FCC Test Report

Report No.:	RF170922C07
FCC ID:	2AGDE-WRT3061
Test Model:	WRT3061
Received Date:	Sep. 22, 2017
Test Date:	Oct. 11, 2017 ~ Oct. 17, 2017
Issued Date:	Nov. 29, 2017
Applicant:	WondaLink Inc.
Address:	2F, No. 23, R&D Road 2 Science-Based Industrial Park Hsin-Chu Taiwan R.O.C
Issued By:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
Lab Address:	No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan (R.O.C)
Test Location:	No. 19, Hwa Ya 2nd Rd, Wen Hwa Tsuen, Kwei Shan Hsiang, Taoyuan Hsien 333, Taiwan, R.O.C.
FCC Registration / Designation Number:	788550 / TW0003

Testing Laboratory
2021

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Release Control Record

Issue No.	Description	Date Issued
RF170922C07	Original Release	Nov. 29, 2017

1 Certificate of Conformity

Product:	VoLTE& LTE Router
Brand:	WondaLink
Test Model:	WRT3061
Sample Status:	Identical Prototype
Applicant:	WondaLink Inc.
Test Date:	Oct. 11, 2017 ~ Oct. 17, 2017
Standards:	47 CFR FCC Part 15, Subpart C (Section 15.247) ANSI C63.10:2013

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

Prepared by : _____ , **Date:** Nov. 29, 2017

Gina Liu / Specialist

Approved by : _____ , **Date:** Nov. 29, 2017

Dylan Chiou / Project Engineer

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 -15.71 dB at 0.40600 MHz.
15.205 / 15.209 / 15.247(d)	Radiated Emissions and Band Edge Measurement	Pass	Meet the requirement of limit. Minimum passing margin is -0.44 dB at 4824 MHz.
15.247(d)	Antenna Port Emission	Pass	Meet the requirement of limit.
15.247(a)(2)	6 dB Bandwidth	Pass	Meet the requirement of limit.
---	Occupied Bandwidth Measurement	Pass	Reference only
15.247(b)	Conducted power	Pass	Meet the requirement of limit.
15.247(e)	Power Spectral Density	Pass	Meet the requirement of limit.
15.203	Antenna Requirement	Pass	No antenna connector is used.

2.1 Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT:

The listed uncertainties are the worst case uncertainty for the entire range of measurement. Please note that the uncertainty values are provided for informational purposes only and are not used in determining the PASS/FAIL results.

Measurement	Frequency	Expended Uncertainty (k=2) (±)
Conducted Emissions at mains ports	150 kHz ~ 30 MHz	2.44 dB
Radiated Emissions up to 1 GHz	30 MHz ~ 200 MHz	2.93 dB
	200 MHz ~1000 MHz	2.95 dB
Radiated Emissions above 1 GHz	1 GHz ~ 18 GHz	2.26 dB
	18 GHz ~ 40 GHz	1.94 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	VoLTE& LTE Router
Brand	WondaLink
Test Model	WRT3061
Status of EUT	Identical Prototype
Power Supply Rating	12 Vdc (adapter) 7.4 Vdc (Li-ion battery)
Modulation Type	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
Modulation Technology	DSSS, OFDM
Transfer Rate	802.11b: 11.0 / 5.5 / 2.0 / 1.0 Mbps 802.11g: 54.0 / 48.0 / 36.0 / 24.0 / 18.0 / 12.0 / 9.0 / 6.0 Mbps 802.11n: up to MCS23
Operating Frequency	2412 ~ 2462 MHz
Number of Channel	11 for 802.11b, 802.11g, 802.11n (HT20) 7 for 802.11n (HT40)
Output Power	997.134 mW
Antenna Type	PCB antenna with 3.93 dBi gain
Antenna Connector	N/A
Accessory Device	Refer to Note as below
Data Cable Supplied	Refer to Note as below
Test Tool Version	QDART_CONN.WIN.1.0 Installer-00037.27

Note:

1. The EUT incorporates a MIMO function. Physically, the EUT provides three completed transmitters and three receivers.

Modulation Mode	Tx Function
802.11b	1TX
802.11g	3TX
802.11n (HT20)	3TX
802.11n (HT40)	3TX

   * The modulation and bandwidth are similar for 802.11n mode for HT20 / HT4, therefore investigated worst case to representative mode in test report. (Final test mode refer section 3.2.1)

2. The EUT contains following accessory devices.

Product	Brand	Model	Description
Adapter	TUE	KSAS0501200350M2	I/P: 100-240 Vac, 50/60 Hz, 1.2 A O/P: 12 Vdc, 3.5 A 1.45m non-shielded cable w/o core
Battery	Coppercell	CP6000-TE	7.4 Vdc, 5800 mAh

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

3.2 Description of Test Modes

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

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

7 channels are provided for 802.11n (HT40):

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

3.2.1 Test Mode Applicability and Tested Channel Detail

EUT Configure Mode	Applicable To				Description
	RE≥1G	RE<1G	PLC	APCM	
-	√	√	√	√	-

Where **RE≥1G:** Radiated Emission above 1 GHz **RE<1G:** Radiated Emission below 1 GHz
PLC: Power Line Conducted Emission **APCM:** Antenna Port Conducted Measurement

NOTE: The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **Z-plane**.
NOTE: "-"means no effect.

Radiated Emission Test (Above 1 GHz):

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
☒ Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
-	802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1.0
-	802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6.0
-	802.11n (HT20)	1 to 11	1, 6, 11	OFDM	BPSK	MCS0
-	802.11n (HT40)	3 to 9	3, 6, 9	OFDM	BPSK	MCS0

Radiated Emission Test (Below 1 GHz):

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
☒ Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
-	802.11b	1 to 11	1	DSSS	DBPSK	1.0

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.

EUT Configure Mode	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
-	802.11b	1 to 11	1	DSSS	DBPSK	1.0

Bandedge Measurement:

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
☒ Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
-	802.11b	1 to 11	1, 11	DSSS	DBPSK	1.0
-	802.11g	1 to 11	1, 11	OFDM	BPSK	6.0
-	802.11n (HT20)	1 to 11	1, 11	OFDM	BPSK	MCS0
-	802.11n (HT40)	3 to 9	3, 9	OFDM	BPSK	MCS0

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.

EUT Configure Mode	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
-	802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1.0
-	802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6.0
-	802.11n (HT20)	1 to 11	1, 6, 11	OFDM	BPSK	MCS0
-	802.11n (HT40)	3 to 9	3, 6, 9	OFDM	BPSK	MCS0

Test Condition:

Applicable To	Environmental Conditions	Input Power	Tested by
RE≥1G	25 deg. C, 65 % RH	120 Vac, 60 Hz	Getaz Yang
RE<1G	25 deg. C, 65 % RH	120 Vac, 60 Hz	Gavin Wu
PLC	25 deg. C, 65 % RH	120 Vac, 60 Hz	Getaz Yang
APCM	25 deg. C, 65 % RH	7.4 Vdc	Gavin Wu

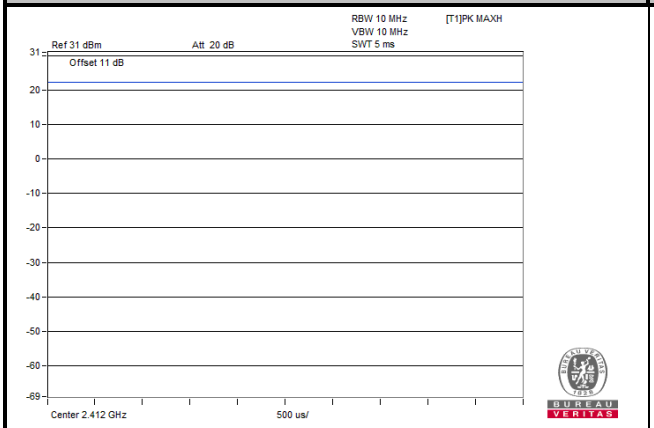
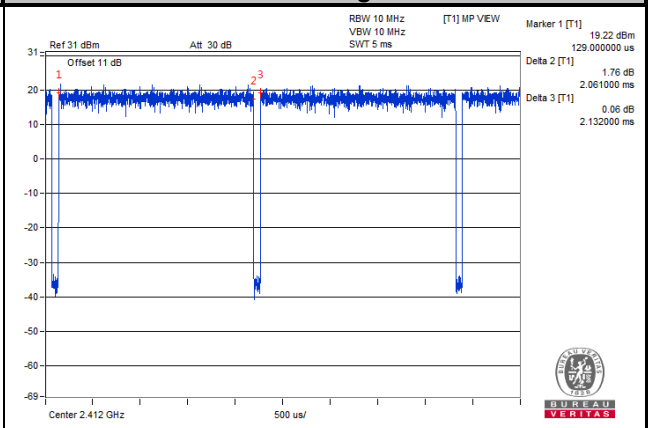
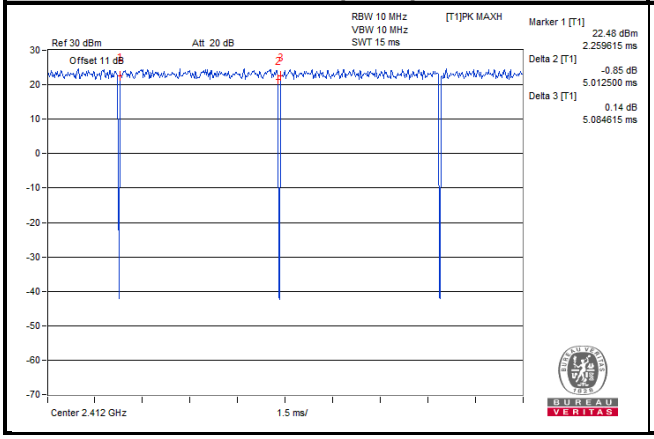
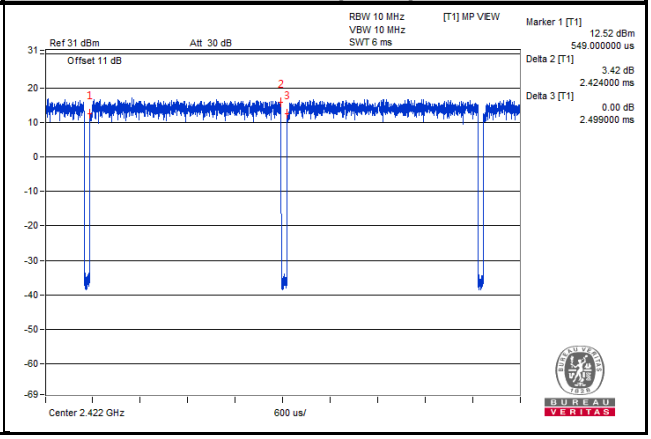
3.3 Duty Cycle of Test Signal

802.11b: Duty cycle of test signal is 100 %

802.11g: Duty cycle = 2.061/2.132 = 0.967, Duty factor = 10 * log(1/0.967) = 0.15

802.11n (HT20): Duty cycle = 5.0125/5.084615 = 0.986, Duty factor = 10 * log(1/0.986) = 0.06

802.11n (HT40): Duty cycle = 2.424/2.499 = 0.97, Duty factor = 10 * log(1/0.97) = 0.13

802.11b	802.11g
	
802.11n (HT20)	**802.11n (HT40)**
	

3.4 Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units.

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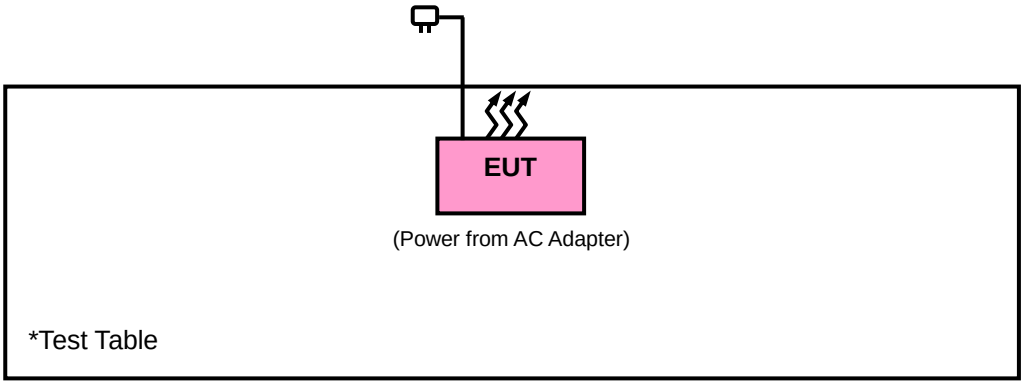
3.4.1 Configuration of System under Test



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)
558074 D01 DTS Meas Guidance v04
662911 D01 Multiple Transmitter Output v02r01
ANSI C63.10-2013

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

NOTE: The EUT has been verified to comply with the requirements of FCC Part 15, Subpart B, Class B (DoC). The test report has been issued separately.

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 20 dB 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 1000 MHz, 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 20 dB under any condition of modulation.

4.1.2 Test Instruments

Description & Manaufacturer	Model No.	Serial No.	Date of Calibration	Due Date of Calibration
Test Receiver Agilent	N9038A	MY51210203	Feb. 17, 2017	Feb. 16, 2018
Spectrum Analyzer Agilent	N9010A	MY52220314	Dec. 16, 2016	Dec. 15, 2017
Spectrum Analyzer ROHDE & SCHWARZ	FSU43	101261	Dec. 13, 2016	Dec. 12, 2017
BILOG Antenna SCHWARZBECK	VULB9168	9168-472	Dec. 26, 2016	Dec. 27, 2017
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-969	Dec. 12, 2016	Dec. 13, 2017
HORN Antenna SCHWARZBECK	BBHA 9170	9170-480	Dec. 14, 2016	Dec. 13, 2017
Fixed Attenuator Mini-Circuits	MDCS18N-10	MDCS18N-10-01	Apr. 17, 2017	Apr. 16, 2018
Loop Antenna	HLA 6121	45745	May 19, 2017	May 18, 2018
Preamplifier EMCI	EMC001340	980201	Nov. 01, 2017	Oct. 31, 2018
Bluetooth Tester	CBT	100946	Jul. 29, 2016	Jul. 28, 2018
Preamplifier EMCI	EMC 012645	980115	Oct. 20, 2017	Oct. 18, 2018
Preamplifier EMCI	EMC 184045	980116	Oct. 20, 2017	Oct. 18, 2018
Preamplifier EMCI	EMC 330H	980112	Oct. 13, 2017	Oct. 12, 2018
Power Meter Anritsu	ML2495A	1012010	Aug. 15, 2017	Aug. 14, 2018
Power Sensor Anritsu	MA2411B	1315050	Aug. 15, 2017	Aug. 14, 2018
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	309219/4 2950114	Oct. 20, 2017	Oct. 19, 2018
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	250130/4	Oct. 20, 2017	Oct. 19, 2018
RF Coaxial Cable Worken	8D-FB	Cable-Ch10-01	Oct. 20, 2017	Oct. 19, 2018
Software BV ADT	E3 6.120103	NA	NA	NA
Antenna Tower MF	MFA-440H	NA	NA	NA
Turn Table MF	MFT-201SS	NA	NA	NA
Antenna Tower &Turn Table Controller MF	MF-7802	NA	NA	NA

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

2. The test was performed in HwaYa Chamber 10.

3. The horn antenna and preamplifier (model: EMC 184045) are used only for the measurement of emission frequency above 1 GHz if tested.

4. The IC Site Registration No. is IC7450F-10.

4.1.3 Test Procedures

a. The EUT was placed on the top of a rotating table 0.8 meters (for below 1 GHz) / 1.5 meters (for above 1 GHz) 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 detected 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:

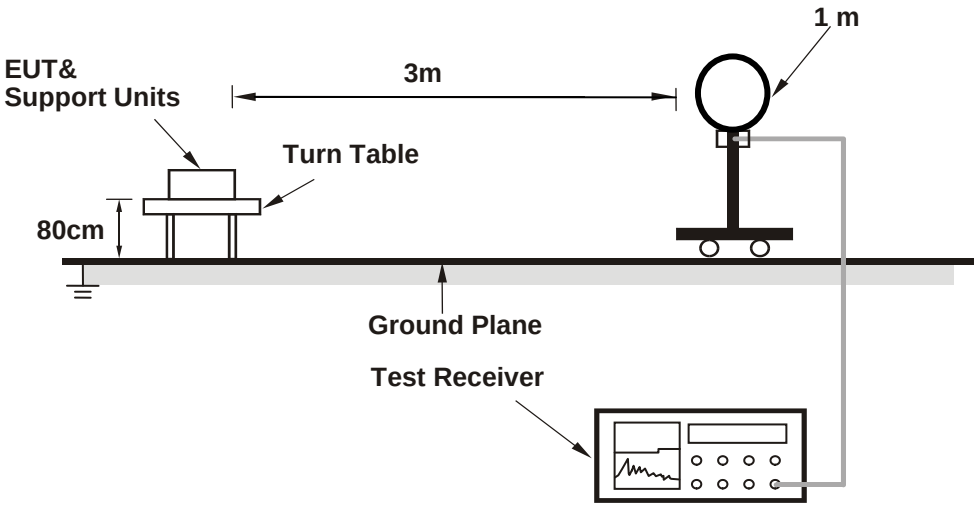
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz & 360 KHz for Quasi-peak detection (QP) at frequency below 1 GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1 GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 1/T for Average (Duty cycle < 98 %) detection at frequency above 1 GHz.
4. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 10 Hz (Duty cycle ≥ 98 %) for Average detection (AV) at frequency above 1 GHz.
5. 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 Set Up

<Radiated emission below 30 MHz>



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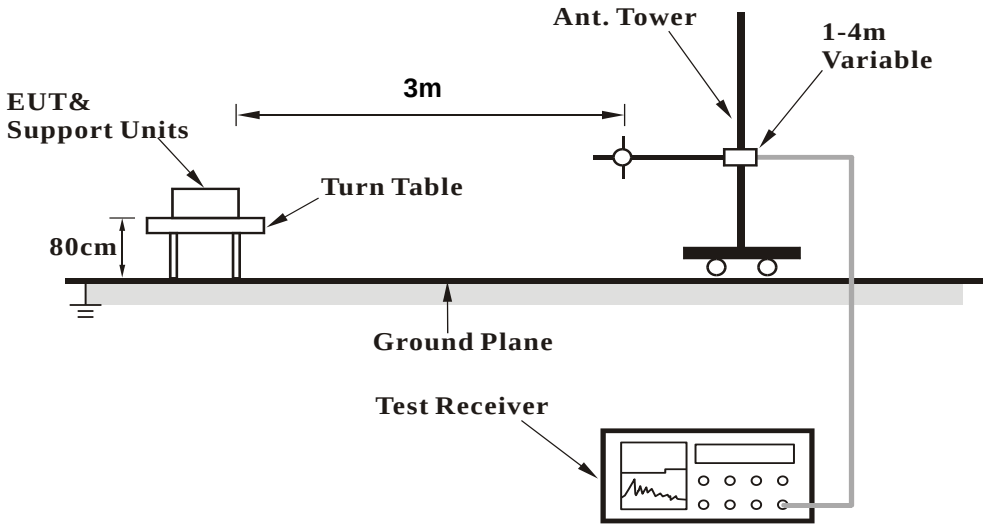

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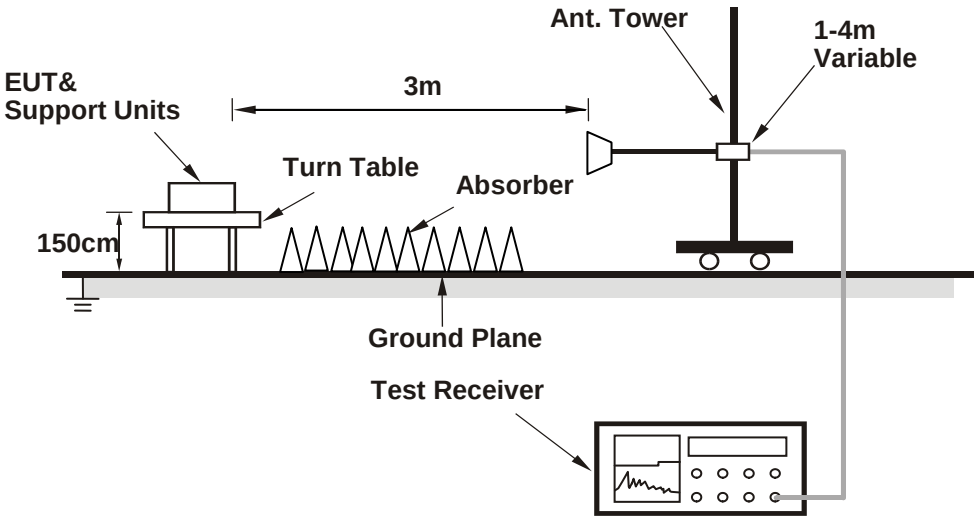


For the actual test configuration, please refer to the attached file (Test Setup Photo).

4.1.6 EUT Operating Conditions

a. Placed the EUT on a testing table.
b. Use the software to control the EUT under transmission condition continuously at specific channel frequency.

4.1.7 Test Results

Above 1 GHz Data：

802.11b

EUT Test Condition		Measurement Detail	
Channel	Channel 1	**Frequency Range**	1 GHz ~ 25 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Getaz Yang

Antennal Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
2365.8	48.48	70.52	54	-5.52	26.81	4.82	53.67	193	2	Average
2365.8	55.37	61.73	74	-18.63	26.81	4.33	37.5	193	2	Peak
2412	109.03	115.21			26.96	4.38	37.52	193	2	Average
2412	114.23	120.41			26.96	4.38	37.52	193	2	Peak
4824	53.56	68.84	54	-0.44	30.99	6.81	53.08	200	74	Average
4824	55.49	70.77	74	-18.51	30.99	6.81	53.08	200	74	Peak
Antennal Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
2362.56	48.65	70.71	54	-5.35	26.81	4.82	53.69	200	219	Average
2362.56	56.01	62.36	74	-17.99	26.81	4.33	37.49	200	219	Peak
2412	108.02	114.2			26.96	4.38	37.52	200	219	Average
2412	112.19	118.37			26.96	4.38	37.52	200	219	Peak
4824	44.79	60.07	54	-9.21	30.99	6.81	53.08	184	74	Average
4824	49.61	64.89	74	-24.39	30.99	6.81	53.08	184	74	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 2412 MHz: Fundamental frequency.

EUT Test Condition		Measurement Detail	
Channel	Channel 6	**Frequency Range**	1 GHz ~ 25 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Getaz Yang

Antennal Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
2389.83	48.38	54.63	54	-5.62	26.91	4.36	37.52	189	4	Average
2389.83	55.8	62.05	74	-18.2	26.91	4.36	37.52	189	4	Peak
2437	109.24	115.24			27.06	4.4	37.46	189	4	Average
2437	114.69	120.69			27.06	4.4	37.46	189	4	Peak
2486.72	45.61	67.48	54	-8.39	27.15	4.94	53.96	189	4	Average
2486.72	54.19	59.93	74	-19.81	27.15	4.43	37.32	189	4	Peak
4874	51.39	66.33	54	-2.61	31.06	6.86	52.86	187	74	Average
4874	53.75	68.69	74	-20.25	31.06	6.86	52.86	187	74	Peak
Antennal Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
2388.66	46.86	68.97	54	-7.14	26.91	4.85	53.87	201	271	Average
2388.66	54.55	60.78	74	-19.45	26.91	4.36	37.5	201	271	Peak
2437	108.32	114.32			27.06	4.4	37.46	201	271	Average
2437	112.48	118.48			27.06	4.4	37.46	201	271	Peak
2485.8	46.81	68.68	54	-7.19	27.15	4.94	53.96	201	271	Average
2485.8	55.11	60.85	74	-18.89	27.15	4.43	37.32	201	271	Peak
4874	44.07	59.01	54	-9.93	31.06	6.86	52.86	196	62	Average
4874	47.94	62.88	74	-26.06	31.06	6.86	52.86	196	62	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 2437 MHz: Fundamental frequency.

EUT Test Condition		Measurement Detail	
Channel	Channel 11	**Frequency Range**	1 GHz ~ 25 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Getaz Yang

Antennal Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
2462	108.99	114.87			27.1	4.41	37.39	185	0	Average
2462	114.25	120.13			27.1	4.41	37.39	185	0	Peak
2485.36	39.84	61.71	54	-14.16	27.15	4.94	53.96	185	0	Average
2485.36	55.17	60.91	74	-18.83	27.15	4.43	37.32	185	0	Peak
4924	47.72	62.6	54	-6.28	31.12	6.89	52.89	200	96	Average
4924	50.77	65.65	74	-23.23	31.12	6.89	52.89	200	96	Peak
Antennal Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
2462	108.04	113.92			27.1	4.41	37.39	212	271	Average
2462	112.15	118.03			27.1	4.41	37.39	212	271	Peak
2484.12	40.15	62.02	54	-13.85	27.15	4.94	53.96	212	271	Average
2484.12	55.47	61.21	74	-18.53	27.15	4.43	37.32	212	271	Peak
4924	41.28	56.16	54	-12.72	31.12	6.89	52.89	202	55	Average
4924	46.19	61.07	74	-27.81	31.12	6.89	52.89	202	55	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 2462 MHz: Fundamental frequency.

802.11g

EUT Test Condition		Measurement Detail	
Channel	Channel 1	**Frequency Range**	1 GHz ~ 25 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Getaz Yang

Antennal Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
2387	51.99	74.11	54	-2.01	26.91	4.84	53.87	202	284	Average
2387	66.92	73.15	74	-7.08	26.91	4.36	37.5	202	284	Peak
2412	107.85	114.03			26.96	4.38	37.52	202	284	Average
2412	117.95	124.13			26.96	4.38	37.52	202	284	Peak
4824	34.46	49.55	54	-19.54	30.99	6.81	52.89	138	51	Average
4824	45.97	61.06	74	-28.03	30.99	6.81	52.89	138	51	Peak
Antennal Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
2389.8	51.03	57.28	54	-2.97	26.91	4.36	37.52	206	260	Average
2389.8	66.5	72.75	74	-7.5	26.91	4.36	37.52	206	260	Peak
2412	107.46	113.64			26.96	4.38	37.52	206	260	Average
2412	117.12	123.3			26.96	4.38	37.52	206	260	Peak
4824	33.77	49.05	54	-20.23	30.99	6.81	53.08	135	154	Average
4824	45.39	60.67	74	-28.61	30.99	6.81	53.08	135	154	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 2412 MHz: Fundamental frequency.

EUT Test Condition		Measurement Detail	
Channel	Channel 6	**Frequency Range**	1 GHz ~ 25 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Getaz Yang

Antennal Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
2387.28	45.55	67.67	54	-8.45	26.91	4.84	53.87	216	82	Average
2387.28	56.29	62.52	74	-17.71	26.91	4.36	37.5	216	82	Peak
2437	106.57	112.57			27.06	4.4	37.46	216	82	Average
2437	117.7	123.7			27.06	4.4	37.46	216	82	Peak
2484	47.09	52.83	54	-6.91	27.15	4.43	37.32	216	82	Average
2484.08	58.16	63.9	74	-15.84	27.15	4.43	37.32	216	82	Peak
4874	36.79	51.73	54	-17.21	31.06	6.86	52.86	135	50	Average
4874	45.11	60.05	74	-28.89	31.06	6.86	52.86	135	50	Peak
Antennal Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
2389.66	41.94	63.85	54	-12.06	26.91	4.85	53.67	232	280	Average
2389.66	52.46	58.69	74	-21.54	26.91	4.36	37.5	232	280	Peak
2437	107.27	113.27			27.06	4.4	37.46	232	280	Average
2437	117.55	123.55			27.06	4.4	37.46	232	280	Peak
2488.4	41.84	63.31	54	-12.16	27.2	4.94	53.61	232	280	Average
2488.4	53.78	59.47	74	-20.22	27.2	4.43	37.32	232	280	Peak
4874	36	51.13	54	-18	31.06	6.86	53.05	133	156	Average
4874	46.96	62.09	74	-27.04	31.06	6.86	53.05	133	156	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 2437 MHz: Fundamental frequency.

EUT Test Condition		Measurement Detail	
Channel	Channel 11	**Frequency Range**	1 GHz ~ 25 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Getaz Yang

Antennal Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
2462	108.4	114.28			27.1	4.41	37.39	196	295	Average
2462	118.2	124.08			27.1	4.41	37.39	196	295	Peak
2486.24	52.23	74.1	54	-1.77	27.15	4.94	53.96	196	295	Average
2486.24	65.8	71.54	74	-8.2	27.15	4.43	37.32	196	295	Peak
4924	34.97	49.85	54	-19.03	31.12	6.89	52.89	138	51	Average
4924	43.67	58.55	74	-30.33	31.12	6.89	52.89	138	51	Peak
Antennal Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
2462	110.34	116.22			27.1	4.41	37.39	213	255	Average
2462	117.35	123.23			27.1	4.41	37.39	213	255	Peak
2483.68	49.1	70.62	54	-4.9	27.15	4.94	53.61	213	255	Average
2483.68	62.21	67.95	74	-11.79	27.15	4.43	37.32	213	255	Peak
4924	34.09	49.11	54	-19.91	31.12	6.89	53.03	136	149	Average
4924	44.57	59.59	74	-29.43	31.12	6.89	53.03	136	149	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 2462 MHz: Fundamental frequency.

802.11n (HT20)

EUT Test Condition		Measurement Detail	
Channel	Channel 1	**Frequency Range**	1 GHz ~ 25 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Getaz Yang

Antennal Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
2389.94	48.36	54.36	54	-5.64	27.16	4.36	37.52	226	69	Average
2389.94	64.41	70.39	74	-9.59	27.16	4.36	37.5	226	69	Peak
2412	104.1	110.01			27.23	4.38	37.52	226	69	Average
2412	114.47	120.38			27.23	4.38	37.52	226	69	Peak
4824	34.37	49.46	54	-19.63	30.99	6.81	52.89	139	50	Average
4824	44.01	59.1	74	-29.99	30.99	6.81	52.89	139	50	Peak
Antennal Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
2389.94	43.92	49.92	54	-10.08	27.16	4.36	37.52	207	340	Average
2389.94	59.96	65.96	74	-14.04	27.16	4.36	37.52	207	340	Peak
2412	100.1	106.01			27.23	4.38	37.52	207	340	Average
2412	111.03	116.94			27.23	4.38	37.52	207	340	Peak
4824	33.78	49.06	54	-20.22	30.99	6.81	53.08	133	155	Average
4824	42.58	57.86	74	-31.42	30.99	6.81	53.08	133	155	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 2412 MHz: Fundamental frequency.

EUT Test Condition		Measurement Detail	
Channel	Channel 6	**Frequency Range**	1 GHz ~ 25 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Getaz Yang

Antennal Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
2389.94	45.07	51.07	54	-8.93	27.16	4.36	37.52	224	71	Average
2389.94	56.59	62.57	74	-17.41	27.16	4.36	37.5	224	71	Peak
2437	106.85	112.53			27.38	4.4	37.46	224	71	Average
2437	116.67	122.35			27.38	4.4	37.46	224	71	Peak
2487.08	43.53	48.89	54	-10.47	27.53	4.43	37.32	224	71	Average
2487.08	55.93	61.29	74	-18.07	27.53	4.43	37.32	224	71	Peak
4874	36.37	51.31	54	-17.63	31.06	6.86	52.86	139	49	Average
4874	46.74	61.68	74	-27.26	31.06	6.86	52.86	139	49	Peak
Antennal Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
2389.94	41.18	47.18	54	-12.82	27.16	4.36	37.52	206	336	Average
2389.94	52.76	58.74	74	-21.24	27.16	4.36	37.5	206	336	Peak
2437	102.32	108			27.38	4.4	37.46	206	336	Average
2437	113.41	119.09			27.38	4.4	37.46	206	336	Peak
2490.08	40.18	45.54	54	-13.82	27.53	4.43	37.32	206	336	Average
2490.8	52.6	57.88	74	-21.4	27.61	4.43	37.32	206	336	Peak
4874	35.89	51.02	54	-18.11	31.06	6.86	53.05	133	156	Average
4874	45.96	61.09	74	-28.04	31.06	6.86	53.05	133	156	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 2437 MHz: Fundamental frequency.

EUT Test Condition		Measurement Detail	
Channel	Channel 11	**Frequency Range**	1 GHz ~ 25 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Getaz Yang

Antennal Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
2462	102.88	108.4			27.46	4.41	37.39	217	72	Average
2462	113.07	118.59			27.46	4.41	37.39	217	72	Peak
2483.72	46.14	51.5	54	-7.86	27.53	4.43	37.32	217	72	Average
2483.72	65.63	70.99	74	-8.37	27.53	4.43	37.32	217	72	Peak
4924	34.99	49.87	54	-19.01	31.12	6.89	52.89	139	55	Average
4924	43.6	58.48	74	-30.4	31.12	6.89	52.89	139	55	Peak
Antennal Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
2462	98.88	104.4			27.46	4.41	37.39	206	336	Average
2462	110.14	115.66			27.46	4.41	37.39	206	336	Peak
2483.52	41.31	46.67	54	-12.69	27.53	4.43	37.32	206	336	Average
2483.52	56.54	61.9	74	-17.46	27.53	4.43	37.32	206	336	Peak
4924	34.31	49.33	54	-19.69	31.12	6.89	53.03	135	155	Average
4924	43.95	58.97	74	-30.05	31.12	6.89	53.03	135	155	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 2462 MHz: Fundamental frequency.

802.11n (HT40)

EUT Test Condition		Measurement Detail	
Channel	Channel 3	**Frequency Range**	1 GHz ~ 25 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Getaz Yang

Antennal Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
2389.8	51.01	57.01	54	-2.99	27.16	4.36	37.52	220	72	Average
2389.8	67.96	73.94	74	-6.04	27.16	4.36	37.5	220	72	Peak
2422	100.43	106.19			27.31	4.39	37.46	220	72	Average
2422	110.59	116.35			27.31	4.39	37.46	220	72	Peak
2488.08	41.77	47.13	54	-12.23	27.53	4.43	37.32	220	72	Average
2488.08	53.34	58.62	74	-20.66	27.61	4.43	37.32	220	72	Peak
4844	34.72	49.76	54	-19.28	31.01	6.83	52.88	140	47	Average
4844	43.1	58.14	74	-30.9	31.01	6.83	52.88	140	47	Peak
Antennal Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
2389.94	47.2	53.2	54	-6.8	27.16	4.36	37.52	206	336	Average
2389.94	64.94	71.01	74	-9.06	27.08	4.35	37.5	206	336	Peak
2422	97.35	103.11			27.31	4.39	37.46	206	336	Average
2422	107.59	113.35			27.31	4.39	37.46	206	336	Peak
2485.6	38.37	43.73	54	-15.63	27.53	4.43	37.32	206	336	Average
2485.6	50.64	56	74	-23.36	27.53	4.43	37.32	206	336	Peak
4844	33.78	49	54	-20.22	31.01	6.83	53.06	135	160	Average
4844	43.19	58.41	74	-30.81	31.01	6.83	53.06	135	160	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 2422 MHz: Fundamental frequency.

EUT Test Condition		Measurement Detail	
Channel	Channel 6	**Frequency Range**	1 GHz ~ 25 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Getaz Yang

Antennal Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
2389.94	48.79	54.79	54	-5.21	27.16	4.36	37.52	221	69	Average
2389.94	65.2	71.2	74	-8.8	27.16	4.36	37.52	221	69	Peak
2437	103.07	108.75			27.38	4.4	37.46	221	69	Average
2437	113.75	119.43			27.38	4.4	37.46	221	69	Peak
2484.04	47.3	52.66	54	-6.7	27.53	4.43	37.32	221	69	Average
2484.04	64.83	70.19	74	-9.17	27.53	4.43	37.32	221	69	Peak
4874	34.71	49.65	54	-19.29	31.06	6.86	52.86	139	54	Average
4874	43.49	58.43	74	-30.51	31.06	6.86	52.86	139	54	Peak
Antennal Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
2389.94	45.09	51.09	54	-8.91	27.16	4.36	37.52	208	338	Average
2389.94	59.38	65.36	74	-14.62	27.16	4.36	37.5	208	338	Peak
2437	98.67	104.35			27.38	4.4	37.46	208	338	Average
2437	109.5	115.18			27.38	4.4	37.46	208	338	Peak
2484.08	42.7	48.06	54	-11.3	27.53	4.43	37.32	208	338	Average
2484.08	58.79	64.15	74	-15.21	27.53	4.43	37.32	208	338	Peak
4874	33.92	49.05	54	-20.08	31.06	6.86	53.05	133	158	Average
4874	42.77	57.9	74	-31.23	31.06	6.86	53.05	133	158	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 2437 MHz: Fundamental frequency.

EUT Test Condition		Measurement Detail	
Channel	Channel 9	**Frequency Range**	1 GHz ~ 25 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Getaz Yang

Antennal Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
2388.96	42.57	48.55	54	-11.43	27.16	4.36	37.5	222	71	Average
2388.96	54.35	60.33	74	-19.65	27.16	4.36	37.5	222	71	Peak
2452	98.78	104.38			27.38	4.41	37.39	222	71	Average
2452	109.01	114.61			27.38	4.41	37.39	222	71	Peak
2484.92	47.09	52.45	54	-6.91	27.53	4.43	37.32	222	71	Average
2484.92	68.11	73.47	74	-5.89	27.53	4.43	37.32	222	71	Peak
4904	34.88	49.75	54	-19.12	31.1	6.88	52.85	134	55	Average
4904	44.01	58.88	74	-29.99	31.1	6.88	52.85	134	55	Peak
Antennal Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
2389.24	38.8	44.96	54	-15.2	27.01	4.32	37.49	222	332	Average
2389.24	51.08	57.06	74	-22.92	27.16	4.36	37.5	222	332	Peak
2452	96.98	102.58			27.38	4.41	37.39	222	332	Average
2452	107.24	112.84			27.38	4.41	37.39	222	332	Peak
2484.84	42.69	48.05	54	-11.31	27.53	4.43	37.32	222	332	Average
2484.84	58.52	63.88	74	-15.48	27.53	4.43	37.32	222	332	Peak
4904	33.99	49.04	54	-20.01	31.1	6.88	53.03	136	155	Average
4904	43.75	58.8	74	-30.25	31.1	6.88	53.03	136	155	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 2452 MHz: Fundamental frequency.

9 kHz ~ 30 MHz Data:

The amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required to be report.

30 MHz ~ 1 GHz Worst-Case Data:

802.11b

EUT Test Condition		Measurement Detail	
Channel	Channel 1	**Frequency Range**	30 MHz ~ 1 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Quasi-peak (QP)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Gavin Wu

Antennal Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
67.83	37.94	58.04	40	-2.06	11	0.63	31.73	105	211	QP
162.89	29.58	47.94	43.5	-13.92	12.44	1.03	31.83	135	325	Peak
375.32	42.71	57.91	46	-3.29	14.75	1.99	31.94	102	160	Peak
525.67	33.87	44.99	46	-12.13	17.91	2.61	31.64	102	62	Peak
768.17	39.92	45.9	46	-6.08	21.78	3.57	31.33	111	292	Peak
819.58	39.9	45.28	46	-6.1	22.48	3.74	31.6	122	76	Peak
Antennal Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
68.8	33.82	54.07	40	-6.18	10.89	0.63	31.77	120	107	Peak
264.74	36.53	55.05	46	-9.47	11.91	1.51	31.94	114	202	Peak
384.05	40.83	55.84	46	-5.17	14.96	2.02	31.99	127	103	Peak
541.19	37.46	48.28	46	-8.54	18.26	2.67	31.75	138	65	Peak
625.58	39.75	48.97	46	-6.25	19.92	3.01	32.15	127	304	Peak
768.17	37.07	43.05	46	-8.93	21.78	3.57	31.33	100	66	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   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 0.50 MHz.

4.2.2 Test Instruments

Description & Manaufacturer	Model No.	Serial No.	Date of Calibration	Due Date of Calibration
Test Receiver ROHDE & SCHWARZ	ESCS 30	100288	Aug. 17, 2017	Aug. 16, 2018
RF signal cable (with 10dB PAD) Woken	5D-FB	Cable-cond1-01	Sep. 05, 2017	Sep. 04, 2018
LISN/AMN ROHDE & SCHWARZ (EUT)	ESH3-Z5	835239/001	Mar. 10, 2017	Mar. 09, 2018
LISN/AMN ROHDE & SCHWARZ (Peripheral)	ENV216	101196	Apr. 20, 2017	Apr. 19, 2018
Software ADT	BV ADT_Cond_ V7.3.7.3	NA	NA	NA

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in HwaYa Shielded Room 1.
3. The VCCI Site Registration No. is C-2040.

4.2.3 Test Procedures

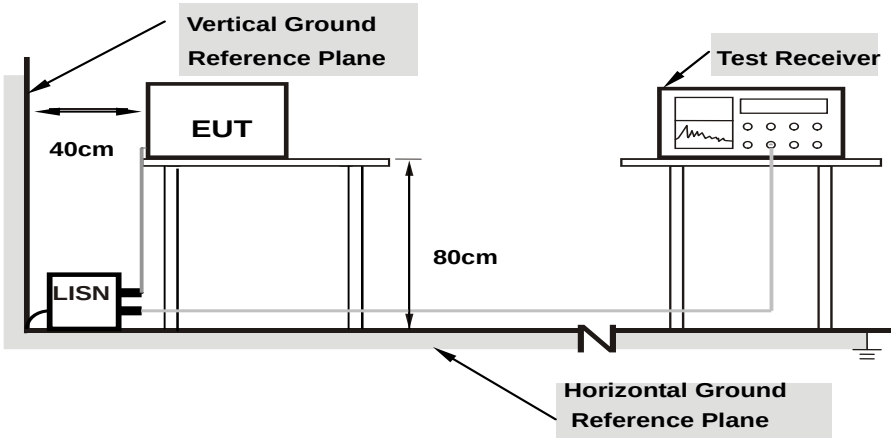
a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/50 uH of coupling impedance for the measuring instrument.
b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
c. The frequency range from 150 kHz to 30 MHz was searched. Emission levels under (Limit – 20 dB) was not recorded.

NOTE: All modes of operation were investigated and the worst-case emissions are reported.

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

a. Placed the EUT on a testing table.
b. Use the software to control the EUT under transmission condition continuously at specific channel frequency.

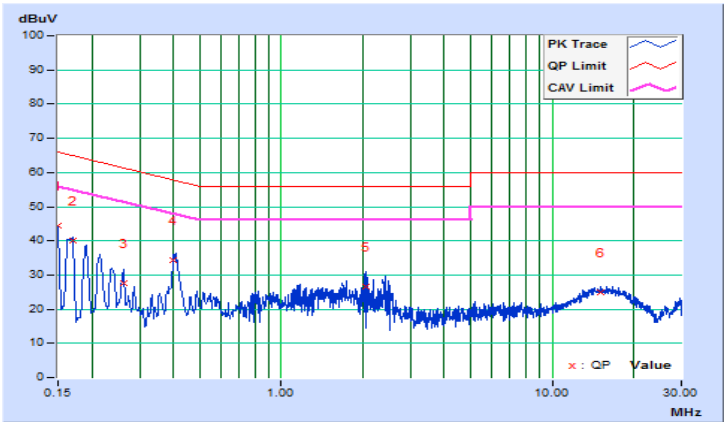
4.2.7 Test Results

Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	Environmental Conditions	25℃, 65%RH
Tested by	Getaz Yang	Test Date	2017/11/22

Phase Of Power : Line (L)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	10.39	34.21	18.17	44.60	28.56	66.00	56.00	-21.40	-27.44
2	0.16932	10.39	29.65	15.67	40.04	26.06	64.99	54.99	-24.95	-28.93
3	0.26200	10.40	17.10	5.45	27.50	15.85	61.37	51.37	-33.87	-35.52
4	0.40074	10.41	23.79	19.39	34.20	29.80	57.84	47.84	-23.64	-18.04
5	2.04200	10.47	16.24	10.12	26.71	20.59	56.00	46.00	-29.29	-25.41
6	15.11400	11.11	13.72	7.44	24.83	18.55	60.00	50.00	-35.17	-31.45

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

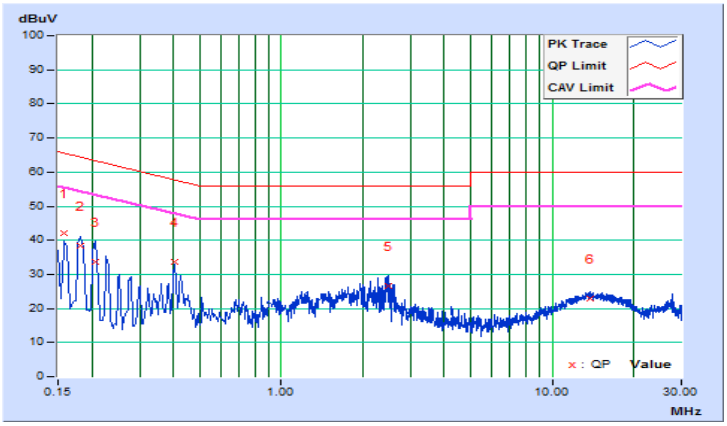


Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	Environmental Conditions	25℃, 65%RH
Tested by	Getaz Yang	Test Date	2017/11/22

Phase Of Power : Neutral (N)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15811	10.16	31.95	15.96	42.11	26.12	65.56	55.56	-23.45	-29.44
2	0.18180	10.16	28.18	13.12	38.34	23.28	64.40	54.40	-26.06	-31.12
3	0.20600	10.16	23.64	11.41	33.80	21.57	63.37	53.37	-29.57	-31.80
4	**0.40600**	**10.17**	**23.39**	**21.85**	**33.56**	**32.02**	**57.73**	**47.73**	**-24.17**	**-15.71**
5	2.49800	10.26	16.23	6.07	26.49	16.33	56.00	46.00	-29.51	-29.67
6	13.85800	10.73	12.26	6.19	22.99	16.92	60.00	50.00	-37.01	-33.08

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

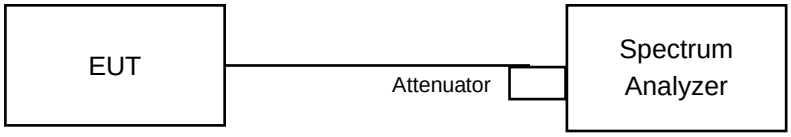


4.3 6 dB Bandwidth Measurement

4.3.1 Limits of 6 dB Bandwidth Measurement

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

4.3.5 Deviation fromTest 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)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
1	2412	8.11	0.5	Pass
6	2437	7.64	0.5	Pass
11	2462	8.13	0.5	Pass

802.11g

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)			Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2		
1	2412	16.37	16.36	15.92	0.5	Pass
6	2437	15.73	16.36	15.19	0.5	Pass
11	2462	16.42	16.37	15.76	0.5	Pass

802.11n (HT20)

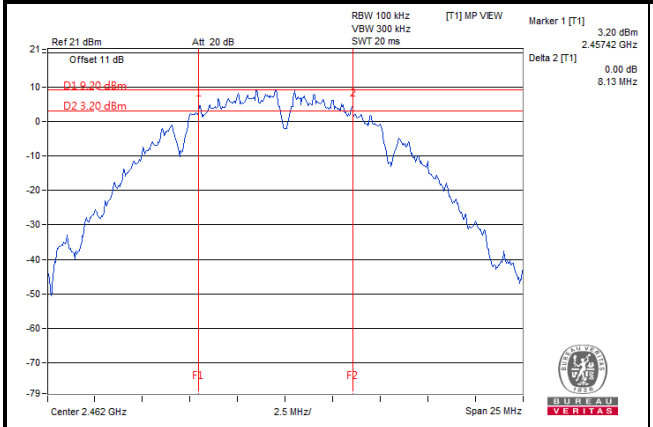
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)			Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2		
1	2412	17.21	16.02	15.09	0.5	Pass
6	2437	17.19	15.44	16.14	0.5	Pass
11	2462	16.98	16.59	16.96	0.5	Pass

802.11n (HT40)

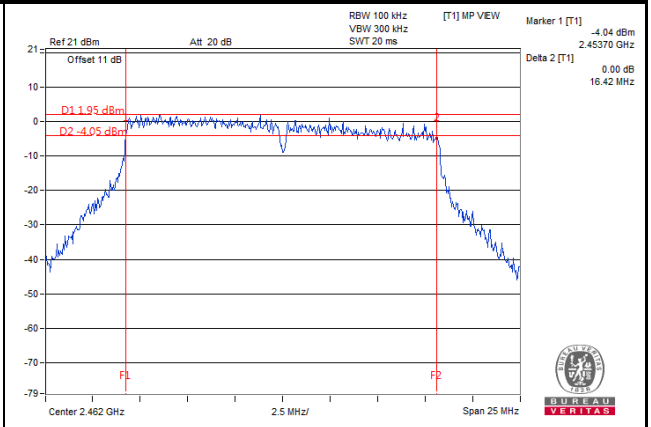
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)			Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2		
3	2422	35.18	35.36	33.91	0.5	Pass
6	2437	35.10	35.21	35.03	0.5	Pass
9	2452	35.23	33.90	30.20	0.5	Pass

Spectrum Plot of Worst Value

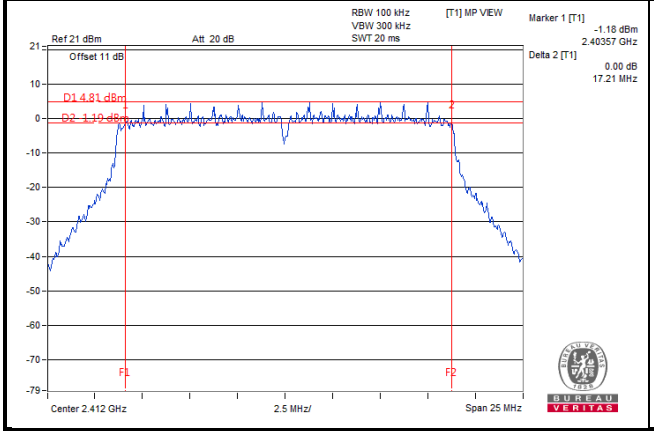
802.11b



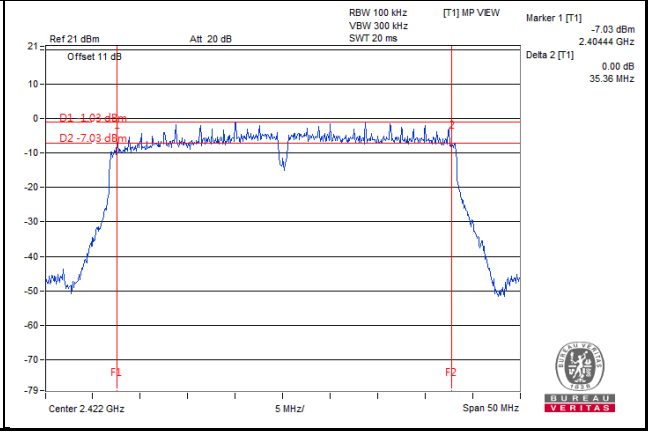
802.11g



802.11n (HT20)

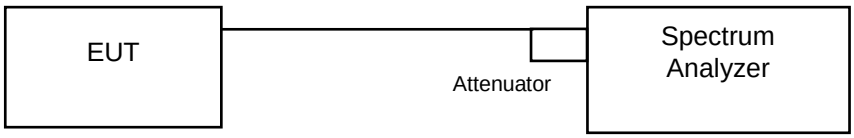


802.11n (HT40)



4.4 Occupied Bandwidth Measurement

4.4.1 Test Setup



4.4.2 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.4.3 Test Procedure

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

4.4.4 Deviation from Test Standard

No deviation.

4.4.5 EUT Operating Conditions

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

4.4.6 Test Results

802.11b

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	Pass / Fail
1	2412	12.83	Pass
6	2437	12.90	Pass
11	2462	13.25	Pass

802.11g

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)			Pass / Fail
		Chain 0	Chain 1	Chain 2	
1	2412	16.49	16.53	16.44	Pass
6	2437	16.50	16.55	16.45	Pass
11	2462	16.55	16.55	16.45	Pass

802.11n (HT20)

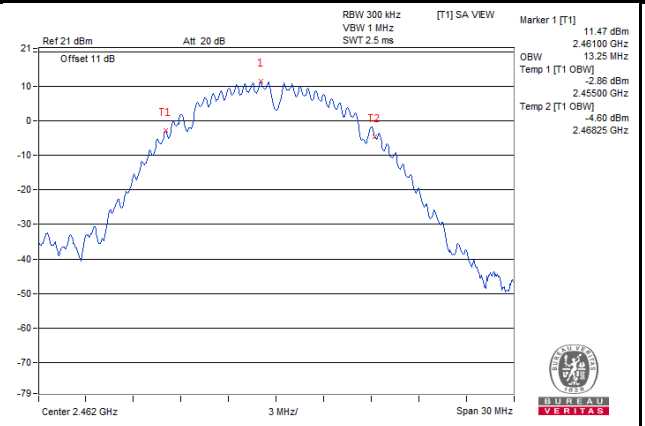
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)			Pass / Fail
		Chain 0	Chain 1	Chain 2	
1	2412	17.69	17.59	17.74	Pass
6	2437	17.65	17.55	17.70	Pass
11	2462	17.70	17.60	17.80	Pass

802.11n (HT40)

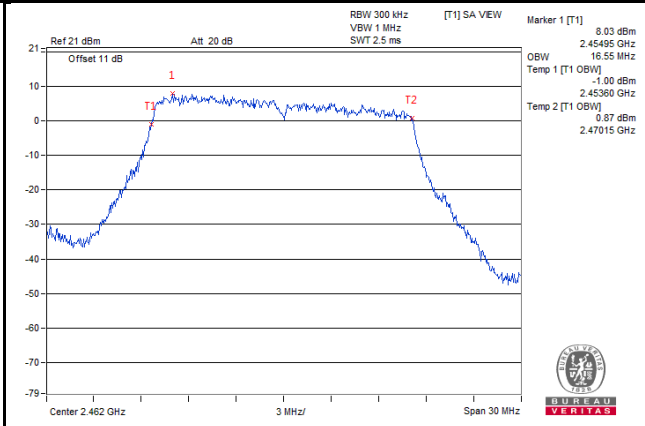
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)			Pass / Fail
		Chain 0	Chain 1	Chain 2	
3	2422	36.21	36.21	36.05	Pass
6	2437	36.16	36.33	36.00	Pass
9	2452	36.16	36.16	35.83	Pass

Spectrum Plot of Worst Value

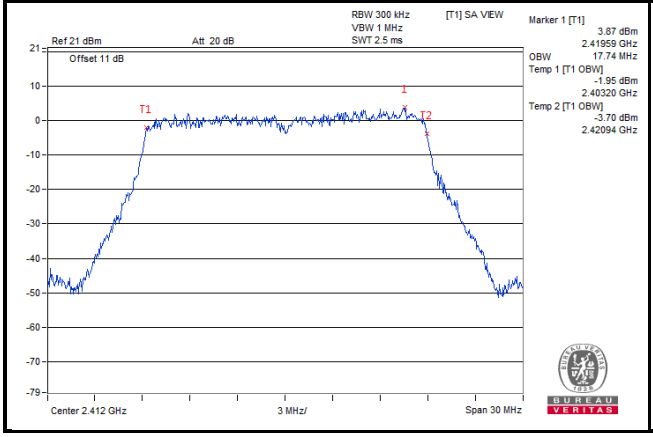
802.11b



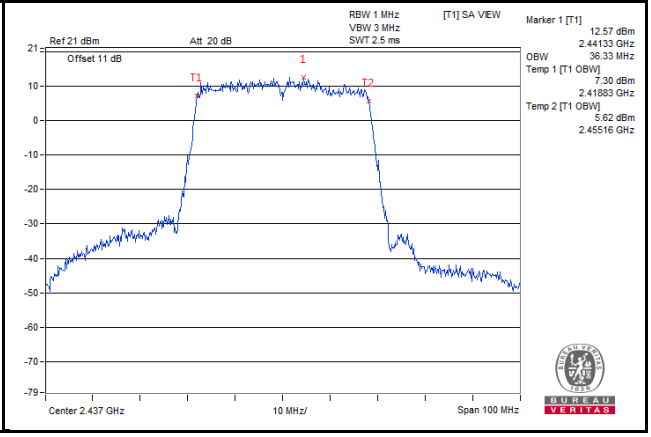
802.11g



802.11n (HT20)



802.11n (HT40)



4.5 Conducted Output Power Measurement

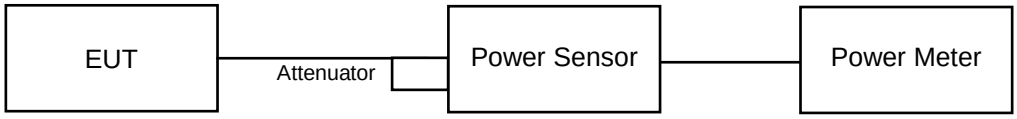
4.5.1 Limits of Conducted Output Power Measurement

For systems using digital modulation in the 2400–2483.5 MHz bands: 1 Watt (30 dBm)
Per KDB 662911 D01 Multiple Transmitter Output Method of conducted output power measurement on IEEE 802.11 devices,

Array Gain = 0 dB (i.e., no array gain) for NANT ≤ 4;
Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any NANT;
Array Gain = 5 log(NANT/NSS) dB or 3 dB, whichever is less for 20 MHz channel widths with NANT ≥ 5.

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

4.5.2 Test Setup



4.5.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.5.4 Test Procedures

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

4.5.5 Deviation from Test Standard

No deviation.

4.5.6 EUT Operating Conditions

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

4.5.7 Test Results

802.11b

Channel	Frequency (MHz)	Peak Power (mW)	Peak Power (dBm)	Limit (dBm)	Pass / Fail
1	2412	285.759	24.56	30	Pass
6	2437	283.792	24.53	30	Pass
11	2462	225.944	23.54	30	Pass

802.11g

Channel	Frequency (MHz)	Peak Power (dBm)			Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
1	2412	24.45	24.06	24.24	798.756	29.02	30	Pass
6	2437	25.09	25.44	25.11	997.134	29.99	30	Pass
11	2462	24.85	24.73	25.15	930	29.68	30	Pass

802.11n (HT20)

Channel	Frequency (MHz)	Peak Power (dBm)			Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
1	2412	15.76	15.80	16.10	116.427	20.66	30	Pass
6	2437	18.08	18.83	17.92	202.597	23.07	30	Pass
11	2462	15.51	15.47	15.59	107.024	20.29	30	Pass

802.11n (HT40)

Channel	Frequency (MHz)	Peak Power (dBm)			Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
3	2422	24.90	24.98	25.16	951.9	29.79	30	Pass
6	2437	25.12	25.36	25.02	986.332	29.94	30	Pass
9	2452	24.93	25.15	25.34	980.492	29.91	30	Pass

4.6 Power Spectral Density Measurement

4.6.1 Limits of Power Spectral Density Measurement

The Maximum of Power Spectral Density Measurement is 8 dBm.

4.6.2 Test Setup

TEST INSTRUMENTS

Refer to section 4.1.2 to get information of above instrument.

4.6.3 Test Procedure

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

4.6.4 Deviation from Test Standard

No deviation.

4.6.5 EUT Operating Condition

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

4.6.6 Test Results

802.11b

Channel	Frequency (MHz)	PSD (dBm/3 kHz)	Limit (dBm/3 kHz)	Pass / Fail
1	2412	-8.58	8	Pass
6	2437	-7.60	8	Pass
11	2462	-6.76	8	Pass

802.11g

TX Chain	Channel	Freq. (MHz)	PSD (dBm/3 kHz)	10 log (N=3) dB	Total PSD (dBm/3 kHz)	Limit (dBm/3 kHz)	Pass / Fail
0	1	2412	-9.68	4.77	-4.91	5.30	Pass
	6	2437	-9.54	4.77	-4.77	5.30	Pass
	11	2462	-10.78	4.77	-6.01	5.30	Pass
1	1	2412	-8.40	4.77	-3.63	5.30	Pass
	6	2437	-8.62	4.77	-3.85	5.30	Pass
	11	2462	-8.43	4.77	-3.66	5.30	Pass
2	1	2412	-15.86	4.77	-11.09	5.30	Pass
	6	2437	-13.80	4.77	-9.03	5.30	Pass
	11	2462	-14.33	4.77	-9.56	5.30	Pass

NOTE: Directional gain = 3.93 dBi + 10log(3) = 8.7 dBi > 6 dBi , so the power density limit shall be reduced to 8-(8.7-6) = 5.30 dBm.

802.11n (HT20)

TX Chain	Channel	Freq. (MHz)	PSD (dBm/3 kHz)	10 log (N=2) dB	Total PSD (dBm/3 kHz)	Limit (dBm/3 kHz)	Pass / Fail
0	1	2412	-9.67	4.77	-4.90	5.30	Pass
	6	2437	-9.65	4.77	-4.88	5.30	Pass
	11	2462	-12.16	4.77	-7.39	5.30	Pass
1	1	2412	-9.43	4.77	-4.66	5.30	Pass
	6	2437	-8.33	4.77	-3.56	5.30	Pass
	11	2462	-11.22	4.77	-6.45	5.30	Pass
2	1	2412	-13.58	4.77	-8.81	5.30	Pass
	6	2437	-12.98	4.77	-8.21	5.30	Pass
	11	2462	-13.39	4.77	-8.62	5.30	Pass

NOTE: Directional gain = 3.93 dBi + 10log(3) = 8.7 dBi > 6 dBi , so the power density limit shall be reduced to 8-(8.7-6) = 5.30 dBm.

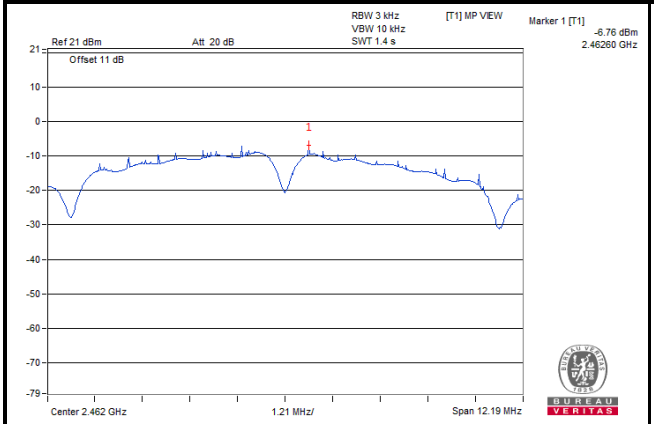
802.11n (HT40)

TX Chain	Channel	Freq. (MHz)	PSD (dBm/3 kHz)	10 log (N=2) dB	Total PSD (dBm/3 kHz)	Limit (dBm/3 kHz)	Pass / Fail
0	3	2422	-14.47	4.77	-9.70	5.30	Pass
	6	2437	-12.68	4.77	-7.91	5.30	Pass
	9	2452	-14.73	4.77	-9.96	5.30	Pass
1	3	2422	-12.84	4.77	-8.07	5.30	Pass
	6	2437	-11.38	4.77	-6.61	5.30	Pass
	9	2452	-13.46	4.77	-8.69	5.30	Pass
2	3	2422	-14.26	4.77	-9.49	5.30	Pass
	6	2437	-13.23	4.77	-8.46	5.30	Pass
	9	2452	-14.62	4.77	-9.85	5.30	Pass

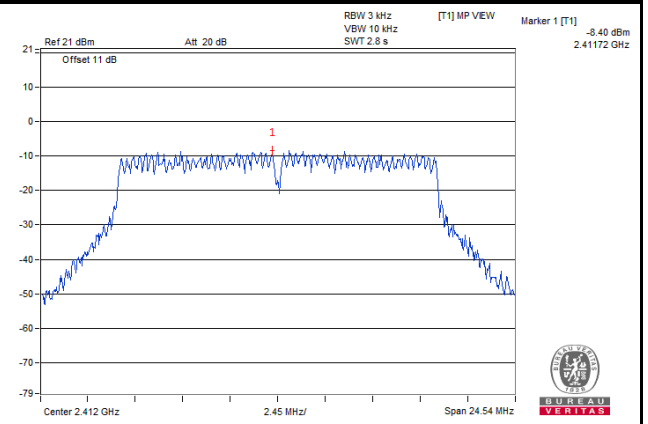
NOTE: Directional gain = 3.93 dBi + 10log(3) = 8.7 dBi > 6 dBi , so the power density limit shall be reduced to 8-(8.7-6) = 5.30 dBm.

Spectrum Plot of Worst Value

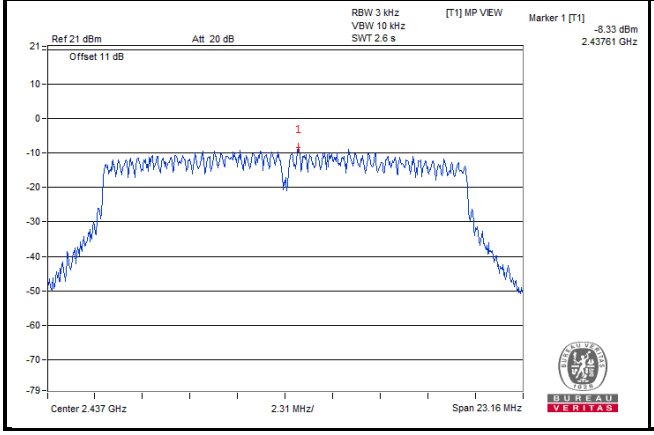
802.11b



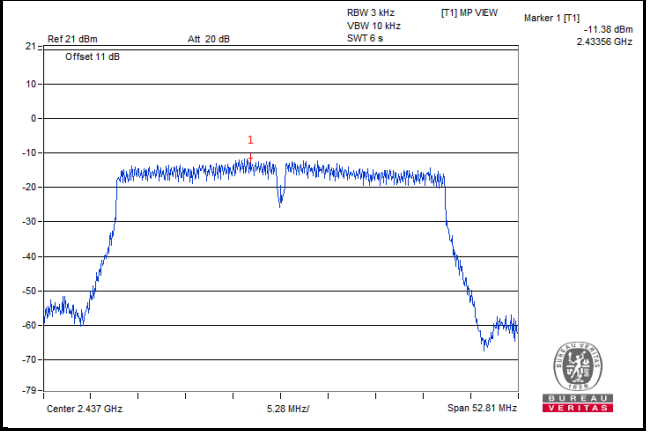
802.11g



802.11n (HT20)



802.11n (HT40)

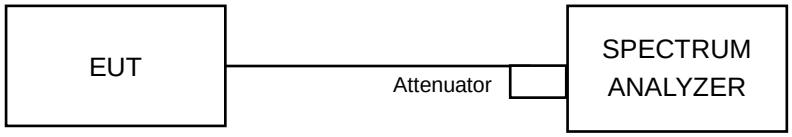


4.7 Conducted Out of Band Emission Measurement

4.7.1 Limits of Conducted Out of Band Emission Measurement

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

4.7.2 Test Setup



4.7.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.7.4 Test Procedure

MEASUREMENT PROCEDURE REF

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

MEASUREMENT PROCEDURE OOBE

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

4.7.5 Deviation from Test Standard

No deviation.

4.7.6 EUT Operating Condition

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

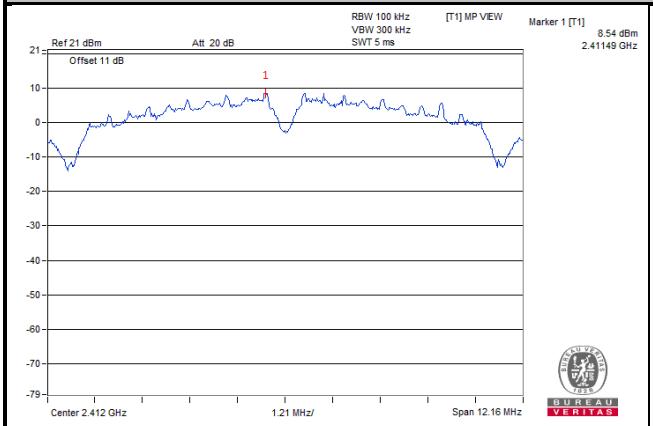
4.7.7 Test Results

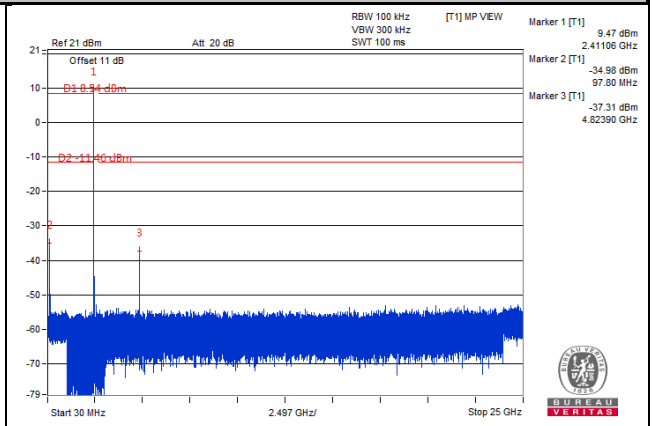
The conducted emission test is performed on each TX port of operating mode without summing or adding 10log (N) since the limit is relative emission limit.

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

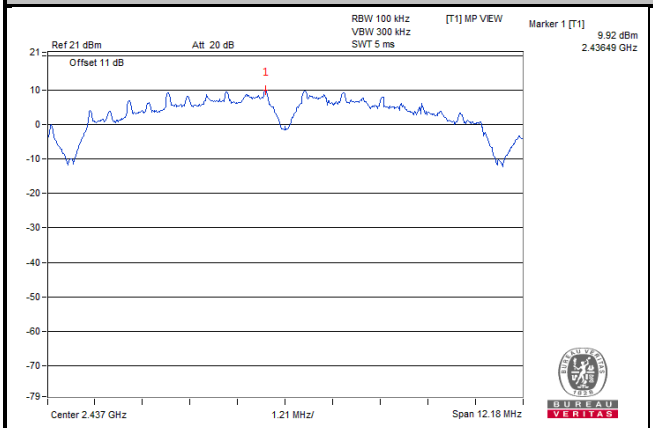
802.11b

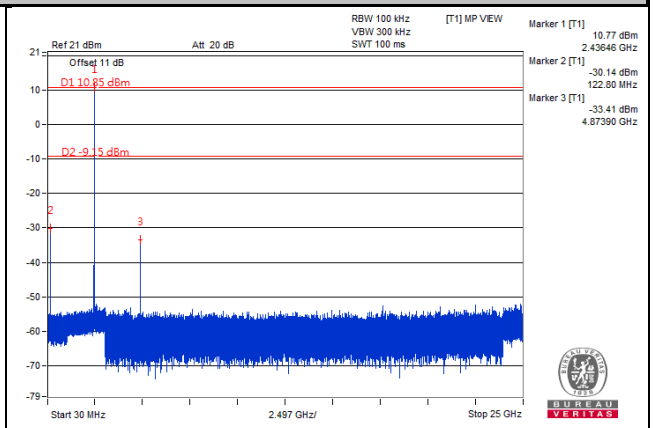
Ch 1



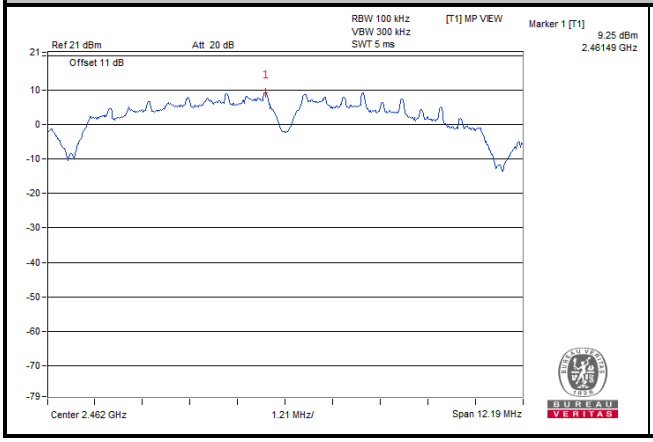


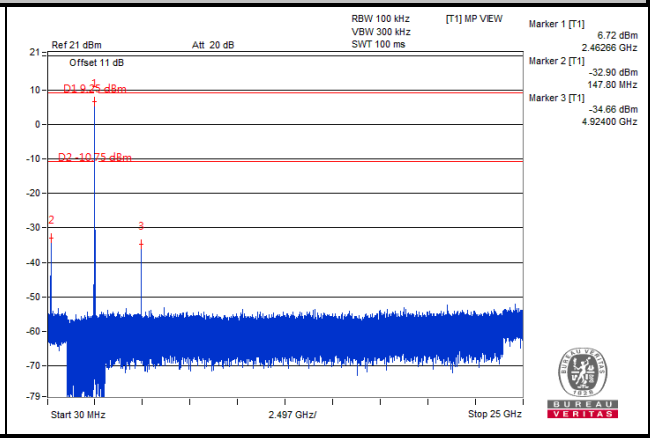
Ch 6

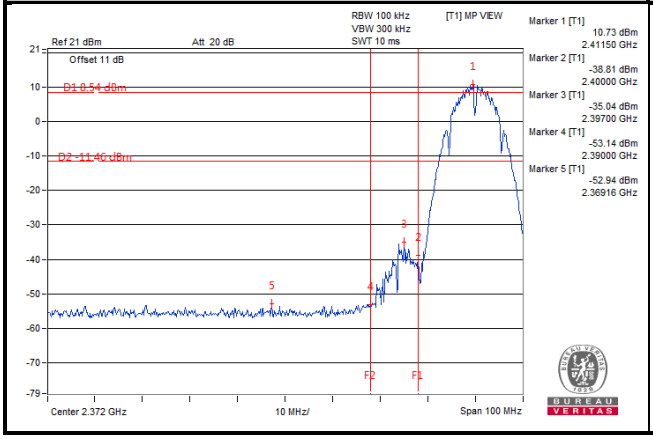
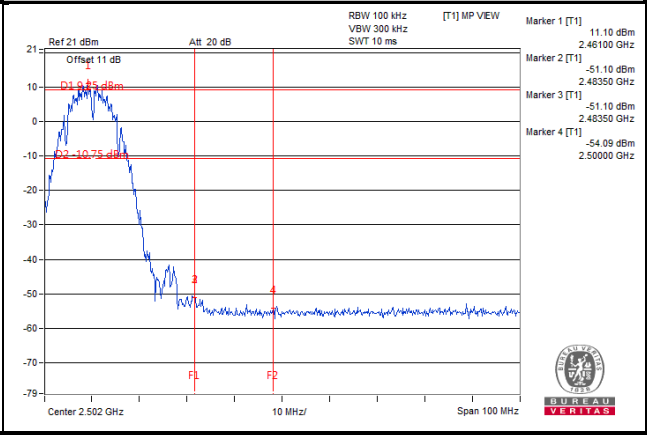




Ch 11



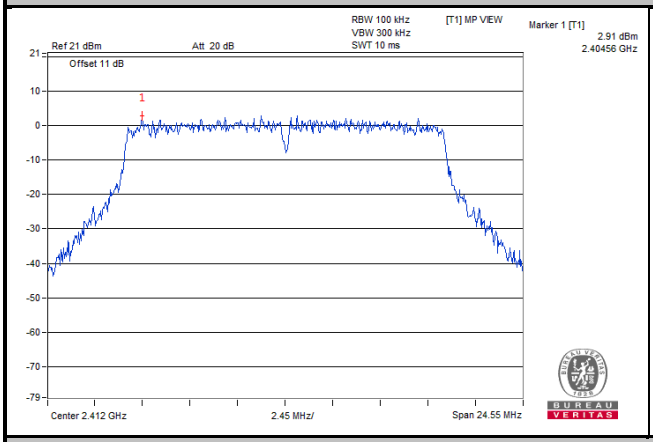


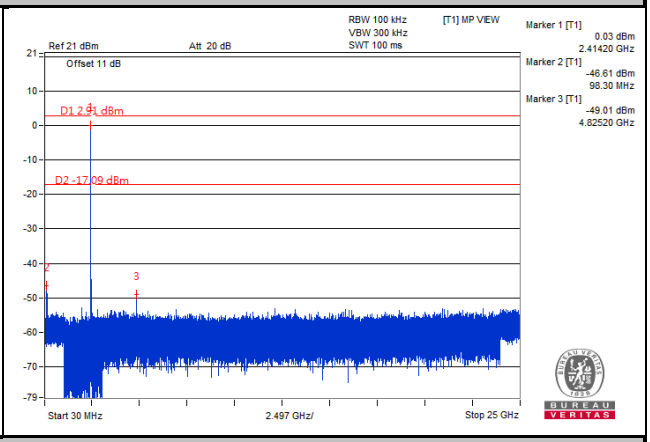
Ch 1 Band Edge	Ch 11 Band Edge
	

802.11g

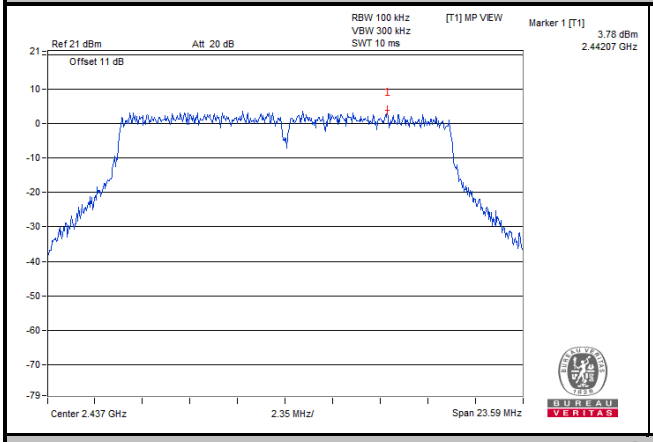
CHAIN 0

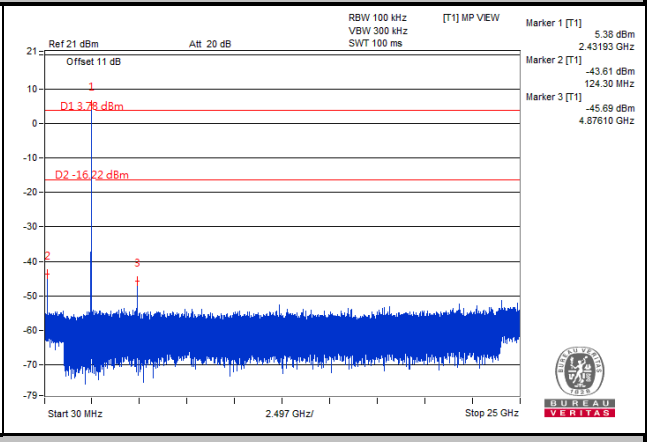
Ch 1



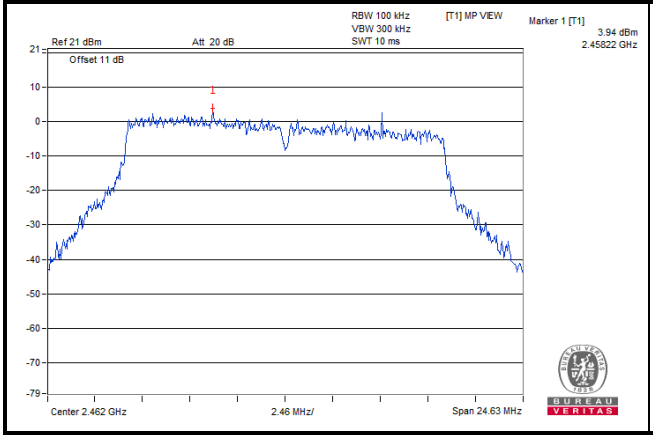


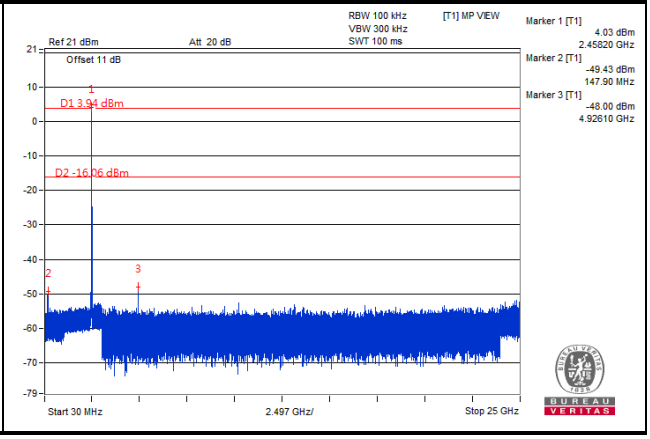
Ch 6

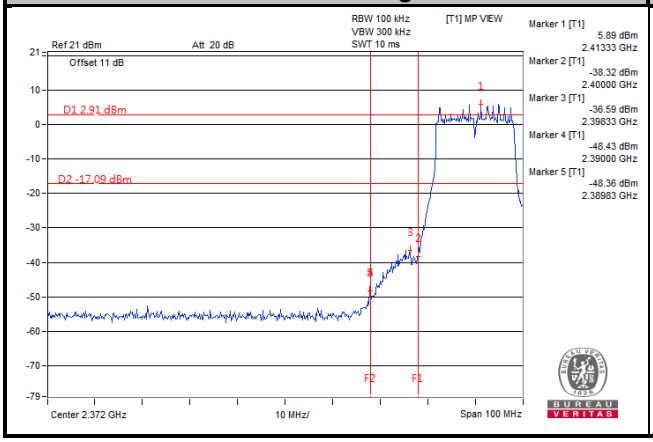
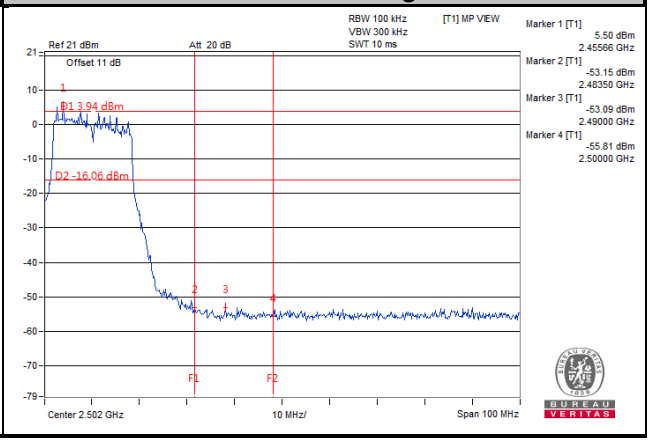




Ch 11

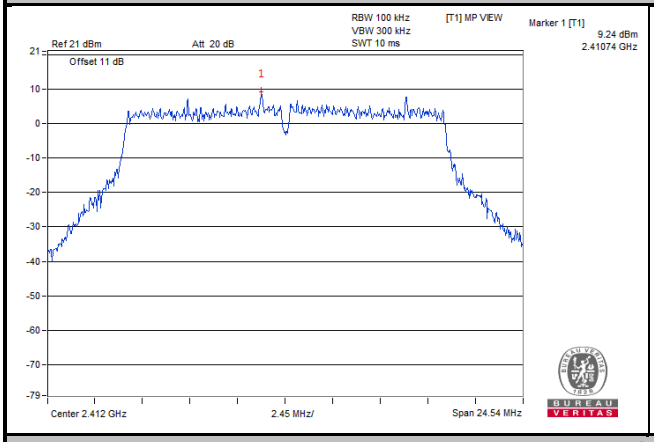


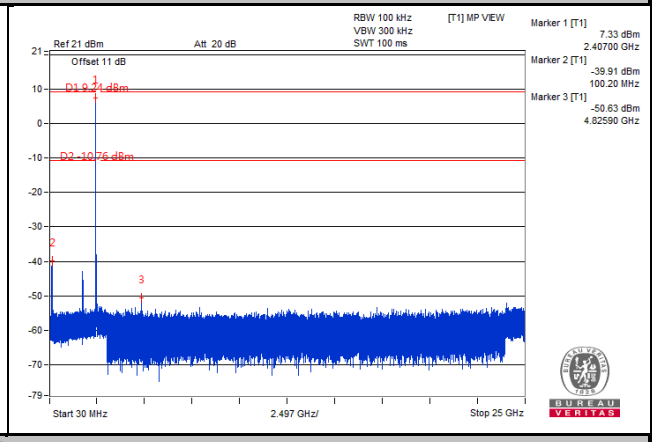


Ch 1 Band Edge	Ch 11 Band Edge
	

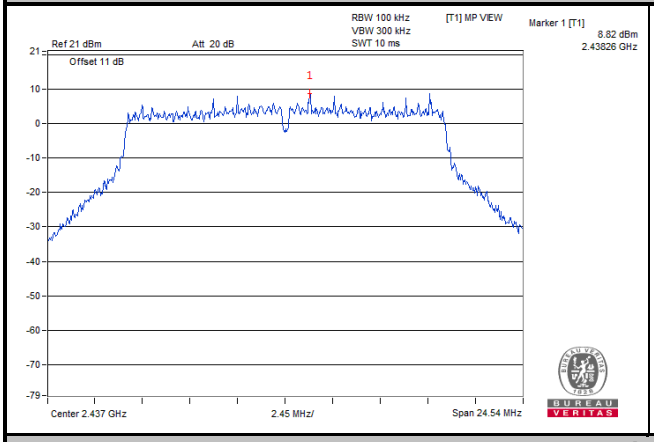
CHAIN 1

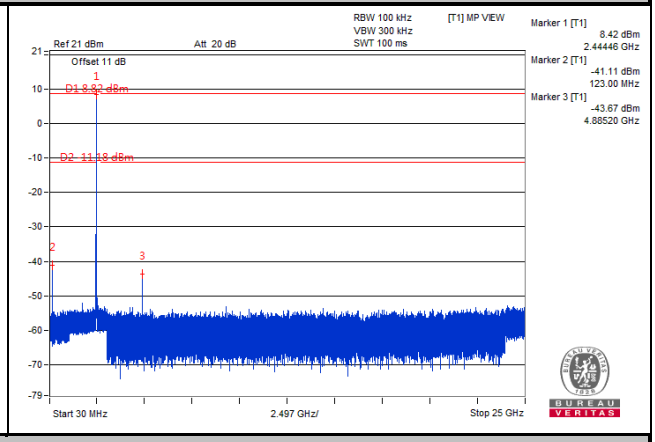
Ch 1



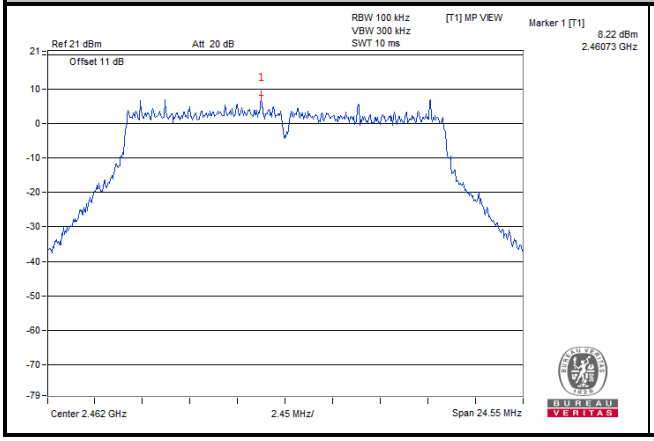


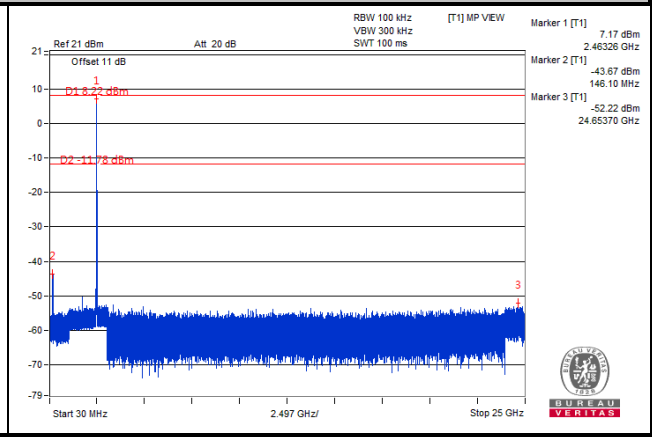
Ch 6

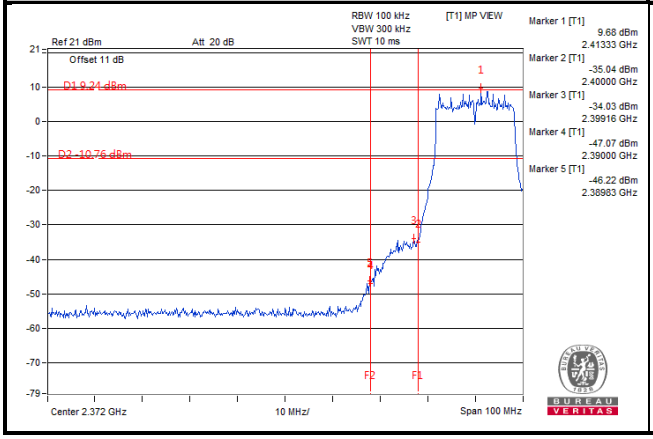
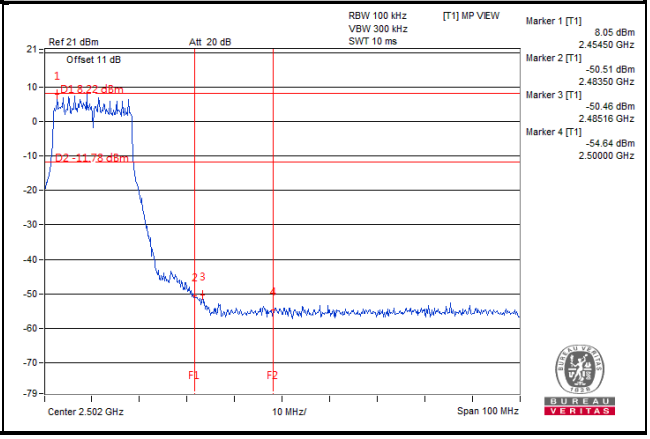




Ch 11

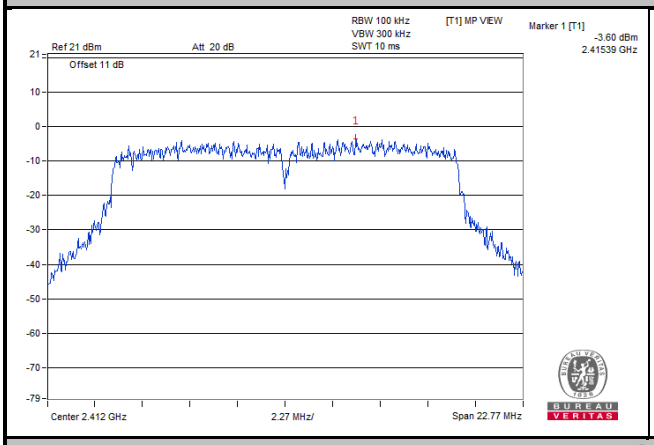


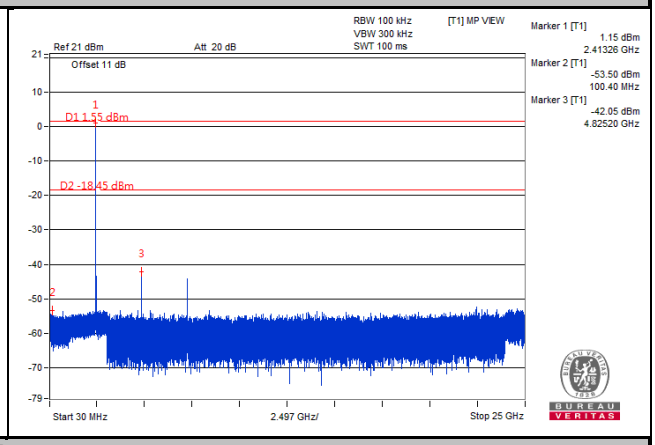


Ch 1 Band Edge	Ch 11 Band Edge
	

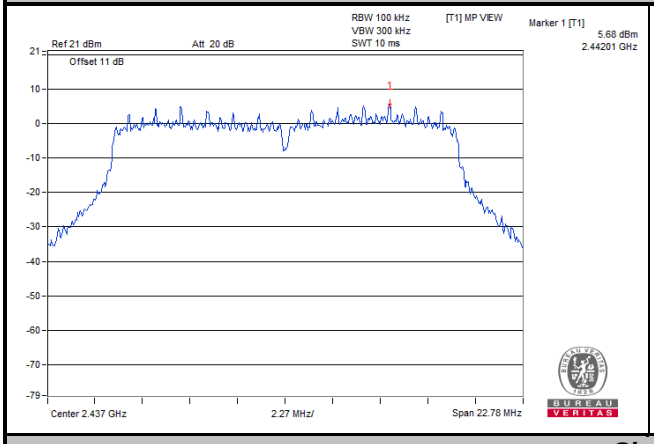
CHAIN 2

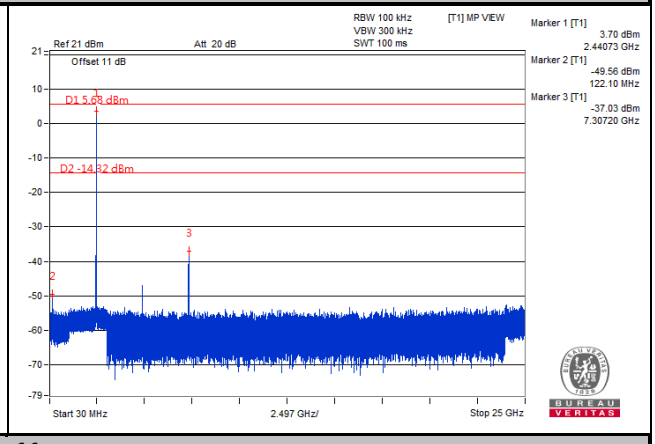
Ch 1



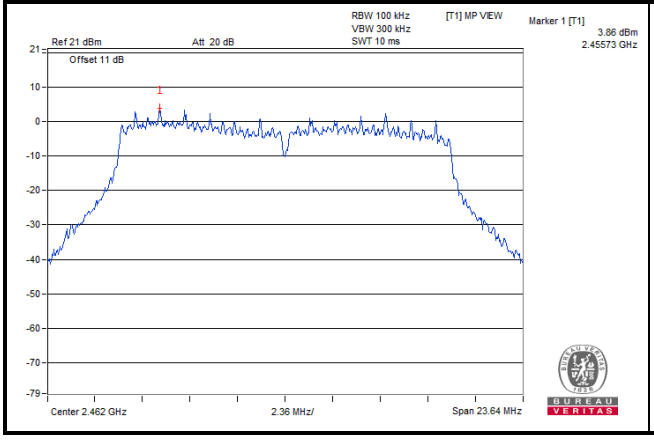


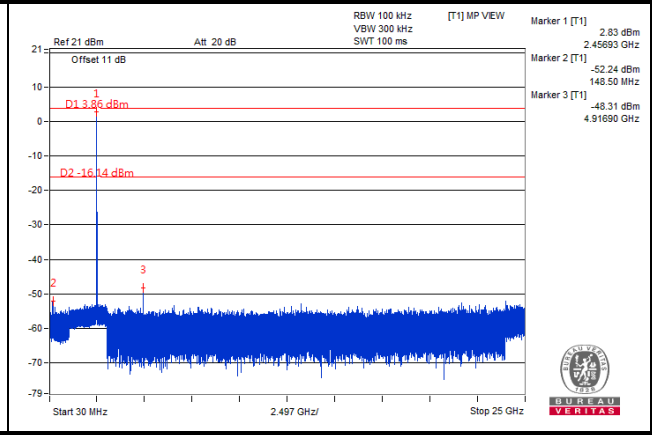
Ch 6

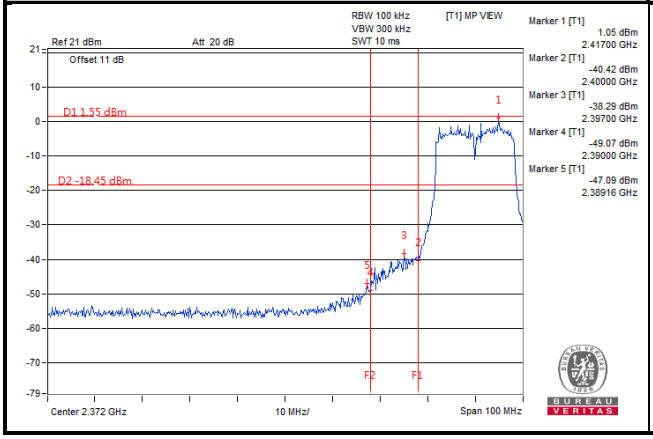
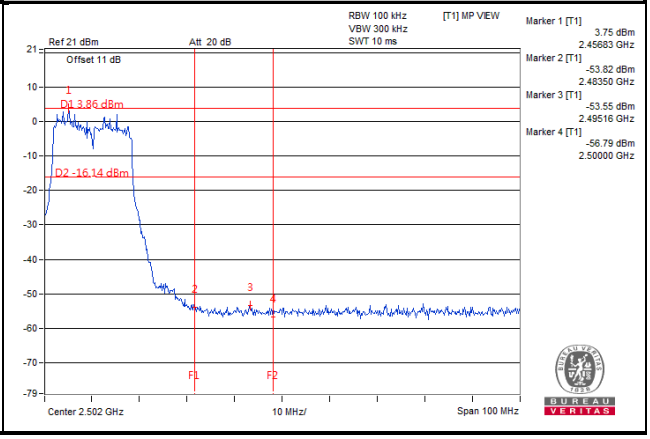




Ch 11



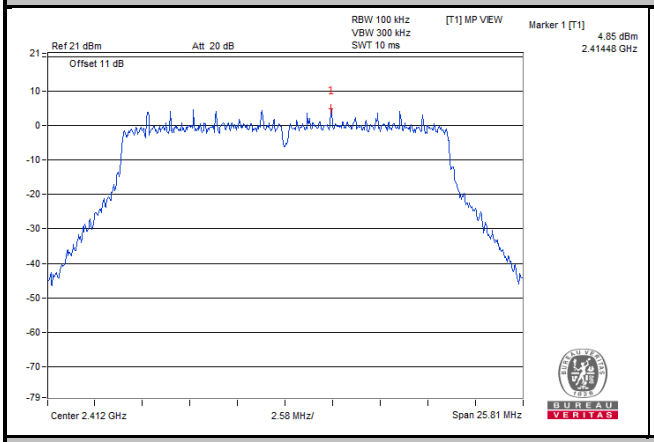


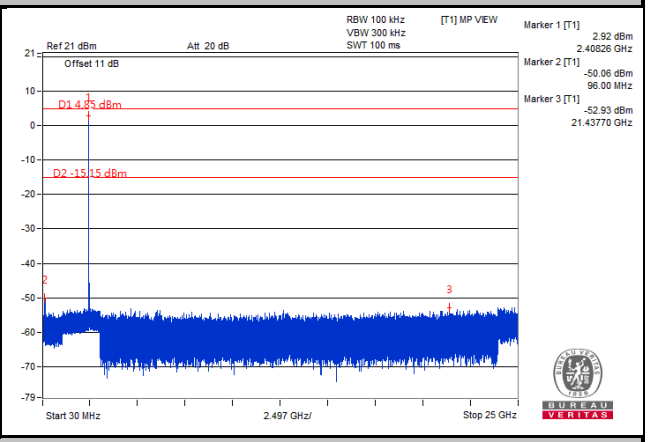
Ch 1 Band Edge	Ch 11 Band Edge
	

802.11n (HT20)

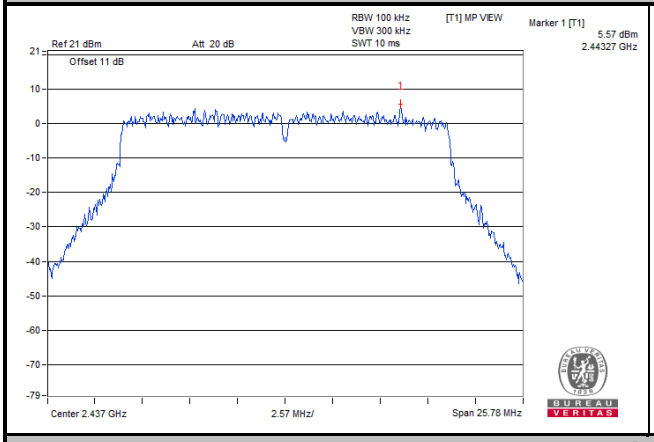
CHAIN 0

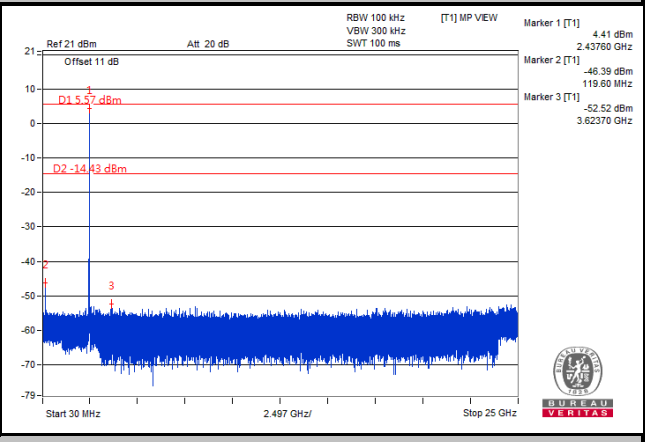
Ch 1



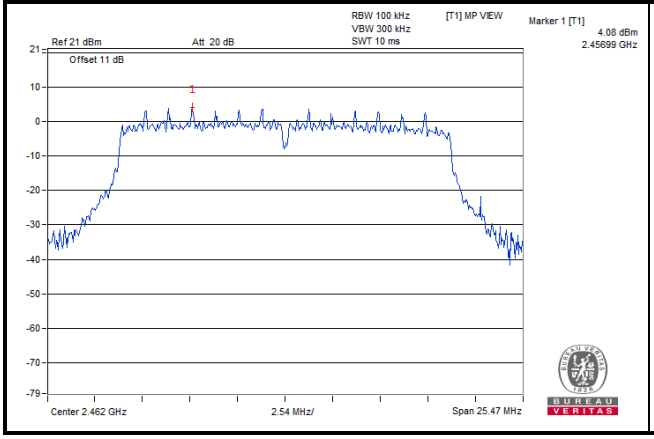


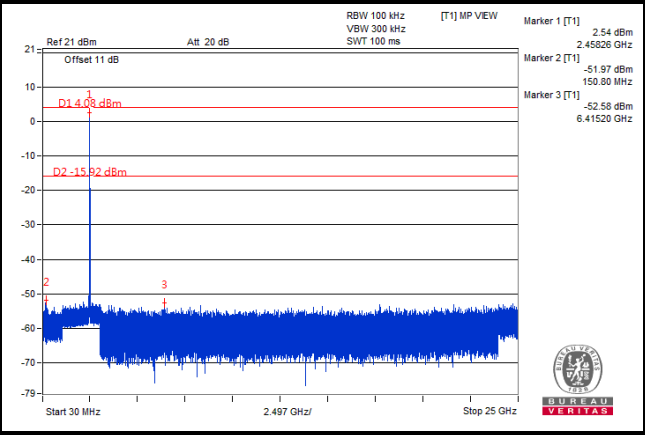
Ch 6

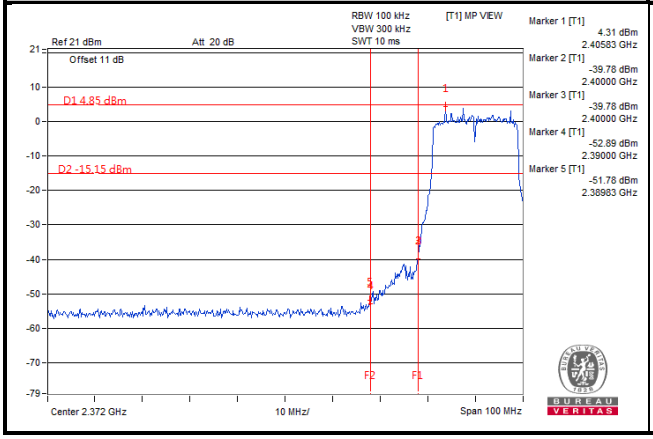
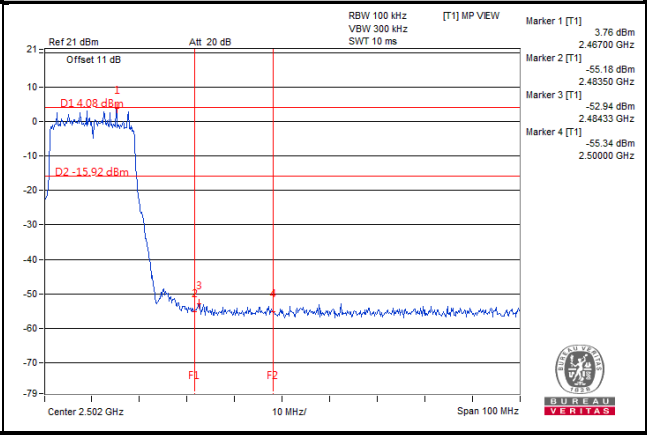




Ch 11

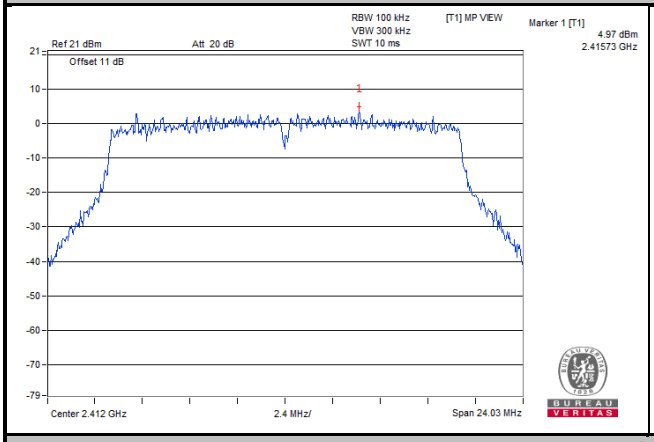


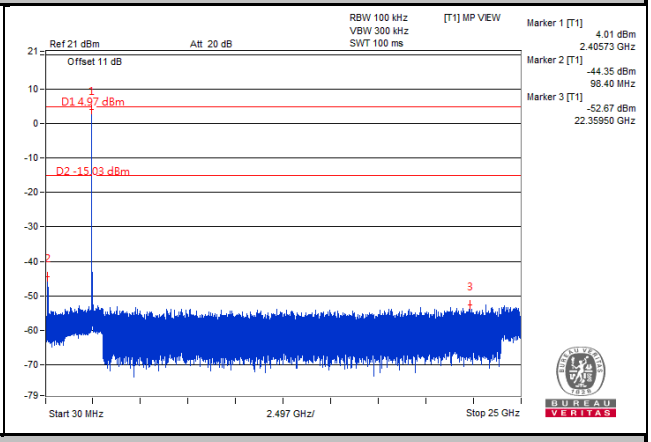


Ch 1 Band Edge	Ch 11 Band Edge
	

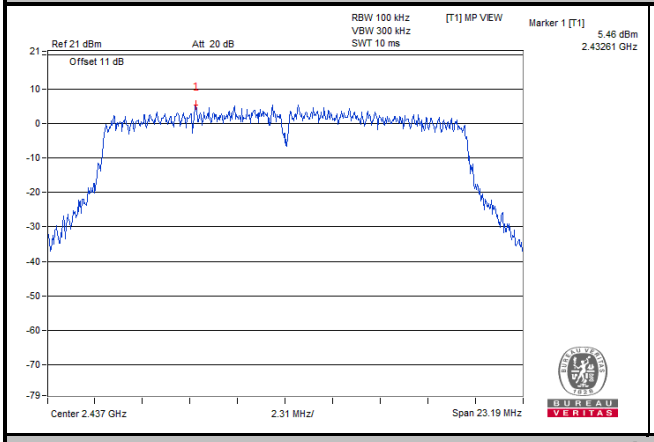
CHAIN 1

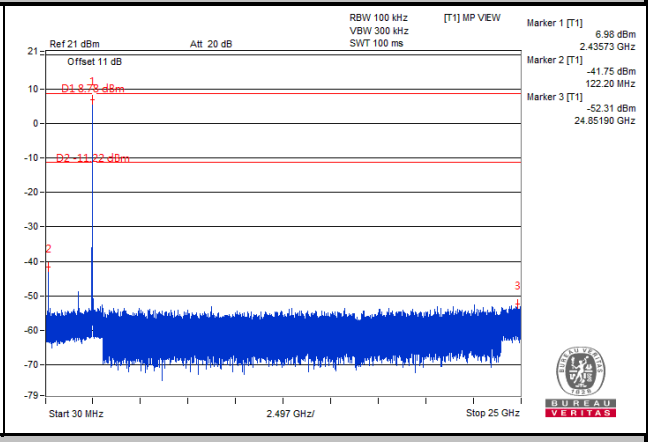
Ch 1



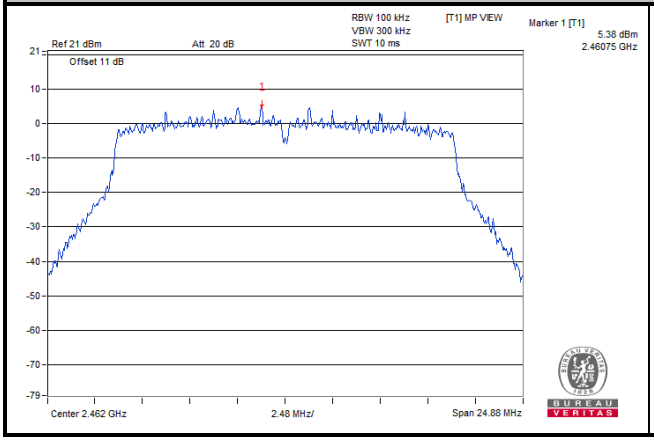


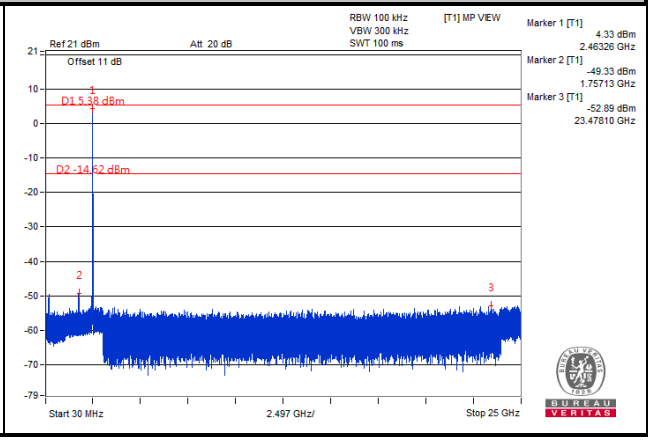
Ch 6

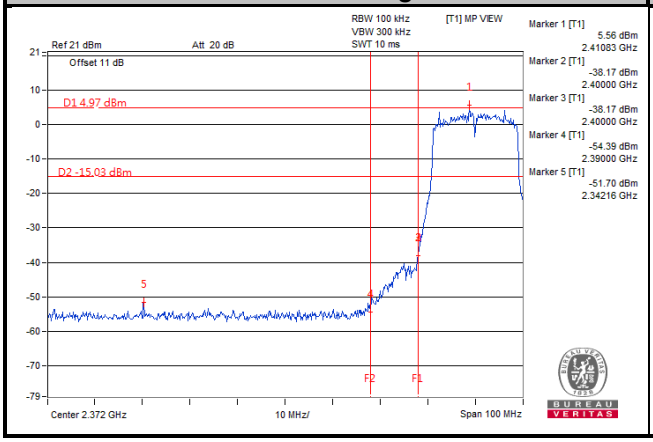
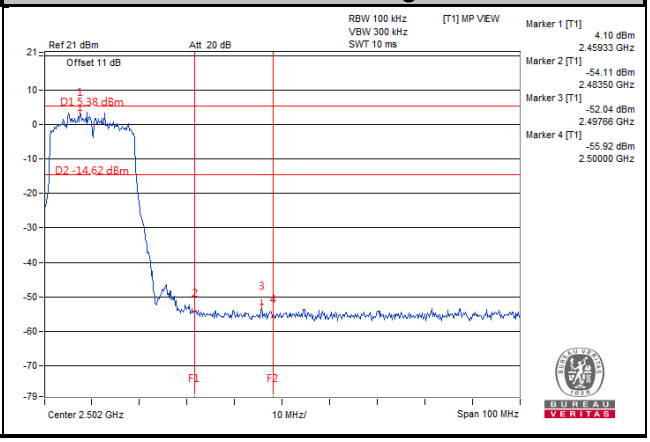




Ch 11

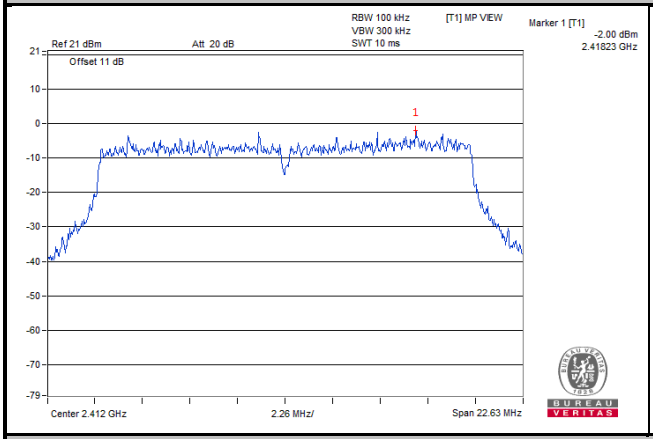


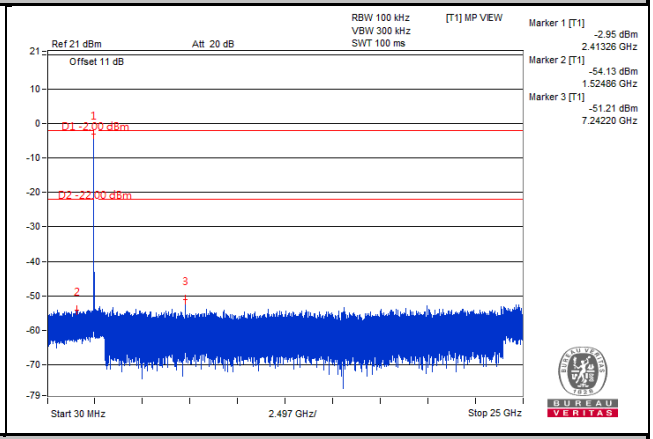


Ch 1 Band Edge	Ch 11 Band Edge
	

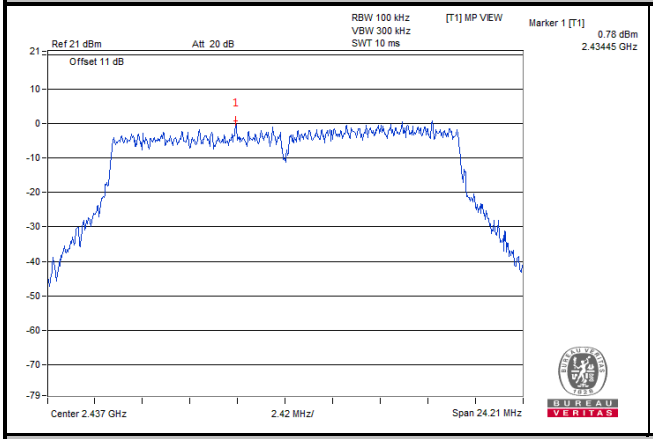
CHAIN 2

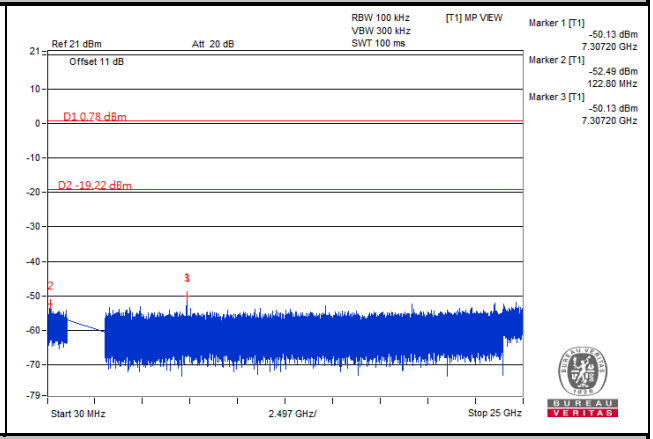
Ch 1



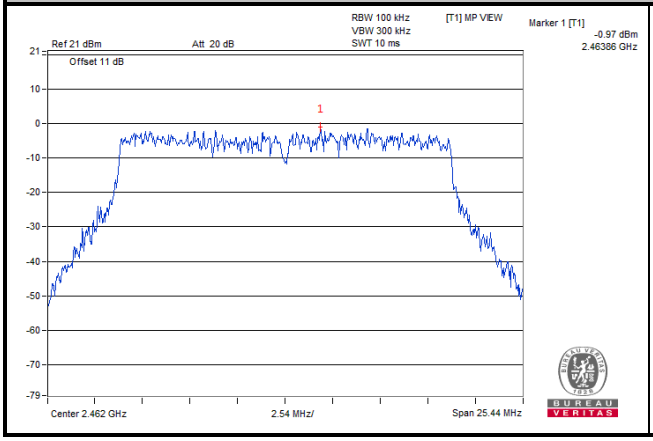


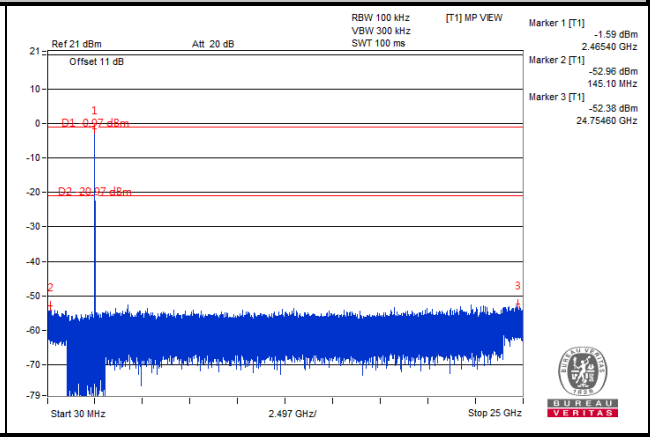
Ch 6

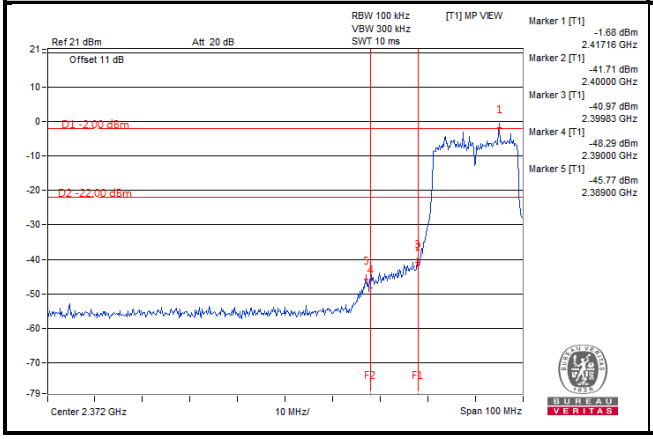
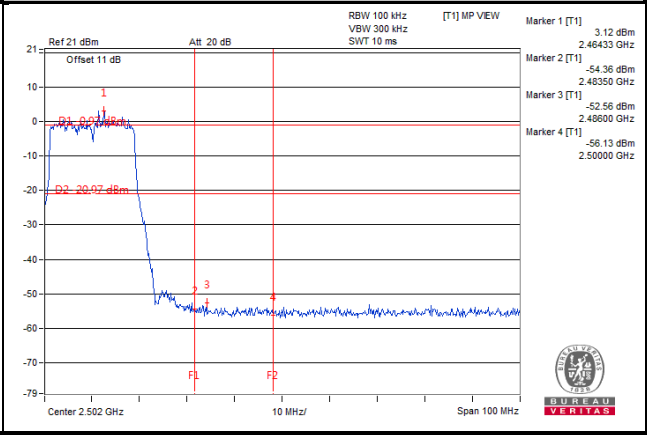




Ch 11



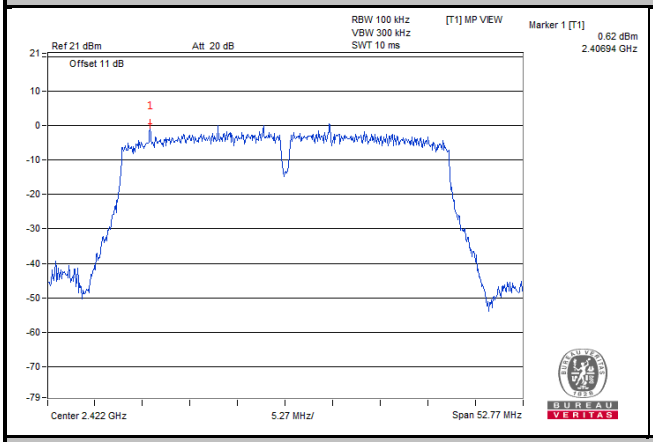


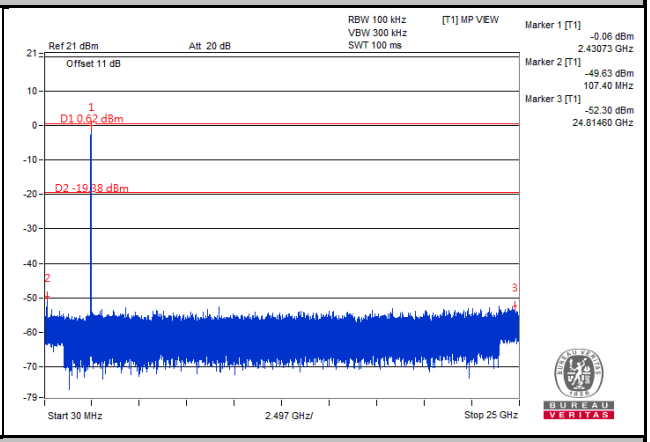
Ch 1 Band Edge	Ch 11 Band Edge
	

802.11n (HT40)

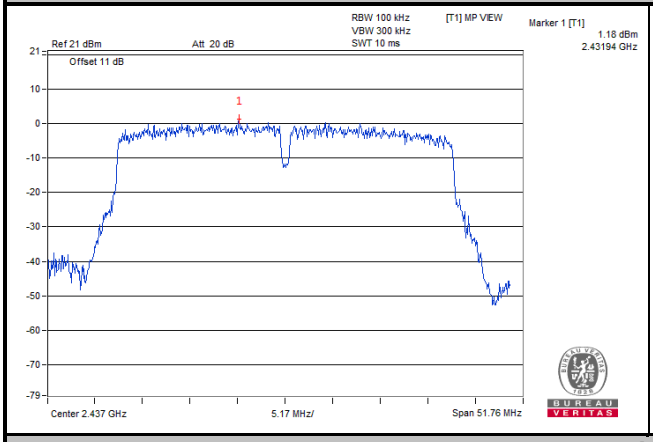
CHAIN 0

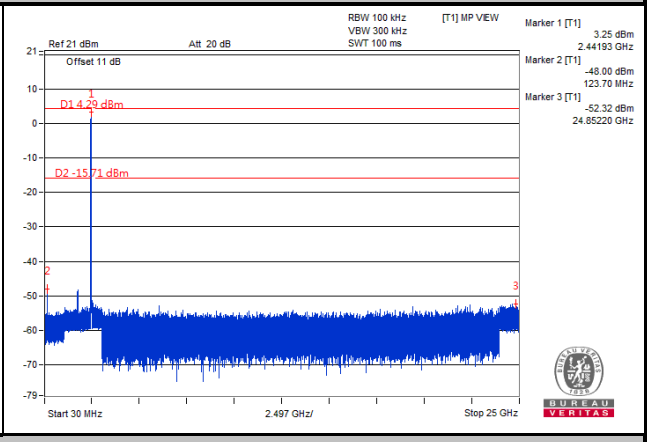
Ch 3



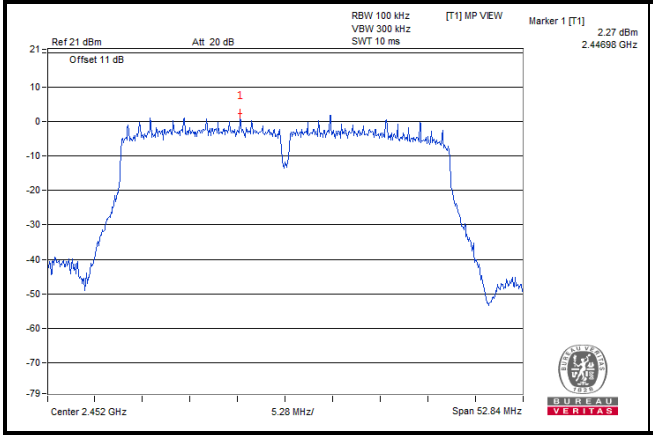


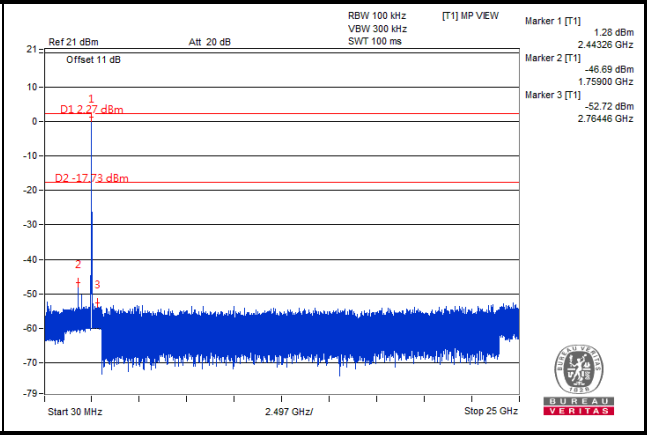
Ch 6

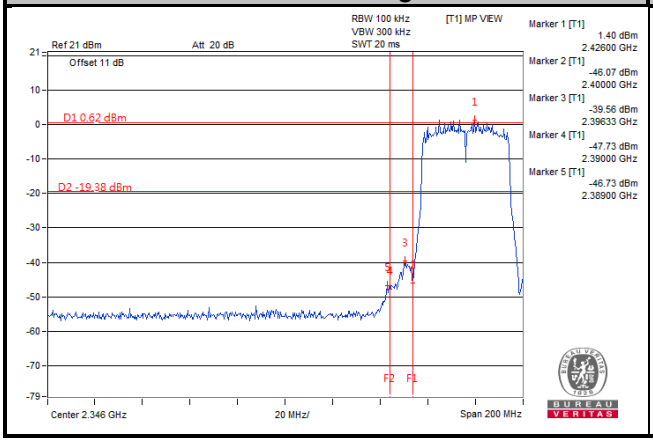
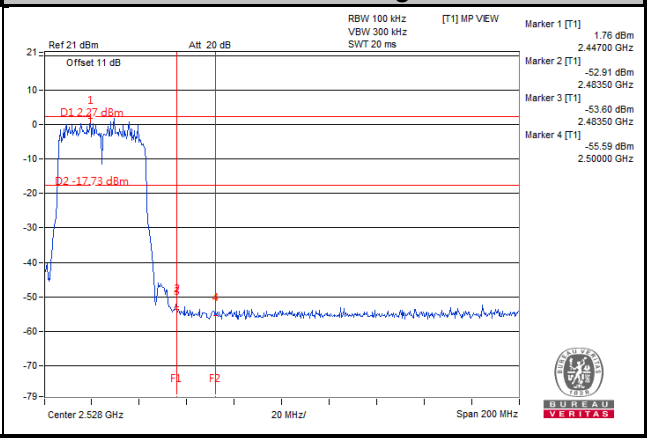




Ch 9

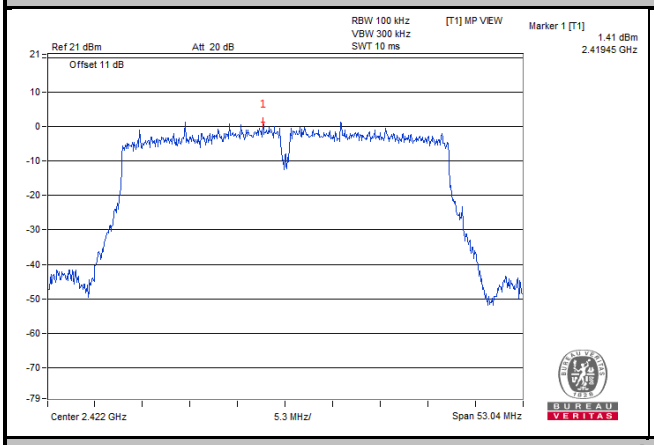


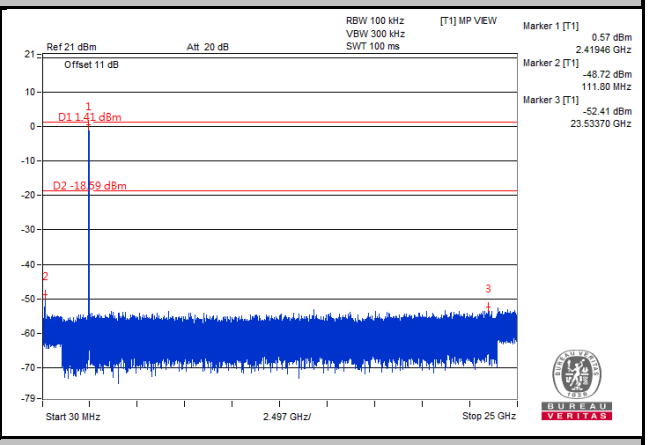


Ch 3 Band Edge	Ch 9 Band Edge
	

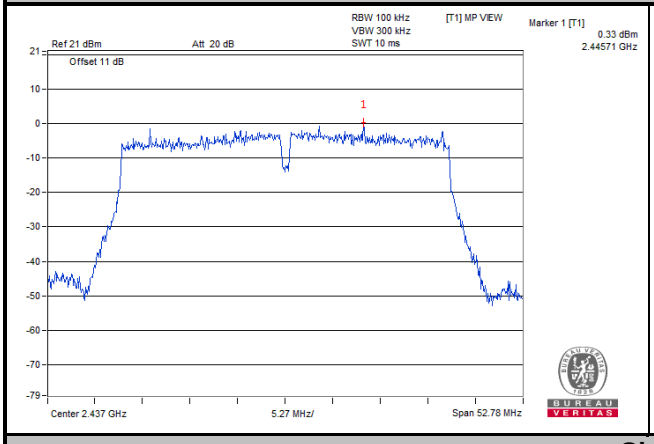
CHAIN 1

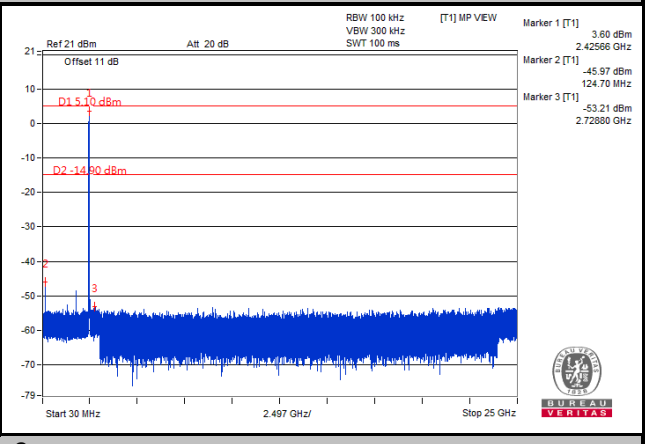
Ch 3



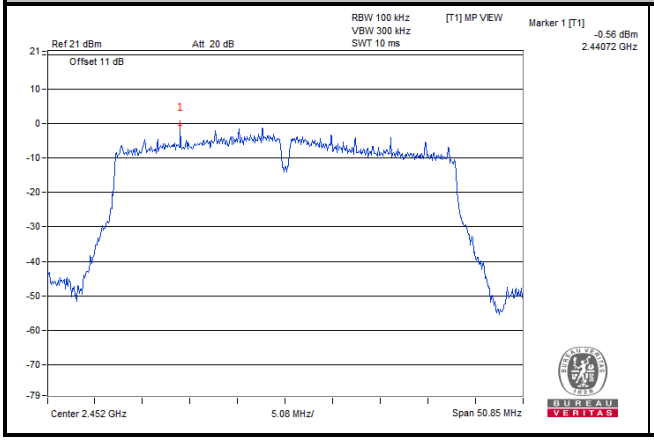


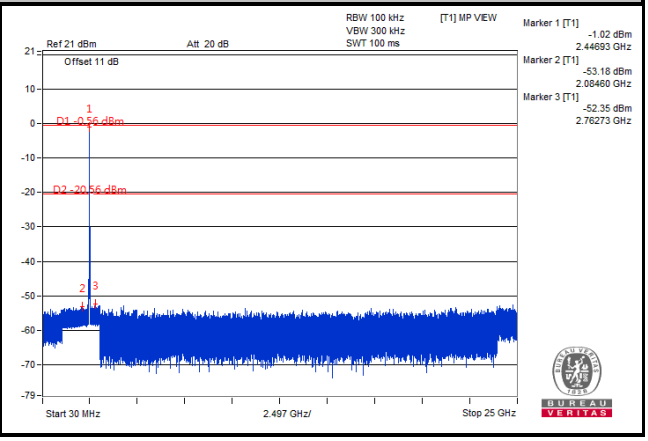
Ch 6

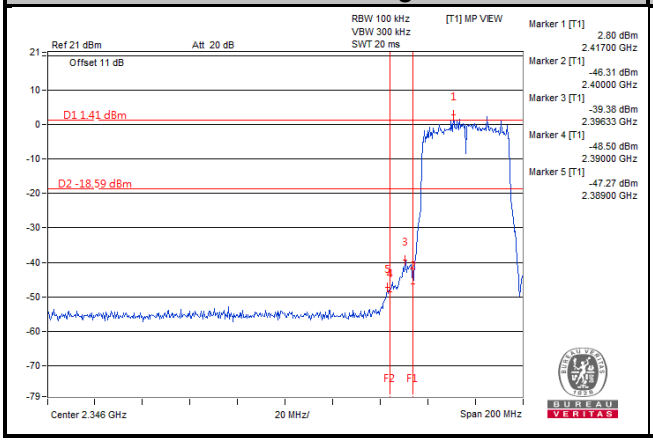
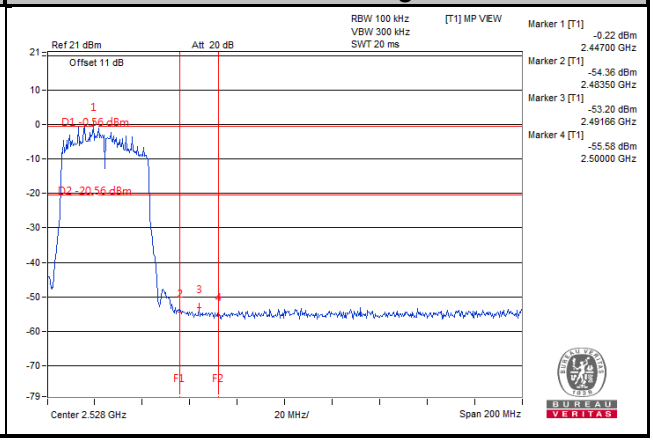




Ch 9

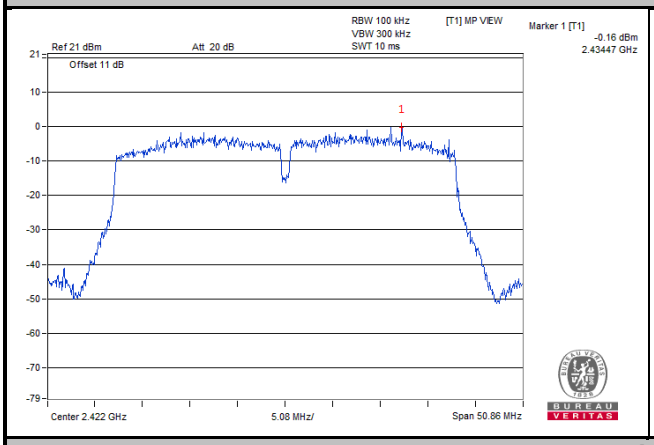


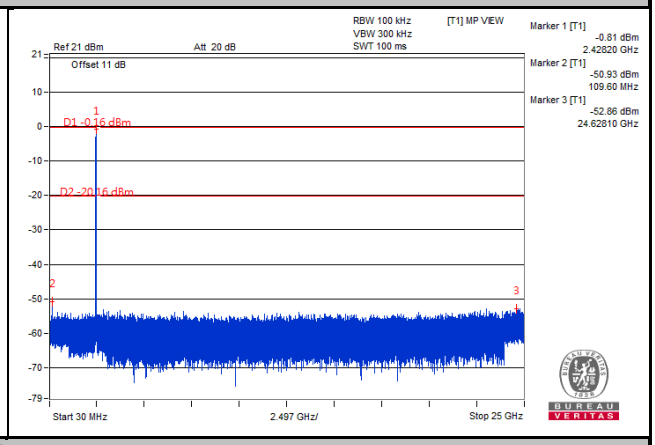


Ch 3 Band Edge	Ch 9 Band Edge
	

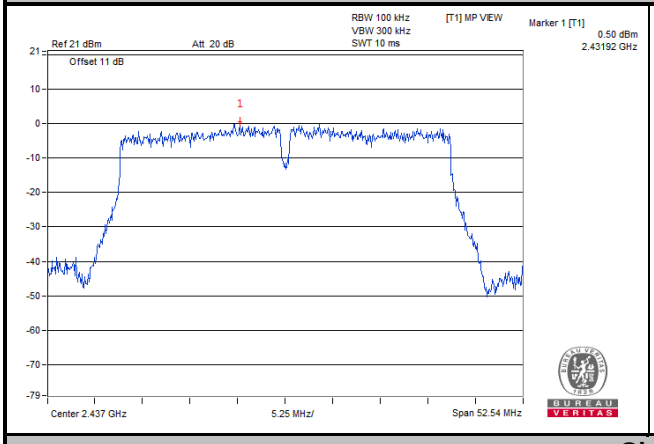
CHAIN 2

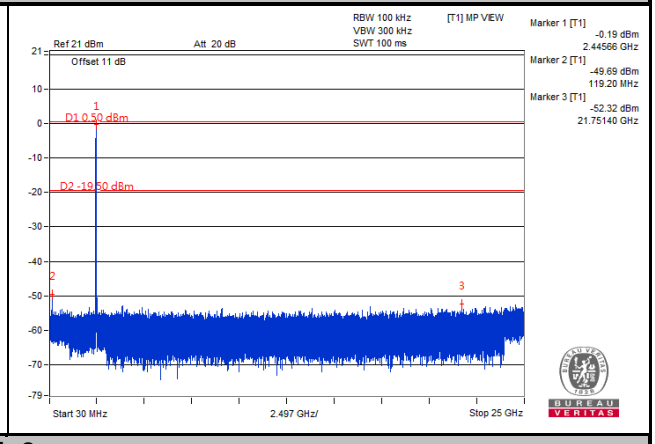
Ch 3



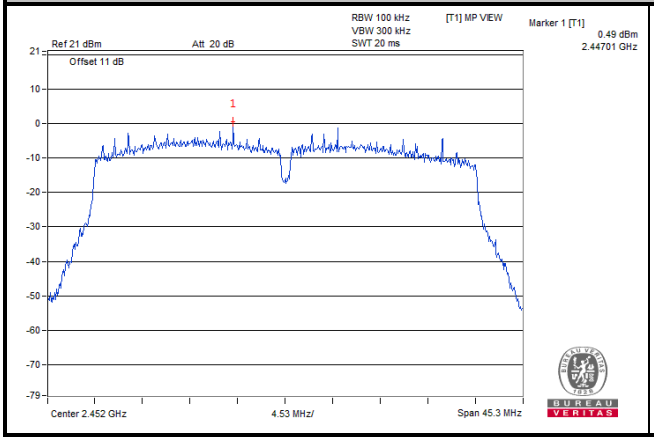


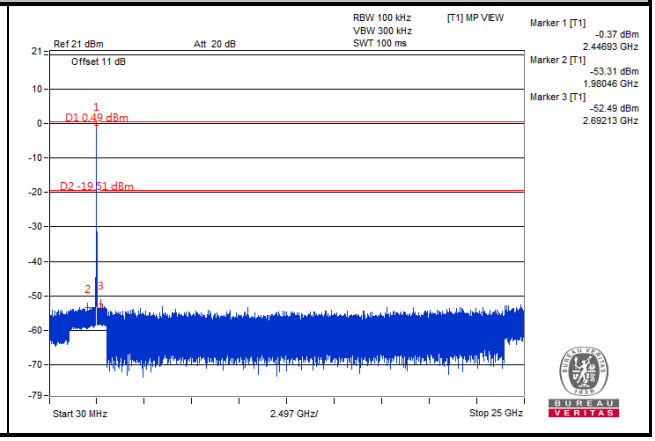
Ch 6

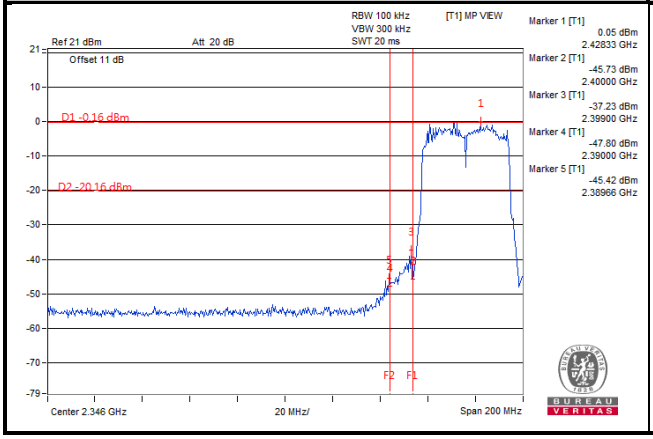
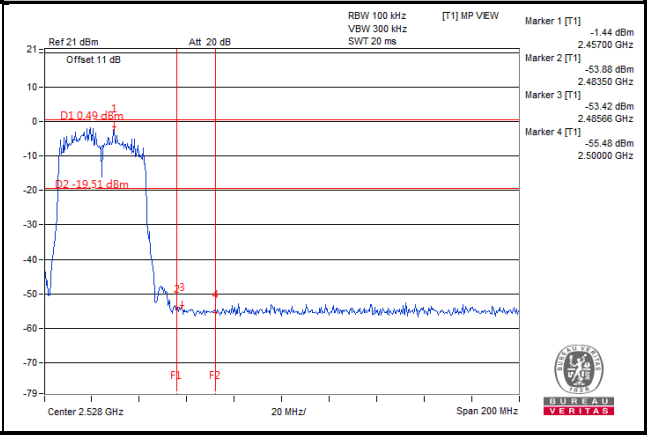




Ch 9





Ch 3 Band Edge	Ch 9 Band Edge
	

5 Pictures of Test Arrangements

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

Appendix – Information on the Testing Laboratories

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are FCC recognized accredited test firms and accredited according to ISO/IEC 17025.

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

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

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

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