

## FCC Test Report

**Report No.:** RF180502E08

**FCC ID:** XCNUBC1310

**Test Model:** UBC1310

**Received Date:** May 02, 2018

**Test Date:** May 25 to June 06, 2018

**Issued Date:** June 26, 2018

**Applicant:** Ubee Interactive Corp.

**Address:** 10F-1, No. 5, Taiyuan 1st St. Jhubei Ci, Hsinchu County 302, 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



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### Release Control Record

Issue No.	Description	Date Issued
RF180502E08	Original release.	June 26, 2018

## 1 Certificate of Conformity

**Product:** Cable modem

**Brand:** Ubee

**Test Model:** UBC1310

**Applicant:** Ubee Interactive Corp.

**Test Date:** May 25 to June 06, 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 :** Wendy Wu , **Date:** June 26, 2018  
Wendy Wu / Specialist

**Approved by :** May Chen , **Date:** June 26, 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 -13.58dB at 0.16172MHz.
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, 2484.00MHz.
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	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) ( $\pm$ )
Conducted Emissions at mains ports	150kHz ~ 30MHz	1.84 dB
Radiated Emissions up to 1 GHz	30MHz ~ 1GHz	5.53 dB
Radiated Emissions above 1 GHz	1GHz ~ 6GHz	5.08 dB
	6GHz ~ 18GHz	4.98 dB
	18GHz ~ 40GHz	5.19 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	Ubee
Test Model	UBC1310
Power Supply Rating	DC 12V from power adapter
Modulation Type	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM 256QAM for OFDM in 11ac mode
Modulation Technology	DSSS, OFDM
Transfer Rate	802.11b: up to 11Mbps 802.11a/g: up to 54Mbps 802.11n: up to 450Mbps 802.11ac: up to 1300Mbps
Operating Frequency	<b>2.4GHz:</b> 2.412 ~ 2.462GHz <b>5GHz:</b> 5.18~ 5.24GHz, 5.745 ~ 5.825GHz
Number of Channel	<b>2.4GHz:</b> 802.11b, 802.11g, 802.11n (HT20): 11 802.11n (HT40): 7 <b>5GHz:</b> 802.11a, 802.11n (HT20), 802.11ac (VHT20): 9 802.11n (HT40), 802.11ac (VHT40): 4 802.11ac (VHT80): 2
Output Power	<b>2.4GHz:</b> 532.874mW <b>5GHz:</b> <b>CDD Mode:</b> <b>5.18 ~ 5.24GHz:</b> 603.7mW <b>5.745 ~ 5.825GHz:</b> 947.881mW <b>Beamforming Mode:</b> <b>5.18 ~ 5.24GHz:</b> 603.7mW <b>5.745 ~ 5.825GHz:</b> 608.726mW
Antenna Type	Refer to Note
Antenna Connector	Refer to Note
Accessory Device	Adapter x1
Data Cable Supplied	Ethernet cable x 1 (1.5m, Unshielded)

Note:

1. 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.

2. The EUT must be supplied onepower adapter and following different models could be chosen as following table:

No.	Brand	Model No.	Part Number	Spec.
1	Lerader	MU30AY120250-A1	MU30AY1120-A10S-F	Input: 100-240Vac, 800mA, 50-60Hz Output: 12V, 2.5A DC Output cable: Unshielded, 1.4m
2	DVE	DSA-30PFG-12 FAR 120250	DSA-30PFG-12 FAR 120250	Input: 100-240Vac, 800mA, 50-60Hz Output: 12V, 2.5A DC Output cable: Unshielded, 1.4m

From the above adapters, the worse radiated emissions was found in Adapter 1. Therefore only the test data of the mode was recorded in this report.

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

Antenna Set.	Chain No.	Brand	Model No.	Antenna Net Gain (dBi)	Frequency Range (GHz)	Antenna Type	Connector Type	Cable Length (mm)
1	0	WHA YU	C107-511273-A	3.9	2.4~2.5	PCB	i-pex(MHF)	45+-3
				3.6	5.05~5.825			
	1	WHA YU	C107-511272-A	4.1	2.4~2.5	PCB	i-pex(MHF)	45+-3
				3.1	5.05~5.825			
	2	WHA YU	C107-511271-A	3.3	2.4~2.5	PCB	i-pex(MHF)	80+-3
				3.4	5.05~5.825			

4. The EUT incorporates a MIMO function:

2.4GHz Band		
MODULATION MODE	DATA RATE (MCS)	TX & RX CONFIGURATION
802.11b	1 ~ 11Mbps	3TX 3RX
802.11g	6 ~ 54Mbps	3TX 3RX
802.11n (HT20)	MCS 0~7	3TX 3RX
	MCS 8~15	3TX 3RX
	MCS 16~23	3TX 3RX
802.11n (HT40)	MCS 0~7	3TX 3RX
	MCS 8~15	3TX 3RX
	MCS 16~23	3TX 3RX
5GHz Band		
MODULATION MODE	DATA RATE (MCS)	TX & RX CONFIGURATION
802.11a	6 ~ 54Mbps	3TX 3RX
802.11n (HT20)	MCS 0~7	3TX 3RX
	MCS 8~15	3TX 3RX
	MCS 16~23	3TX 3RX
802.11n (HT40)	MCS 0~7	3TX 3RX
	MCS 8~15	3TX 3RX
	MCS 16~23	3TX 3RX
802.11ac (VHT20)	MCS 0~8, Nss=1	3TX 3RX
	MCS 0~8, Nss=2	3TX 3RX
	MCS 0~9, Nss=3	3TX 3RX
802.11ac (VHT40)	MCS 0~9, Nss=1	3TX 3RX
	MCS 0~9, Nss=2	3TX 3RX
	MCS 0~9, Nss=3	3TX 3RX
802.11ac (VHT80)	MCS 0~9, Nss=1	3TX 3RX
	MCS 0~9, Nss=2	3TX 3RX
	MCS 0~9, Nss=3	3TX 3RX

Note:

- All of modulation mode support beamforming function except 2.4GHz and 802.11a modulation mode.
- The EUT support Beamforming and CDD mode, therefore both mode were investigated and the worst case scenario was identified. The worst case data were presented in test report.

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



### 3.2 Description of Test Modes

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

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

7 channels are provided for 802.11n (HT40):

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

### 3.2.1 Test Mode Applicability and Tested Channel Detail

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	RE $\geq$ 1G	RE<1G	PLC	APCM	
1	√	√	√	√	Power from adapter 1
2	-	-	√	-	Power from adapter 2

Where RE $\geq$ 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, 11	DSSS	DBPSK	1
802.11g	1 to 11	1, 2, 3, 4, 6, 9, 10, 11	OFDM	BPSK	6
802.11n (HT20)	1 to 11	1, 2, 3, 4, 6, 9, 10, 11	OFDM	BPSK	6.5
802.11n (HT40)	3 to 9	3, 4, 5, 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)
802.11b	1 to 11	6	OFDM	DSSS	DBPSK

#### **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)
802.11b	1 to 11	6	OFDM	DSSS	DBPSK

### 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, 2, 3, 4, 6, 9, 10, 11	OFDM	BPSK	6
802.11n (HT20)	1 to 11	1, 2, 3, 4, 6, 9, 10, 11	OFDM	BPSK	6.5
802.11n (HT40)	3 to 9	3, 4, 5, 6, 9	OFDM	BPSK	13.5

### Test Condition:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE $\geq$ 1G	25deg. C, 65%RH	120Vac, 60Hz	Eason Tseng
RE $<$ 1G	25deg. C, 65%RH	120Vac, 60Hz	Andy Ho
PLC	25deg. C, 68%RH	120Vac, 60Hz	Andy Ho
APCM	21deg. C, 60%RH	120Vac, 60Hz	Jyunchun Lin

### 3.3 Duty Cycle of Test Signal

If duty cycle of test signal is  $\geq 98\%$ , duty factor is not required.

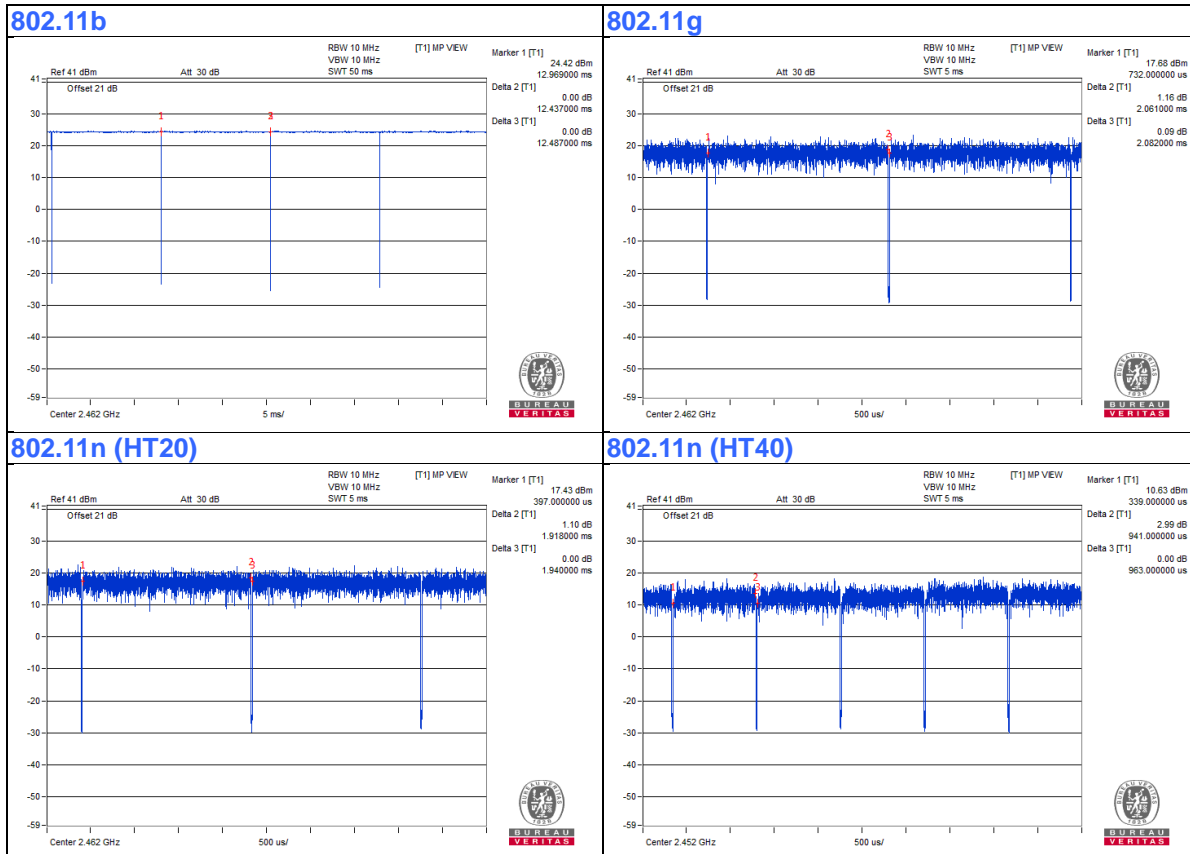
If duty cycle of test signal is  $< 98\%$ , duty factor shall be considered.

**802.11b:** Duty cycle =  $12.437/12.487 = 0.996$

**802.11g:** Duty cycle =  $2.061/2.082 = 0.99$

**802.11n (HT20):** Duty cycle =  $1.918/1.94 = 98.9$

**802.11n (HT40):** Duty cycle =  $0.941/0.963 = 0.977$ , Duty factor =  $10 * \log(1/0.977) = 0.1$



### 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

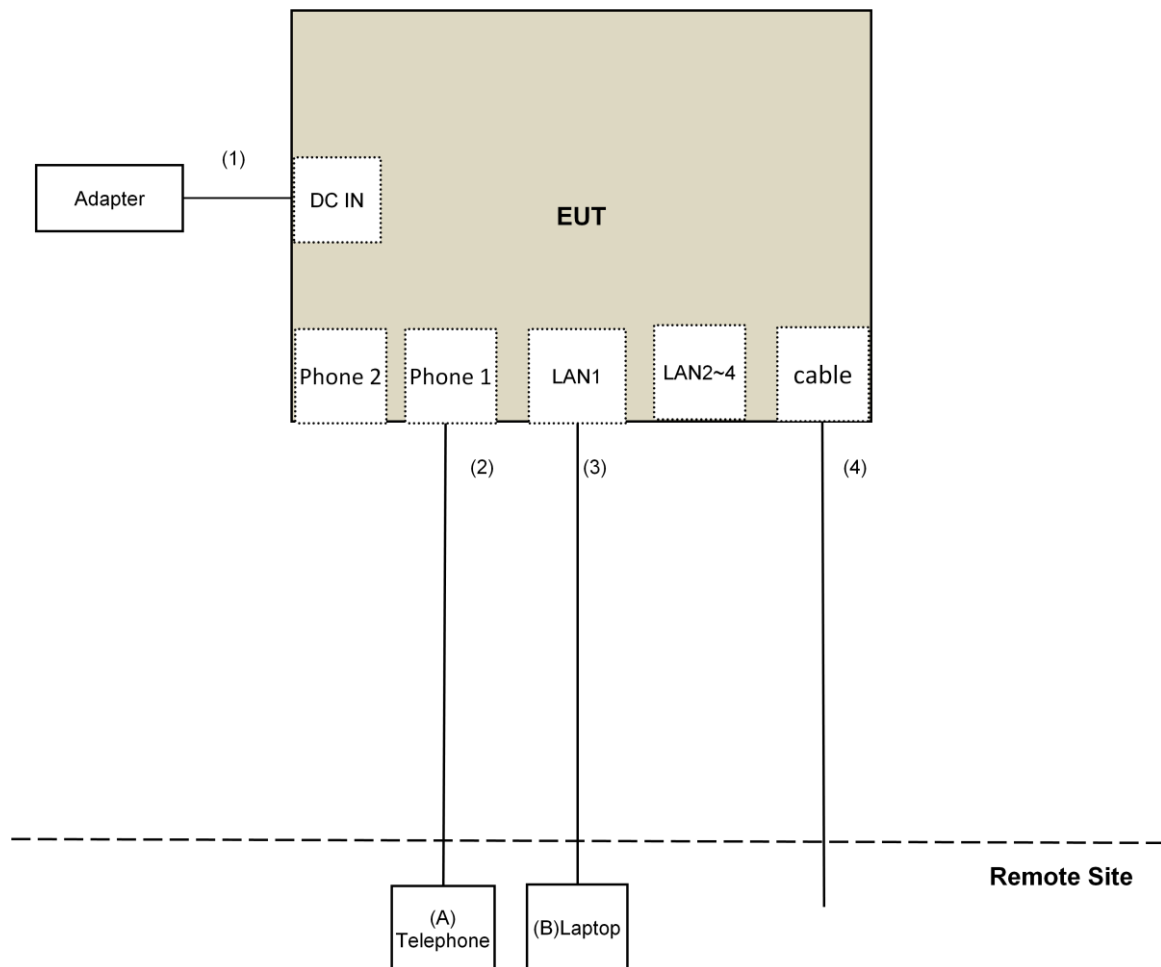
Note:

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	1.4	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

Note: The core(s) is(are) originally attached to the cable(s).

#### 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 30dB 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 Agilent	N9038A	MY50010156	July 12, 2017	July 11, 2018
Pre-Amplifier EMCI	EMC001340	980142	Feb. 09, 2018	Feb. 08, 2019
Loop Antenna <sup>(*)</sup> 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-05	May 05, 2018	May 04, 2019
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-361	Nov. 29, 2017	Nov. 28, 2018
RF Cable	8D	966-3-1 966-3-2 966-3-3	Mar. 20, 2018	Mar. 19, 2019
Fixed attenuator Mini-Circuits	UNAT-5+	PAD-3m-3-01	Oct. 03, 2017	Oct. 02, 2018
Horn_Antenna SCHWARZBECK	BBHA9120-D	9120D-406	Dec. 12, 2017	Dec. 11, 2018
Pre-Amplifier EMCI	EMC12630SE	980384	Jan. 29, 2018	Jan. 28, 2019
RF Cable	EMC104-SM-SM-1200 EMC104-SM-SM-2000 EMC104-SM-SM-5000	160922 150317 150322	Jan. 29, 2018	Jan. 28, 2019
Spectrum Analyzer Keysight	N9030A	MY54490679	July 25, 2017	July 24, 2018
Pre-Amplifier EMCI	EMC184045SE	980386	Jan. 29, 2018	Jan. 28, 2019
Horn_Antenna SCHWARZBECK	BBHA 9170	BBHA9170608	Dec. 14, 2017	Dec. 13, 2018
RF Cable	EMC102-KM-KM-1200	160924	Jan. 29, 2018	Jan. 28, 2019
Software	ADT_Radiated_V8.7.08	NA	NA	NA
Antenna Tower & Turn Table Max-Full	MF-7802	MF780208406	NA	NA
Boresight Antenna Fixture	FBA-01	FBA-SIP01	NA	NA
Spectrum Analyzer R&S	FSv40	100964	July 1, 2017	June 30, 2018
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. 3.
4. The CANADA Site Registration No. is 20331-1
5. Loop antenna was used for all emissions below 30 MHz.
6. Tested Date: May 25 to June 06, 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:**

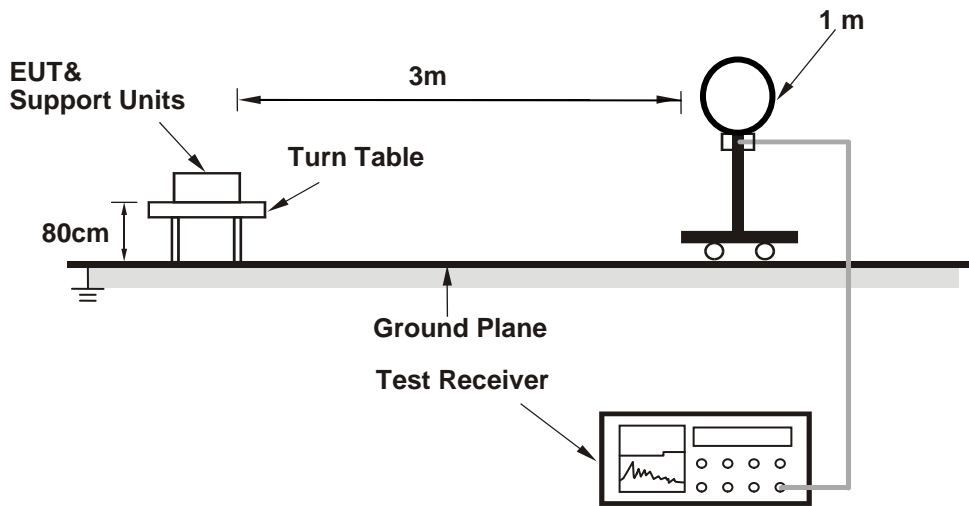
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is  $\geq 1/T$  (Duty cycle < 98%) or 10Hz (Duty cycle  $\geq 98\%$ ) 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

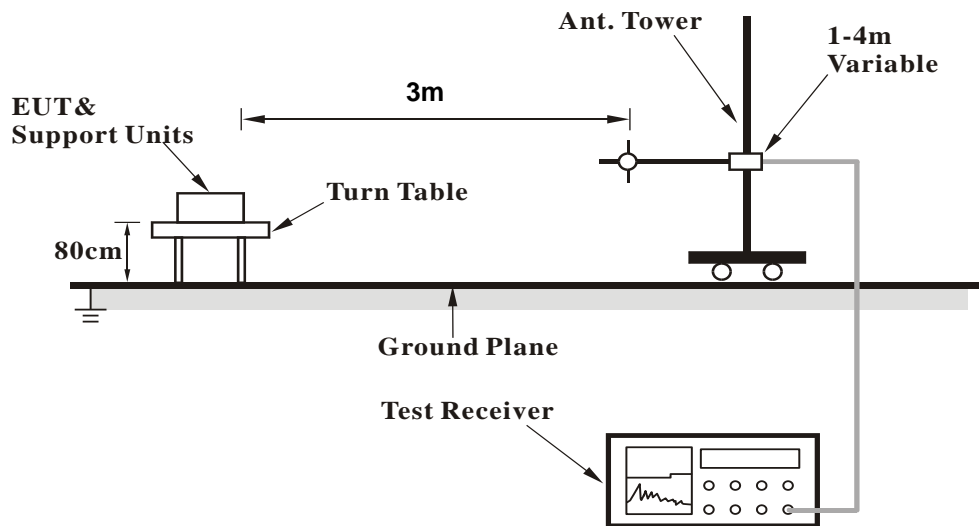
No deviation.

4.1.5 Test Setup

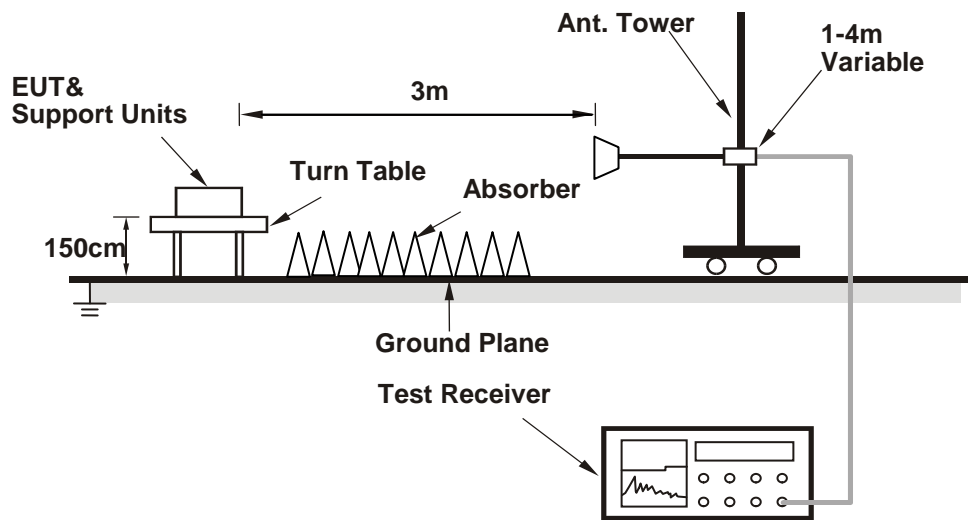
**For Radiated emission below 30MHz**



**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 2.0.1.1) has been activated to set the EUT on specific status.

## 4.1.7 Test Results

## Above 1GHz Data :

## 802.11b

<b>CHANNEL</b>	TX Channel 1	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	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	63.5 PK	74.0	-10.5	1.87 H	51	65.7	-2.2
2	2390.00	53.8 AV	54.0	-0.2	1.87 H	51	56.0	-2.2
3	*2412.00	114.9 PK			1.87 H	51	117.2	-2.3
4	*2412.00	112.6 AV			1.87 H	51	114.9	-2.3
5	4824.00	44.2 PK	74.0	-29.8	1.51 H	330	42.1	2.1
6	4824.00	38.9 AV	54.0	-15.1	1.51 H	330	36.8	2.1

**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	58.6 PK	74.0	-15.4	2.86 V	167	60.8	-2.2
2	2390.00	48.7 AV	54.0	-5.3	2.86 V	167	50.9	-2.2
3	*2412.00	112.8 PK			2.86 V	167	115.1	-2.3
4	*2412.00	109.5 AV			2.86 V	167	111.8	-2.3
5	4824.00	44.6 PK	74.0	-29.4	2.84 V	237	42.5	2.1
6	4824.00	41.8 AV	54.0	-12.2	2.84 V	237	39.7	2.1

**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.

<b>CHANNEL</b>	TX Channel 6	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	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	2357.00	62.9 PK	74.0	-11.1	1.99 H	57	64.9	-2.0
2	2357.00	53.3 AV	54.0	-0.7	1.99 H	57	55.3	-2.0
3	2390.00	58.5 PK	74.0	-15.5	1.96 H	57	60.7	-2.2
4	2390.00	49.5 AV	54.0	-4.5	1.96 H	57	51.7	-2.2
5	*2437.00	115.8 PK			1.96 H	57	118.4	-2.6
6	*2437.00	113.9 AV			1.96 H	57	116.5	-2.6
7	2483.50	54.9 PK	74.0	-19.1	1.96 H	57	57.4	-2.5
8	2483.50	45.5 AV	54.0	-8.5	1.96 H	57	48.0	-2.5
9	2500.00	55.6 PK	74.0	-18.4	1.98 H	60	58.0	-2.4
10	2500.00	47.6 AV	54.0	-6.4	1.98 H	60	50.0	-2.4
11	4874.00	44.8 PK	74.0	-29.2	1.50 H	322	42.7	2.1
12	4874.00	41.4 AV	54.0	-12.6	1.50 H	322	39.3	2.1
13	7311.00	57.8 PK	74.0	-16.2	1.95 H	263	49.6	8.2
14	7311.00	52.1 AV	54.0	-1.9	1.95 H	263	43.9	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	2357.00	58.7 PK	74.0	-15.3	2.71 V	164	60.7	-2.0
2	2357.00	49.9 AV	54.0	-4.1	2.71 V	164	51.9	-2.0
3	2390.00	53.6 PK	74.0	-20.4	2.83 V	174	55.8	-2.2
4	2390.00	44.5 AV	54.0	-9.5	2.83 V	174	46.7	-2.2
5	*2437.00	113.9 PK			2.83 V	174	116.5	-2.6
6	*2437.00	110.7 AV			2.83 V	174	113.3	-2.6
7	2483.50	49.5 PK	74.0	-24.5	2.83 V	174	52.0	-2.5
8	2483.50	40.2 AV	54.0	-13.8	2.83 V	174	42.7	-2.5
9	2500.00	51.4 PK	74.0	-22.6	2.67 V	169	53.8	-2.4
10	2500.00	43.2 AV	54.0	-10.8	2.67 V	169	45.6	-2.4
11	4874.00	46.2 PK	74.0	-27.8	2.83 V	240	44.1	2.1
12	4874.00	44.5 AV	54.0	-9.5	2.83 V	240	42.4	2.1
13	7311.00	59.3 PK	74.0	-14.7	2.08 V	254	51.1	8.2
14	7311.00	51.8 AV	54.0	-2.2	2.08 V	254	43.6	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.

<b>CHANNEL</b>	TX Channel 11	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	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	*2462.00	115.3 PK			1.77 H	55	117.8	-2.5
2	*2462.00	113.0 AV			1.77 H	55	115.5	-2.5
3	2483.50	59.8 PK	74.0	-14.2	1.77 H	55	62.3	-2.5
4	2483.50	52.2 AV	54.0	-1.8	1.77 H	55	54.7	-2.5
5	2486.00	63.5 PK	74.0	-10.5	1.77 H	55	65.9	-2.4
6	2486.00	53.8 AV	54.0	-0.2	1.77 H	55	56.2	-2.4
7	4924.00	44.5 PK	74.0	-29.5	1.52 H	330	42.3	2.2
8	4924.00	39.2 AV	54.0	-14.8	1.52 H	330	37.0	2.2
9	7386.00	55.6 PK	74.0	-18.4	2.00 H	274	47.3	8.3
10	7386.00	49.9 AV	54.0	-4.1	2.00 H	274	41.6	8.3

**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	*2462.00	113.1 PK			2.80 V	175	115.6	-2.5
2	*2462.00	109.7 AV			2.80 V	175	112.2	-2.5
3	2483.50	55.6 PK	74.0	-18.4	2.80 V	175	58.1	-2.5
4	2483.50	48.2 AV	54.0	-5.8	2.80 V	175	50.7	-2.5
5	2486.00	59.6 PK	74.0	-14.4	2.88 V	189	62.0	-2.4
6	2486.00	49.7 AV	54.0	-4.3	2.88 V	189	52.1	-2.4
7	4924.00	44.0 PK	74.0	-30.0	2.85 V	248	41.8	2.2
8	4924.00	42.2 AV	54.0	-11.8	2.85 V	248	40.0	2.2
9	7386.00	57.6 PK	74.0	-16.4	2.05 V	241	49.3	8.3
10	7386.00	50.1 AV	54.0	-3.9	2.05 V	241	41.8	8.3

**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.

**802.11g**

<b>CHANNEL</b>	TX Channel 1	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	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	72.5 PK	74.0	-1.5	2.49 H	84	74.7	-2.2
2	2390.00	53.8 AV	54.0	-0.2	2.49 H	84	56.0	-2.2
3	*2412.00	111.3 PK			2.49 H	84	113.6	-2.3
4	*2412.00	100.1 AV			2.49 H	84	102.4	-2.3
5	4824.00	46.5 PK	74.0	-27.5	1.48 H	339	44.4	2.1
6	4824.00	31.8 AV	54.0	-22.2	1.48 H	339	29.7	2.1

**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	67.5 PK	74.0	-6.5	2.84 V	187	69.7	-2.2
2	2390.00	48.9 AV	54.0	-5.1	2.84 V	187	51.1	-2.2
3	*2412.00	108.6 PK			2.84 V	187	110.9	-2.3
4	*2412.00	98.5 AV			2.84 V	187	100.8	-2.3
5	4824.00	48.6 PK	74.0	-25.4	2.24 V	249	46.5	2.1
6	4824.00	34.5 AV	54.0	-19.5	2.24 V	249	32.4	2.1

**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.

<b>CHANNEL</b>	TX Channel 2	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	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	69.7 PK	74.0	-4.3	2.49 H	100	71.9	-2.2
2	<b>2390.00</b>	<b>53.9 AV</b>	<b>54.0</b>	<b>-0.1</b>	<b>2.49 H</b>	<b>100</b>	<b>56.1</b>	<b>-2.2</b>
3	*2417.00	114.8 PK			2.49 H	100	117.2	-2.4
4	*2417.00	104.0 AV			2.49 H	100	106.4	-2.4
5	4834.00	47.6 PK	74.0	-26.4	1.41 H	338	45.5	2.1
6	4834.00	32.9 AV	54.0	-21.1	1.41 H	338	30.8	2.1
7	7251.00	52.3 PK	74.0	-21.7	2.01 H	270	44.0	8.3
8	7251.00	38.7 AV	54.0	-15.3	2.01 H	270	30.4	8.3

**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	64.8 PK	74.0	-9.2	2.87 V	194	67.0	-2.2
2	2390.00	48.7 AV	54.0	-5.3	2.87 V	194	50.9	-2.2
3	*2417.00	110.9 PK			2.87 V	194	113.3	-2.4
4	*2417.00	100.5 AV			2.87 V	194	102.9	-2.4
5	4834.00	49.8 PK	74.0	-24.2	2.32 V	258	47.7	2.1
6	4834.00	35.8 AV	54.0	-18.2	2.32 V	258	33.7	2.1
7	7251.00	56.4 PK	74.0	-17.6	1.52 V	232	48.1	8.3
8	7251.00	39.5 AV	54.0	-14.5	1.52 V	232	31.2	8.3

**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.



<b>CHANNEL</b>	TX Channel 3	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	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	69.7 PK	74.0	-4.3	2.20 H	108	71.9	-2.2
2	<b>2390.00</b>	<b>53.9 AV</b>	<b>54.0</b>	<b>-0.1</b>	<b>2.20 H</b>	<b>108</b>	<b>56.1</b>	<b>-2.2</b>
3	*2422.00	116.1 PK			2.20 H	108	118.6	-2.5
4	*2422.00	105.3 AV			2.20 H	108	107.8	-2.5
5	4844.00	48.9 PK	74.0	-25.1	1.44 H	322	46.8	2.1
6	4844.00	33.6 AV	54.0	-20.4	1.44 H	322	31.5	2.1
7	7266.00	53.5 PK	74.0	-20.5	2.00 H	278	45.2	8.3
8	7266.00	39.2 AV	54.0	-14.8	2.00 H	278	30.9	8.3

**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	64.8 PK	74.0	-9.2	2.79 V	184	67.0	-2.2
2	2390.00	48.9 AV	54.0	-5.1	2.79 V	184	51.1	-2.2
3	*2422.00	111.5 PK			2.79 V	184	114.0	-2.5
4	*2422.00	101.6 AV			2.79 V	184	104.1	-2.5
5	4844.00	50.7 PK	74.0	-23.3	2.24 V	262	48.6	2.1
6	4844.00	36.9 AV	54.0	-17.1	2.24 V	262	34.8	2.1
7	7266.00	57.6 PK	74.0	-16.4	1.47 V	231	49.3	8.3
8	7266.00	40.4 AV	54.0	-13.6	1.47 V	231	32.1	8.3

**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.

<b>CHANNEL</b>	TX Channel 4	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	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	68.6 PK	74.0	-5.4	2.26 H	100	70.8	-2.2
2	2390.00	53.7 AV	54.0	-0.3	2.26 H	100	55.9	-2.2
3	*2427.00	117.4 PK			2.26 H	100	119.9	-2.5
4	*2427.00	106.6 AV			2.26 H	100	109.1	-2.5
5	4854.00	50.4 PK	74.0	-23.6	1.41 H	331	48.3	2.1
6	4854.00	35.5 AV	54.0	-18.5	1.41 H	331	33.4	2.1
7	7281.00	55.7 PK	74.0	-18.3	2.01 H	280	47.3	8.4
8	7281.00	41.3 AV	54.0	-12.7	2.01 H	280	32.9	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	65.5 PK	74.0	-8.5	2.80 V	188	67.7	-2.2
2	2390.00	49.2 AV	54.0	-4.8	2.80 V	188	51.4	-2.2
3	*2427.00	113.5 PK			2.80 V	188	116.0	-2.5
4	*2427.00	103.5 AV			2.80 V	188	106.0	-2.5
5	4854.00	52.2 PK	74.0	-21.8	2.26 V	271	50.1	2.1
6	4854.00	38.7 AV	54.0	-15.3	2.26 V	271	36.6	2.1
7	7281.00	58.1 PK	74.0	-15.9	1.48 V	234	49.7	8.4
8	7281.00	42.4 AV	54.0	-11.6	1.48 V	234	34.0	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.

<b>CHANNEL</b>	TX Channel 6	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	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	69.7 PK	74.0	-4.3	2.55 H	81	71.9	-2.2
2	2390.00	53.7 AV	54.0	-0.3	2.55 H	81	55.9	-2.2
3	*2437.00	119.8 PK			2.55 H	81	122.4	-2.6
4	*2437.00	108.7 AV			2.55 H	81	111.3	-2.6
5	2483.50	69.2 PK	74.0	-4.8	2.55 H	81	71.7	-2.5
6	2483.50	51.3 AV	54.0	-2.7	2.55 H	81	53.8	-2.5
7	4874.00	52.4 PK	74.0	-21.6	1.46 H	328	50.3	2.1
8	4874.00	37.6 AV	54.0	-16.4	1.46 H	328	35.5	2.1
9	7311.00	58.1 PK	74.0	-15.9	1.97 H	284	49.9	8.2
10	7311.00	43.1 AV	54.0	-10.9	1.97 H	284	34.9	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	65.4 PK	74.0	-8.6	2.81 V	183	67.6	-2.2
2	2390.00	49.8 AV	54.0	-4.2	2.81 V	183	52.0	-2.2
3	*2437.00	114.5 PK			2.81 V	183	117.1	-2.6
4	*2437.00	104.6 AV			2.81 V	183	107.2	-2.6
5	2483.50	64.8 PK	74.0	-9.2	2.81 V	183	67.3	-2.5
6	2483.50	47.6 AV	54.0	-6.4	2.81 V	183	50.1	-2.5
7	4874.00	54.1 PK	74.0	-19.9	2.28 V	262	52.0	2.1
8	4874.00	40.7 AV	54.0	-13.3	2.28 V	262	38.6	2.1
9	7311.00	60.2 PK	74.0	-13.8	1.51 V	235	52.0	8.2
10	7311.00	44.5 AV	54.0	-9.5	1.51 V	235	36.3	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.

<b>CHANNEL</b>	TX Channel 9	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	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	117.1 PK			2.61 H	99	119.7	-2.6
2	*2452.00	106.0 AV			2.61 H	99	108.6	-2.6
3	2483.50	65.0 PK	74.0	-9.0	2.61 H	99	67.5	-2.5
4	2483.50	52.7 AV	54.0	-1.3	2.61 H	99	55.2	-2.5
5	2484.00	69.7 PK	74.0	-4.3	2.61 H	99	72.2	-2.5
<b>6</b>	<b>2484.00</b>	<b>53.9 AV</b>	<b>54.0</b>	<b>-0.1</b>	<b>2.61 H</b>	<b>99</b>	<b>56.4</b>	<b>-2.5</b>
7	4904.00	50.4 PK	74.0	-23.6	1.45 H	340	48.2	2.2
8	4904.00	35.1 AV	54.0	-18.9	1.45 H	340	32.9	2.2
9	7356.00	56.8 PK	74.0	-17.2	1.96 H	278	48.5	8.3
10	7356.00	41.5 AV	54.0	-12.5	1.96 H	278	33.2	8.3

**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	*2452.00	112.4 PK			2.80 V	191	115.0	-2.6
2	*2452.00	102.8 AV			2.80 V	191	105.4	-2.6
3	2483.50	63.2 PK	74.0	-10.8	2.80 V	191	65.7	-2.5
4	2483.50	49.5 AV	54.0	-4.5	2.80 V	191	52.0	-2.5
5	2484.00	67.5 PK	74.0	-6.5	2.80 V	191	70.0	-2.5
6	2484.00	50.1 AV	54.0	-3.9	2.80 V	191	52.6	-2.5
7	4904.00	52.0 PK	74.0	-22.0	2.27 V	262	49.8	2.2
8	4904.00	38.5 AV	54.0	-15.5	2.27 V	262	36.3	2.2
9	7356.00	57.6 PK	74.0	-16.4	1.55 V	236	49.3	8.3
10	7356.00	42.1 AV	54.0	-11.9	1.55 V	236	33.8	8.3

**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.

<b>CHANNEL</b>	TX Channel 10	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	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	*2457.00	115.3 PK			2.53 H	108	117.8	-2.5
2	*2457.00	104.3 AV			2.53 H	108	106.8	-2.5
3	2483.50	66.4 PK	74.0	-7.6	2.53 H	108	68.9	-2.5
4	2483.50	52.7 AV	54.0	-1.3	2.53 H	108	55.2	-2.5
5	2484.00	69.7 PK	74.0	-4.3	2.53 H	108	72.2	-2.5
6	2484.00	53.8 AV	54.0	-0.2	2.53 H	108	56.3	-2.5
7	4914.00	48.9 PK	74.0	-25.1	1.43 H	341	46.7	2.2
8	4914.00	33.5 AV	54.0	-20.5	1.43 H	341	31.3	2.2
9	7371.00	53.5 PK	74.0	-20.5	1.93 H	279	45.3	8.2
10	7371.00	38.7 AV	54.0	-15.3	1.93 H	279	30.5	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	*2457.00	109.1 PK			2.80 V	192	111.6	-2.5
2	*2457.00	99.8 AV			2.80 V	192	102.3	-2.5
3	2483.50	63.0 PK	74.0	-11.0	2.80 V	192	65.5	-2.5
4	2483.50	49.3 AV	54.0	-4.7	2.80 V	192	51.8	-2.5
5	2484.00	66.4 PK	74.0	-7.6	2.80 V	192	68.9	-2.5
6	2484.00	49.9 AV	54.0	-4.1	2.80 V	192	52.4	-2.5
7	4914.00	49.8 PK	74.0	-24.2	2.30 V	252	47.6	2.2
8	4914.00	36.7 AV	54.0	-17.3	2.30 V	252	34.5	2.2
9	7371.00	56.4 PK	74.0	-17.6	1.56 V	237	48.2	8.2
10	7371.00	39.9 AV	54.0	-14.1	1.56 V	237	31.7	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.

<b>CHANNEL</b>	TX Channel 11	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	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	*2462.00	113.6 PK			2.40 H	40	116.1	-2.5
2	*2462.00	103.2 AV			2.40 H	40	105.7	-2.5
3	2483.50	62.1 PK	74.0	-11.9	2.40 H	40	64.6	-2.5
4	2483.50	51.6 AV	54.0	-2.4	2.40 H	40	54.1	-2.5
5	4924.00	47.6 PK	74.0	-26.4	1.51 H	317	45.4	2.2
6	4924.00	32.8 AV	54.0	-21.2	1.51 H	317	30.6	2.2
7	7386.00	52.7 PK	74.0	-21.3	1.95 H	293	44.4	8.3
8	7386.00	35.4 AV	54.0	-18.6	1.95 H	293	27.1	8.3

**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	*2462.00	109.3 PK			2.82 V	176	111.8	-2.5
2	*2462.00	99.4 AV			2.82 V	176	101.9	-2.5
3	2483.50	72.1 PK	74.0	-1.9	2.82 V	176	74.6	-2.5
4	2483.50	52.7 AV	54.0	-1.3	2.82 V	176	55.2	-2.5
5	4924.00	49.1 PK	74.0	-24.9	2.31 V	254	46.9	2.2
6	4924.00	36.5 AV	54.0	-17.5	2.31 V	254	34.3	2.2
7	7386.00	56.0 PK	74.0	-18.0	1.56 V	225	47.7	8.3
8	7386.00	39.5 AV	54.0	-14.5	1.56 V	225	31.2	8.3

**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.

**802.11n (HT20)**

<b>CHANNEL</b>	TX Channel 1	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	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	73.1 PK	74.0	-0.9	2.53 H	97	75.3	-2.2
2	<b>2390.00</b>	<b>53.9 AV</b>	<b>54.0</b>	<b>-0.1</b>	<b>2.53 H</b>	<b>97</b>	<b>56.1</b>	<b>-2.2</b>
3	*2412.00	111.7 PK			2.53 H	97	114.0	-2.3
4	*2412.00	100.3 AV			2.53 H	97	102.6	-2.3
5	4824.00	46.5 PK	74.0	-27.5	1.50 H	333	44.4	2.1
6	4824.00	32.1 AV	54.0	-21.9	1.50 H	333	30.0	2.1

**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	67.3 PK	74.0	-6.7	2.80 V	185	69.5	-2.2
2	2390.00	48.7 AV	54.0	-5.3	2.80 V	185	50.9	-2.2
3	*2412.00	108.8 PK			2.80 V	185	111.1	-2.3
4	*2412.00	98.7 AV			2.80 V	185	101.0	-2.3
5	4824.00	48.4 PK	74.0	-25.6	2.21 V	253	46.3	2.1
6	4824.00	34.5 AV	54.0	-19.5	2.21 V	253	32.4	2.1

**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.

<b>CHANNEL</b>	TX Channel 2	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	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	70.0 PK	74.0	-4.0	2.47 H	96	72.2	-2.2
2	<b>2390.00</b>	<b>53.9 AV</b>	<b>54.0</b>	<b>-0.1</b>	<b>2.47 H</b>	<b>96</b>	<b>56.1</b>	<b>-2.2</b>
3	*2417.00	114.7 PK			2.47 H	96	117.1	-2.4
4	*2417.00	103.7 AV			2.47 H	96	106.1	-2.4
5	4834.00	47.4 PK	74.0	-26.6	1.44 H	332	45.3	2.1
6	4834.00	33.0 AV	54.0	-21.0	1.44 H	332	30.9	2.1
7	7251.00	52.3 PK	74.0	-21.7	2.03 H	258	44.0	8.3
8	7251.00	38.7 AV	54.0	-15.3	2.03 H	258	30.4	8.3

**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	65.3 PK	74.0	-8.7	2.87 V	201	67.5	-2.2
2	2390.00	49.0 AV	54.0	-5.0	2.87 V	201	51.2	-2.2
3	*2417.00	110.7 PK			2.87 V	201	113.1	-2.4
4	*2417.00	100.3 AV			2.87 V	201	102.7	-2.4
5	4834.00	50.1 PK	74.0	-23.9	2.36 V	248	48.0	2.1
6	4834.00	36.2 AV	54.0	-17.8	2.36 V	248	34.1	2.1
7	7251.00	56.1 PK	74.0	-17.9	1.53 V	234	47.8	8.3
8	7251.00	39.1 AV	54.0	-14.9	1.53 V	234	30.8	8.3

**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.



<b>CHANNEL</b>	TX Channel 3	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	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	69.7 PK	74.0	-4.3	2.24 H	98	71.9	-2.2
2	2390.00	53.8 AV	54.0	-0.2	2.24 H	98	56.0	-2.2
3	*2422.00	115.9 PK			2.24 H	98	118.4	-2.5
4	*2422.00	105.0 AV			2.24 H	98	107.5	-2.5
5	4844.00	48.7 PK	74.0	-25.3	1.46 H	311	46.6	2.1
6	4844.00	33.6 AV	54.0	-20.4	1.46 H	311	31.5	2.1
7	7266.00	53.3 PK	74.0	-20.7	1.99 H	265	45.0	8.3
8	7266.00	39.0 AV	54.0	-15.0	1.99 H	265	30.7	8.3

**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	64.4 PK	74.0	-9.6	2.76 V	189	66.6	-2.2
2	2390.00	48.7 AV	54.0	-5.3	2.76 V	189	50.9	-2.2
3	*2422.00	111.6 PK			2.76 V	189	114.1	-2.5
4	*2422.00	101.9 AV			2.76 V	189	104.4	-2.5
5	4844.00	50.7 PK	74.0	-23.3	2.23 V	248	48.6	2.1
6	4844.00	36.8 AV	54.0	-17.2	2.23 V	248	34.7	2.1
7	7266.00	57.6 PK	74.0	-16.4	1.42 V	217	49.3	8.3
8	7266.00	40.6 AV	54.0	-13.4	1.42 V	217	32.3	8.3

**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.

<b>CHANNEL</b>	TX Channel 4	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	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	68.8 PK	74.0	-5.2	2.29 H	94	71.0	-2.2
2	<b>2390.00</b>	<b>53.9 AV</b>	<b>54.0</b>	<b>-0.1</b>	<b>2.29 H</b>	<b>94</b>	<b>56.1</b>	<b>-2.2</b>
3	*2427.00	117.8 PK			2.29 H	94	120.3	-2.5
4	*2427.00	106.7 AV			2.29 H	94	109.2	-2.5
5	4854.00	50.7 PK	74.0	-23.3	1.45 H	329	48.6	2.1
6	4854.00	35.5 AV	54.0	-18.5	1.45 H	329	33.4	2.1
7	7281.00	56.2 PK	74.0	-17.8	1.98 H	280	47.8	8.4
8	7281.00	41.6 AV	54.0	-12.4	1.98 H	280	33.2	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	65.7 PK	74.0	-8.3	2.84 V	203	67.9	-2.2
2	2390.00	49.3 AV	54.0	-4.7	2.84 V	203	51.5	-2.2
3	*2427.00	113.3 PK			2.84 V	203	115.8	-2.5
4	*2427.00	103.4 AV			2.84 V	203	105.9	-2.5
5	4854.00	52.7 PK	74.0	-21.3	2.27 V	270	50.6	2.1
6	4854.00	39.0 AV	54.0	-15.0	2.27 V	270	36.9	2.1
7	7281.00	57.5 PK	74.0	-16.5	1.44 V	225	49.1	8.4
8	7281.00	41.9 AV	54.0	-12.1	1.44 V	225	33.5	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.

<b>CHANNEL</b>	TX Channel 6	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	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	69.8 PK	74.0	-4.2	2.52 H	96	72.0	-2.2
2	<b>2390.00</b>	<b>53.9 AV</b>	<b>54.0</b>	<b>-0.1</b>	<b>2.52 H</b>	<b>96</b>	<b>56.1</b>	<b>-2.2</b>
3	*2437.00	119.1 PK			2.52 H	96	121.7	-2.6
4	*2437.00	108.2 AV			2.52 H	96	110.8	-2.6
5	2483.50	68.7 PK	74.0	-5.3	2.52 H	96	71.2	-2.5
6	2483.50	50.9 AV	54.0	-3.1	2.52 H	96	53.4	-2.5
7	4874.00	52.4 PK	74.0	-21.6	1.42 H	329	50.3	2.1
8	4874.00	37.4 AV	54.0	-16.6	1.42 H	329	35.3	2.1
9	7311.00	58.2 PK	74.0	-15.8	1.93 H	272	50.0	8.2
10	7311.00	43.3 AV	54.0	-10.7	1.93 H	272	35.1	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	65.4 PK	74.0	-8.6	2.83 V	169	67.6	-2.2
2	2390.00	49.7 AV	54.0	-4.3	2.83 V	169	51.9	-2.2
3	*2437.00	114.2 PK			2.83 V	169	116.8	-2.6
4	*2437.00	104.4 AV			2.83 V	169	107.0	-2.6
5	2483.50	65.1 PK	74.0	-8.9	2.83 V	169	67.6	-2.5
6	2483.50	47.9 AV	54.0	-6.1	2.83 V	169	50.4	-2.5
7	4874.00	53.5 PK	74.0	-20.5	2.26 V	260	51.4	2.1
8	4874.00	40.2 AV	54.0	-13.8	2.26 V	260	38.1	2.1
9	7311.00	60.2 PK	74.0	-13.8	1.53 V	219	52.0	8.2
10	7311.00	44.3 AV	54.0	-9.7	1.53 V	219	36.1	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.

<b>CHANNEL</b>	TX Channel 9	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	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	116.8 PK			2.55 H	94	119.4	-2.6
2	*2452.00	105.8 AV			2.55 H	94	108.4	-2.6
3	2483.50	64.7 PK	74.0	-9.3	2.55 H	94	67.2	-2.5
4	2483.50	52.6 AV	54.0	-1.4	2.55 H	94	55.1	-2.5
5	2484.00	70.3 PK	74.0	-3.7	2.55 H	94	72.8	-2.5
<b>6</b>	<b>2484.00</b>	<b>53.9 AV</b>	<b>54.0</b>	<b>-0.1</b>	<b>2.55 H</b>	<b>94</b>	<b>56.4</b>	<b>-2.5</b>
7	4904.00	51.1 PK	74.0	-22.9	1.47 H	334	48.9	2.2
8	4904.00	35.5 AV	54.0	-18.5	1.47 H	334	33.3	2.2
9	7356.00	56.5 PK	74.0	-17.5	1.97 H	264	48.2	8.3
10	7356.00	41.3 AV	54.0	-12.7	1.97 H	264	33.0	8.3

**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	*2452.00	112.6 PK			2.84 V	188	115.2	-2.6
2	*2452.00	102.8 AV			2.84 V	188	105.4	-2.6
3	2483.50	63.1 PK	74.0	-10.9	2.84 V	188	65.6	-2.5
4	2483.50	49.2 AV	54.0	-4.8	2.84 V	188	51.7	-2.5
5	2484.00	67.8 PK	74.0	-6.2	2.84 V	188	70.3	-2.5
6	2484.00	50.1 AV	54.0	-3.9	2.84 V	188	52.6	-2.5
7	4904.00	51.9 PK	74.0	-22.1	2.32 V	252	49.7	2.2
8	4904.00	38.3 AV	54.0	-15.7	2.32 V	252	36.1	2.2
9	7356.00	57.4 PK	74.0	-16.6	1.56 V	238	49.1	8.3
10	7356.00	42.1 AV	54.0	-11.9	1.56 V	238	33.8	8.3

**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.

<b>CHANNEL</b>	TX Channel 10	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	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	*2457.00	114.9 PK			2.52 H	96	117.4	-2.5
2	*2457.00	103.9 AV			2.52 H	96	106.4	-2.5
3	2483.50	65.9 PK	74.0	-8.1	2.52 H	96	68.4	-2.5
4	2483.50	52.3 AV	54.0	-1.7	2.52 H	96	54.8	-2.5
5	2484.00	70.3 PK	74.0	-3.7	2.52 H	96	72.8	-2.5
6	2484.00	53.8 AV	54.0	-0.2	2.52 H	96	56.3	-2.5
7	4914.00	48.8 PK	74.0	-25.2	1.49 H	350	46.6	2.2
8	4914.00	33.3 AV	54.0	-20.7	1.49 H	350	31.1	2.2
9	7371.00	53.6 PK	74.0	-20.4	1.98 H	265	45.4	8.2
10	7371.00	38.6 AV	54.0	-15.4	1.98 H	265	30.4	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	*2457.00	109.5 PK			2.85 V	197	112.0	-2.5
2	*2457.00	100.1 AV			2.85 V	197	102.6	-2.5
3	2483.50	63.2 PK	74.0	-10.8	2.85 V	197	65.7	-2.5
4	2483.50	49.3 AV	54.0	-4.7	2.85 V	197	51.8	-2.5
5	2484.00	66.3 PK	74.0	-7.7	2.85 V	197	68.8	-2.5
6	2484.00	49.9 AV	54.0	-4.1	2.85 V	197	52.4	-2.5
7	4914.00	50.0 PK	74.0	-24.0	2.28 V	237	47.8	2.2
8	4914.00	36.7 AV	54.0	-17.3	2.28 V	237	34.5	2.2
9	7371.00	56.3 PK	74.0	-17.7	1.50 V	221	48.1	8.2
10	7371.00	39.7 AV	54.0	-14.3	1.50 V	221	31.5	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.

<b>CHANNEL</b>	TX Channel 11	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	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	*2462.00	113.0 PK			2.41 H	55	115.5	-2.5
2	*2462.00	102.7 AV			2.41 H	55	105.2	-2.5
3	2483.50	62.7 PK	74.0	-11.3	2.41 H	55	65.2	-2.5
4	2483.50	52.1 AV	54.0	-1.9	2.41 H	55	54.6	-2.5
5	2486.00	72.4 PK	74.0	-1.6	2.41 H	55	74.8	-2.4
6	2486.00	53.8 AV	54.0	-0.2	2.41 H	55	56.2	-2.4
7	4924.00	47.9 PK	74.0	-26.1	1.52 H	318	45.7	2.2
8	4924.00	32.8 AV	54.0	-21.2	1.52 H	318	30.6	2.2
9	7386.00	52.9 PK	74.0	-21.1	1.99 H	301	44.6	8.3
10	7386.00	35.7 AV	54.0	-18.3	1.99 H	301	27.4	8.3

**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	*2462.00	109.6 PK			2.87 V	183	112.1	-2.5
2	*2462.00	99.7 AV			2.87 V	183	102.2	-2.5
3	2483.50	71.3 PK	74.0	-2.7	2.87 V	183	73.8	-2.5
4	2483.50	52.2 AV	54.0	-1.8	2.87 V	183	54.7	-2.5
5	2486.00	65.3 PK	74.0	-8.7	2.87 V	183	67.7	-2.4
6	2486.00	50.3 AV	54.0	-3.7	2.87 V	183	52.7	-2.4
7	4924.00	49.4 PK	74.0	-24.6	2.31 V	253	47.2	2.2
8	4924.00	36.6 AV	54.0	-17.4	2.31 V	253	34.4	2.2
9	7386.00	56.0 PK	74.0	-18.0	1.60 V	222	47.7	8.3
10	7386.00	39.6 AV	54.0	-14.4	1.60 V	222	31.3	8.3

**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.

**802.11n (HT40)**

<b>CHANNEL</b>	TX Channel 3	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	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	71.9 PK	74.0	-2.1	2.91 H	91	74.1	-2.2
2	2390.00	53.8 AV	54.0	-0.2	2.91 H	91	56.0	-2.2
3	*2422.00	107.2 PK			3.08 H	51	109.7	-2.5
4	*2422.00	97.0 AV			3.08 H	51	99.5	-2.5
5	4844.00	46.6 PK	74.0	-27.4	1.52 H	348	44.5	2.1
6	4844.00	33.7 AV	54.0	-20.3	1.52 H	348	31.6	2.1
7	7266.00	48.7 PK	74.0	-25.3	2.05 H	308	40.4	8.3
8	7266.00	37.4 AV	54.0	-16.6	2.05 H	308	29.1	8.3

**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	63.2 PK	74.0	-10.8	3.43 V	175	65.4	-2.2
2	2390.00	52.2 AV	54.0	-1.8	3.43 V	175	54.4	-2.2
3	*2422.00	101.8 PK			3.43 V	175	104.3	-2.5
4	*2422.00	91.6 AV			3.43 V	175	94.1	-2.5
5	4844.00	49.5 PK	74.0	-24.5	2.25 V	253	47.4	2.1
6	4844.00	35.8 AV	54.0	-18.2	2.25 V	253	33.7	2.1
7	7266.00	49.6 PK	74.0	-24.4	1.59 V	223	41.3	8.3
8	7266.00	38.2 AV	54.0	-15.8	1.59 V	223	29.9	8.3

**REMARKS:**

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

<b>CHANNEL</b>	TX Channel 4	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	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	67.5 PK	74.0	-6.5	2.92 H	95	69.7	-2.2
2	<b>2390.00</b>	<b>53.9 AV</b>	<b>54.0</b>	<b>-0.1</b>	<b>2.92 H</b>	<b>95</b>	<b>56.1</b>	<b>-2.2</b>
3	*2427.00	108.6 PK			2.92 H	95	111.1	-2.5
4	*2427.00	97.2 AV			2.92 H	95	99.7	-2.5
5	4854.00	47.3 PK	74.0	-26.7	1.58 H	336	45.2	2.1
6	4854.00	33.9 AV	54.0	-20.1	1.58 H	336	31.8	2.1
7	7281.00	49.2 PK	74.0	-24.8	2.02 H	304	40.8	8.4
8	7281.00	37.5 AV	54.0	-16.5	2.02 H	304	29.1	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	62.7 PK	74.0	-11.3	3.39 V	164	64.9	-2.2
2	2390.00	51.5 AV	54.0	-2.5	3.39 V	164	53.7	-2.2
3	*2427.00	102.5 PK			3.39 V	164	105.0	-2.5
4	*2427.00	92.1 AV			3.39 V	164	94.6	-2.5
5	4854.00	49.6 PK	74.0	-24.4	2.29 V	250	47.5	2.1
6	4854.00	36.2 AV	54.0	-17.8	2.29 V	250	34.1	2.1
7	7281.00	50.1 PK	74.0	-23.9	1.59 V	223	41.7	8.4
8	7281.00	38.5 AV	54.0	-15.5	1.59 V	223	30.1	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.



<b>CHANNEL</b>	TX Channel 5	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	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	68.6 PK	74.0	-5.4	2.89 H	98	70.8	-2.2
2	2390.00	53.8 AV	54.0	-0.2	2.89 H	98	56.0	-2.2
3	*2432.00	109.1 PK			2.89 H	98	111.6	-2.5
4	*2432.00	98.0 AV			2.89 H	98	100.5	-2.5
5	2483.50	55.8 PK	74.0	-18.2	2.89 H	98	58.3	-2.5
6	2483.50	43.6 AV	54.0	-10.4	2.89 H	98	46.1	-2.5
7	4864.00	47.1 PK	74.0	-26.9	1.60 H	349	45.0	2.1
8	4864.00	33.9 AV	54.0	-20.1	1.60 H	349	31.8	2.1
9	7296.00	49.8 PK	74.0	-24.2	2.06 H	319	41.5	8.3
10	7296.00	37.1 AV	54.0	-16.9	2.06 H	319	28.8	8.3

**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	62.4 PK	74.0	-11.6	3.38 V	163	64.6	-2.2
2	2390.00	51.1 AV	54.0	-2.9	3.38 V	163	53.3	-2.2
3	*2432.00	103.5 PK			3.38 V	163	106.0	-2.5
4	*2432.00	93.1 AV			3.38 V	163	95.6	-2.5
5	2483.50	54.6 PK	74.0	-19.4	3.38 V	163	57.1	-2.5
6	2483.50	42.7 AV	54.0	-11.3	3.38 V	163	45.2	-2.5
7	4864.00	49.8 PK	74.0	-24.2	2.35 V	266	47.7	2.1
8	4864.00	36.5 AV	54.0	-17.5	2.35 V	266	34.4	2.1
9	7296.00	50.5 PK	74.0	-23.5	1.57 V	223	42.2	8.3
10	7296.00	38.9 AV	54.0	-15.1	1.57 V	223	30.6	8.3

**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.

<b>CHANNEL</b>	TX Channel 6	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	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	67.5 PK	74.0	-6.5	2.90 H	91	69.7	-2.2
2	<b>2390.00</b>	<b>53.9 AV</b>	<b>54.0</b>	<b>-0.1</b>	<b>2.90 H</b>	<b>91</b>	<b>56.1</b>	<b>-2.2</b>
3	*2437.00	110.9 PK			2.90 H	91	113.5	-2.6
4	*2437.00	100.1 AV			2.90 H	91	102.7	-2.6
5	2483.50	64.3 PK	74.0	-9.7	2.90 H	91	66.8	-2.5
6	2483.50	48.1 AV	54.0	-5.9	2.90 H	91	50.6	-2.5
7	4874.00	47.8 PK	74.0	-26.2	1.55 H	338	45.7	2.1
8	4874.00	34.6 AV	54.0	-19.4	1.55 H	338	32.5	2.1
9	7311.00	50.2 PK	74.0	-23.8	2.02 H	306	42.0	8.2
10	7311.00	37.9 AV	54.0	-16.1	2.02 H	306	29.7	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	62.5 PK	74.0	-11.5	3.47 V	181	64.7	-2.2
2	2390.00	51.8 AV	54.0	-2.2	3.47 V	181	54.0	-2.2
3	*2437.00	105.7 PK			3.47 V	181	108.3	-2.6
4	*2437.00	95.6 AV			3.47 V	181	98.2	-2.6
5	2483.50	59.5 PK	74.0	-14.5	3.47 V	181	62.0	-2.5
6	2483.50	46.5 AV	54.0	-7.5	3.47 V	181	49.0	-2.5
7	4874.00	50.9 PK	74.0	-23.1	2.34 V	264	48.8	2.1
8	4874.00	37.5 AV	54.0	-16.5	2.34 V	264	35.4	2.1
9	7311.00	51.7 PK	74.0	-22.3	1.56 V	235	43.5	8.2
10	7311.00	39.9 AV	54.0	-14.1	1.56 V	235	31.7	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.

<b>CHANNEL</b>	TX Channel 9	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	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	109.5 PK			2.79 H	94	112.1	-2.6
2	*2452.00	99.4 AV			2.79 H	94	102.0	-2.6
3	2483.50	70.8 PK	74.0	-3.2	2.79 H	94	73.3	-2.5
4	2483.50	53.6 AV	54.0	-0.4	2.79 H	94	56.1	-2.5
5	4904.00	47.6 PK	74.0	-26.4	1.54 H	332	45.4	2.2
6	4904.00	34.2 AV	54.0	-19.8	1.54 H	332	32.0	2.2
7	7356.00	50.1 PK	74.0	-23.9	2.01 H	307	41.8	8.3
8	7356.00	37.6 AV	54.0	-16.4	2.01 H	307	29.3	8.3

**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	*2452.00	104.6 PK			3.42 V	177	107.2	-2.6
2	*2452.00	94.3 AV			3.42 V	177	96.9	-2.6
3	2483.50	62.5 PK	74.0	-11.5	3.42 V	177	65.0	-2.5
4	2483.50	51.2 AV	54.0	-2.8	3.42 V	177	53.7	-2.5
5	4904.00	50.6 PK	74.0	-23.4	2.30 V	254	48.4	2.2
6	4904.00	37.1 AV	54.0	-16.9	2.30 V	254	34.9	2.2
7	7356.00	51.2 PK	74.0	-22.8	1.63 V	227	42.9	8.3
8	7356.00	39.4 AV	54.0	-14.6	1.63 V	227	31.1	8.3

**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.

**Below 1GHz Data:**

**802.11b**

<b>CHANNEL</b>	TX Channel 6	<b>DETECTOR FUNCTION</b>	Quasi-Peak (QP)
<b>FREQUENCY RANGE</b>	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	125.06	37.8 QP	43.5	-5.7	3.00 H	264	47.1	-9.3
2	249.22	38.1 QP	46.0	-7.9	3.00 H	255	47.1	-9.0
3	375.32	35.4 QP	46.0	-10.6	2.50 H	127	40.4	-5.0
4	625.58	39.3 QP	46.0	-6.7	1.50 H	269	38.4	0.9
5	749.74	39.7 QP	46.0	-6.3	1.50 H	134	36.4	3.3
6	875.84	39.3 QP	46.0	-6.7	1.00 H	89	34.8	4.5

**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	73.08	35.3 QP	40.0	-4.7	1.00 V	258	46.1	-10.8
2	125.00	39.8 QP	43.5	-3.7	1.00 V	360	49.1	-9.3
3	250.19	36.5 QP	46.0	-9.5	1.00 V	264	45.4	-8.9
4	399.57	33.4 QP	46.0	-12.6	1.00 V	302	37.9	-4.5
5	624.61	36.2 QP	46.0	-9.8	1.50 V	318	35.3	0.9
6	749.74	35.5 QP	46.0	-10.5	1.00 V	266	32.2	3.3

**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

## 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: May 26 to 29, 2018

#### 4.2.3 Test Procedures

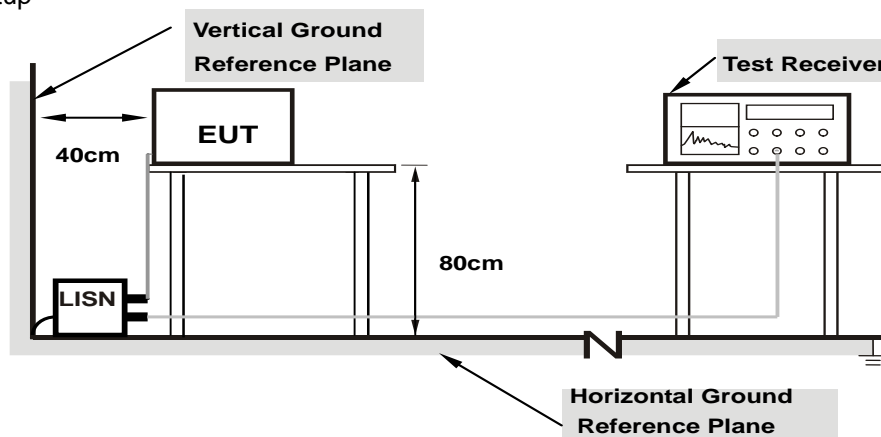
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.
- Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- The frequency range from 150kHz to 30MHz was searched. Emission 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.

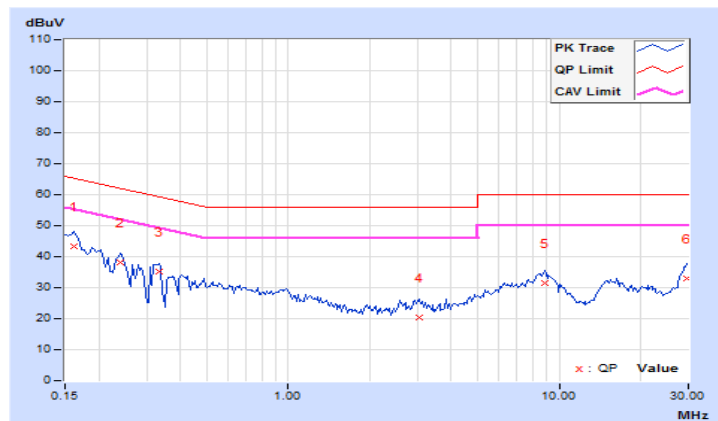
#### 4.2.7 Test Results (Mode 1)

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

No	Freq. [MHz]	Corr.	Reading Value		Emission Level		Limit		Margin	
		Factor (dB)	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16172	10.05	33.24	19.78	43.29	29.83	65.38	55.38	-22.09	-25.55
2	0.23984	10.08	28.08	22.71	38.16	32.79	62.10	52.10	-23.94	-19.31
3	0.33359	10.10	25.13	17.90	35.23	28.00	59.36	49.36	-24.13	-21.36
4	3.03906	10.28	10.24	-0.14	20.52	10.14	56.00	46.00	-35.48	-35.86
5	8.87500	10.64	20.77	15.75	31.41	26.39	60.00	50.00	-28.59	-23.61
6	29.68359	11.60	21.50	14.72	33.10	26.32	60.00	50.00	-26.90	-23.68

#### 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.

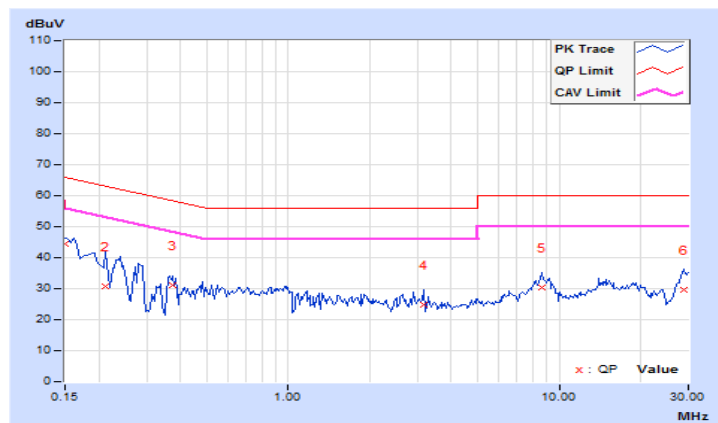


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
-------	-------------	-------------------	--------------------------------

No	Freq. [MHz]	Corr.	Reading Value		Emission Level		Limit		Margin	
		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	
1	0.15000	9.95	34.42	20.79	44.37	30.74	66.00	56.00	-21.63	-25.26
2	0.21250	9.97	20.83	7.79	30.80	17.76	63.11	53.11	-32.31	-35.35
3	0.37656	10.01	21.25	14.14	31.26	24.15	58.35	48.35	-27.09	-24.20
4	3.16016	10.15	14.54	5.39	24.69	15.54	56.00	46.00	-31.31	-30.46
5	8.64844	10.46	20.03	14.77	30.49	25.23	60.00	50.00	-29.51	-24.77
6	28.82813	11.30	18.36	11.68	29.66	22.98	60.00	50.00	-30.34	-27.02

#### 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.





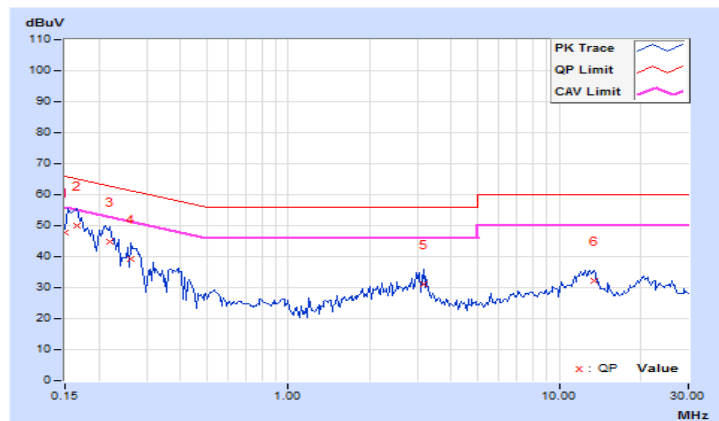
#### 4.2.8 Test Results (Mode 2)

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

No	Freq. [MHz]	Corr.	Reading Value		Emission Level		Limit		Margin	
		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	
1	0.15000	10.05	37.77	16.80	47.82	26.85	66.00	56.00	-18.18	-29.15
2	0.16562	10.05	40.07	25.55	50.12	35.60	65.18	55.18	-15.06	-19.58
3	0.22031	10.08	34.75	21.65	44.83	31.73	62.81	52.81	-17.98	-21.08
4	0.26328	10.09	29.21	14.05	39.30	24.14	61.33	51.33	-22.03	-27.19
5	3.14844	10.29	20.78	11.74	31.07	22.03	56.00	46.00	-24.93	-23.97
6	13.54688	10.96	21.38	16.09	32.34	27.05	60.00	50.00	-27.66	-22.95

#### 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.

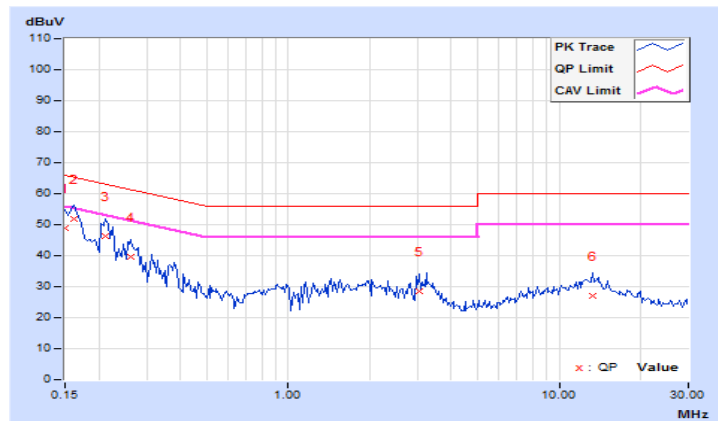


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
-------	-------------	-------------------	--------------------------------

No	Freq. [MHz]	Corr.	Reading Value		Emission Level		Limit		Margin	
		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	
1	0.15000	9.95	38.99	19.04	48.94	28.99	66.00	56.00	-17.06	-27.01
<b>2</b>	<b>0.16172</b>	<b>9.96</b>	<b>41.84</b>	<b>28.75</b>	<b>51.80</b>	<b>38.71</b>	<b>65.38</b>	<b>55.38</b>	<b>-13.58</b>	<b>-16.67</b>
3	0.21250	9.97	36.35	23.55	46.32	33.52	63.11	53.11	-16.79	-19.59
4	0.26328	9.99	29.64	15.64	39.63	25.63	61.33	51.33	-21.70	-25.70
5	3.03516	10.15	18.23	9.17	28.38	19.32	56.00	46.00	-27.62	-26.68
6	13.24219	10.75	16.44	10.92	27.19	21.67	60.00	50.00	-32.81	-28.33

#### 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.

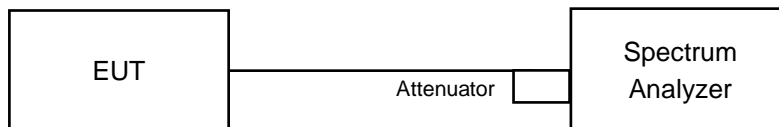


### 4.3 6dB Bandwidth Measurement

#### 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)  $\geq 3 \times$  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
		Chain 0	Chain 1	Chain 2		
1	2412	8.13	8.13	8.13	0.5	Pass
6	2437	8.61	8.11	8.59	0.5	Pass
11	2462	8.13	8.11	8.56	0.5	Pass

##### 802.11g

Channel	Frequency (MHz)	6dB Bandwidth (MHz)			Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2		
1	2412	16.50	16.49	16.47	0.5	Pass
2	2417	16.48	16.48	16.47	0.5	Pass
3	2422	16.45	16.47	16.47	0.5	Pass
4	2427	16.47	16.46	16.47	0.5	Pass
6	2437	16.46	16.44	16.47	0.5	Pass
9	2452	16.46	16.45	16.48	0.5	Pass
10	2457	16.47	16.49	16.47	0.5	Pass
11	2462	16.46	16.47	16.49	0.5	Pass

##### 802.11n (HT20)

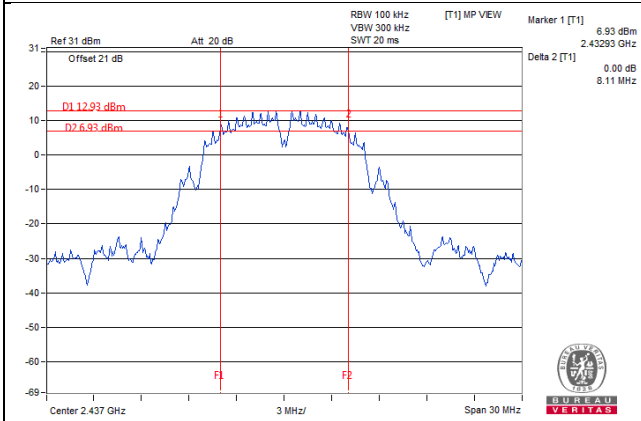
Channel	Frequency (MHz)	6dB Bandwidth (MHz)			Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2		
1	2412	17.66	17.70	17.68	0.5	Pass
2	2417	17.68	17.67	17.67	0.5	Pass
3	2422	17.68	17.72	17.69	0.5	Pass
4	2427	17.64	17.67	17.68	0.5	Pass
6	2437	17.65	17.67	17.64	0.5	Pass
9	2452	17.64	17.67	17.65	0.5	Pass
10	2457	17.64	17.69	17.67	0.5	Pass
11	2462	17.68	17.71	17.69	0.5	Pass

**802.11n (HT40)**

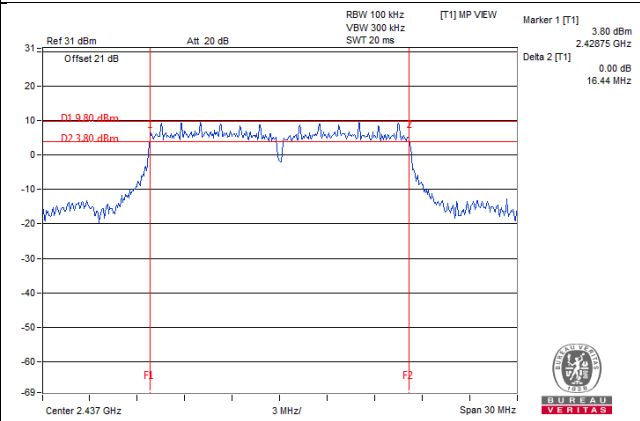
Channel	Frequency (MHz)	6dB Bandwidth (MHz)			Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2		
3	2422	35.86	36.52	36.38	0.5	Pass
4	2427	36.16	36.42	35.95	0.5	Pass
5	2432	36.56	36.50	35.91	0.5	Pass
6	2437	35.96	36.44	36.02	0.5	Pass
9	2452	36.48	36.47	36.16	0.5	Pass

### Spectrum Plot of Worst Value

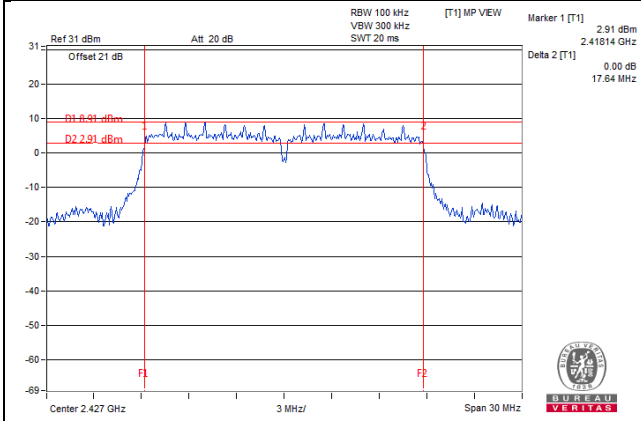
#### 802.11b / Chain 1 : CH6



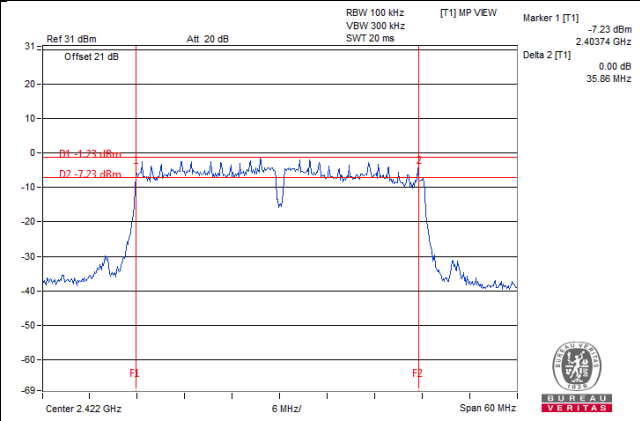
#### 802.11g / Chain 1 : CH6



#### 802.11n (HT20) / Chain 0 : CH4



#### 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,

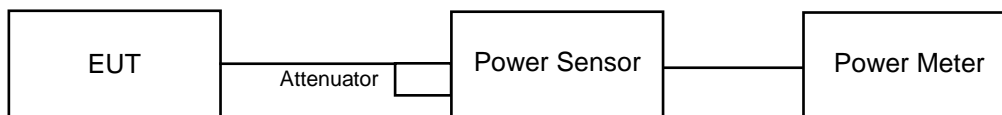
Array Gain = 0 dB (i.e., no array gain) for  $N_{ANT} \leq 4$ ;

Array Gain = 0 dB (i.e., no array gain) for channel widths  $\geq 40$  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

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

##### 802.11b

Chan.	Chan. Freq. (MHz)	Average Power (dBm)			Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
1	2412	21.63	21.01	20.86	393.628	25.95	30.00	Pass
6	2437	23.16	22.11	22.13	532.874	27.27	30.00	Pass
11	2462	22.32	21.43	21.42	448.279	26.52	30.00	Pass

##### 802.11g

Chan.	Chan. Freq. (MHz)	Average Power (dBm)			Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
1	2412	15.26	15.01	14.49	93.389	19.70	30.00	Pass
2	2417	17.23	17.40	17.27	161.132	22.07	30.00	Pass
3	2422	18.87	18.89	18.64	227.65	23.57	30.00	Pass
4	2427	20.92	20.17	20.08	329.446	25.18	30.00	Pass
6	2437	22.73	21.64	21.70	481.291	26.82	30.00	Pass
9	2452	19.82	19.39	19.53	272.579	24.35	30.00	Pass
10	2457	17.71	17.99	17.66	180.316	22.56	30.00	Pass
11	2462	17.33	17.51	17.27	163.772	22.14	30.00	Pass

##### 802.11n (HT20)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)			Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
1	2412	14.91	15.09	14.86	93.879	19.73	30.00	Pass
2	2417	17.22	17.49	17.26	162.039	22.10	30.00	Pass
3	2422	18.76	18.60	18.58	219.717	23.42	30.00	Pass
4	2427	20.96	20.23	20.08	332.036	25.21	30.00	Pass
6	2437	22.77	21.68	21.90	491.347	26.91	30.00	Pass
9	2452	19.93	19.51	19.50	276.857	24.42	30.00	Pass
10	2457	17.94	17.98	17.89	186.554	22.71	30.00	Pass
11	2462	17.22	17.56	17.25	162.827	22.12	30.00	Pass



**802.11n (HT40)**

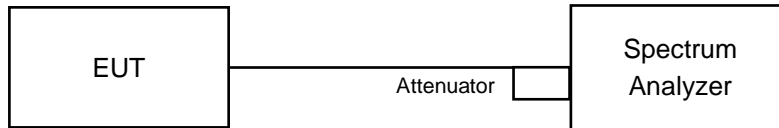
Chan.	Chan. Freq. (MHz)	Average Power (dBm)			Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
3	2422	13.06	12.29	12.31	54.195	17.34	30.00	Pass
4	2427	13.25	12.40	12.86	57.833	17.62	30.00	Pass
5	2432	13.88	13.14	13.13	65.599	18.17	30.00	Pass
6	2437	15.73	15.81	15.30	109.402	20.39	30.00	Pass
9	2452	15.11	15.09	14.71	94.299	19.75	30.00	Pass

## 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

#### 802.11b, 802.11g, 802.11n (HT20)

- Set instrument center frequency to DTS channel center frequency.
- Set span to at least 1.5 times the OBW.
- Set RBW to:  $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$ .
- Set VBW  $\geq 3 \times \text{RBW}$ .
- Detector = power averaging (RMS) or sample detector (when RMS not available).
- Ensure that the number of measurement points in the sweep  $\geq 2 \times \text{span}/\text{RBW}$ .
- Sweep time = auto couple.
- Employ trace averaging (RMS) mode over a minimum of 100 traces.
- Use the peak marker function to determine the maximum amplitude level.

#### 802.11n (HT40)

- Measure the duty cycle (x).
- Set instrument center frequency to DTS channel center frequency.
- Set span to at least 1.5 times the OBW.
- Set RBW to:  $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$ .
- Set VBW  $\geq 3 \times \text{RBW}$ .
- Detector = power averaging (RMS) or sample detector (when RMS not available).
- Ensure that the number of measurement points in the sweep  $\geq 2 \times \text{span}/\text{RBW}$ .
- Sweep time = auto couple.
- Do not use sweep triggering. Allow sweep to "free run".
- Employ trace averaging (RMS) mode over a minimum of 100 traces.
- Use the peak marker function to determine the maximum amplitude level.
- Add  $10 \log (1/x)$ , where x is the duty cycle measured in step (a), to the measured PSD to compute the average PSD during the actual transmission time.

### 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

TX chain	Channel	Freq. (MHz)	PSD (dBm/3kHz)	10 log (N=3) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	Pass /Fail
0	1	2412	-5.10	4.77	-0.33	5.46	Pass
	6	2437	-6.06	4.77	-1.29	5.46	Pass
	11	2462	-6.13	4.77	-1.36	5.46	Pass
1	1	2412	-10.45	4.77	-5.68	5.46	Pass
	6	2437	-8.76	4.77	-3.99	5.46	Pass
	11	2462	-9.57	4.77	-4.80	5.46	Pass
2	1	2412	-9.58	4.77	-4.81	5.46	Pass
	6	2437	-8.51	4.77	-3.74	5.46	Pass
	11	2462	-10.51	4.77	-5.74	5.46	Pass

- Note:** 1. Directional gain =  $10 \log[(10^{G0/20} + 10^{G1/20} + 10^{G2/20})^2 / 3] = 8.54\text{dBi} > 6\text{dBi}$ , so the power limit shall be reduced to  $8-(8.54-6) = 5.46\text{dBm}$ .
2. Refer to section 3.3 for duty cycle spectrum plot.

**802.11g**

TX chain	Channel	Freq. (MHz)	PSD (dBm/3kHz)	10 log (N=3) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	Pass /Fail
0	1	2412	-17.92	4.77	-13.15	5.46	Pass
	2	2417	-16.95	4.77	-12.18	5.46	Pass
	3	2422	-14.47	4.77	-9.70	5.46	Pass
	4	2427	-11.84	4.77	-7.07	5.46	Pass
	6	2437	-11.02	4.77	-6.25	5.46	Pass
	9	2452	-13.26	4.77	-8.49	5.46	Pass
	10	2457	-14.39	4.77	-9.62	5.46	Pass
	11	2462	-16.21	4.77	-11.44	5.46	Pass
1	1	2412	-17.37	4.77	-12.60	5.46	Pass
	2	2417	-15.37	4.77	-10.60	5.46	Pass
	3	2422	-14.98	4.77	-10.21	5.46	Pass
	4	2427	-13.07	4.77	-8.30	5.46	Pass
	6	2437	-12.17	4.77	-7.40	5.46	Pass
	9	2452	-13.57	4.77	-8.80	5.46	Pass
	10	2457	-15.49	4.77	-10.72	5.46	Pass
	11	2462	-15.91	4.77	-11.14	5.46	Pass
2	1	2412	-18.92	4.77	-14.15	5.46	Pass
	2	2417	-16.22	4.77	-11.45	5.46	Pass
	3	2422	-14.34	4.77	-9.57	5.46	Pass
	4	2427	-13.72	4.77	-8.95	5.46	Pass
	6	2437	-11.89	4.77	-7.12	5.46	Pass
	9	2452	-14.07	4.77	-9.30	5.46	Pass
	10	2457	-16.32	4.77	-11.55	5.46	Pass
	11	2462	-16.82	4.77	-12.05	5.46	Pass

**Note:** 1. Directional gain =  $10 \log[(10^{G0/20} + 10^{G1/20} + 10^{G2/20})^2 / 3]$  = 8.54dBi > 6dBi , so the power limit shall be reduced to  $8 - (8.54 - 6) = 5.46$ dBm.

2. Refer to section 3.3 for duty cycle spectrum plot.

**802.11n (HT20)**

TX chain	Channel	Freq. (MHz)	PSD (dBm/3kHz)	10 log (N=3) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	Pass /Fail
0	1	2412	-18.32	4.77	-13.55	5.46	Pass
	2	2417	-16.45	4.77	-11.68	5.46	Pass
	3	2422	-14.58	4.77	-9.81	5.46	Pass
	4	2427	-12.30	4.77	-7.53	5.46	Pass
	6	2437	-11.11	4.77	-6.34	5.46	Pass
	9	2452	-13.49	4.77	-8.72	5.46	Pass
	10	2457	-15.46	4.77	-10.69	5.46	Pass
	11	2462	-16.20	4.77	-11.43	5.46	Pass
1	1	2412	-18.73	4.77	-13.96	5.46	Pass
	2	2417	-16.14	4.77	-11.37	5.46	Pass
	3	2422	-14.10	4.77	-9.33	5.46	Pass
	4	2427	-13.97	4.77	-9.20	5.46	Pass
	6	2437	-11.68	4.77	-6.91	5.46	Pass
	9	2452	-14.16	4.77	-9.39	5.46	Pass
	10	2457	-16.10	4.77	-11.33	5.46	Pass
	11	2462	-16.23	4.77	-11.46	5.46	Pass
2	1	2412	-18.68	4.77	-13.91	5.46	Pass
	2	2417	-15.93	4.77	-11.16	5.46	Pass
	3	2422	-15.32	4.77	-10.55	5.46	Pass
	4	2427	-12.92	4.77	-8.15	5.46	Pass
	6	2437	-12.12	4.77	-7.35	5.46	Pass
	9	2452	-14.70	4.77	-9.93	5.46	Pass
	10	2457	-16.31	4.77	-11.54	5.46	Pass
	11	2462	-16.34	4.77	-11.57	5.46	Pass

**Note:** 1. Directional gain =  $10 \log[(10^{G0/20} + 10^{G1/20} + 10^{G2/20})^2 / 3]$  = 8.54dBi > 6dBi , so the power limit shall be reduced to  $8 - (8.54 - 6) = 5.46$ dBm.

2. Refer to section 3.3 for duty cycle spectrum plot.

**802.11n (HT40)**

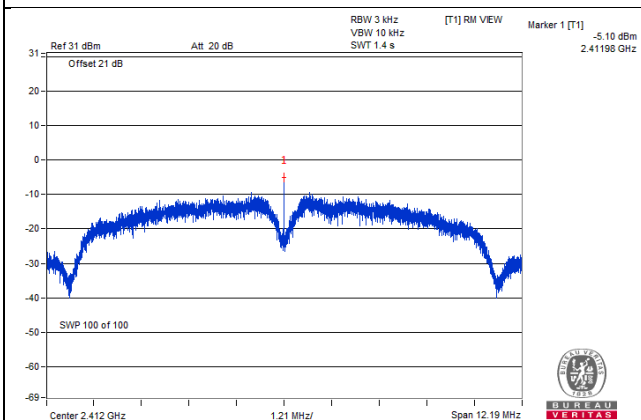
TX chain	Channel	Freq. (MHz)	PSD W/O Duty Factor (dBm/3kHz)	10 log (N=3) dB	Duty Factor (dB)	TOTAL PSD With Duty Factor (dBm/3kHz)	Limit (dBm/3kHz)	Pass /Fail
0	3	2422	-22.88	4.77	0.1	-18.01	5.46	Pass
	4	2427	-21.97	4.77	0.1	-17.10	5.46	Pass
	5	2432	-22.14	4.77	0.1	-17.27	5.46	Pass
	6	2437	-19.48	4.77	0.1	-14.61	5.46	Pass
	9	2452	-20.91	4.77	0.1	-16.04	5.46	Pass
1	3	2422	-23.81	4.77	0.1	-18.94	5.46	Pass
	4	2427	-23.85	4.77	0.1	-18.98	5.46	Pass
	5	2432	-22.87	4.77	0.1	-18.00	5.46	Pass
	6	2437	-20.22	4.77	0.1	-15.35	5.46	Pass
	9	2452	-20.01	4.77	0.1	-15.14	5.46	Pass
2	3	2422	-23.60	4.77	0.1	-18.73	5.46	Pass
	4	2427	-23.78	4.77	0.1	-18.91	5.46	Pass
	5	2432	-23.43	4.77	0.1	-18.56	5.46	Pass
	6	2437	-20.55	4.77	0.1	-15.68	5.46	Pass
	9	2452	-20.81	4.77	0.1	-15.94	5.46	Pass

**Note:** 1. Directional gain =  $10 \log[(10^{G0/20} + 10^{G1/20} + 10^{G2/20})^2 / 3]$  = 8.54dBi > 6dBi , so the power limit shall be reduced to  $8-(8.54-6) = 5.46$ dBm.

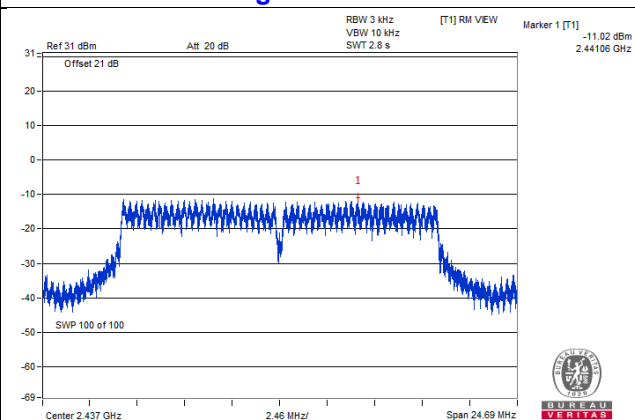
2. Refer to section 3.3 for duty cycle spectrum plot.

### Spectrum Plot of Worst Value

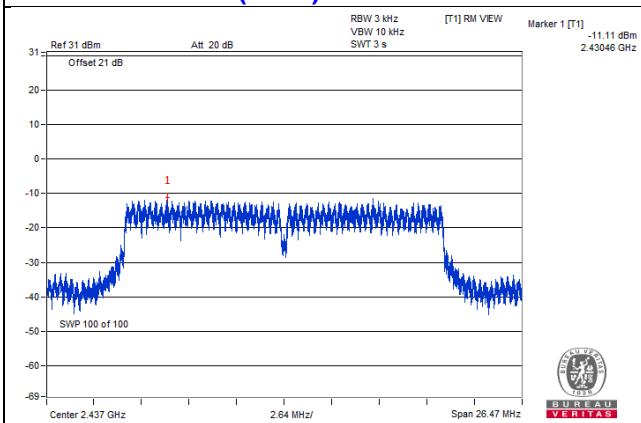
**802.11b / Chain 0 : CH1**



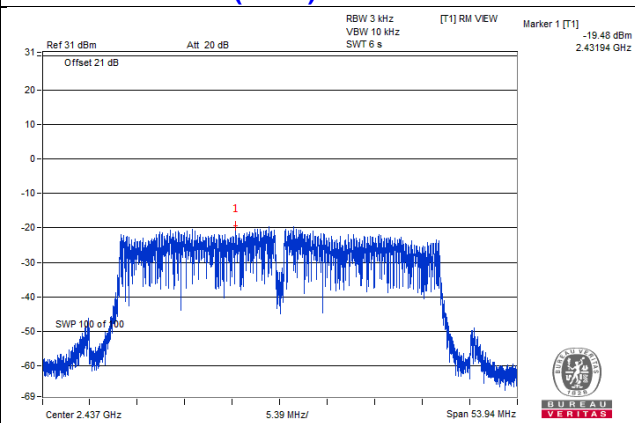
**802.11g / Chain 0 : CH6**



**802.11n (HT20) / Chain 0 : CH6**



**802.11n (HT40) / Chain 0 : CH6**

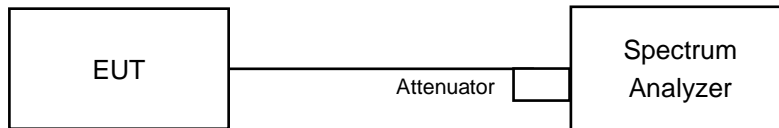


## 4.6 Conducted Out of Band Emission Measurement

### 4.6.1 Limits of Conducted Out of Band Emission Measurement

Below -30dB 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  $\geq$  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 OOB

1. Set RBW = 100 kHz.
2. Set VBW  $\geq$  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

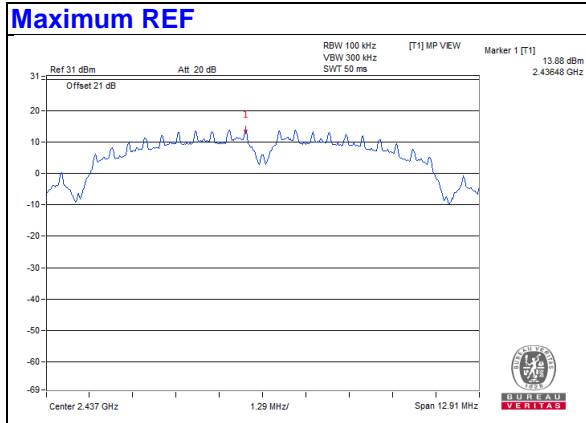
Same as Item 4.3.6

### 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 30dB offset below D1. It shows compliance with the requirement.

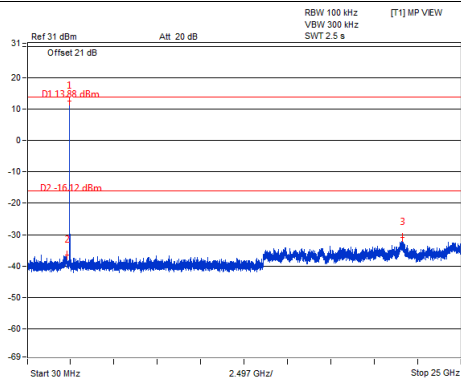


# 802.11b

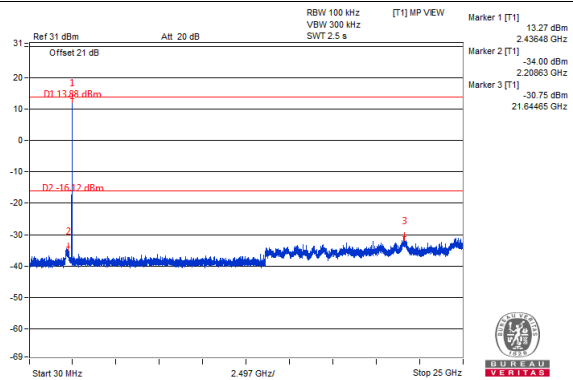


## Chain 0

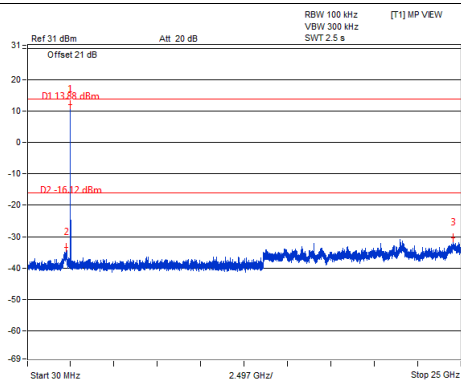
### CH 1



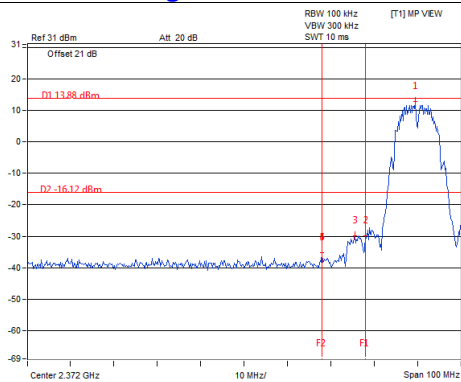
### CH 6



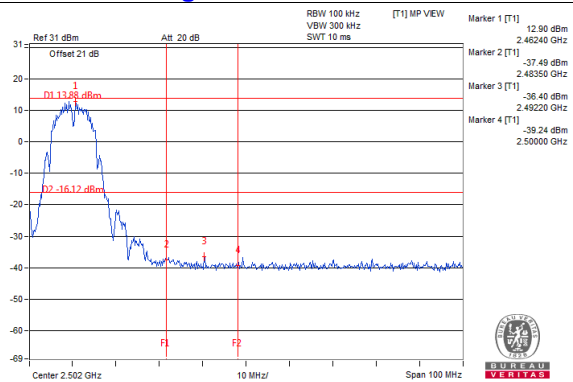
### CH 11



### CH 1 Band edge

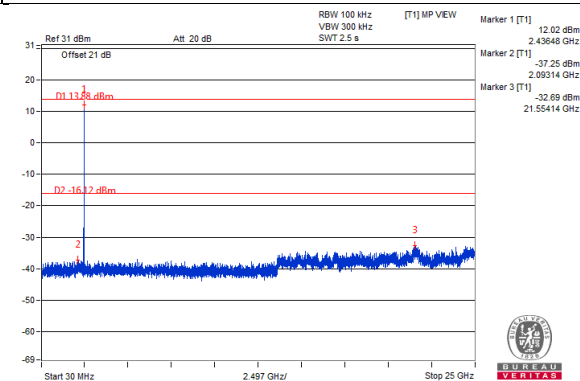
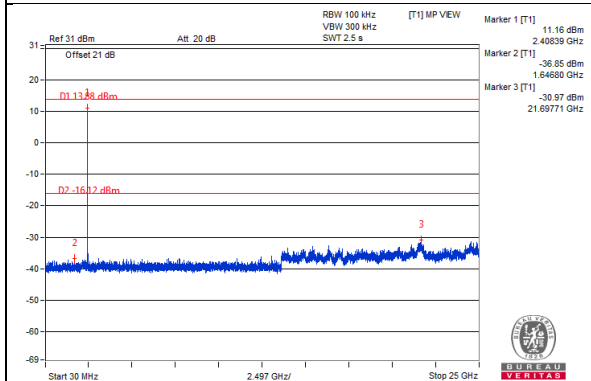


### CH 11 Band edge

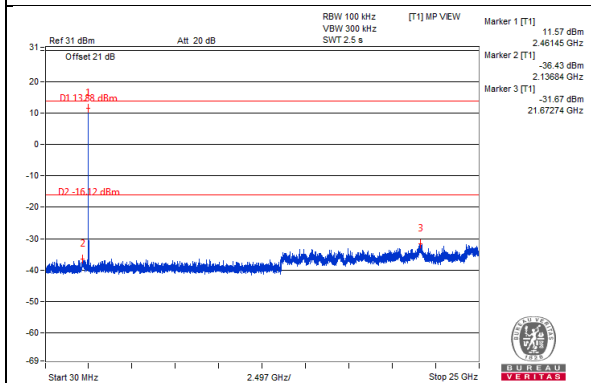


### Chain 1

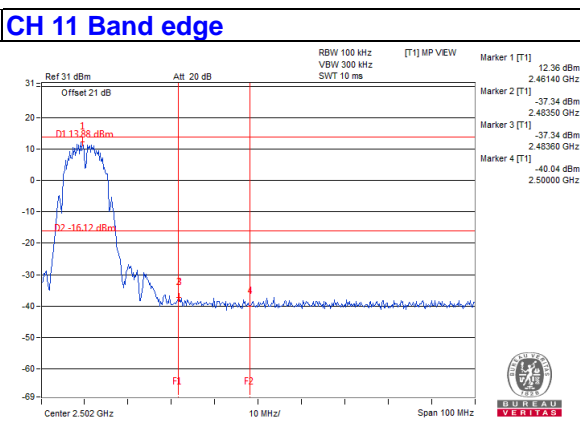
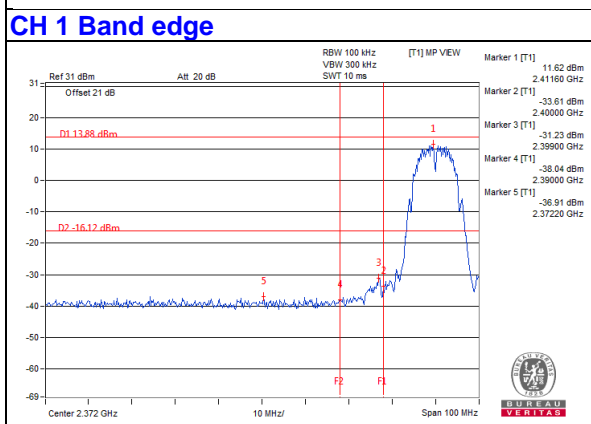
#### CH 1 CH 6



#### CH 11

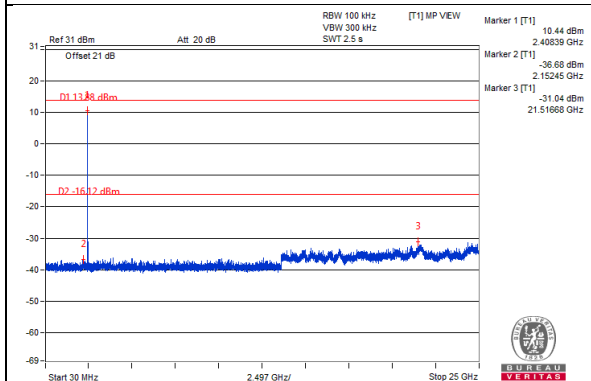


#### CH 11 Band edge

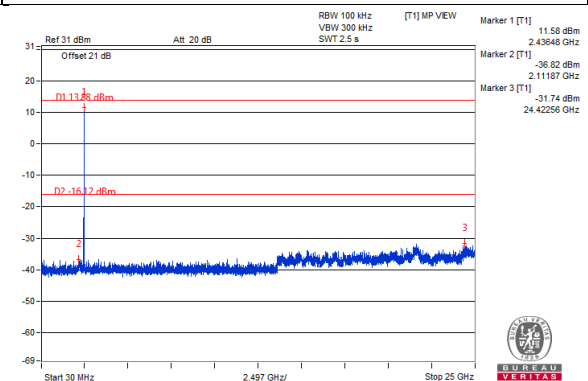


Chain 2

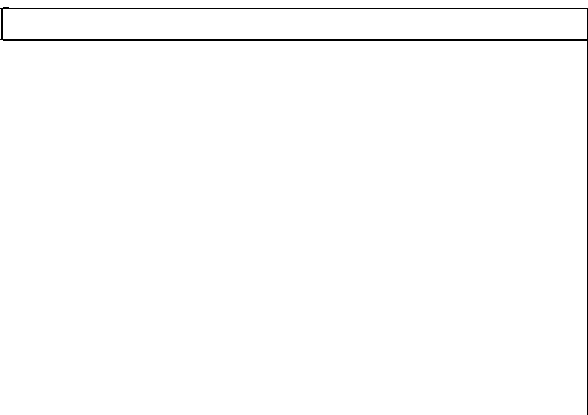
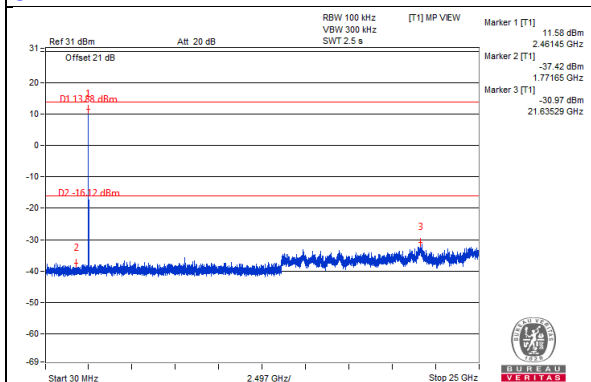
CH 1



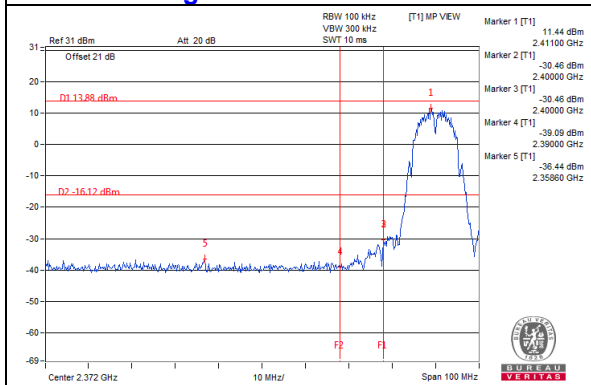
CH 6



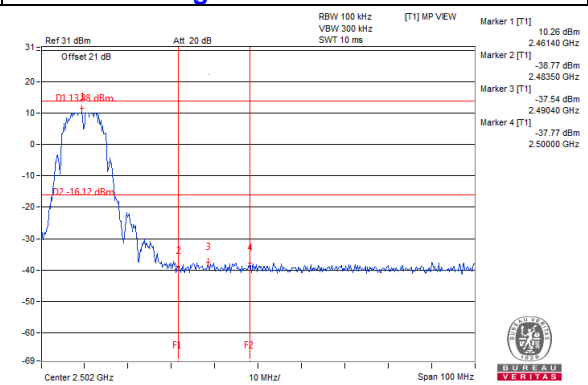
CH 11



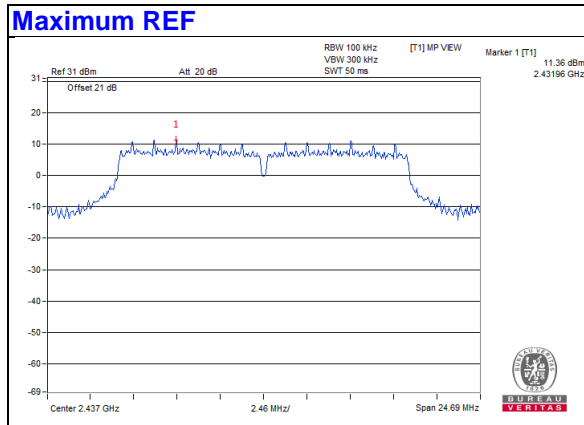
CH 1 Band edge



CH 11 Band edge

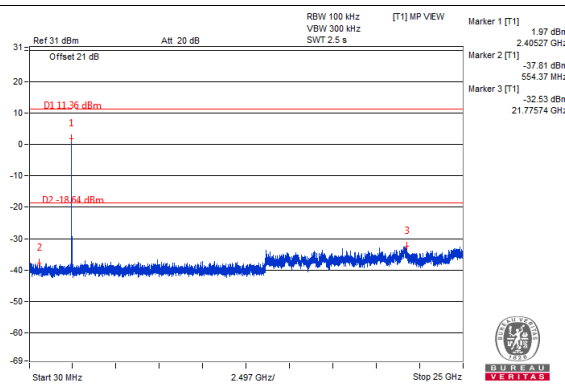


802.11g

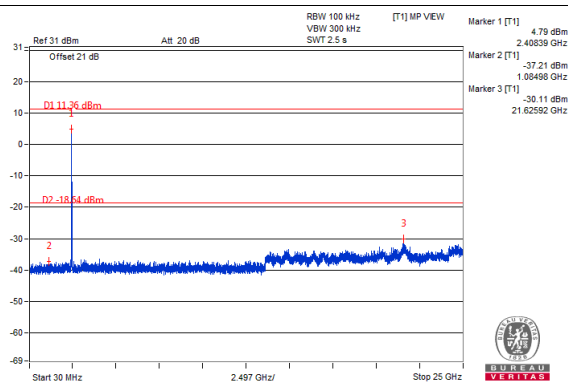


Chain 0

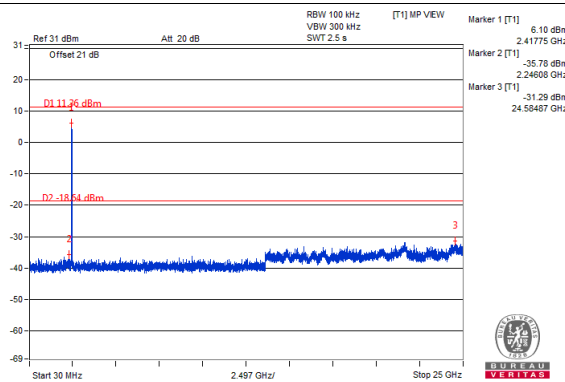
CH 1



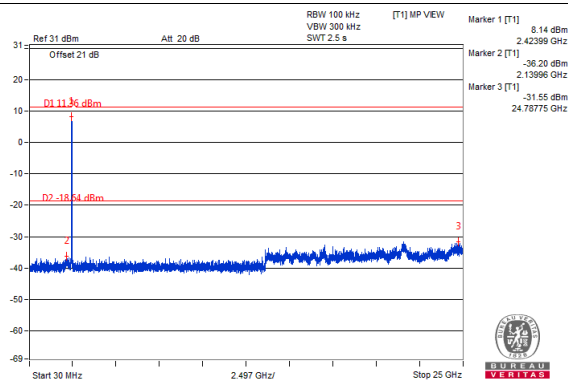
CH 2



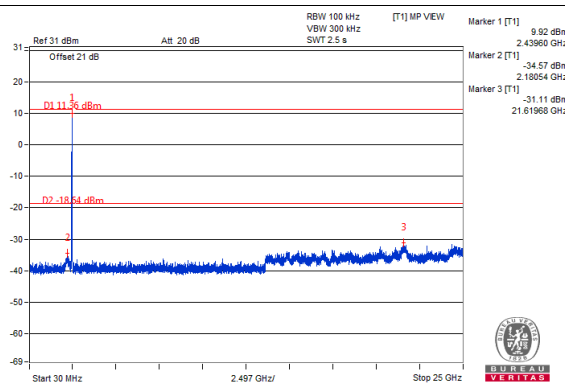
CH 3



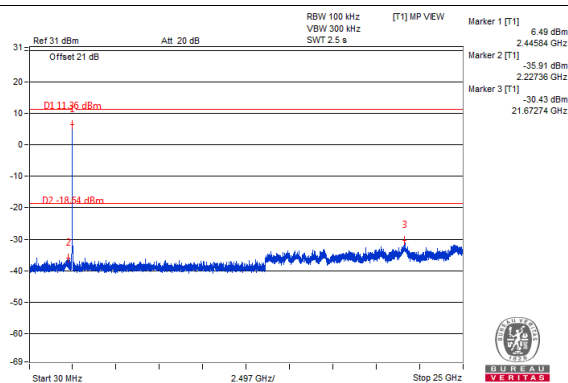
CH 4



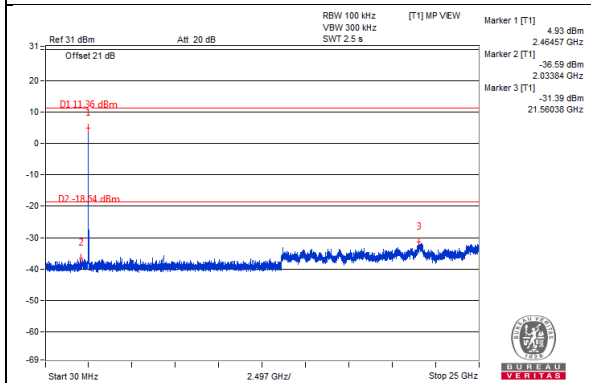
CH 6



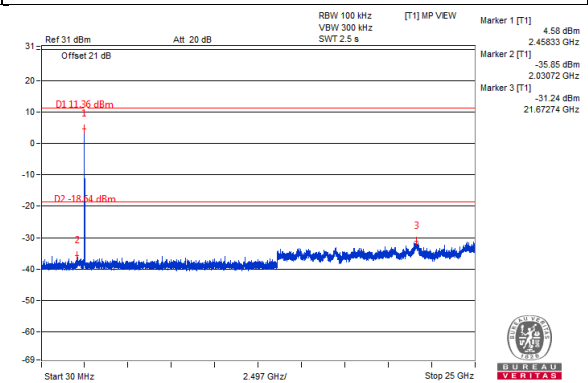
CH 9



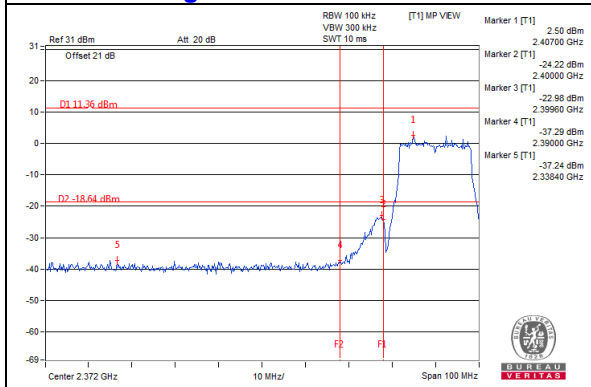
### CH 10



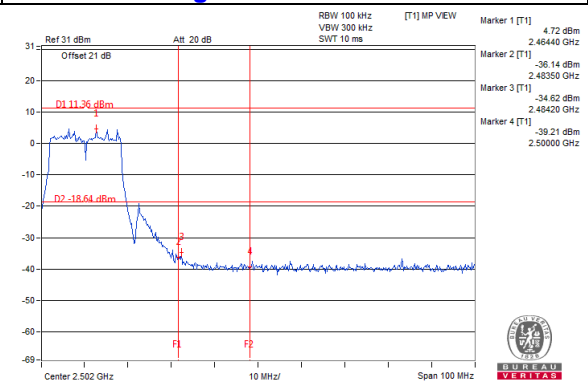
### CH 11



### CH 10 Band edge

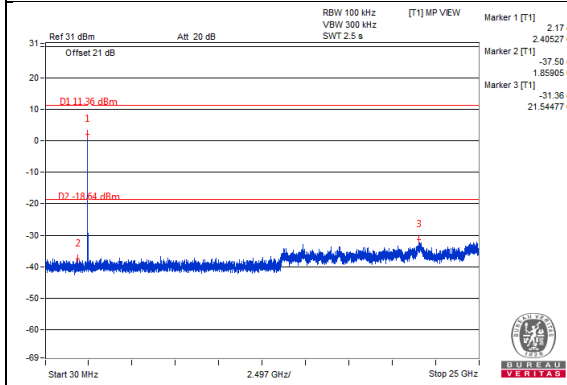


### CH 11 Band edge

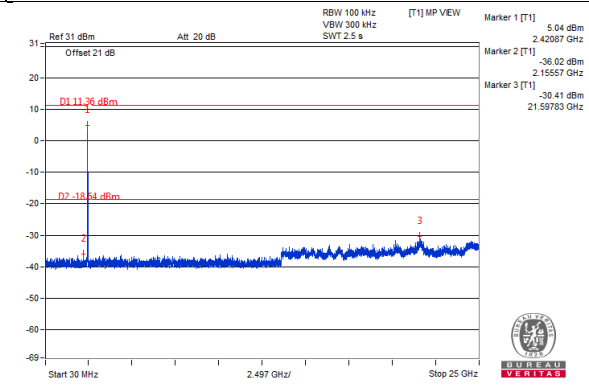


# Chain 1

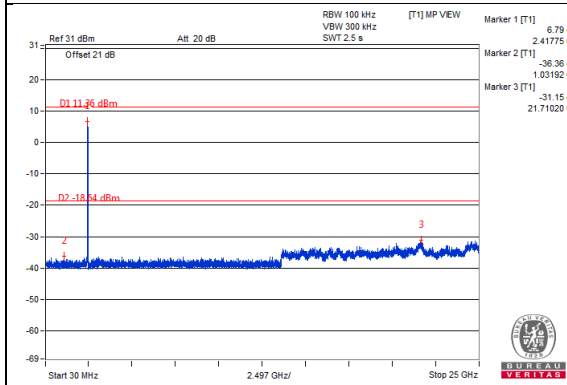
## CH 1



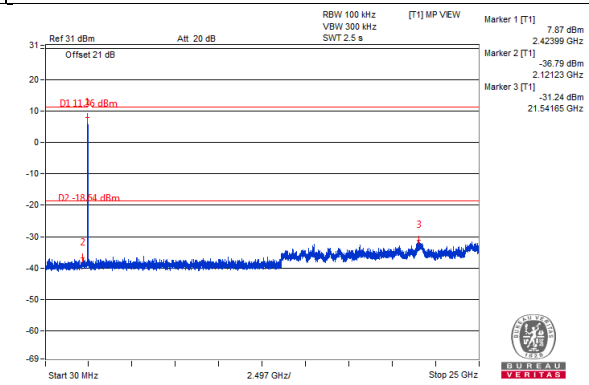
## CH 2



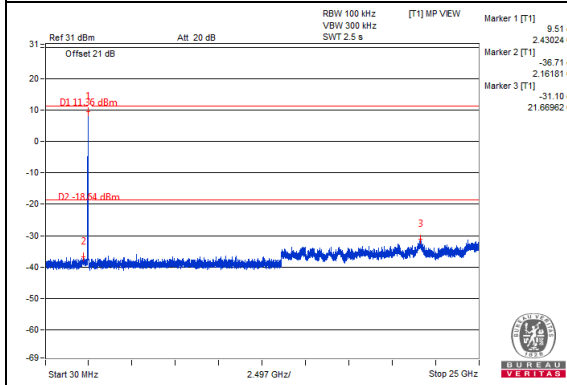
## CH 3



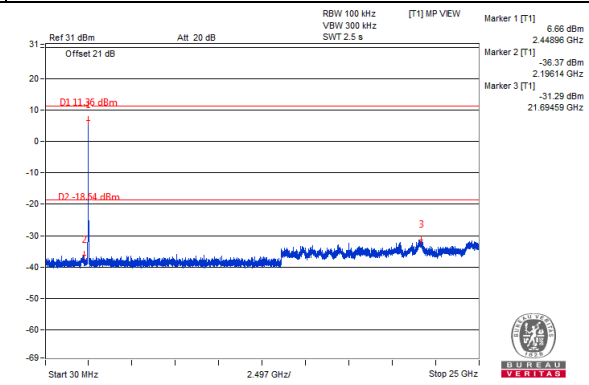
## CH 4



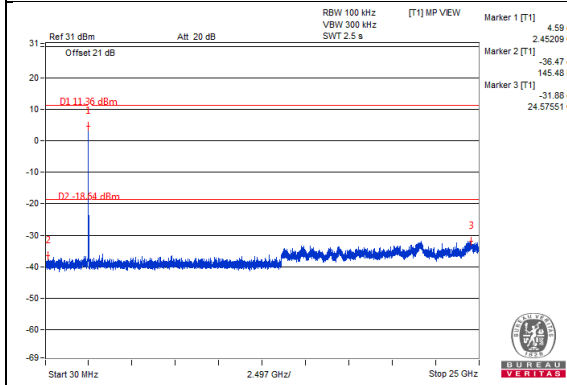
## CH 6



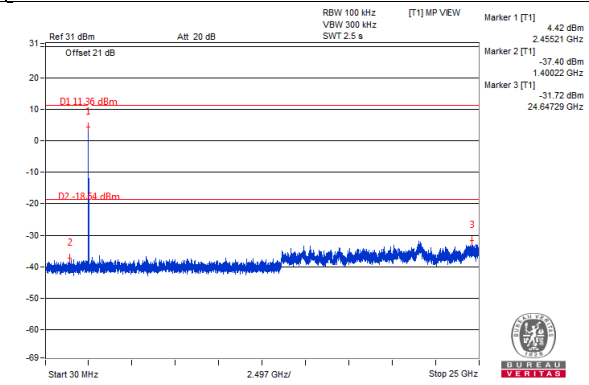
## CH 9



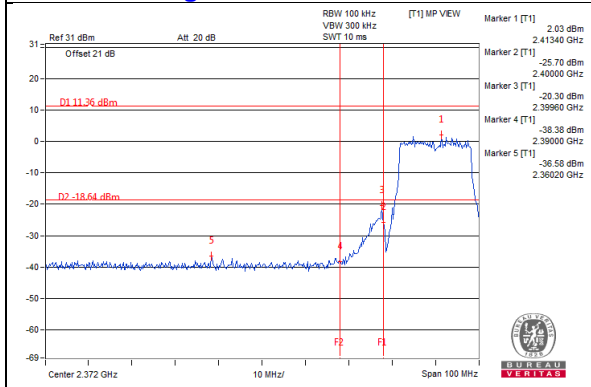
## CH 10



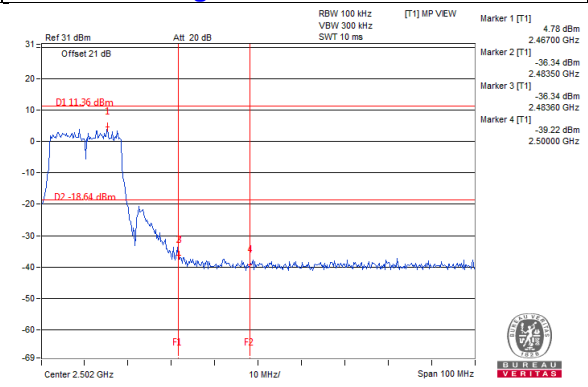
## CH 11



### CH 1 Band edge

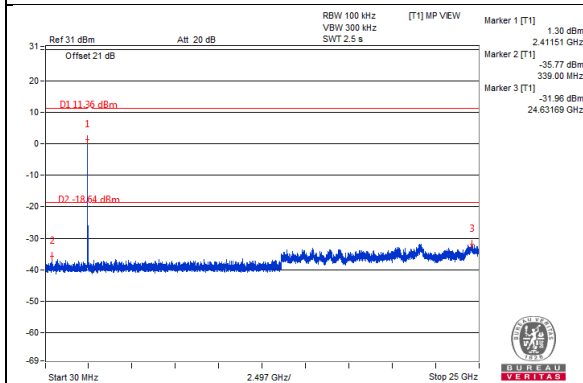


### CH 11 Band edge

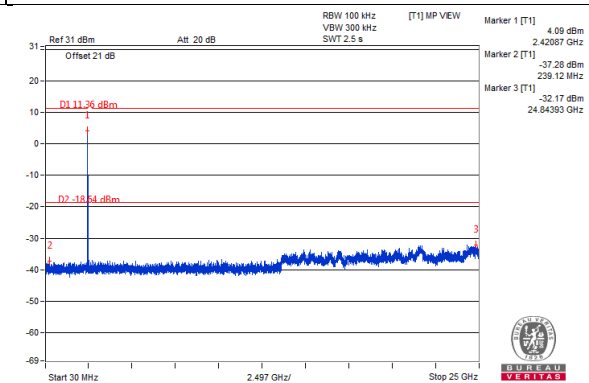


## Chain 2

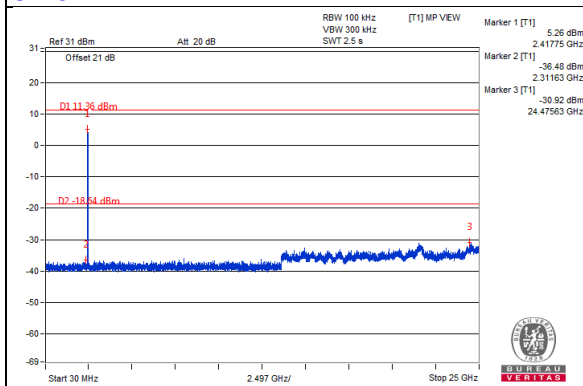
### CH 1



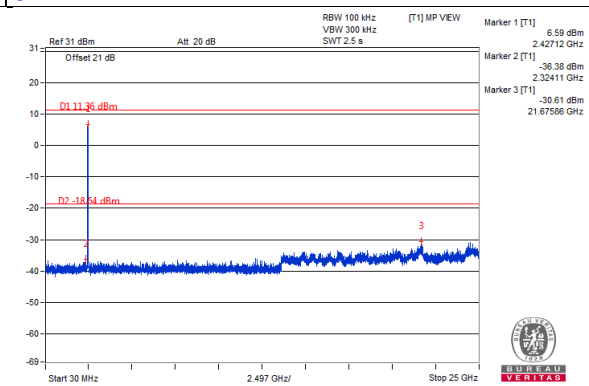
### CH 2



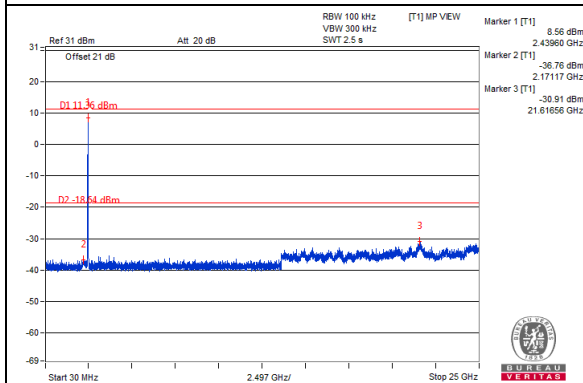
### CH 3



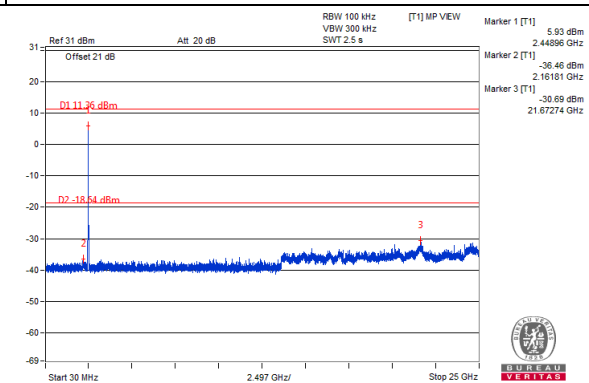
### CH 4



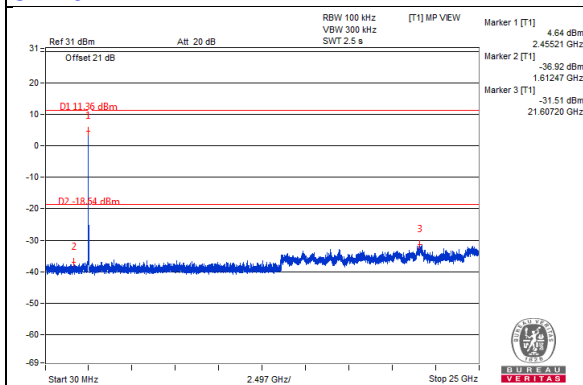
### CH 6



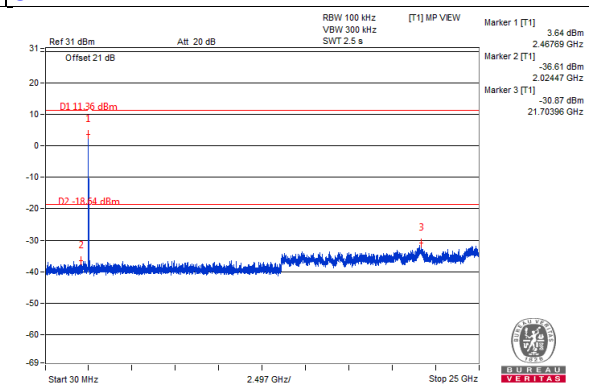
### CH 9



### CH 10

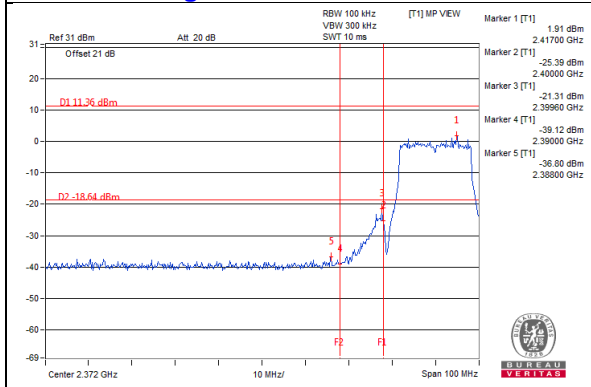


### CH 11

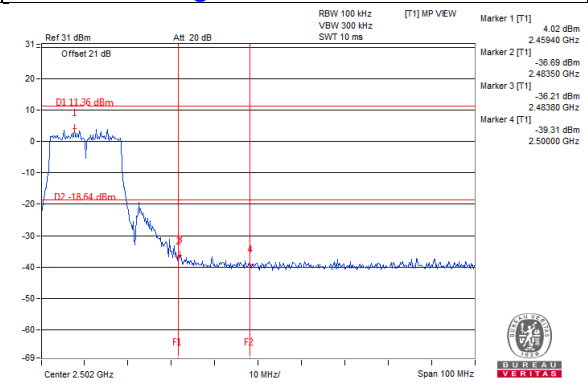




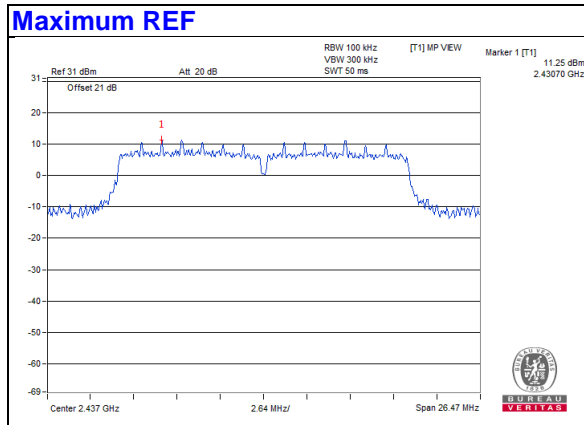
### CH 1 Band edge



### CH 11 Band edge

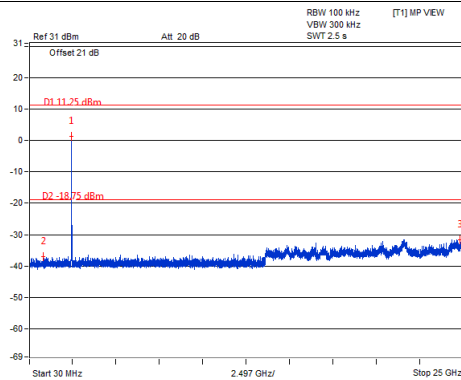


# 802.11n (HT20)

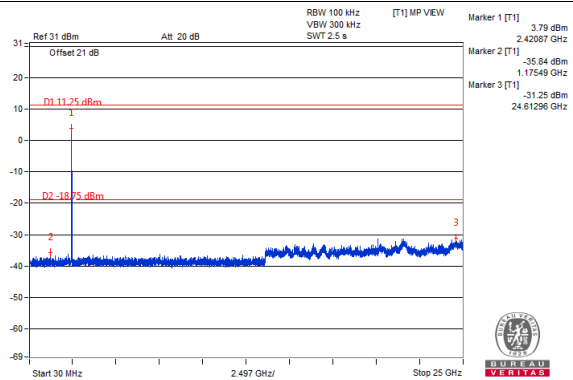


## Chain 0

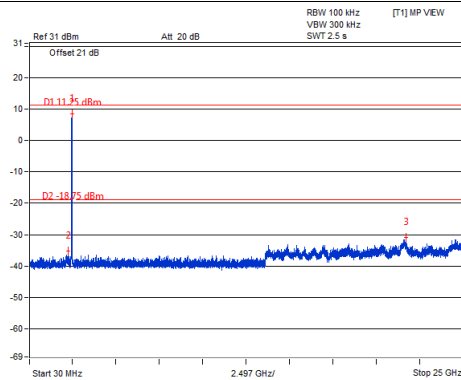
### CH 1



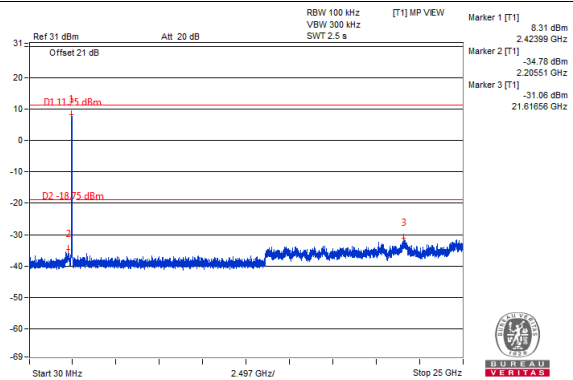
### CH 2



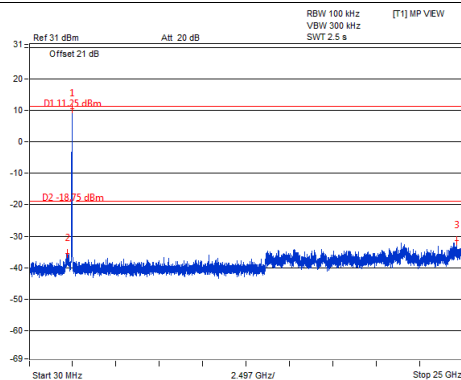
### CH 3



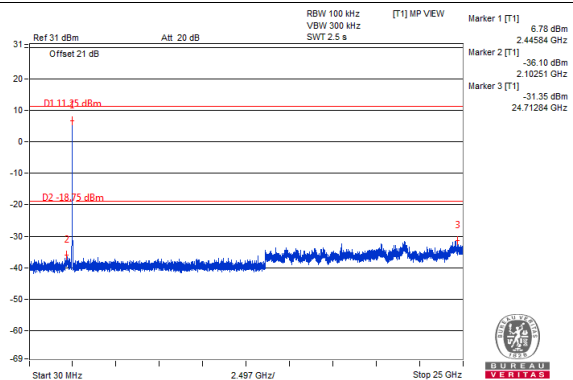
### CH 4



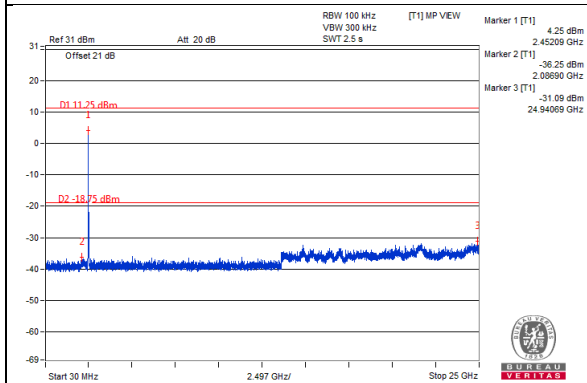
### CH 6



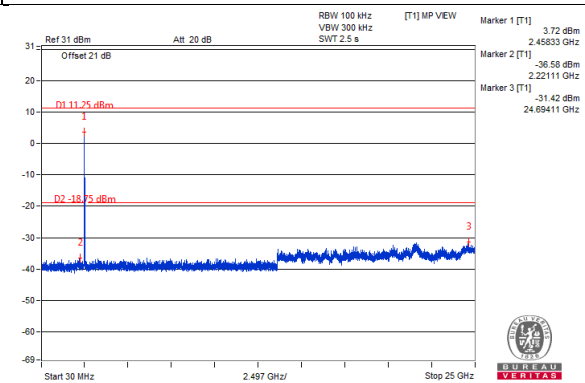
### CH 9



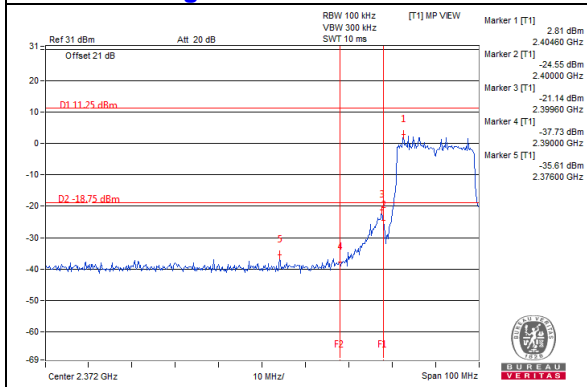
### CH 10



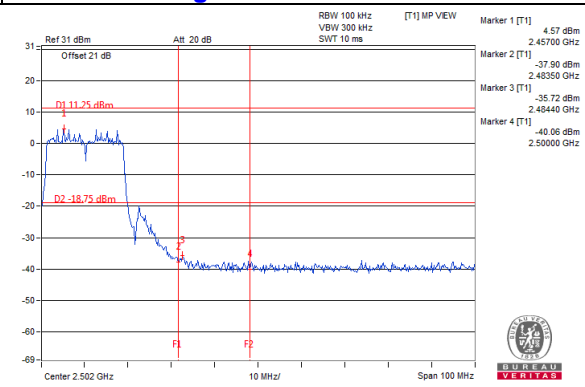
### CH 11



### CH 10 Band edge

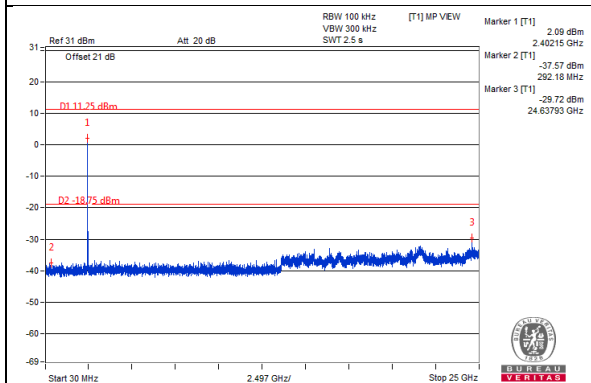


### CH 11 Band edge

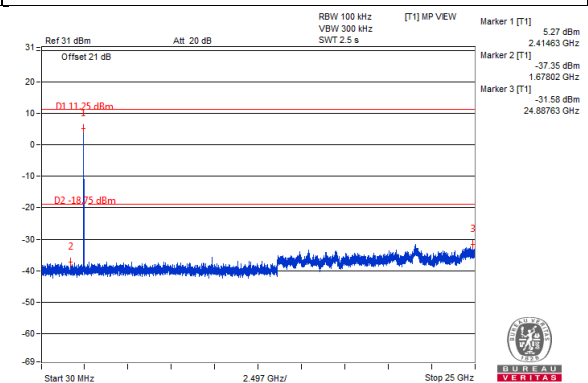


Chain 1

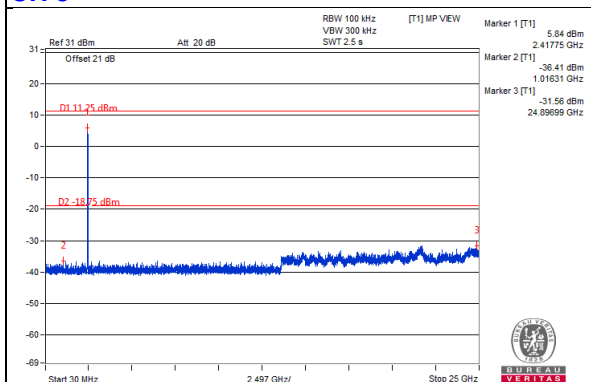
CH 1



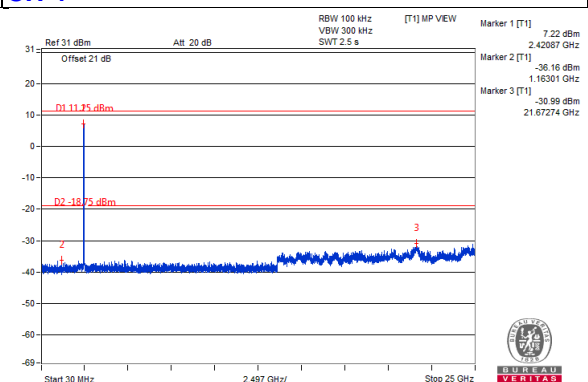
CH 2



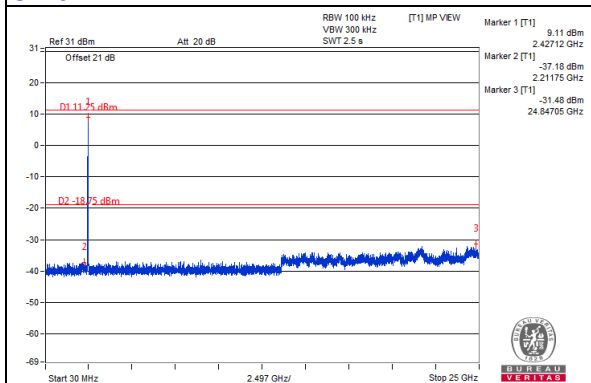
CH 3



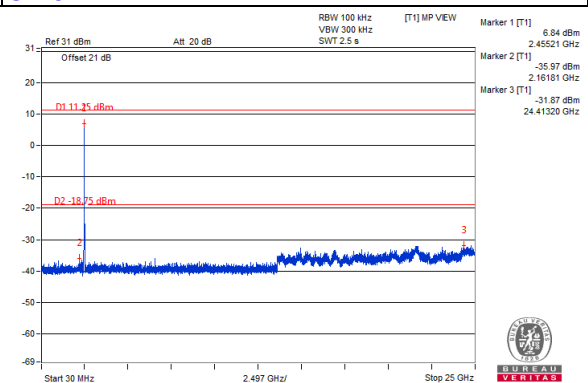
CH 4



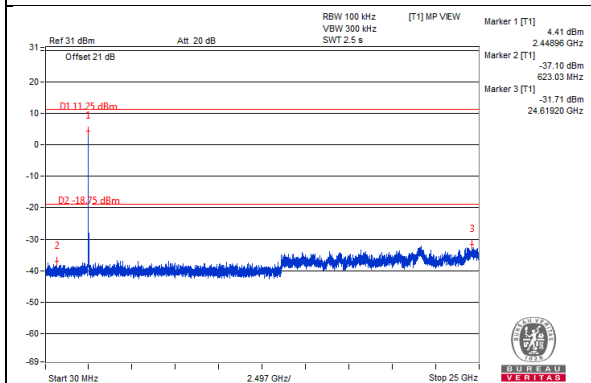
CH 6



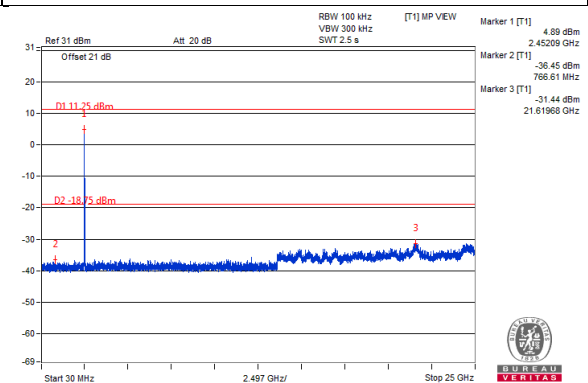
CH 9



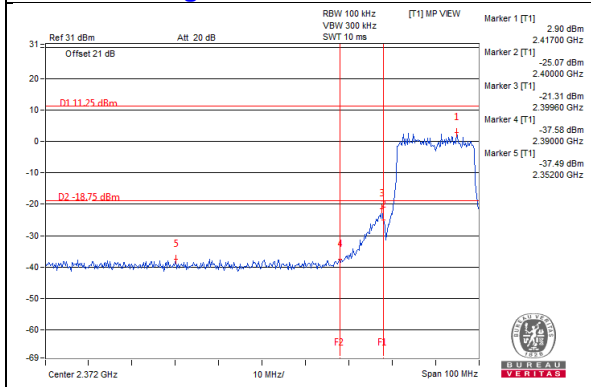
CH 10



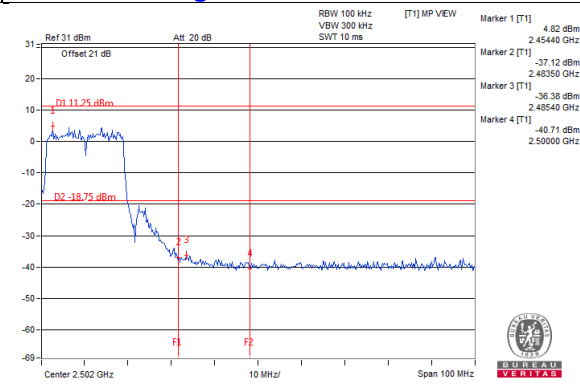
CH 11



### CH 1 Band edge

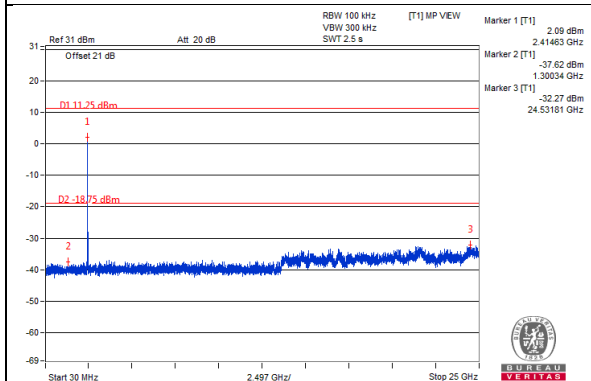


### CH 11 Band edge

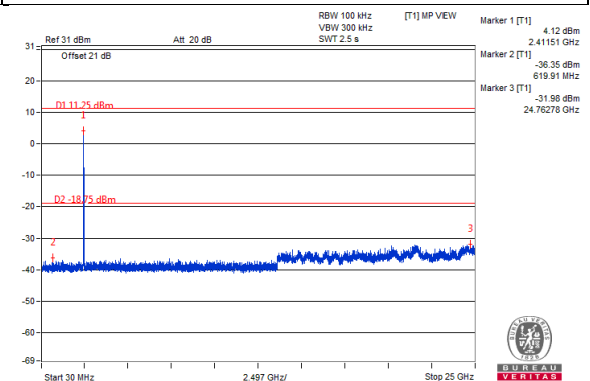


## Chain 2

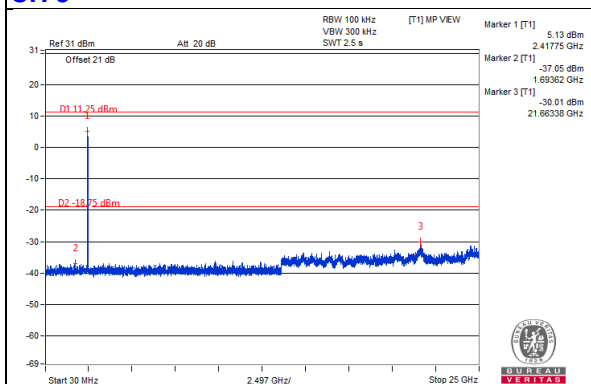
### CH 1



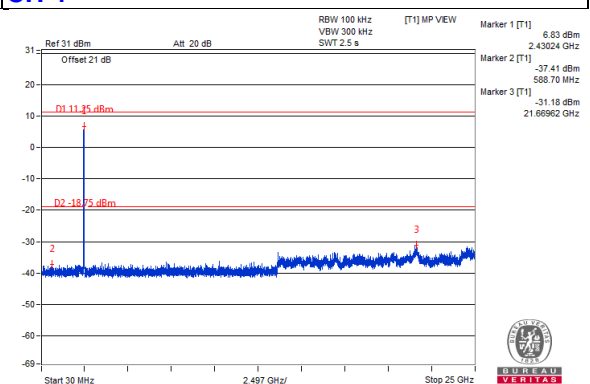
### CH 2



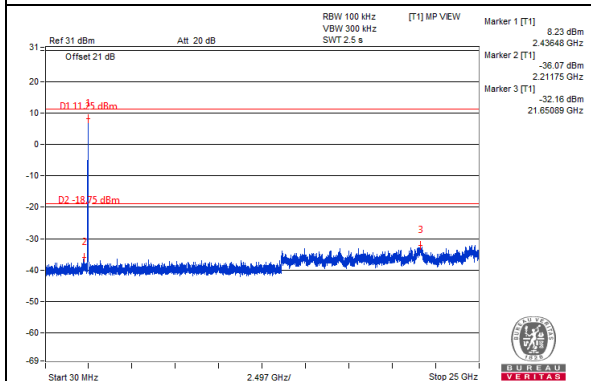
### CH 3



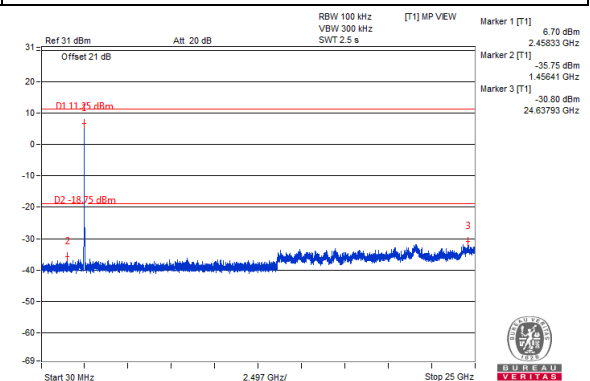
### CH 4



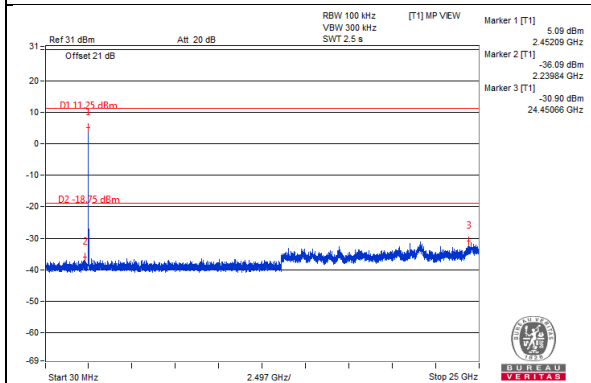
### CH 6



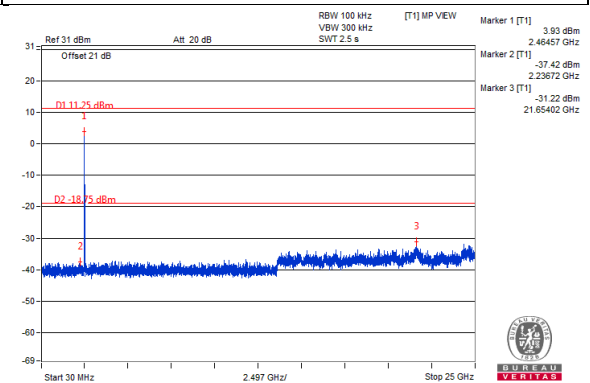
### CH 9



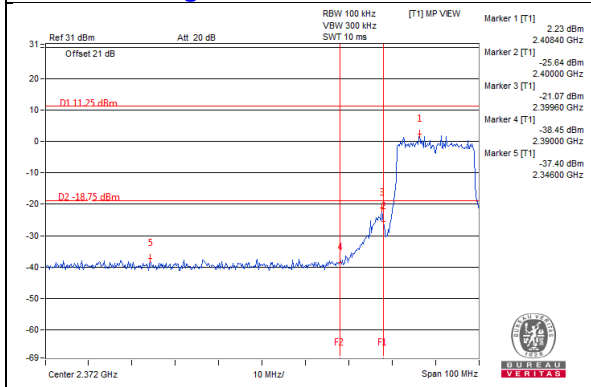
### CH 10



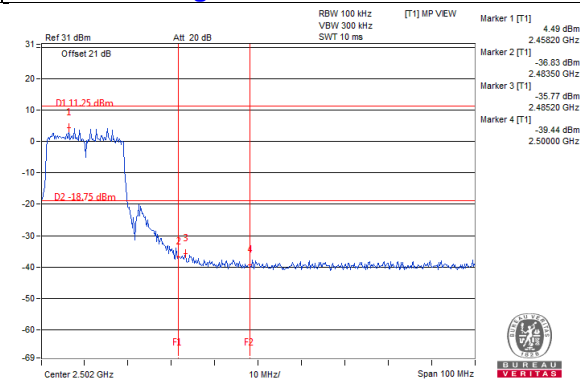
### CH 11



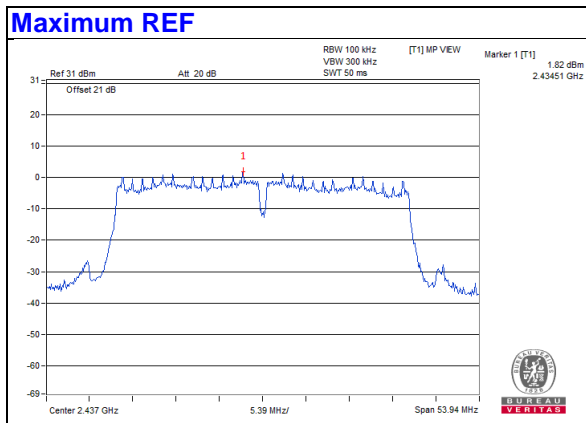
### CH 1 Band edge



### CH 11 Band edge

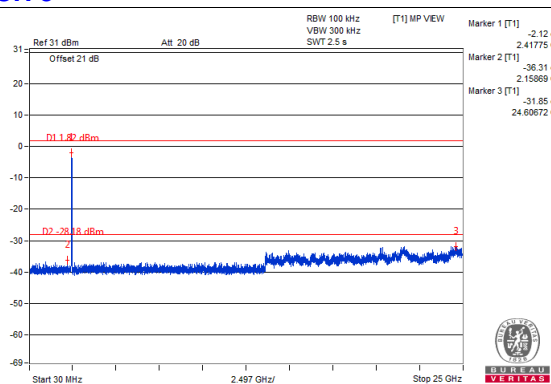


# 802.11n (HT40)

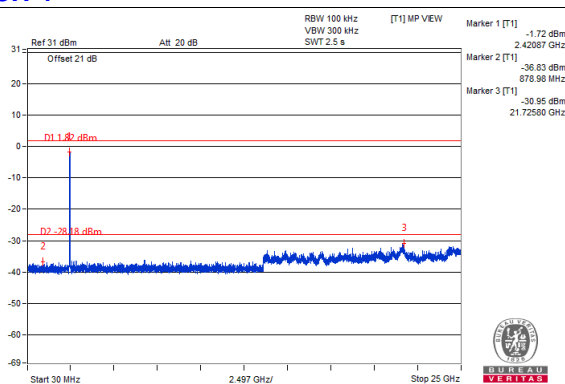


## Chain 0

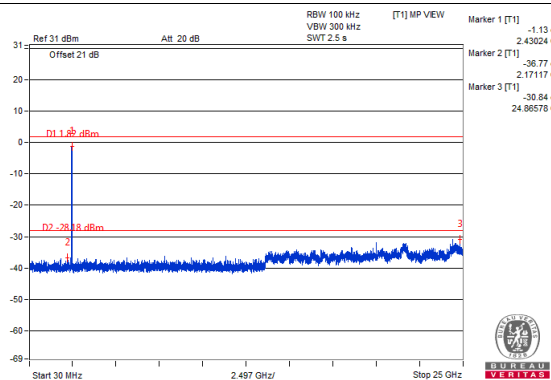
### CH 3



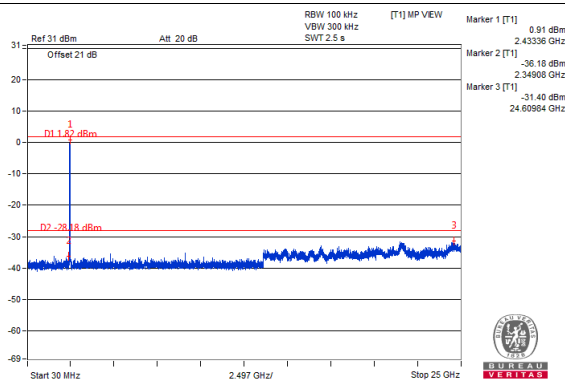
### CH 4



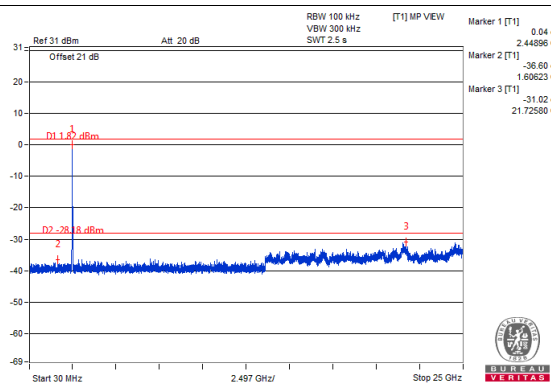
### CH 5



### CH 6

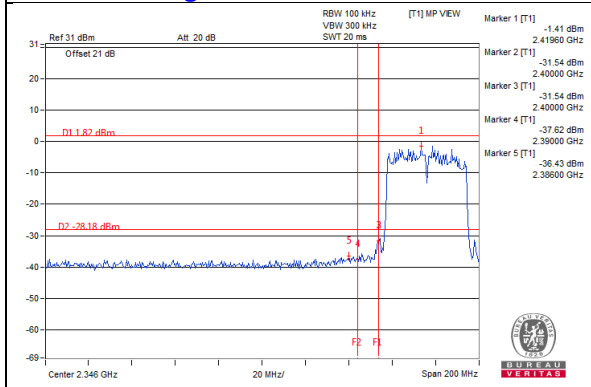


### CH 9

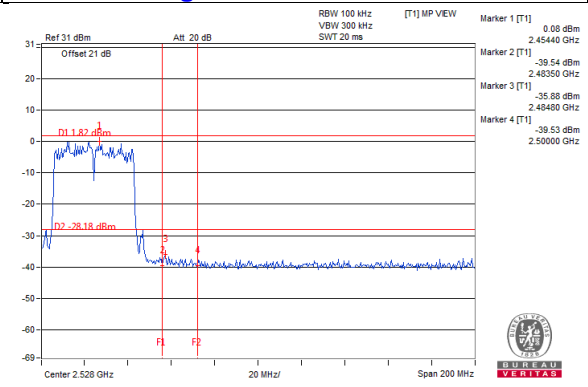




### CH 3 Band edge

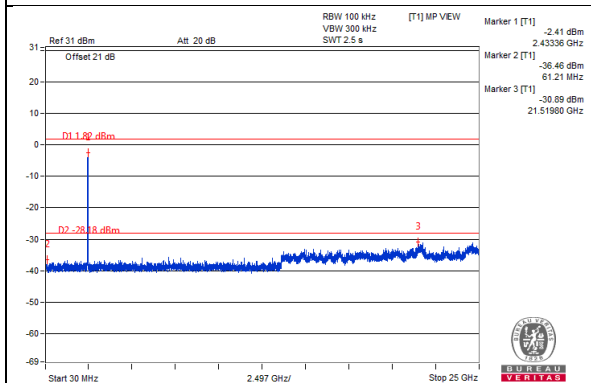


### CH 9 Band edge

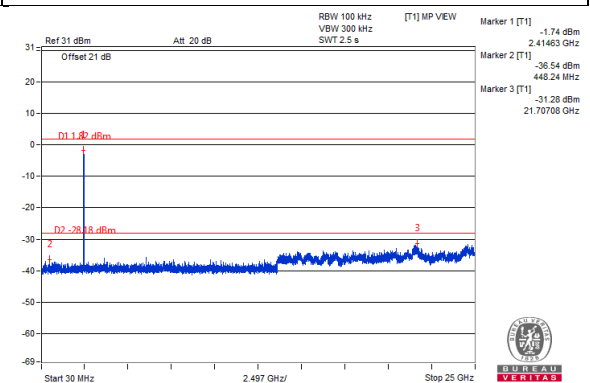


### Chain 1

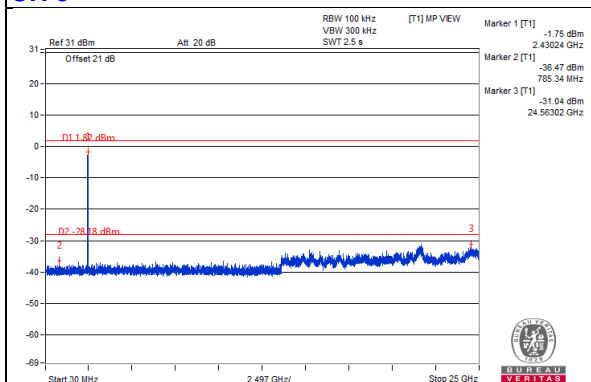
#### CH 3



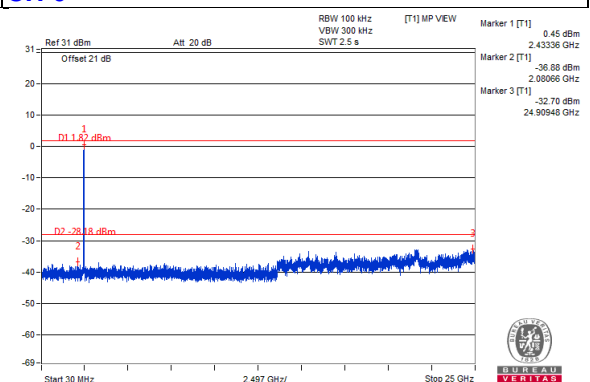
#### CH 4



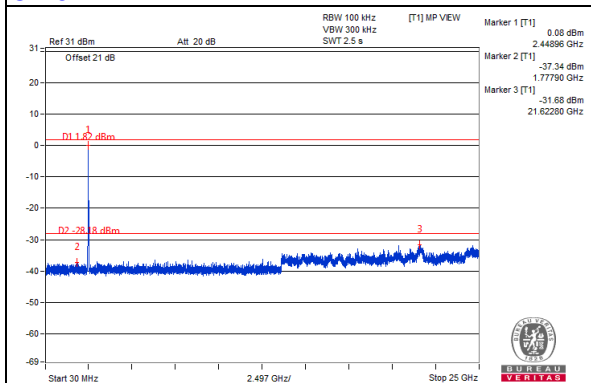
#### CH 5



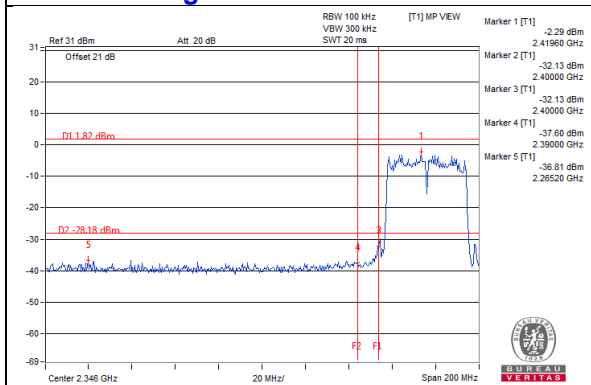
#### CH 6



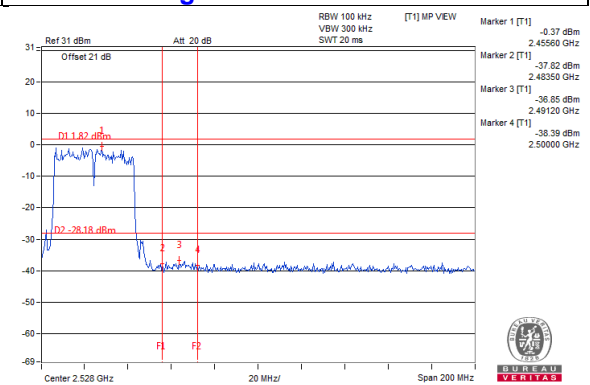
#### CH 9



#### CH 3 Band edge

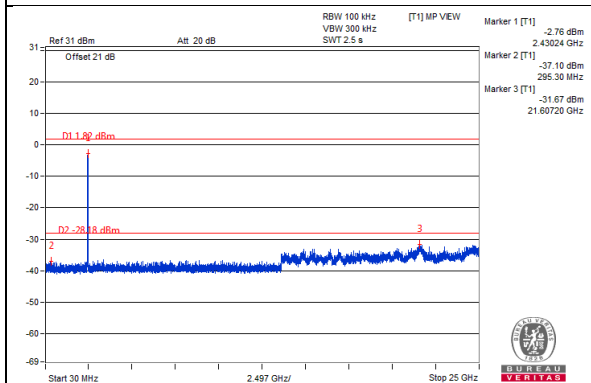


#### CH 9 Band edge

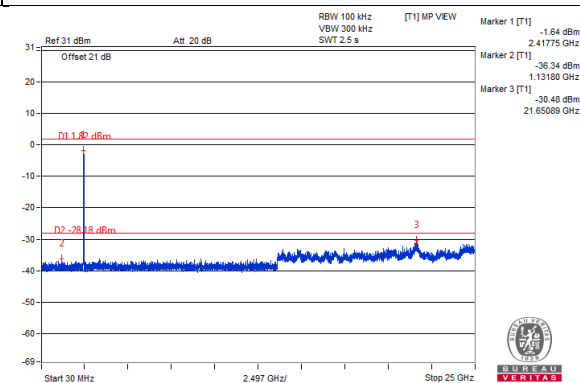


## Chain 2

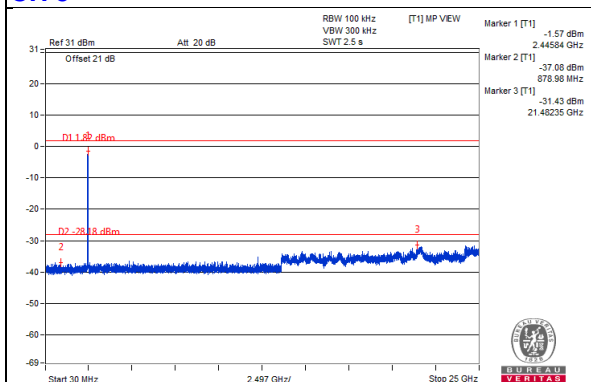
### CH 3



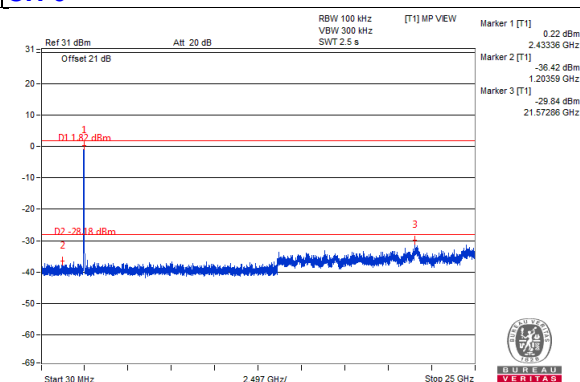
### CH 4



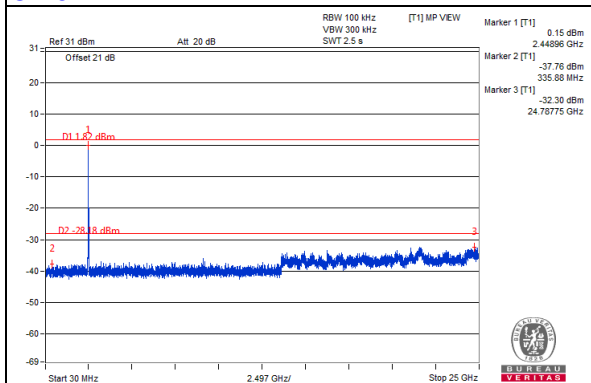
### CH 5



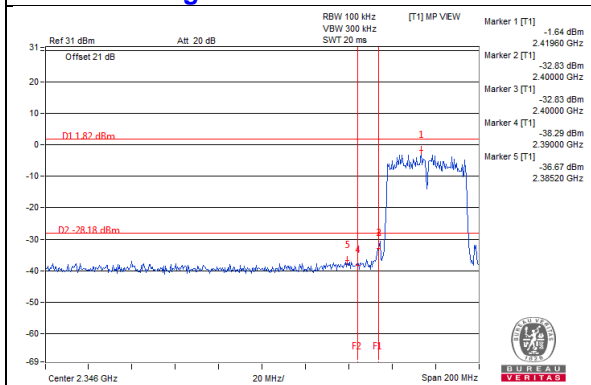
### CH 6



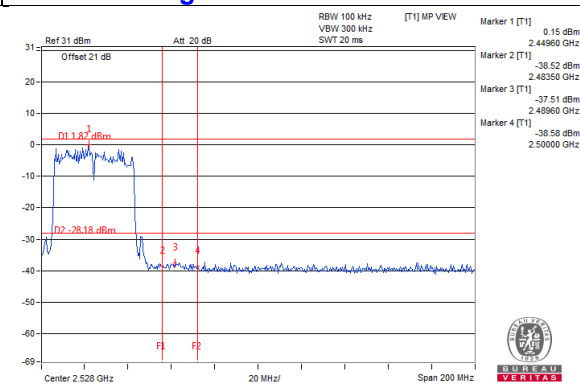
### CH 9



### 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](mailto:service.adt@tw.bureauveritas.com)

**Web Site:** [www.bureauveritas-adt.com](http://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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