

FCC Test Report

Report No.: RF170326E01

FCC ID: C3K1802

Test Model: 1802

Received Date: Mar. 26, 2017

Test Date: May 13 to 25, 2017

Issued Date: June 23, 2017

Applicant: Microsoft Corporation

Address: One Microsoft Way Redmond WA 98052

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 (1): E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300,
Taiwan R.O.C.

Test Location (2): No. 49, Ln. 206, Wende Rd., Shangshan Tsuen, Chiung Lin Hsiang, Hsin
Chu Hsien 307, Taiwan R.O.C.



This report is for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. You have 60 days from date of issuance of this report to notify us of any material error or omission caused by our negligence, provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents. Unless specific mention, the uncertainty of measurement has been explicitly taken into account to declare the compliance or non-compliance to the specification. The report must not be used by the client to claim product certification, approval, or endorsement by TAF or any government agencies.

Table of Contents

Release Control Record	4
1 Certificate of Conformity	5
2 Summary of Test Results	6
2.1 Measurement Uncertainty	6
2.2 Modification Record	6
3 General Information	7
3.1 General Description of EUT	7
3.2 Description of Test Modes	9
3.2.1 Test Mode Applicability and Tested Channel Detail	10
3.3 Duty Cycle of Test Signal	12
3.4 Description of Support Units	13
3.4.1 Configuration of System under Test	13
3.5 General Description of Applied Standards	14
4 Test Types and Results	15
4.1 Radiated Emission and Bandedge Measurement (Radiated Versus Conducted)	15
4.1.1 Limits of Radiated Emission and Bandedge Measurement	15
4.1.2 Test Instruments	16
4.1.3 Test Procedures	17
4.1.4 Deviation from Test Standard	19
4.1.5 Test Setup	19
4.1.6 EUT Operating Conditions	20
4.1.7 Test Results (Radiated Measurement)	20
4.1.8 Test Results (Conducted Measurement)	59
4.2 Conducted Emission Measurement	103
4.2.1 Limits of Conducted Emission Measurement	103
4.2.2 Test Instruments	103
4.2.3 Test Procedures	104
4.2.4 Deviation from Test Standard	104
4.2.5 Test Setup	104
4.2.6 EUT Operating Conditions	104
4.2.7 Test Results	105
4.3 6dB Bandwidth Measurement	107
4.3.1 Limits of 6dB Bandwidth Measurement	107
4.3.2 Test Setup	107
4.3.3 Test Instruments	107
4.3.4 Test Procedure	107
4.3.5 Deviation from Test Standard	107
4.3.6 EUT Operating Conditions	107
4.3.7 Test Result	108
4.4 Conducted Output Power Measurement	111
4.4.1 Limits of Conducted Output Power Measurement	111
4.4.2 Test Setup	111
4.4.3 Test Instruments	111
4.4.4 Test Procedures	111
4.4.5 Deviation from Test Standard	111
4.4.6 EUT Operating Conditions	111
4.4.7 Test Results	112
4.5 Power Spectral Density Measurement	115
4.5.1 Limits of Power Spectral Density Measurement	115
4.5.2 Test Setup	115
4.5.3 Test Instruments	115
4.5.4 Test Procedure	115
4.5.5 Deviation from Test Standard	115

4.5.6 EUT Operating Condition	115
4.5.7 Test Results	116
4.6 Conducted Out of Band Emission Measurement	119
4.6.1 Limits of Conducted Out of Band Emission Measurement.....	119
4.6.2 Test Setup.....	119
4.6.3 Test Instruments	119
4.6.4 Test Procedure	119
4.6.5 Deviation from Test Standard	119
4.6.6 EUT Operating Condition	119
4.6.7 Test Results	119
5 Pictures of Test Arrangements.....	128
Appendix – Information on the Testing Laboratories	129

Release Control Record

Issue No.	Description	Date Issued
RF170326E01	Original release.	June 23, 2017

1 Certificate of Conformity

Product: 802.11a/b/g/n/ac 2T2R dual-band wireless LAN radio

Brand: Microsoft

Test Model: 1802

Sample Status: ENGINEERING SAMPLE

Applicant: Microsoft Corporation

Test Date: May 13 to 25, 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 : Wendy Wu , **Date:** June 23, 2017
Wendy Wu / Specialist

Approved by : May Chen , **Date:** June 23, 2017
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 -12.08dB at 0.58359MHz.
15.205 / 15.209 / 15.247(d)	Radiated Emissions and Band Edge Measurement	PASS	Meet the requirement of limit. Minimum passing margin is -5.2dB at 31.65MHz.
15.247(d)	Antenna Port Emission	PASS	Meet the requirement of limit.
15.247(a)(2)	6dB bandwidth	PASS	Meet the requirement of limit.
15.247(b)	Conducted power	PASS	Meet the requirement of limit.
15.247(e)	Power Spectral Density	PASS	Meet the requirement of limit.
15.203	Antenna Requirement	PASS	No antenna connector is used.

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	5.30 dB
Radiated Emissions above 1 GHz	1GHz ~ 6GHz	5.16 dB
	6GHz ~ 18GHz	4.91 dB
	18GHz ~ 40GHz	5.30 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	802.11a/b/g/n/ac 2T2R dual-band wireless LAN radio
Brand	Microsoft
Test Model	1802
Status of EUT	ENGINEERING SAMPLE
Power Supply Rating	3.3Vdc from host equipment
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 300Mbps 802.11ac: up to 866.7Mbps
Operating Frequency	2.4GHz: 2.412 ~ 2.462GHz 5GHz: 5.18 ~ 5.32GHz, 5.26 ~ 5.32GHz, 5.50 ~ 5.72GHz, 5.745 ~ 5.825GHz
Number of Channel	2.4GHz: 802.11b, 802.11g, 802.11n (HT20): 11 802.11n (HT40): 7 5GHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20): 25 802.11n (HT40), 802.11ac (VHT40): 12 802.11ac (VHT80): 6
Output Power	2.4GHz: 1TX Mode: 384.592mW 2TX Mode: 656.349mW 5GHz: 1TX Mode: 5.18 ~ 5.24GHz: 198.609mW 5.26 ~ 5.32GHz: 207.014mW 5.50 ~ 5.72GHz: 204.174mW 5.745 ~ 5.825GH: 212.814mW 2TX Mode: 5.18 ~ 5.24GHz: 198.18mW 5.26 ~ 5.32GHz: 200.514mW 5.50 ~ 5.72GHz: 204.659mW 5.745 ~ 5.825GH: 427.164mW
Antenna Type	Refer to Note
Antenna Connector	Refer to Note
Accessory Device	NA
Data Cable Supplied	NA

Note:

- 2.4GHz and 5GHz technology can not transmit at same time.
- The antennas provided to the EUT, please refer to the following table:

Transmitter Circuit	Antenna Type	Connector Type	Antenna Gain(dBi)	Frequency range (MHz to MHz)	Antenna Type
Chain (0)	Microsoft	NA	5.6	2400~2500	PCB
			6.8	5150~5850	
Chain (1)	Microsoft	NA	5.5	2400~2500	PCB
			6.3	5150~5850	

For 1TX configuration mode: max gain was selected as representative antenna.

- The EUT incorporates a MIMO function.

2.4GHz Band

MODULATION MODE	DATA RATE (MCS)	TX & RX CONFIGURATION	
802.11b	1 ~ 11Mbps	1TX (diversity)	2RX
802.11g	6 ~ 54Mbps	1TX (diversity)	2RX
802.11n (HT20)	MCS 0~7	1TX (diversity)	2RX
	MCS 8~15*	2TX	2RX
802.11n (HT40)	MCS 0~7	1TX (diversity)	2RX
	MCS 8~15*	2TX	2RX

5GHz Band

MODULATION MODE	DATA RATE (MCS)	TX & RX CONFIGURATION	
802.11a	6 ~ 54Mbps	1TX (diversity)	2RX
802.11n (HT20)	MCS 0~7	1TX (diversity)	2RX
	MCS 8~15*	2TX	2RX
802.11n (HT40)	MCS 0~7	1TX (diversity)	2RX
	MCS 8~15*	2TX	2RX
802.11ac (VHT20)	MCS0~8 Nss= 1	1TX (diversity)	2RX
	MCS0~8 Nss= 2*	2TX	2RX
802.11ac (VHT40)	MCS0~9 Nss= 1	1TX (diversity)	2RX
	MCS0~9 Nss= 2*	2TX	2RX
802.11ac (VHT80)	MCS0~9 Nss= 1	1TX (diversity)	2RX
	MCS0~9 Nss= 2*	2TX	2RX

Note: 1. "*" means the device operate with two spatial stream (Nss = 2) with different data, and two signals are not correlated.

- All testing was conducted with powers set at levels which exceeded the shipment powers as a worst case condition. All testing at higher powers show compliance with the requirements therefore testing at shipment powers are considered compliant without additional testing. The device will not be shipped with powers that exceed shipment powers.
- 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	
-	√	√	√	√	-

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: The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **Y-plane**.

Radiated Emission Test (Above 1GHz):

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

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

1TX Configuration					
MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1
802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6
802.11n (HT20)	1 to 11	1, 6, 11	OFDM	BPSK	6.5
802.11n (HT40)	3 to 9	3, 6, 9	OFDM	BPSK	13.5
2TX Configuration					
MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11n (HT20)	1 to 11	1, 6, 11	OFDM	BPSK	13
802.11n (HT40)	3 to 9	3, 6, 9	OFDM	BPSK	27

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.

2TX Configuration					
MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11n (HT20)	1 to 11	1	OFDM	BPSK	13

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.

2TX Configuration					
MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11n (HT20)	1 to 11	1	OFDM	BPSK	13

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.

1TX Configuration					
MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1
802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6
802.11n (HT20)	1 to 11	1, 6, 11	OFDM	BPSK	6.5
802.11n (HT40)	3 to 9	3, 6, 9	OFDM	BPSK	13.5
2TX Configuration					
MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11n (HT20)	1 to 11	1, 6, 11	OFDM	BPSK	13
802.11n (HT40)	3 to 9	3, 6, 9	OFDM	BPSK	27

Test Condition:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER (SYSTEM)	TESTED BY
RE \geq 1G	23deg. C, 66%RH	120Vac, 60Hz	Terry Huang
RE $<$ 1G	23deg. C, 66%RH	120Vac, 60Hz	Terry Huang
PLC	25deg. C, 75%RH	120Vac, 60Hz	Andy Ho
APCM	24deg. C, 63%RH	120Vac, 60Hz	Anderson Chen

3.3 Duty Cycle of Test Signal

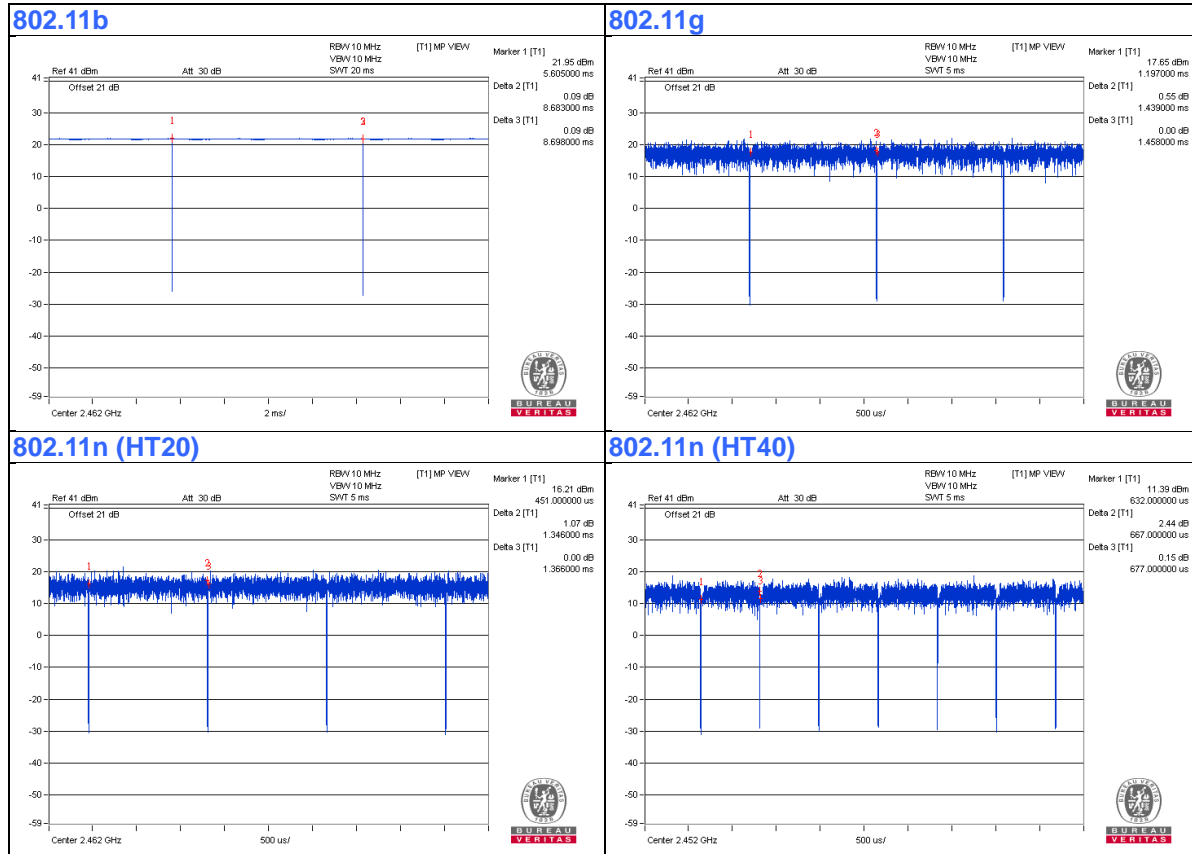
If duty cycle of test signal is $\geq 98\%$, duty factor is not required.

802.11b: Duty cycle = $8.683/08.698 = 0.998$

802.11g: Duty cycle = $1.439/1.458 = 0.987$

802.11n (HT20): Duty cycle = $1.346/1.366 = 0.985$

802.11n (HT40): Duty cycle = $0.667/0.677 = 0.985$



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.	Laptop	DELL	E6420	B92T3R1	FCC DoC	Provided by Lab
B.	Test Tool	NA	NA	NA	NA	Supplied by client
C.	Adapter	CUI	EPSA050250U	NA	NA	Supplied by client

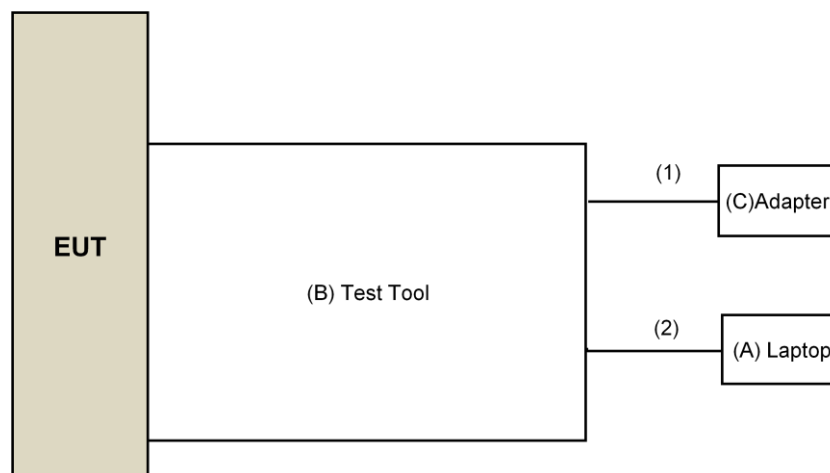
Note:

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

ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	DC Cable	1	1.5	No	0	Supplied by client
2.	USB Cable	1	1.7	Yes	0	Supplied by client

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 (Radiated Versus Conducted)

4.1.1 Limits of Radiated Emission and Bandedge Measurement

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

Frequencies (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 ~ 0.490	2400/F(kHz)	300
0.490 ~ 1.705	24000/F(kHz)	30
1.705 ~ 30.0	30	30
30 ~ 88	100	3
88 ~ 216	150	3
216 ~ 960	200	3
Above 960	500	3

NOTE:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. For frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.

4.1.2 Test Instruments

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver Keysight	N9038A	MY54450088	July 20, 2016	July 19, 2017
Pre-Amplifier ^(*) EMCI	EMC001340	980142	Jan. 20, 2016	Jan. 19, 2018
Loop Antenna ^(*) Electro-Metrics	EM-6879	264	Dec. 16, 2016	Dec. 15, 2018
RF Cable	NA	LOOPCAB-001 LOOPCAB-002	Jan. 17, 2017	Jan. 16, 2018
Pre-Amplifier Mini-Circuits	ZFL-1000VH2B	AMP-ZFL-01	Nov. 10, 2016	Nov. 09, 2017
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-406	Dec. 13, 2016	Dec. 12, 2017
RF Cable	8D	966-4-1 966-4-2 966-4-3	Apr. 01, 2017	Mar. 31, 2018
Fixed attenuator Mini-Circuits	UNAT-5+	PAD-3m-4-01	Oct. 05, 2016	Oct. 04, 2017
Horn_Antenna SCHWARZBECK	BBHA 9120D	9120D-783	Dec. 27, 2016	Dec. 26, 2017
Pre-Amplifier EMCI	EMC12630SE	980385	Feb. 02, 2017	Feb. 01, 2018
RF Cable	EMC104-SM-SM-1200 EMC104-SM-SM-2000 EMC104-SM-SM-5000	160923 150318 150323	Feb. 02, 2017 Mar. 29, 2017 Mar. 29, 2017	Feb. 01, 2018 Mar. 28, 2018 Mar. 28, 2018
Pre-Amplifier EMCI	EMC184045SE	980387	Feb. 02, 2017	Feb. 01, 2018
Horn_Antenna SCHWARZBECK	BBHA 9170	BBHA9170608	Dec. 15, 2016	Dec. 14, 2017
RF Cable	SUCOFLEX 102	36432/2 36433/2	Jan. 15, 2017	Jan. 14, 2018
Software	ADT_Radiated_V8.7.08	NA	NA	NA
Antenna Tower & Turn Table Max-Full	MF-7802	MF780208410	NA	NA
Boresight Antenna Fixture	FBA-01	FBA-SIP02	NA	NA
Spectrum Analyzer R&S	FSv40	100964	June 28, 2016	June 27, 2017
Power meter Anritsu	ML2495A	0824006	May 26, 2016	May 25, 2017
Power sensor Anritsu	MA2411B	0738172	May 26, 2016	May 25, 2017

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. *The calibration interval of the above test instruments is 24 months and the calibrations are traceable to NML/ROC and NIST/USA.
3. The test was performed in 966 Chamber No. 4.
4. The FCC Site Registration No. is 292998
5. The CANADA Site Registration No. is 20331-2
- 6 Loop antenna was used for all emissions below 30 MHz.
7. Tested Date: May 13 to 25, 2017

4.1.3 Test Procedures

Following FCC KDB 558074 D01 DTS Meas. Guidance:

Radiated versus Conducted Measurements.

The unwanted emission limits in both the restricted and non-restricted bands are based on antenna-port conducted measurements in conjunction with cabinet emissions tests are permitted to demonstrate compliance.

The following steps were performed:

- a. Cabinet emissions measurements. Radiated measurement was performed to ensure that cabinet emissions are below the emission limits. For the cabinet-emission measurements the antenna was replaced by a termination matching the nominal impedance of the antenna.
- b. Conducted tests was performed using equipment that matches the nominal impedance of the antenna assembly used with the EUT
- c. EIRP calculation. A value representative of an upper bound on out-of-band antenna gain (in dBi) shall be added to the measured antenna-port conducted emission power to compute EIRP within the specified measurement bandwidth. (For emissions in the restricted bands, additional calculations are required to convert EIRP to field strength at the specified distance.) The upper bound on antenna gain for a device with a single RF output shall be selected as the maximum in-band gain of the antenna across all operating bands or 2 dBi, whichever is greater.

d. For all of Radiation emission test

For Radiated emission below 30MHz

- d-1. 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.
- d-2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- d-3. Both X and Y axes of the antenna are set to make the measurement.
- d-4. 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.
- d-5. 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.
2. KDB 414788 OATS and Chamber Correlation Justification
 - Based on FCC 15.31(f)(2) : measurements may be performed at a distance closer than that specified in the regulations; however, an attempts should be made to avoid making measurements in the near field.
 - OATs and chamber correlation testing had been performed and chamber measured test result is the worst case test result.

For Radiated emission above 30MHz

- d-1. The EUT was placed on the top of a rotating table 0.8 meters (for below 1GHz) / 1.5 meters (for above 1GHz) above the ground at a 3 meters chamber room. The table was rotated 360 degrees to determine the position of the highest radiation.
- d-2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- d-3. 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-4. 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.
- d-5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- d-6. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

NOTE:

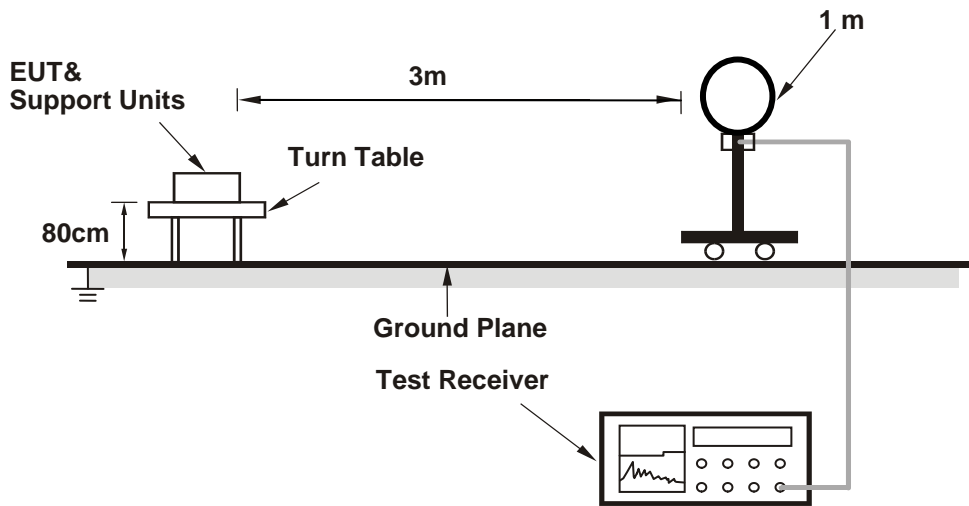
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.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

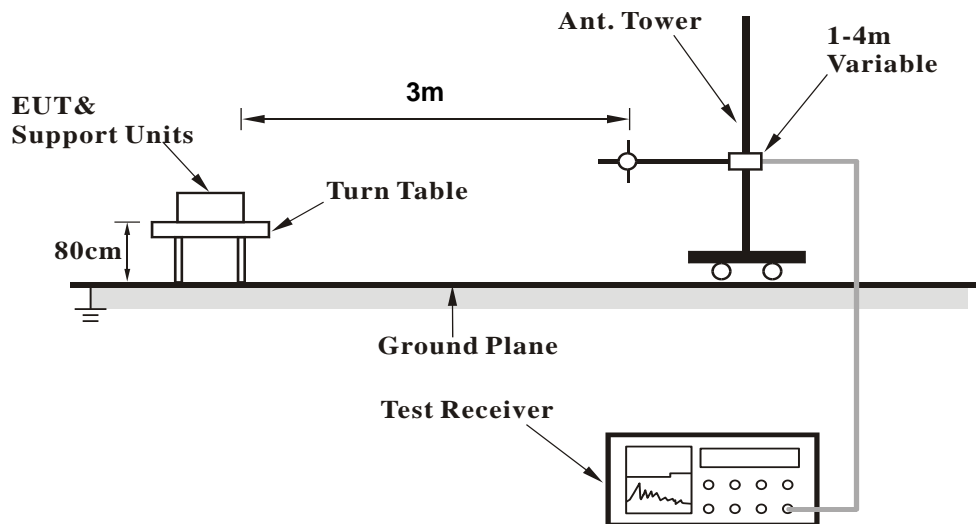
No deviation.

4.1.5 Test Setup

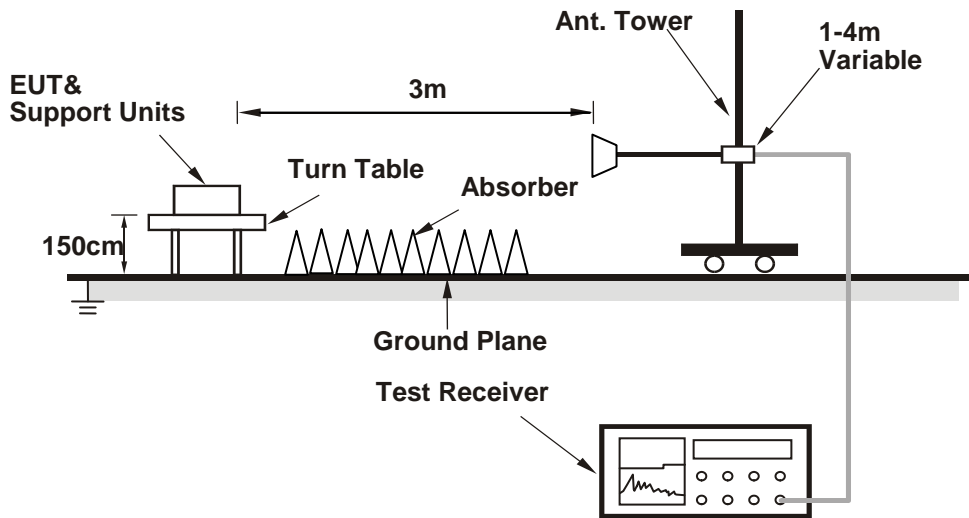
For Radiated emission below 30MHz



For Radiated emission 30MHz to 1GHz

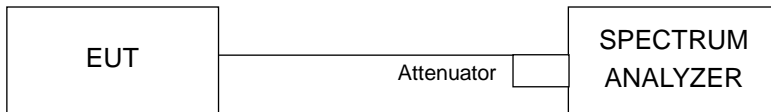


For Radiated emission above 1GHz



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

For conducted configuration:



4.1.6 EUT Operating Conditions

- a. Connected the EUT with the Laptop which is placed on remote site.
- b. Controlling software (MT7662UQA.exe_V1.0.3.13) has been activated to set the EUT on specific status.

4.1.7 Test Results (Radiated Measurement)

Radiated versus Conducted Measurement	
<input type="checkbox"/> Conducted measurement	<input checked="" type="checkbox"/> Radiated measurement
<p><u>For Radiated measurement:</u> The level of unwanted emissions was measured when radiated by the cabinet or structure of the equipment with the antenna connector(s) terminated by a specified load (cabinet radiation)</p> <p><u>For Conducted measurement:</u> The level of unwanted emissions was measured as their power in a specified load (conducted spurious emissions).</p>	

Radiated test was done with 50ohm terminator on antenna port

1TX Mode

Above 1GHz Data:

802.11b

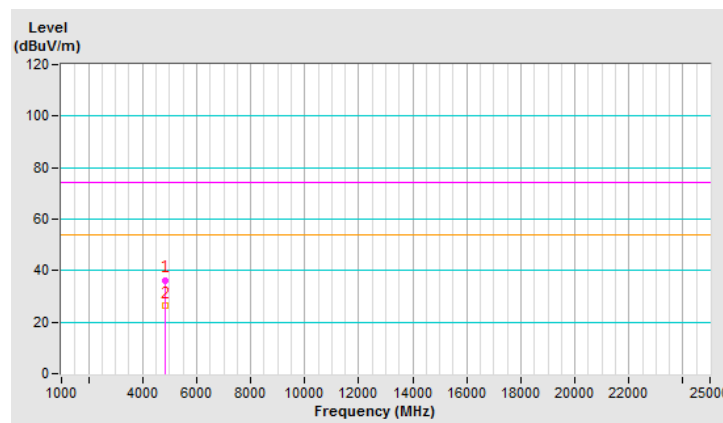
CHANNEL	TX Channel 1	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	4824.00	36.2 PK	74.0	-37.8	1.55 H	126	33.0	3.2
2	4824.00	26.2 AV	54.0	-27.8	1.55 H	126	23.0	3.2

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



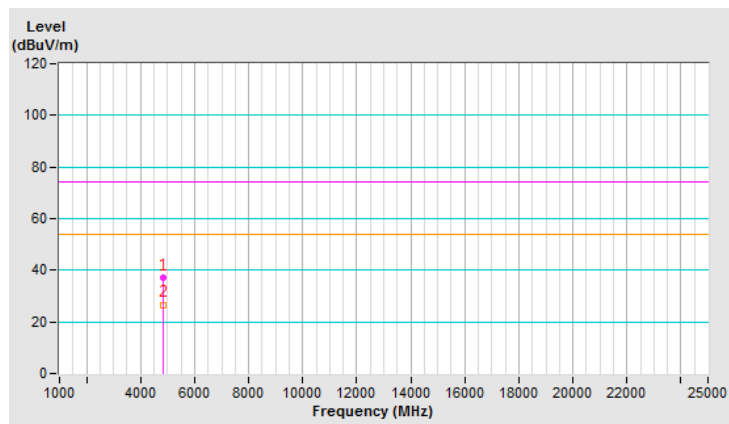
CHANNEL	TX Channel 1	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	4824.00	36.9 PK	74.0	-37.1	1.61 V	279	33.7	3.2
2	4824.00	26.6 AV	54.0	-27.4	1.61 V	279	23.4	3.2

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



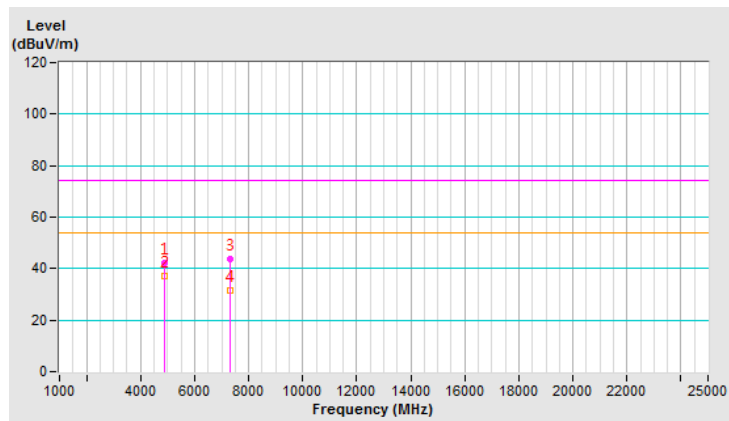
CHANNEL	TX Channel 6	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	4874.00	42.4 PK	74.0	-31.6	1.52 H	24	39.1	3.3
2	4874.00	37.2 AV	54.0	-16.8	1.52 H	24	33.9	3.3
3	7311.00	43.8 PK	74.0	-30.2	1.55 H	360	34.0	9.8
4	7311.00	31.7 AV	54.0	-22.3	1.55 H	360	21.9	9.8

REMARKS:

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



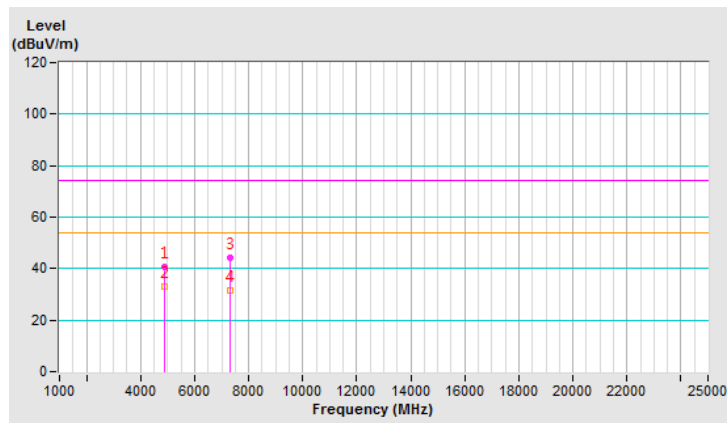
CHANNEL	TX Channel 6	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	4874.00	40.9 PK	74.0	-33.1	1.34 V	205	37.6	3.3
2	4874.00	33.2 AV	54.0	-20.8	1.34 V	205	29.9	3.3
3	7311.00	44.2 PK	74.0	-29.8	1.50 V	0	34.4	9.8
4	7311.00	31.6 AV	54.0	-22.4	1.50 V	0	21.8	9.8

REMARKS:

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



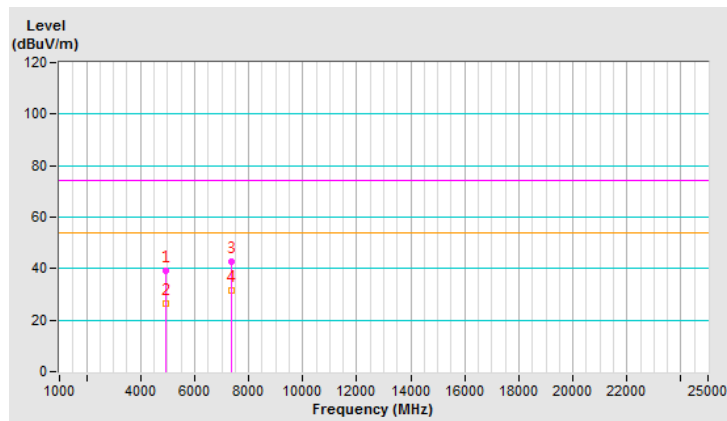
CHANNEL	TX Channel 11	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	4924.00	39.2 PK	74.0	-34.8	1.50 H	61	35.7	3.5
2	4924.00	26.4 AV	54.0	-27.6	1.50 H	61	22.9	3.5
3	7386.00	42.8 PK	74.0	-31.2	1.50 H	360	32.9	9.9
4	7386.00	31.6 AV	54.0	-22.4	1.50 H	360	21.7	9.9

REMARKS:

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



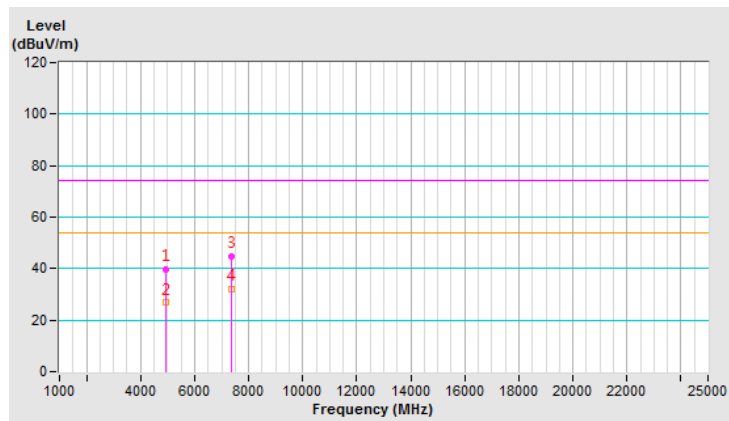
CHANNEL	TX Channel 11	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	4924.00	39.5 PK	74.0	-34.5	1.50 V	360	36.0	3.5
2	4924.00	26.7 AV	54.0	-27.3	1.50 V	360	23.2	3.5
3	7386.00	44.6 PK	74.0	-29.4	1.50 V	0	34.7	9.9
4	7386.00	31.9 AV	54.0	-22.1	1.50 V	0	22.0	9.9

REMARKS:

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



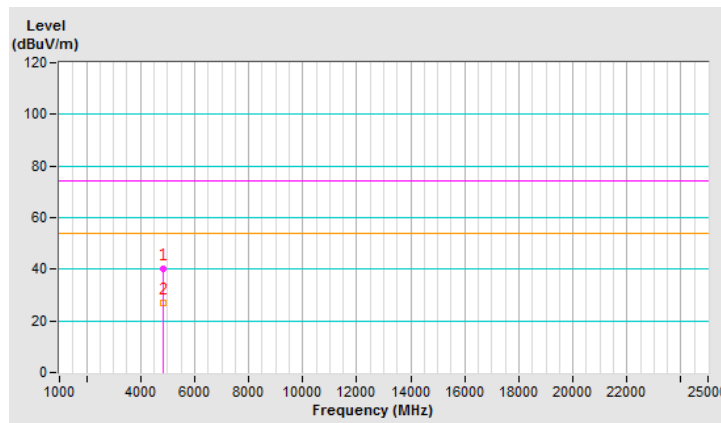
802.11g

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	4824.00	40.1 PK	74.0	-33.9	1.49 H	360	36.9	3.2
2	4824.00	27.0 AV	54.0	-27.0	1.49 H	360	23.8	3.2

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



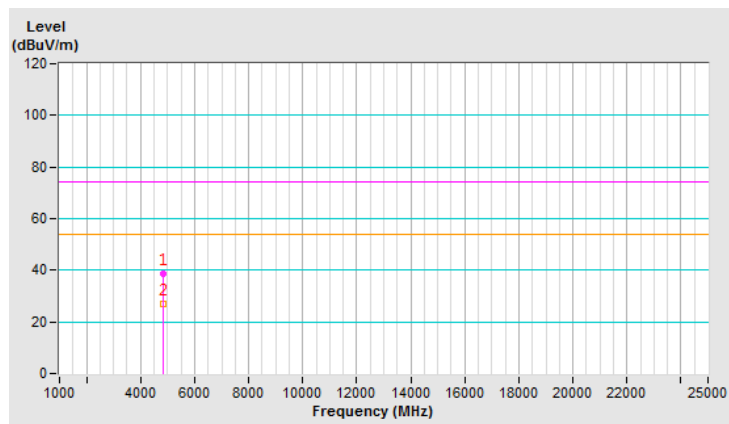
CHANNEL	TX Channel 1	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	4824.00	38.8 PK	74.0	-35.2	1.48 V	125	35.6	3.2
2	4824.00	27.1 AV	54.0	-26.9	1.48 V	125	23.9	3.2

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



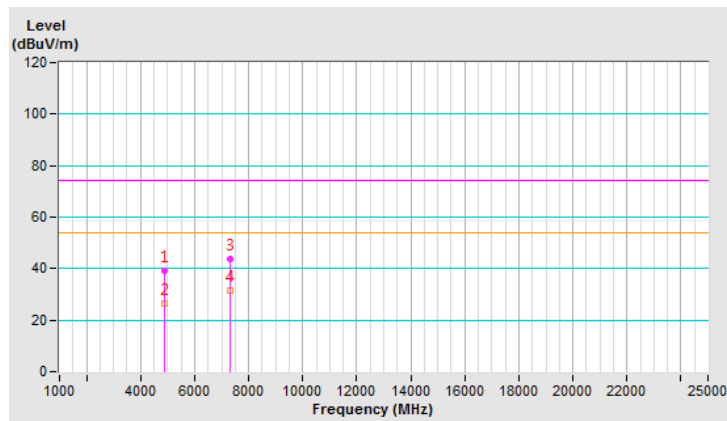
CHANNEL	TX Channel 6	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	4874.00	39.4 PK	74.0	-34.6	1.50 H	360	36.1	3.3
2	4874.00	26.6 AV	54.0	-27.4	1.50 H	360	23.3	3.3
3	7311.00	43.7 PK	74.0	-30.3	1.50 H	0	33.9	9.8
4	7311.00	31.6 AV	54.0	-22.4	1.50 H	0	21.8	9.8

REMARKS:

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



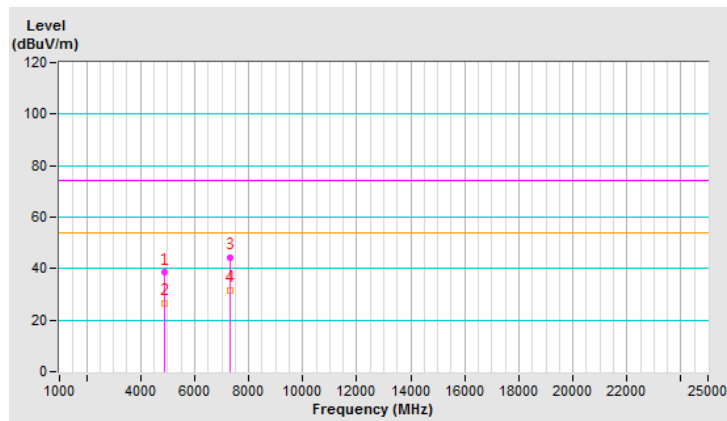
CHANNEL	TX Channel 6	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	4874.00	38.4 PK	74.0	-35.6	1.50 V	0	35.1	3.3
2	4874.00	26.6 AV	54.0	-27.4	1.50 V	0	23.3	3.3
3	7311.00	44.2 PK	74.0	-29.8	1.50 V	360	34.4	9.8
4	7311.00	31.7 AV	54.0	-22.3	1.50 V	360	21.9	9.8

REMARKS:

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



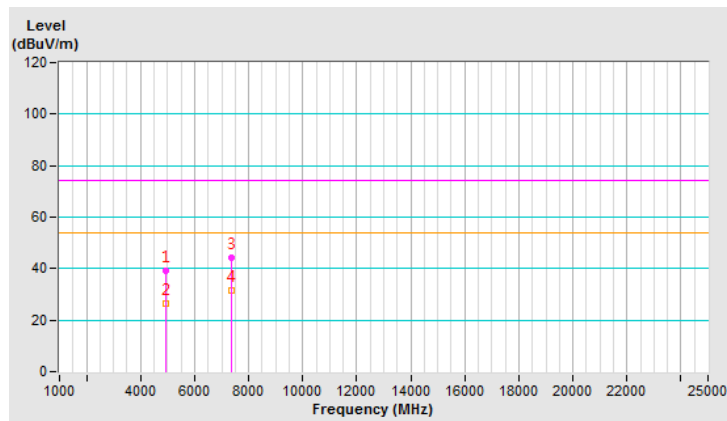
CHANNEL	TX Channel 11	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	4924.00	39.4 PK	74.0	-34.6	1.51 H	356	35.9	3.5
2	4924.00	26.4 AV	54.0	-27.6	1.51 H	356	22.9	3.5
3	7386.00	44.1 PK	74.0	-29.9	1.49 H	13	34.2	9.9
4	7386.00	31.7 AV	54.0	-22.3	1.49 H	13	21.8	9.9

REMARKS:

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

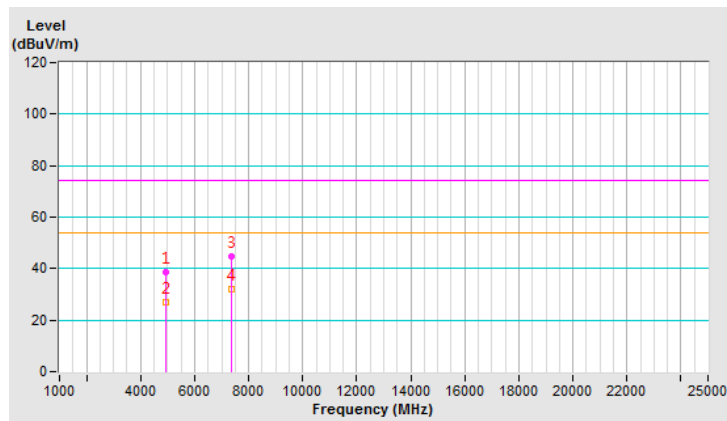


CHANNEL	TX Channel 11	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	4924.00	38.5 PK	74.0	-35.5	1.56 V	22	35.0	3.5
2	4924.00	26.8 AV	54.0	-27.2	1.56 V	22	23.3	3.5
3	7386.00	44.7 PK	74.0	-29.3	1.53 V	360	34.8	9.9
4	7386.00	31.9 AV	54.0	-22.1	1.53 V	360	22.0	9.9

REMARKS:

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



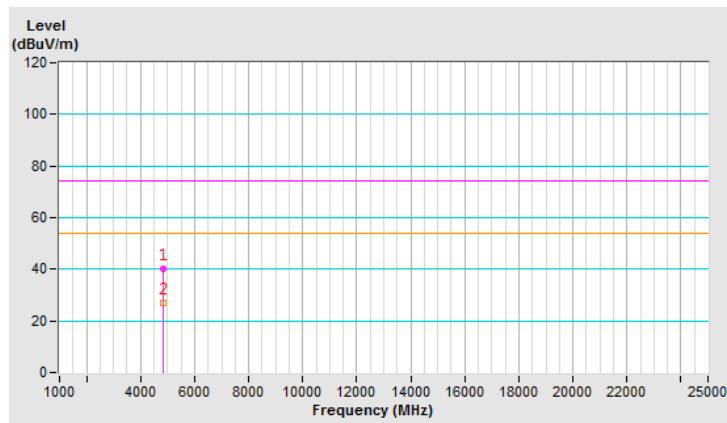
802.11n (HT20)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	4824.00	40.1 PK	74.0	-33.9	1.50 H	360	36.9	3.2
2	4824.00	26.8 AV	54.0	-27.2	1.50 H	360	23.6	3.2

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



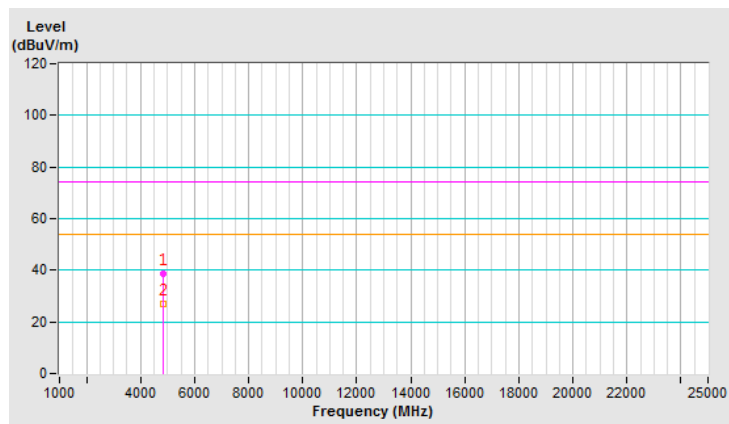
CHANNEL	TX Channel 1	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	4824.00	38.7 PK	74.0	-35.3	1.51 V	116	35.5	3.2
2	4824.00	27.2 AV	54.0	-26.8	1.51 V	116	24.0	3.2

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



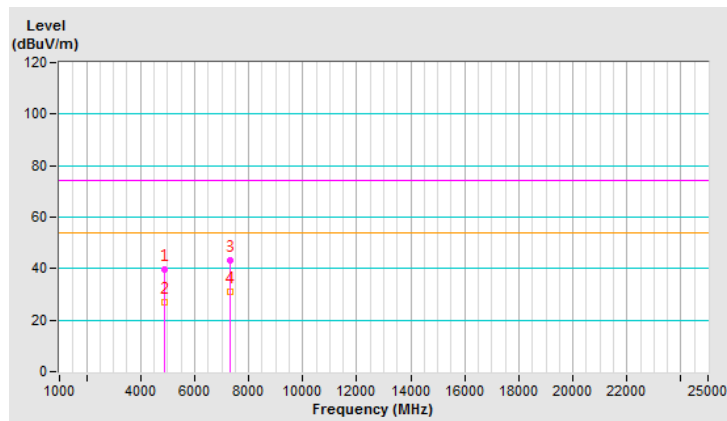
CHANNEL	TX Channel 6	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	4874.00	39.8 PK	74.0	-34.2	1.54 H	360	36.5	3.3
2	4874.00	27.1 AV	54.0	-26.9	1.54 H	360	23.8	3.3
3	7311.00	43.2 PK	74.0	-30.8	1.52 H	0	33.4	9.8
4	7311.00	31.2 AV	54.0	-22.8	1.52 H	0	21.4	9.8

REMARKS:

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



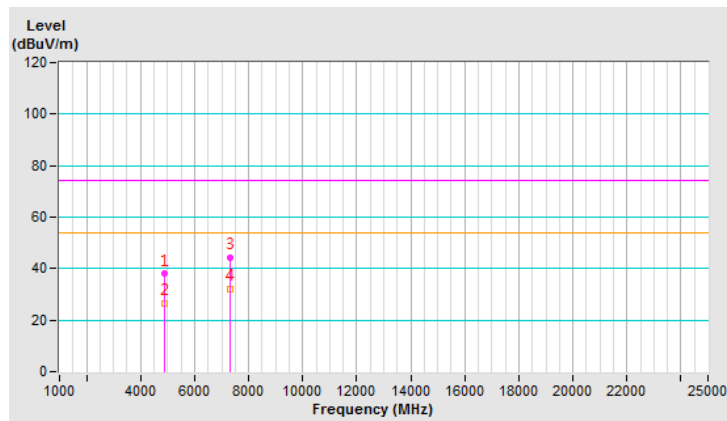
CHANNEL	TX Channel 6	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	4874.00	37.9 PK	74.0	-36.1	1.50 V	3	34.6	3.3
2	4874.00	26.3 AV	54.0	-27.7	1.50 V	3	23.0	3.3
3	7311.00	44.1 PK	74.0	-29.9	1.49 V	360	34.3	9.8
4	7311.00	31.9 AV	54.0	-22.1	1.49 V	360	22.1	9.8

REMARKS:

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



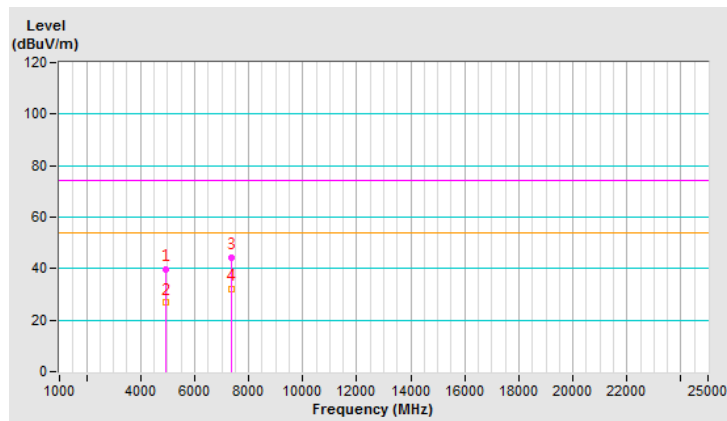
CHANNEL	TX Channel 11	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	4924.00	39.8 PK	74.0	-34.2	1.48 H	348	36.3	3.5
2	4924.00	26.7 AV	54.0	-27.3	1.48 H	348	23.2	3.5
3	7386.00	44.3 PK	74.0	-29.7	1.45 H	0	34.4	9.9
4	7386.00	32.0 AV	54.0	-22.0	1.45 H	0	22.1	9.9

REMARKS:

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



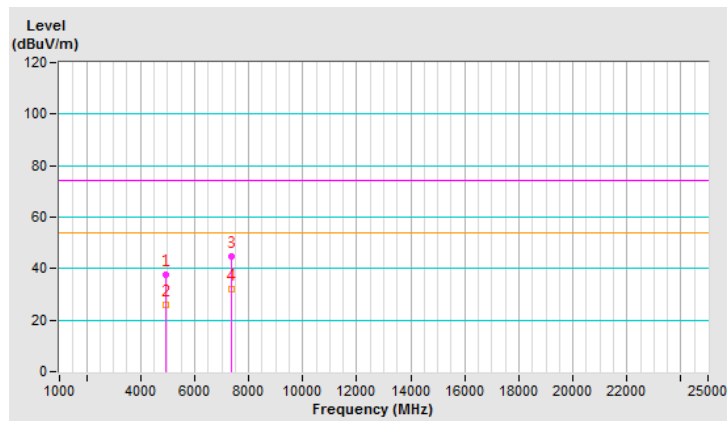
CHANNEL	TX Channel 11	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	4924.00	37.7 PK	74.0	-36.3	1.45 V	24	34.2	3.5
2	4924.00	26.1 AV	54.0	-27.9	1.45 V	24	22.6	3.5
3	7386.00	44.8 PK	74.0	-29.2	1.45 V	360	34.9	9.9
4	7386.00	32.1 AV	54.0	-21.9	1.45 V	360	22.2	9.9

REMARKS:

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



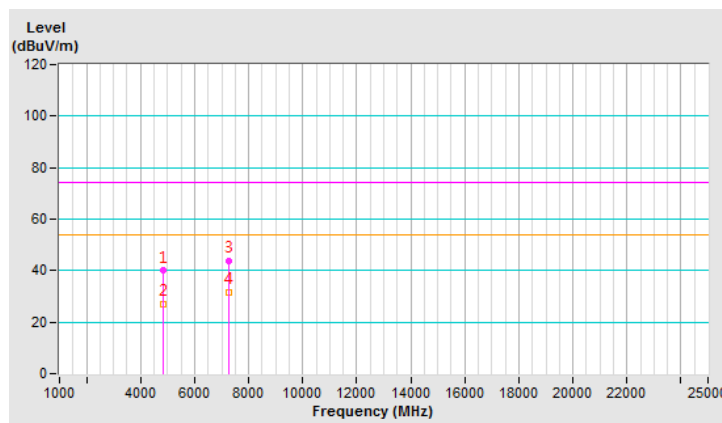
802.11n (HT40)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	4844.00	40.0 PK	74.0	-34.0	1.55 H	345	36.7	3.3
2	4844.00	27.0 AV	54.0	-27.0	1.55 H	345	23.7	3.3
3	7266.00	43.7 PK	74.0	-30.3	1.50 H	9	33.9	9.8
4	7266.00	31.6 AV	54.0	-22.4	1.50 H	9	21.8	9.8

REMARKS:

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



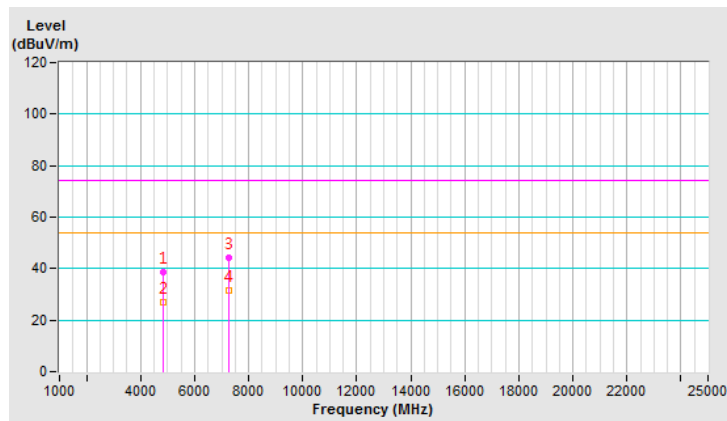
CHANNEL	TX Channel 3	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	4844.00	38.6 PK	74.0	-35.4	1.48 V	29	35.3	3.3
2	4844.00	26.9 AV	54.0	-27.1	1.48 V	29	23.6	3.3
3	7266.00	44.2 PK	74.0	-29.8	1.50 V	345	34.4	9.8
4	7266.00	31.5 AV	54.0	-22.5	1.50 V	345	21.7	9.8

REMARKS:

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



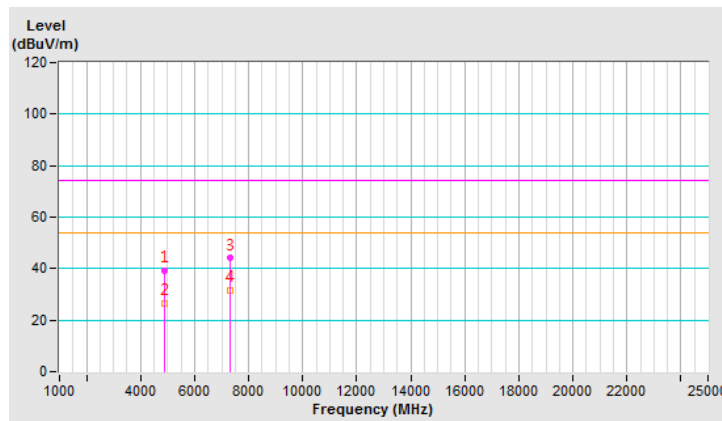
CHANNEL	TX Channel 6	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	4874.00	39.4 PK	74.0	-34.6	1.49 H	360	36.1	3.3
2	4874.00	26.5 AV	54.0	-27.5	1.49 H	360	23.2	3.3
3	7311.00	44.0 PK	74.0	-30.0	1.52 H	13	34.2	9.8
4	7311.00	31.7 AV	54.0	-22.3	1.52 H	13	21.9	9.8

REMARKS:

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



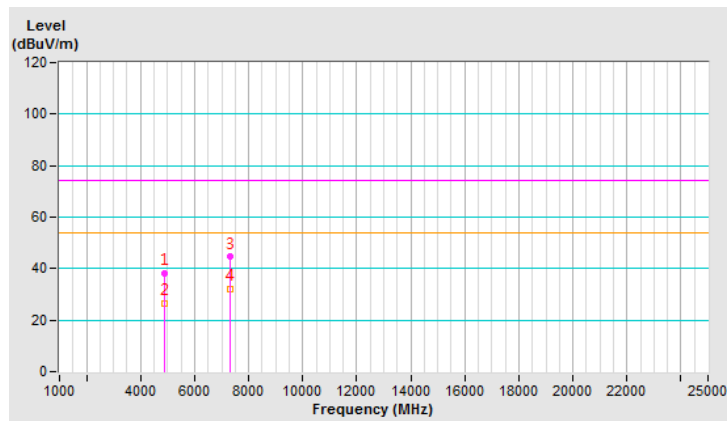
CHANNEL	TX Channel 6	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	4874.00	38.3 PK	74.0	-35.7	1.49 V	10	35.0	3.3
2	4874.00	26.5 AV	54.0	-27.5	1.49 V	10	23.2	3.3
3	7311.00	44.5 PK	74.0	-29.5	1.49 V	349	34.7	9.8
4	7311.00	32.1 AV	54.0	-21.9	1.49 V	349	22.3	9.8

REMARKS:

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



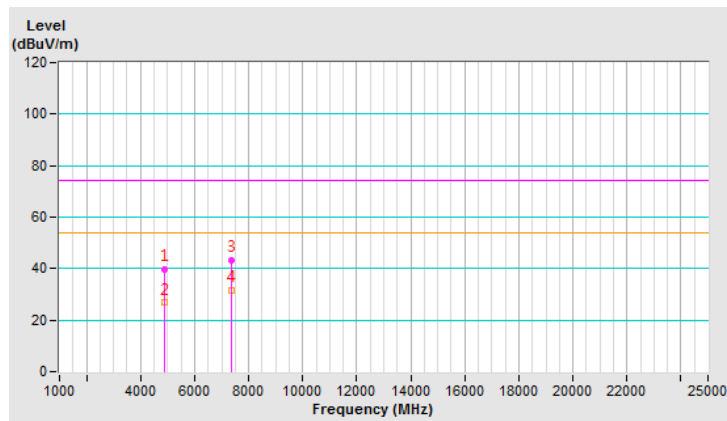
CHANNEL	TX Channel 9	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	4904.00	39.6 PK	74.0	-34.4	1.51 H	353	36.1	3.5
2	4904.00	26.7 AV	54.0	-27.3	1.51 H	353	23.2	3.5
3	7356.00	43.3 PK	74.0	-30.7	1.44 H	0	33.4	9.9
4	7356.00	31.4 AV	54.0	-22.6	1.44 H	0	21.5	9.9

REMARKS:

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



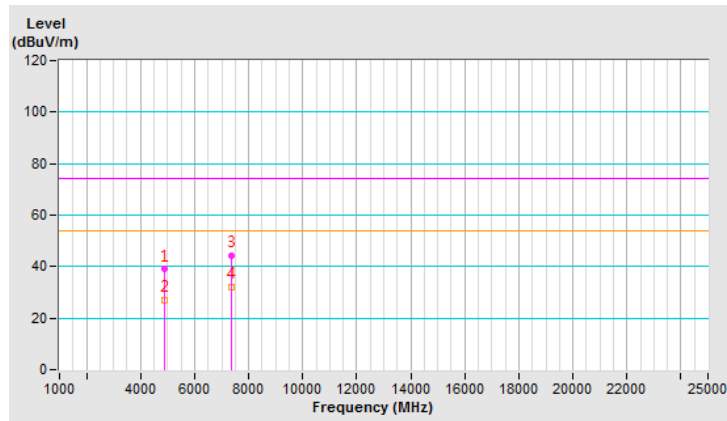
CHANNEL	TX Channel 9	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	4904.00	38.9 PK	74.0	-35.1	1.52 V	12	35.4	3.5
2	4904.00	26.8 AV	54.0	-27.2	1.52 V	12	23.3	3.5
3	7356.00	44.2 PK	74.0	-29.8	1.46 V	360	34.3	9.9
4	7356.00	31.9 AV	54.0	-22.1	1.46 V	360	22.0	9.9

REMARKS:

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



2TX Mode

Above 1GHz Data :

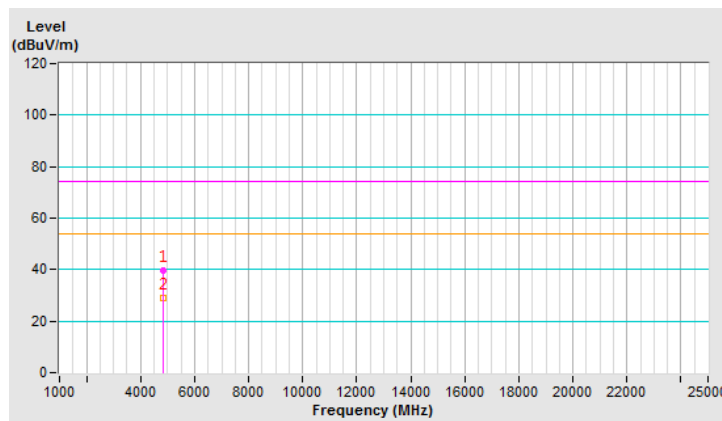
802.11n (HT20)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	4824.00	39.7 PK	74.0	-34.3	1.29 H	290	36.5	3.2
2	4824.00	29.1 AV	54.0	-24.9	1.29 H	290	25.9	3.2

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



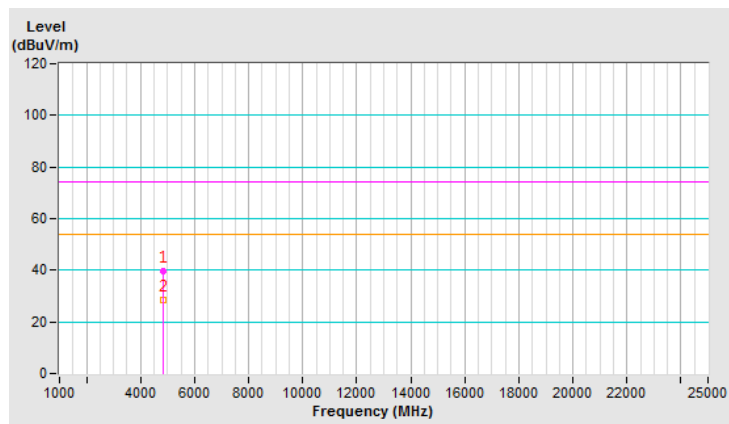
CHANNEL	TX Channel 1	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	4824.00	39.8 PK	74.0	-34.2	1.70 V	341	36.6	3.2
2	4824.00	28.4 AV	54.0	-25.6	1.70 V	341	25.2	3.2

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



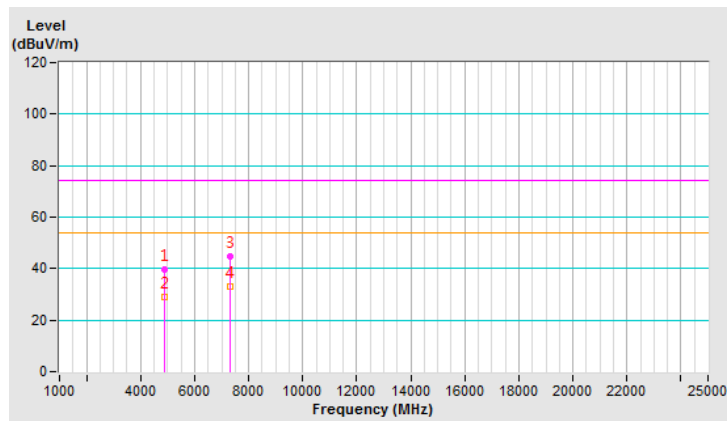
CHANNEL	TX Channel 6	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	4874.00	39.6 PK	74.0	-34.4	1.24 H	302	36.3	3.3
2	4874.00	28.9 AV	54.0	-25.1	1.24 H	302	25.6	3.3
3	7311.00	44.7 PK	74.0	-29.3	1.92 H	75	34.9	9.8
4	7311.00	33.2 AV	54.0	-20.8	1.92 H	75	23.4	9.8

REMARKS:

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



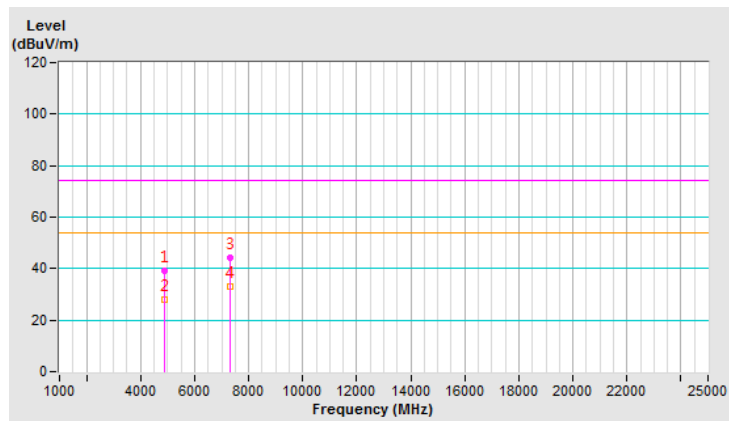
CHANNEL	TX Channel 6	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	4874.00	39.3 PK	74.0	-34.7	1.69 V	339	36.0	3.3
2	4874.00	28.2 AV	54.0	-25.8	1.69 V	339	24.9	3.3
3	7311.00	44.2 PK	74.0	-29.8	2.48 V	122	34.4	9.8
4	7311.00	33.1 AV	54.0	-20.9	2.48 V	122	23.3	9.8

REMARKS:

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



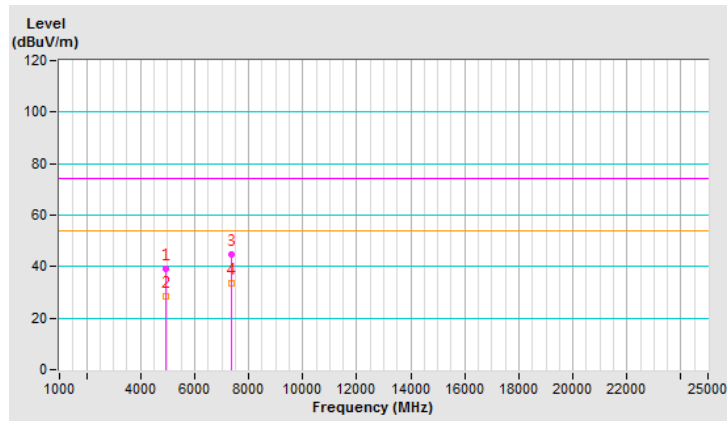
CHANNEL	TX Channel 11	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	4924.00	39.1 PK	74.0	-34.9	1.28 H	287	35.6	3.5
2	4924.00	28.7 AV	54.0	-25.3	1.28 H	287	25.2	3.5
3	7386.00	44.7 PK	74.0	-29.3	1.91 H	70	34.8	9.9
4	7386.00	33.5 AV	54.0	-20.5	1.91 H	70	23.6	9.9

REMARKS:

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



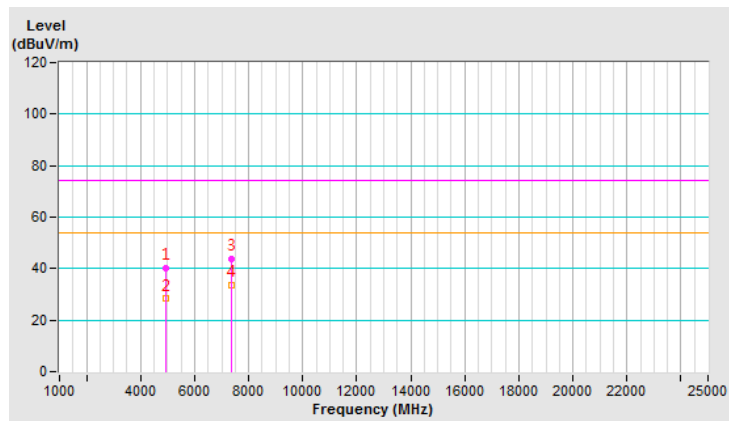
CHANNEL	TX Channel 11	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	4924.00	40.3 PK	74.0	-33.7	1.65 V	346	36.8	3.5
2	4924.00	28.3 AV	54.0	-25.7	1.65 V	346	24.8	3.5
3	7386.00	43.9 PK	74.0	-30.1	2.49 V	125	34.0	9.9
4	7386.00	33.5 AV	54.0	-20.5	2.49 V	125	23.6	9.9

REMARKS:

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



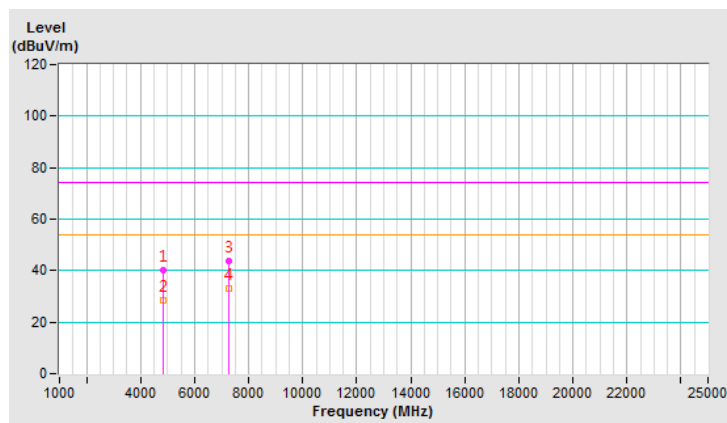
802.11n (HT40)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	4844.00	40.2 PK	74.0	-33.8	1.24 H	265	36.9	3.3
2	4844.00	28.7 AV	54.0	-25.3	1.24 H	265	25.4	3.3
3	7266.00	43.7 PK	74.0	-30.3	2.01 H	88	33.9	9.8
4	7266.00	32.9 AV	54.0	-21.1	2.01 H	88	23.1	9.8

REMARKS:

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



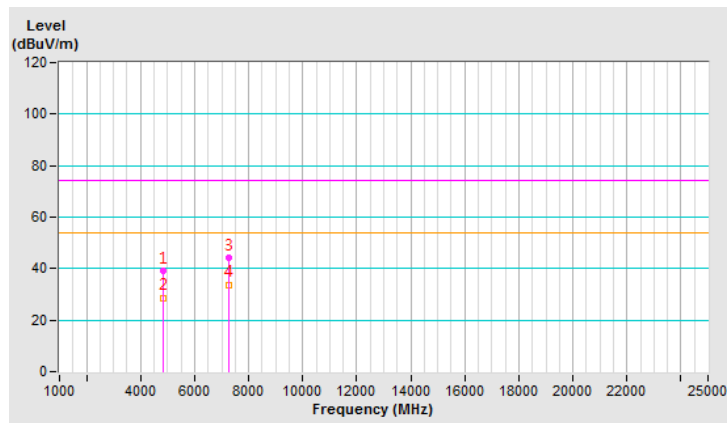
CHANNEL	TX Channel 3	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	4844.00	38.9 PK	74.0	-35.1	1.66 V	332	35.6	3.3
2	4844.00	28.6 AV	54.0	-25.4	1.66 V	332	25.3	3.3
3	7266.00	44.0 PK	74.0	-30.0	2.45 V	139	34.2	9.8
4	7266.00	33.6 AV	54.0	-20.4	2.45 V	139	23.8	9.8

REMARKS:

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

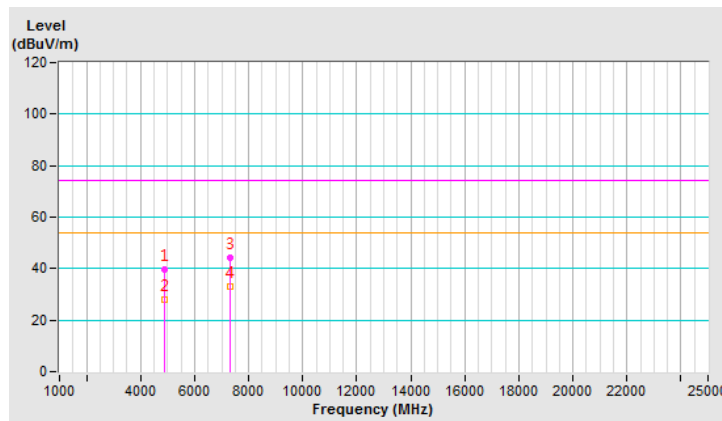


CHANNEL	TX Channel 6	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	4874.00	39.7 PK	74.0	-34.3	1.22 H	275	36.4	3.3
2	4874.00	28.2 AV	54.0	-25.8	1.22 H	275	24.9	3.3
3	7311.00	44.1 PK	74.0	-29.9	2.01 H	78	34.3	9.8
4	7311.00	33.3 AV	54.0	-20.7	2.01 H	78	23.5	9.8

REMARKS:

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



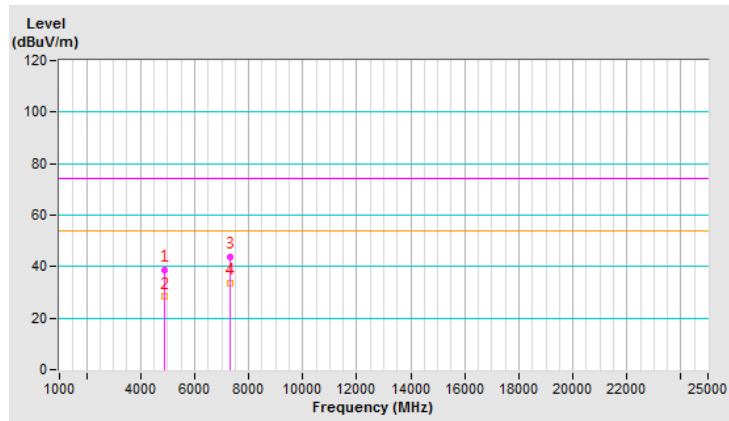
CHANNEL	TX Channel 6	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	4874.00	38.8 PK	74.0	-35.2	1.71 V	328	35.5	3.3
2	4874.00	28.3 AV	54.0	-25.7	1.71 V	328	25.0	3.3
3	7311.00	43.7 PK	74.0	-30.3	2.41 V	129	33.9	9.8
4	7311.00	33.4 AV	54.0	-20.6	2.41 V	129	23.6	9.8

REMARKS:

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



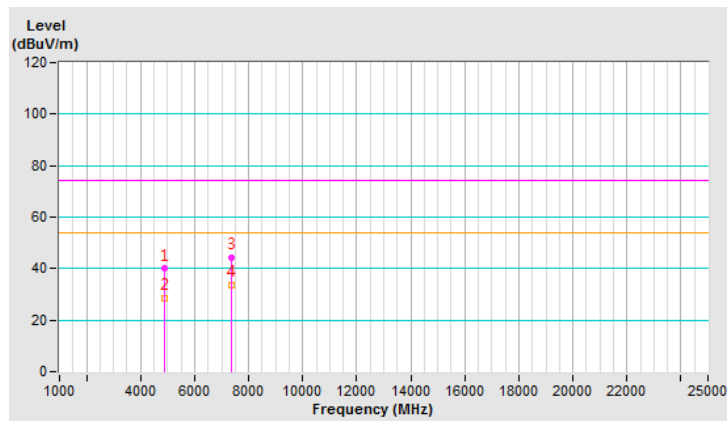
CHANNEL	TX Channel 9	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	4904.00	40.0 PK	74.0	-34.0	1.25 H	264	36.5	3.5
2	4904.00	28.5 AV	54.0	-25.5	1.25 H	264	25.0	3.5
3	7356.00	44.3 PK	74.0	-29.7	2.01 H	93	34.4	9.9
4	7356.00	33.7 AV	54.0	-20.3	2.01 H	93	23.8	9.9

REMARKS:

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



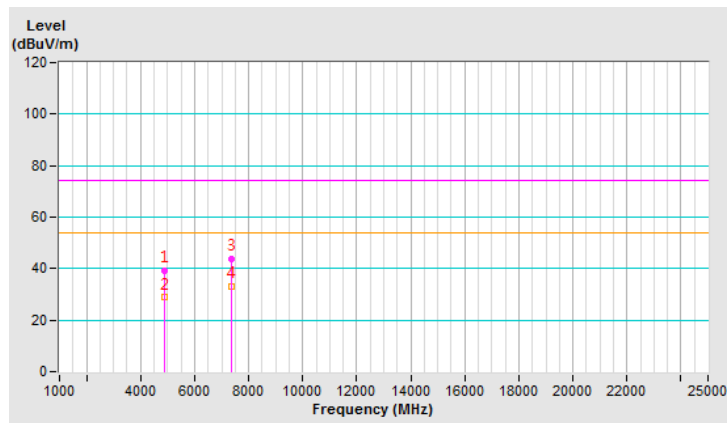
CHANNEL	TX Channel 9	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	4904.00	39.4 PK	74.0	-34.6	1.66 V	338	35.9	3.5
2	4904.00	28.8 AV	54.0	-25.2	1.66 V	338	25.3	3.5
3	7356.00	43.7 PK	74.0	-30.3	2.39 V	140	33.8	9.9
4	7356.00	33.3 AV	54.0	-20.7	2.39 V	140	23.4	9.9

REMARKS:

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



Below 1GHz Data:

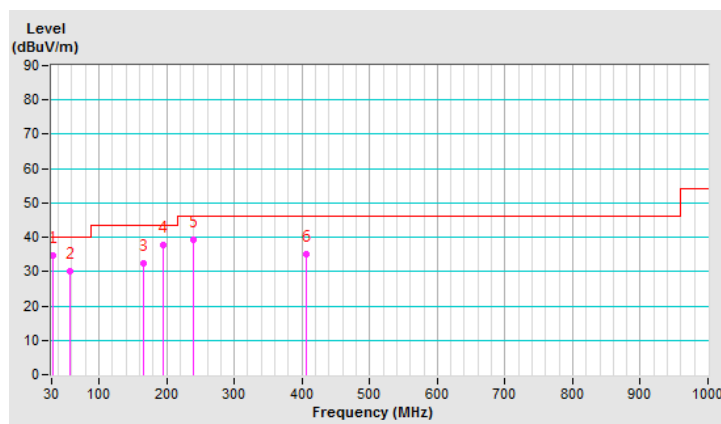
802.11n (HT20)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	31.65	34.8 QP	40.0	-5.2	1.00 H	326	44.2	-9.4
2	57.55	30.2 QP	40.0	-9.8	1.00 H	204	38.5	-8.3
3	166.60	32.5 QP	43.5	-11.0	1.00 H	189	40.8	-8.3
4	194.92	37.7 QP	43.5	-5.8	1.00 H	201	48.9	-11.2
5	240.00	39.2 QP	46.0	-6.8	2.00 H	340	49.2	-10.0
6	406.00	35.2 QP	46.0	-10.8	1.00 H	47	40.3	-5.1

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. The emission levels were very low against the limit of frequency range 9kHz ~ 30MHz.



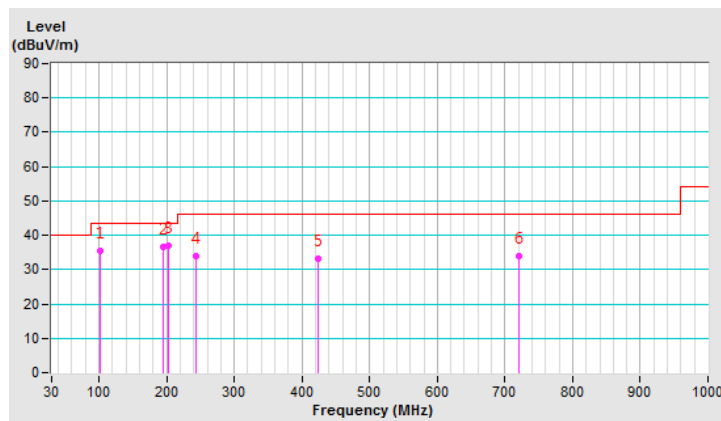
CHANNEL	TX Channel 1	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	102.22	35.6 QP	43.5	-7.9	1.00 V	208	47.7	-12.1
2	194.03	36.7 QP	43.5	-6.8	1.00 V	335	47.9	-11.2
3	202.64	37.0 QP	43.5	-6.5	1.00 V	0	48.4	-11.4
4	243.30	33.9 QP	46.0	-12.1	1.00 V	333	43.6	-9.7
5	424.01	33.1 QP	46.0	-12.9	1.50 V	293	37.5	-4.4
6	720.25	33.8 QP	46.0	-12.2	1.00 V	316	32.7	1.1

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. The emission levels were very low against the limit of frequency range 9kHz ~ 30MHz.



4.1.8 Test Results (Conducted Measurement)

Radiated versus Conducted Measurement	
<input checked="" type="checkbox"/> Conducted measurement	<input type="checkbox"/> Radiated measurement
<p><u>For Radiated measurement:</u> The level of unwanted emissions was measured when radiated by the cabinet or structure of the equipment with the antenna connector(s) terminated by a specified load (cabinet radiation)</p> <p><u>For Conducted measurement:</u> The level of unwanted emissions was measured as their power in a specified load (conducted spurious emissions).</p>	

Conducted Measurement Factor
<p>a. The max antenna gain will be used for conducted measurement shown as “Correction factor” in spurious emissions tables. (Antenna gain= 5.6dBi)</p> <p>b. For the out of band spurious the gain for the specific band may have been used rather than the highest gain across all bands.</p> <p>c. For the band edge the gain for the specific band may have been used.</p> <p>d. In restricted bands below 1000 MHz, add upper bound on ground plane reflection: For $f = 30 - 1000$ MHz, add 4.7 dB.</p> <p>Note: The conducted emission test was considered some factor to compute test result.</p>

1TX Mode

802.11b - Channel 1

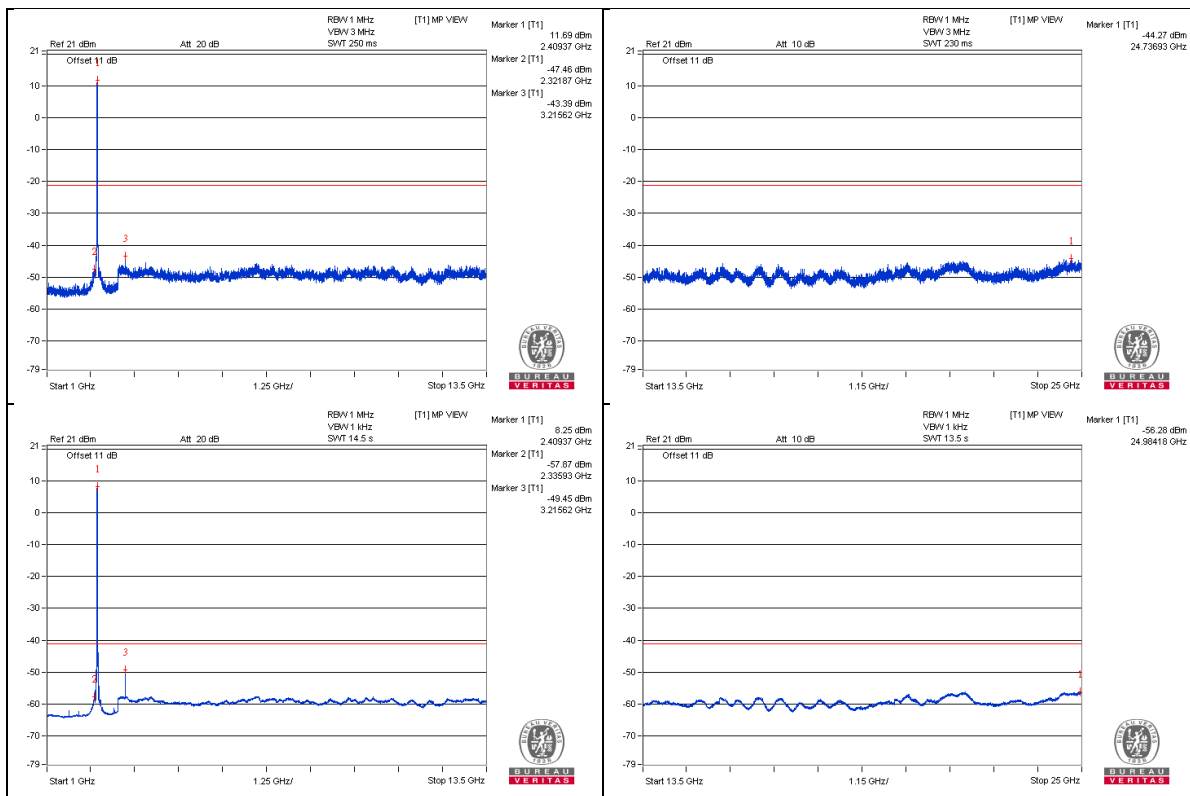
Conducted spurious emission table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	1607.81 PK	46.76	74	-27.24	-54.1	5.6	-48.5
2	1607.81 AV	38.72	54	-15.28	-62.14	5.6	-56.54
3	4825 PK	50.74	74	-23.26	-50.12	5.6	-44.52
4	4823.43 AV	41.42	54	-12.58	-59.44	5.6	-53.84

Note :

Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8

d = measurement distance in 3 meters.



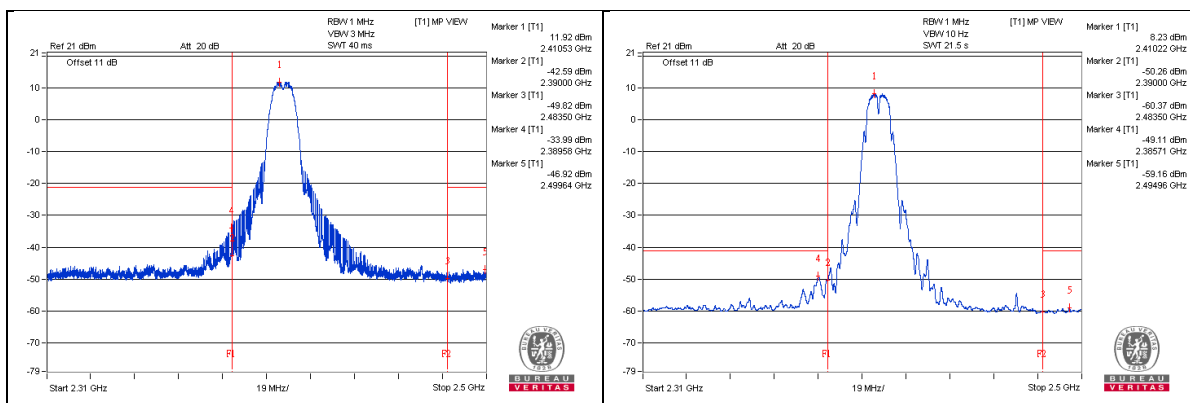
Bandedge table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	2389.58 PK	66.87	74	-7.13	-33.99	5.6	-28.39
2	2385.71 AV	51.75	54	-2.25	-49.11	5.6	-43.51
3	2499.64 PK	53.94	74	-20.06	-46.92	5.6	-41.32
4	2494.96 AV	41.7	54	-12.3	-59.16	5.6	-53.56

Note :

Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8

d = measurement distance in 3 meters.



802.11b - Channel 6

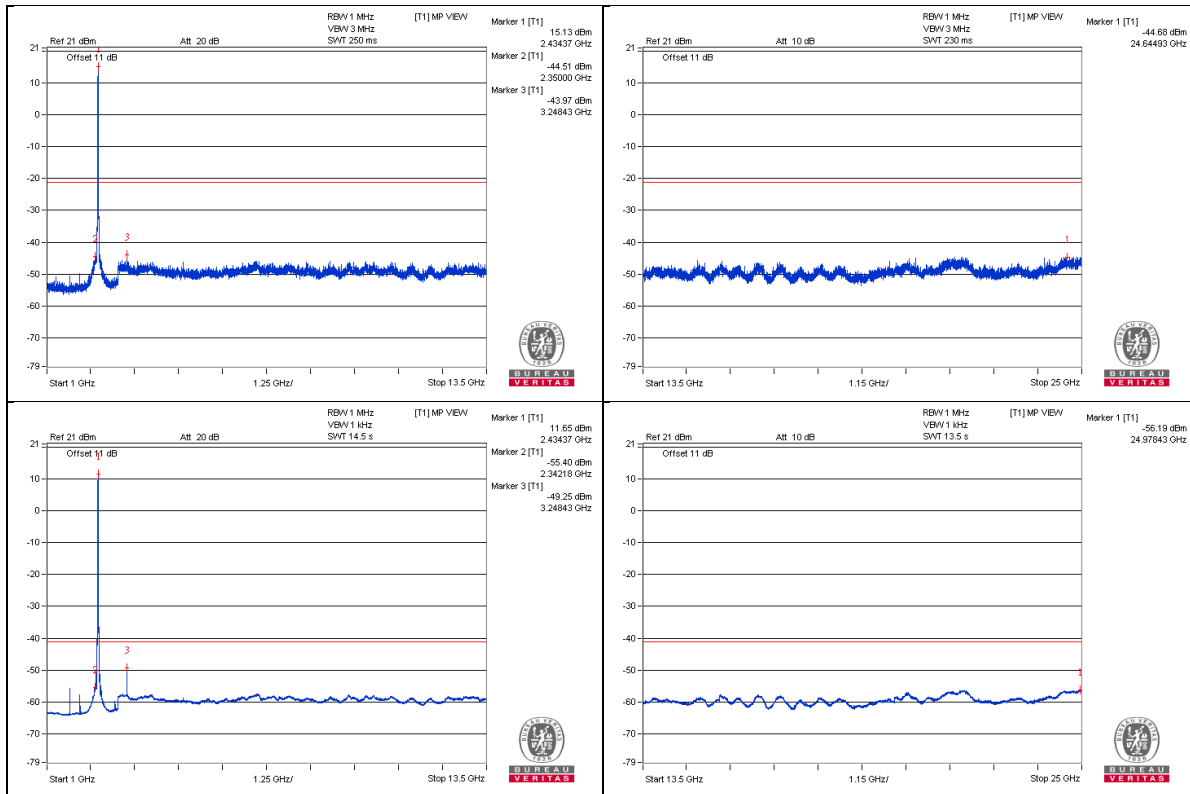
Conducted spurious emission table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	1623.43 PK	50.37	74	-23.63	-50.49	5.6	-44.89
2	1623.43 AV	45.02	54	-8.98	-55.84	5.6	-50.24
3	4873.43 PK	52.46	74	-21.54	-48.4	5.6	-42.8
4	4873.43 AV	42.01	54	-11.99	-58.85	5.6	-53.25
5	7310.93 PK	52.42	74	-21.58	-48.44	5.6	-42.84
6	7312.5 AV	42.62	54	-11.38	-58.24	5.6	-52.64

Note :

Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8

d = measurement distance in 3 meters.



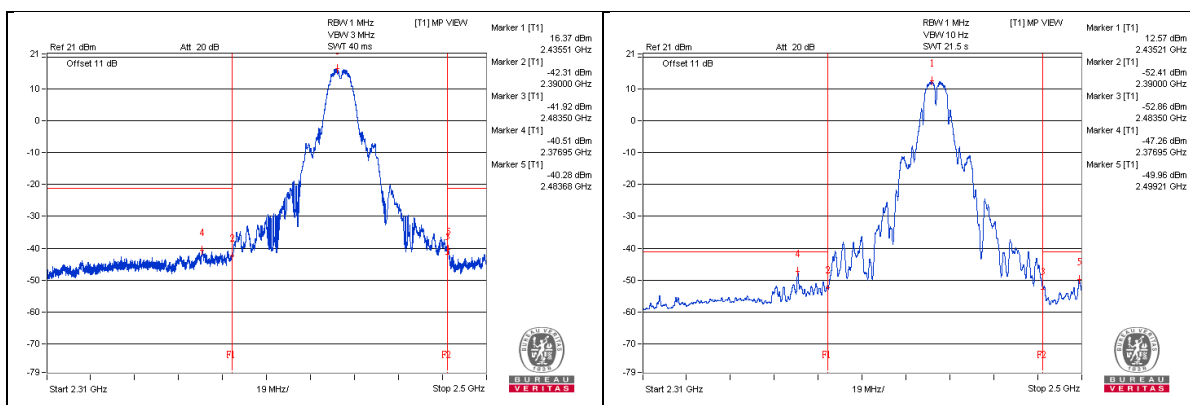
Bandedge table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	2376.95 PK	60.35	74	-13.65	-40.51	5.6	-34.91
2	2376.95 AV	53.6	54	-0.4	-47.26	5.6	-41.66
3	2483.68 PK	60.58	74	-13.42	-40.28	5.6	-34.68
4	2499.21 AV	50.9	54	-3.1	-49.96	5.6	-44.36

Note :

Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8

d = measurement distance in 3 meters.



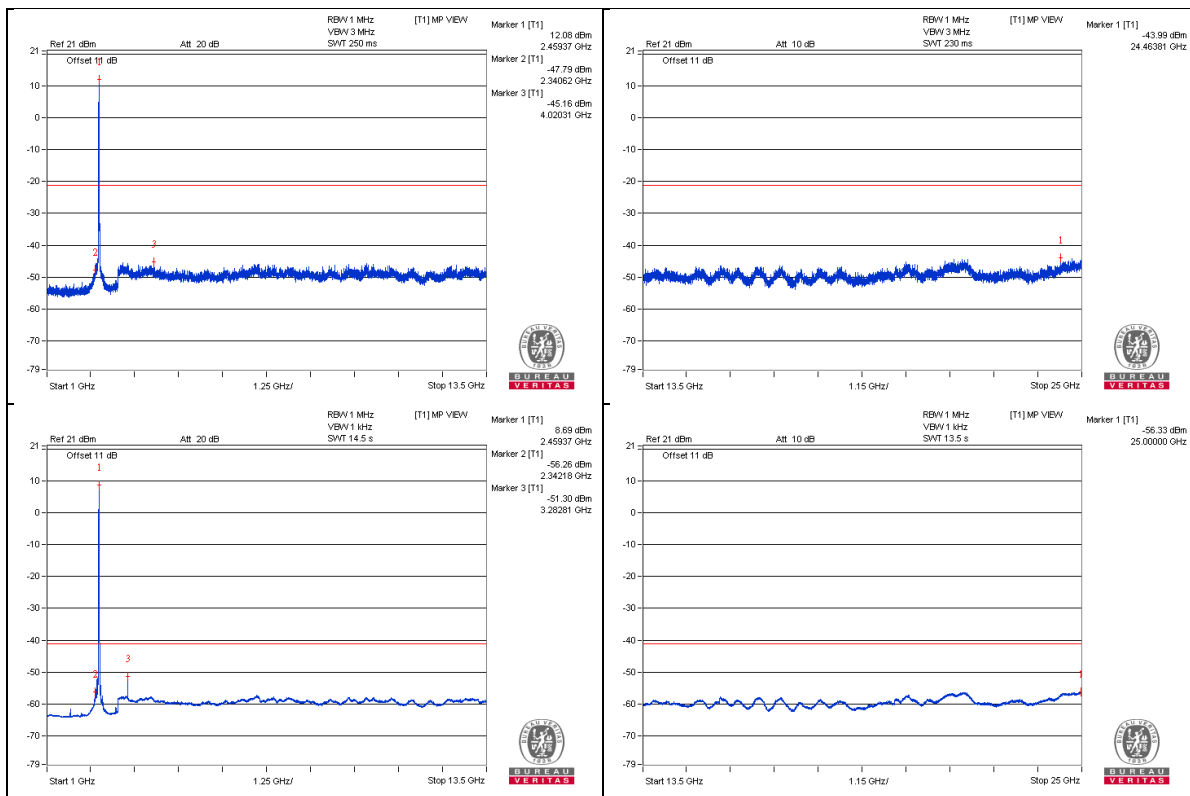
802.11b - Channel 11

Conducted spurious emission table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	4923.43 PK	50.89	74	-23.11	-49.97	5.6	-44.37
2	4923.43 AV	41.29	54	-12.71	-59.57	5.6	-53.97
3	7387.5 PK	52.6	74	-21.4	-48.26	5.6	-42.66
4	7385.93 AV	42.3	54	-11.7	-58.56	5.6	-52.96

Note :

Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8
d = measurement distance in 3 meters.



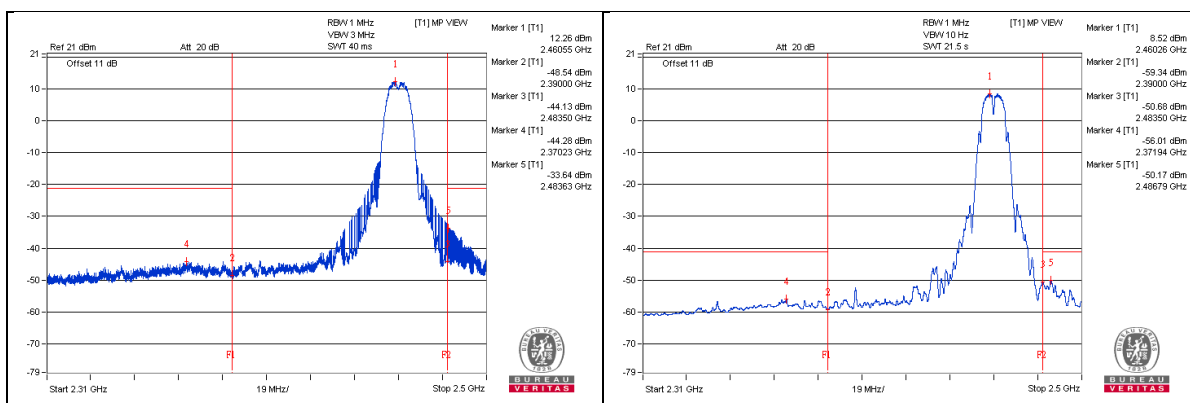
Bandedge table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	2370.23 PK	56.58	74	-17.42	-44.28	5.6	-38.68
2	2371.94 AV	44.85	54	-9.15	-56.01	5.6	-50.41
3	2483.63 PK	67.22	74	-6.78	-33.64	5.6	-28.04
4	2486.79 AV	50.69	54	-3.31	-50.17	5.6	-44.57

Note :

Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8

d = measurement distance in 3 meters.



802.11g - Channel 1

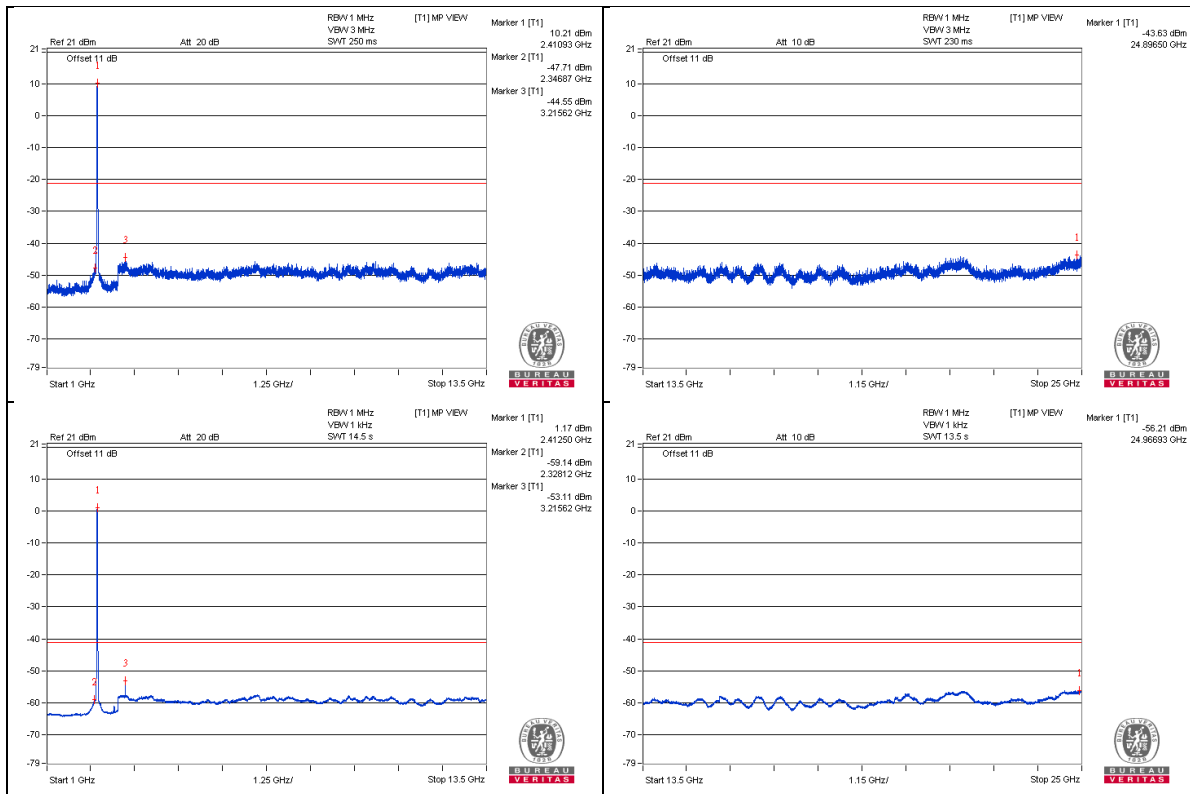
Conducted spurious emission table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	1609.37 PK	46.84	74	-27.16	-54.02	5.6	-48.42
2	1607.81 AV	36.75	54	-17.25	-64.11	5.6	-58.51
3	4823.43 PK	51.08	74	-22.92	-49.78	5.6	-44.18
4	4823.43 AV	40.93	54	-13.07	-59.93	5.6	-54.33

Note :

Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8

d = measurement distance in 3 meters.



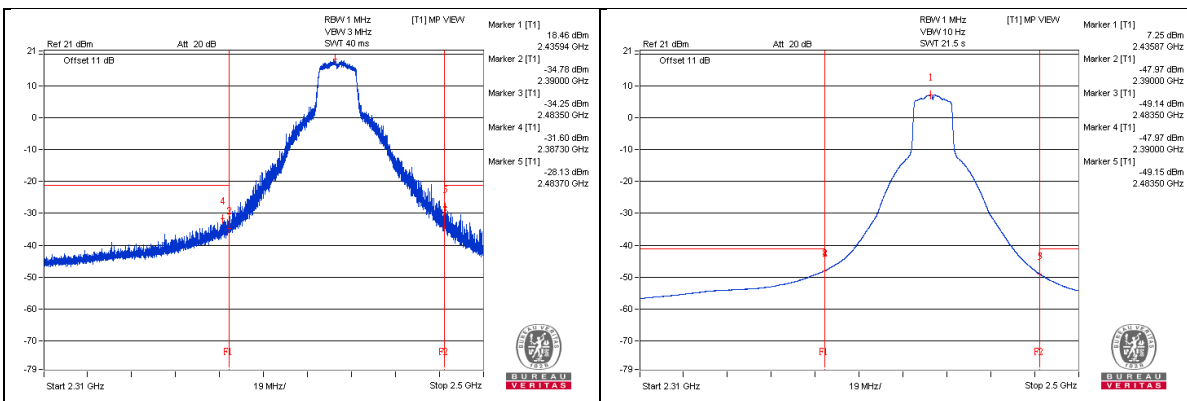
Bandedge table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	2389.91 PK	71.6	74	-2.4	-29.26	5.6	-23.66
2	2390 AV	52.77	54	-1.23	-48.09	5.6	-42.49
3	2497.72 PK	52.99	74	-21.01	-47.87	5.6	-42.27
4	2486.24 AV	39.93	54	-14.07	-60.93	5.6	-55.33

Note :

Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8

d = measurement distance in 3 meters.



802.11g - Channel 6

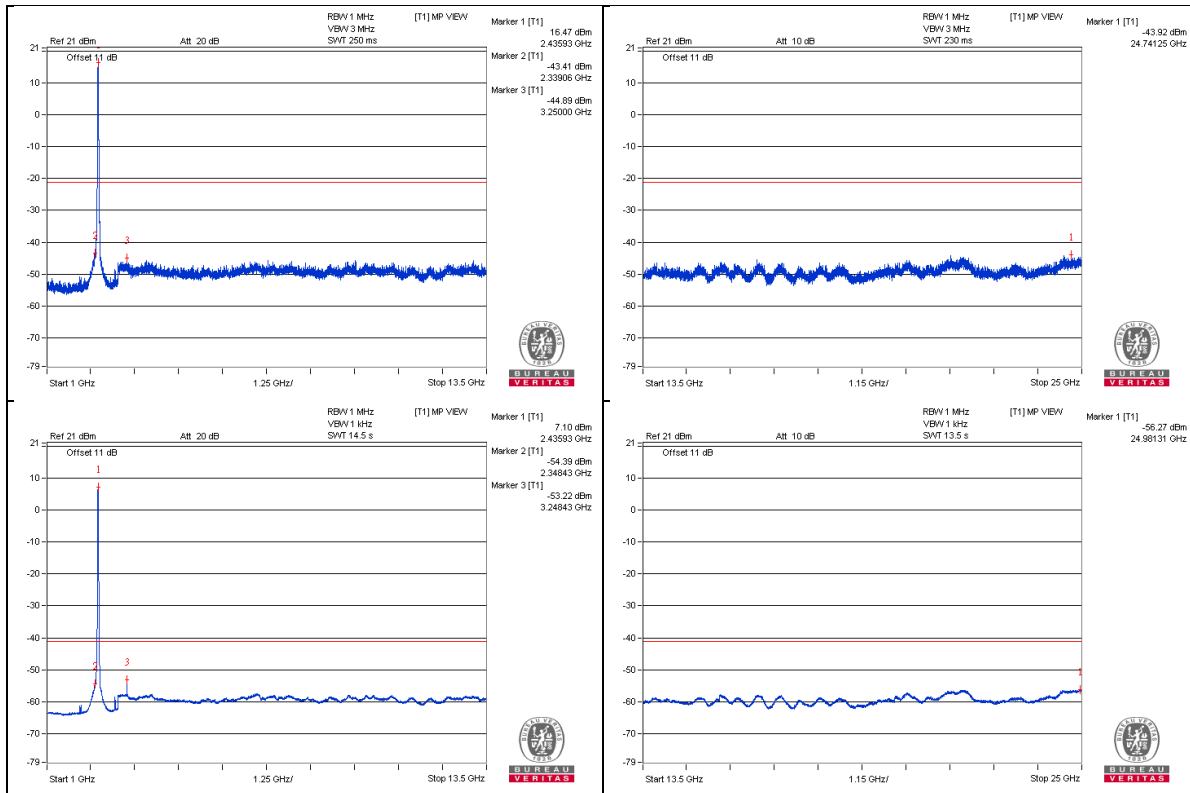
Conducted spurious emission table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	1625 AV	37.36	54	-16.64	-63.5	5.6	-57.9
2	4875 PK	50.93	74	-23.07	-49.93	5.6	-44.33
3	4873.43 AV	41.13	54	-12.87	-59.73	5.6	-54.13
4	7312.5 PK	52.66	74	-21.34	-48.2	5.6	-42.6
5	7309.37 AV	42.32	54	-11.68	-58.54	5.6	-52.94

Note :

$$\text{Emission Level (dBuV/m)} = \text{EIRP Level (dBm)} - 20\log(d) + 104.8$$

d = measurement distance in 3 meters.



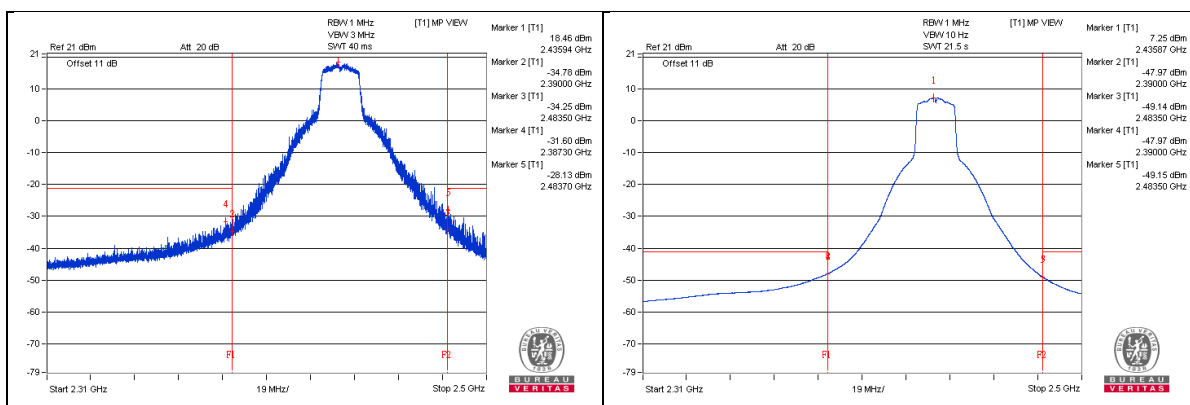
Bandedge table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	2387.3 PK	69.26	74	-4.74	-31.6	5.6	-26
2	2390 AV	52.89	54	-1.11	-47.97	5.6	-42.37
3	2483.7 PK	72.73	74	-1.27	-28.13	5.6	-22.53
4	2483.5 AV	51.71	54	-2.29	-49.15	5.6	-43.55

Note :

Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8

d = measurement distance in 3 meters.



802.11g - Channel 11

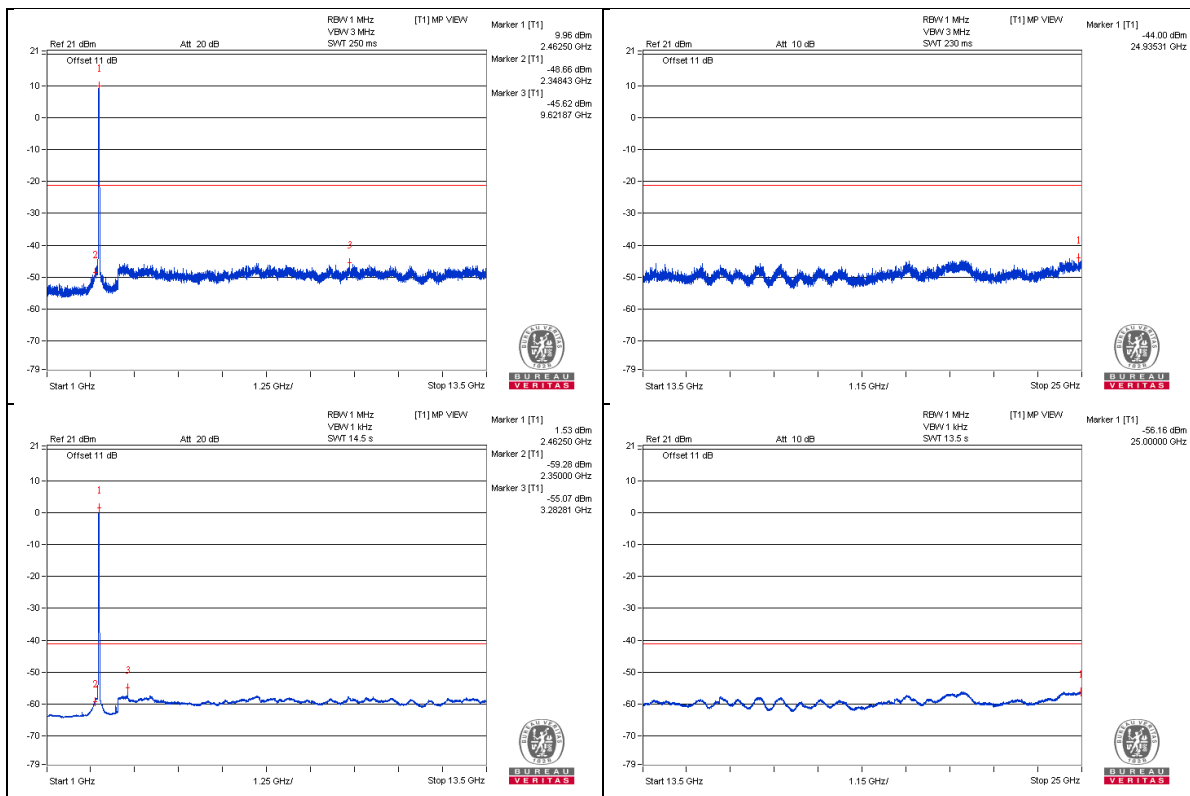
Conducted spurious emission table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	4925 PK	51.03	74	-22.97	-49.83	5.6	-44.23
2	4923.43 AV	41.05	54	-12.95	-59.81	5.6	-54.21
3	7385.93 PK	52.95	74	-21.05	-47.91	5.6	-42.31
4	7384.37 AV	42.44	54	-11.56	-58.42	5.6	-52.82

Note :

Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8

d = measurement distance in 3 meters.



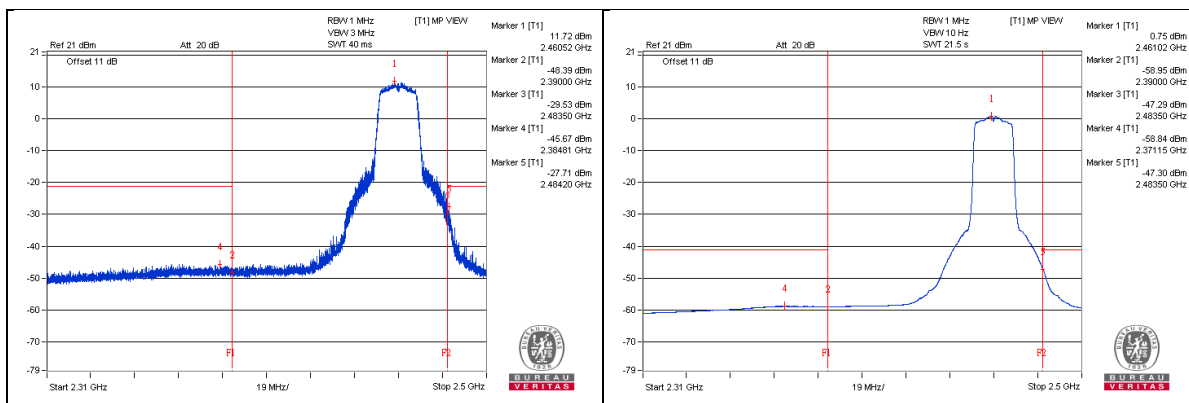
Bandedge table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	2384.81 PK	55.19	74	-18.81	-45.67	5.6	-40.07
2	2371.15 AV	42.02	54	-11.98	-58.84	5.6	-53.24
3	2484.2 PK	73.15	74	-0.85	-27.71	5.6	-22.11
4	2483.5 AV	53.56	54	-0.44	-47.3	5.6	-41.7

Note :

Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8

d = measurement distance in 3 meters.



802.11n (HT20) - Channel 1

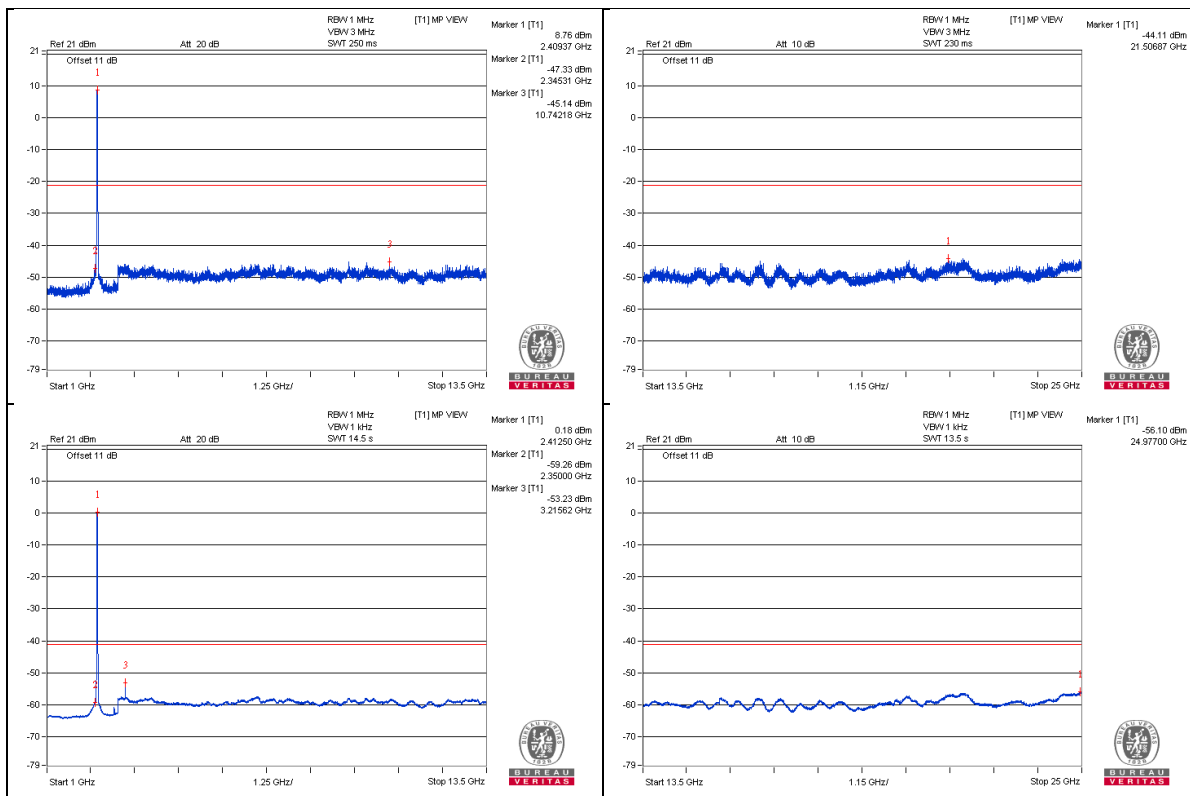
Conducted spurious emission table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	1606.25 PK	46.02	74	-27.98	-54.84	5.6	-49.24
2	1609.37 AV	36.8	54	-17.2	-64.06	5.6	-58.46
3	4823.43 PK	51.85	74	-22.15	-49.01	5.6	-43.41
4	4823.43 AV	41.01	54	-12.99	-59.85	5.6	-54.25

Note :

Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8

d = measurement distance in 3 meters.



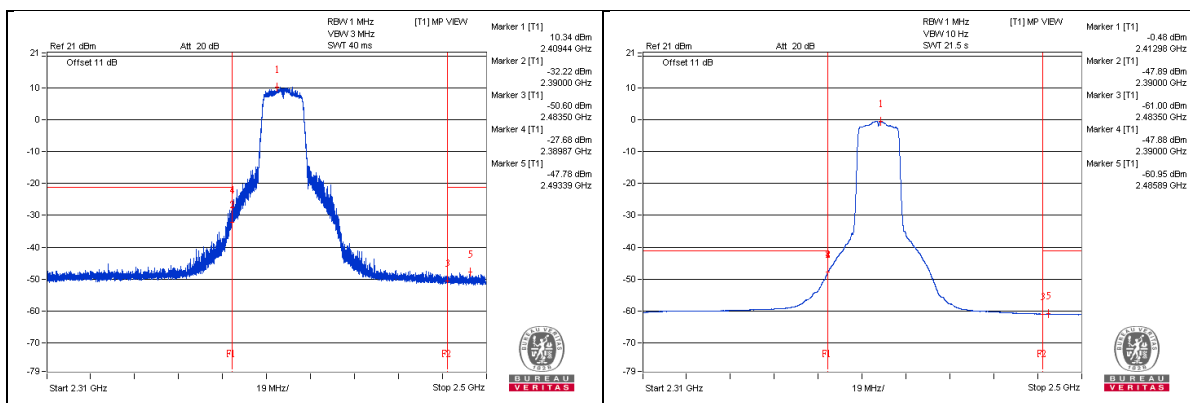
Bandedge table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	2389.87 PK	73.18	74	-0.82	-27.68	5.6	-22.08
2	2390 AV	52.98	54	-1.02	-47.88	5.6	-42.28
3	2493.39 PK	53.08	74	-20.92	-47.78	5.6	-42.18
4	2485.89 AV	39.91	54	-14.09	-60.95	5.6	-55.35

Note :

Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8

d = measurement distance in 3 meters.



802.11n (HT20) - Channel 6

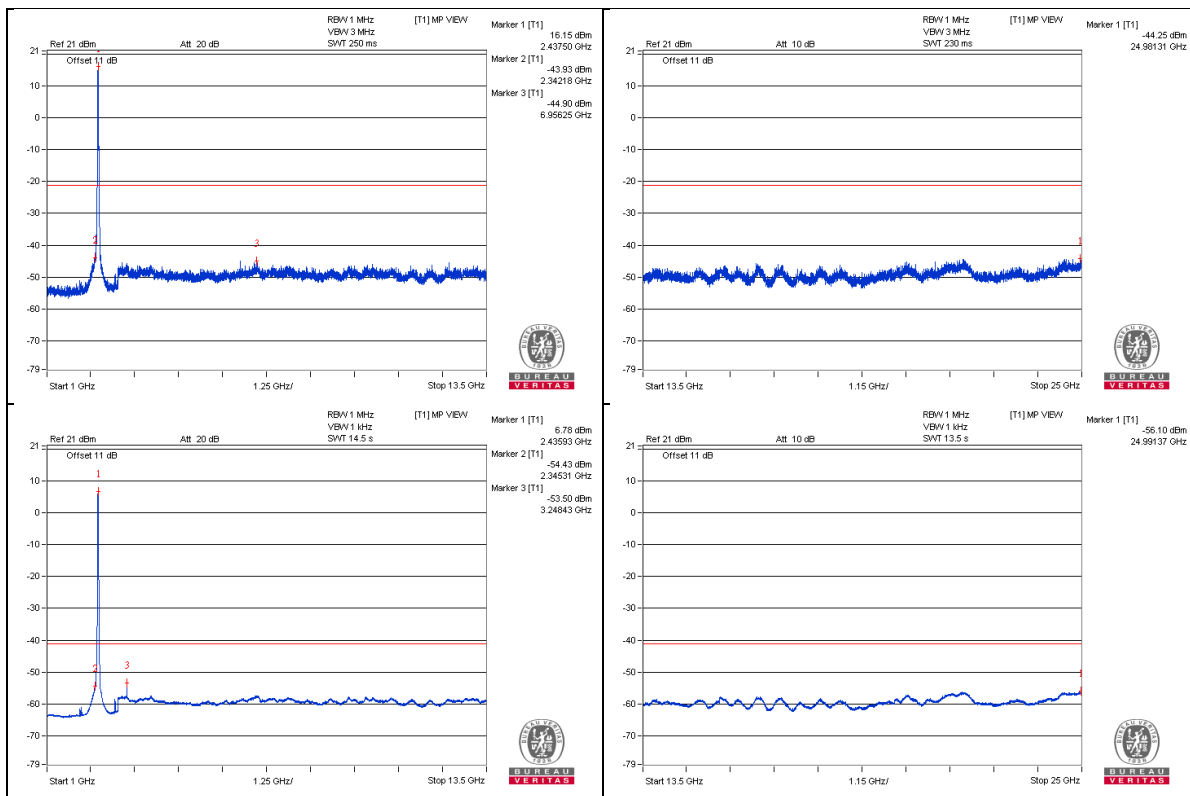
Conducted spurious emission table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	1606.25 PK	46.06	74	-27.94	-54.8	5.6	-49.2
2	1607.81 AV	36.9	54	-17.1	-63.96	5.6	-58.36
3	4825 PK	51.36	74	-22.64	-49.5	5.6	-43.9
4	4825 AV	41.13	54	-12.87	-59.73	5.6	-54.13

Note :

Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8

d = measurement distance in 3 meters.



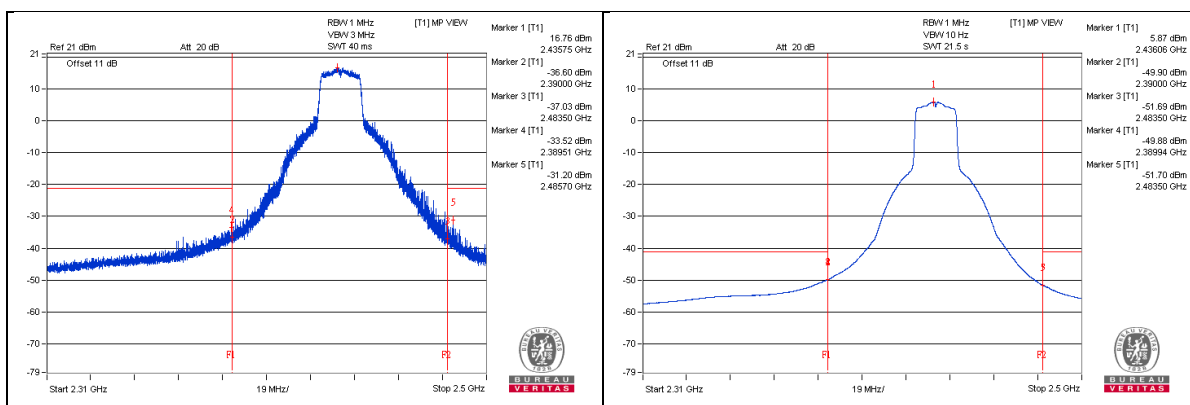
Bandedge table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	2389.51 PK	67.34	74	-6.66	-33.52	5.6	-27.92
2	2389.94 AV	50.98	54	-3.02	-49.88	5.6	-44.28
3	2485.7 PK	69.66	74	-4.34	-31.2	5.6	-25.6
4	2483.5 AV	49.16	54	-4.84	-51.7	5.6	-46.1

Note :

Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8

d = measurement distance in 3 meters.



802.11n (HT20) - Channel 11

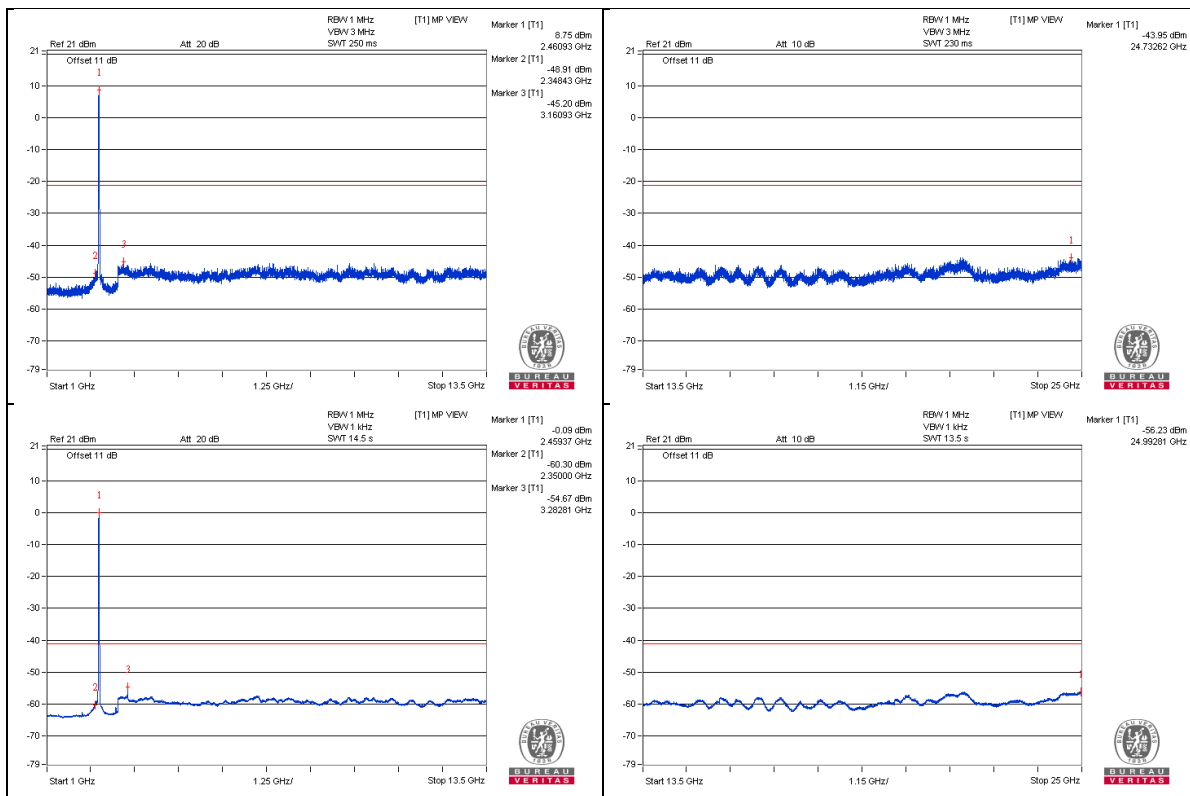
Conducted spurious emission table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	4925 PK	52.07	74	-21.93	-48.79	5.6	-43.19
2	4923.43 AV	41	54	-13	-59.86	5.6	-54.26
3	7384.37 PK	52.03	74	-21.97	-48.83	5.6	-43.23
4	7385.93 AV	42.4	54	-11.6	-58.46	5.6	-52.86

Note :

Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8

d = measurement distance in 3 meters.



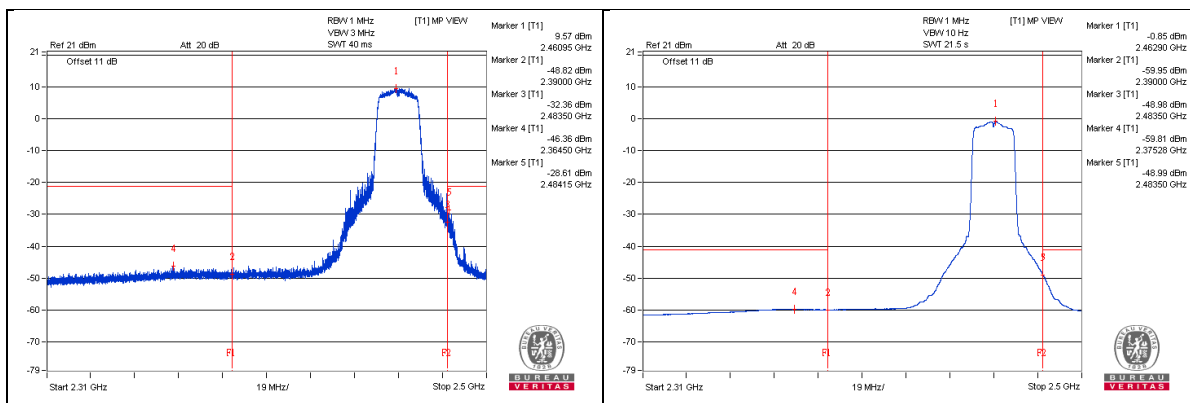
Bandedge table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	2364.5 PK	54.5	74	-19.5	-46.36	5.6	-40.76
2	2375.28 AV	41.05	54	-12.95	-59.81	5.6	-54.21
3	2484.15 PK	72.25	74	-1.75	-28.61	5.6	-23.01
4	2483.5 AV	51.87	54	-2.13	-48.99	5.6	-43.39

Note :

Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8

d = measurement distance in 3 meters.



802.11n (HT40) - Channel 3

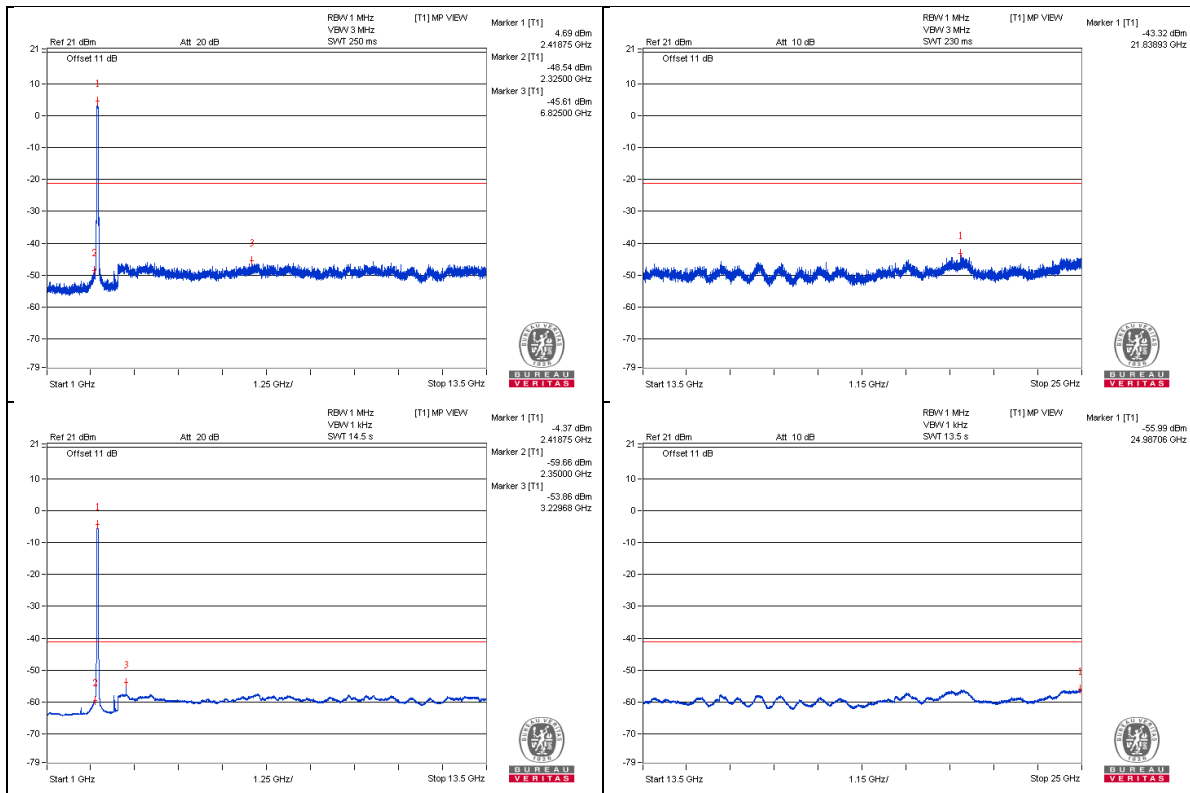
Conducted spurious emission table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	1614.06 PK	46.32	74	-27.68	-54.54	5.6	-48.94
2	1615.62 AV	36.81	54	-17.19	-64.05	5.6	-58.45
3	4845.31 PK	51	74	-23	-49.86	5.6	-44.26
4	4843.75 AV	41.1	54	-12.9	-59.76	5.6	-54.16
5	7267.18 PK	52.54	74	-21.46	-48.32	5.6	-42.72
6	7265.62 AV	42.16	54	-11.84	-58.7	5.6	-53.1

Note :

Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8

d = measurement distance in 3 meters.



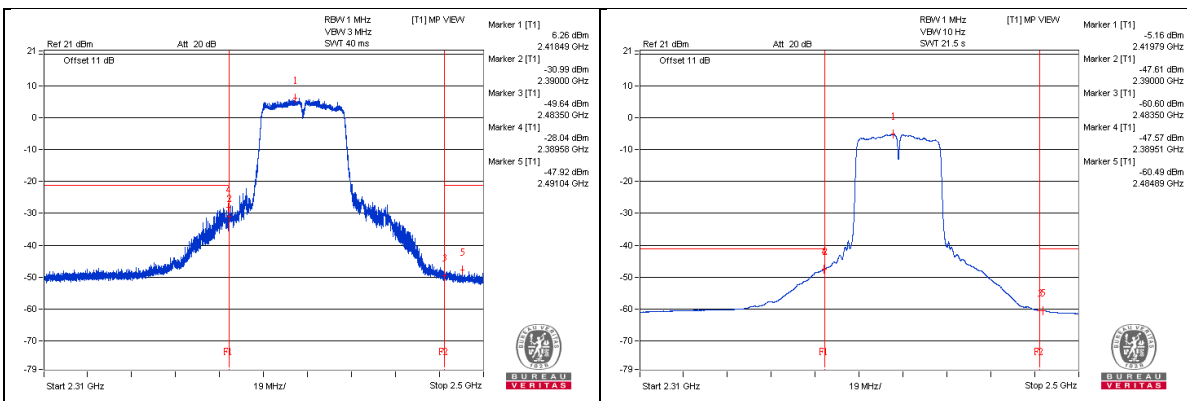
Bandedge table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	2389.58 PK	72.82	74	-1.18	-28.04	5.6	-22.44
2	2389.51 AV	53.29	54	-0.71	-47.57	5.6	-41.97
3	2491.04 PK	52.94	74	-21.06	-47.92	5.6	-42.32
4	2484.89 AV	40.37	54	-13.63	-60.49	5.6	-54.89

Note :

Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8

d = measurement distance in 3 meters.



802.11n (HT40) - Channel 6

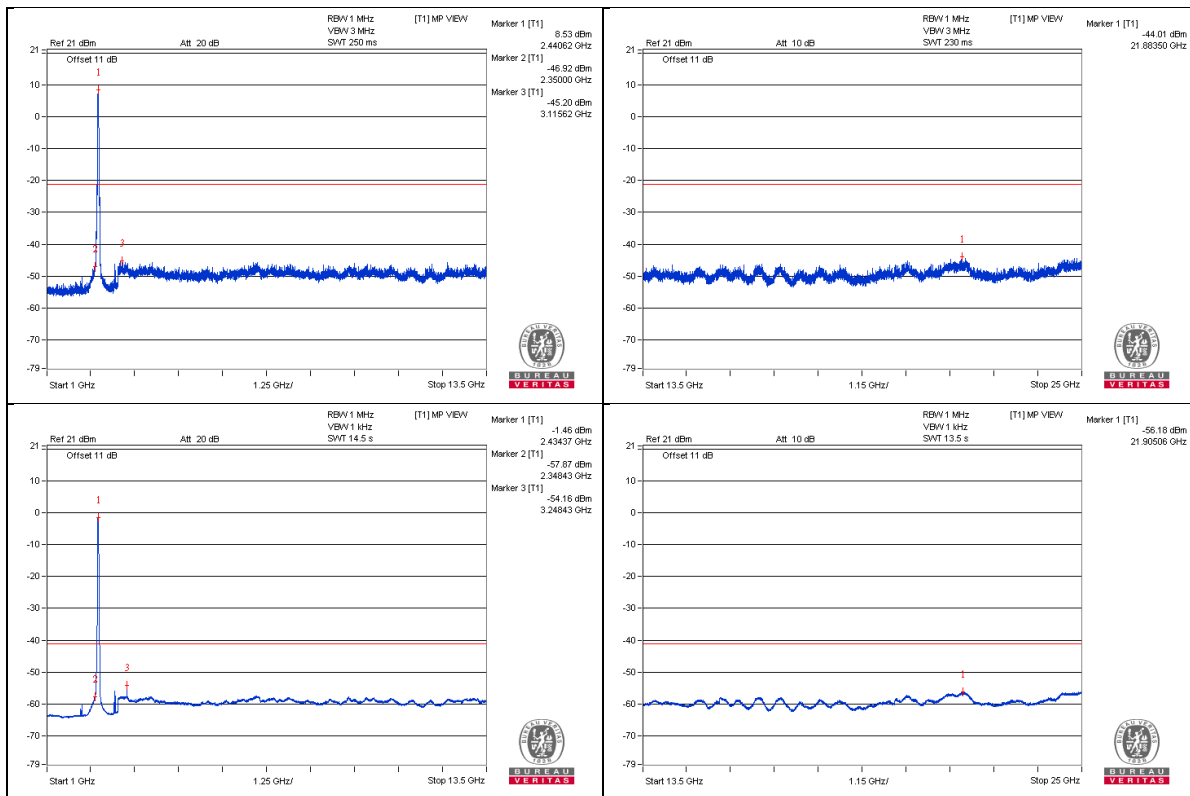
Conducted spurious emission table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	1623.43 PK	47.02	74	-26.98	-53.84	5.6	-48.24
2	1625 AV	36.82	54	-17.18	-64.04	5.6	-58.44
3	4873.43 PK	51.41	74	-22.59	-49.45	5.6	-43.85
4	4875 AV	41.08	54	-12.92	-59.78	5.6	-54.18
5	7312.5 PK	52.74	74	-21.26	-48.12	5.6	-42.52
6	7312.5 AV	42.47	54	-11.53	-58.39	5.6	-52.79

Note :

Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8

d = measurement distance in 3 meters.



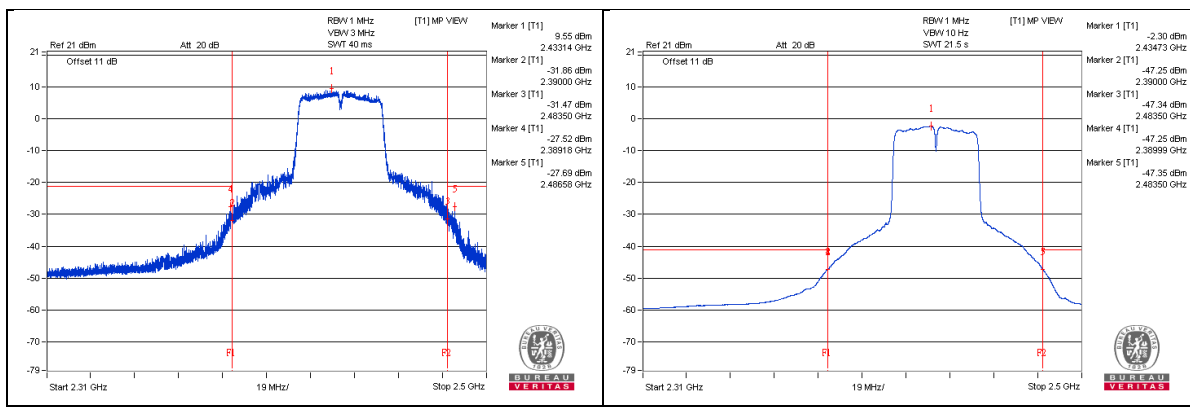
Bandedge table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	2389.18 PK	73.34	74	-0.66	-27.52	5.6	-21.92
2	2389.99 AV	53.61	54	-0.39	-47.25	5.6	-41.65
3	2486.58 PK	73.17	74	-0.83	-27.69	5.6	-22.09
4	2483.5 AV	53.51	54	-0.49	-47.35	5.6	-41.75

Note :

Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8

d = measurement distance in 3 meters.



802.11n (HT40) - Channel 9

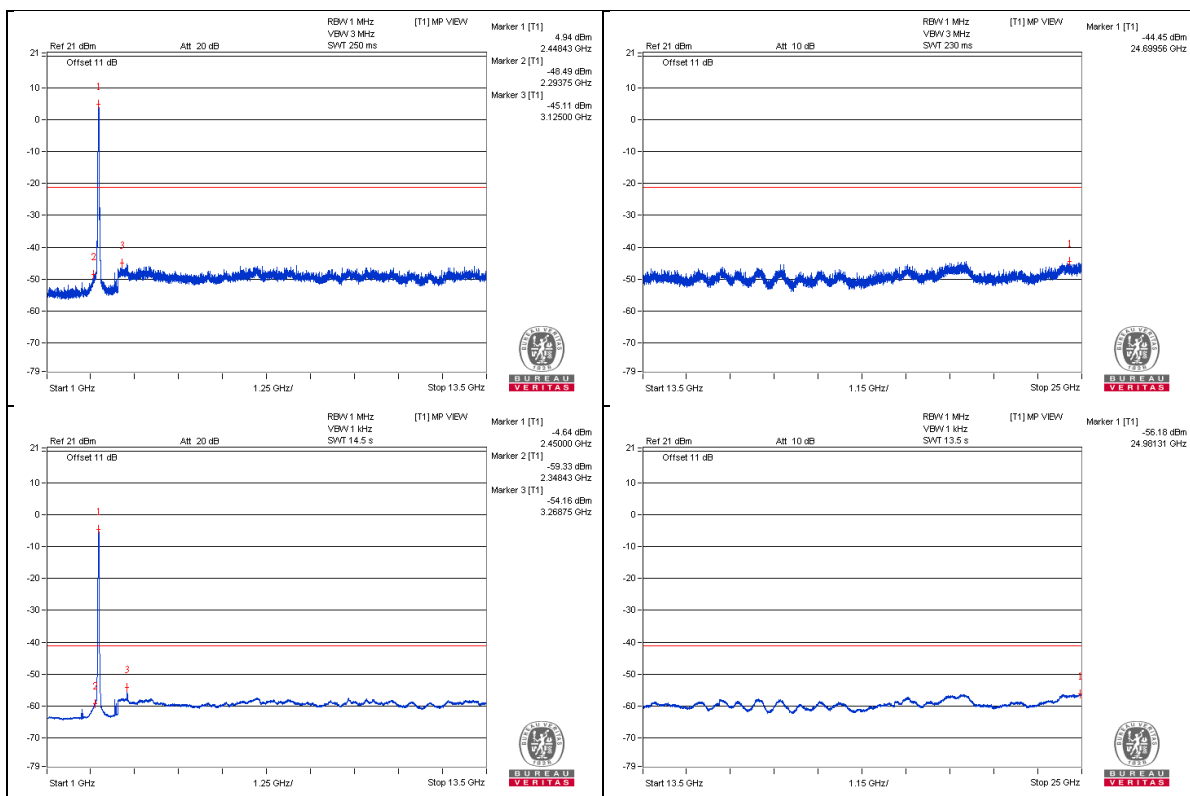
Conducted spurious emission table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	4903.12 PK	51.78	74	-22.22	-49.08	5.6	-43.48
2	4904.68 AV	40.98	54	-13.02	-59.88	5.6	-54.28
3	7356.25 PK	52.1	74	-21.9	-48.76	5.6	-43.16
4	7354.68 AV	42.27	54	-11.73	-58.59	5.6	-52.99

Note :

Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8

d = measurement distance in 3 meters.



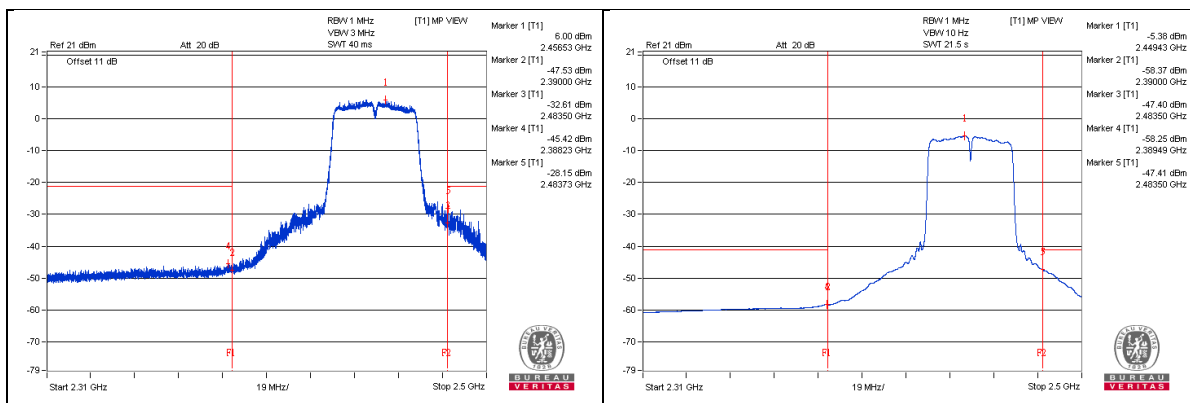
Bandedge table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	2388.23 PK	55.44	74	-18.56	-45.42	5.6	-39.82
2	2389.49 AV	42.61	54	-11.39	-58.25	5.6	-52.65
3	2483.73 PK	72.71	74	-1.29	-28.15	5.6	-22.55
4	2483.5 AV	53.45	54	-0.55	-47.41	5.6	-41.81

Note :

Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8

d = measurement distance in 3 meters.



2TX Mode

802.11n (HT20) - Channel 1

Conducted spurious emission table

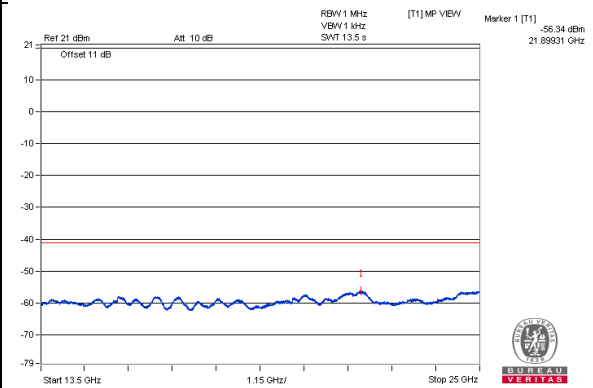
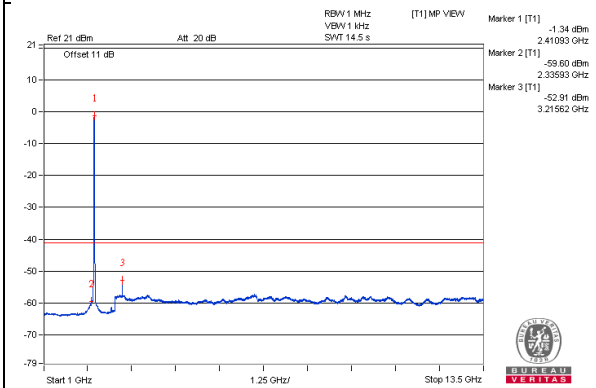
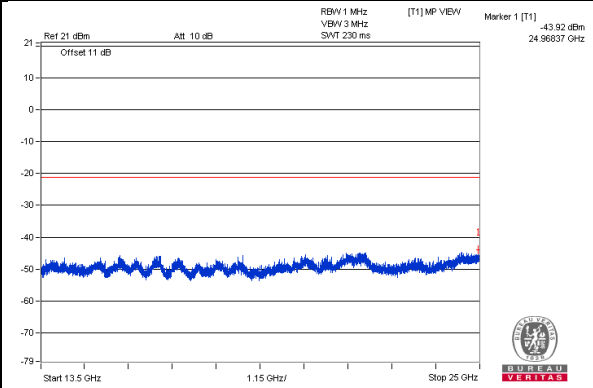
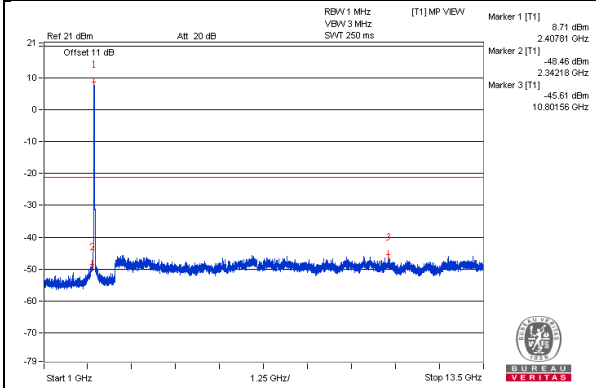
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)		Correction Factor (dB)	EIRP Level (dBm)
					Chain0	Chain1		
1	1606.25 PK	49.67	74	-24.33	-54.3	-54.1	5.6	-45.59
2	1607.81 AV	40.12	54	-13.88	-63.85	-63.66	5.6	-55.14
3	4823.43 PK	54.79	74	-19.21	-49.85	-48.43	5.6	-40.47
4	4823.43 AV	44.62	54	-9.38	-59.16	-59.35	5.6	-50.64

Note :

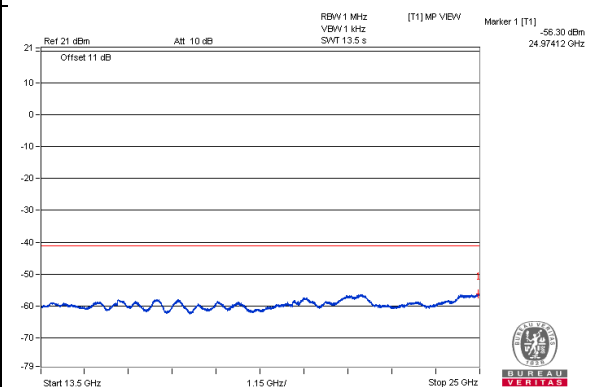
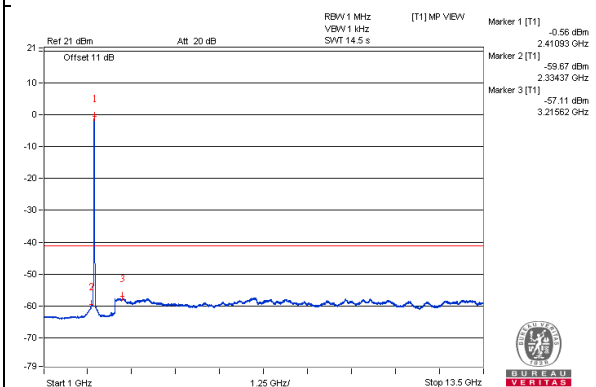
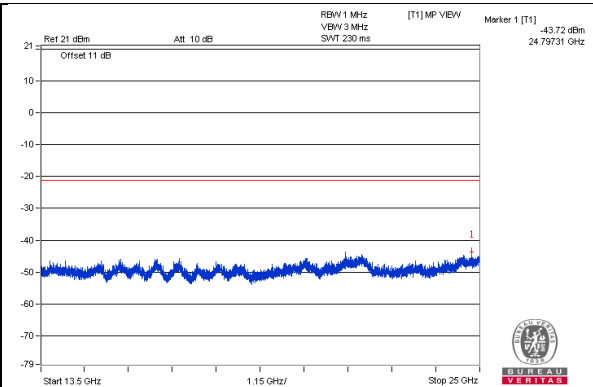
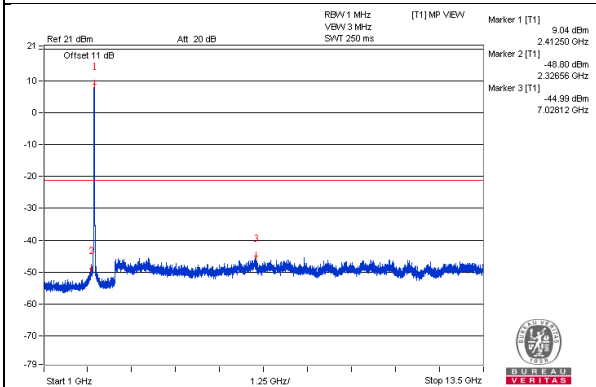
Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8

d = measurement distance in 3 meters.

Chain 0



Chain 1



Bandedge table

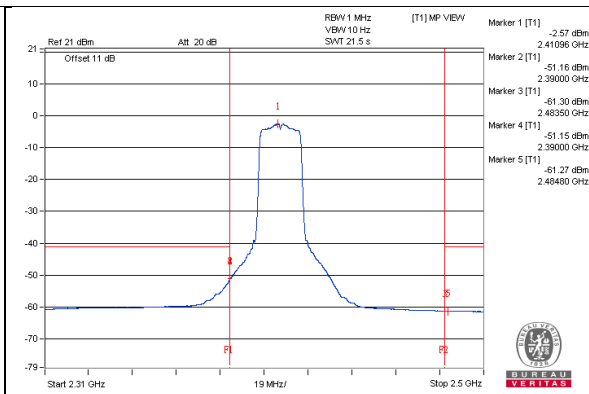
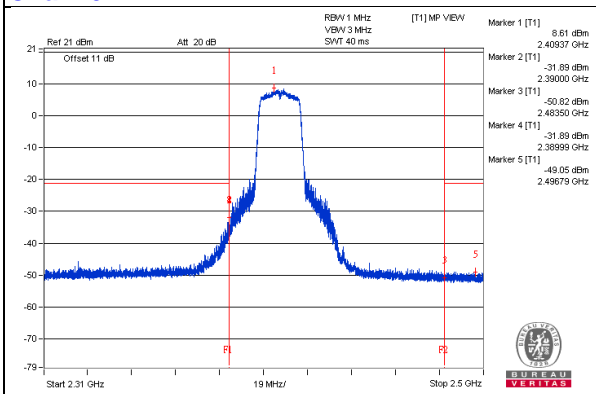
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)		Correction Factor (dB)	EIRP Level (dBm)
					Chain0	Chain1		
1	2389.8 PK	71.79	74	-2.21	-33.55	-30.99	5.6	-23.47
2	2389.99 AV	53.82	54	-0.18	-51.16	-49.17	5.6	-41.44
3	2499.85 PK	54.66	74	-19.34	-49.54	-48.91	5.6	-40.6
4	2484.77 AV	42.43	54	-11.57	-61.27	-61.62	5.6	-52.83

Note :

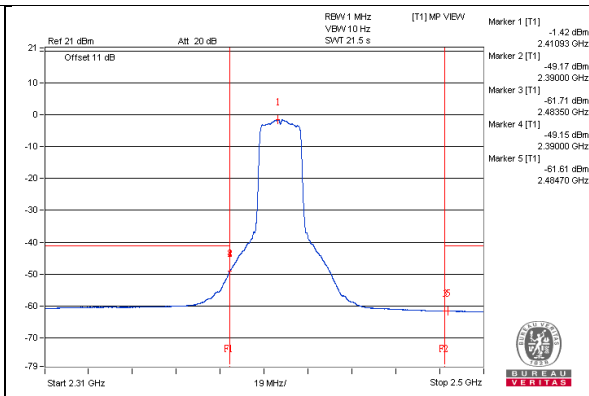
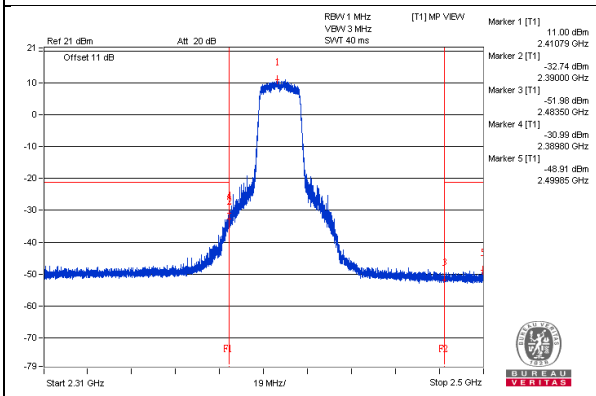
$$\text{Emission Level (dBuV/m)} = \text{EIRP Level (dBm)} - 20\log(d) + 104.8$$

d = measurement distance in 3 meters.

Chain 0



Chain 1



802.11n (HT20) - Channel 6

Conducted spurious emission table

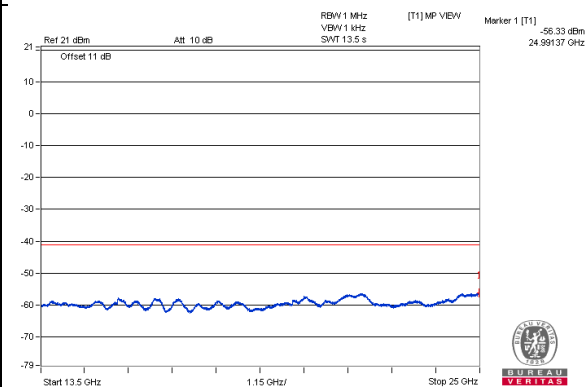
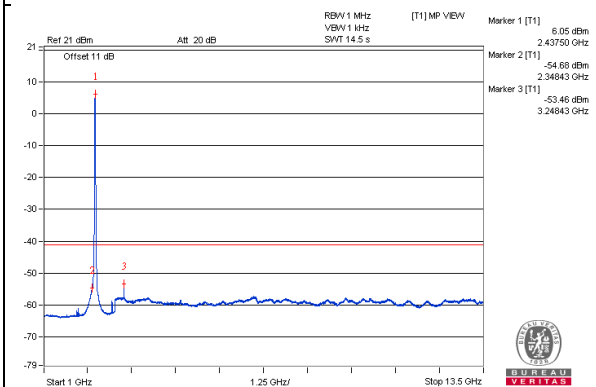
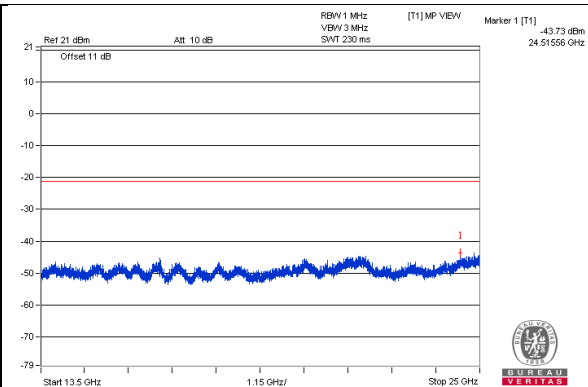
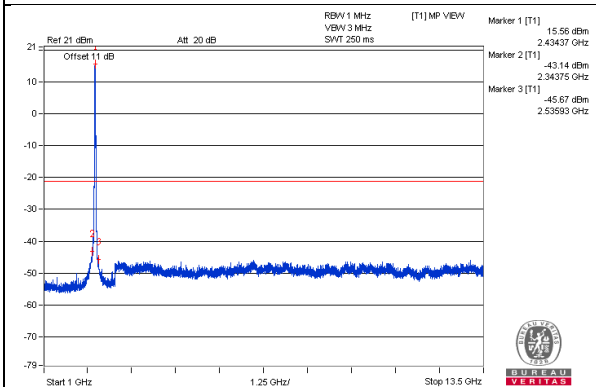
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)		Correction Factor (dB)	EIRP Level (dBm)
					Chain0	Chain1		
1	1606.25 PK	50.1	74	-23.9	-53.19	-54.45	5.6	-45.16
2	1609.37 AV	40.13	54	-13.87	-63.82	-63.66	5.6	-55.13
3	4823.43 PK	54.64	74	-19.36	-48.27	-50.47	5.6	-40.62
4	4825 AV	44.14	54	-9.86	-59.79	-59.67	5.6	-51.12

Note :

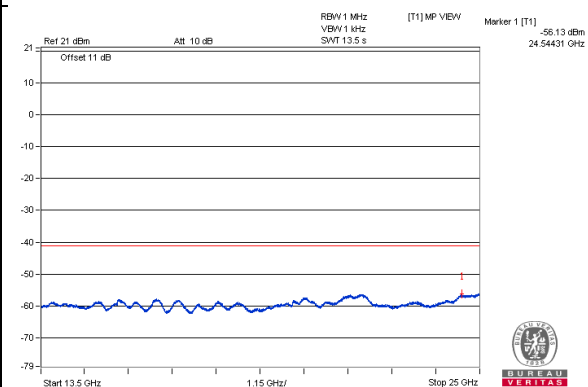
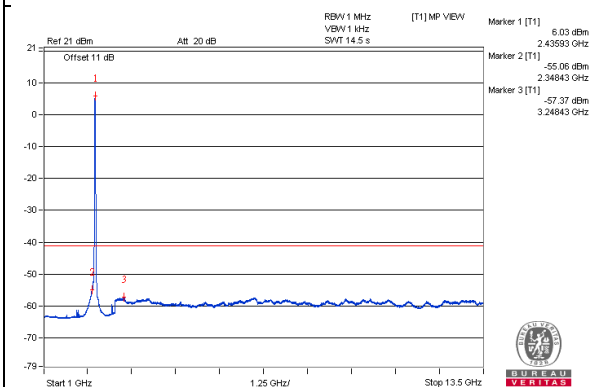
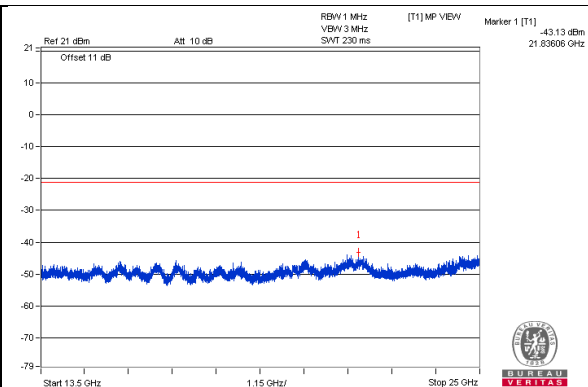
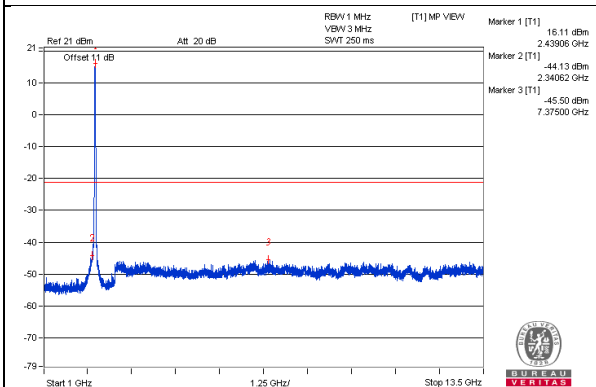
Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8

d = measurement distance in 3 meters.

Chain 0



Chain 1



Bandedge table

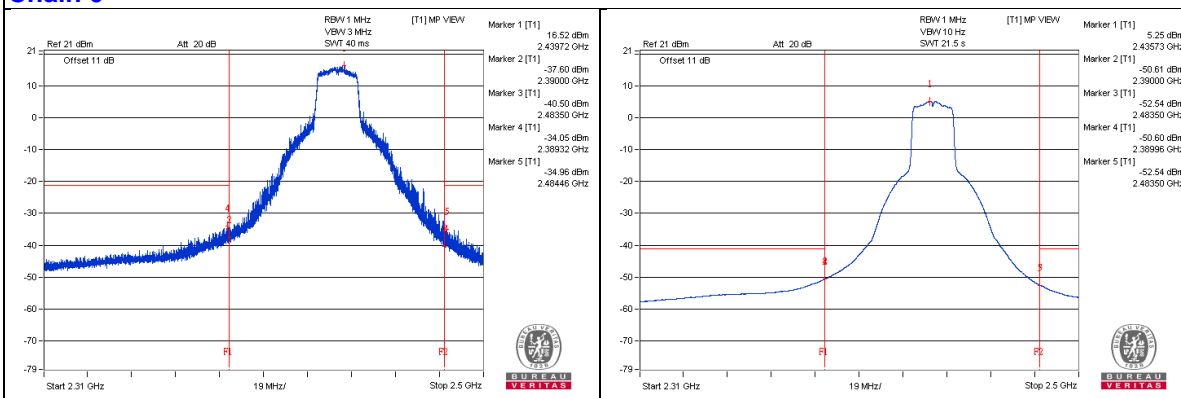
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)		Correction Factor (dB)	EIRP Level (dBm)
					Chain0	Chain1		
1	2389.7 PK	68.83	74	-5.17	-34.54	-35.6	5.6	-26.43
2	2389.61 AV	52.6	54	-1.4	-50.63	-52.02	5.6	-42.66
3	2484.58 PK	66.93	74	-7.07	-34.97	-40.66	5.6	-28.33
4	2483.51 AV	50.13	54	-3.87	-52.55	-55.4	5.6	-45.13

Note :

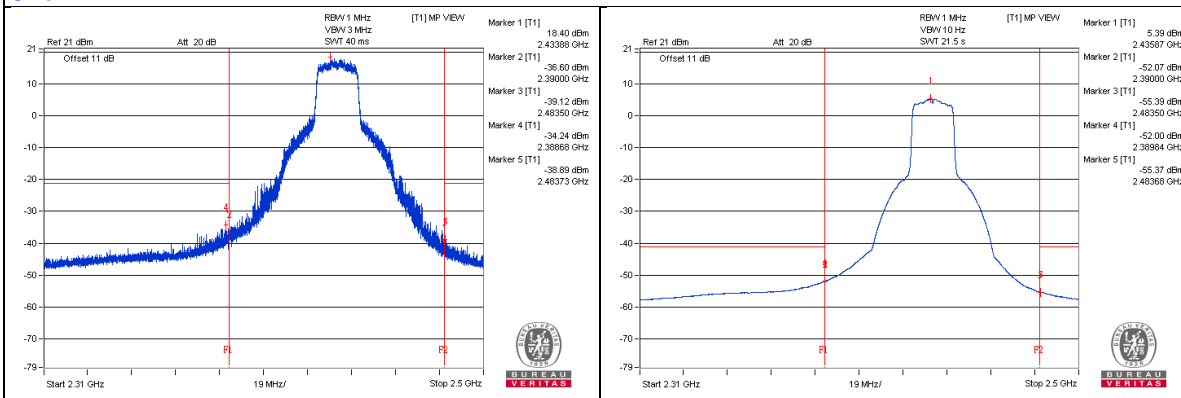
$$\text{Emission Level (dBuV/m)} = \text{EIRP Level (dBm)} - 20\log(d) + 104.8$$

d = measurement distance in 3 meters.

Chain 0



Chain 1



802.11n (HT20) - Channel 11

Conducted spurious emission table

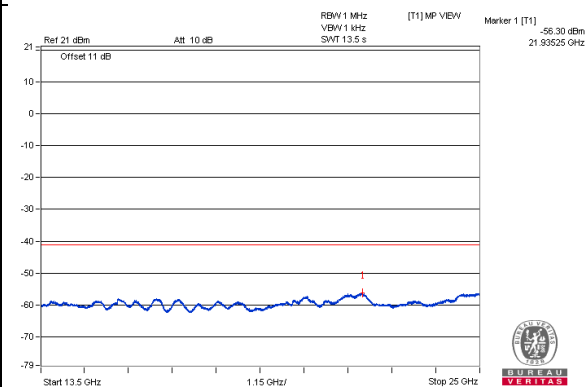
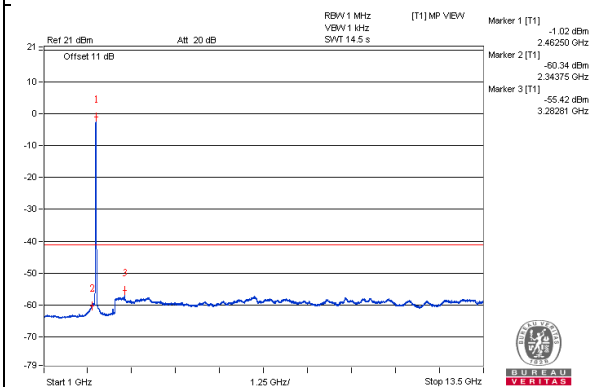
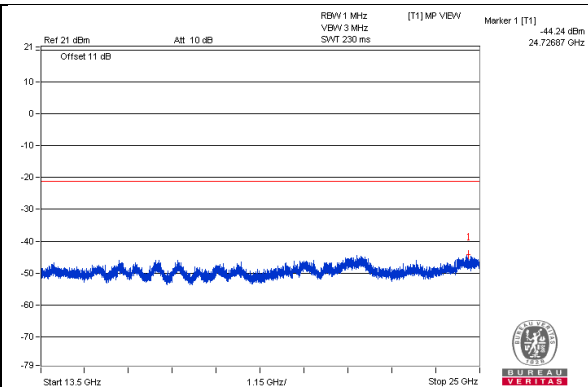
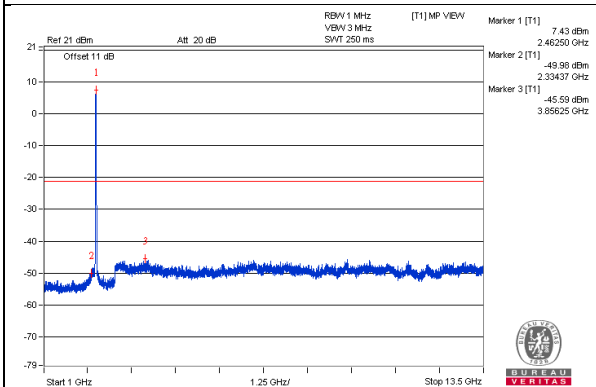
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)		Correction Factor (dB)	EIRP Level (dBm)
					Chain0	Chain1		
1	4925 PK	54.38	74	-19.62	-49.29	-49.7	5.6	-40.88
2	4923.43 AV	44.37	54	-9.63	-59.51	-59.5	5.6	-50.89
3	7384.37 PK	54.95	74	-19.05	-48.62	-49.24	5.6	-40.31
4	7387.5 AV	45.64	54	-8.36	-58.37	-58.09	5.6	-49.62

Note :

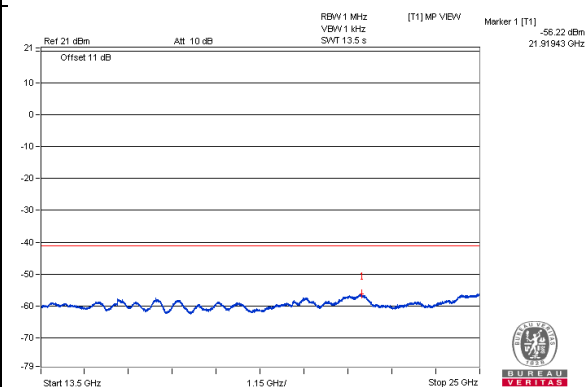
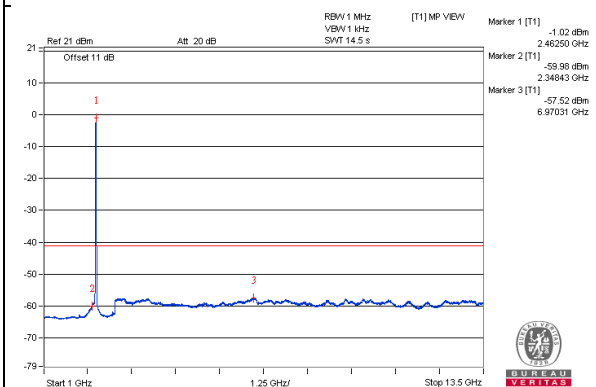
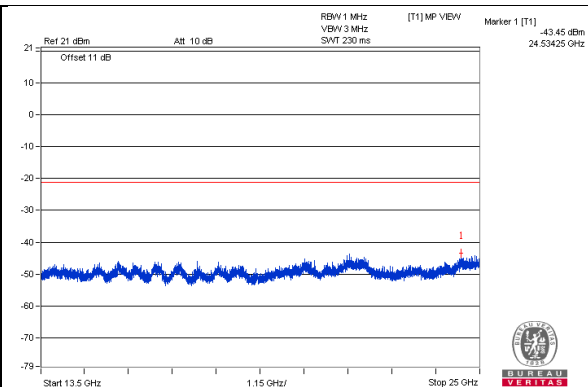
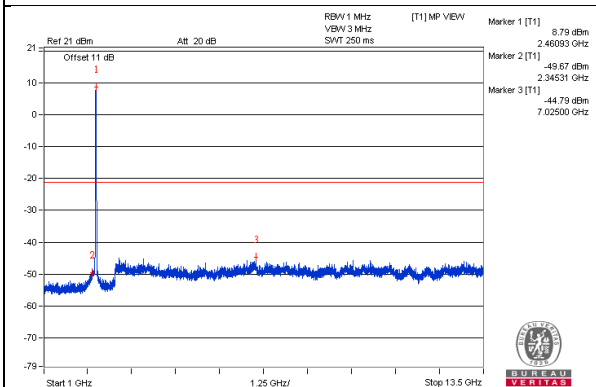
Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8

d = measurement distance in 3 meters.

Chain 0



Chain 1



Bandedge table

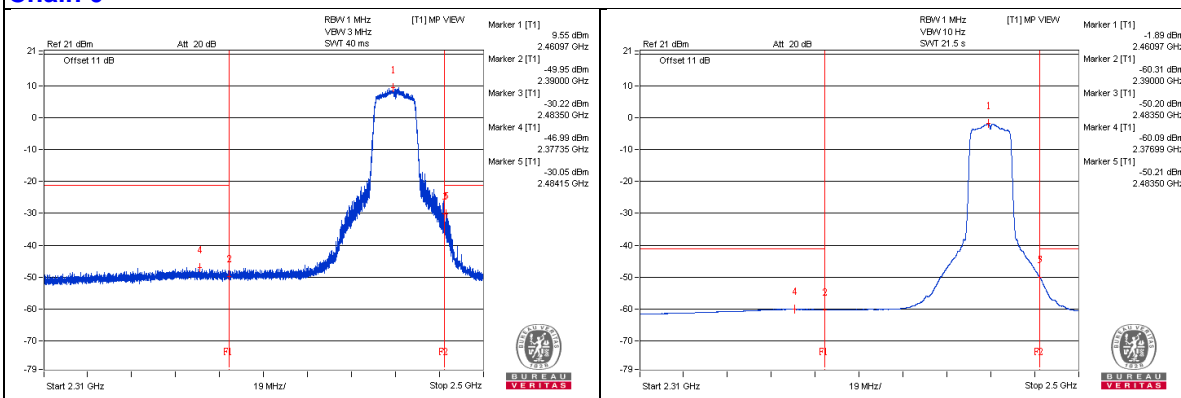
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)		Correction Factor (dB)	EIRP Level (dBm)
					Chain0	Chain1		
1	2377.35 PK	55.91	74	-18.09	-46.99	-49.2	5.6	-39.35
2	2375.81 AV	43.85	54	-10.15	-60.15	-59.9	5.6	-51.41
3	2484.34 PK	71.75	74	-2.25	-30.44	-34.9	5.6	-23.51
4	2483.51 AV	53.32	54	-0.68	-50.22	-50.91	5.6	-41.94

Note :

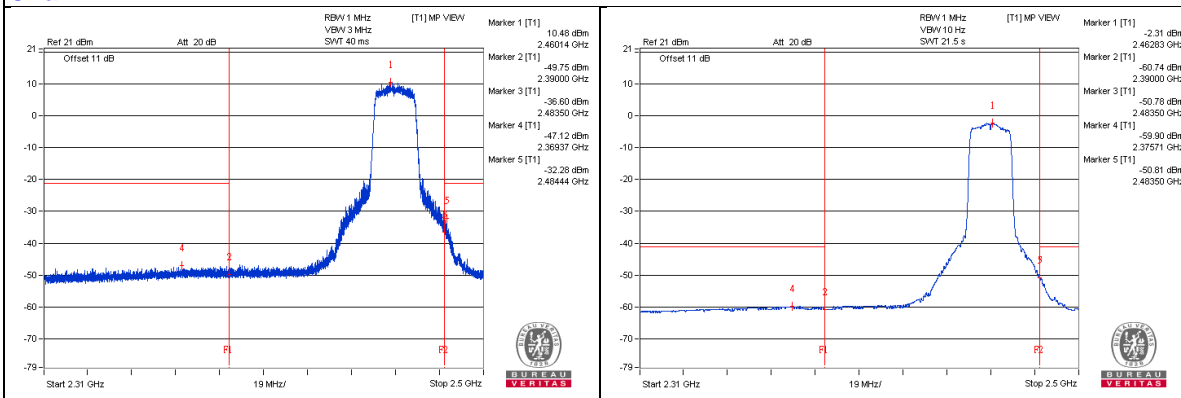
$$\text{Emission Level (dBuV/m)} = \text{EIRP Level (dBm)} - 20\log(d) + 104.8$$

d = measurement distance in 3 meters.

Chain 0



Chain 1



802.11n (HT40) - Channel 3

Conducted spurious emission table

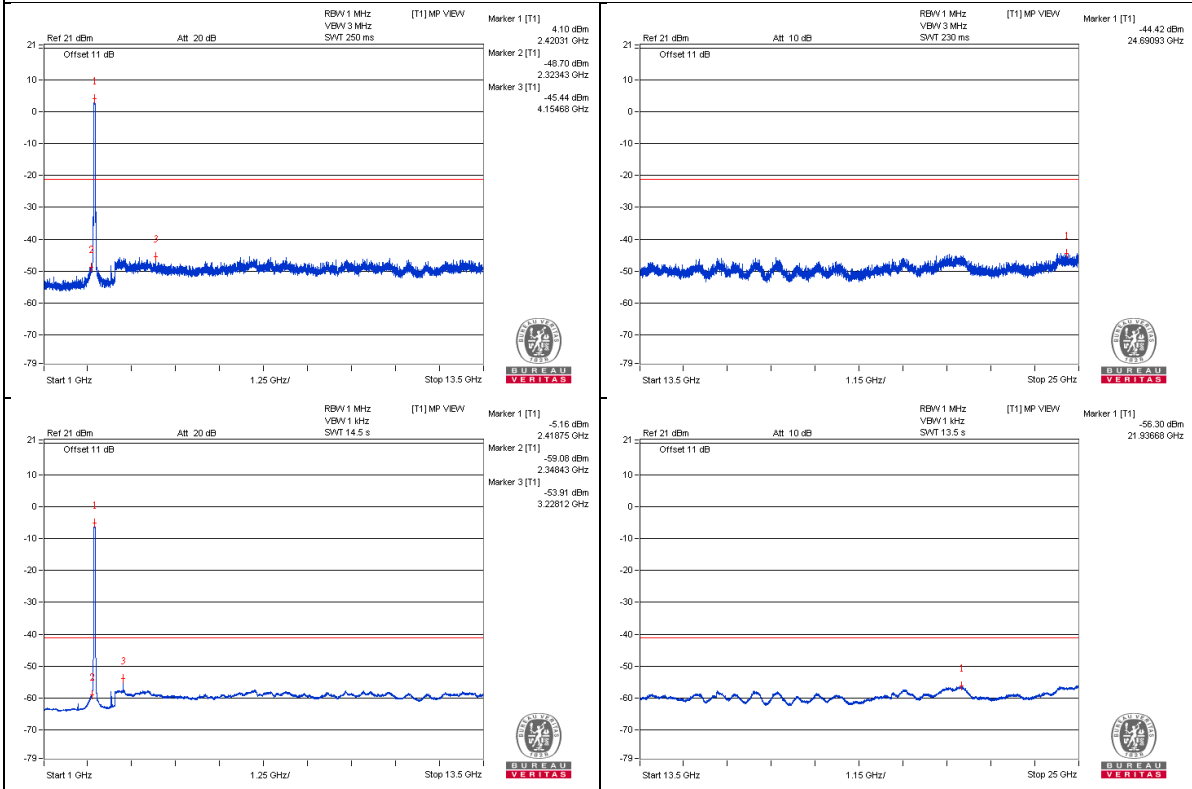
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)		Correction Factor (dB)	EIRP Level (dBm)
					Chain0	Chain1		
1	1615.62 PK	48.21	74	-25.79	-55.35	-55.99	5.6	-47.05
2	1614.06 AV	40.02	54	-13.98	-63.85	-63.85	5.6	-55.24
3	4842.18 PK	53.7	74	-20.3	-50.82	-49.61	5.6	-41.56
4	4845.31 AV	44.16	54	-9.84	-59.61	-59.82	5.6	-51.1
5	7264.06 PK	55.3	74	-18.7	-48.23	-48.95	5.6	-39.96
6	7264.06 AV	45.13	54	-8.87	-58.67	-58.82	5.6	-50.13

Note :

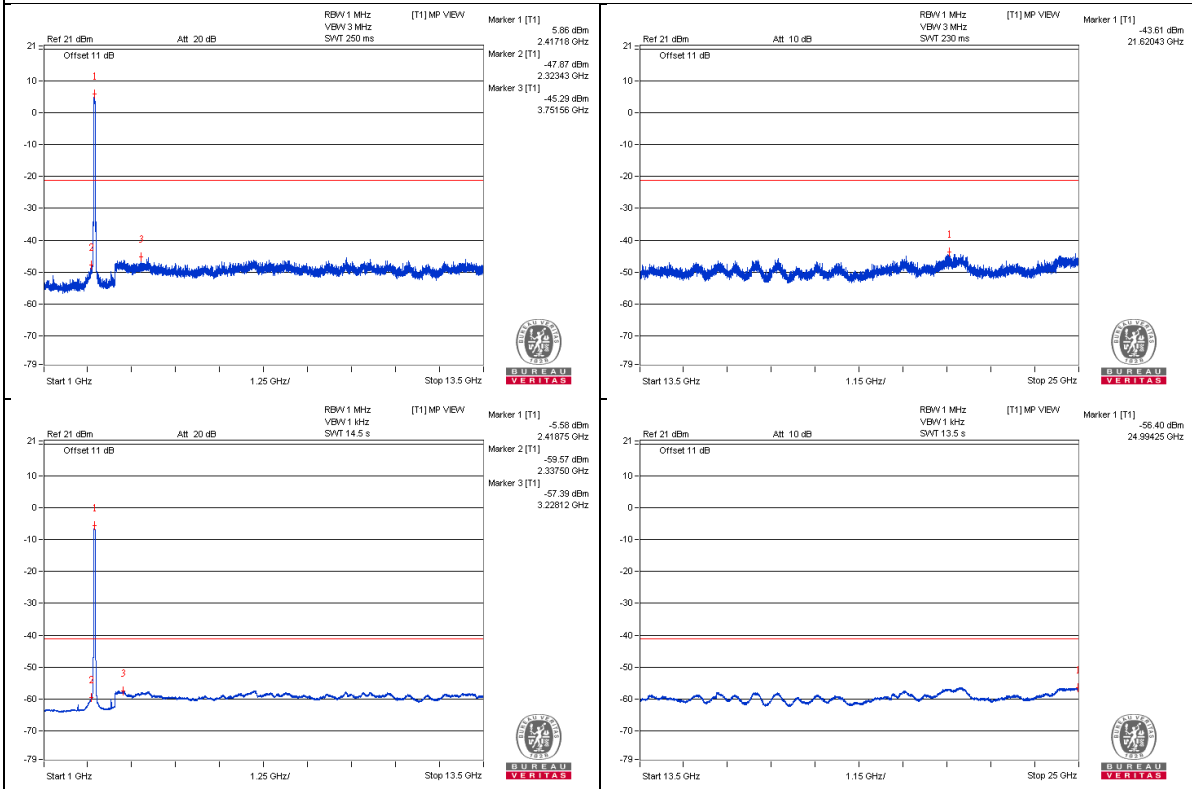
Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8

d = measurement distance in 3 meters.

Chain 0



Chain 1



Bandedge table

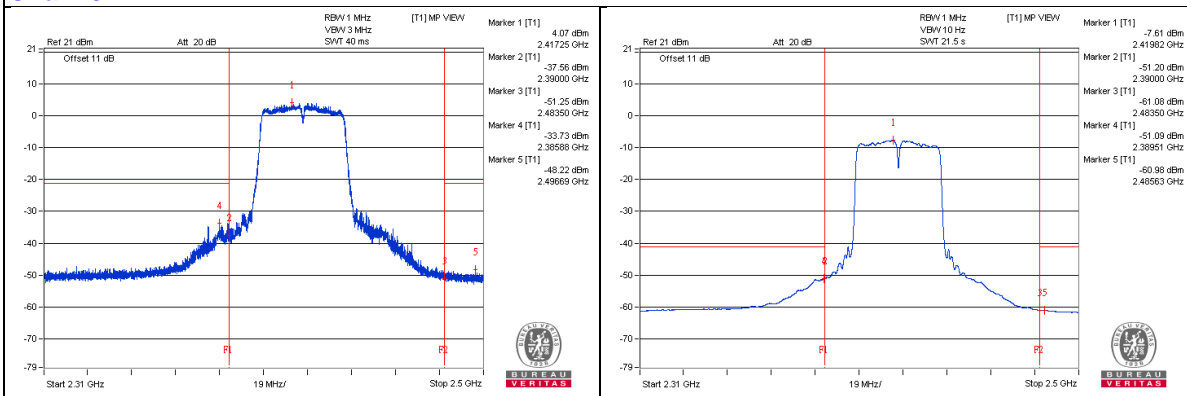
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)		Correction Factor (dB)	EIRP Level (dBm)
					Chain0	Chain1		
1	2386.8 PK	69.71	74	-4.29	-34.57	-33.79	5.6	-25.55
2	2389.51 AV	53.26	54	-0.74	-51.09	-50.18	5.6	-42
3	2487.31 PK	54.44	74	-19.56	-48.81	-50.15	5.6	-40.82
4	2485.63 AV	42.63	54	-11.37	-60.98	-61.51	5.6	-52.63

Note :

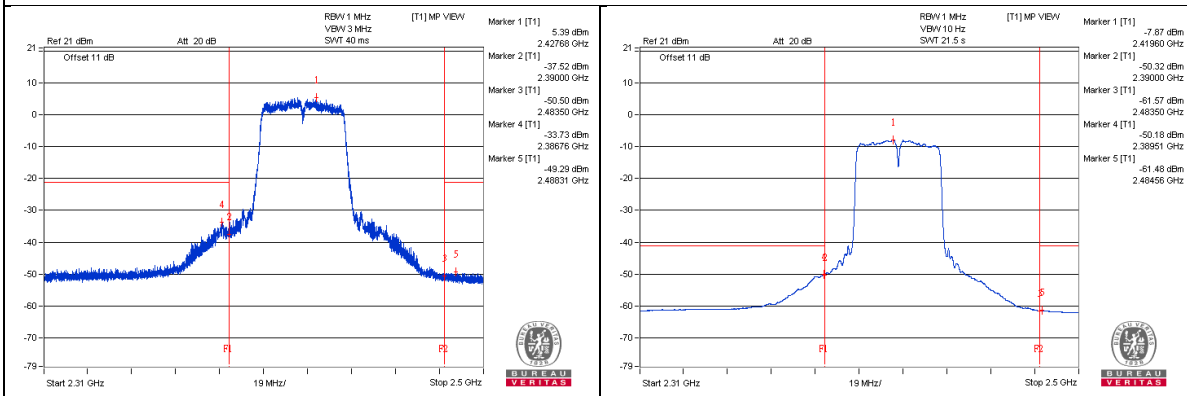
$$\text{Emission Level (dBuV/m)} = \text{EIRP Level (dBm)} - 20\log(d) + 104.8$$

d = measurement distance in 3 meters.

Chain 0



Chain 1



802.11n (HT40) - Channel 6

Conducted spurious emission table

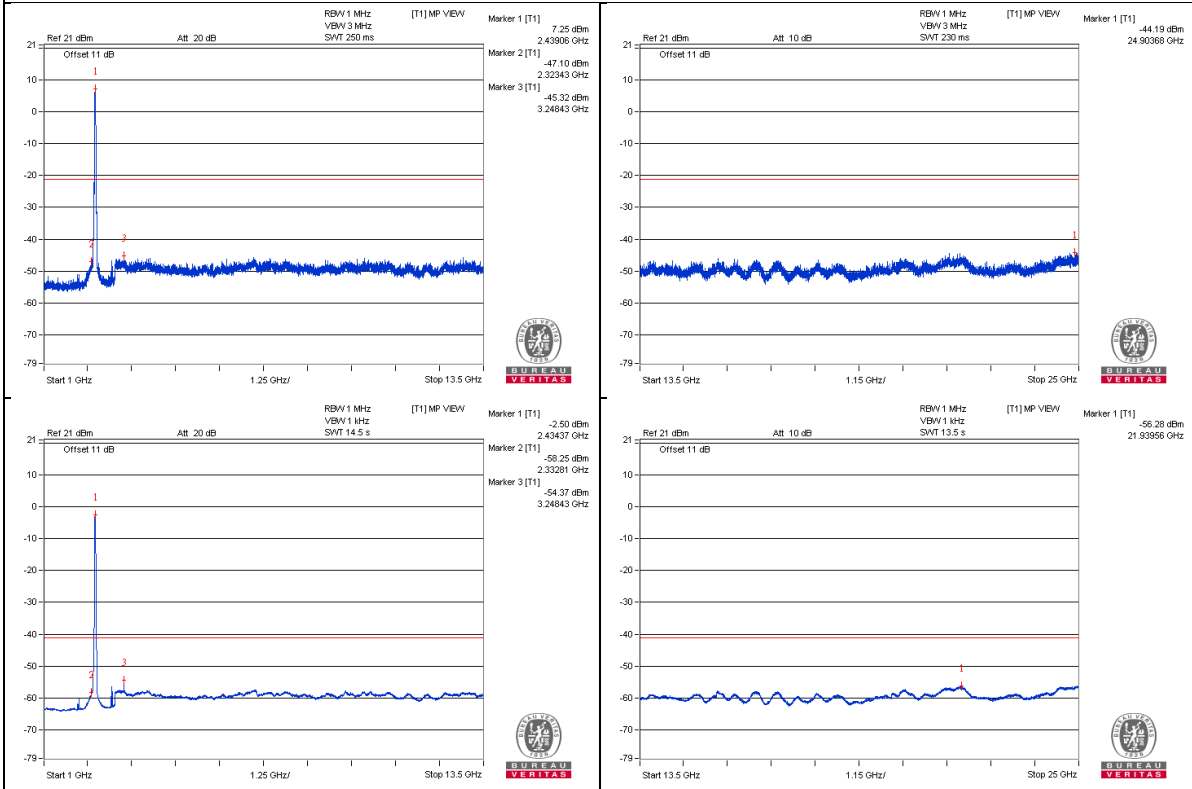
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)		Correction Factor (dB)	EIRP Level (dBm)
					Chain0	Chain1		
1	1623.43 PK	50.08	74	-23.92	-55	-52.85	5.6	-45.18
2	1623.43 AV	40.06	54	-13.94	-63.84	-63.78	5.6	-55.2
3	4873.43 PK	54.34	74	-19.66	-49.45	-49.62	5.6	-40.92
4	4873.43 AV	44.33	54	-9.67	-59.46	-59.63	5.6	-50.93
5	7310.93 PK	55.8	74	-18.2	-48.31	-47.85	5.6	-39.46
6	7310.93 AV	45.24	54	-8.76	-58.57	-58.7	5.6	-50.02

Note :

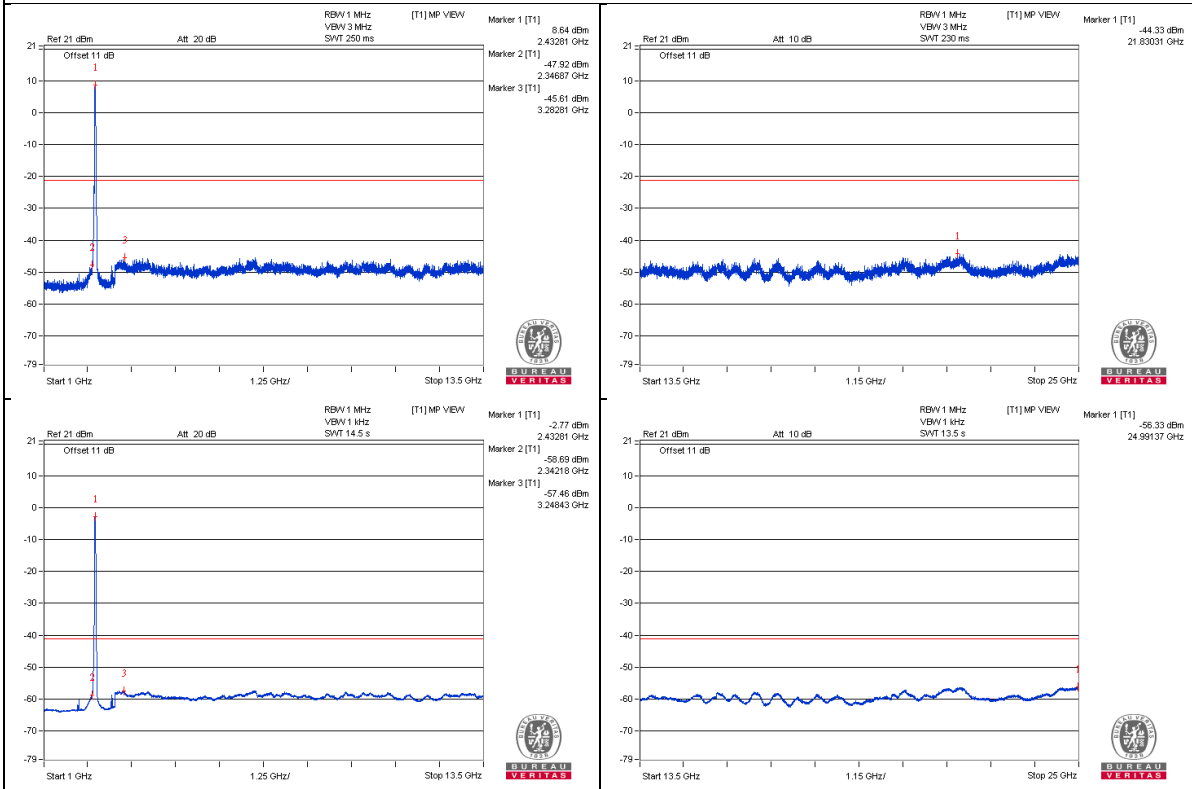
Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8

d = measurement distance in 3 meters.

Chain 0



Chain 1



Bandedge table

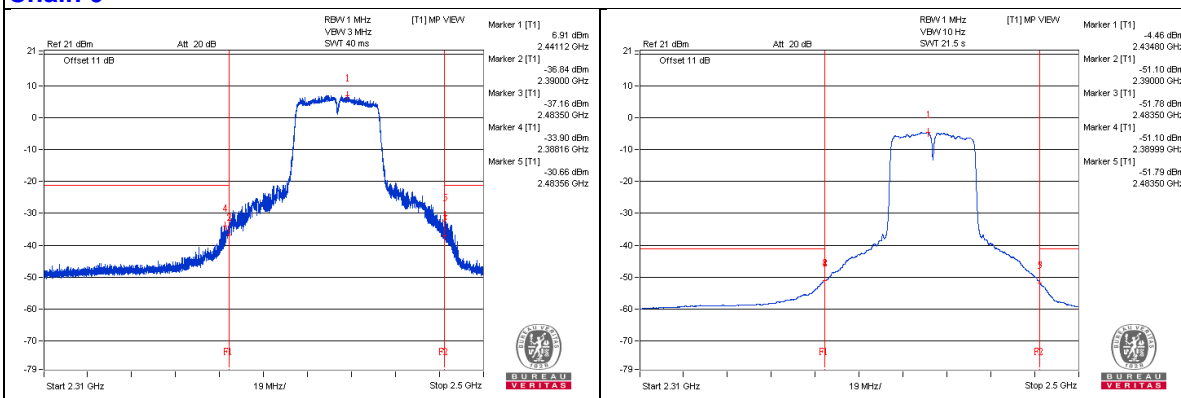
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)		Correction Factor (dB)	EIRP Level (dBm)
					Chain0	Chain1		
1	2389.96 PK	70.76	74	-3.24	-35.23	-31.69	5.6	-24.5
2	2389.89 AV	53.67	54	-0.33	-51.1	-49.46	5.6	-41.59
3	2483.56 PK	71.89	74	-2.11	-30.66	-33.89	5.6	-23.37
4	2483.51 AV	52.3	54	-1.7	-51.81	-51.34	5.6	-42.96

Note :

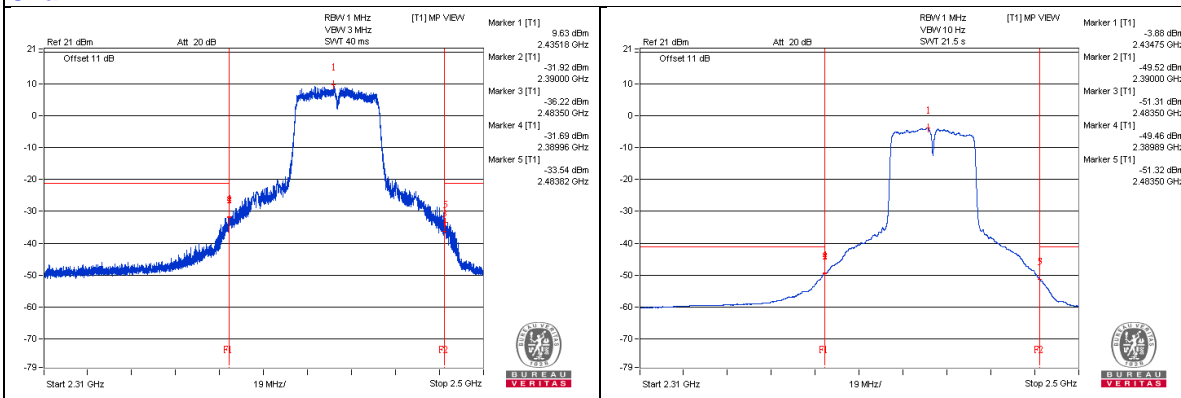
$$\text{Emission Level (dBuV/m)} = \text{EIRP Level (dBm)} - 20\log(d) + 104.8$$

d = measurement distance in 3 meters.

Chain 0



Chain 1



802.11n (HT40) - Channel 9

Conducted spurious emission table

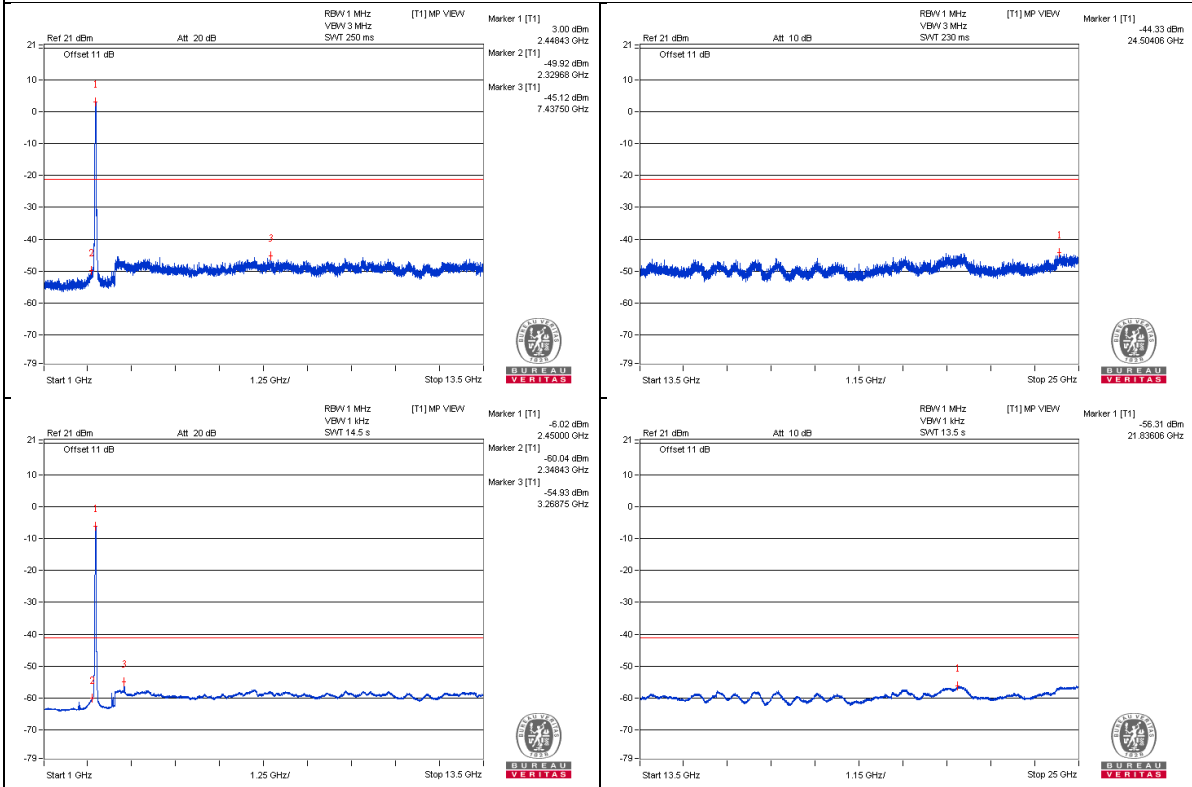
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)		Correction Factor (dB)	EIRP Level (dBm)
					Chain0	Chain1		
1	4903.12 PK	54.34	74	-19.66	-48.91	-50.25	5.6	-40.92
2	4903.12 AV	44.19	54	-9.81	-59.67	-59.69	5.6	-51.07
3	7354.68 PK	55.38	74	-18.62	-48.48	-48.5	5.6	-39.88
4	7357.81 AV	45.29	54	-8.71	-58.58	-58.59	5.6	-49.97

Note :

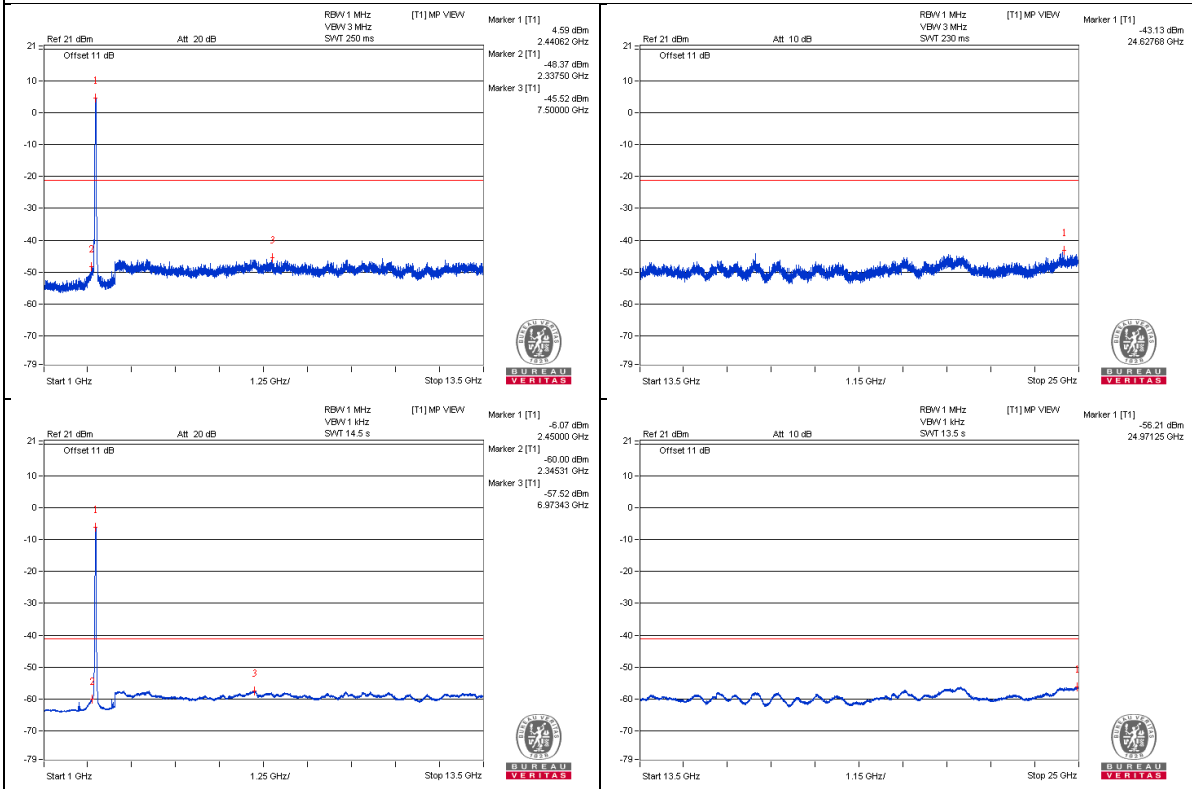
Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8

d = measurement distance in 3 meters.

Chain 0



Chain 1



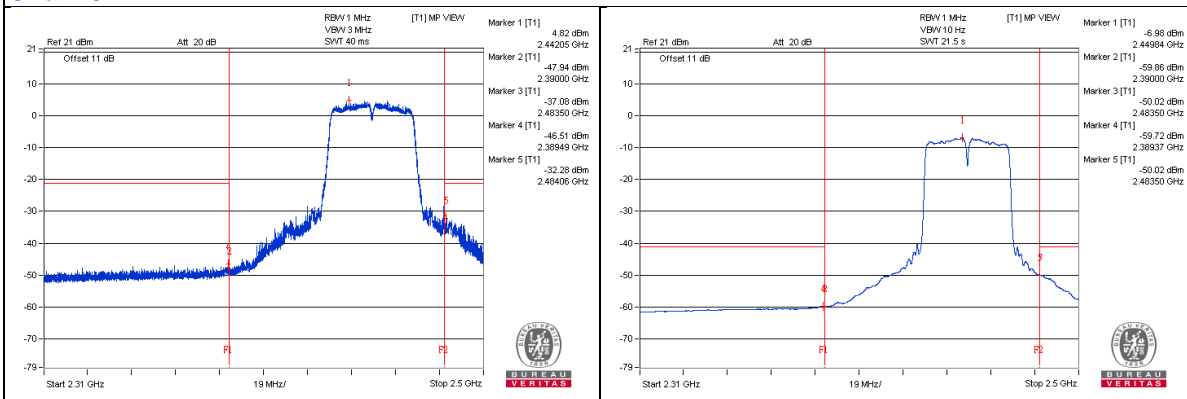
Bandedge table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)		Correction Factor (dB)	EIRP Level (dBm)
					Chain0	Chain1		
1	2388.54 PK	56.13	74	-17.87	-47.8	-47.69	5.6	-39.13
2	2389.37 AV	44.01	54	-9.99	-59.72	-60	5.6	-51.25
3	2484.06 PK	69.66	74	-4.34	-32.28	-37.76	5.6	-25.6
4	2483.51 AV	53.68	54	-0.32	-50.03	-50.35	5.6	-41.58

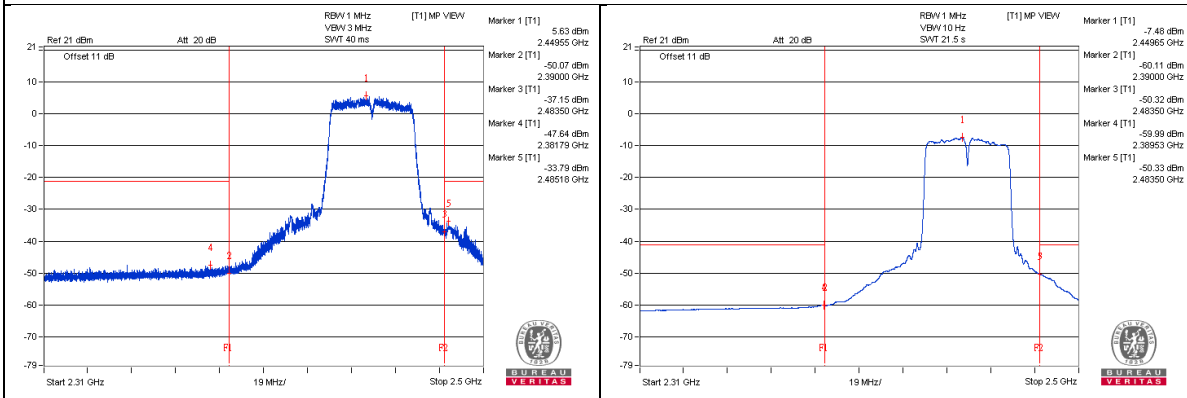
Note :

Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8
d = measurement distance in 3 meters.

Chain 0



Chain 1



Below 1GHz Data:
802.11n (HT20) - Channel 6
Conducted spurious emission table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)		Correction Factor (dB)	EIRP Level (dBm)
					Chain 0	Chain 1		
1	44.3	29.08	40	-10.92	-76.4	-73.62	5.6	-66.18

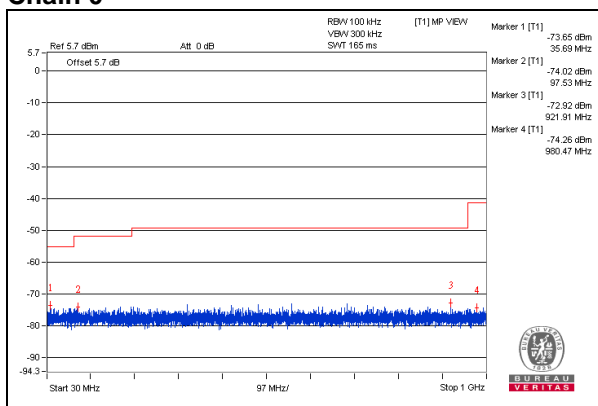
Note :

$$\text{Emission Level (dBuV/m)} = \text{EIRP Level (dBm)} - 20\log(d) + 104.8$$

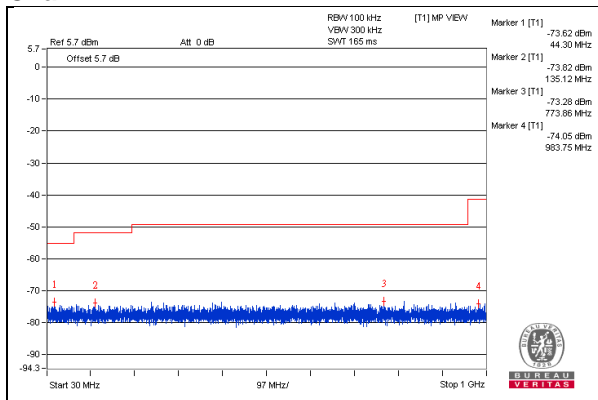
d = measurement distance in 3 meters.

Emission levels include upper bound on ground plane reflection (4.7dB) for below 1GHz emission.

Chain 0



Chain 1



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	Oct. 24, 2016	Oct. 23, 2017
Line-Impedance Stabilization Network (for EUT) R&S	ESH3-Z5	848773/004	Oct. 26, 2016	Oct. 25, 2017
Line-Impedance Stabilization Network (for Peripheral) R&S	ENV216	100072	June 13, 2016	June 12, 2017
50 ohms Terminator	N/A	EMC-02	Sep. 29, 2016	Sep. 28, 2017
RF Cable	5D-FB	COCCAB-001	Sep. 30, 2016	Sep. 29, 2017
10 dB PAD Mini-Circuits	HAT-10+	CONATT-004	June 20, 2016	June 19, 2017
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 Shielded Room No. 1.
3. Tested Date: May 19, 2017

4.2.3 Test Procedures

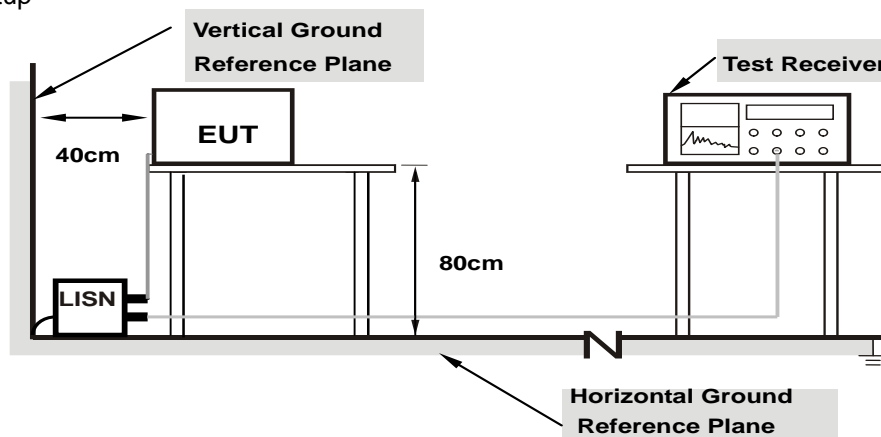
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance 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.

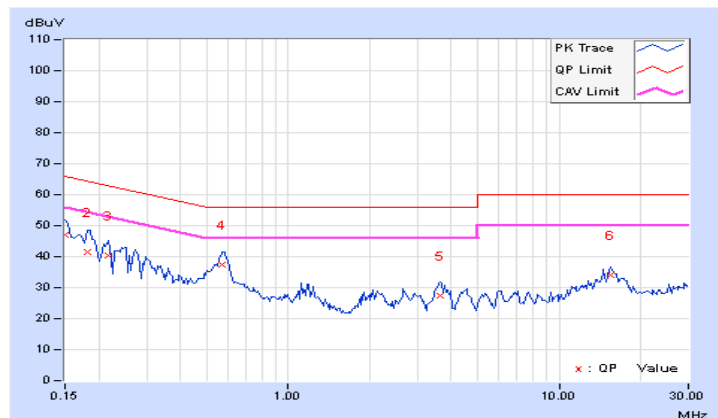
4.2.7 Test Results

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	0.15000	10.20	36.71	26.58	46.91	36.78	66.00	56.00	-19.09	-19.22
2	0.18125	10.20	31.39	17.23	41.59	27.43	64.43	54.43	-22.84	-27.00
3	0.21641	10.20	30.11	21.10	40.31	31.30	62.96	52.96	-22.65	-21.66
4	0.57188	10.26	27.23	21.79	37.49	32.05	56.00	46.00	-18.51	-13.95
5	3.63281	10.31	17.14	11.24	27.45	21.55	56.00	46.00	-28.55	-24.45
6	15.56250	11.34	22.83	17.99	34.17	29.33	60.00	50.00	-25.83	-20.67

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.

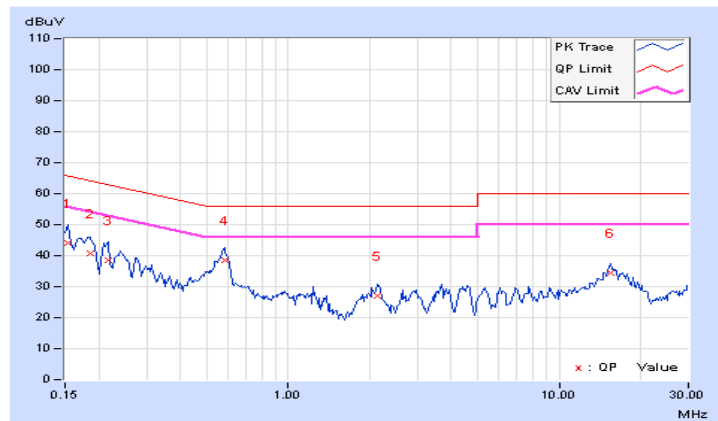


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
-------	-------------	-------------------	--------------------------------

No	Freq. [MHz]	Corr.	Reading Value		Emission Level		Limit		Margin	
		Factor (dB)	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15391	10.19	33.96	20.20	44.15	30.39	65.79	55.79	-21.64	-25.40
2	0.18516	10.18	30.43	18.71	40.61	28.89	64.25	54.25	-23.64	-25.36
3	0.21641	10.18	28.17	18.73	38.35	28.91	62.96	52.96	-24.61	-24.05
4	0.58359	10.25	28.25	23.67	38.50	33.92	56.00	46.00	-17.50	-12.08
5	2.13672	10.30	16.72	10.74	27.02	21.04	56.00	46.00	-28.98	-24.96
6	15.53906	11.12	23.35	18.85	34.47	29.97	60.00	50.00	-25.53	-20.03

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.

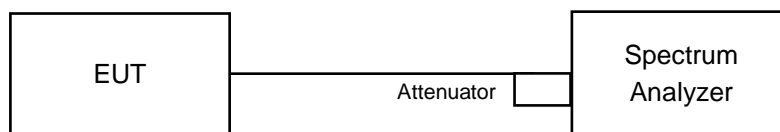


4.3 6dB Bandwidth Measurement

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

1TX Mode

802.11b

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
1	2412	10.08	0.5	PASS
6	2437	10.14	0.5	PASS
11	2462	10.06	0.5	PASS

802.11g

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
1	2412	16.34	0.5	PASS
6	2437	16.31	0.5	PASS
11	2462	16.31	0.5	PASS

802.11n (HT20)

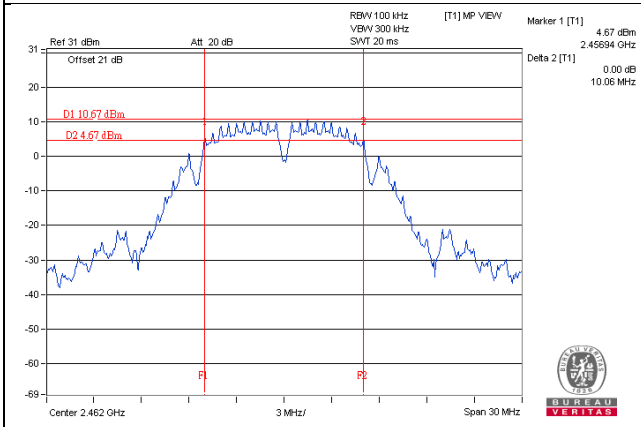
Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
1	2412	17.07	0.5	PASS
6	2437	17.37	0.5	PASS
11	2462	17.30	0.5	PASS

802.11n (HT40)

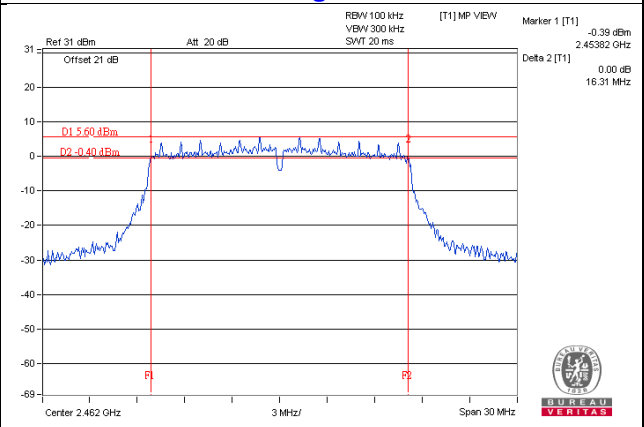
Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
3	2422	35.43	0.5	PASS
6	2437	35.46	0.5	PASS
9	2452	35.50	0.5	PASS

Spectrum Plot of Worst Value

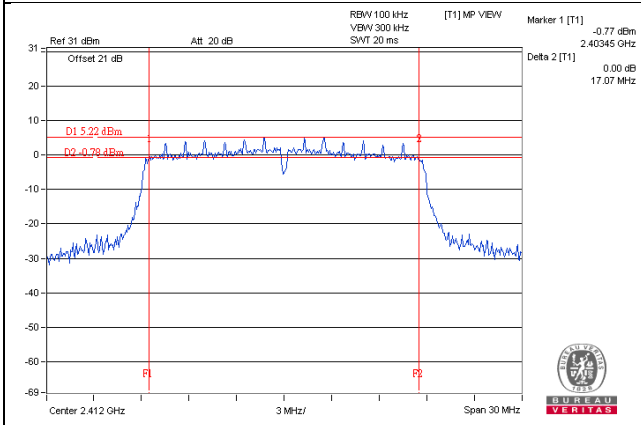
802.11b: CH11



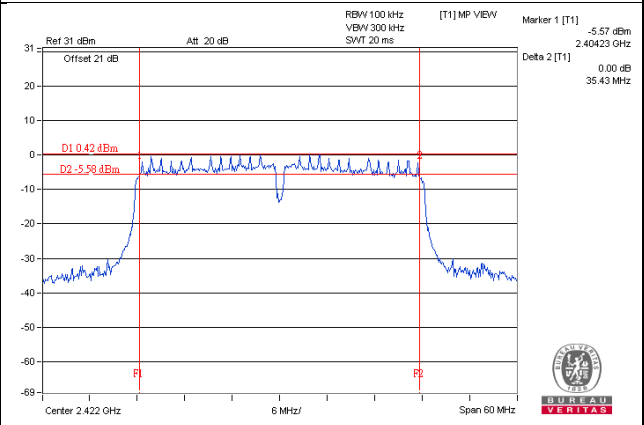
802.11g: CH11



802.11n (HT20): CH1



802.11n (HT40): CH3



2TX Mode

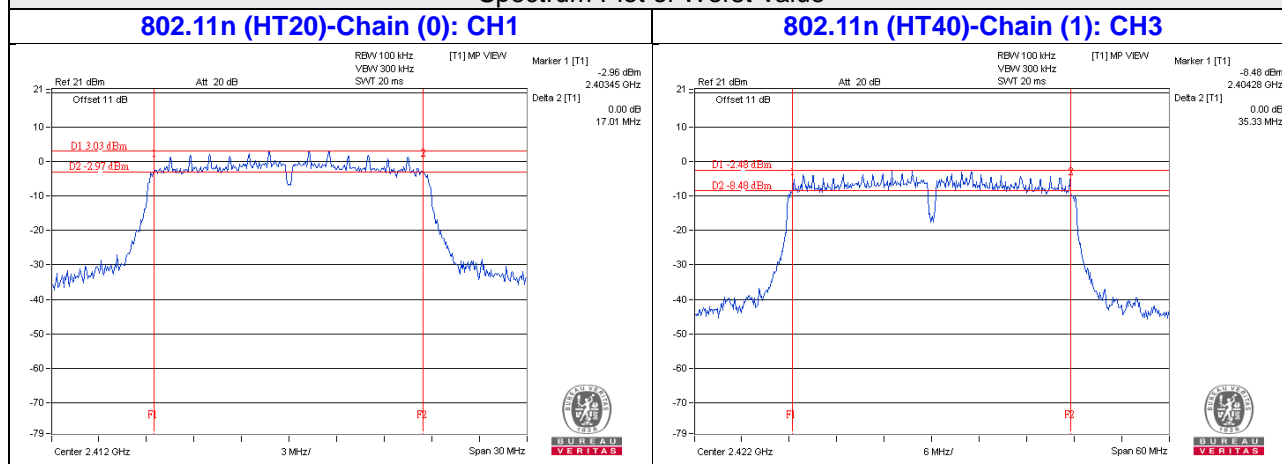
802.11n (HT20)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
1	2412	17.01	17.59	0.5	PASS
6	2437	17.35	17.37	0.5	PASS
11	2462	17.14	17.59	0.5	PASS

802.11n (HT40)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
3	2422	35.45	35.33	0.5	PASS
6	2437	35.43	35.39	0.5	PASS
9	2452	35.42	35.38	0.5	PASS

Spectrum Plot of Worst Value



4.4 Conducted Output Power Measurement

4.4.1 Limits of Conducted Output Power Measurement

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

Per KDB 662911 D01 Multiple Transmitter Output Method of conducted output power measurement on IEEE 802.11 devices,

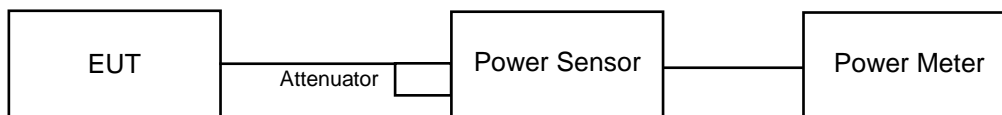
Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$;

Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N_{ANT} ;

Array Gain = $5 \log(N_{ANT}/N_{SS})$ dB or 3 dB, whichever is less for 20-MHz channel widths with $N_{ANT} \geq 5$.

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

4.4.2 Test Setup



4.4.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.4.4 Test Procedures

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

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

1TX Mode

FOR PEAK POWER

802.11b

Channel	Frequency (MHz)	Peak Power (mW)	Peak Power (dBm)	Limit (dBm)	Pass/Fail
1	2412	164.437	22.16	30	Pass
6	2437	365.595	25.63	30	Pass
11	2462	180.302	22.56	30	Pass

802.11g

Channel	Frequency (MHz)	Peak Power (mW)	Peak Power (dBm)	Limit (dBm)	Pass/Fail
1	2412	245.471	23.90	30	Pass
6	2437	384.592	25.85	30	Pass
11	2462	229.615	23.61	30	Pass

802.11n (HT20)

Channel	Frequency (MHz)	Peak Power (mW)	Peak Power (dBm)	Limit (dBm)	Pass/Fail
1	2412	204.644	23.11	30	Pass
6	2437	379.315	25.79	30	Pass
11	2462	213.796	23.30	30	Pass

802.11n (HT40)

Channel	Frequency (MHz)	Peak Power (mW)	Peak Power (dBm)	Limit (dBm)	Pass/Fail
3	2422	186.638	22.71	30	Pass
6	2437	252.93	24.03	30	Pass
9	2452	187.499	22.73	30	Pass

FOR AVERAGE POWER

802.11b

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)
1	2412	81.096	19.09
6	2437	262.422	24.19
11	2462	87.7	19.43

802.11g

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)
1	2412	36.728	15.65
6	2437	156.675	21.95
11	2462	39.902	16.01

802.11n (HT20)

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)
1	2412	32.211	15.08
6	2437	147.231	21.68
11	2462	28.576	14.56

802.11n (HT40)

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)
3	2422	23.014	13.62
6	2437	45.29	16.56
9	2452	22.131	13.45

2TX Mode

FOR PEAK POWER

802.11n (HT20)

Channel	Frequency (MHz)	Peak Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
1	2412	21.58	21.45	283.517	24.53	30	Pass
6	2437	24.84	25.46	656.349	28.17	30	Pass
11	2462	21.01	21.17	257.101	24.10	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				
3	2422	20.16	19.51	193.084	22.86	30	Pass
6	2437	22.85	22.79	382.86	25.83	30	Pass
9	2452	20.86	19.80	217.398	23.37	30	Pass

FOR AVERAGE POWER

802.11n (HT20)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1		
1	2412	13.27	13.77	45.055	16.54
6	2437	20.70	20.61	232.57	23.67
11	2462	12.92	13.35	41.215	16.15

802.11n (HT40)

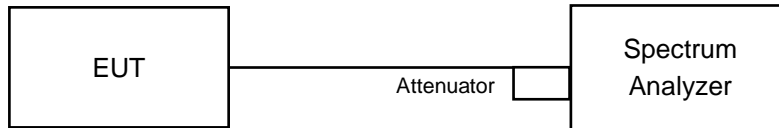
Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1		
3	2422	11.38	10.67	25.408	14.05
6	2437	15.21	14.80	63.389	18.02
9	2452	11.43	10.63	25.461	14.06

4.5 Power Spectral Density Measurement

4.5.1 Limits of Power Spectral Density Measurement

The Maximum of Power Spectral Density Measurement is 8dBm.

4.5.2 Test Setup



4.5.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.5.4 Test Procedure

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

4.5.5 Deviation from Test Standard

No deviation.

4.5.6 EUT Operating Condition

Same as Item 4.3.6

4.5.7 Test Results

1TX Mode

802.11b

Channel	Freq. (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Pass /Fail
1	2412	-4.81	8	Pass
6	2437	0.08	8	Pass
11	2462	-3.61	8	Pass

802.11g

Channel	Freq. (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Pass /Fail
1	2412	-10.00	8	Pass
6	2437	-4.04	8	Pass
11	2462	-8.72	8	Pass

802.11n (HT20)

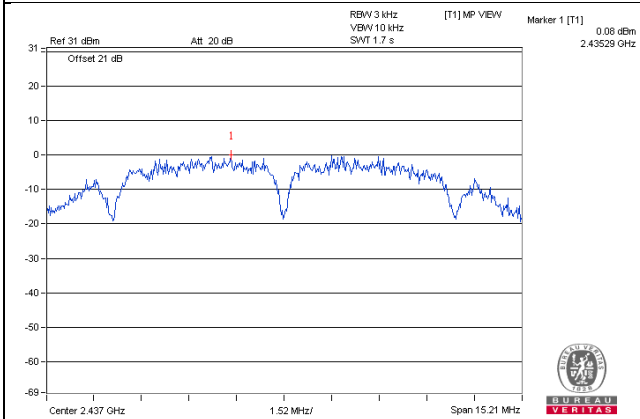
Channel	Freq. (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Pass /Fail
1	2412	-9.28	8	Pass
6	2437	-2.01	8	Pass
11	2462	-11.15	8	Pass

802.11n (HT40)

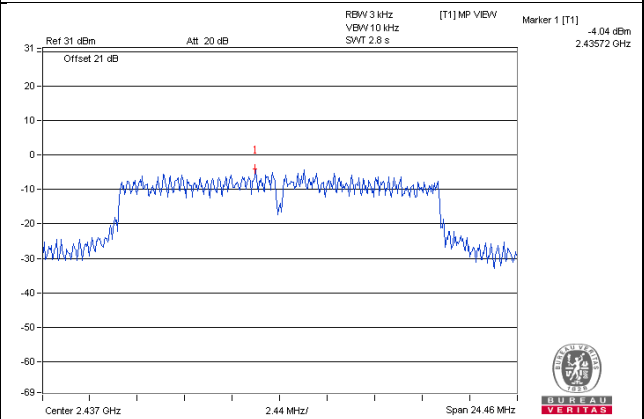
Channel	Freq. (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Pass /Fail
3	2422	-14.34	8	Pass
6	2437	-12.39	8	Pass
9	2452	-13.76	8	Pass

Spectrum Plot of Worst Value

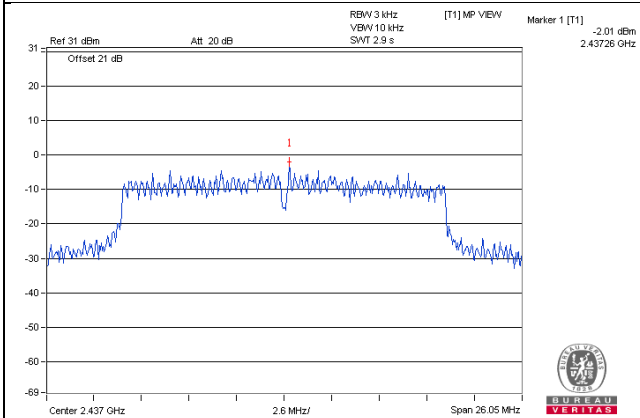
802.11b: CH6



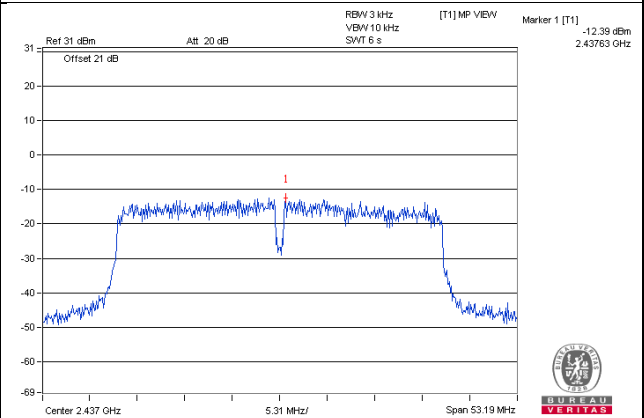
802.11g: CH6



802.11n (HT20): CH6



802.11n (HT40): CH6



2TX Mode

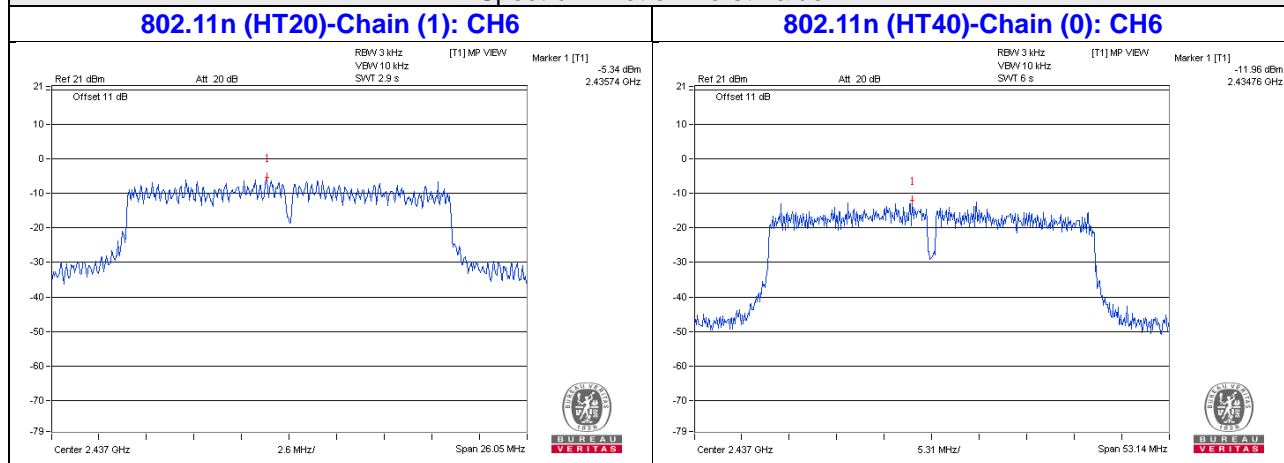
802.11n (HT20)

TX chain	Channel	Frequency (MHz)	PSD (dBm/3kHz)	10 log (N=2) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	Pass /Fail
0	1	2412	-11.98	3.01	-8.97	8	Pass
	6	2437	-6.10	3.01	-3.09	8	Pass
	11	2462	-12.16	3.01	-9.15	8	Pass
1	1	2412	-11.70	3.01	-8.69	8	Pass
	6	2437	-5.34	3.01	-2.33	8	Pass
	11	2462	-11.77	3.01	-8.76	8	Pass

802.11n (HT40)

TX chain	Channel	Frequency (MHz)	PSD (dBm/3kHz)	10 log (N=2) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	Pass /Fail
0	3	2422	-17.19	3.01	-14.18	8	Pass
	6	2437	-11.96	3.01	-8.95	8	Pass
	9	2452	-14.38	3.01	-11.37	8	Pass
1	3	2422	-17.51	3.01	-14.50	8	Pass
	6	2437	-13.12	3.01	-10.11	8	Pass
	9	2452	-17.11	3.01	-14.10	8	Pass

Spectrum Plot of Worst Value

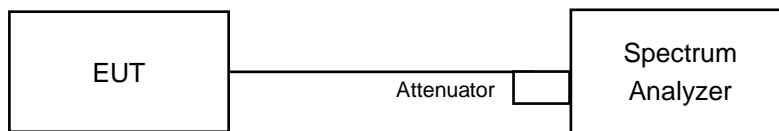


4.6 Conducted Out of Band Emission Measurement

4.6.1 Limits of Conducted Out of Band Emission Measurement

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

4.6.2 Test Setup



4.6.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.6.4 Test Procedure

MEASUREMENT PROCEDURE REF

1. Set the RBW = 100 kHz.
2. Set the VBW \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

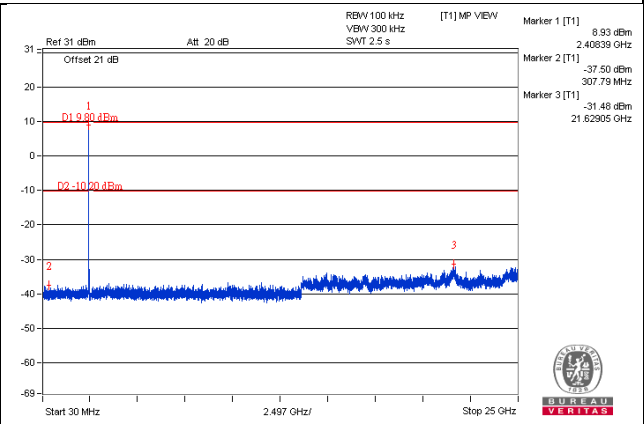
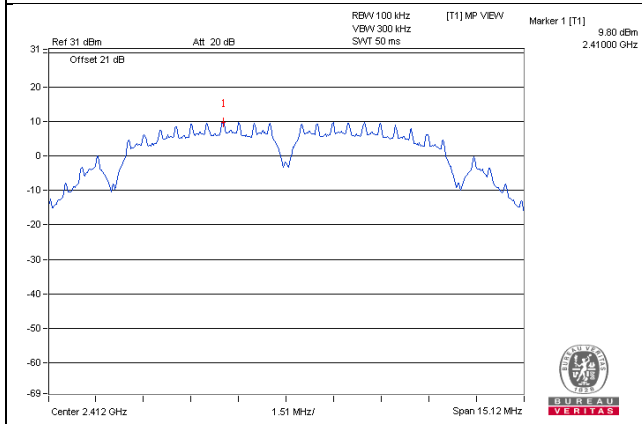
Same as Item 4.3.6

4.6.7 Test Results

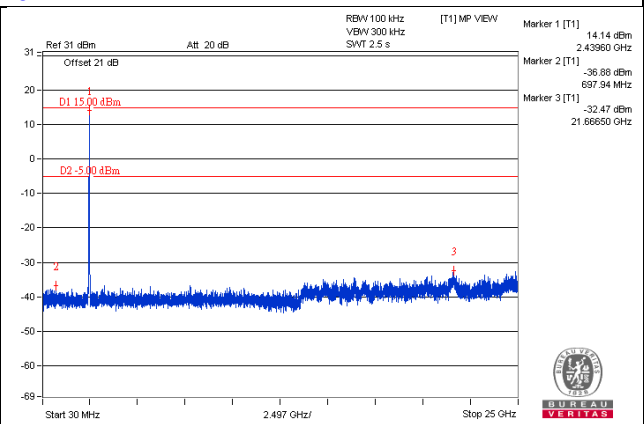
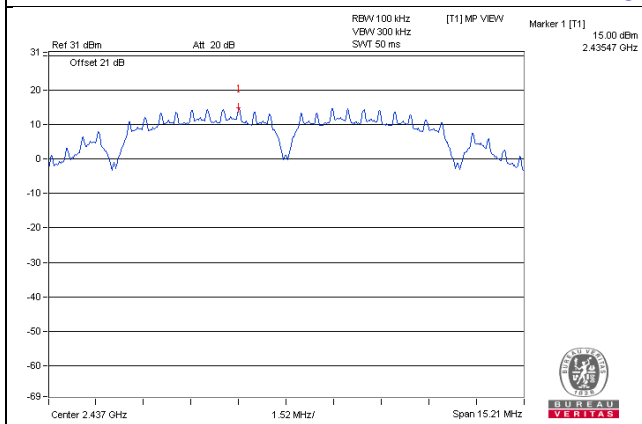
The spectrum plots are attached on the following pages. D1 line indicates the highest level, and D2 line indicates the 20dB offset below D1. It shows compliance with the requirement.

1TX Mode - 802.11b

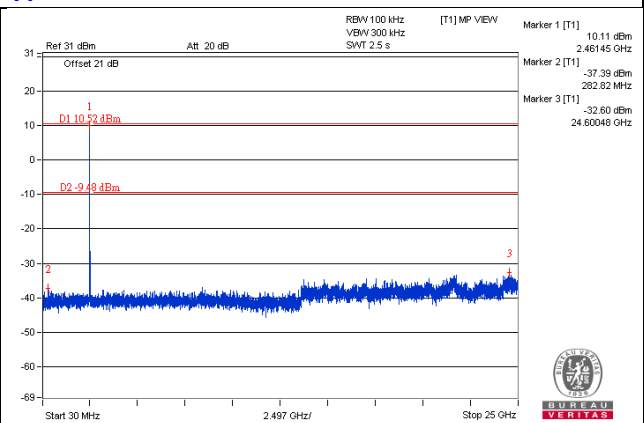
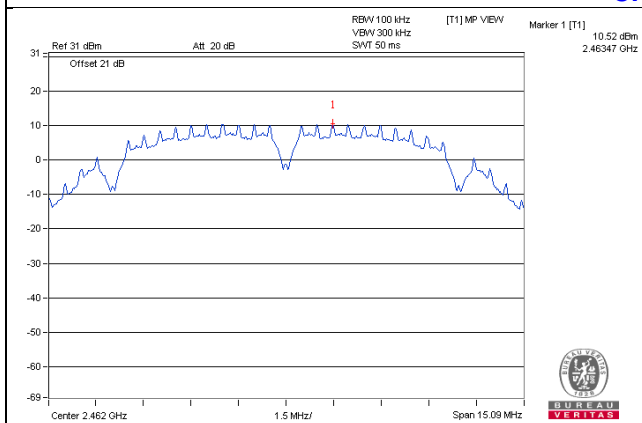
CH 1



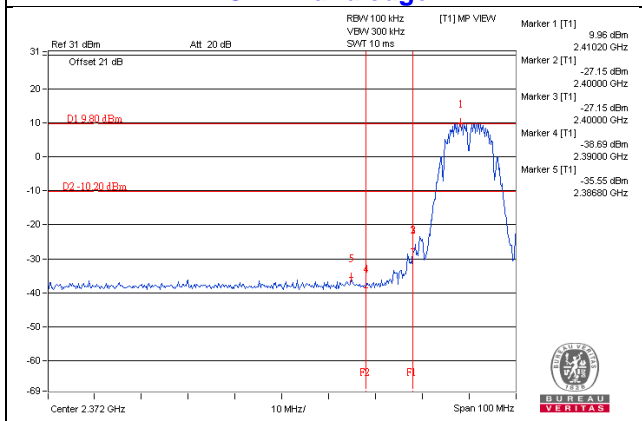
CH 6



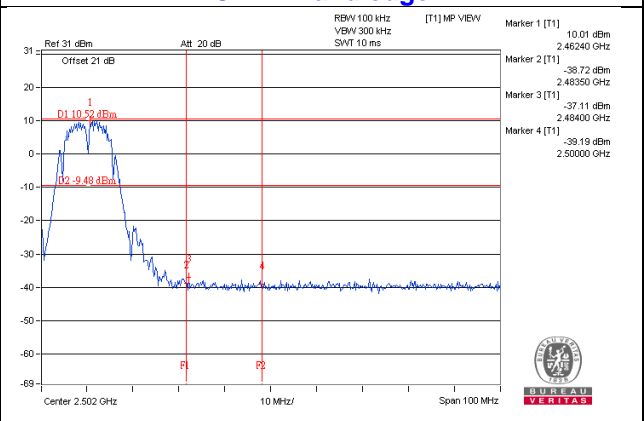
CH 11



CH 1 Band edge

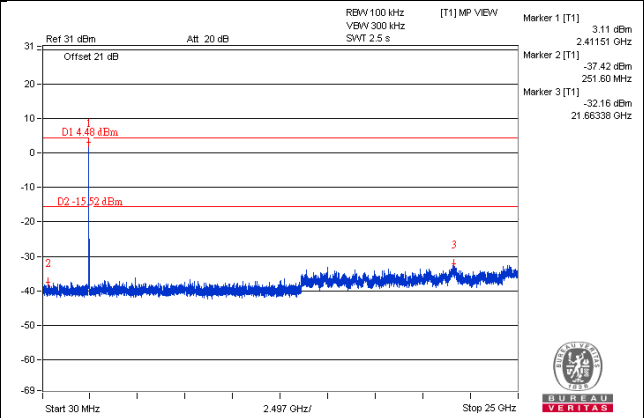
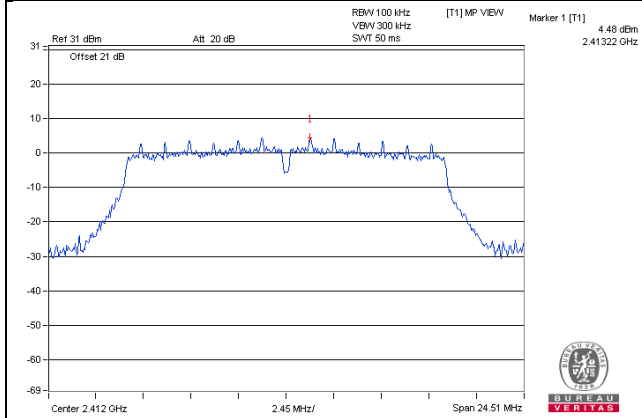


CH 11 Band edge

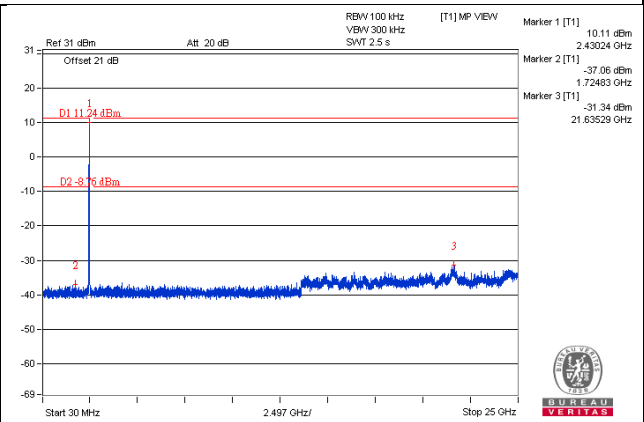
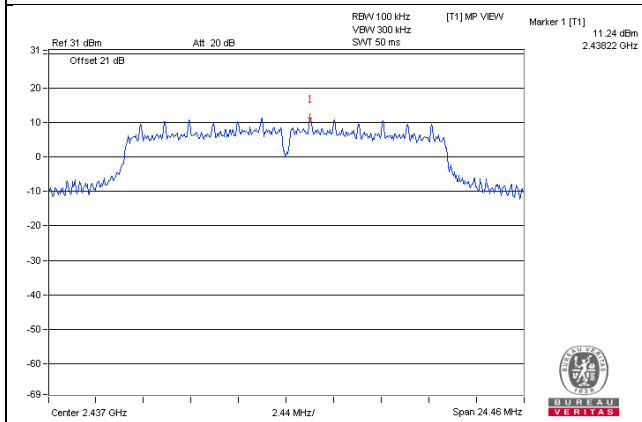


802.11g

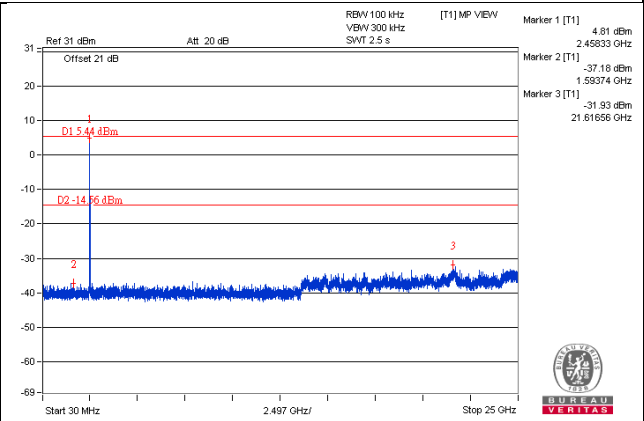
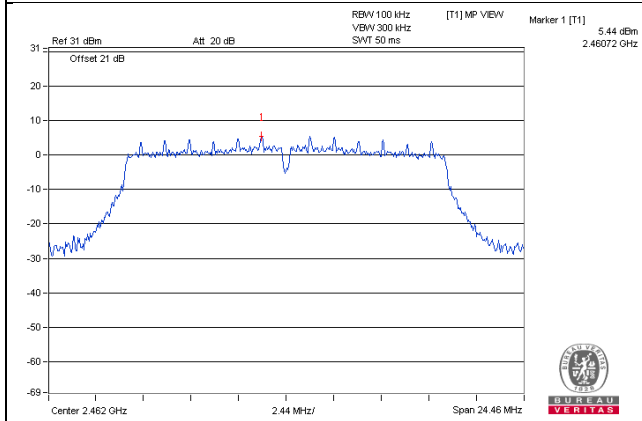
CH 1



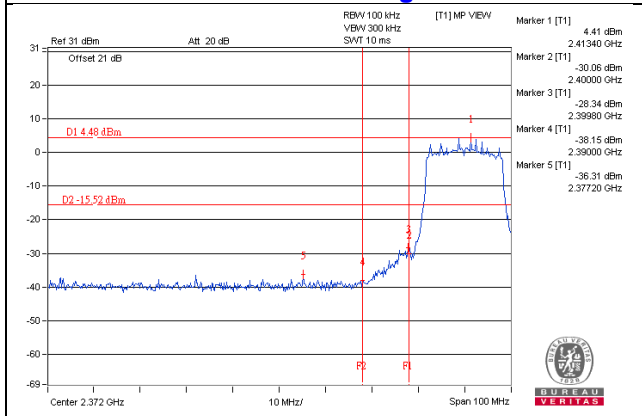
CH 6



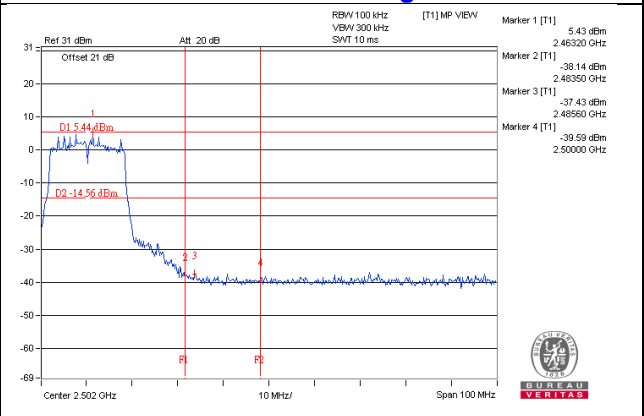
CH 11



CH 1 Band edge

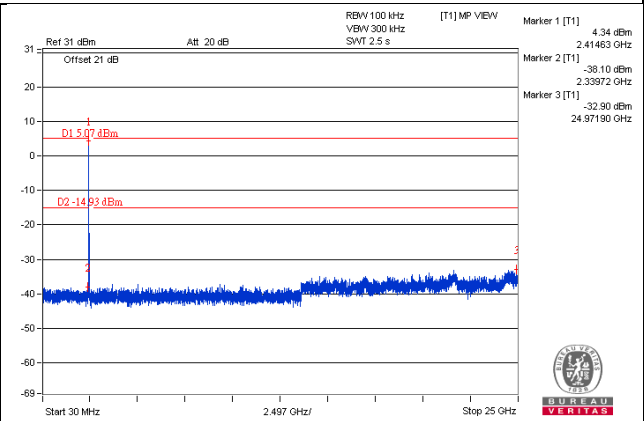
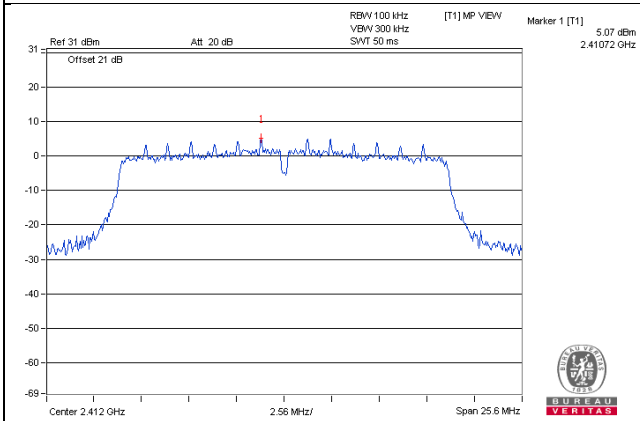


CH 11 Band edge

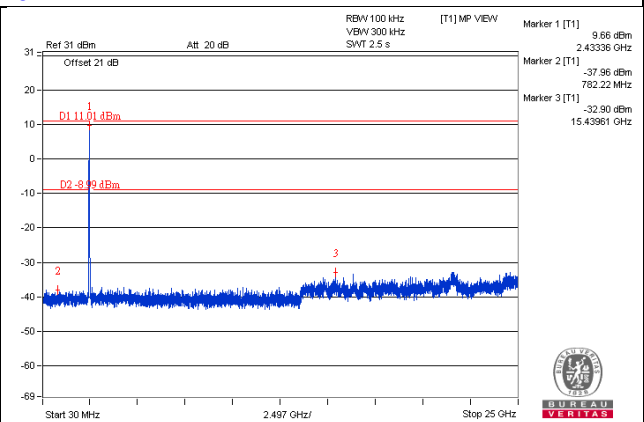
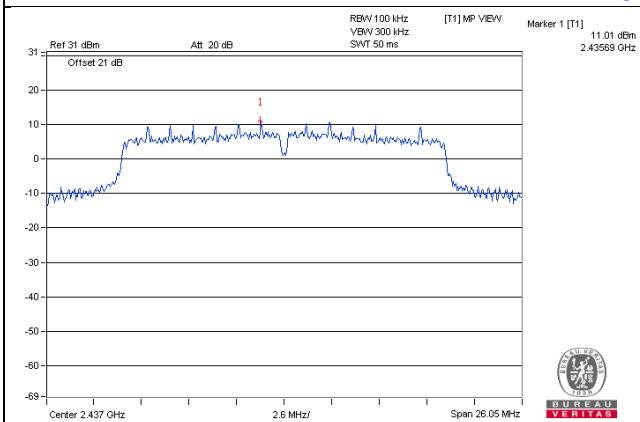


802.11n (HT20)

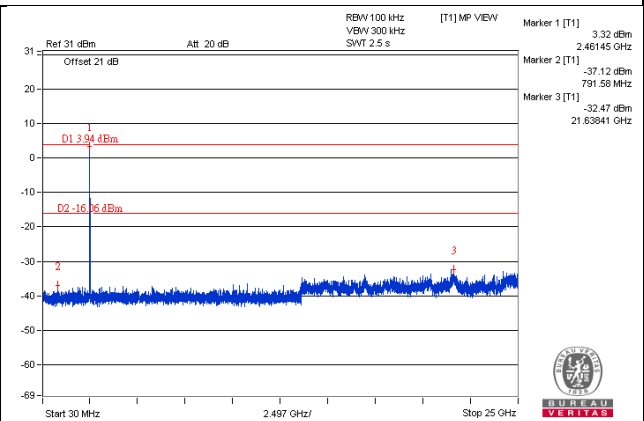
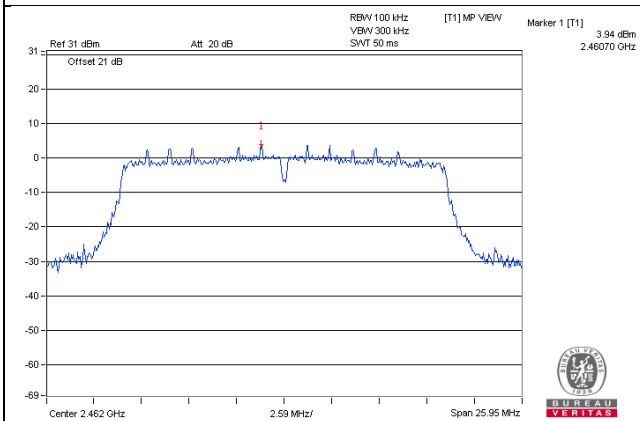
CH 1



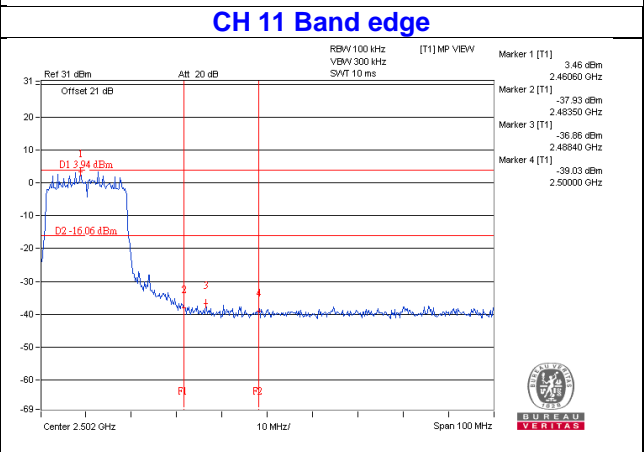
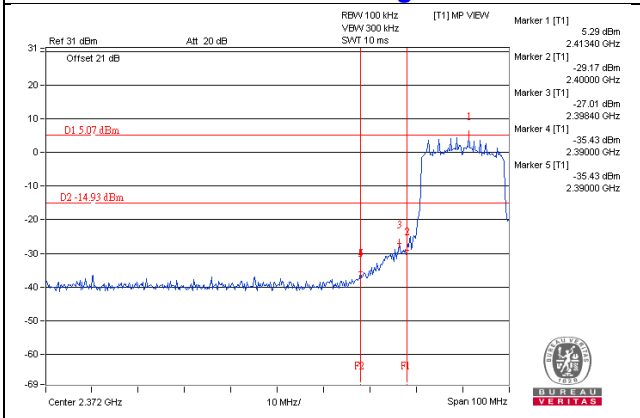
CH 6



CH 11

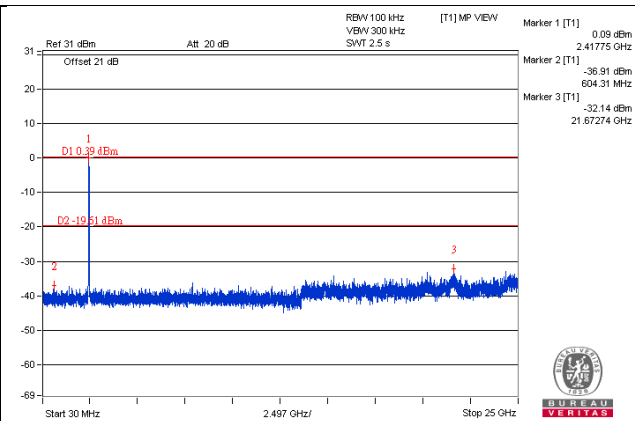
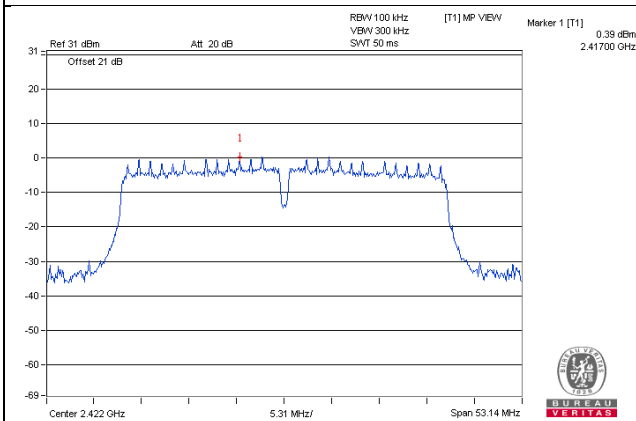


CH 1 Band edge

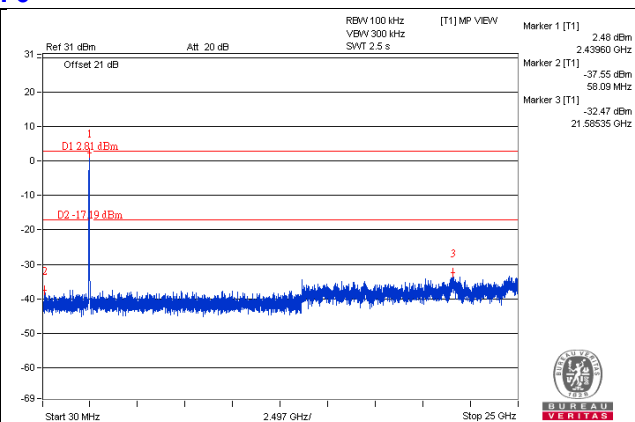
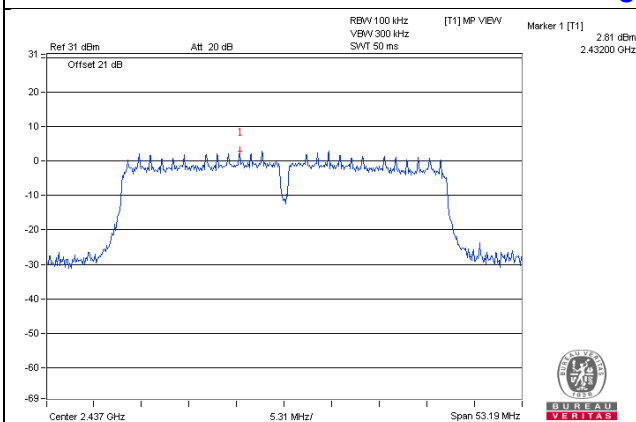


802.11n (HT40)

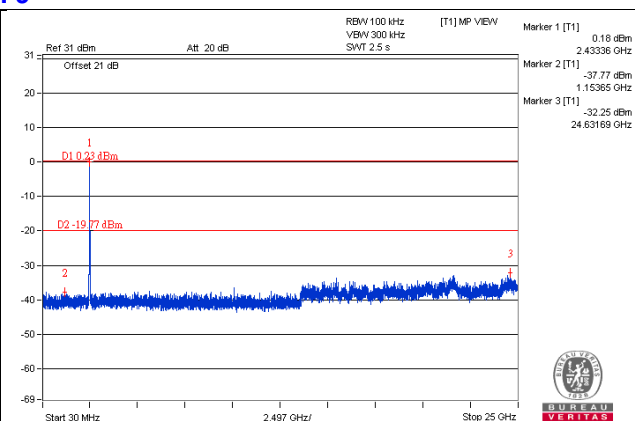
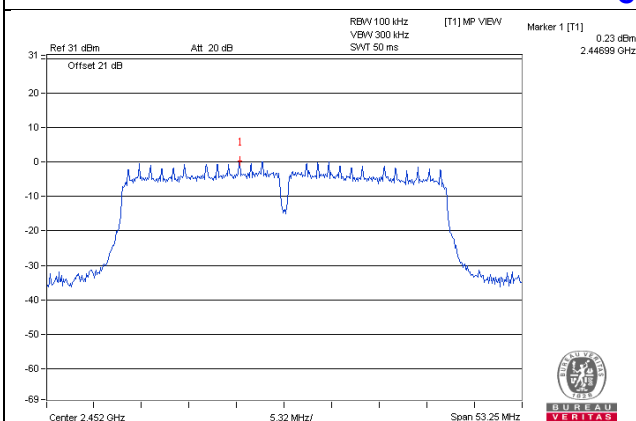
CH 3



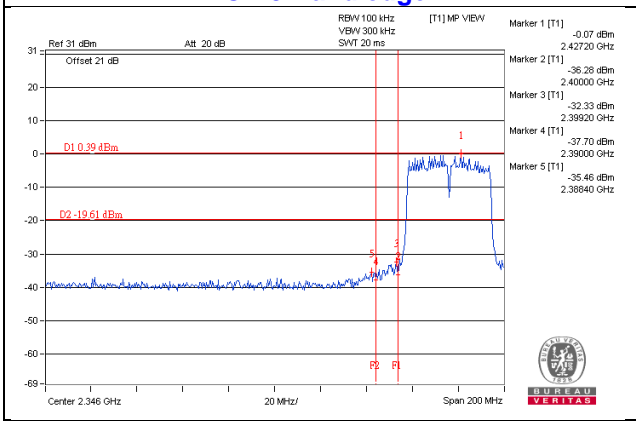
CH 6



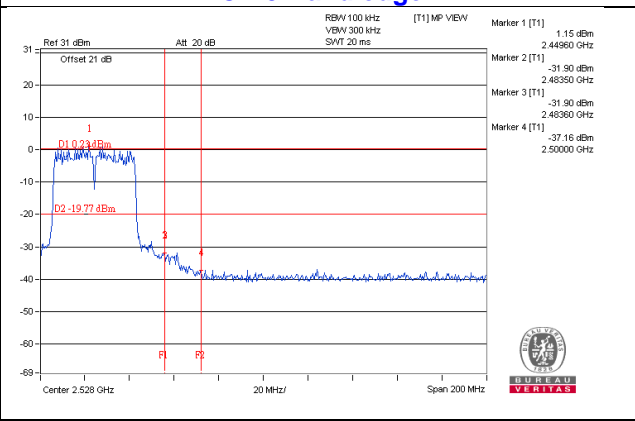
CH 9



CH 3 Band edge



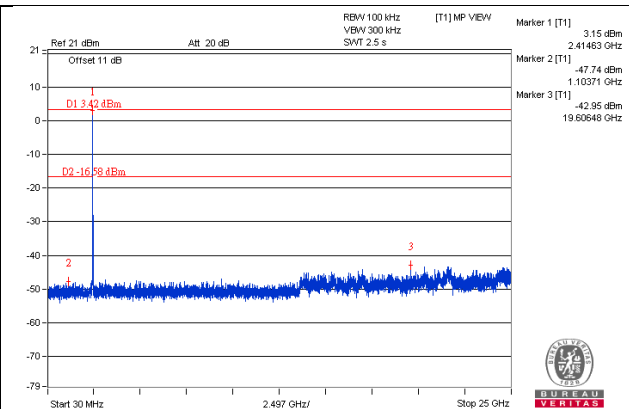
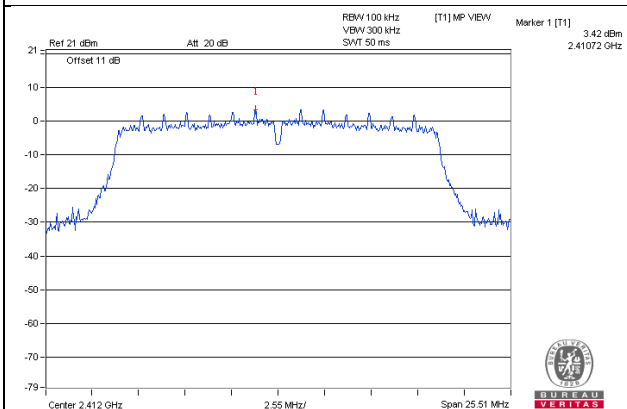
CH 9 Band edge



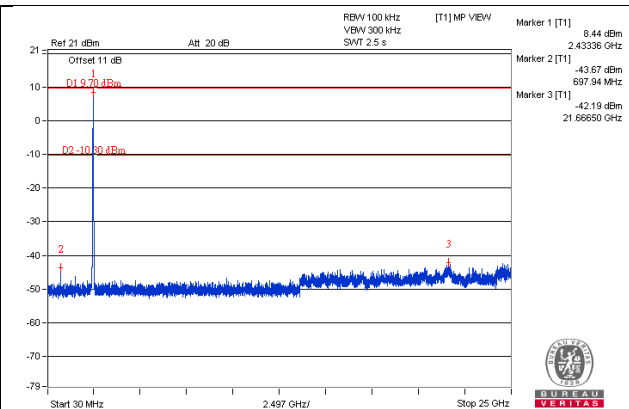
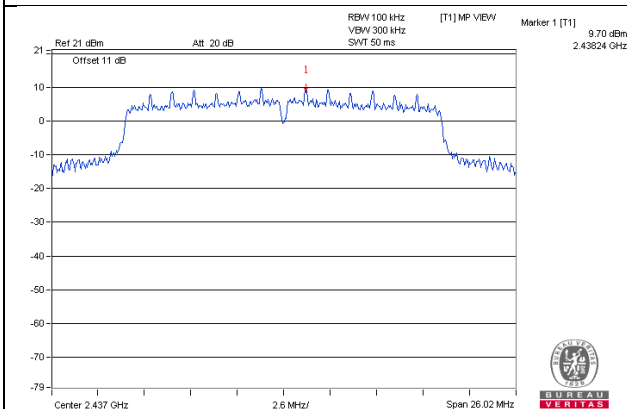
2TX Mode - 802.11n (HT20)

Chain (0)

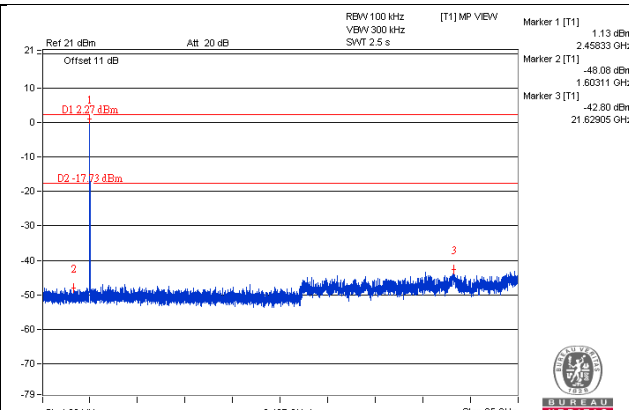
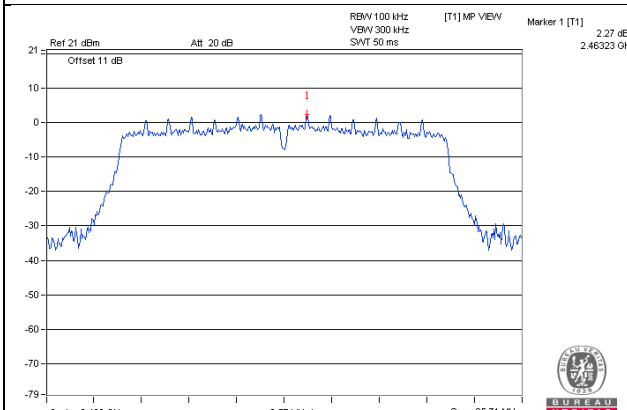
CH 1



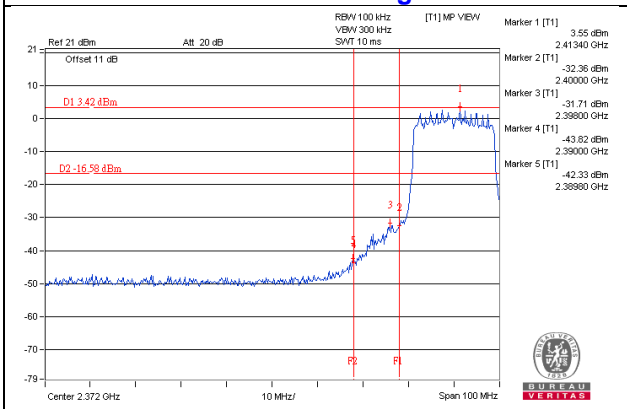
CH 6



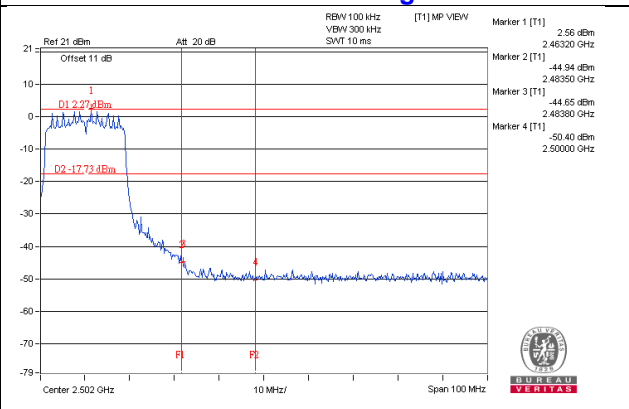
CH 11



CH 1 Band edge

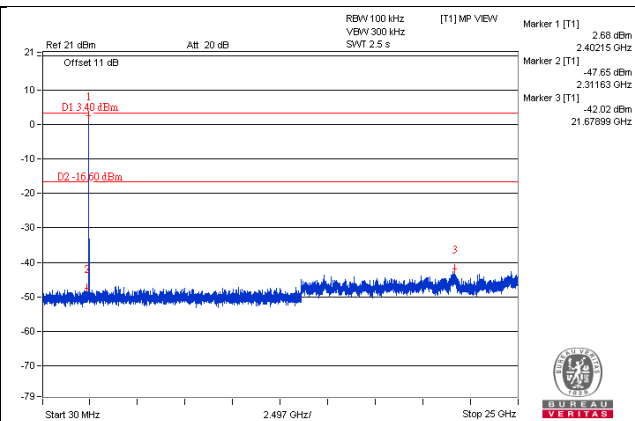
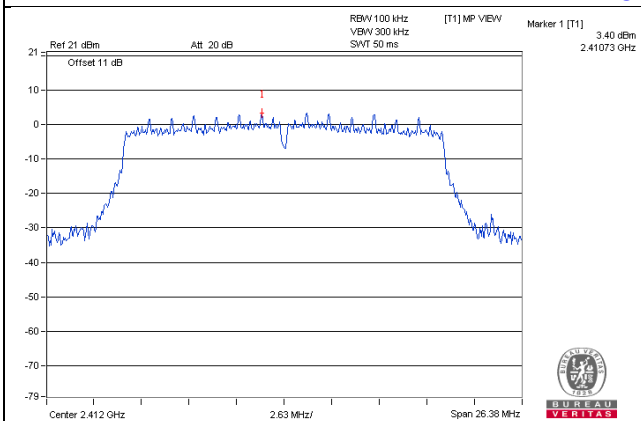


CH 11 Band edge

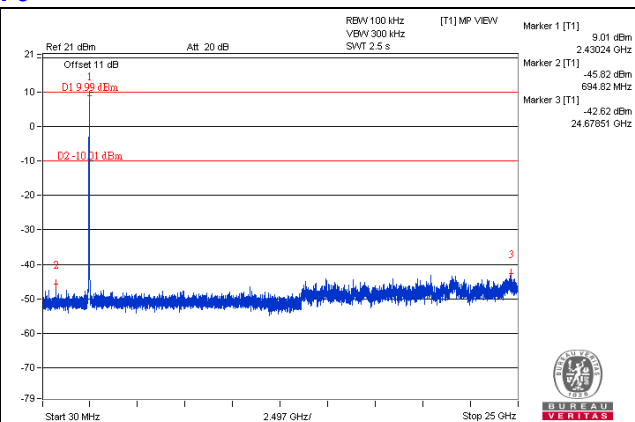
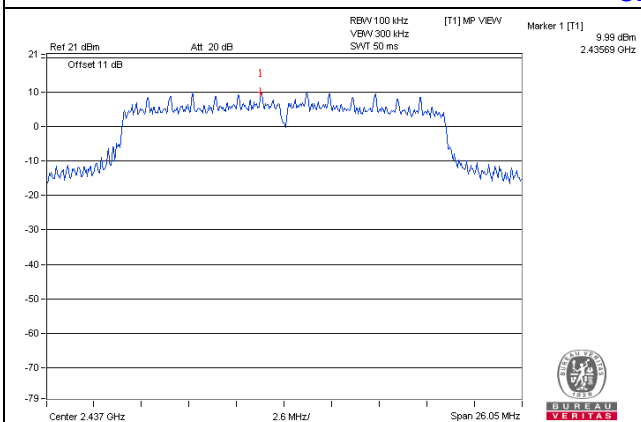


Chain (1)

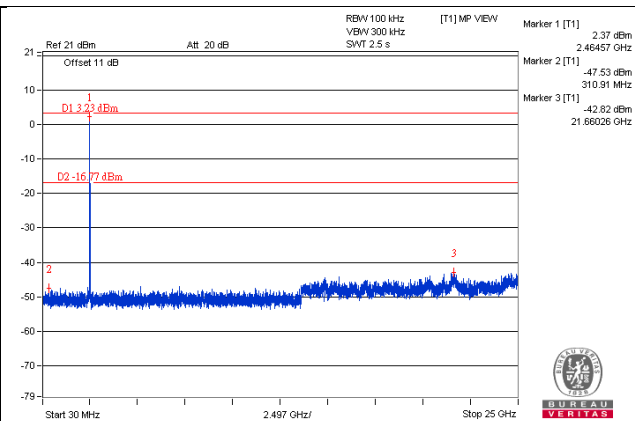
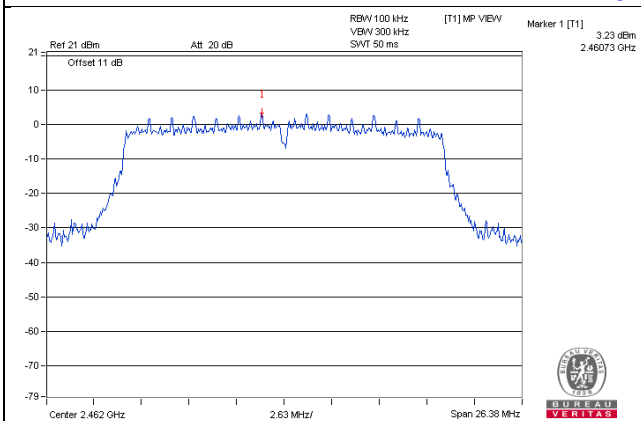
CH 1



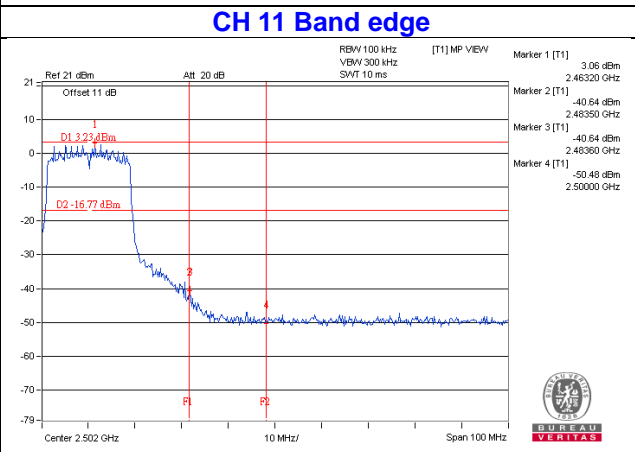
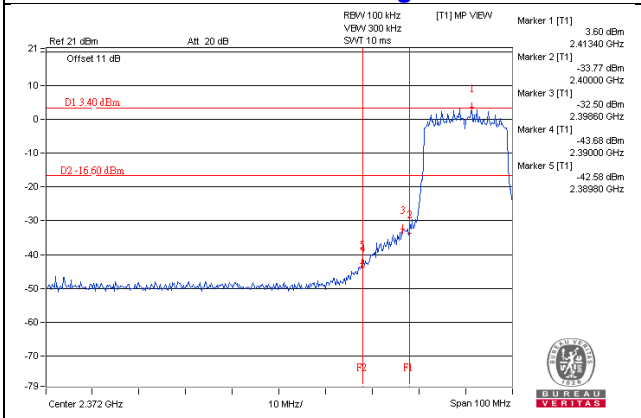
CH 6



CH 11

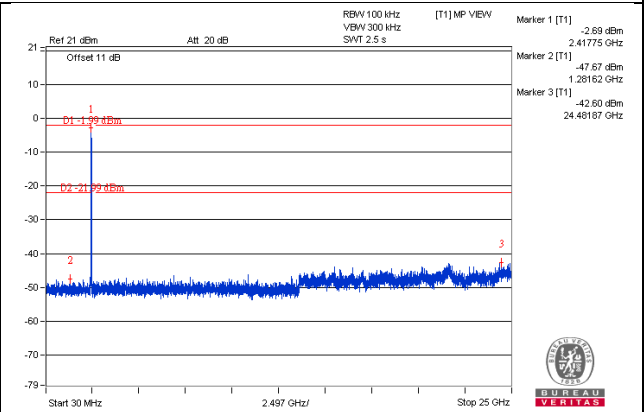
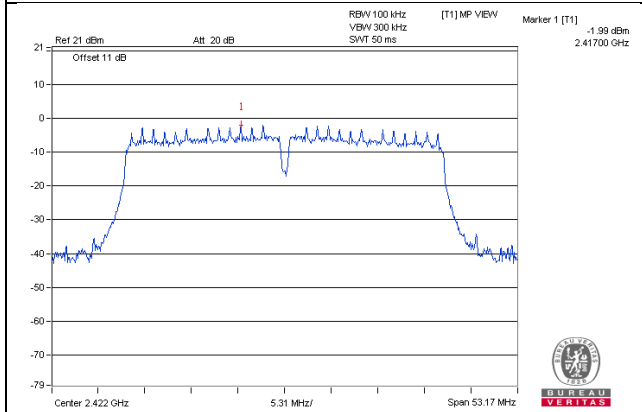


CH 1 Band edge

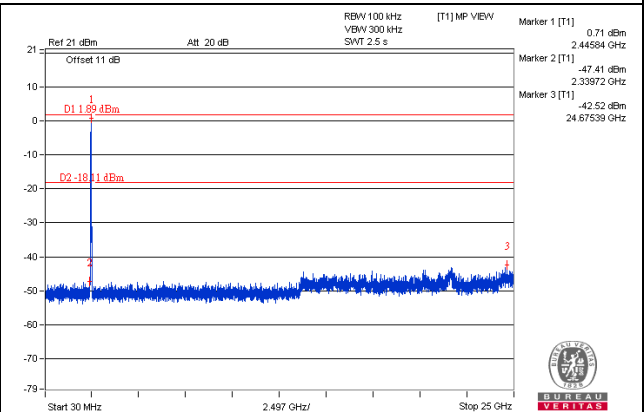
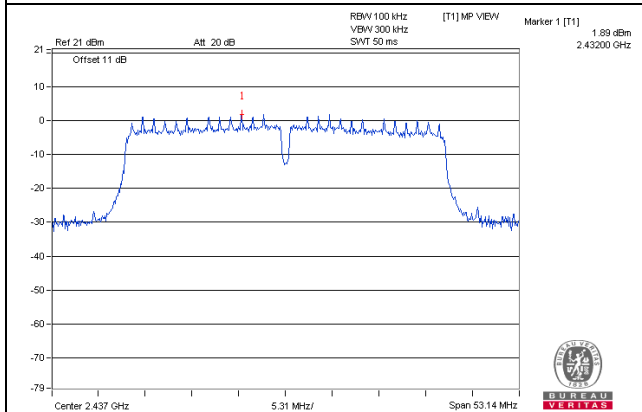


802.11n (HT40) Chain (0)

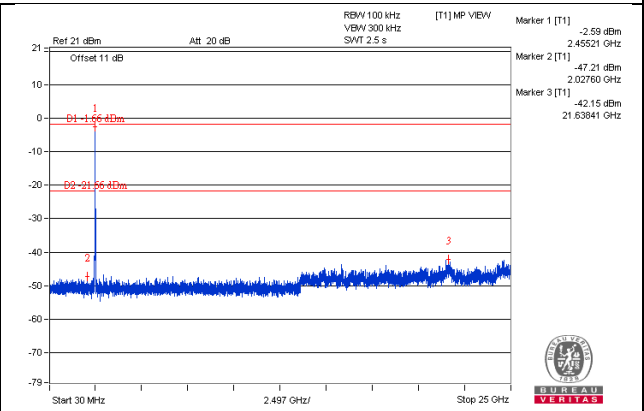
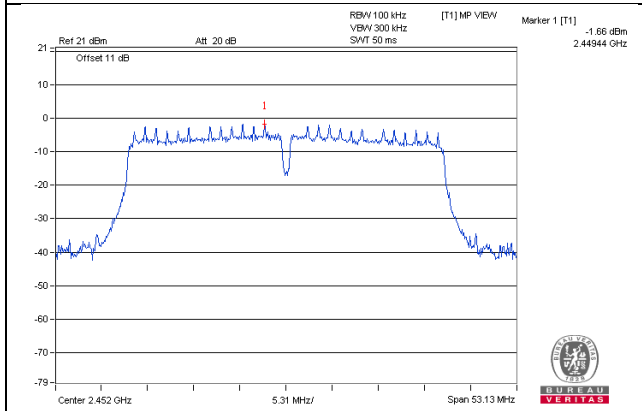
CH 3



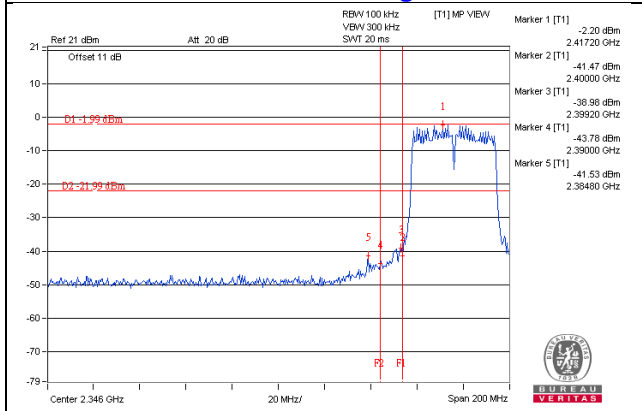
CH 6



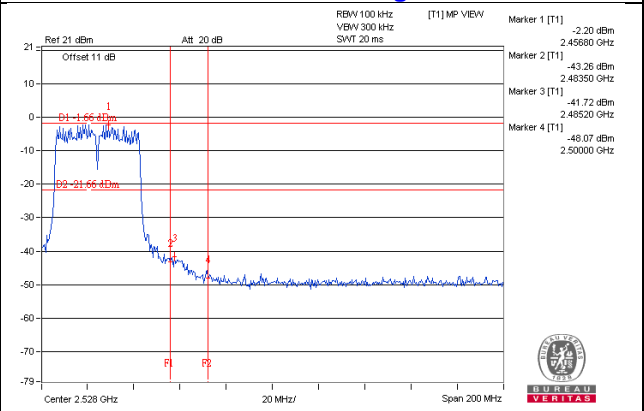
CH 9



CH 3 Band edge

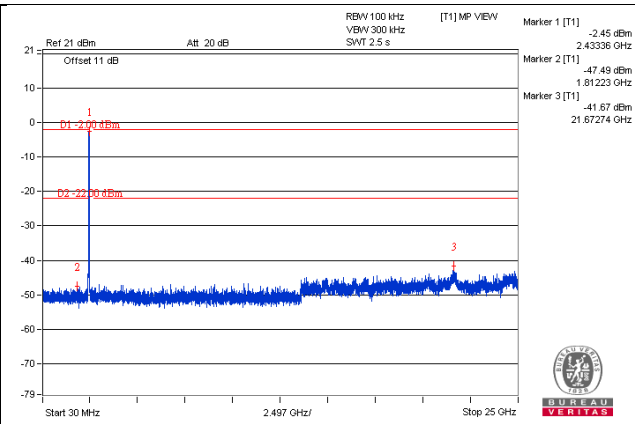
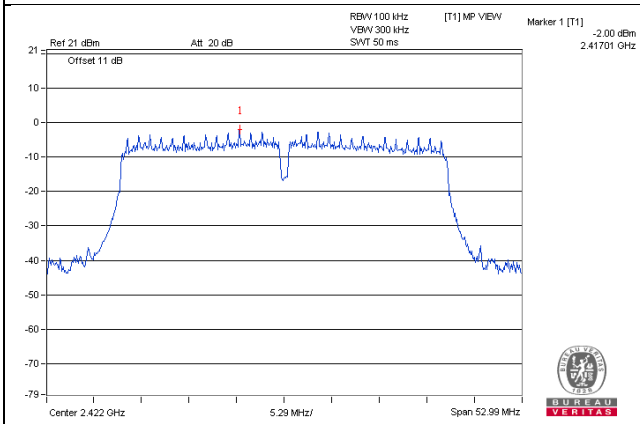


CH 9 Band edge

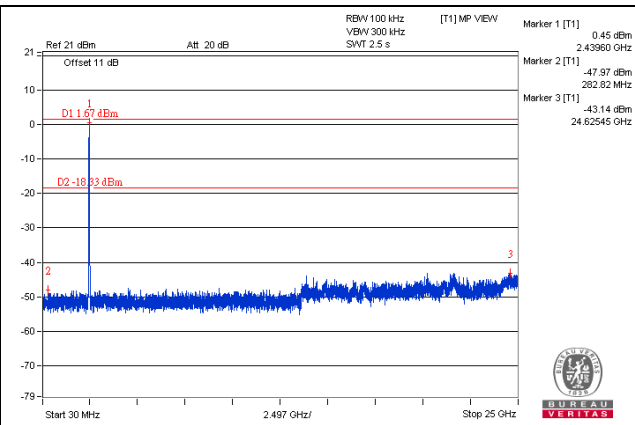
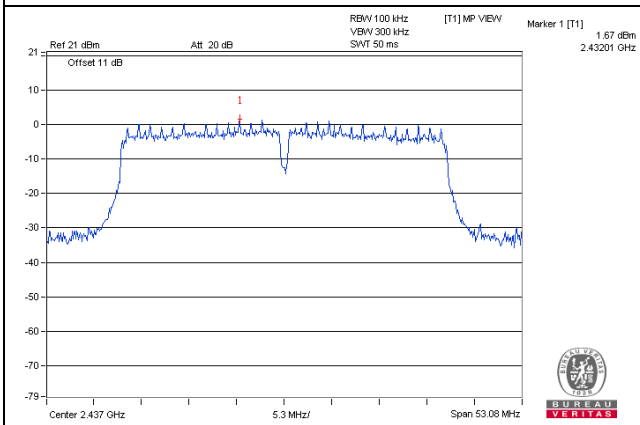


Chain (1)

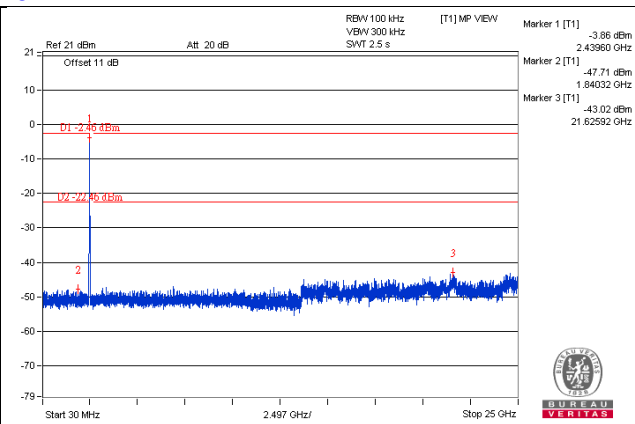
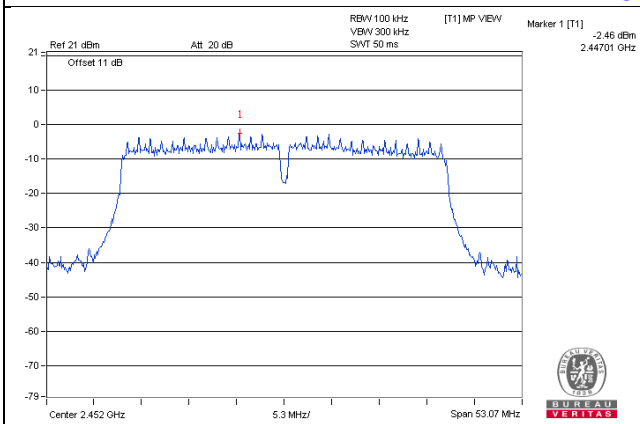
CH 3



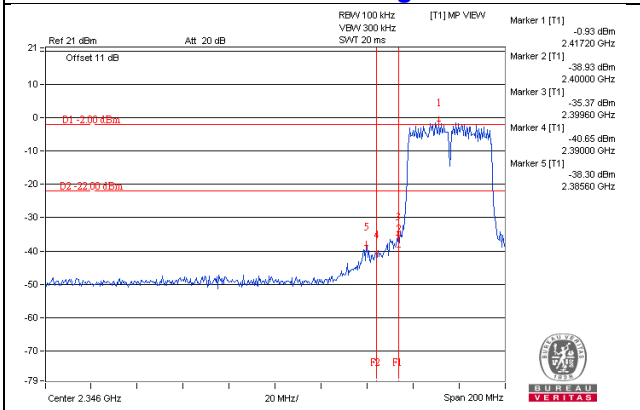
CH 6



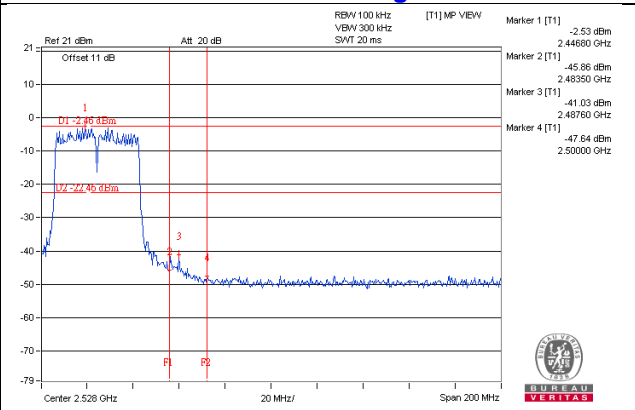
CH 9



CH 3 Band edge



CH 9 Band edge



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 accredited and approved according to ISO/IEC 17025.

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

Linko EMC/RF Lab

Tel: 886-2-26052180

Fax: 886-2-26051924

Hsin Chu EMC/RF/Telecom Lab

Tel: 886-3-6668565

Fax: 886-3-6668323

Hwa Ya EMC/RF/Safety Lab

Tel: 886-3-3183232

Fax: 886-3-3270892

Email: service.adt@tw.bureauveritas.com

Web Site: www.bureauveritas-adt.com

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

--- END ---