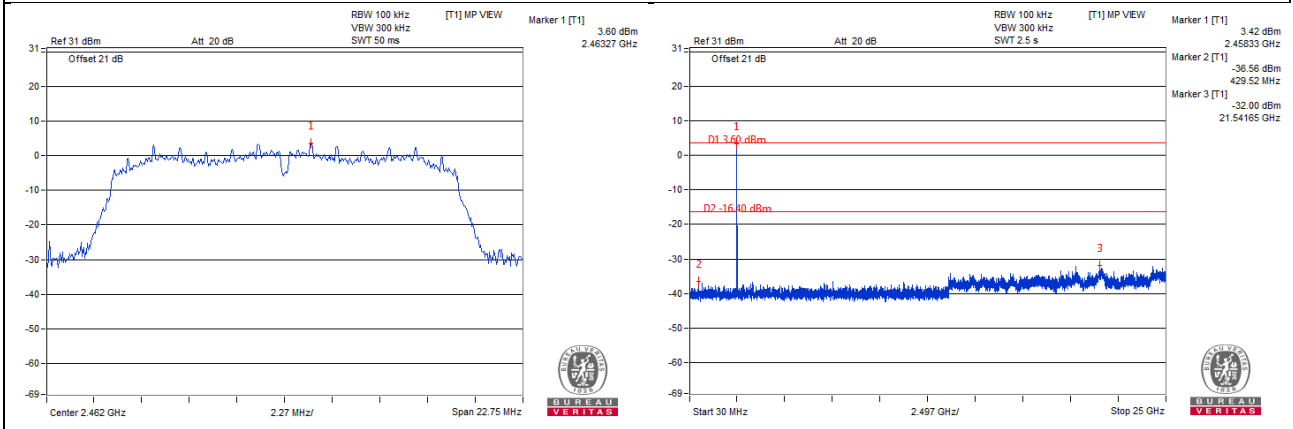
CH 1



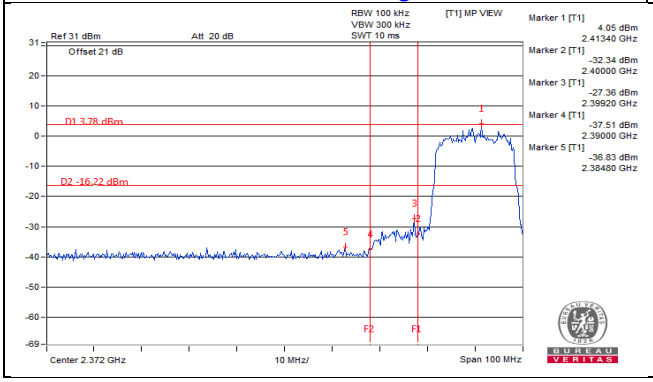
CH 6



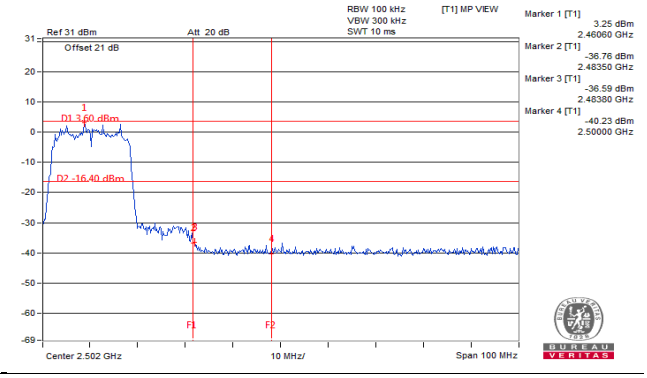
CH 11



CH 1 Band edge

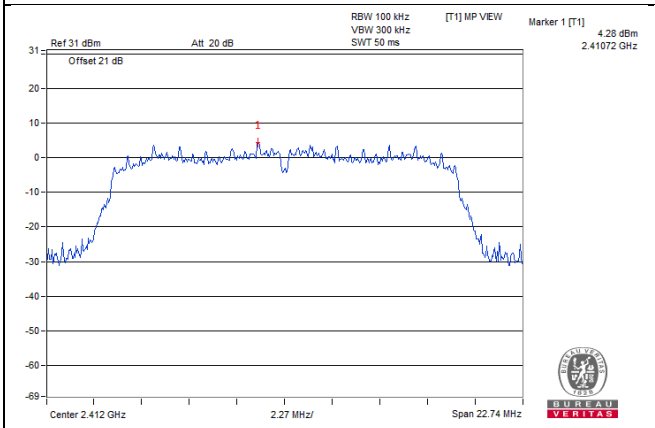


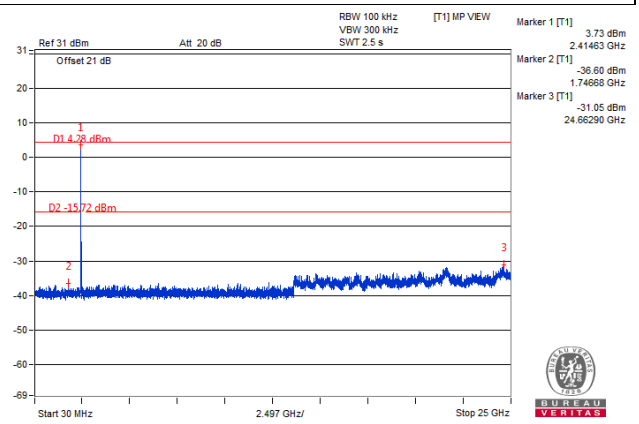
CH 11 Band edge



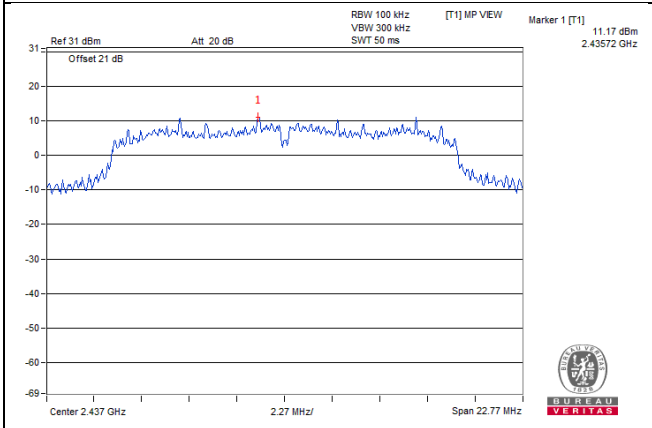
Chain 1

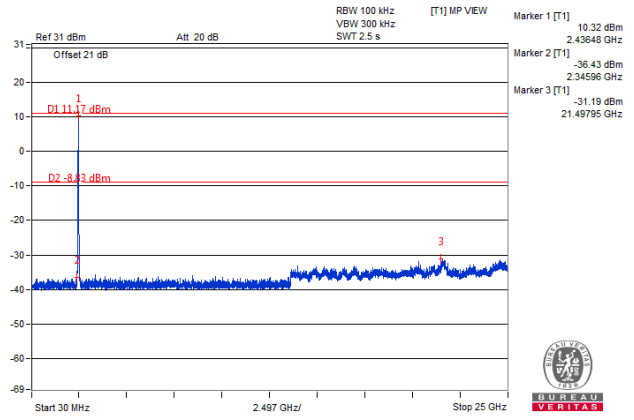
CH 1



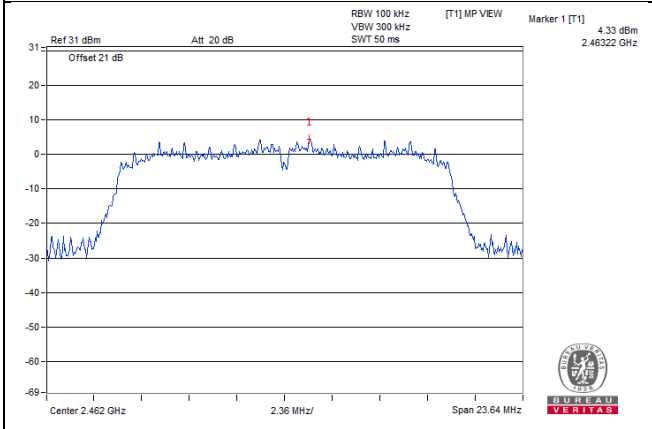


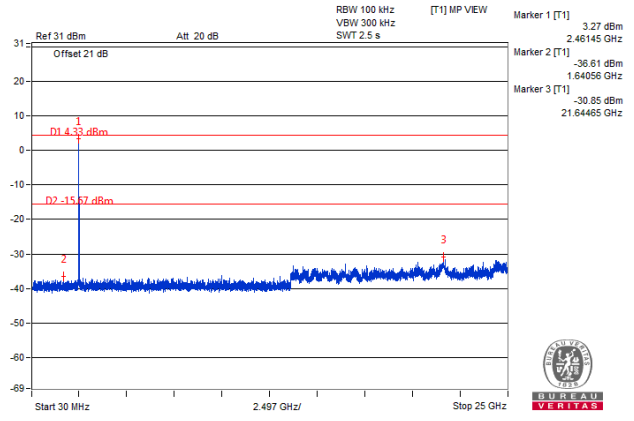
CH 6



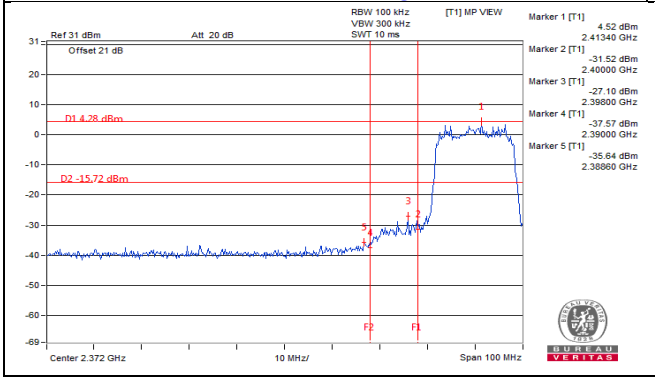


CH 11

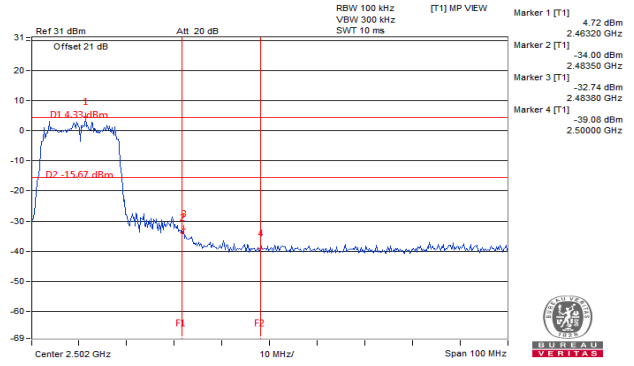




CH 1 Band edge



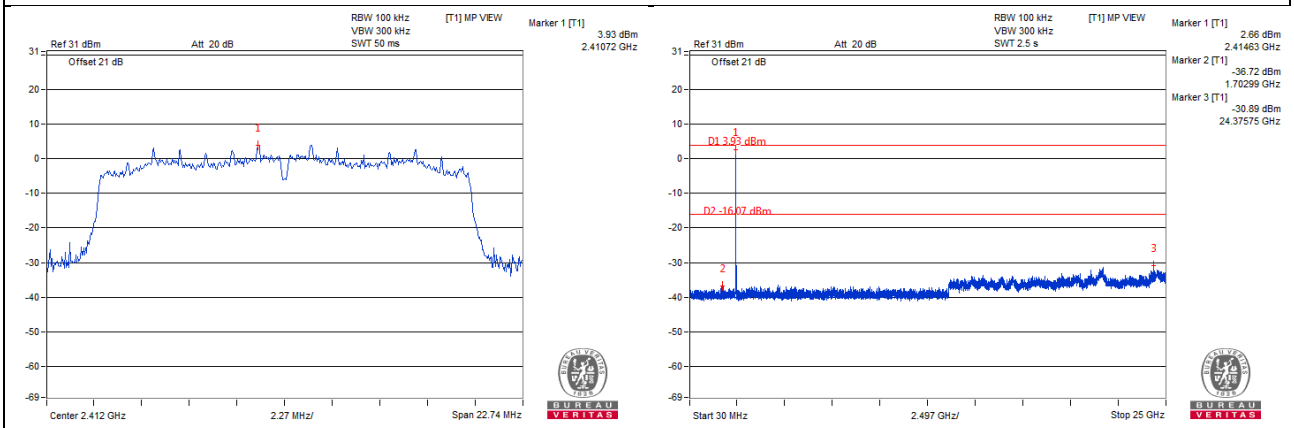
CH 11 Band edge



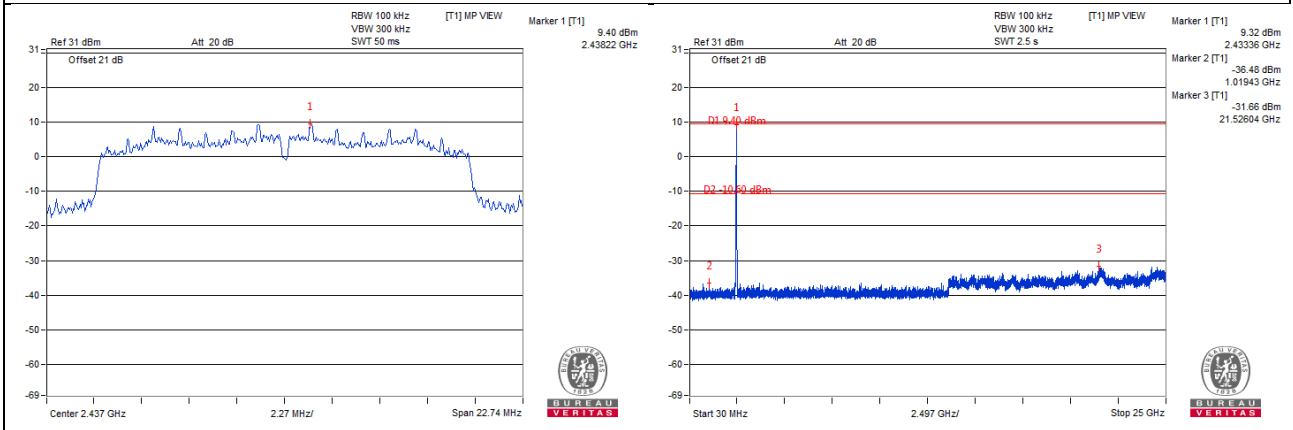
802.11n (HT20)

Chain 0

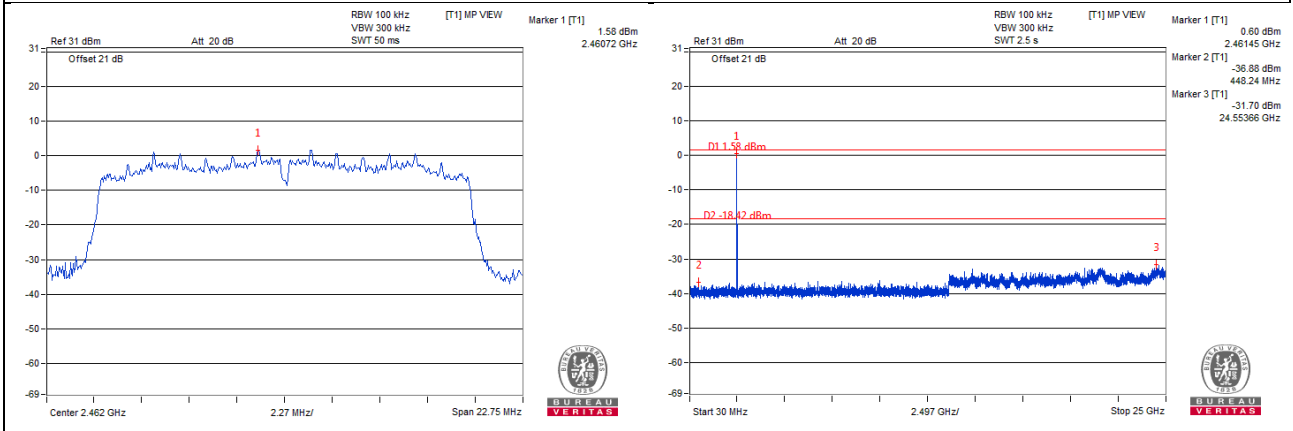
CH 1



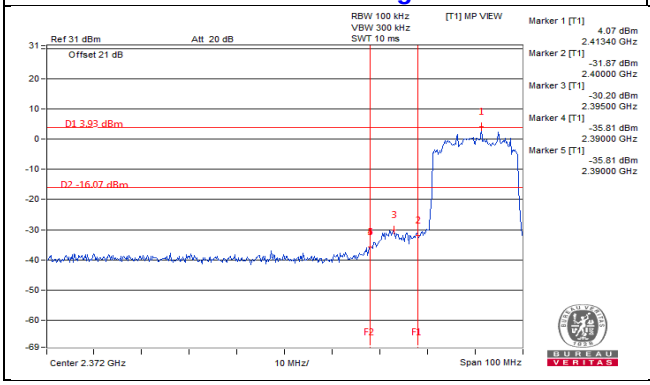
CH 6



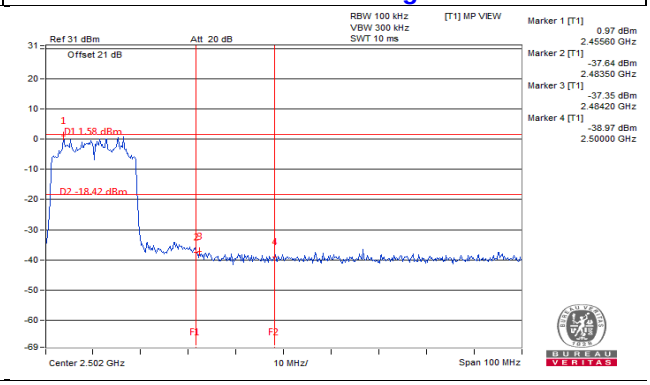
CH 11



CH 1 Band edge

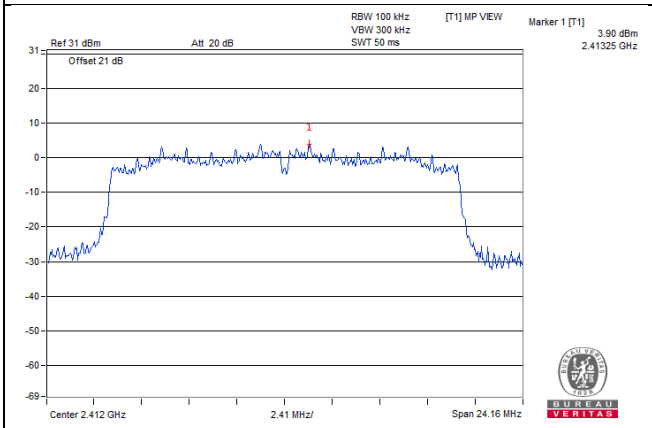


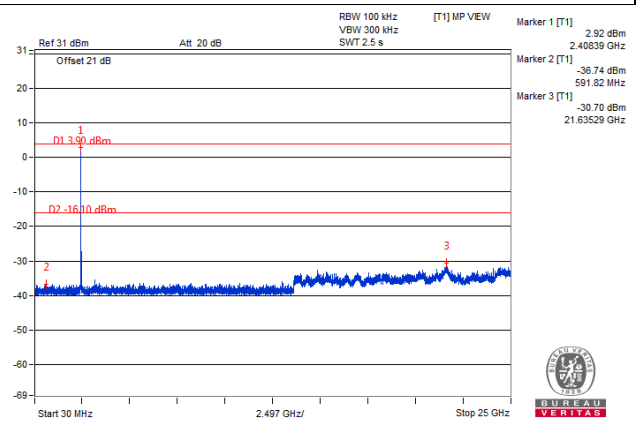
CH 11 Band edge



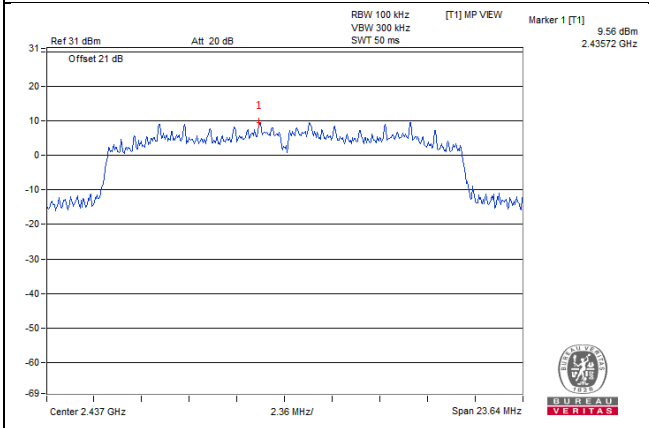
Chain 1

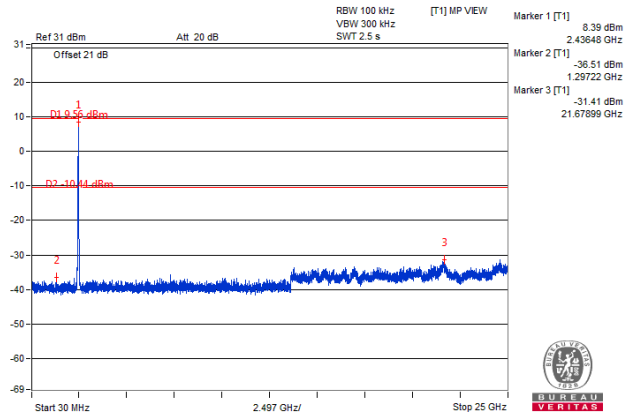
CH 1



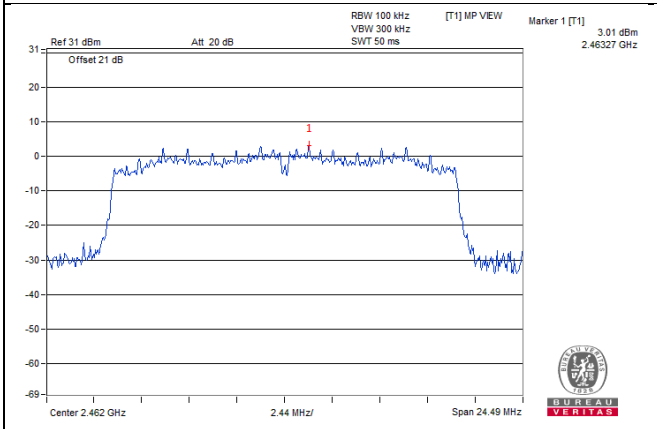


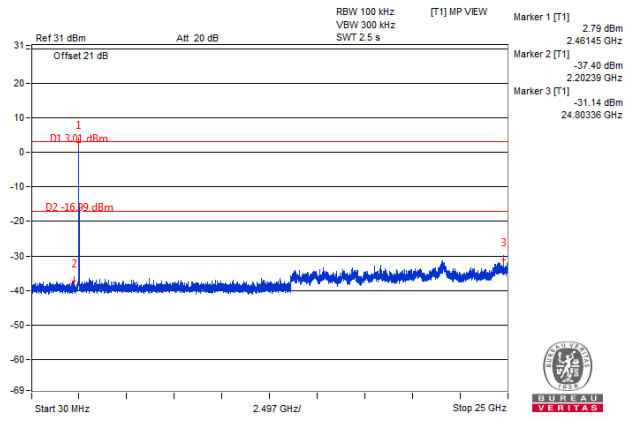
CH 6



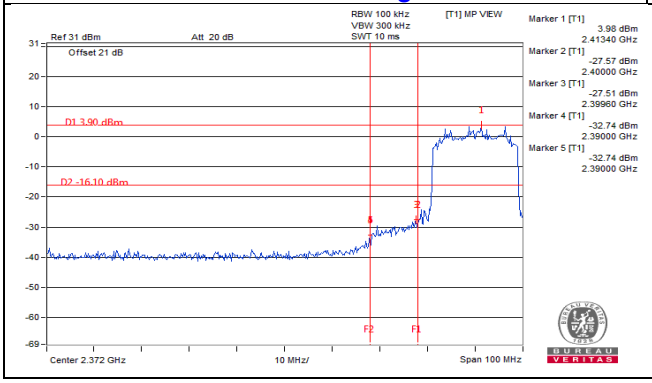


CH 11

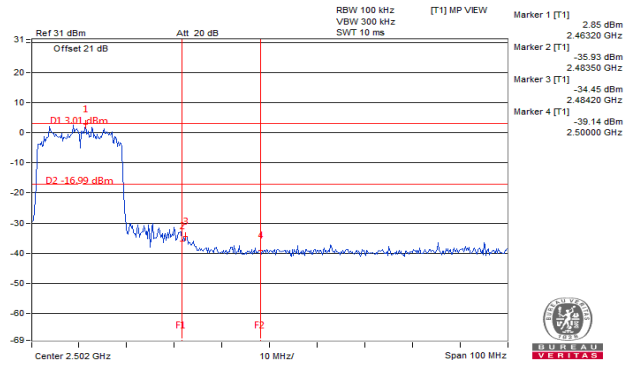




CH 1 Band edge



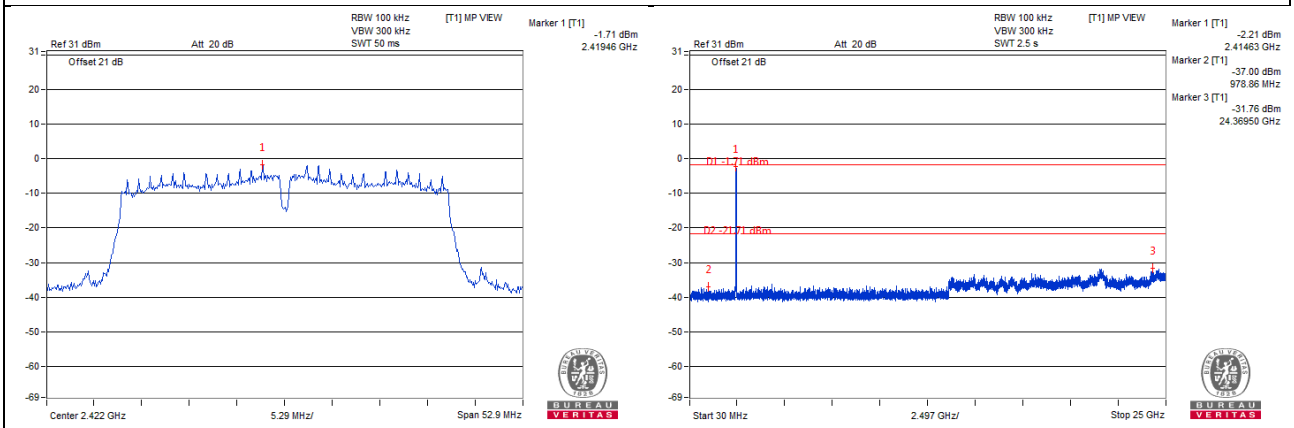
CH 11 Band edge



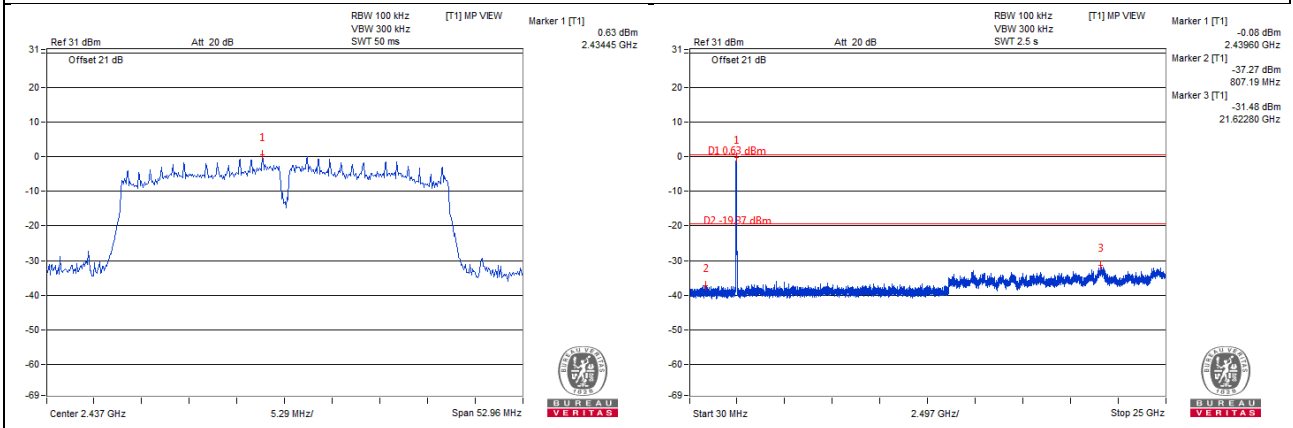
802.11n (HT40)

Chain 0

CH 3



CH 6



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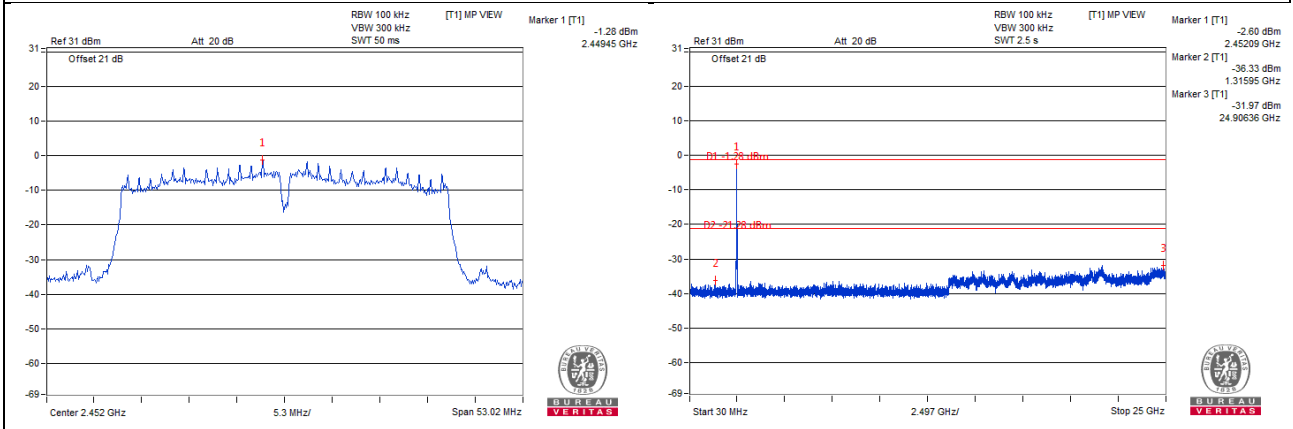
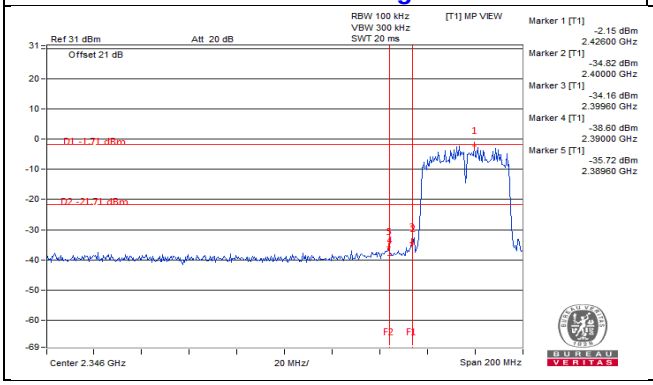


CH 3 Band edge



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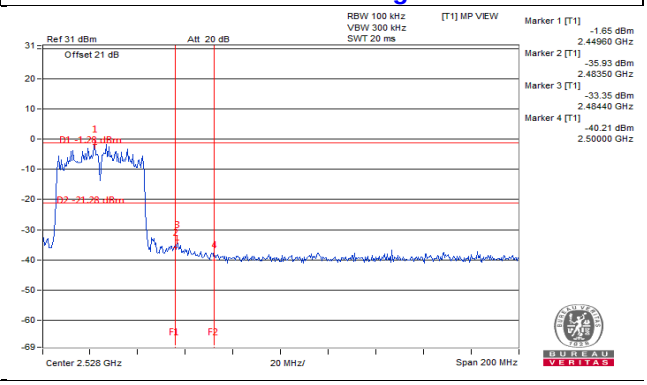
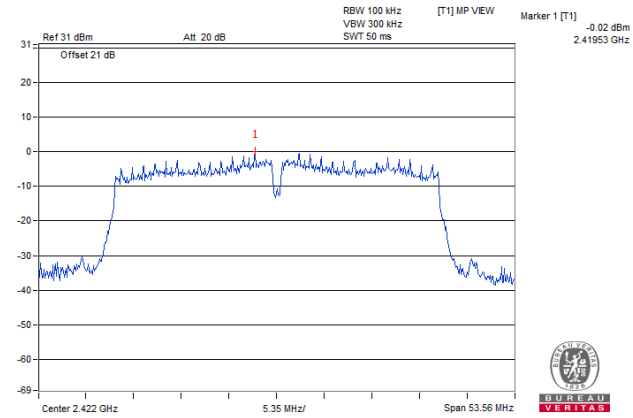
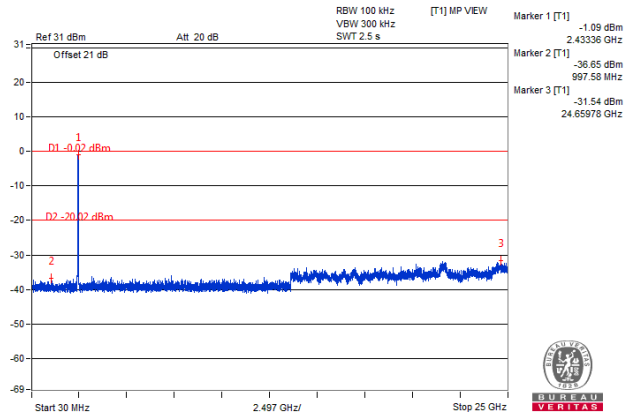


Chain 1

CH 3





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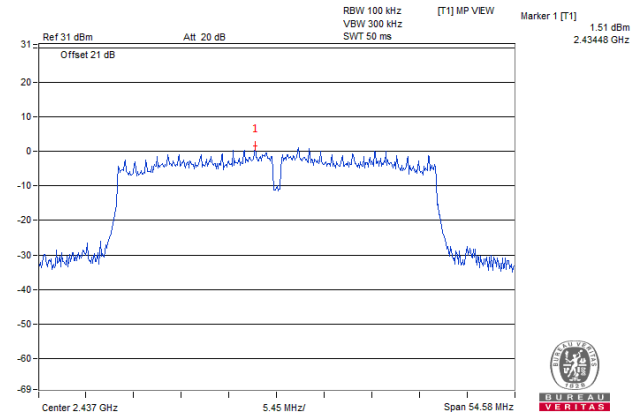

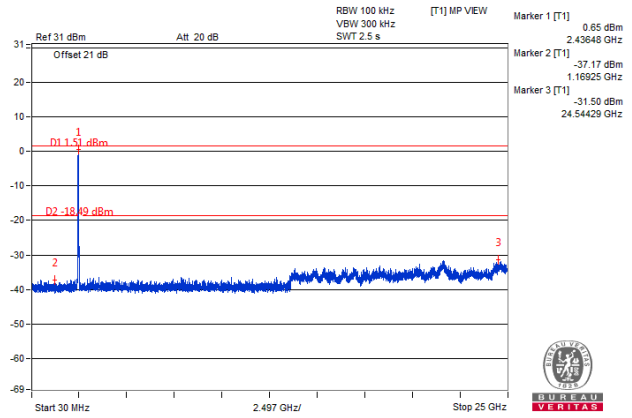

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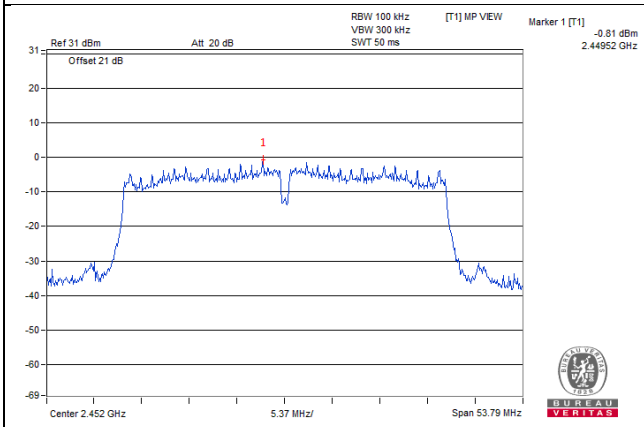
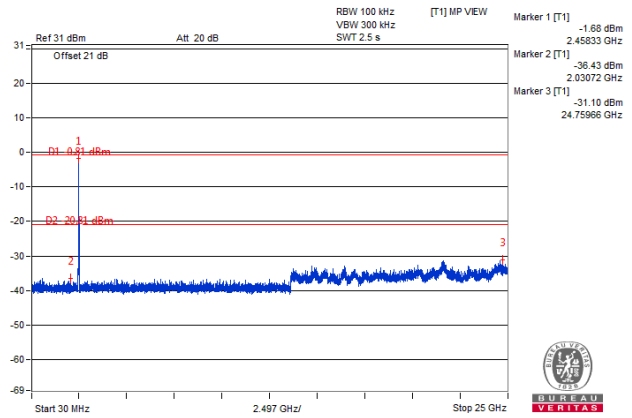
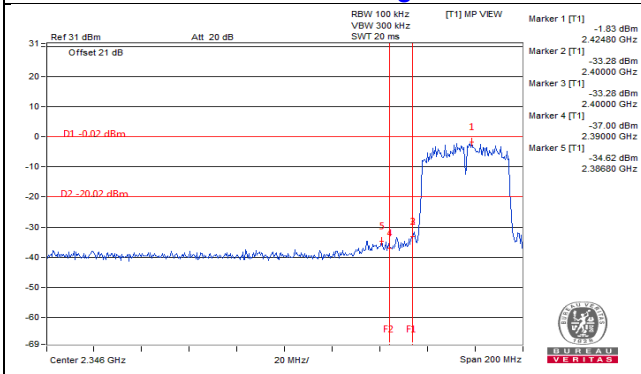




CH 3 Band edge



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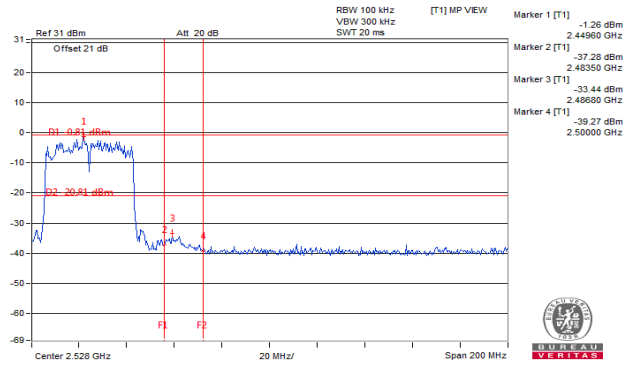

5 Pictures of Test Arrangements

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

Appendix – 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 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:

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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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