FCC Test Report

Report No.:	RF180323E06
FCC ID:	2AK6Q-M17-Z012
Test Model:	M17-Z012
Received Date:	Mar. 23, 2018
Test Date:	Mar. 30 to Apr. 10, 2018
Issued Date:	Apr. 24, 2018
Applicant:	Avisonic Technology Corp.
Address:	7F,No.12, Innovation 1st Rd.,Hsinchu Science Park, Hsin-Chu, 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

Table of Contents

Release Control Record

Issue No.	Description	Date Issued
RF180323E06	Original release.	Apr. 24, 2018

1 Certificate of Conformity

Product:	UVC to DVR With WIFI
Brand:	UVCDVR
Test Model:	M17-Z012
Sample Status:	ENGINEERING SAMPLE
Applicant:	Avisonic Technology Corp.
Test Date:	Mar. 30 to Apr. 10, 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 : _____ , **Date:** Apr. 24, 2018

Phoenix Huang / Specialist

Approved by : _____ , **Date:** Apr. 24, 2018

May Chen / Manager

2 Summary of Test Results

47 CFR FCC Part 15, Subpart C (Section 15.247)			
FCC Clause	Test Item	Result	Remarks
15.207	AC Power Conducted Emission	PASS	Meet the requirement of limit. Minimum passing margin is -14.39dB at 0.15000MHz.
15.205 / 15.209 / 15.247(d)	Radiated Emissions and Band Edge Measurement	PASS	Meet the requirement of limit. Minimum passing margin is -4.5dB at 540.00MHz.
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	No antenna connector is used.
-	Occupied Bandwidth Measurement	-	Reference only

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	3.55 dB
Radiated Emissions above 1 GHz	1GHz ~ 6GHz	3.10 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	UVC to DVR With WIFI
Brand	UVCDVR
Test Model	M17-Z012
Status of EUT	ENGINEERING SAMPLE
Power Supply Rating	5Vdc from USB interface
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 150Mbps
Operating Frequency	2.412 ~ 2.462GHz
Number of Channel	802.11b, 802.11g, 802.11n (HT20): 11 802.11n (HT40): 7
Output Power	82.035 mW
Antenna Type	Refer to Note
Antenna Connector	Refer to Note
Accessory Device	NA
Cable Supplied	USB cable (shielded, 1m(fixed)) for power input USB cable (shielded, 0.5m(fixed)) for Camera

Note:

1. The antenna provided to the EUT, please refer to the following table:

Ant. No.	Chain No.	Brand	Model	Ant. Net Gain (dBi)	Freq. range (GHz)	Ant. Type	Connecter Type
1	0	Realtek	8822BR	1.9	2.4~2.4835	Printed	NA

2. The EUT incorporates a SISO function.

Modulation Mode	Data Rate (MCS)	TX & RX Configuration	
802.11b	1 ~ 11Mbps	1TX	1RX
802.11g	6 ~ 54Mbps	1TX	1RX
802.11n (HT20)	MCS 0~7	1TX	1RX
802.11n (HT40)	MCS 0~7	1TX	1RX

3. 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	√	√	√	√	Power from Adapter
2	-	-	√	-	Power from Laptop

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: 1. The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **X-plane**.
2**.** "-"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, 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.

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

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)
802.11n (HT20)	1 to 11	1	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.

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

Test Condition:

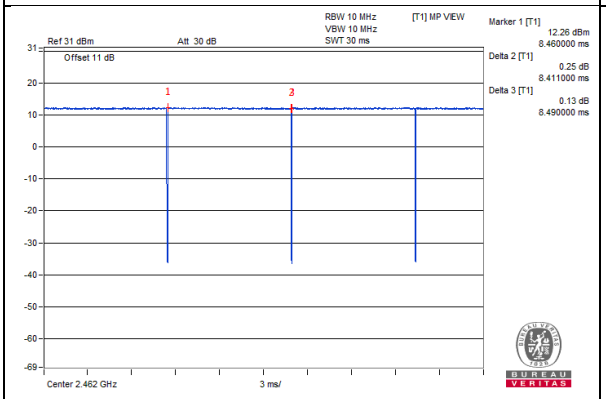
APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER (System)	TESTED BY
RE≥1G	24deg. C, 70%RH	120Vac, 60Hz	Andy Ho
RE<1G	23deg. C, 71%RH	120Vac, 60Hz	Andy Ho
PLC	25deg. C, 75%RH	120Vac, 60Hz	Andy Ho
APCM	25deg. C, 60%RH	120Vac, 60Hz	Robert Cheng

3.3 Duty Cycle of Test Signal

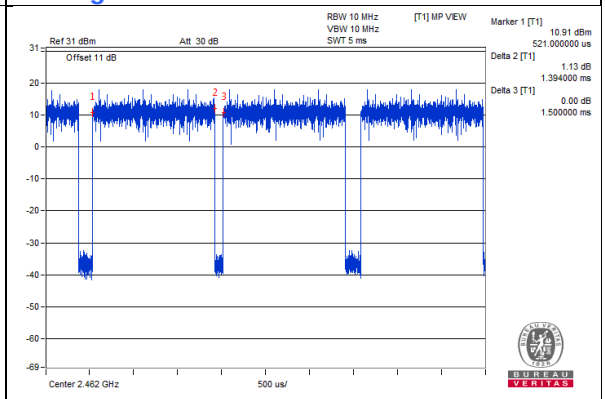
If duty cycle of test signal is ≥ 98 %, duty factor is not required.
If duty cycle of test signal is < 98%, duty factor shall be considered.

802.11b: Duty cycle = 8.411/8.49 = 0.991
802.11g: Duty cycle = 1.394/1.5 = 0.929, Duty factor = 10 * log(1/ Duty cycle) = 0.32
802.11n (HT20): Duty cycle = 1.307/1.429 = 0.915, Duty factor = 10 * log(1/ Duty cycle) = 0.39
802.11n (HT40): Duty cycle = 0.647/0.798 = 0.811, Duty factor = 10 * log(1/ Duty cycle) = 0.91

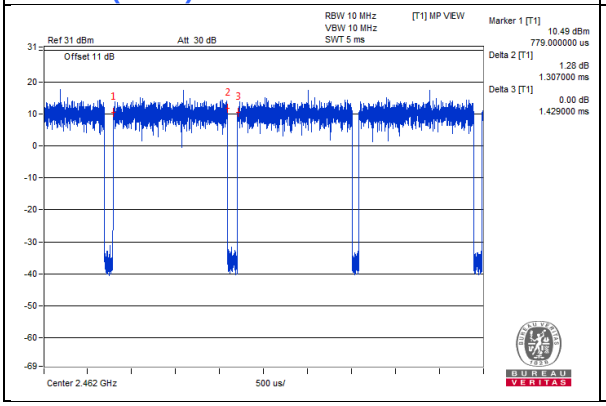
802.11b



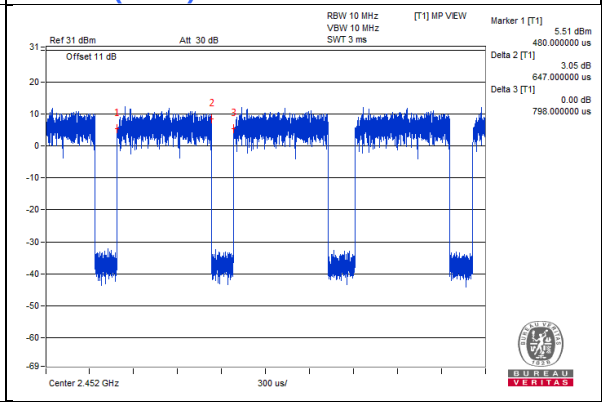
802.11g



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.	USB Adapter	ASUS	EXA1205UA	NA	NA	Provided by Lab
B.	microSD Card	Sandisk	16GB	NA	NA	Provided by Lab
C.	Camera	NA	NA	NA	NA	Supplied by Client
D.	Laptop	DELL	E6420	B92T3R1	FCC DoC	Provided by Lab

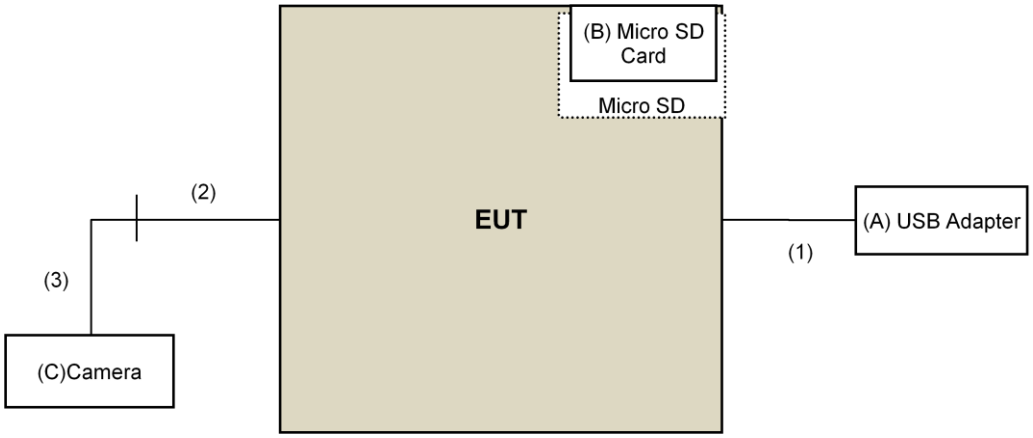
Note:

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

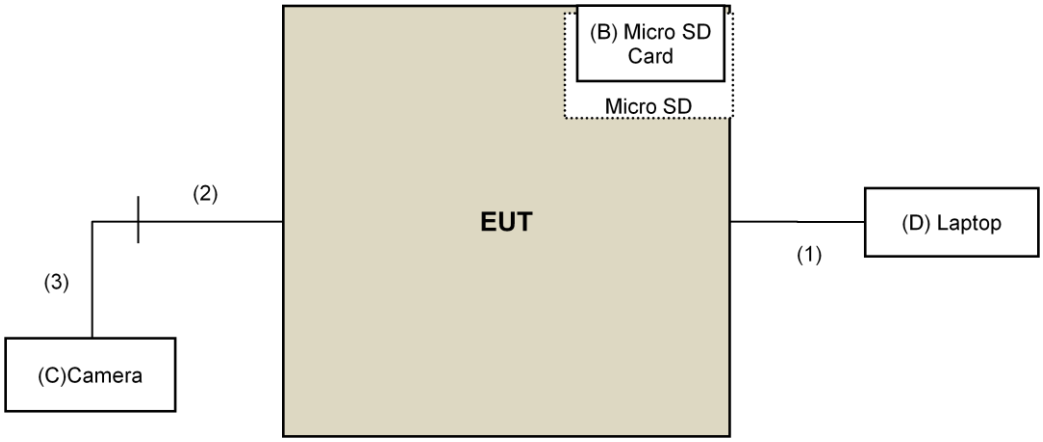
ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	USB Cable	1	1	Yes	0	Supplied by client
2.	USB Cable	1	0.5	Yes	0	Supplied by client
3.	microUSB Cable	1	0.3	Yes	0	Supplied by client

3.4.1 Configuration of System under Test

For Mode 1:



For Mode 2:



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
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

For Radiated emission (above 1GHz):

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver Keysight	N9038A	MY54450088	July 08, 2017	July 07, 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
Antenna Tower & Turn Table Max-Full	MF-7802	MF780208410	NA	NA
Boresight Antenna Fixture	FBA-01	FBA-SIP02	NA	NA

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in 966 Chamber No. 4.
3. The CANADA Site Registration No. is 20331-2
4. Tested Date: Mar. 31, 2018

For Other test items (Except for Radiated emission (above 1GHz):

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-1000VH2 B	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
Antenna Tower & Turn Table Max-Full	MF-7802	MF780208410	NA	NA
Boresight Antenna Fixture	FBA-01	FBA-SIP02	NA	NA
Spectrum Analyzer R&S	FSv40	100964	July 1, 2017	June 30, 2018
Power meter Anritsu	ML2495A	1014008	May 11, 2017	May 10, 2018
Power sensor Anritsu	MA2411B	0917122	May 11, 2017	May 10, 2018

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: Apr. 03 to 10, 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:

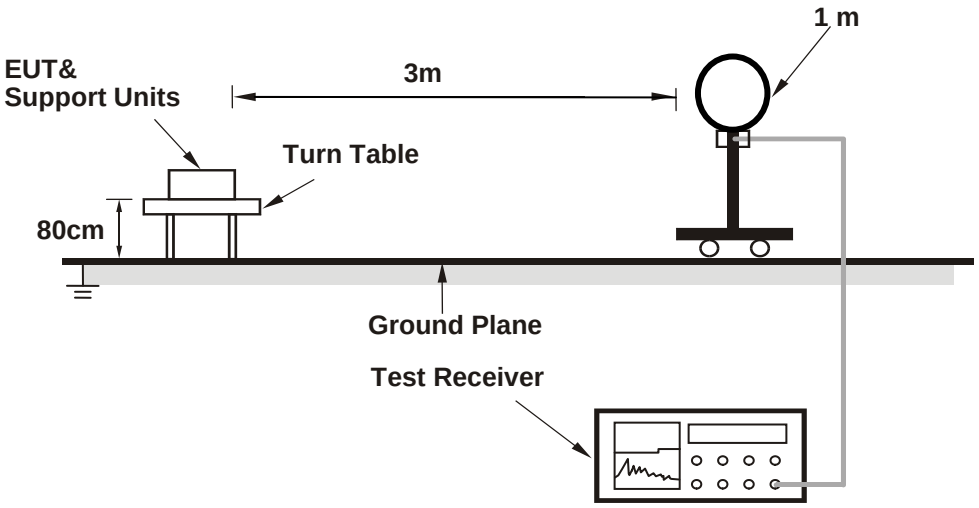
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.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

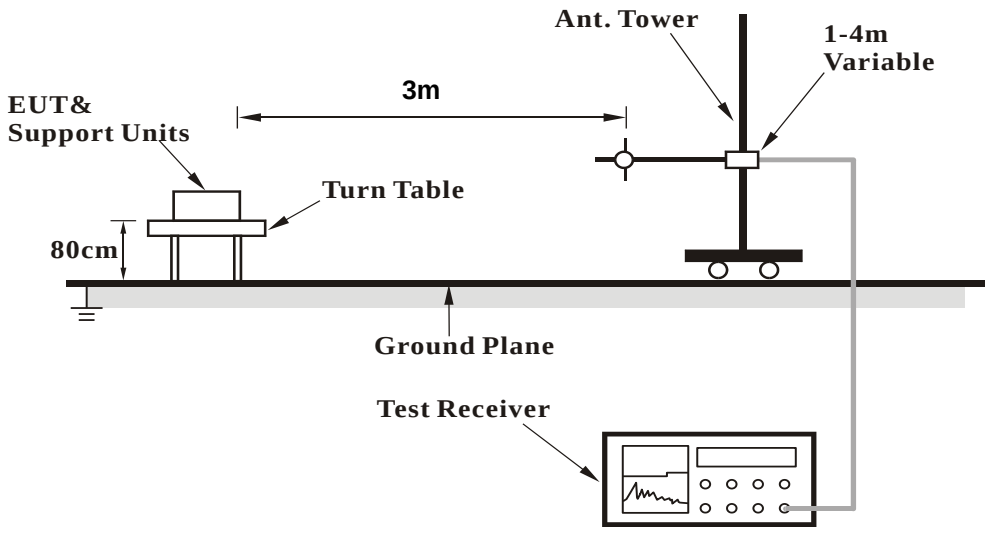
No deviation.

4.1.5 Test Setup

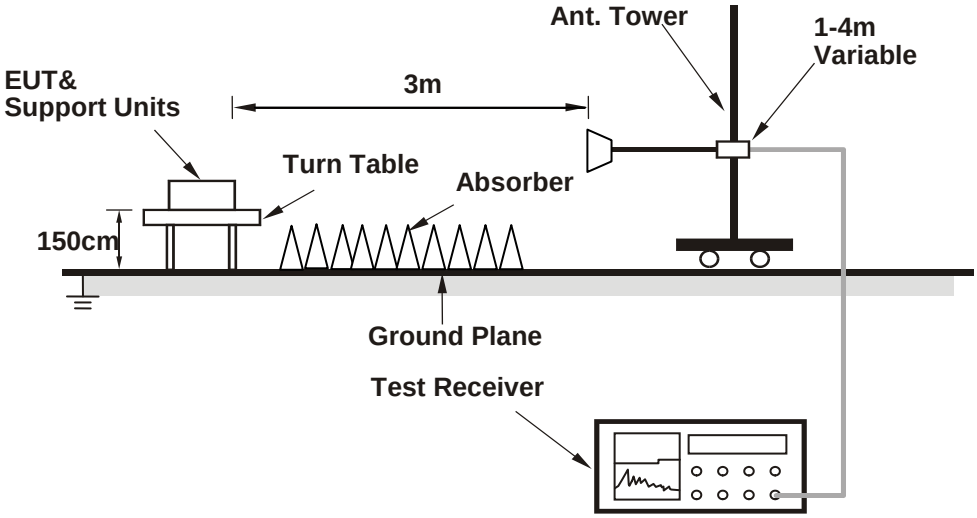
For Radiated emission below 30MHz



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 (MP_Test.exe Ver1.3.8.0) 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	2390.00	55.2 PK	74.0	-18.8	1.03 H	88	57.2	-2.0
2	2390.00	42.2 AV	54.0	-11.8	1.03 H	88	44.2	-2.0
3	*2412.00	97.1 PK			1.03 H	88	99.2	-2.1
4	*2412.00	94.0 AV			1.03 H	88	96.1	-2.1
5	4824.00	42.5 PK	74.0	-31.5	1.03 H	216	39.8	2.7
6	4824.00	35.9 AV	54.0	-18.1	1.03 H	216	33.2	2.7
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	53.4 PK	74.0	-20.6	2.02 V	231	55.4	-2.0
2	2390.00	41.1 AV	54.0	-12.9	2.02 V	231	43.1	-2.0
3	*2412.00	88.2 PK			2.02 V	231	90.3	-2.1
4	*2412.00	85.2 AV			2.02 V	231	87.3	-2.1
5	4824.00	38.2 PK	74.0	-35.8	1.47 V	271	35.5	2.7
6	4824.00	28.4 AV	54.0	-25.6	1.47 V	271	25.7	2.7

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. 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	55.6 PK	74.0	-18.4	1.00 H	88	57.6	-2.0
2	2390.00	42.3 AV	54.0	-11.7	1.00 H	88	44.3	-2.0
3	*2437.00	97.8 PK			1.00 H	88	100.1	-2.3
4	*2437.00	94.9 AV			1.00 H	88	97.2	-2.3
5	2483.50	55.7 PK	74.0	-18.3	1.00 H	88	57.9	-2.2
6	2483.50	42.4 AV	54.0	-11.6	1.00 H	88	44.6	-2.2
7	4874.00	42.6 PK	74.0	-31.4	1.07 H	210	39.7	2.9
8	4874.00	36.0 AV	54.0	-18.0	1.07 H	210	33.1	2.9
9	7311.00	43.8 PK	74.0	-30.2	1.54 H	212	34.5	9.3
10	7311.00	30.5 AV	54.0	-23.5	1.54 H	212	21.2	9.3
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	54.3 PK	74.0	-19.7	2.04 V	216	56.3	-2.0
2	2390.00	40.2 AV	54.0	-13.8	2.04 V	216	42.2	-2.0
3	*2437.00	88.9 PK			2.04 V	216	91.2	-2.3
4	*2437.00	86.1 AV			2.04 V	216	88.4	-2.3
5	2483.50	54.2 PK	74.0	-19.8	2.04 V	216	56.4	-2.2
6	2483.50	41.0 AV	54.0	-13.0	2.04 V	216	43.2	-2.2
7	4874.00	37.9 PK	74.0	-36.1	1.46 V	281	35.0	2.9
8	4874.00	28.4 AV	54.0	-25.6	1.46 V	281	25.5	2.9
9	7311.00	43.1 PK	74.0	-30.9	1.44 V	149	33.8	9.3
10	7311.00	30.1 AV	54.0	-23.9	1.44 V	149	20.8	9.3

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	97.5 PK			1.02 H	89	99.8	-2.3
2	*2462.00	94.5 AV			1.02 H	89	96.8	-2.3
3	2483.50	54.7 PK	74.0	-19.3	1.02 H	89	56.9	-2.2
4	2483.50	41.9 AV	54.0	-12.1	1.02 H	89	44.1	-2.2
5	4924.00	42.9 PK	74.0	-31.1	1.11 H	208	39.9	3.0
6	4924.00	36.5 AV	54.0	-17.5	1.11 H	208	33.5	3.0
7	7386.00	43.4 PK	74.0	-30.6	1.50 H	208	33.7	9.7
8	7386.00	30.2 AV	54.0	-23.8	1.50 H	208	20.5	9.7
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	*2462.00	88.6 PK			1.99 V	222	90.9	-2.3
2	*2462.00	85.7 AV			1.99 V	222	88.0	-2.3
3	2483.50	54.5 PK	74.0	-19.5	1.99 V	222	56.7	-2.2
4	2483.50	41.0 AV	54.0	-13.0	1.99 V	222	43.2	-2.2
5	4924.00	37.9 PK	74.0	-36.1	1.50 V	273	34.9	3.0
6	4924.00	28.4 AV	54.0	-25.6	1.50 V	273	25.4	3.0
7	7386.00	43.0 PK	74.0	-31.0	1.49 V	138	33.3	9.7
8	7386.00	30.1 AV	54.0	-23.9	1.49 V	138	20.4	9.7

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. 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	54.8 PK	74.0	-19.2	1.01 H	85	56.8	-2.0
2	2390.00	42.4 AV	54.0	-11.6	1.01 H	85	44.4	-2.0
3	*2412.00	99.7 PK			1.01 H	85	101.8	-2.1
4	*2412.00	90.5 AV			1.01 H	85	92.6	-2.1
5	4824.00	42.0 PK	74.0	-32.0	1.10 H	206	39.3	2.7
6	4824.00	35.9 AV	54.0	-18.1	1.10 H	206	33.2	2.7
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	53.6 PK	74.0	-20.4	1.95 V	236	55.6	-2.0
2	2390.00	41.3 AV	54.0	-12.7	1.95 V	236	43.3	-2.0
3	*2412.00	90.8 PK			1.95 V	236	92.9	-2.1
4	*2412.00	81.7 AV			1.95 V	236	83.8	-2.1
5	4824.00	38.5 PK	74.0	-35.5	1.48 V	252	35.8	2.7
6	4824.00	29.0 AV	54.0	-25.0	1.48 V	252	26.3	2.7

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. 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	55.6 PK	74.0	-18.4	1.01 H	87	57.6	-2.0
2	2390.00	43.1 AV	54.0	-10.9	1.01 H	87	45.1	-2.0
3	*2437.00	100.0 PK			1.01 H	87	102.3	-2.3
4	*2437.00	91.1 AV			1.01 H	87	93.4	-2.3
5	2483.50	55.5 PK	74.0	-18.5	1.01 H	87	57.7	-2.2
6	2483.50	42.5 AV	54.0	-11.5	1.01 H	87	44.7	-2.2
7	4874.00	42.4 PK	74.0	-31.6	1.13 H	194	39.5	2.9
8	4874.00	36.2 AV	54.0	-17.8	1.13 H	194	33.3	2.9
9	7311.00	43.2 PK	74.0	-30.8	1.50 H	203	33.9	9.3
10	7311.00	30.1 AV	54.0	-23.9	1.50 H	203	20.8	9.3
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	54.3 PK	74.0	-19.7	2.04 V	231	56.3	-2.0
2	2390.00	42.1 AV	54.0	-11.9	2.04 V	231	44.1	-2.0
3	*2437.00	91.2 PK			2.04 V	231	93.5	-2.3
4	*2437.00	82.2 AV			2.04 V	231	84.5	-2.3
5	2483.50	54.1 PK	74.0	-19.9	2.04 V	231	56.3	-2.2
6	2483.50	41.3 AV	54.0	-12.7	2.04 V	231	43.5	-2.2
7	4874.00	38.0 PK	74.0	-36.0	1.53 V	259	35.1	2.9
8	4874.00	28.7 AV	54.0	-25.3	1.53 V	259	25.8	2.9
9	7311.00	42.9 PK	74.0	-31.1	1.52 V	153	33.6	9.3
10	7311.00	30.3 AV	54.0	-23.7	1.52 V	153	21.0	9.3

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	100.4 PK			1.01 H	85	102.7	-2.3
2	*2462.00	90.6 AV			1.01 H	85	92.9	-2.3
3	2483.50	55.2 PK	74.0	-18.8	1.01 H	85	57.4	-2.2
4	2483.50	42.6 AV	54.0	-11.4	1.01 H	85	44.8	-2.2
5	4924.00	42.8 PK	74.0	-31.2	1.07 H	213	39.8	3.0
6	4924.00	36.2 AV	54.0	-17.8	1.07 H	213	33.2	3.0
7	7386.00	43.4 PK	74.0	-30.6	1.49 H	223	33.7	9.7
8	7386.00	30.0 AV	54.0	-24.0	1.49 H	223	20.3	9.7
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	*2462.00	91.5 PK			1.94 V	228	93.8	-2.3
2	*2462.00	81.8 AV			1.94 V	228	84.1	-2.3
3	2483.50	54.4 PK	74.0	-19.6	1.94 V	228	56.6	-2.2
4	2483.50	41.1 AV	54.0	-12.9	1.94 V	228	43.3	-2.2
5	4924.00	38.3 PK	74.0	-35.7	1.52 V	259	35.3	3.0
6	4924.00	28.7 AV	54.0	-25.3	1.52 V	259	25.7	3.0
7	7386.00	42.7 PK	74.0	-31.3	1.52 V	128	33.0	9.7
8	7386.00	30.0 AV	54.0	-24.0	1.52 V	128	20.3	9.7

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. 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	2390.00	55.0 PK	74.0	-19.0	1.04 H	87	57.0	-2.0
2	2390.00	43.2 AV	54.0	-10.8	1.04 H	87	45.2	-2.0
3	*2412.00	100.9 PK			1.04 H	87	103.0	-2.1
4	*2412.00	90.6 AV			1.04 H	87	92.7	-2.1
5	4824.00	42.7 PK	74.0	-31.3	1.11 H	189	40.0	2.7
6	4824.00	36.1 AV	54.0	-17.9	1.11 H	189	33.4	2.7
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	54.2 PK	74.0	-19.8	1.92 V	216	56.2	-2.0
2	2390.00	42.1 AV	54.0	-11.9	1.92 V	216	44.1	-2.0
3	*2412.00	92.0 PK			1.92 V	216	94.1	-2.1
4	*2412.00	81.8 AV			1.92 V	216	83.9	-2.1
5	4824.00	38.0 PK	74.0	-36.0	1.53 V	251	35.3	2.7
6	4824.00	28.7 AV	54.0	-25.3	1.53 V	251	26.0	2.7

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. 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	54.5 PK	74.0	-19.5	2.54 H	82	56.5	-2.0
2	2390.00	42.4 AV	54.0	-11.6	2.54 H	82	44.4	-2.0
3	*2437.00	100.6 PK			2.54 H	82	102.9	-2.3
4	*2437.00	90.2 AV			2.54 H	82	92.5	-2.3
5	2483.50	54.5 PK	74.0	-19.5	2.54 H	82	56.7	-2.2
6	2483.50	42.5 AV	54.0	-11.5	2.54 H	82	44.7	-2.2
7	4874.00	42.8 PK	74.0	-31.2	1.13 H	205	39.9	2.9
8	4874.00	36.3 AV	54.0	-17.7	1.13 H	205	33.4	2.9
9	7311.00	42.9 PK	74.0	-31.1	1.53 H	215	33.6	9.3
10	7311.00	29.6 AV	54.0	-24.4	1.53 H	215	20.3	9.3
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	53.4 PK	74.0	-20.6	1.95 V	219	55.4	-2.0
2	2390.00	41.1 AV	54.0	-12.9	1.95 V	219	43.1	-2.0
3	*2437.00	91.7 PK			1.95 V	219	94.0	-2.3
4	*2437.00	81.4 AV			1.95 V	219	83.7	-2.3
5	2483.50	53.6 PK	74.0	-20.4	1.95 V	219	55.8	-2.2
6	2483.50	41.4 AV	54.0	-12.6	1.95 V	219	43.6	-2.2
7	4874.00	38.1 PK	74.0	-35.9	1.55 V	249	35.2	2.9
8	4874.00	28.6 AV	54.0	-25.4	1.55 V	249	25.7	2.9
9	7311.00	42.8 PK	74.0	-31.2	1.46 V	112	33.5	9.3
10	7311.00	29.9 AV	54.0	-24.1	1.46 V	112	20.6	9.3

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	101.3 PK			1.01 H	87	103.6	-2.3
2	*2462.00	90.5 AV			1.01 H	87	92.8	-2.3
3	2483.50	55.0 PK	74.0	-19.0	1.01 H	87	57.2	-2.2
4	2483.50	42.7 AV	54.0	-11.3	1.01 H	87	44.9	-2.2
5	4924.00	42.8 PK	74.0	-31.2	1.11 H	212	39.8	3.0
6	4924.00	36.0 AV	54.0	-18.0	1.11 H	212	33.0	3.0
7	7386.00	43.2 PK	74.0	-30.8	1.52 H	216	33.5	9.7
8	7386.00	29.8 AV	54.0	-24.2	1.52 H	216	20.1	9.7
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	*2462.00	92.4 PK			1.99 V	212	94.7	-2.3
2	*2462.00	81.7 AV			1.99 V	212	84.0	-2.3
3	2483.50	54.2 PK	74.0	-19.8	1.99 V	212	56.4	-2.2
4	2483.50	41.4 AV	54.0	-12.6	1.99 V	212	43.6	-2.2
5	4924.00	37.7 PK	74.0	-36.3	1.55 V	258	34.7	3.0
6	4924.00	28.3 AV	54.0	-25.7	1.55 V	258	25.3	3.0
7	7386.00	42.3 PK	74.0	-31.7	1.55 V	133	32.6	9.7
8	7386.00	29.7 AV	54.0	-24.3	1.55 V	133	20.0	9.7

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. 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	2390.00	55.2 PK	74.0	-18.8	1.06 H	87	57.2	-2.0
2	2390.00	44.0 AV	54.0	-10.0	1.06 H	87	46.0	-2.0
3	*2422.00	97.8 PK			1.06 H	87	100.0	-2.2
4	*2422.00	87.6 AV			1.06 H	87	89.8	-2.2
5	4844.00	42.5 PK	74.0	-31.5	1.10 H	201	39.8	2.7
6	4844.00	35.8 AV	54.0	-18.2	1.10 H	201	33.1	2.7
7	7266.00	43.2 PK	74.0	-30.8	1.58 H	228	34.1	9.1
8	7266.00	30.0 AV	54.0	-24.0	1.58 H	228	20.9	9.1
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	54.2 PK	74.0	-19.8	1.97 V	209	56.2	-2.0
2	2390.00	43.1 AV	54.0	-10.9	1.97 V	209	45.1	-2.0
3	*2422.00	88.9 PK			1.97 V	209	91.1	-2.2
4	*2422.00	78.8 AV			1.97 V	209	81.0	-2.2
5	4844.00	38.3 PK	74.0	-35.7	1.47 V	263	35.6	2.7
6	4844.00	28.6 AV	54.0	-25.4	1.47 V	263	25.9	2.7
7	7266.00	42.7 PK	74.0	-31.3	1.54 V	121	33.6	9.1
8	7266.00	30.2 AV	54.0	-23.8	1.54 V	121	21.1	9.1

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	2390.00	55.6 PK	74.0	-18.4	1.02 H	87	57.6	-2.0
2	2390.00	43.5 AV	54.0	-10.5	1.02 H	87	45.5	-2.0
3	*2437.00	98.1 PK			1.02 H	87	100.4	-2.3
4	*2437.00	88.2 AV			1.02 H	87	90.5	-2.3
5	2483.50	55.0 PK	74.0	-19.0	1.02 H	87	57.2	-2.2
6	2483.50	43.0 AV	54.0	-11.0	1.02 H	87	45.2	-2.2
7	4874.00	42.9 PK	74.0	-31.1	1.07 H	193	40.0	2.9
8	4874.00	36.7 AV	54.0	-17.3	1.07 H	193	33.8	2.9
9	7311.00	43.0 PK	74.0	-31.0	1.55 H	229	33.7	9.3
10	7311.00	29.7 AV	54.0	-24.3	1.55 H	229	20.4	9.3
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	54.3 PK	74.0	-19.7	1.93 V	215	56.3	-2.0
2	2390.00	42.1 AV	54.0	-11.9	1.93 V	215	44.1	-2.0
3	*2437.00	89.2 PK			1.93 V	215	91.5	-2.3
4	*2437.00	79.4 AV			1.93 V	215	81.7	-2.3
5	2483.50	53.8 PK	74.0	-20.2	1.93 V	215	56.0	-2.2
6	2483.50	41.8 AV	54.0	-12.2	1.93 V	215	44.0	-2.2
7	4874.00	38.8 PK	74.0	-35.2	1.53 V	246	35.9	2.9
8	4874.00	29.0 AV	54.0	-25.0	1.53 V	246	26.1	2.9
9	7311.00	41.9 PK	74.0	-32.1	1.53 V	133	32.6	9.3
10	7311.00	29.5 AV	54.0	-24.5	1.53 V	133	20.2	9.3

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	97.9 PK			1.00 H	87	100.2	-2.3
2	*2452.00	87.7 AV			1.00 H	87	90.0	-2.3
3	2483.50	55.2 PK	74.0	-18.8	1.00 H	87	57.4	-2.2
4	2483.50	43.2 AV	54.0	-10.8	1.00 H	87	45.4	-2.2
5	4904.00	42.5 PK	74.0	-31.5	1.17 H	204	39.6	2.9
6	4904.00	36.1 AV	54.0	-17.9	1.17 H	204	33.2	2.9
7	7356.00	42.9 PK	74.0	-31.1	1.56 H	219	33.2	9.7
8	7356.00	29.3 AV	54.0	-24.7	1.56 H	219	19.6	9.7
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	*2452.00	89.0 PK			1.97 V	214	91.3	-2.3
2	*2452.00	78.9 AV			1.97 V	214	81.2	-2.3
3	2483.50	54.3 PK	74.0	-19.7	1.97 V	214	56.5	-2.2
4	2483.50	42.1 AV	54.0	-11.9	1.97 V	214	44.3	-2.2
5	4904.00	38.1 PK	74.0	-35.9	1.48 V	273	35.2	2.9
6	4904.00	28.5 AV	54.0	-25.5	1.48 V	273	25.6	2.9
7	7356.00	42.6 PK	74.0	-31.4	1.49 V	133	32.9	9.7
8	7356.00	29.9 AV	54.0	-24.1	1.49 V	133	20.2	9.7

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

Below 1GHz Data:

802.11n (HT20)

CHANNEL	TX Channel 1	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	67.66	34.8 QP	40.0	-5.2	3.00 H	261	43.9	-9.1
2	131.85	37.9 QP	43.5	-5.6	3.00 H	131	46.8	-8.9
3	259.48	32.0 QP	46.0	-14.0	1.18 H	82	40.6	-8.6
4	405.00	34.0 QP	46.0	-12.0	1.50 H	233	38.1	-4.1
5	**540.00**	**41.5 QP**	**46.0**	**-4.5**	**1.50 H**	**274**	**42.6**	**-1.1**
6	675.00	40.4 QP	46.0	-5.6	1.50 H	225	38.7	1.7
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	41.64	34.2 QP	40.0	-5.8	1.00 V	224	42.2	-8.0
2	144.46	28.9 QP	43.5	-14.6	1.00 V	316	36.8	-7.9
3	255.04	28.8 QP	46.0	-17.2	1.00 V	302	37.6	-8.8
4	404.42	30.3 QP	46.0	-15.7	1.00 V	243	34.4	-4.1
5	540.22	34.1 QP	46.0	-11.9	1.50 V	274	35.1	-1.0
6	674.08	34.0 QP	46.0	-12.0	2.00 V	243	32.4	1.6

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

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 03, 2017	June 02, 2018
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 EMEC	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: Mar. 30, 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.

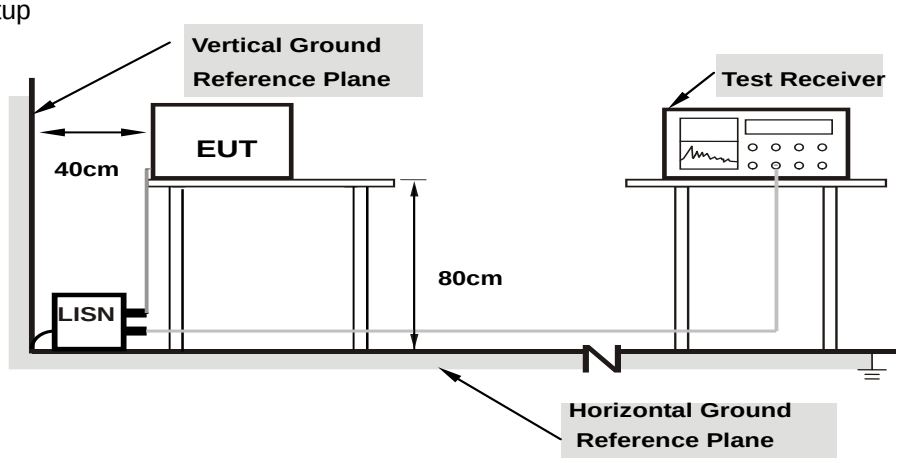
c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

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.

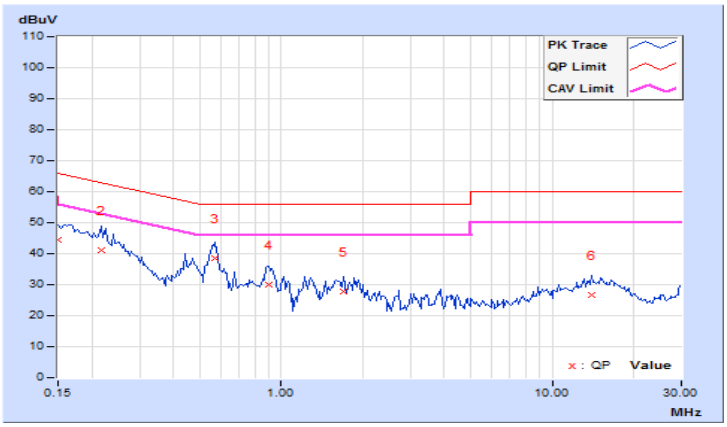
4.2.7 Test Results (Mode 1)

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	34.24	22.53	44.29	32.58	66.00	56.00	-21.71	-23.42
2	0.21641	10.07	30.90	19.98	40.97	30.05	62.96	52.96	-21.99	-22.91
3	0.57188	10.13	28.53	19.43	38.66	29.56	56.00	46.00	-17.34	-16.44
4	0.89609	10.16	19.95	10.52	30.11	20.68	56.00	46.00	-25.89	-25.32
5	1.70313	10.21	17.47	7.68	27.68	17.89	56.00	46.00	-28.32	-28.11
6	14.03906	10.99	15.74	8.69	26.73	19.68	60.00	50.00	-33.27	-30.32

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

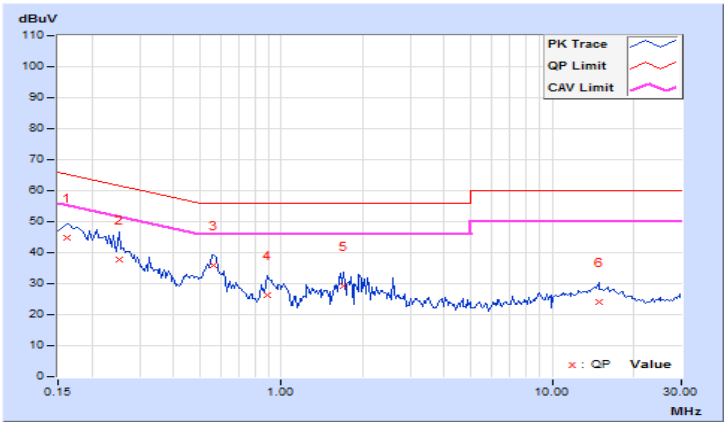


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)

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	0.16172	9.96	34.91	21.08	44.87	31.04	65.38	55.38	-20.51	-24.34
2	0.25156	9.98	27.96	15.81	37.94	25.79	61.71	51.71	-23.77	-25.92
3	0.56406	10.03	25.95	19.45	35.98	29.48	56.00	46.00	-20.02	-16.52
4	0.89219	10.04	16.11	9.61	26.15	19.65	56.00	46.00	-29.85	-26.35
5	1.69922	10.08	19.22	10.85	29.30	20.93	56.00	46.00	-26.70	-25.07
6	14.83984	10.85	13.20	7.40	24.05	18.25	60.00	50.00	-35.95	-31.75

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



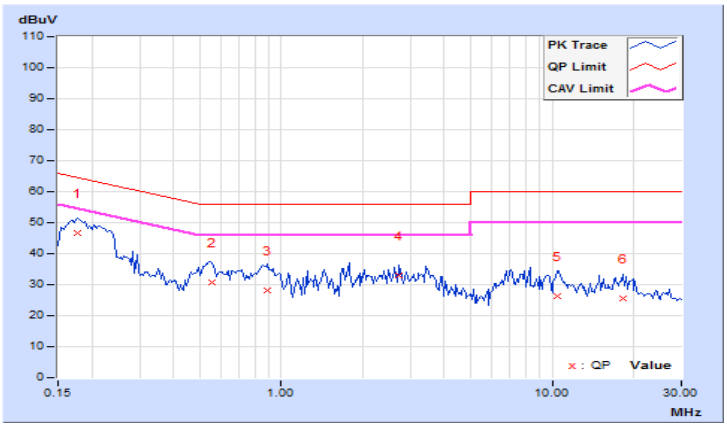
4.2.8 Test Results (Mode 2)

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	0.17734	10.05	36.44	16.75	46.49	26.80	64.61	54.61	-18.12	-27.81
2	0.55234	10.12	20.64	2.73	30.76	12.85	56.00	46.00	-25.24	-33.15
3	0.89219	10.14	17.91	7.82	28.05	17.96	56.00	46.00	-27.95	-28.04
4	2.73438	10.22	22.61	11.97	32.83	22.19	56.00	46.00	-23.17	-23.81
5	10.41016	10.56	15.56	8.81	26.12	19.37	60.00	50.00	-33.88	-30.63
6	18.20703	11.00	14.71	7.87	25.71	18.87	60.00	50.00	-34.29	-31.13

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

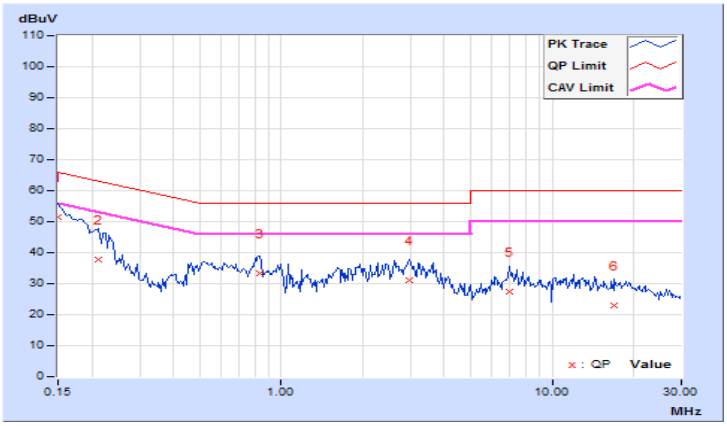


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)

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	**0.15000**	**9.94**	**41.67**	**18.73**	**51.61**	**28.67**	**66.00**	**56.00**	**-14.39**	**-27.33**
2	0.21250	9.96	27.68	9.07	37.64	19.03	63.11	53.11	-25.47	-34.08
3	0.83359	10.02	23.37	8.49	33.39	18.51	56.00	46.00	-22.61	-27.49
4	2.96484	10.10	20.91	11.95	31.01	22.05	56.00	46.00	-24.99	-23.95
5	6.96484	10.26	17.11	10.03	27.37	20.29	60.00	50.00	-32.63	-29.71
6	16.98047	10.75	12.21	5.12	22.96	15.87	60.00	50.00	-37.04	-34.13

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

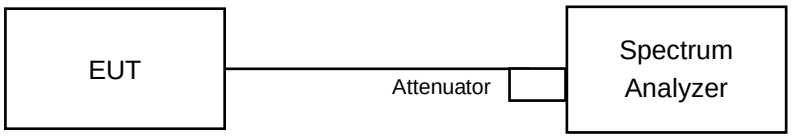


4.3 6dB Bandwidth Measurement

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 lowest, middle and highest channel frequencies individually.

4.3.7 Test Result

802.11b

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
1	2412	9.17	0.5	Pass
6	2437	9.18	0.5	Pass
11	2462	10.00	0.5	Pass

802.11g

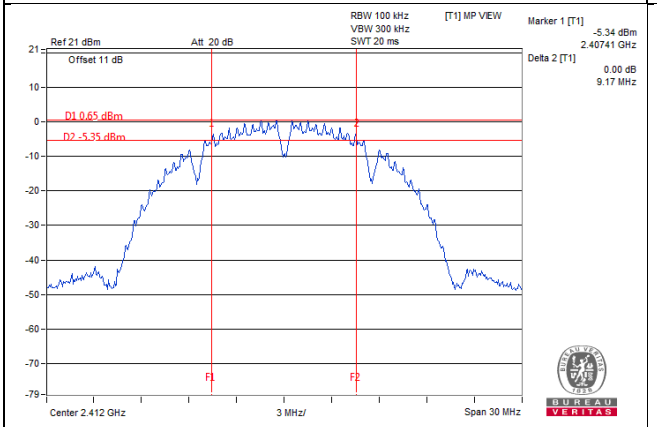
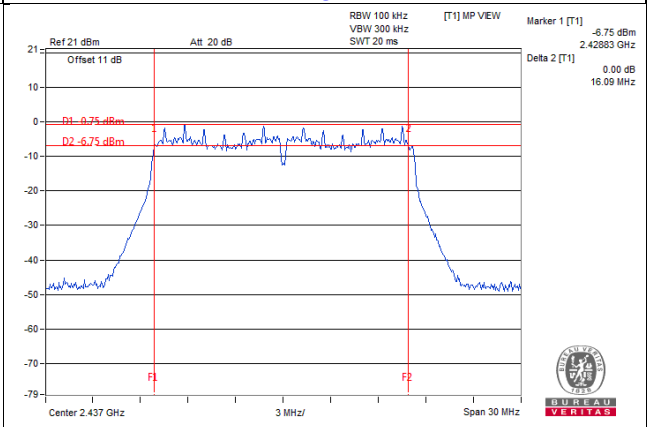
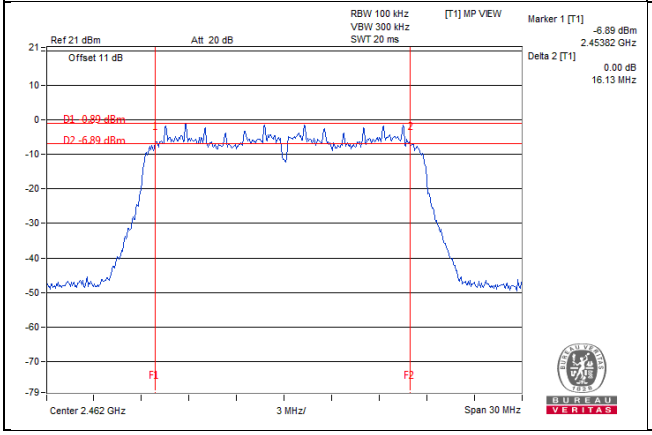
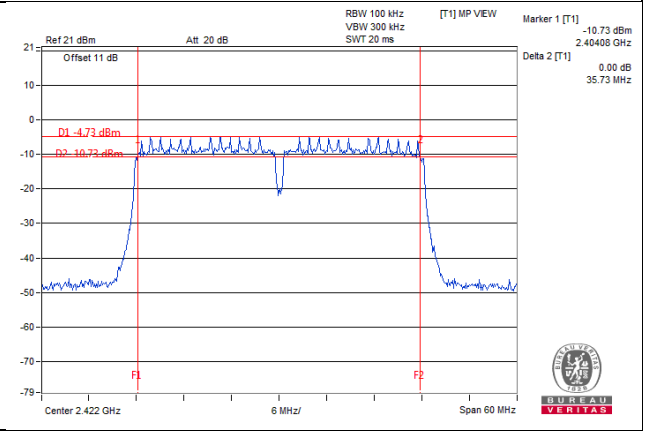
Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
1	2412	16.10	0.5	Pass
6	2437	16.09	0.5	Pass
11	2462	16.10	0.5	Pass

802.11n (HT20)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
1	2412	16.15	0.5	Pass
6	2437	16.14	0.5	Pass
11	2462	16.13	0.5	Pass

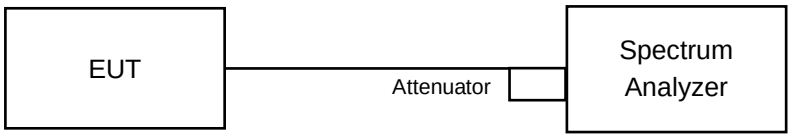
802.11n (HT40)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
3	2422	35.73	0.5	Pass
6	2437	35.81	0.5	Pass
9	2452	35.86	0.5	Pass

Spectrum Plot of Worst Value	
802.11b / CH1	**802.11g / CH6**
	
802.11n (HT20) / CH11	**802.11n (HT40) / CH3**
	

4.4 Occupied Bandwidth Measurement

4.4.1 Test Setup



4.4.2 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.4.3 Test Procedure

The transmitter output was connected to the spectrum analyzer through an attenuator. The bandwidth of the fundamental frequency was measured by spectrum analyzer with resolution bandwidth in the range of 1% to 5% of the anticipated emission bandwidth, and a video bandwidth at least 3x the resolution bandwidth and set the detector to sampling. The width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5 %of the total mean power of a given emission.

4.4.4 Deviation from Test Standard

No deviation.

4.4.5 EUT Operating Conditions

Same as Item 4.3.6.

4.4.6 Test Results

802.11b

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
1	2412	14.64
6	2437	14.64
11	2462	14.64

802.11g

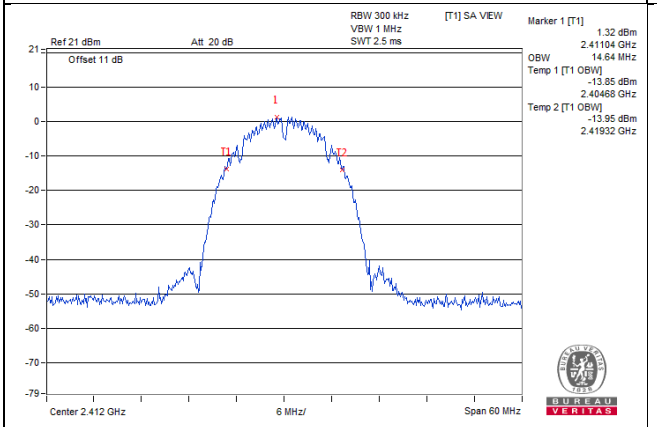
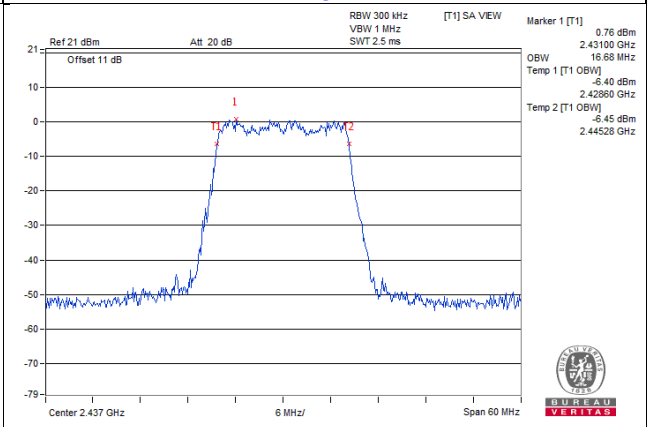
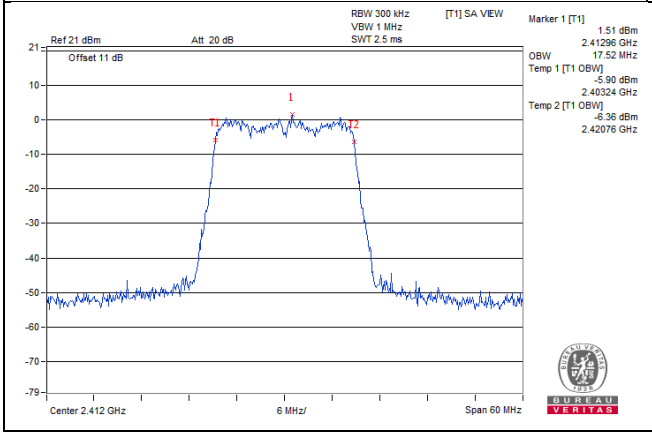
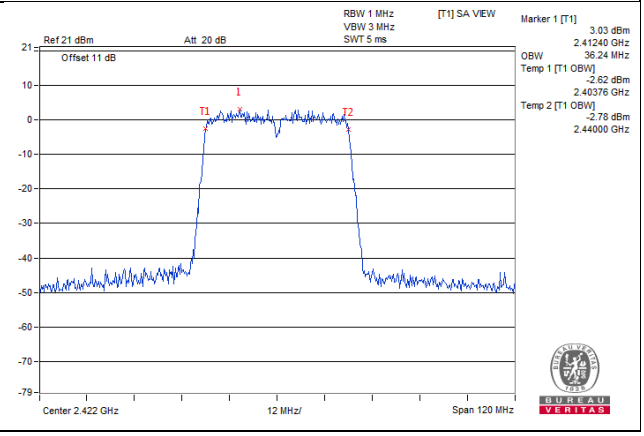
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
1	2412	16.56
6	2437	16.68
11	2462	16.44

802.11n (HT20)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
1	2412	17.52
6	2437	17.40
11	2462	17.52

802.11n (HT40)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
3	2422	36.24
6	2437	36.24
9	2452	36.24

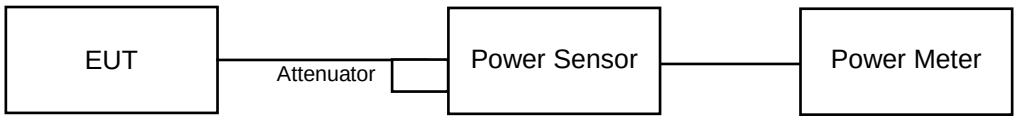
Spectrum Plot of Max Value	
802.11b / CH1	**802.11g / CH6**
	
802.11n (HT20) / CH1	**802.11n (HT40) / CH1**
	

4.5 Conducted Output Power Measurement

4.5.1 Limits of Conducted Output Power Measurement

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

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 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.

4.5.5 Deviation from Test Standard

No deviation.

4.5.6 EUT Operating Conditions

Same as Item 4.3.6.

4.5.7 Test Results

FOR PEAK POWER

802.11b

Channel	Frequency (MHz)	Peak Power (mW)	Peak Power (dBm)	Limit (dBm)	Pass/Fail
1	2412	16.181	12.09	30	Pass
6	2437	16.672	12.22	30	Pass
11	2462	16.827	12.26	30	Pass

802.11g

Channel	Frequency (MHz)	Peak Power (mW)	Peak Power (dBm)	Limit (dBm)	Pass/Fail
1	2412	76.033	18.81	30	Pass
6	2437	76.384	18.83	30	Pass
11	2462	80.353	19.05	30	Pass

802.11n (HT20)

Channel	Frequency (MHz)	Peak Power (mW)	Peak Power (dBm)	Limit (dBm)	Pass/Fail
1	2412	82.035	19.14	30	Pass
6	2437	70.795	18.50	30	Pass
11	2462	71.285	18.53	30	Pass

802.11n (HT40)

Channel	Frequency (MHz)	Peak Power (mW)	Peak Power (dBm)	Limit (dBm)	Pass/Fail
3	2422	66.374	18.22	30	Pass
6	2437	70.146	18.46	30	Pass
9	2452	66.681	18.24	30	Pass

FOR AVERAGE POWER

802.11b

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)
1	2412	9.506	9.78
6	2437	9.506	9.78
11	2462	9.484	9.77

802.11g

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)
1	2412	8.974	9.53
6	2437	9.204	9.64
11	2462	9.462	9.76

802.11n (HT20)

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)
1	2412	9.441	9.75
6	2437	8.913	9.50
11	2462	9.247	9.66

802.11n (HT40)

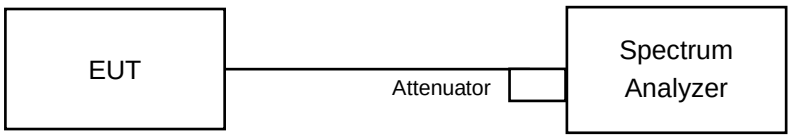
Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)
3	2422	9.441	9.75
6	2437	9.55	9.80
9	2452	9.506	9.78

4.6 Power Spectral Density Measurement

4.6.1 Limits of Power Spectral Density Measurement

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

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

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.

4.6.5 Deviation from Test Standard

No deviation.

4.6.6 EUT Operating Condition

Same as Item 4.3.6

4.6.7 Test Results

802.11b

Channel	Frequency (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Pass /Fail
1	2412	-14.51	8	Pass
6	2437	-15.95	8	Pass
11	2462	-14.73	8	Pass

802.11g

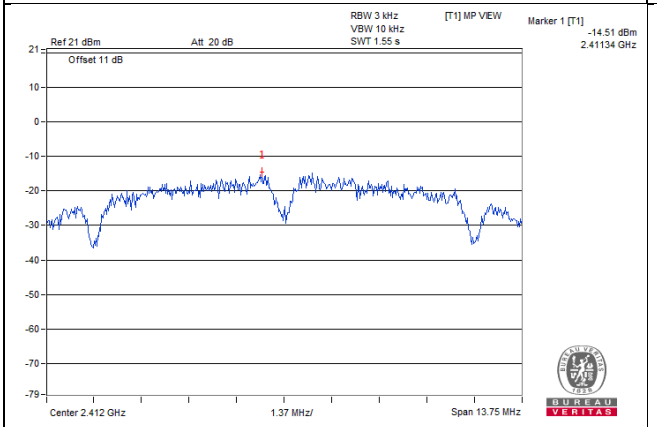
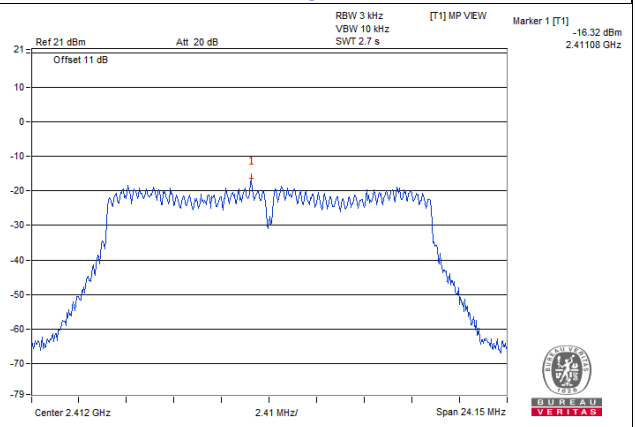
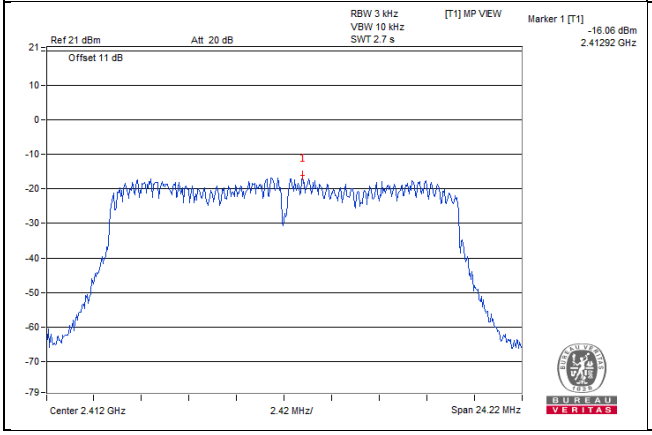
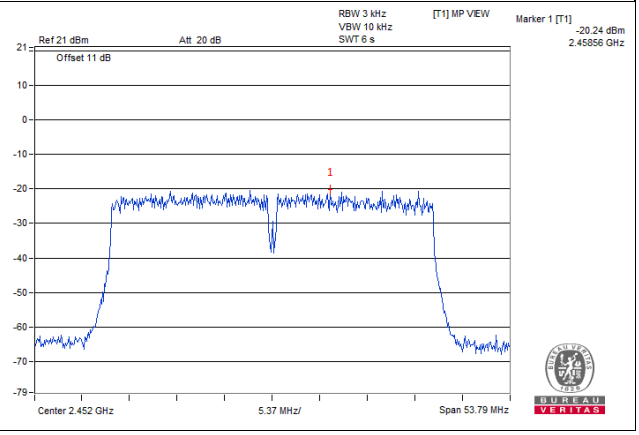
Channel	Frequency (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Pass /Fail
1	2412	-16.32	8	Pass
6	2437	-16.60	8	Pass
11	2462	-18.27	8	Pass

802.11n (HT20)

Channel	Frequency (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Pass /Fail
1	2412	-16.06	8	Pass
6	2437	-16.51	8	Pass
11	2462	-16.45	8	Pass

802.11n (HT40)

Channel	Frequency (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Pass /Fail
3	2422	-20.51	8	Pass
6	2437	-20.84	8	Pass
9	2452	-20.24	8	Pass

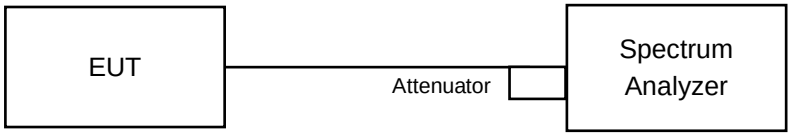
Spectrum Plot of Worst Value	
802.11b / CH1	**802.11g / CH1**
	
802.11n (HT20) / CH1	**802.11n (HT40) / CH9**
	

4.7 Conducted Out of Band Emission Measurement

4.7.1 Limits of Conducted Out of Band Emission Measurement

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

4.7.2 Test Setup



4.7.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.7.4 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.

4.7.5 Deviation from Test Standard

No deviation.

4.7.6 EUT Operating Condition

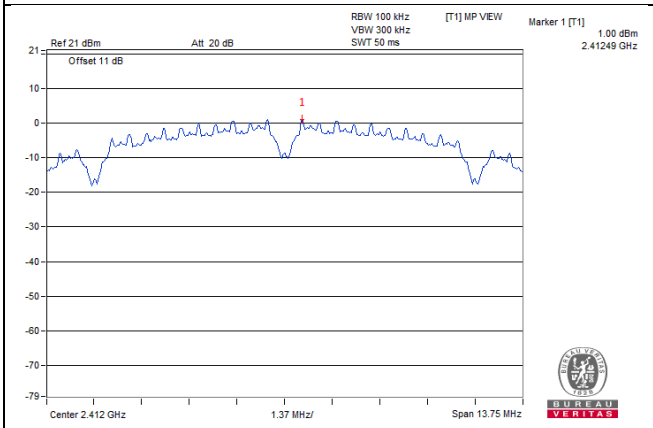
Same as Item 4.3.6

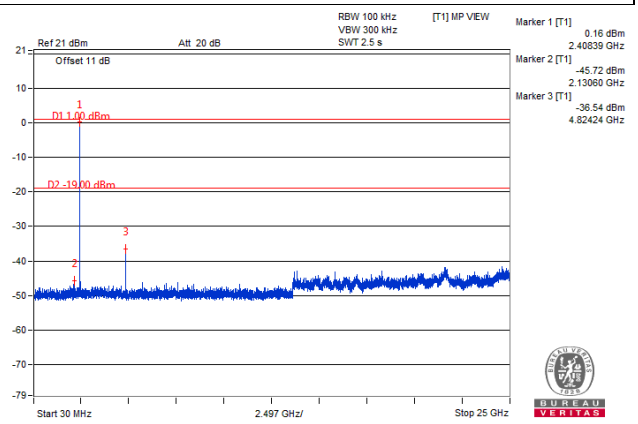
4.7.7 Test Results

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.

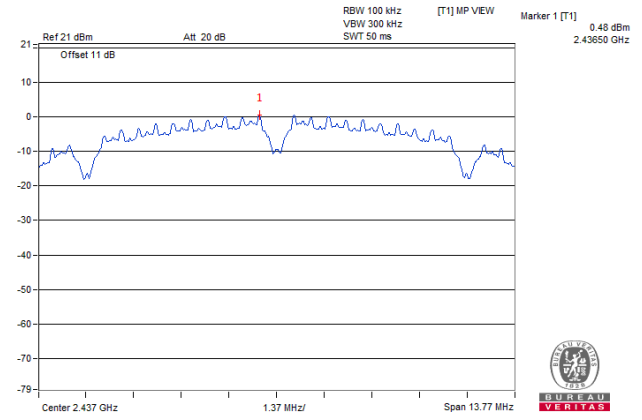
802.11b

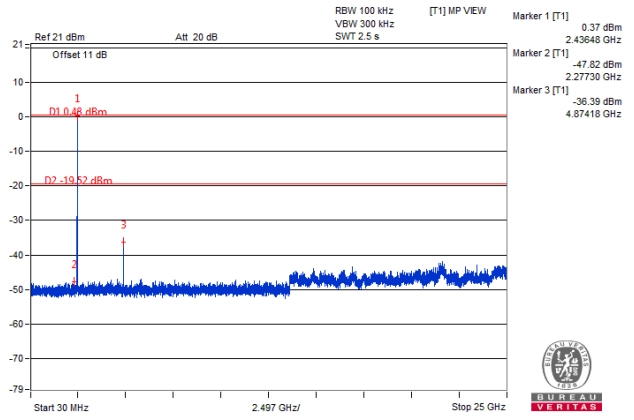
CH 1



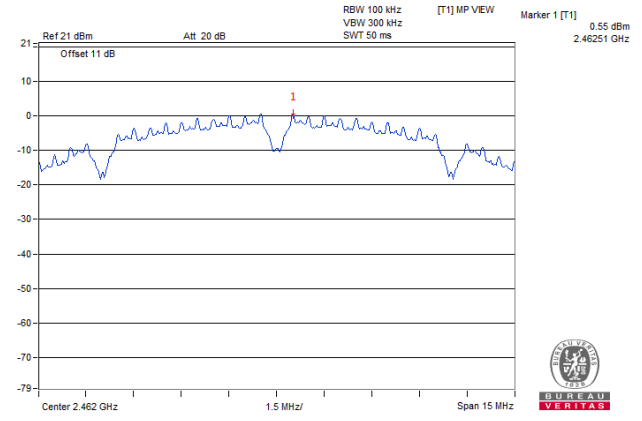


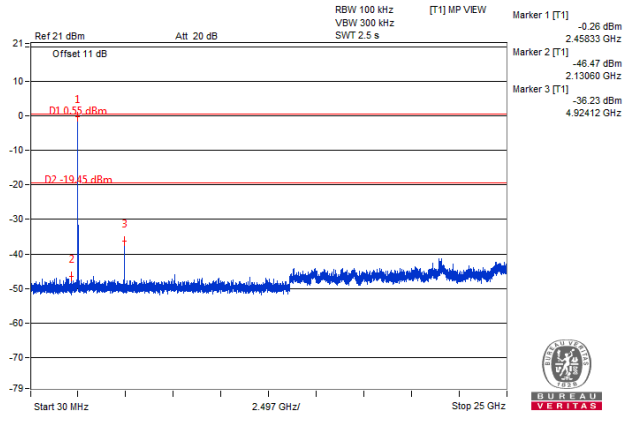
CH 6



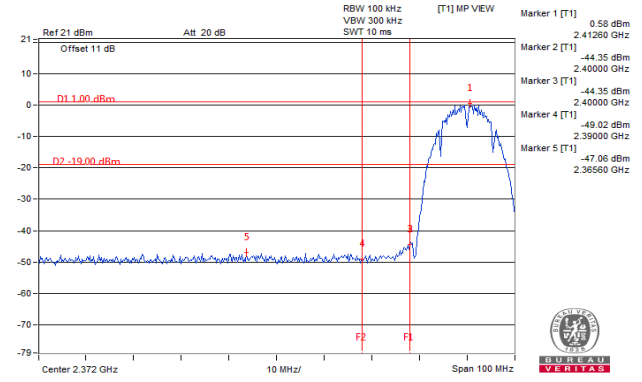


CH 11

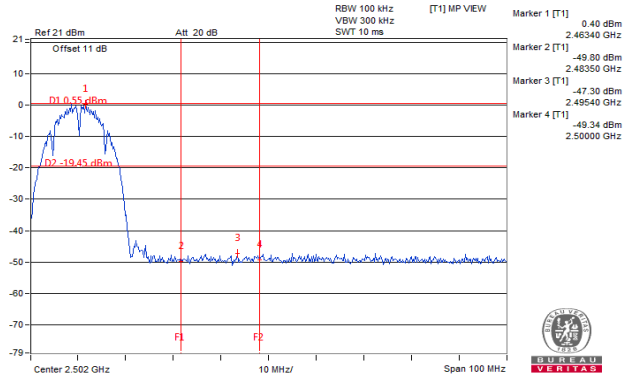




CH 1 Band edge

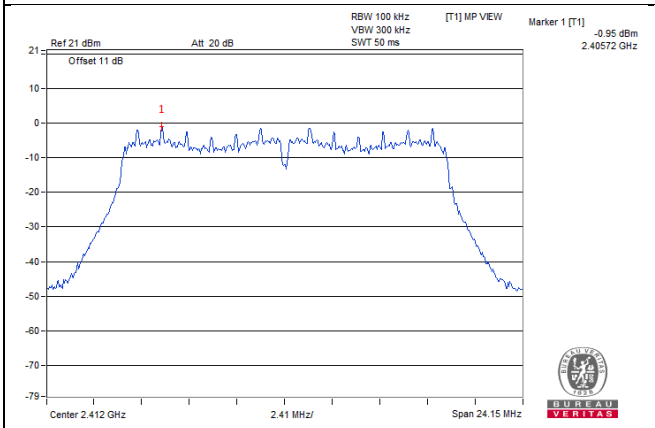


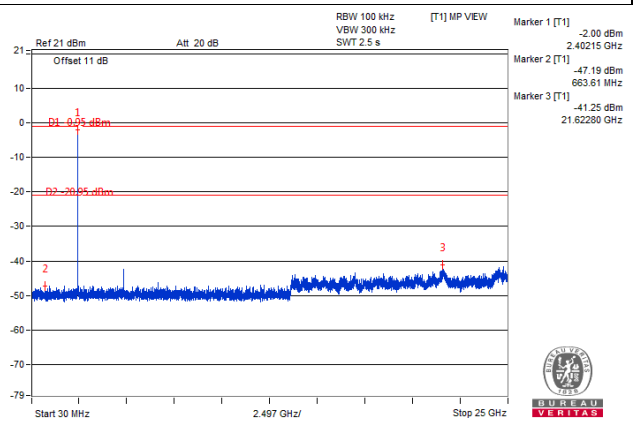
CH 11 Band edge



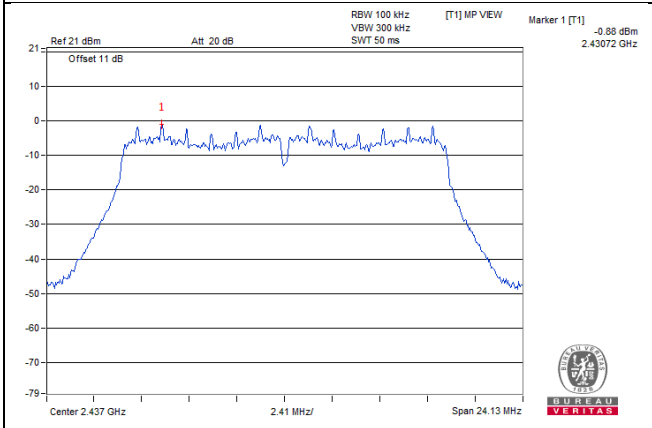
802.11g

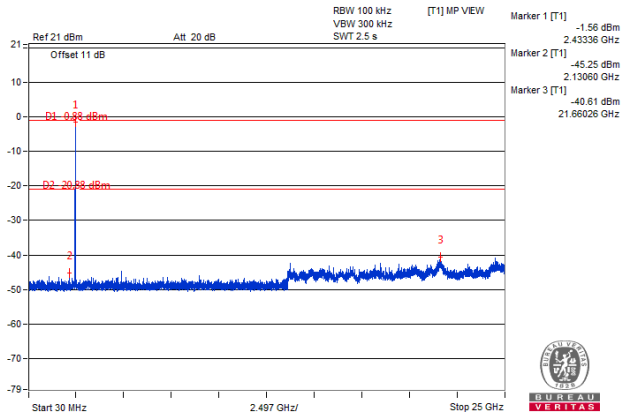
CH 1



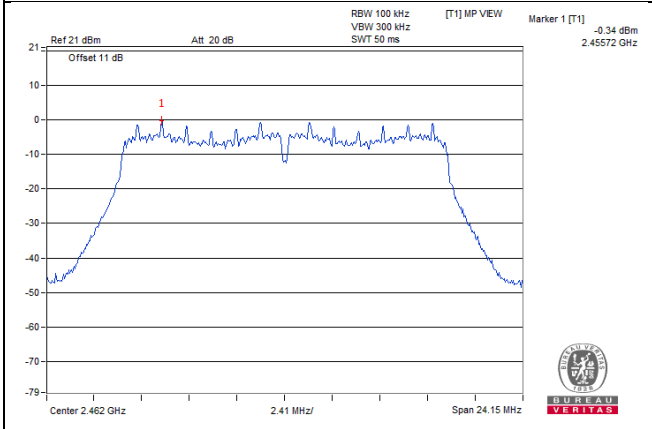


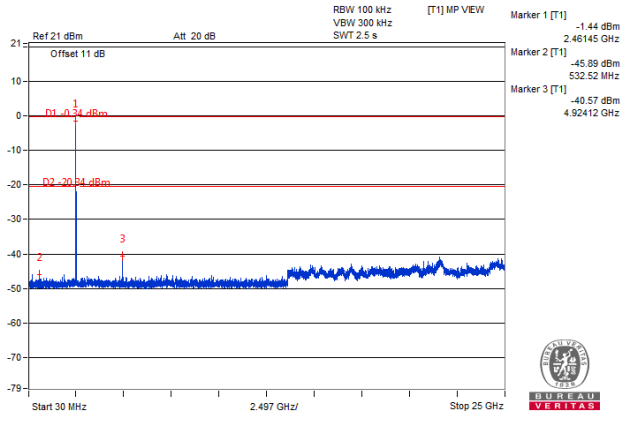
CH 6



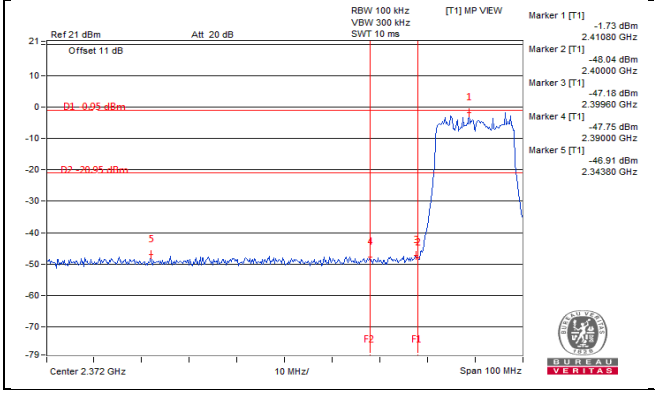


CH 11

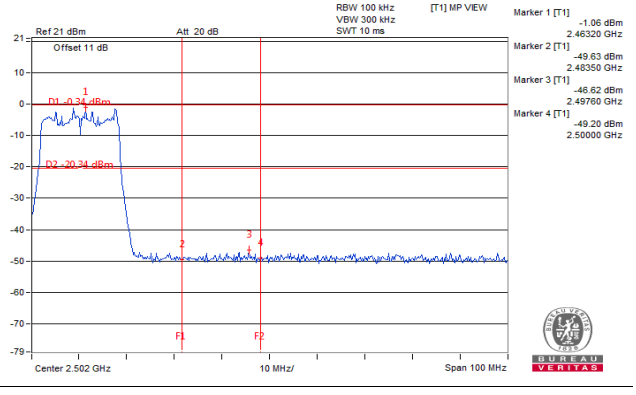




CH 1 Band edge

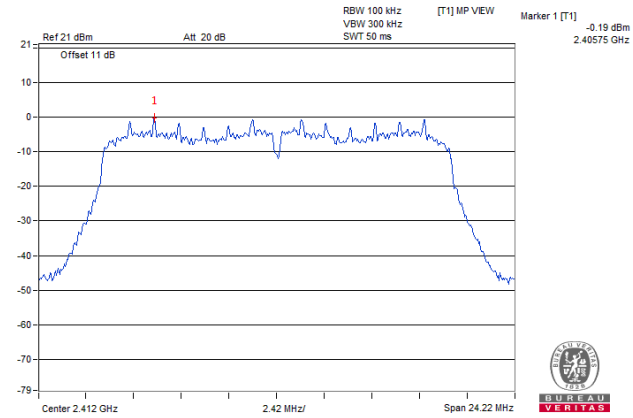


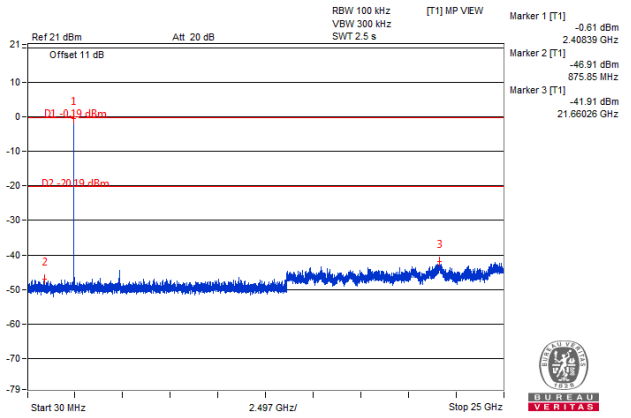
CH 11 Band edge



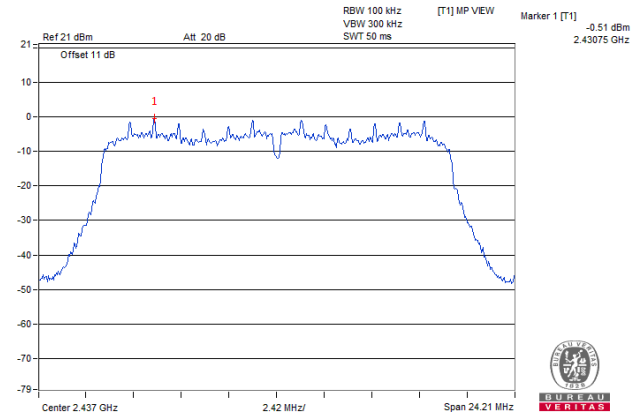
802.11n (HT20)

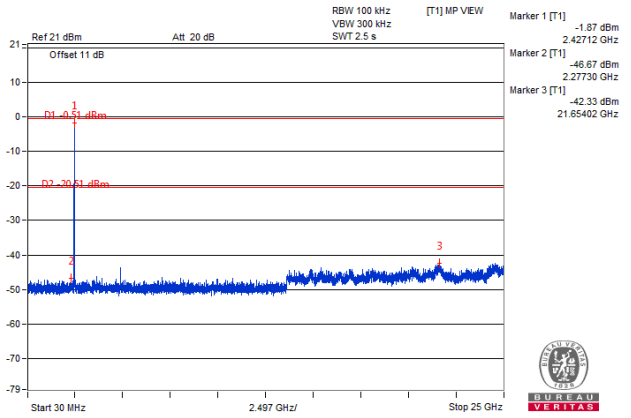
CH 1



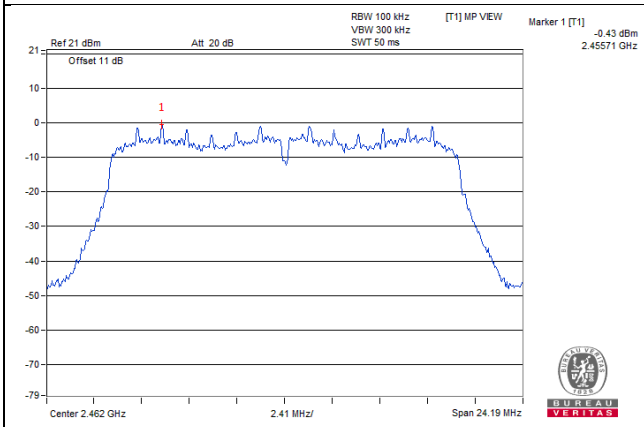


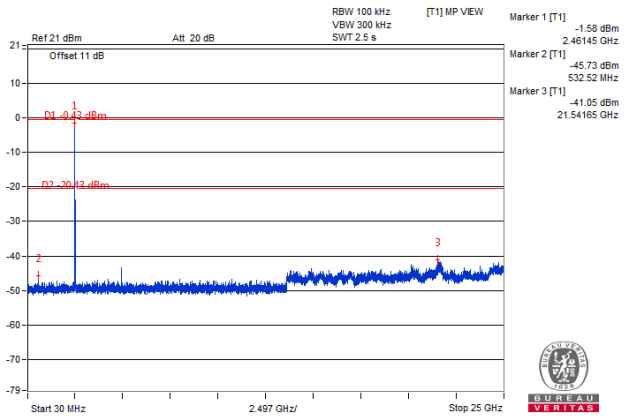
CH 6



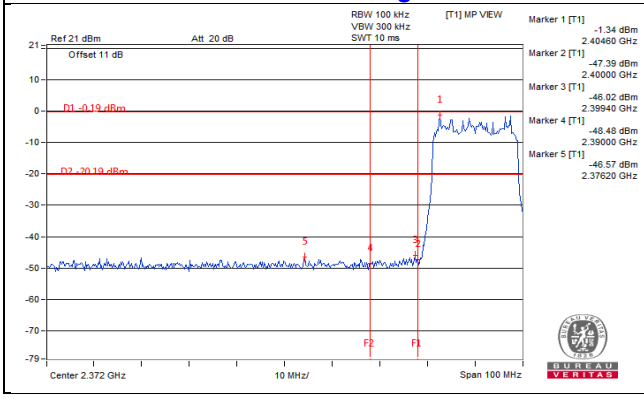


CH 11

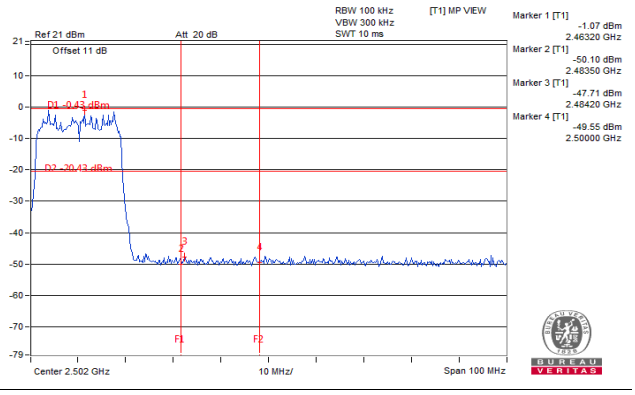




CH 1 Band edge

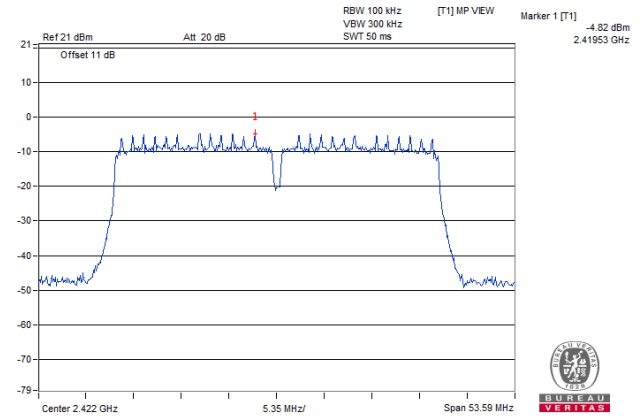


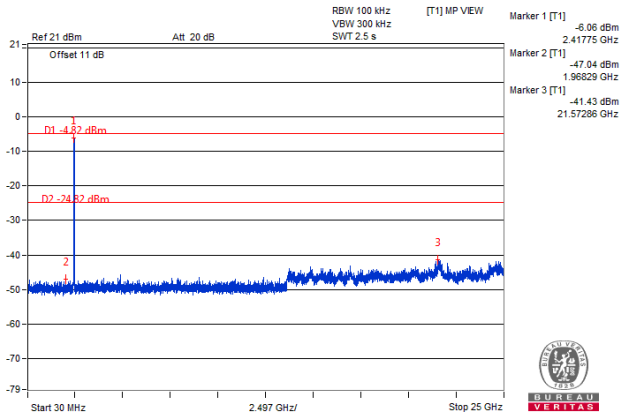
CH 11 Band edge



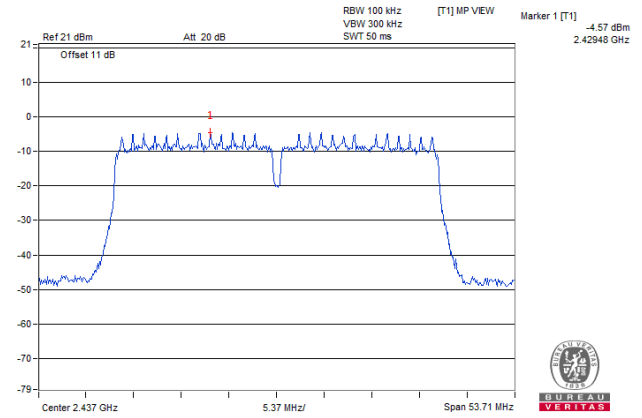
802.11n (HT40)

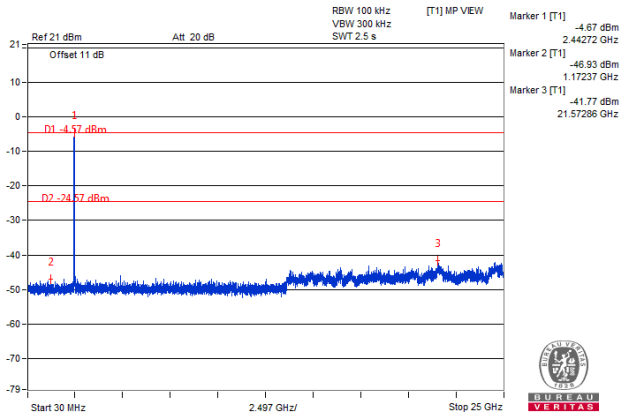
CH 3



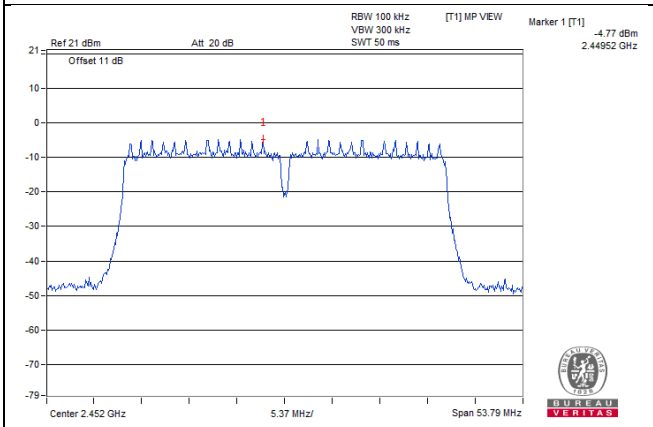


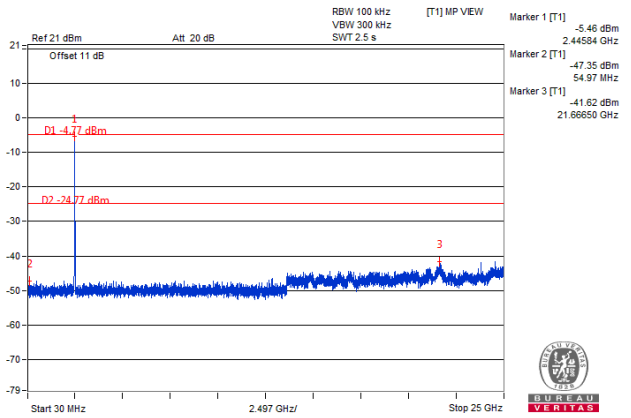
CH 6



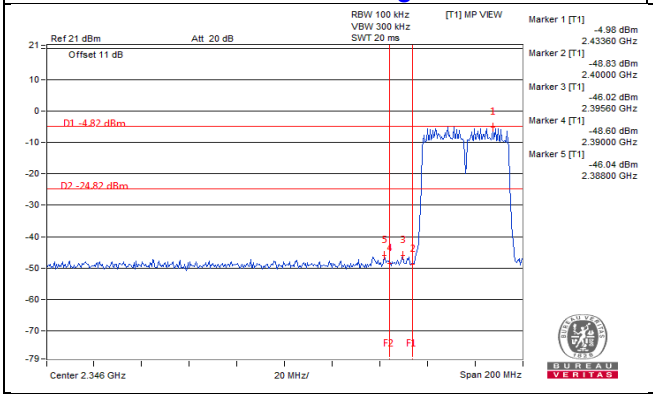


CH 9

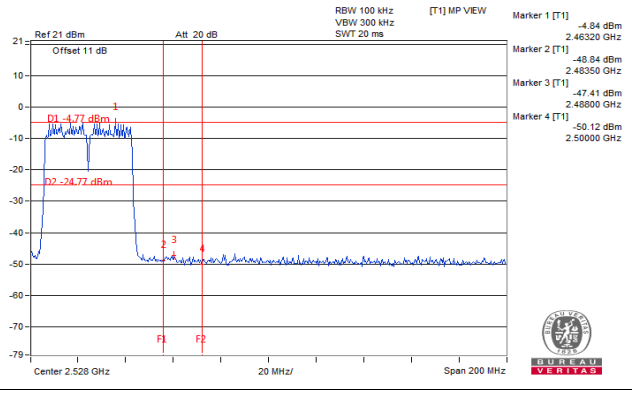




CH 3 Band edge



CH 9 Band edge



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:

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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