

## FCC Test Report

**Report No.:** RF170421E06

**FCC ID:** 2ACTO-APX740

**Test Model:** APX 740

**Received Date:** Apr. 21, 2017

**Test Date:** May 05 to June 09, 2017

**Issued Date:** July 31, 2017

**Applicant:** Sophos Ltd

**Address:** The Pentagon, Abingdon Science Park, Abingdon, OX14 3YP, United Kingdom

**Issued By:** Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch  
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### Release Control Record

Issue No.	Description	Date Issued
RF170421E06	Original release.	July 31, 2017

## 1 Certificate of Conformity

**Product:** Sophos Access Point

**Brand:** SOPHOS

**Test Model:** APX 740

**Sample Status:** ENGINEERING SAMPLE

**Applicant:** Sophos Ltd

**Test Date:** May 05 to June 09, 2017

**Standards:** 47 CFR FCC Part 15, Subpart C (Section 15.247)  
ANSI C63.10: 2013

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

**Prepared by :**

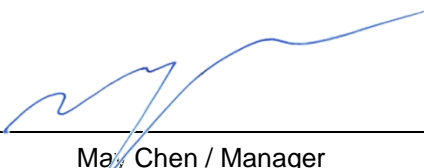


**Date:**

July 31, 2017

Wendy Wu / Specialist

**Approved by :**



**Date:**

July 31, 2017

Ma 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 -7.88dB at 0.41953MHz.
15.205 / 15.209 / 15.247(d)	Radiated Emissions and Band Edge Measurement	PASS	Meet the requirement of limit. Minimum passing margin is -0.1dB at 2390.00MHz, 2483.50MHz, 2496.20MHz, 4874.00MHz.
15.247(d)	Antenna Port Emission	PASS	Meet the requirement of limit.
15.247(a)(2)	6dB bandwidth	PASS	Meet the requirement of limit.
15.247(b)	Conducted power	PASS	Meet the requirement of limit.
15.247(e)	Power Spectral Density	PASS	Meet the requirement of limit.
15.203	Antenna Requirement	PASS	Antenna connector is i-pex(MHF) not a standard connector.

### 2.1 Measurement Uncertainty

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

Measurement	Frequency	Expanded Uncertainty (k=2) (±)
Conducted Emissions at mains ports	150kHz ~ 30MHz	1.84 dB
Radiated Emissions up to 1 GHz	30MHz ~ 1GHz	5.32 dB
Radiated Emissions above 1 GHz	1GHz ~ 6GHz	5.14 dB
	6GHz ~ 18GHz	5.04 dB
	18GHz ~ 40GHz	5.25 dB

### 2.2 Modification Record

There were no modifications required for compliance.

### 3 General Information

#### 3.1 General Description of EUT

Product	Sophos Access Point
Brand	SOPHOS
Test Model	APX 740
Status of EUT	ENGINEERING SAMPLE
Power Supply Rating	DC 55V from POE
Modulation Type	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM 256QAM for OFDM in 11ac mode only
Modulation Technology	DSSS, OFDM
Transfer Rate	802.11b: up to 11Mbps 802.11a/g: up to 54Mbps 802.11n: up to 600Mbps 802.11ac: up to 1733.3Mbps 802.11ac (80+80): up to 3466.7Mbps
Operating Frequency	<b>2.4GHz:</b> 2.412 ~ 2.462GHz <b>5GHz:</b> 5.18~ 5.24GHz, 5.745 ~ 5.825GHz
Number of Channel	<b>2.4GHz:</b> 802.11b, 802.11g, 802.11n (HT20): 11 802.11n (HT40): 7 <b>5GHz:</b> 802.11a, 802.11n (HT20), 802.11ac (VHT20): 9 802.11n (HT40), 802.11ac (VHT40): 4 802.11ac (VHT80): 2 802.11ac (VHT80+80): 1 set
Output Power	<b>2.4GHz:</b> <b>CDD Mode:</b> <b>4TX:</b> 859.613mW (29.34dBm) <b>3TX:</b> 656.377mW (28.17dBm) <b>2TX:</b> 626.119mW (27.97dBm) <b>1TX:</b> 320.627mW (25.06dBm) <b>Beamforming Mode:</b> <b>4TX:</b> 314.533mW (24.98dBm) <b>3TX:</b> 395.055mW (25.97dBm) <b>2TX:</b> 483.741mW (26.85dBm) <b>5GHz:</b> <b>CDD Mode:</b> <b>5.18 ~ 5.24GHz:</b> <b>4TX:</b> 410.091mW (26.13dBm) <b>3TX:</b> 344.784mW (25.38dBm) <b>2TX:</b> 387.301mW (25.88dBm) <b>1TX:</b> 191.867mW (22.83dBm) <b>5.745 ~ 5.825GHz:</b> <b>4TX:</b> 759.756mW (28.81dBm) <b>3TX:</b> 564.772mW (27.52dBm) <b>2TX:</b> 353.936mW (25.49dBm) <b>1TX:</b> 169.434mW (22.29dBm) <b>Beamforming Mode:</b> <b>5.18 ~ 5.24GHz:</b> <b>4TX:</b> 268.681mW (24.29dBm) <b>3TX:</b> 343.787mW (25.36dBm) <b>2TX:</b> 370.282mW (25.69dBm) <b>5.745 ~ 5.825GHz:</b> <b>4TX:</b> 263.781mW (24.21dBm) <b>3TX:</b> 340.814mW (25.33dBm) <b>2TX:</b> 353.936mW (25.49dBm)

Antenna Type	Refer to Note
Antenna Connector	Refer to Note
Accessory Device	NA
Data Cable Supplied	NA

Note:

1. The EUT has three radio transceivers, radio 1 is WLAN technologies for single band (2.4GHz), radio 2 is WLAN technology for single band (5GHz), and radio 3 is Bluetooth low energy (BT-LE) technology only.
2. Simultaneously transmission condition.

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

**Note:** The emission of the simultaneous operation has been evaluated and no non-compliance was found.

3. The EUT must be supplied with a POE (only for test not for sale) as following table:

Brand	Model No.	Spec.
PowerDsine	PD-9001GR/AC	Input: 100-240Vac, 50/60Hz, 0.67A Output: 55Vdc, 0.6A

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

Radio 1								
2.4GHz								
Antenna No.	Transmitter Circuit	Brand	Model No.	Antenna Net Gain (dBi)	Frequency Range (GHz)	Antenna Type	Connector Type	*Cable Length
1	Chain (0)	NA	NA	4.99	2.4~2.4835	PIFA	i-pex(MHF)	176
2	Chain (1)	NA	NA	4.47	2.4~2.4835	PIFA	i-pex(MHF)	140
3	Chain (2)	NA	NA	3.71	2.4~2.4835	PIFA	i-pex(MHF)	98
4	Chain (3)	NA	NA	4.83	2.4~2.4835	PIFA	i-pex(MHF)	70
Radio 2								
5GHz								
Antenna No.	Transmitter Circuit	Brand	Model No.	Antenna Net Gain (dBi)	Frequency Range (GHz)	Antenna Type	Connector Type	*Cable Length
1	Chain (0)	NA	NA	5.94	5.15~5.85	Dipole	i-pex(MHF)	79
2	Chain (1)	NA	NA	5.71	5.15~5.85	Dipole	i-pex(MHF)	117
3	Chain (2)	NA	NA	5.61	5.15~5.85	Dipole	i-pex(MHF)	157
4	Chain (3)	NA	NA	5.32	5.15~5.85	Dipole	i-pex(MHF)	189
Radio 3								
Bluetooth								
Antenna No.	Transmitter Circuit	Brand	Model No.	Antenna Net Gain (dBi)	Frequency Range (GHz)	Antenna Type	Connector Type	*Cable Length
1	Chain (0)	NA	NA	2.75	2.4~2.4835	PIFA	i-pex(MHF)	121

Note:

1. For 1TX configuration mode, max gain was selected for the final test.
2. For 2TX configuration mode, Ant 1 & Ant 4 were selected for the final test.
3. For 3TX configuration mode, Ant 1, Ant 2 & Ant 4 were selected for the final test.



5. The EUT incorporates a MIMO function:

2.4GHz Band			
MODULATION MODE	DATA RATE (MCS)	TX & RX CONFIGURATION	
802.11b	1 ~ 11Mbps	4TX/3TX/2TX/1TX diversity	4Rx
802.11g	6 ~ 54Mbps	4TX/3TX/2TX/1TX diversity	4Rx
802.11n (HT20)	MCS 0~7	4TX/3TX/2TX/1TX diversity	4Rx
	MCS 8~15	4TX/3TX/2TX	4Rx
	MCS 16~23	4TX/3TX	4Rx
	MCS 24~31	4TX	4Rx
802.11n (HT40)	MCS 0~7	4TX/3TX/2TX/1TX diversity	4Rx
	MCS 8~15	4TX/3TX/2TX	4Rx
	MCS 16~23	4TX/3TX	4Rx
	MCS 24~31	4TX	4Rx
5GHz Band			
MODULATION MODE	DATA RATE (MCS)	TX & RX CONFIGURATION	
802.11a	6 ~ 54Mbps	4TX/3TX/2TX/1TX diversity	4RX
802.11n (HT20)	MCS 0~7	4TX/3TX/2TX/1TX diversity	4RX
	MCS 8~15	4TX/3TX/2TX	4RX
	MCS 16~23	4TX/3TX	4RX
	MCS 24~31	4TX	4RX
802.11n (HT40)	MCS 0~7	4TX/3TX/2TX/1TX diversity	4RX
	MCS 8~15	4TX/3TX/2TX	4RX
	MCS 16~23	4TX/3TX	4RX
	MCS 24~31	4TX	4RX
802.11ac (VHT20)	MCS 0~8, Nss=1	4TX/3TX/2TX/1TX diversity	4RX
	MCS 0~8, Nss=2	4TX/3TX/2TX	4RX
	MCS 0~9, Nss=3	4TX/3TX	4RX
	MCS 0~8, Nss=4	4TX	4RX
802.11ac (VHT40)	MCS 0~9, Nss=1	4TX/3TX/2TX/1TX diversity	4RX
	MCS 0~9, Nss=2	4TX/3TX/2TX	4RX
	MCS 0~9, Nss=3	4TX/3TX	4RX
	MCS 0~9, Nss=4	4TX	4RX
802.11ac (VHT80)	MCS 0~9, Nss=1	4TX/3TX/2TX/1TX diversity	4RX
	MCS 0~9, Nss=2	4TX/3TX/2TX	4RX
	MCS 0~9, Nss=3	4TX/3TX	4RX
	MCS 0~9, Nss=4	4TX	4RX
802.11ac (VHT80+VHT80)	MCS 0~9, Nss=2	4TX/2TX	4RX
	MCS 0~9, Nss=4	4TX	4RX

Note:

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

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

### 3.2 Description of Test Modes

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

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

7 channels are provided for 802.11n (HT40):

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

### 3.2.1 Test Mode Applicability and Tested Channel Detail

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	RE $\geq$ 1G	RE<1G	PLC	APCM	
1	√	√	√	√	4TX Mode
2	√	-	-	√	3TX Mode
3	√	-	-	√	2TX Mode
4	√	-	-	√	1TX Mode

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 2 axis. The worst case was found when positioned on **X-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.

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

#### Radiated Emission Test (Below 1GHz):

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

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

#### Power Line Conducted Emission Test:

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

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

### Antenna Port Conducted Measurement:

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

CDD Mode					
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
Beamforming Mode (output power only)					
MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11n (HT20)	1 to 11	1, 6, 11	OFDM	BPSK	6.5
802.11n (HT40)	3 to 9	3, 6, 9	OFDM	BPSK	13.5

### Test Condition:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER (SYSTEM)	TESTED BY
RE $\geq$ 1G	22deg. C, 68%RH	120Vac, 60Hz	Andy Ho
RE<1G	25deg. C, 71%RH	120Vac, 60Hz	Andy Ho
PLC	25deg. C, 75%RH	120Vac, 60Hz	Andy Ho
APCM	25deg. C, 60%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.

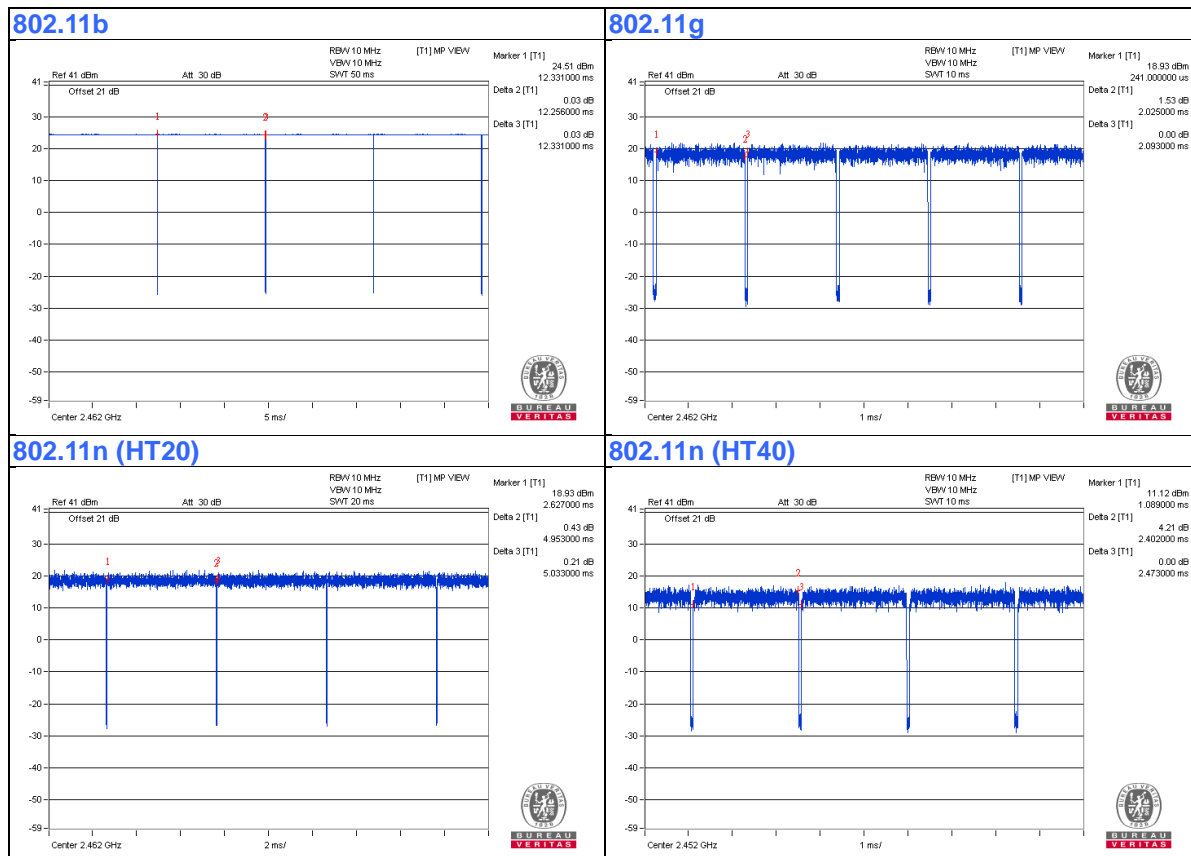
If duty cycle of test signal is  $< 98\%$ , duty factor shall be considered.

**802.11b:** Duty cycle =  $12.265/12.331 = 0.994$

**802.11g:** Duty cycle =  $2.025/2.093 = 0.968$ , Duty factor =  $10 * \log(1/0.968) = 0.14$

**802.11n (HT20):** Duty cycle =  $4.953/5.033 = 0.984$

**802.11n (HT40):** Duty cycle =  $2.402/2.473 = 0.971$ , Duty factor =  $10 * \log(1/0.971) = 0.13$



### 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	E5430	HYV4VY1	FCC DoC	Provided by Lab
B.	POE	PowerDsine	PD-9001GR/AC	NA	NA	Supplied by client
C.	Laptop	LENOVO	E440	PF071LWC	NA	Provided by Lab

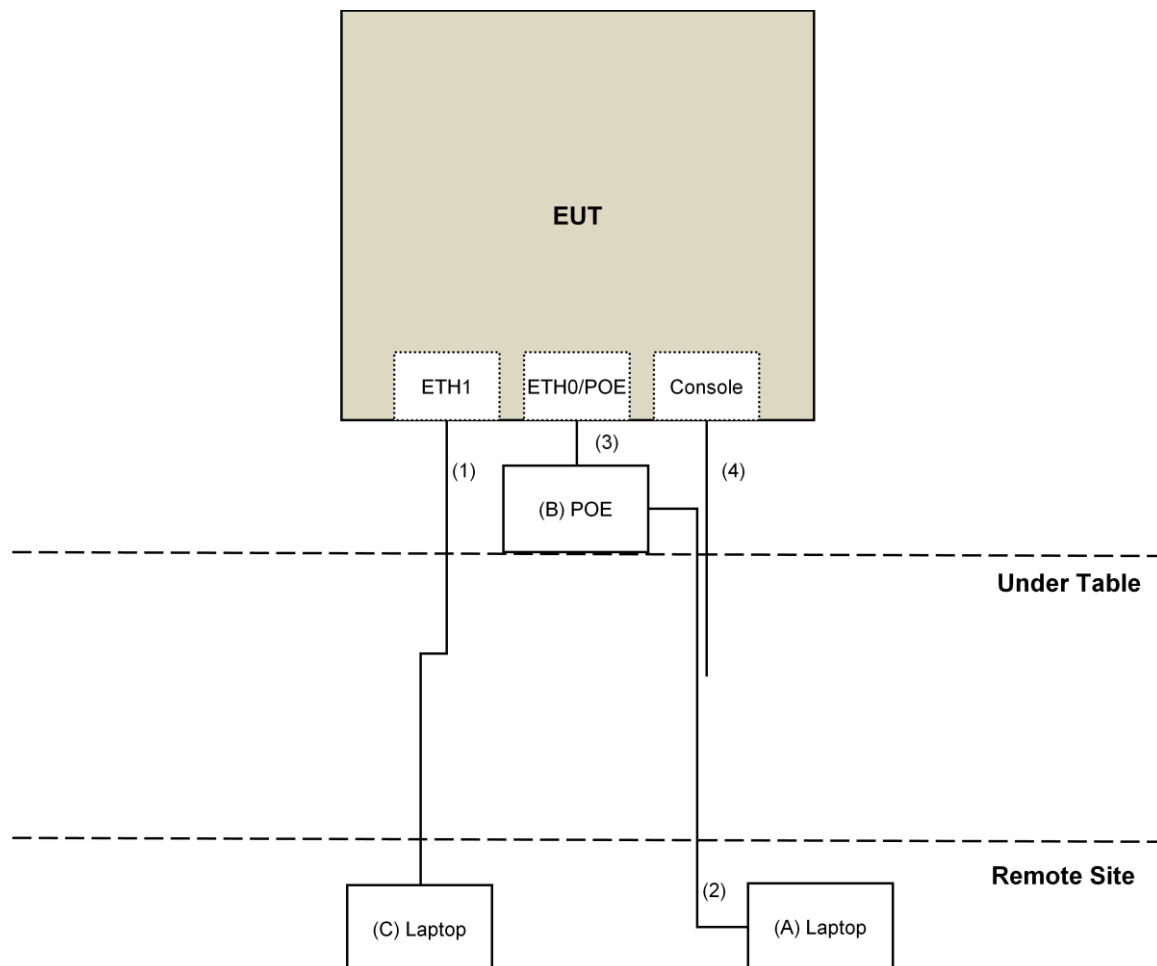
Note:

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

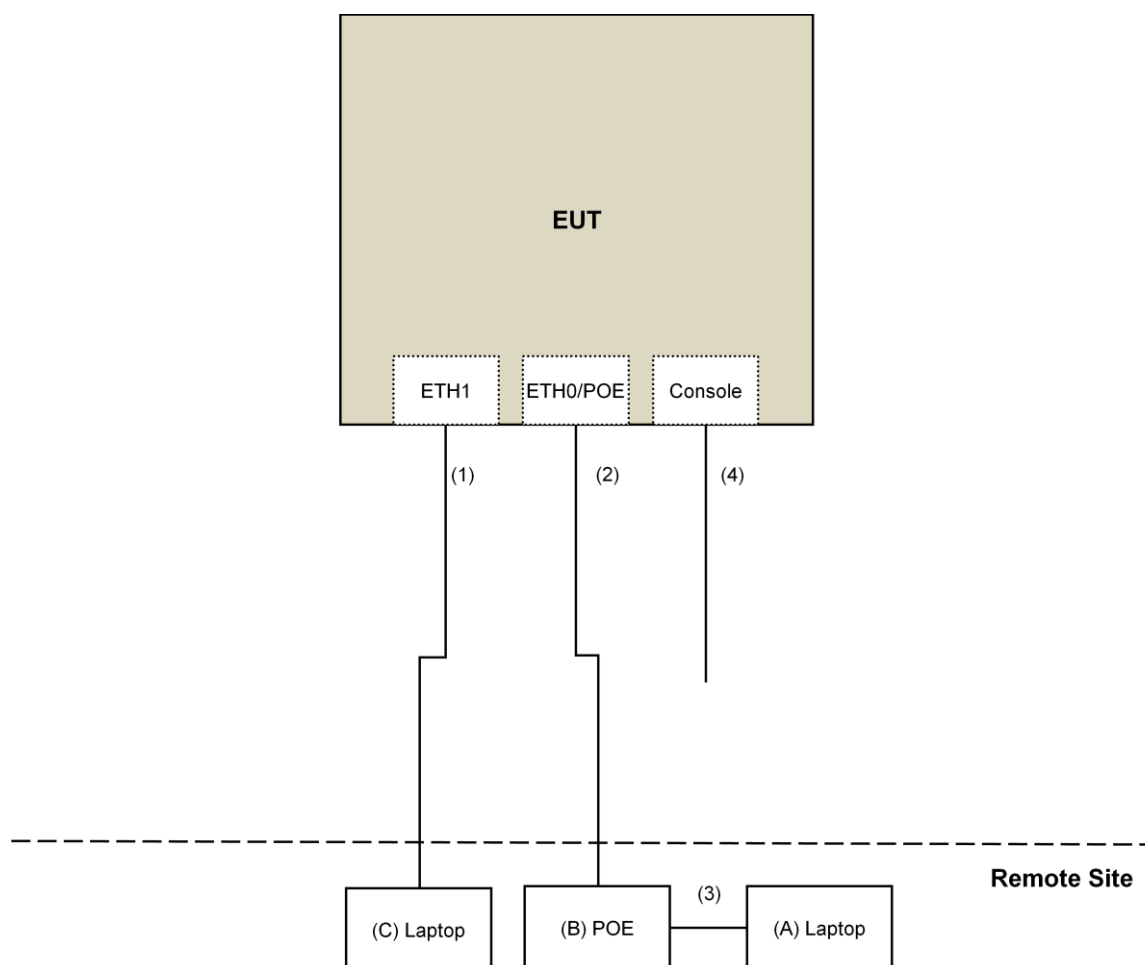
ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	RJ-45 Cable	1	10	No	0	Provided by Lab
2.	RJ-45 Cable	1	10	No	0	Provided by Lab
3.	RJ-45 Cable	1	3	No	0	Provided by Lab
4.	Console Cable	1	1.5	No	0	Provided by Lab

### 3.4.1 Configuration of System under Test

For Conducted Emission:



For other 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.

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

## 4 Test Types and Results

### 4.1 Radiated Emission and Bandedge Measurement

#### 4.1.1 Limits of Radiated Emission and Bandedge Measurement

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table. Other emissions shall be at least 30dB below the highest level of the desired power:

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

#### NOTE:

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

#### 4.1.2 Test Instruments

##### For below 1GHz test:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver Agilent	N9038A	MY50010156	Aug. 18, 2016	Aug. 17, 2017
Pre-Amplifier <sup>(*)</sup> EMCI	EMC001340	980142	Jan. 20, 2016	Jan. 19, 2018
Loop Antenna <sup>(*)</sup> 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-1000VH2 B	AMP-ZFL-05	May 07, 2016	May 06, 2017
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-361	Dec. 29, 2016	Dec. 28, 2017
RF Cable	8D	966-3-1 966-3-2 966-3-3	Apr. 01, 2017	Mar. 31, 2018
Fixed attenuator Mini-Circuits	UNAT-5+	PAD-3m-3-01	Oct. 05, 2016	Oct. 04, 2017
Software	ADT_Radiated _V8.7.08	NA	NA	NA
Antenna Tower & Turn Table Max-Full	MF-7802	MF780208406	NA	NA

##### Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. \*The calibration interval of the above test instruments is 24 months and the calibrations are traceable to NML/ROC and NIST/USA.
3. The test was performed in 966 Chamber No. 3.
4. The FCC Site Registration No. is 147459
5. The CANADA Site Registration No. is 20331-1
6. Loop antenna was used for all emissions below 30 MHz.
7. Tested Date: May 05, 2017

**For other test:**

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver Agilent	N9038A	MY50010156	Aug. 18, 2016	Aug. 17, 2017
Horn_Antenna SCHWARZBECK	BBHA9120-D	9120D-406	Dec. 28, 2016	Dec. 27, 2017
Pre-Amplifier EMCI	EMC12630SE	980384	Feb. 02, 2017	Feb. 01, 2018
RF Cable	EMC104-SM-SM-1200 EMC104-SM-SM-2000 EMC104-SM-SM-5000	160922 150317 150322	Feb. 02, 2017 Mar. 29, 2017 Mar. 29, 2017	Feb. 01, 2018 Mar. 28, 2018 Mar. 28, 2018
Spectrum Analyzer Keysight	N9030A	MY54490520	July 29, 2016	July 28, 2017
Pre-Amplifier EMCI	EMC184045S E	980386	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	MF780208406	NA	NA
Boresight Antenna Fixture	FBA-01	FBA-SIP01	NA	NA
Spectrum Analyzer R&S	FSv40	100964	June 28, 2016	June 27, 2017
Power meter Anritsu	ML2495A	1014008	May 11, 2017	May 10, 2018
Power sensor Anritsu	MA2411B	0917122	May 11, 2017	May 10, 2018

**Note:**

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in 966 Chamber No. 3.
3. The FCC Site Registration No. is 147459
4. The CANADA Site Registration No. is 20331-1
5. Tested Date: June 06 to 09, 2017

#### 4.1.3 Test Procedures

##### **For Radiated emission below 30MHz**

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter chamber room. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. Both X and Y axes of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Quasi-Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

##### **NOTE:**

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 9kHz at frequency below 30MHz.

##### **For Radiated emission above 30MHz**

- a. The EUT was placed on the top of a rotating table 0.8 meters (for 30MHz ~ 1GHz) / 1.5 meters (for above 1GHz) above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.
- f. The test-receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

##### **Note:**

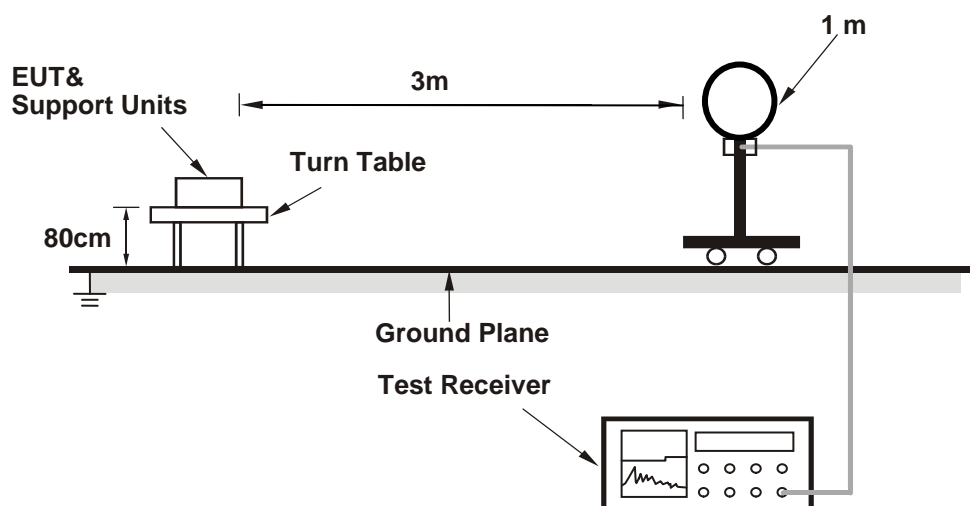
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Average detection (AV) at frequency above 1GHz. If duty cycle of test signal is < 98%, the duty factor need added to measured value.
4. All modes of operation were investigated and the worst-case emissions are reported.

#### 4.1.4 Deviation from Test Standard

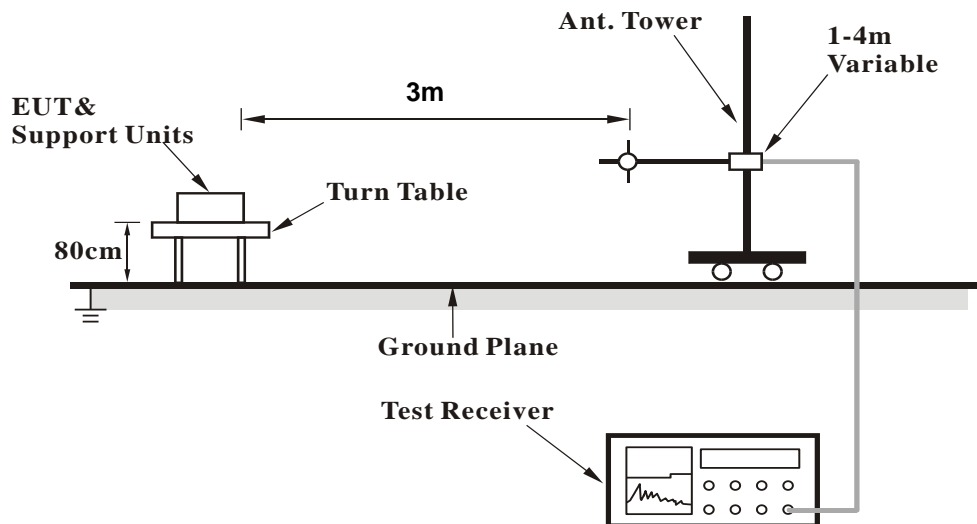
No deviation.

#### 4.1.5 Test Setup

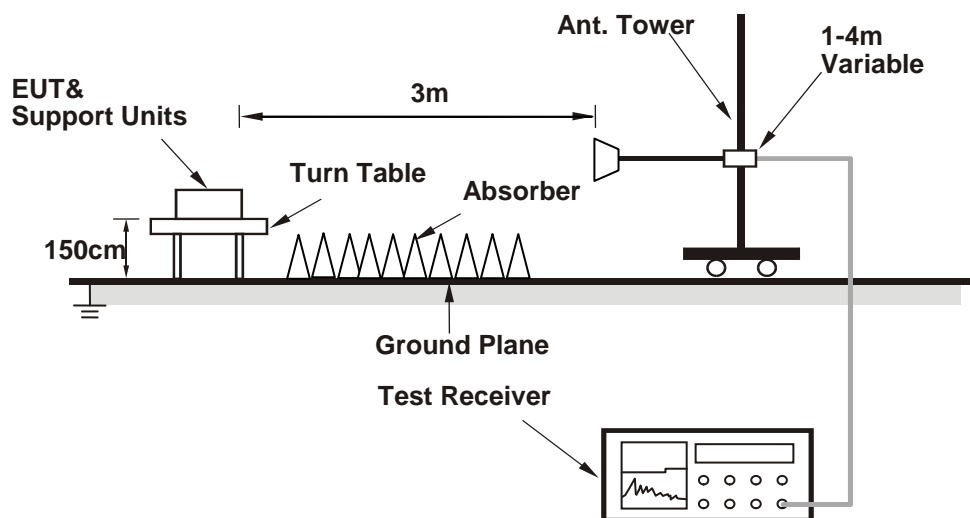
##### For Radiated emission below 30MHz



##### For Radiated emission 30MHz to 1GHz



## For Radiated emission above 1GHz



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

### 4.1.6 EUT Operating Conditions

- Connected the EUT with the Laptop which is placed on remote site.
- Controlling software (QDART-QCARCT [Ver3.0.197.0]) has been activated to set the EUT on specific status.

#### 4.1.7 Test Results (Mode 1)

##### Above 1GHz Data:

##### 802.11b

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2389.00	56.4 PK	74.0	-17.6	1.60 H	221	58.0	-1.6
2	2389.00	47.4 AV	54.0	-6.6	1.60 H	221	49.0	-1.6
3	*2412.00	110.2 PK			1.60 H	221	111.7	-1.5
4	*2412.00	107.9 AV			1.60 H	221	109.4	-1.5
5	4824.00	46.6 PK	74.0	-27.4	1.14 H	153	43.6	3.0
6	4824.00	43.9 AV	54.0	-10.1	1.14 H	153	40.9	3.0
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2389.00	59.1 PK	74.0	-14.9	1.42 V	350	60.7	-1.6
2	2389.00	53.8 AV	54.0	-0.2	1.42 V	350	55.4	-1.6
3	*2412.00	117.8 PK			1.42 V	350	119.3	-1.5
4	*2412.00	115.9 AV			1.42 V	350	117.4	-1.5
5	4824.00	49.5 PK	74.0	-24.5	2.63 V	100	46.5	3.0
6	4824.00	48.3 AV	54.0	-5.7	2.63 V	100	45.3	3.0

##### REMARKS:

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



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

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	54.8 PK	74.0	-19.2	1.62 H	233	56.4	-1.6
2	2390.00	39.0 AV	54.0	-15.0	1.62 H	233	40.6	-1.6
3	*2437.00	111.6 PK			1.62 H	233	113.1	-1.5
4	*2437.00	108.6 AV			1.62 H	233	110.1	-1.5
5	2483.50	56.1 PK	74.0	-17.9	1.62 H	233	57.5	-1.4
6	2483.50	40.3 AV	54.0	-13.7	1.62 H	233	41.7	-1.4
7	4874.00	45.9 PK	74.0	-28.1	1.11 H	168	42.7	3.2
8	4874.00	43.4 AV	54.0	-10.6	1.11 H	168	40.2	3.2
9	7311.00	42.2 PK	74.0	-31.8	1.48 H	230	33.3	8.9
10	7311.00	30.7 AV	54.0	-23.3	1.48 H	230	21.8	8.9

**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	58.0 PK	74.0	-16.0	2.28 V	181	59.6	-1.6
2	2390.00	44.9 AV	54.0	-9.1	2.28 V	181	46.5	-1.6
3	*2437.00	119.2 PK			2.28 V	181	120.7	-1.5
4	*2437.00	116.6 AV			2.28 V	181	118.1	-1.5
5	2483.50	59.3 PK	74.0	-14.7	2.28 V	181	60.7	-1.4
6	2483.50	46.3 AV	54.0	-7.7	2.28 V	181	47.7	-1.4
7	4874.00	55.1 PK	74.0	-18.9	2.51 V	294	51.9	3.2
8	4874.00	53.9 AV	54.0	-0.1	2.51 V	294	50.7	3.2
9	7311.00	43.5 PK	74.0	-30.5	1.27 V	355	34.6	8.9
10	7311.00	33.4 AV	54.0	-20.6	1.27 V	355	24.5	8.9

**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
5. " \* ": Fundamental frequency.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	110.9 PK			1.62 H	233	112.3	-1.4
2	*2462.00	108.2 AV			1.62 H	233	109.6	-1.4
3	2488.70	56.2 PK	74.0	-17.8	1.62 H	233	57.5	-1.3
4	2488.70	46.7 AV	54.0	-7.3	1.62 H	233	48.0	-1.3
5	4924.00	45.8 PK	74.0	-28.2	1.12 H	174	42.5	3.3
6	4924.00	43.0 AV	54.0	-11.0	1.12 H	174	39.7	3.3
7	7386.00	42.0 PK	74.0	-32.0	1.49 H	225	32.9	9.1
8	7386.00	30.8 AV	54.0	-23.2	1.49 H	225	21.7	9.1
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	118.5 PK			2.77 V	116	119.9	-1.4
2	*2462.00	116.2 AV			2.77 V	116	117.6	-1.4
3	2488.70	59.4 PK	74.0	-14.6	2.77 V	116	60.7	-1.3
4	2488.70	53.0 AV	54.0	-1.0	2.77 V	116	54.3	-1.3
5	4924.00	55.4 PK	74.0	-18.6	2.34 V	301	52.1	3.3
6	4924.00	53.6 AV	54.0	-0.4	2.34 V	301	50.3	3.3
7	7386.00	43.0 PK	74.0	-31.0	1.27 V	342	33.9	9.1
8	7386.00	33.0 AV	54.0	-21.0	1.27 V	342	23.9	9.1

**REMARKS:**

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

# 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	2390.00	59.2 PK	74.0	-14.8	1.70 H	240	60.8	-1.6
2	2390.00	47.6 AV	54.0	-6.4	1.70 H	240	49.2	-1.6
3	*2412.00	109.6 PK			1.70 H	240	111.1	-1.5
4	*2412.00	99.3 AV			1.70 H	240	100.8	-1.5
5	4824.00	46.9 PK	74.0	-27.1	1.19 H	194	43.9	3.0
6	4824.00	35.5 AV	54.0	-18.5	1.19 H	194	32.5	3.0
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	65.3 PK	74.0	-8.7	2.62 V	329	66.9	-1.6
2	2390.00	53.6 AV	54.0	-0.4	2.62 V	329	55.2	-1.6
3	*2412.00	117.2 PK			2.62 V	329	118.7	-1.5
4	*2412.00	107.3 AV			2.62 V	329	108.8	-1.5
5	4824.00	49.1 PK	74.0	-24.9	1.51 V	349	46.1	3.0
6	4824.00	38.1 AV	54.0	-15.9	1.51 V	349	35.1	3.0

## REMARKS:

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

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

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	63.8 PK	74.0	-10.2	1.67 H	248	65.4	-1.6
2	2390.00	48.0 AV	54.0	-6.0	1.67 H	248	49.6	-1.6
3	*2437.00	114.5 PK			1.67 H	248	116.0	-1.5
4	*2437.00	105.1 AV			1.67 H	248	106.6	-1.5
5	2483.50	62.1 PK	74.0	-11.9	1.67 H	248	63.5	-1.4
6	2483.50	46.8 AV	54.0	-7.2	1.67 H	248	48.2	-1.4
7	4874.00	46.4 PK	74.0	-27.6	1.13 H	184	43.2	3.2
8	4874.00	35.2 AV	54.0	-18.8	1.13 H	184	32.0	3.2
9	7311.00	41.9 PK	74.0	-32.1	1.43 H	219	33.0	8.9
10	7311.00	30.8 AV	54.0	-23.2	1.43 H	219	21.9	8.9

**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	67.0 PK	74.0	-7.0	2.58 V	245	68.6	-1.6
2	2390.00	53.4 AV	54.0	-0.6	2.58 V	245	55.0	-1.6
3	*2437.00	122.1 PK			2.58 V	245	123.6	-1.5
4	*2437.00	113.1 AV			2.58 V	245	114.6	-1.5
5	2483.50	65.4 PK	74.0	-8.6	2.58 V	245	66.8	-1.4
6	2483.50	52.4 AV	54.0	-1.6	2.58 V	245	53.8	-1.4
7	4874.00	48.6 PK	74.0	-25.4	1.50 V	345	45.4	3.2
8	4874.00	37.8 AV	54.0	-16.2	1.50 V	345	34.6	3.2
9	7311.00	43.8 PK	74.0	-30.2	1.30 V	354	34.9	8.9
10	7311.00	33.6 AV	54.0	-20.4	1.30 V	354	24.7	8.9

**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
5. " \* ": Fundamental frequency.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	108.5 PK			1.68 H	246	109.9	-1.4
2	*2462.00	97.3 AV			1.68 H	246	98.7	-1.4
3	2483.50	63.2 PK	74.0	-10.8	1.68 H	246	64.6	-1.4
4	2483.50	47.3 AV	54.0	-6.7	1.68 H	246	48.7	-1.4
5	4924.00	46.2 PK	74.0	-27.8	1.13 H	187	42.9	3.3
6	4924.00	35.2 AV	54.0	-18.8	1.13 H	187	31.9	3.3
7	7386.00	42.4 PK	74.0	-31.6	1.47 H	232	33.3	9.1
8	7386.00	31.3 AV	54.0	-22.7	1.47 H	232	22.2	9.1
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	116.1 PK			1.01 V	245	117.5	-1.4
2	*2462.00	105.3 AV			1.01 V	245	106.7	-1.4
3	2483.50	68.0 PK	74.0	-6.0	1.01 V	245	69.4	-1.4
4	2483.50	53.2 AV	54.0	-0.8	1.01 V	245	54.6	-1.4
5	4924.00	49.1 PK	74.0	-24.9	1.46 V	343	45.8	3.3
6	4924.00	38.2 AV	54.0	-15.8	1.46 V	343	34.9	3.3
7	7386.00	43.7 PK	74.0	-30.3	1.30 V	352	34.6	9.1
8	7386.00	33.3 AV	54.0	-20.7	1.30 V	352	24.2	9.1

**REMARKS:**

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

# 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	2390.00	54.2 PK	74.0	-19.8	1.66 H	250	55.8	-1.6
2	2390.00	48.4 AV	54.0	-5.6	1.66 H	250	50.0	-1.6
3	*2412.00	109.4 PK			1.66 H	250	110.9	-1.5
4	*2412.00	97.7 AV			1.66 H	250	99.2	-1.5
5	4824.00	46.3 PK	74.0	-27.7	1.08 H	186	43.3	3.0
6	4824.00	35.5 AV	54.0	-18.5	1.08 H	186	32.5	3.0
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	67.6 PK	74.0	-6.4	1.83 V	327	69.2	-1.6
2	2390.00	53.9 AV	54.0	-0.1	1.83 V	327	55.5	-1.6
3	*2412.00	117.0 PK			1.83 V	327	118.5	-1.5
4	*2412.00	105.7 AV			1.83 V	327	107.2	-1.5
5	4824.00	48.7 PK	74.0	-25.3	1.59 V	356	45.7	3.0
6	4824.00	37.9 AV	54.0	-16.1	1.59 V	356	34.9	3.0

## REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	54.7 PK	74.0	-19.3	1.72 H	266	56.3	-1.6
2	2390.00	42.1 AV	54.0	-11.9	1.72 H	266	43.7	-1.6
3	*2437.00	113.7 PK			1.72 H	266	115.2	-1.5
4	*2437.00	102.5 AV			1.72 H	266	104.0	-1.5
5	2483.50	58.8 PK	74.0	-15.2	1.72 H	266	60.2	-1.4
6	2483.50	48.3 AV	54.0	-5.7	1.72 H	266	49.7	-1.4
7	4874.00	46.3 PK	74.0	-27.7	1.12 H	176	43.1	3.2
8	4874.00	35.3 AV	54.0	-18.7	1.12 H	176	32.1	3.2
9	7311.00	41.9 PK	74.0	-32.1	1.38 H	208	33.0	8.9
10	7311.00	30.7 AV	54.0	-23.3	1.38 H	208	21.8	8.9

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	58.0 PK	74.0	-16.0	3.47 V	100	59.6	-1.6
2	2390.00	47.1 AV	54.0	-6.9	3.47 V	100	48.7	-1.6
3	*2437.00	121.3 PK			3.47 V	100	122.8	-1.5
4	*2437.00	110.4 AV			3.47 V	100	111.9	-1.5
5	2483.50	65.4 PK	74.0	-8.6	3.47 V	100	66.8	-1.4
6	<b>2483.50</b>	<b>53.9 AV</b>	<b>54.0</b>	<b>-0.1</b>	<b>3.47 V</b>	<b>100</b>	<b>55.3</b>	<b>-1.4</b>
7	4874.00	48.3 PK	74.0	-25.7	1.54 V	352	45.1	3.2
8	4874.00	37.7 AV	54.0	-16.3	1.54 V	352	34.5	3.2
9	7311.00	43.4 PK	74.0	-30.6	1.30 V	360	34.5	8.9
10	7311.00	33.4 AV	54.0	-20.6	1.30 V	360	24.5	8.9

#### 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
5. " \* ": Fundamental frequency.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	109.9 PK			1.61 H	256	111.3	-1.4
2	*2462.00	97.9 AV			1.61 H	256	99.3	-1.4
3	2485.00	58.5 PK	74.0	-15.5	1.61 H	256	59.9	-1.4
4	2485.00	47.4 AV	54.0	-6.6	1.61 H	256	48.8	-1.4
5	4924.00	46.7 PK	74.0	-27.3	1.12 H	191	43.4	3.3
6	4924.00	35.4 AV	54.0	-18.6	1.12 H	191	32.1	3.3
7	7386.00	42.1 PK	74.0	-31.9	1.42 H	217	33.0	9.1
8	7386.00	30.8 AV	54.0	-23.2	1.42 H	217	21.7	9.1
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	117.6 PK			2.79 V	106	119.0	-1.4
2	*2462.00	105.9 AV			2.79 V	106	107.3	-1.4
3	2485.00	67.5 PK	74.0	-6.5	2.79 V	106	68.9	-1.4
4	2485.00	53.5 AV	54.0	-0.5	2.79 V	106	54.9	-1.4
5	4924.00	48.3 PK	74.0	-25.7	1.49 V	360	45.0	3.3
6	4924.00	37.8 AV	54.0	-16.2	1.49 V	360	34.5	3.3
7	7386.00	43.2 PK	74.0	-30.8	1.32 V	360	34.1	9.1
8	7386.00	33.1 AV	54.0	-20.9	1.32 V	360	24.0	9.1

**REMARKS:**

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



# 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	2390.00	59.2 PK	74.0	-14.8	1.62 H	267	60.8	-1.6
2	2390.00	48.1 AV	54.0	-5.9	1.62 H	267	49.7	-1.6
3	*2422.00	105.2 PK			1.62 H	267	106.8	-1.6
4	*2422.00	94.6 AV			1.62 H	267	96.2	-1.6
5	4844.00	46.2 PK	74.0	-27.8	1.16 H	198	43.1	3.1
6	4844.00	34.9 AV	54.0	-19.1	1.16 H	198	31.8	3.1
7	7266.00	41.8 PK	74.0	-32.2	1.41 H	214	32.9	8.9
8	7266.00	30.5 AV	54.0	-23.5	1.41 H	214	21.6	8.9
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	65.9 PK	74.0	-8.1	2.72 V	94	67.5	-1.6
2	2390.00	53.7 AV	54.0	-0.3	2.72 V	94	55.3	-1.6
3	*2422.00	112.6 PK			2.72 V	94	114.2	-1.6
4	*2422.00	102.5 AV			2.72 V	94	104.1	-1.6
5	4844.00	47.8 PK	74.0	-26.2	1.58 V	357	44.7	3.1
6	4844.00	37.4 AV	54.0	-16.6	1.58 V	357	34.3	3.1
7	7266.00	43.2 PK	74.0	-30.8	1.36 V	360	34.3	8.9
8	7266.00	32.9 AV	54.0	-21.1	1.36 V	360	24.0	8.9

## 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
5. " \* ": Fundamental frequency.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	51.7 PK	74.0	-22.3	1.57 H	245	53.3	-1.6
2	2390.00	40.5 AV	54.0	-13.5	1.57 H	245	42.1	-1.6
3	*2437.00	105.4 PK			1.57 H	245	106.9	-1.5
4	*2437.00	95.3 AV			1.57 H	245	96.8	-1.5
5	2483.50	59.0 PK	74.0	-15.0	1.57 H	245	60.4	-1.4
6	2483.50	47.9 AV	54.0	-6.1	1.57 H	245	49.3	-1.4
7	4874.00	46.6 PK	74.0	-27.4	1.20 H	212	43.4	3.2
8	4874.00	35.2 AV	54.0	-18.8	1.20 H	212	32.0	3.2
9	7311.00	42.4 PK	74.0	-31.6	1.46 H	216	33.5	8.9
10	7311.00	30.9 AV	54.0	-23.1	1.46 H	216	22.0	8.9

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	58.5 PK	74.0	-15.5	2.56 V	93	60.1	-1.6
2	2390.00	46.3 AV	54.0	-7.7	2.56 V	93	47.9	-1.6
3	*2437.00	113.0 PK			2.56 V	93	114.5	-1.5
4	*2437.00	103.2 AV			2.56 V	93	104.7	-1.5
5	2483.50	66.8 PK	74.0	-7.2	2.56 V	93	68.2	-1.4
6	2483.50	53.6 AV	54.0	-0.4	2.56 V	93	55.0	-1.4
7	4874.00	48.1 PK	74.0	-25.9	1.56 V	360	44.9	3.2
8	4874.00	37.6 AV	54.0	-16.4	1.56 V	360	34.4	3.2
9	7311.00	43.4 PK	74.0	-30.6	1.32 V	360	34.5	8.9
10	7311.00	33.2 AV	54.0	-20.8	1.32 V	360	24.3	8.9

**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
5. " \* ": Fundamental frequency.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2452.00	105.8 PK			1.64 H	268	107.3	-1.5
2	*2452.00	94.8 AV			1.64 H	268	96.3	-1.5
3	2495.20	58.4 PK	74.0	-15.6	1.64 H	268	59.7	-1.3
4	2495.20	47.2 AV	54.0	-6.8	1.64 H	268	48.5	-1.3
5	4904.00	46.8 PK	74.0	-27.2	1.20 H	227	43.6	3.2
6	4904.00	35.6 AV	54.0	-18.4	1.20 H	227	32.4	3.2
7	7356.00	42.4 PK	74.0	-31.6	1.47 H	227	33.3	9.1
8	7356.00	31.2 AV	54.0	-22.8	1.47 H	227	22.1	9.1
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2452.00	113.4 PK			1.10 V	251	114.9	-1.5
2	*2452.00	102.5 AV			1.10 V	251	104.0	-1.5
3	2495.20	67.2 PK	74.0	-6.8	1.10 V	251	68.5	-1.3
4	2495.20	53.5 AV	54.0	-0.5	1.10 V	251	54.8	-1.3
5	4904.00	48.2 PK	74.0	-25.8	1.53 V	360	45.0	3.2
6	4904.00	37.7 AV	54.0	-16.3	1.53 V	360	34.5	3.2
7	7356.00	43.7 PK	74.0	-30.3	1.32 V	360	34.6	9.1
8	7356.00	33.4 AV	54.0	-20.6	1.32 V	360	24.3	9.1

**REMARKS:**

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

# Below 1GHz Data:

## 802.11g

<b>CHANNEL</b>	TX Channel 6	<b>DETECTOR FUNCTION</b>	Quasi-Peak (QP)
<b>FREQUENCY RANGE</b>	9kHz ~ 1GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	95.31	36.1 QP	43.5	-7.4	2.00 H	143	49.5	-13.4
2	250.70	38.5 QP	46.0	-7.5	1.50 H	225	48.0	-9.5
3	281.18	37.0 QP	46.0	-9.0	1.15 H	205	45.0	-8.0
4	415.70	34.5 QP	46.0	-11.5	1.50 H	243	39.2	-4.7
5	499.96	35.2 QP	46.0	-10.8	2.00 H	174	37.9	-2.7
6	665.45	28.8 QP	46.0	-17.2	1.43 H	221	28.3	0.5
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	37.50	33.6 QP	40.0	-6.4	1.00 V	333	42.7	-9.1
2	65.24	35.7 QP	40.0	-4.3	1.00 V	214	45.6	-9.9
3	110.15	34.8 QP	43.5	-8.7	1.00 V	224	46.0	-11.2
4	255.45	32.4 QP	46.0	-13.6	1.50 V	138	41.7	-9.3
5	500.01	33.7 QP	46.0	-12.3	1.50 V	318	36.3	-2.6
6	941.22	31.0 QP	46.0	-15.0	2.00 V	247	26.3	4.7

### REMARKS:

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

#### 4.1.8 Test Results (Mode 2)

##### Above 1GHz Data:

##### 802.11b

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2385.30	54.4 PK	74.0	-19.6	1.00 H	91	56.0	-1.6
2	2385.30	46.3 AV	54.0	-7.7	1.00 H	91	47.9	-1.6
3	*2412.00	105.7 PK			1.00 H	91	107.2	-1.5
4	*2412.00	102.6 AV			1.00 H	91	104.1	-1.5
5	4824.00	37.6 PK	74.0	-36.4	1.53 H	213	34.6	3.0
6	4824.00	35.1 AV	54.0	-18.9	1.53 H	213	32.1	3.0
7	12060.00	48.2 PK	74.0	-25.8	1.00 H	91	34.4	13.8
8	12060.00	41.3 AV	54.0	-12.7	1.00 H	91	27.5	13.8
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2385.30	60.3 PK	74.0	-13.7	3.17 V	241	61.9	-1.6
2	2385.30	53.4 AV	54.0	-0.6	3.17 V	241	55.0	-1.6
3	*2412.00	115.7 PK			3.17 V	241	117.2	-1.5
4	*2412.00	112.8 AV			3.17 V	241	114.3	-1.5
5	4824.00	48.5 PK	74.0	-25.5	2.48 V	277	45.5	3.0
6	4824.00	46.6 AV	54.0	-7.4	2.48 V	277	43.6	3.0
7	12060.00	50.1 PK	74.0	-23.9	2.00 V	317	36.3	13.8
8	12060.00	43.0 AV	54.0	-11.0	2.00 V	317	29.2	13.8

#### REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	54.5 PK	74.0	-19.5	1.05 H	108	56.1	-1.6
2	2390.00	43.2 AV	54.0	-10.8	1.05 H	108	44.8	-1.6
3	*2437.00	109.0 PK			1.05 H	108	110.5	-1.5
4	*2437.00	107.0 AV			1.05 H	108	108.5	-1.5
5	2483.50	57.6 PK	74.0	-16.4	1.05 H	108	59.0	-1.4
6	2483.50	44.7 AV	54.0	-9.3	1.05 H	108	46.1	-1.4
7	4874.00	47.5 PK	74.0	-26.5	1.61 H	214	44.3	3.2
8	4874.00	42.4 AV	54.0	-11.6	1.61 H	214	39.2	3.2
9	7311.00	43.7 PK	74.0	-30.3	1.75 H	211	34.8	8.9
10	7311.00	30.8 AV	54.0	-23.2	1.75 H	211	21.9	8.9
11	12183.00	50.5 PK	74.0	-23.5	2.11 H	175	37.0	13.5
12	12183.00	46.2 AV	54.0	-7.8	2.11 H	175	32.7	13.5

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	56.6 PK	74.0	-17.4	3.38 V	234	58.2	-1.6
2	2390.00	45.5 AV	54.0	-8.5	3.38 V	234	47.1	-1.6
3	*2437.00	119.4 PK			3.38 V	234	120.9	-1.5
4	*2437.00	117.0 AV			3.38 V	234	118.5	-1.5
5	2483.50	59.4 PK	74.0	-14.6	3.38 V	234	60.8	-1.4
6	2483.50	46.8 AV	54.0	-7.2	3.38 V	234	48.2	-1.4
7	4874.00	56.8 PK	74.0	-17.2	2.71 V	283	53.6	3.2
8	4874.00	53.5 AV	54.0	-0.5	2.71 V	283	50.3	3.2
9	7311.00	44.8 PK	74.0	-29.2	2.42 V	318	35.9	8.9
10	7311.00	34.9 AV	54.0	-19.1	2.42 V	318	26.0	8.9
11	12183.00	56.9 PK	74.0	-17.1	1.97 V	139	43.4	13.5
12	12183.00	53.0 AV	54.0	-1.0	1.97 V	139	39.5	13.5

#### REMARKS:

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

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

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	108.7 PK			1.00 H	95	110.1	-1.4
2	*2462.00	106.4 AV			1.00 H	95	107.8	-1.4
3	2483.50	56.7 PK	74.0	-17.3	1.00 H	95	58.1	-1.4
4	2483.50	46.3 AV	54.0	-7.7	1.00 H	95	47.7	-1.4
5	4924.00	41.5 PK	74.0	-32.5	1.55 H	204	38.2	3.3
6	4924.00	38.1 AV	54.0	-15.9	1.55 H	204	34.8	3.3
7	7386.00	42.8 PK	74.0	-31.2	1.78 H	214	33.7	9.1
8	7386.00	29.6 AV	54.0	-24.4	1.78 H	214	20.5	9.1
9	12310.00	48.1 PK	74.0	-25.9	1.96 H	238	34.5	13.6
10	12310.00	41.4 AV	54.0	-12.6	1.96 H	238	27.8	13.6

**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	118.5 PK			2.79 V	224	119.9	-1.4
2	*2462.00	116.1 AV			2.79 V	224	117.5	-1.4
3	2483.50	62.4 PK	74.0	-11.6	2.79 V	224	63.8	-1.4
4	2483.50	53.0 AV	54.0	-1.0	2.79 V	224	54.4	-1.4
5	4924.00	50.9 PK	74.0	-23.1	2.88 V	304	47.6	3.3
6	4924.00	49.3 AV	54.0	-4.7	2.88 V	304	46.0	3.3
7	7386.00	43.4 PK	74.0	-30.6	2.45 V	320	34.3	9.1
8	7386.00	33.1 AV	54.0	-20.9	2.45 V	320	24.0	9.1
9	12310.00	51.0 PK	74.0	-23.0	2.13 V	26	37.4	13.6
10	12310.00	43.0 AV	54.0	-11.0	2.13 V	26	29.4	13.6

**REMARKS:**

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

# 802.11g

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	64.8 PK	74.0	-9.2	1.23 H	93	66.4	-1.6
2	2390.00	44.4 AV	54.0	-9.6	1.23 H	93	46.0	-1.6
3	*2412.00	110.8 PK			1.23 H	93	112.3	-1.5
4	*2412.00	99.2 AV			1.23 H	93	100.7	-1.5
5	4824.00	41.8 PK	74.0	-32.2	1.17 H	321	38.8	3.0
6	4824.00	29.6 AV	54.0	-24.4	1.17 H	321	26.6	3.0
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	66.7 PK	74.0	-7.3	2.86 V	106	68.3	-1.6
2	2390.00	53.3 AV	54.0	-0.7	2.86 V	106	54.9	-1.6
3	*2412.00	117.9 PK			2.86 V	106	119.4	-1.5
4	*2412.00	107.9 AV			2.86 V	106	109.4	-1.5
5	4824.00	50.9 PK	74.0	-23.1	2.36 V	360	47.9	3.0
6	4824.00	37.8 AV	54.0	-16.2	2.36 V	360	34.8	3.0

## REMARKS:

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



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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	56.1 PK	74.0	-17.9	1.24 H	94	57.7	-1.6
2	2390.00	44.6 AV	54.0	-9.4	1.24 H	94	46.2	-1.6
3	*2437.00	115.0 PK			1.24 H	94	116.5	-1.5
4	*2437.00	104.6 AV			1.24 H	94	106.1	-1.5
5	2483.50	57.5 PK	74.0	-16.5	1.24 H	94	58.9	-1.4
6	2483.50	43.3 AV	54.0	-10.7	1.24 H	94	44.7	-1.4
7	4874.00	42.1 PK	74.0	-31.9	1.14 H	328	38.9	3.2
8	4874.00	30.2 AV	54.0	-23.8	1.14 H	328	27.0	3.2
9	7311.00	42.3 PK	74.0	-31.7	2.14 H	178	33.4	8.9
10	7311.00	30.3 AV	54.0	-23.7	2.14 H	178	21.4	8.9

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	68.5 PK	74.0	-5.5	3.17 V	111	70.1	-1.6
2	2390.00	53.6 AV	54.0	-0.4	3.17 V	111	55.2	-1.6
3	*2437.00	122.7 PK			3.17 V	111	124.2	-1.5
4	*2437.00	113.5 AV			3.17 V	111	115.0	-1.5
5	2483.50	68.4 PK	74.0	-5.6	3.17 V	111	69.8	-1.4
6	2483.50	52.2 AV	54.0	-1.8	3.17 V	111	53.6	-1.4
7	4874.00	51.2 PK	74.0	-22.8	2.40 V	360	48.0	3.2
8	4874.00	38.1 AV	54.0	-15.9	2.40 V	360	34.9	3.2
9	7311.00	43.2 PK	74.0	-30.8	1.75 V	213	34.3	8.9
10	7311.00	32.1 AV	54.0	-21.9	1.75 V	213	23.2	8.9

#### 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
5. " \* ": Fundamental frequency.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	109.7 PK			1.26 H	105	111.1	-1.4
2	*2462.00	97.3 AV			1.26 H	105	98.7	-1.4
3	2483.50	55.4 PK	74.0	-18.6	1.26 H	105	56.8	-1.4
4	2483.50	44.3 AV	54.0	-9.7	1.26 H	105	45.7	-1.4
5	4924.00	42.2 PK	74.0	-31.8	1.19 H	330	38.9	3.3
6	4924.00	30.0 AV	54.0	-24.0	1.19 H	330	26.7	3.3
7	7386.00	42.1 PK	74.0	-31.9	2.11 H	182	33.0	9.1
8	7386.00	30.1 AV	54.0	-23.9	2.11 H	182	21.0	9.1
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	116.8 PK			2.45 V	117	118.2	-1.4
2	*2462.00	105.9 AV			2.45 V	117	107.3	-1.4
3	2483.50	66.4 PK	74.0	-7.6	2.45 V	117	67.8	-1.4
4	2483.50	53.3 AV	54.0	-0.7	2.45 V	117	54.7	-1.4
5	4924.00	51.0 PK	74.0	-23.0	2.36 V	360	47.7	3.3
6	4924.00	37.9 AV	54.0	-16.1	2.36 V	360	34.6	3.3
7	7386.00	42.5 PK	74.0	-31.5	1.77 V	211	33.4	9.1
8	7386.00	31.6 AV	54.0	-22.4	1.77 V	211	22.5	9.1

**REMARKS:**

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

### 802.11n (HT20)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2388.00	65.0 PK	74.0	-9.0	1.20 H	99	66.6	-1.6
2	2388.00	44.4 AV	54.0	-9.6	1.20 H	99	46.0	-1.6
3	*2412.00	110.7 PK			1.20 H	99	112.2	-1.5
4	*2412.00	99.1 AV			1.20 H	99	100.6	-1.5
5	4824.00	42.1 PK	74.0	-31.9	1.12 H	316	39.1	3.0
6	4824.00	29.7 AV	54.0	-24.3	1.12 H	316	26.7	3.0
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2388.00	64.1 PK	74.0	-9.9	2.65 V	98	65.7	-1.6
2	2388.00	53.3 AV	54.0	-0.7	2.65 V	98	54.9	-1.6
3	*2412.00	117.4 PK			2.65 V	98	118.9	-1.5
4	*2412.00	106.2 AV			2.65 V	98	107.7	-1.5
5	4824.00	50.8 PK	74.0	-23.2	2.34 V	360	47.8	3.0
6	4824.00	37.5 AV	54.0	-16.5	2.34 V	360	34.5	3.0

#### REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	55.9 PK	74.0	-18.1	1.25 H	79	57.5	-1.6
2	2390.00	44.4 AV	54.0	-9.6	1.25 H	79	46.0	-1.6
3	*2437.00	114.5 PK			1.25 H	79	116.0	-1.5
4	*2437.00	104.2 AV			1.25 H	79	105.7	-1.5
5	2483.50	57.7 PK	74.0	-16.3	1.25 H	79	59.1	-1.4
6	2483.50	43.4 AV	54.0	-10.6	1.25 H	79	44.8	-1.4
7	4874.00	41.9 PK	74.0	-32.1	1.18 H	314	38.7	3.2
8	4874.00	29.8 AV	54.0	-24.2	1.18 H	314	26.6	3.2
9	7311.00	42.4 PK	74.0	-31.6	2.10 H	174	33.5	8.9
10	7311.00	30.1 AV	54.0	-23.9	2.10 H	174	21.2	8.9

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	67.0 PK	74.0	-7.0	2.91 V	327	68.6	-1.6
2	2390.00	52.9 AV	54.0	-1.1	2.91 V	327	54.5	-1.6
3	*2437.00	121.5 PK			2.91 V	327	123.0	-1.5
4	*2437.00	110.8 AV			2.91 V	327	112.3	-1.5
5	2483.50	64.6 PK	74.0	-9.4	2.91 V	327	66.0	-1.4
6	2483.50	48.7 AV	54.0	-5.3	2.91 V	327	50.1	-1.4
7	4874.00	50.5 PK	74.0	-23.5	2.34 V	360	47.3	3.2
8	4874.00	37.7 AV	54.0	-16.3	2.34 V	360	34.5	3.2
9	7311.00	43.8 PK	74.0	-30.2	1.70 V	224	34.9	8.9
10	7311.00	32.5 AV	54.0	-21.5	1.70 V	224	23.6	8.9

#### 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
5. " \* ": Fundamental frequency.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	110.2 PK			1.21 H	103	111.6	-1.4
2	*2462.00	97.8 AV			1.21 H	103	99.2	-1.4
3	2485.00	55.8 PK	74.0	-18.2	1.21 H	103	57.2	-1.4
4	2485.00	44.6 AV	54.0	-9.4	1.21 H	103	46.0	-1.4
5	4924.00	41.8 PK	74.0	-32.2	1.14 H	334	38.5	3.3
6	4924.00	29.6 AV	54.0	-24.4	1.14 H	334	26.3	3.3
7	7386.00	43.8 PK	74.0	-30.2	2.20 H	159	34.7	9.1
8	7386.00	30.6 AV	54.0	-23.4	2.20 H	159	21.5	9.1
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	117.9 PK			2.54 V	108	119.3	-1.4
2	*2462.00	106.4 AV			2.54 V	108	107.8	-1.4
3	2485.00	67.5 PK	74.0	-6.5	2.54 V	108	68.9	-1.4
4	2485.00	53.4 AV	54.0	-0.6	2.54 V	108	54.8	-1.4
5	4924.00	50.6 PK	74.0	-23.4	2.35 V	360	47.3	3.3
6	4924.00	37.6 AV	54.0	-16.4	2.35 V	360	34.3	3.3
7	7386.00	44.2 PK	74.0	-29.8	1.73 V	208	35.1	9.1
8	7386.00	32.7 AV	54.0	-21.3	1.73 V	208	23.6	9.1

**REMARKS:**

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

# 802.11n (HT40)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	56.4 PK	74.0	-17.6	1.24 H	94	58.0	-1.6
2	2390.00	44.7 AV	54.0	-9.3	1.24 H	94	46.3	-1.6
3	*2422.00	104.8 PK			1.24 H	94	106.4	-1.6
4	*2422.00	93.2 AV			1.24 H	94	94.8	-1.6
5	4844.00	42.4 PK	74.0	-31.6	1.17 H	331	39.3	3.1
6	4844.00	30.2 AV	54.0	-23.8	1.17 H	331	27.1	3.1
7	7266.00	43.8 PK	74.0	-30.2	2.21 H	173	34.9	8.9
8	7266.00	30.8 AV	54.0	-23.2	2.21 H	173	21.9	8.9
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	68.0 PK	74.0	-6.0	2.70 V	329	69.6	-1.6
2	2390.00	53.8 AV	54.0	-0.2	2.70 V	329	55.4	-1.6
3	*2422.00	111.7 PK			2.70 V	329	113.3	-1.6
4	*2422.00	102.0 AV			2.70 V	329	103.6	-1.6
5	4844.00	51.1 PK	74.0	-22.9	2.31 V	360	48.0	3.1
6	4844.00	38.1 AV	54.0	-15.9	2.31 V	360	35.0	3.1
7	7266.00	44.2 PK	74.0	-29.8	1.70 V	242	35.3	8.9
8	7266.00	33.0 AV	54.0	-21.0	1.70 V	242	24.1	8.9

## REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	51.3 PK	74.0	-22.7	1.23 H	118	52.9	-1.6
2	2390.00	38.3 AV	54.0	-15.7	1.23 H	118	39.9	-1.6
3	*2437.00	106.8 PK			1.23 H	118	108.3	-1.5
4	*2437.00	94.7 AV			1.23 H	118	96.2	-1.5
5	2483.50	57.2 PK	74.0	-16.8	1.23 H	118	58.6	-1.4
6	2483.50	44.8 AV	54.0	-9.2	1.23 H	118	46.2	-1.4
7	4874.00	42.5 PK	74.0	-31.5	1.13 H	300	39.3	3.2
8	4874.00	30.3 AV	54.0	-23.7	1.13 H	300	27.1	3.2
9	7311.00	42.0 PK	74.0	-32.0	2.07 H	180	33.1	8.9
10	7311.00	29.6 AV	54.0	-24.4	2.07 H	180	20.7	8.9

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	62.5 PK	74.0	-11.5	2.80 V	200	64.1	-1.6
2	2390.00	47.6 AV	54.0	-6.4	2.80 V	200	49.2	-1.6
3	*2437.00	113.6 PK			2.80 V	200	115.1	-1.5
4	*2437.00	103.6 AV			2.80 V	200	105.1	-1.5
5	2483.50	68.6 PK	74.0	-5.4	2.80 V	200	70.0	-1.4
6	<b>2483.50</b>	<b>53.9 AV</b>	<b>54.0</b>	<b>-0.1</b>	<b>2.80 V</b>	<b>200</b>	<b>55.3</b>	<b>-1.4</b>
7	4874.00	50.3 PK	74.0	-23.7	2.39 V	360	47.1	3.2
8	4874.00	37.7 AV	54.0	-16.3	2.39 V	360	34.5	3.2
9	7311.00	43.9 PK	74.0	-30.1	1.76 V	212	35.0	8.9
10	7311.00	32.6 AV	54.0	-21.4	1.76 V	212	23.7	8.9

#### 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
5. " \* ": Fundamental frequency.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2452.00	107.3 PK			1.17 H	114	108.8	-1.5
2	*2452.00	94.6 AV			1.17 H	114	96.1	-1.5
3	2496.20	58.9 PK	74.0	-15.1	1.17 H	114	60.2	-1.3
4	2496.20	44.8 AV	54.0	-9.2	1.17 H	114	46.1	-1.3
5	4904.00	41.8 PK	74.0	-32.2	1.11 H	346	38.6	3.2
6	4904.00	29.7 AV	54.0	-24.3	1.11 H	346	26.5	3.2
7	7356.00	44.0 PK	74.0	-30.0	2.19 H	173	34.9	9.1
8	7356.00	31.0 AV	54.0	-23.0	2.19 H	173	21.9	9.1
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2452.00	114.0 PK			3.49 V	100	115.5	-1.5
2	*2452.00	103.5 AV			3.49 V	100	105.0	-1.5
3	2496.20	71.2 PK	74.0	-2.8	3.49 V	100	72.5	-1.3
4	2496.20	53.9 AV	54.0	-0.1	3.49 V	100	55.2	-1.3
5	4904.00	50.6 PK	74.0	-23.4	2.28 V	360	47.4	3.2
6	4904.00	37.9 AV	54.0	-16.1	2.28 V	360	34.7	3.2
7	7356.00	44.2 PK	74.0	-29.8	1.67 V	239	35.1	9.1
8	7356.00	32.9 AV	54.0	-21.1	1.67 V	239	23.8	9.1

**REMARKS:**

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



#### 4.1.9 Test Results (Mode 3)

##### Above 1GHz Data:

##### 802.11b

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	54.3 PK	74.0	-19.7	1.05 H	83	55.9	-1.6
2	2390.00	48.2 AV	54.0	-5.8	1.05 H	83	49.8	-1.6
3	*2412.00	109.5 PK			1.05 H	83	111.0	-1.5
4	*2412.00	108.1 AV			1.05 H	83	109.6	-1.5
5	4824.00	44.0 PK	74.0	-30.0	1.00 H	319	41.0	3.0
6	4824.00	40.3 AV	54.0	-13.7	1.00 H	319	37.3	3.0
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	60.0 PK	74.0	-14.0	1.03 V	304	61.6	-1.6
2	2390.00	53.1 AV	54.0	-0.9	1.03 V	304	54.7	-1.6
3	*2412.00	115.6 PK			1.03 V	304	117.1	-1.5
4	*2412.00	113.2 AV			1.03 V	304	114.7	-1.5
5	4824.00	49.8 PK	74.0	-24.2	1.50 V	360	46.8	3.0
6	4824.00	47.8 AV	54.0	-6.2	1.50 V	360	44.8	3.0

##### REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	111.7 PK			1.01 H	97	113.2	-1.5
2	*2437.00	109.3 AV			1.01 H	97	110.8	-1.5
3	4874.00	44.3 PK	74.0	-29.7	1.00 H	327	41.1	3.2
4	4874.00	40.9 AV	54.0	-13.1	1.00 H	327	37.7	3.2
5	7311.00	43.1 PK	74.0	-30.9	1.43 H	214	34.2	8.9
6	7311.00	30.6 AV	54.0	-23.4	1.43 H	214	21.7	8.9
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	*2437.00	117.1 PK			3.48 V	302	118.6	-1.5
2	*2437.00	114.8 AV			3.48 V	302	116.3	-1.5
3	4874.00	50.1 PK	74.0	-23.9	1.45 V	352	46.9	3.2
4	4874.00	48.1 AV	54.0	-5.9	1.45 V	352	44.9	3.2
5	7311.00	44.6 PK	74.0	-29.4	2.32 V	306	35.7	8.9
6	7311.00	35.9 AV	54.0	-18.1	2.32 V	306	27.0	8.9

**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
5. " \* ": Fundamental frequency.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	109.3 PK			1.02 H	112	110.7	-1.4
2	*2462.00	108.2 AV			1.02 H	112	109.6	-1.4
3	2483.50	52.4 PK	74.0	-21.6	1.02 H	112	53.8	-1.4
4	2483.50	48.1 AV	54.0	-5.9	1.02 H	112	49.5	-1.4
5	4924.00	43.1 PK	74.0	-30.9	1.00 H	343	39.8	3.3
6	4924.00	39.2 AV	54.0	-14.8	1.00 H	343	35.9	3.3
7	7386.00	42.3 PK	74.0	-31.7	1.48 H	215	33.2	9.1
8	7386.00	30.1 AV	54.0	-23.9	1.48 H	215	21.0	9.1
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	115.3 PK			1.62 V	229	116.7	-1.4
2	*2462.00	113.0 AV			1.62 V	229	114.4	-1.4
3	2483.50	58.3 PK	74.0	-15.7	1.62 V	229	59.7	-1.4
4	2483.50	53.2 AV	54.0	-0.8	1.62 V	229	54.6	-1.4
5	4924.00	49.3 PK	74.0	-24.7	1.44 V	360	46.0	3.3
6	4924.00	47.1 AV	54.0	-6.9	1.44 V	360	43.8	3.3
7	7386.00	43.5 PK	74.0	-30.5	2.37 V	297	34.4	9.1
8	7386.00	34.3 AV	54.0	-19.7	2.37 V	297	25.2	9.1

#### REMARKS:

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

# 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	2390.00	59.8 PK	74.0	-14.2	1.00 H	93	61.4	-1.6
2	2390.00	48.3 AV	54.0	-5.7	1.00 H	93	49.9	-1.6
3	*2412.00	110.4 PK			1.00 H	93	111.9	-1.5
4	*2412.00	98.7 AV			1.00 H	93	100.2	-1.5
5	4824.00	48.3 PK	74.0	-25.7	2.15 H	317	45.3	3.0
6	4824.00	36.4 AV	54.0	-17.6	2.15 H	317	33.4	3.0
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	65.7 PK	74.0	-8.3	2.59 V	313	67.3	-1.6
2	2390.00	53.2 AV	54.0	-0.8	2.59 V	313	54.8	-1.6
3	*2412.00	114.2 PK			2.59 V	313	115.7	-1.5
4	*2412.00	103.6 AV			2.59 V	313	105.1	-1.5
5	4824.00	50.0 PK	74.0	-24.0	2.38 V	311	47.0	3.0
6	4824.00	38.0 AV	54.0	-16.0	2.38 V	311	35.0	3.0

## REMARKS:

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

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

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	63.4 PK	74.0	-10.6	1.00 H	93	65.0	-1.6
2	2390.00	48.4 AV	54.0	-5.6	1.00 H	93	50.0	-1.6
3	*2437.00	115.2 PK			1.00 H	93	116.7	-1.5
4	*2437.00	104.8 AV			1.00 H	93	106.3	-1.5
5	2483.50	61.5 PK	74.0	-12.5	1.00 H	93	62.9	-1.4
6	2483.50	47.3 AV	54.0	-6.7	1.00 H	93	48.7	-1.4
7	4874.00	48.2 PK	74.0	-25.8	2.14 H	318	45.0	3.2
8	4874.00	36.1 AV	54.0	-17.9	2.14 H	318	32.9	3.2
9	7311.00	42.5 PK	74.0	-31.5	1.43 H	274	33.6	8.9
10	7311.00	29.3 AV	54.0	-24.7	1.43 H	274	20.4	8.9

**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	69.3 PK	74.0	-4.7	2.57 V	301	70.9	-1.6
2	2390.00	53.5 AV	54.0	-0.5	2.57 V	301	55.1	-1.6
3	*2437.00	119.9 PK			2.57 V	301	121.4	-1.5
4	*2437.00	109.6 AV			2.57 V	301	111.1	-1.5
5	2483.50	67.3 PK	74.0	-6.7	2.57 V	301	68.7	-1.4
6	2483.50	52.6 AV	54.0	-1.4	2.57 V	301	54.0	-1.4
7	4874.00	49.9 PK	74.0	-24.1	2.44 V	322	46.7	3.2
8	4874.00	38.0 AV	54.0	-16.0	2.44 V	322	34.8	3.2
9	7311.00	43.7 PK	74.0	-30.3	2.14 V	314	34.8	8.9
10	7311.00	30.4 AV	54.0	-23.6	2.14 V	314	21.5	8.9

**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
5. " \* ": Fundamental frequency.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	110.2 PK			1.01 H	89	111.6	-1.4
2	*2462.00	98.4 AV			1.01 H	89	99.8	-1.4
3	2483.50	62.4 PK	74.0	-11.6	1.01 H	89	63.8	-1.4
4	2483.50	48.7 AV	54.0	-5.3	1.01 H	89	50.1	-1.4
5	4924.00	48.1 PK	74.0	-25.9	2.09 H	318	44.8	3.3
6	4924.00	36.0 AV	54.0	-18.0	2.09 H	318	32.7	3.3
7	7386.00	42.6 PK	74.0	-31.4	1.40 H	274	33.5	9.1
8	7386.00	29.2 AV	54.0	-24.8	1.40 H	274	20.1	9.1
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	114.0 PK			2.54 V	318	115.4	-1.4
2	*2462.00	103.2 AV			2.54 V	318	104.6	-1.4
3	2483.50	68.3 PK	74.0	-5.7	2.54 V	318	69.7	-1.4
4	2483.50	53.9 AV	54.0	-0.1	2.54 V	318	55.3	-1.4
5	4924.00	50.2 PK	74.0	-23.8	2.42 V	319	46.9	3.3
6	4924.00	38.3 AV	54.0	-15.7	2.42 V	319	35.0	3.3
7	7386.00	44.2 PK	74.0	-29.8	2.15 V	329	35.1	9.1
8	7386.00	30.7 AV	54.0	-23.3	2.15 V	329	21.6	9.1

**REMARKS:**

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

### 802.11n (HT20)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	61.2 PK	74.0	-12.8	1.81 H	106	62.8	-1.6
2	2390.00	48.8 AV	54.0	-5.2	1.81 H	106	50.4	-1.6
3	*2412.00	112.4 PK			1.81 H	106	113.9	-1.5
4	*2412.00	100.2 AV			1.81 H	106	101.7	-1.5
5	4824.00	48.4 PK	74.0	-25.6	2.11 H	324	45.4	3.0
6	4824.00	36.5 AV	54.0	-17.5	2.11 H	324	33.5	3.0
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	65.3 PK	74.0	-8.7	2.62 V	89	66.9	-1.6
2	2390.00	53.7 AV	54.0	-0.3	2.62 V	89	55.3	-1.6
3	*2412.00	116.3 PK			2.62 V	89	117.8	-1.5
4	*2412.00	105.1 AV			2.62 V	89	106.6	-1.5
5	4824.00	49.8 PK	74.0	-24.2	2.39 V	299	46.8	3.0
6	4824.00	37.9 AV	54.0	-16.1	2.39 V	299	34.9	3.0

#### REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	116.4 PK			1.79 H	93	117.9	-1.5
2	*2437.00	105.8 AV			1.79 H	93	107.3	-1.5
3	4874.00	48.4 PK	74.0	-25.6	2.15 H	321	45.2	3.2
4	4874.00	36.1 AV	54.0	-17.9	2.15 H	321	32.9	3.2
5	7311.00	42.0 PK	74.0	-32.0	1.48 H	278	33.1	8.9
6	7311.00	28.9 AV	54.0	-25.1	1.48 H	278	20.0	8.9
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	*2437.00	120.2 PK			2.54 V	76	121.7	-1.5
2	*2437.00	110.6 AV			2.54 V	76	112.1	-1.5
3	4874.00	49.6 PK	74.0	-24.4	2.46 V	337	46.4	3.2
4	4874.00	37.6 AV	54.0	-16.4	2.46 V	337	34.4	3.2
5	7311.00	43.5 PK	74.0	-30.5	2.11 V	312	34.6	8.9
6	7311.00	30.4 AV	54.0	-23.6	2.11 V	312	21.5	8.9

**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
5. " \* ": Fundamental frequency.



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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	111.6 PK			1.80 H	90	113.0	-1.4
2	*2462.00	98.8 AV			1.80 H	90	100.2	-1.4
3	2483.50	62.2 PK	74.0	-11.8	1.80 H	90	63.6	-1.4
4	2483.50	48.3 AV	54.0	-5.7	1.80 H	90	49.7	-1.4
5	4924.00	48.7 PK	74.0	-25.3	2.14 H	303	45.4	3.3
6	4924.00	36.4 AV	54.0	-17.6	2.14 H	303	33.1	3.3
7	7386.00	43.0 PK	74.0	-31.0	1.35 H	274	33.9	9.1
8	7386.00	29.4 AV	54.0	-24.6	1.35 H	274	20.3	9.1
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	115.5 PK			2.72 V	94	116.9	-1.4
2	*2462.00	103.9 AV			2.72 V	94	105.3	-1.4
3	2483.50	66.4 PK	74.0	-7.6	2.72 V	94	67.8	-1.4
4	2483.50	53.7 AV	54.0	-0.3	2.72 V	94	55.1	-1.4
5	4924.00	50.0 PK	74.0	-24.0	2.43 V	304	46.7	3.3
6	4924.00	38.3 AV	54.0	-15.7	2.43 V	304	35.0	3.3
7	7386.00	44.6 PK	74.0	-29.4	2.17 V	319	35.5	9.1
8	7386.00	30.8 AV	54.0	-23.2	2.17 V	319	21.7	9.1

**REMARKS:**

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

# 802.11n (HT40)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	64.2 PK	74.0	-9.8	1.82 H	85	65.8	-1.6
2	2390.00	47.5 AV	54.0	-6.5	1.82 H	85	49.1	-1.6
3	*2422.00	102.3 PK			1.82 H	85	103.9	-1.6
4	*2422.00	93.2 AV			1.82 H	85	94.8	-1.6
5	4844.00	48.0 PK	74.0	-26.0	2.10 H	310	44.9	3.1
6	4844.00	36.1 AV	54.0	-17.9	2.10 H	310	33.0	3.1
7	7266.00	42.4 PK	74.0	-31.6	1.45 H	281	33.5	8.9
8	7266.00	28.9 AV	54.0	-25.1	1.45 H	281	20.0	8.9
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	68.1 PK	74.0	-5.9	2.84 V	303	69.7	-1.6
2	2390.00	52.7 AV	54.0	-1.3	2.84 V	303	54.3	-1.6
3	*2422.00	109.4 PK			2.84 V	303	111.0	-1.6
4	*2422.00	98.0 AV			2.84 V	303	99.6	-1.6
5	4844.00	50.5 PK	74.0	-23.5	2.48 V	310	47.4	3.1
6	4844.00	38.4 AV	54.0	-15.6	2.48 V	310	35.3	3.1
7	7266.00	44.0 PK	74.0	-30.0	2.12 V	331	35.1	8.9
8	7266.00	30.7 AV	54.0	-23.3	2.12 V	331	21.8	8.9

## 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
5. " \* ": Fundamental frequency.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	62.7 PK	74.0	-11.3	1.83 H	107	64.3	-1.6
2	2390.00	47.8 AV	54.0	-6.2	1.83 H	107	49.4	-1.6
3	*2437.00	106.6 PK			1.83 H	107	108.1	-1.5
4	*2437.00	96.8 AV			1.83 H	107	98.3	-1.5
5	2483.50	62.1 PK	74.0	-11.9	1.83 H	107	63.5	-1.4
6	2483.50	44.6 AV	54.0	-9.4	1.83 H	107	46.0	-1.4
7	4874.00	48.3 PK	74.0	-25.7	2.08 H	311	45.1	3.2
8	4874.00	36.3 AV	54.0	-17.7	2.08 H	311	33.1	3.2
9	7311.00	42.8 PK	74.0	-31.2	1.42 H	282	33.9	8.9
10	7311.00	30.2 AV	54.0	-23.8	1.42 H	282	21.3	8.9

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	66.6 PK	74.0	-7.4	2.77 V	103	68.2	-1.6
2	2390.00	52.9 AV	54.0	-1.1	2.77 V	103	54.5	-1.6
3	*2437.00	113.5 PK			2.77 V	103	115.0	-1.5
4	*2437.00	101.9 AV			2.77 V	103	103.4	-1.5
5	2483.50	66.3 PK	74.0	-7.7	2.77 V	103	67.7	-1.4
6	2483.50	49.7 AV	54.0	-4.3	2.77 V	103	51.1	-1.4
7	4874.00	50.8 PK	74.0	-23.2	2.51 V	323	47.6	3.2
8	4874.00	38.7 AV	54.0	-15.3	2.51 V	323	35.5	3.2
9	7311.00	44.3 PK	74.0	-29.7	2.13 V	335	35.4	8.9
10	7311.00	30.9 AV	54.0	-23.1	2.13 V	335	22.0	8.9

#### 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
5. " \* ": Fundamental frequency.

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

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2452.00	102.8 PK			1.82 H	92	104.3	-1.5
2	*2452.00	92.2 AV			1.82 H	92	93.7	-1.5
3	2483.50	63.6 PK	74.0	-10.4	1.82 H	92	65.0	-1.4
4	2483.50	48.5 AV	54.0	-5.5	1.82 H	92	49.9	-1.4
5	4904.00	47.7 PK	74.0	-26.3	2.14 H	295	44.5	3.2
6	4904.00	35.9 AV	54.0	-18.1	2.14 H	295	32.7	3.2
7	7356.00	42.1 PK	74.0	-31.9	1.45 H	281	33.0	9.1
8	7356.00	28.7 AV	54.0	-25.3	1.45 H	281	19.6	9.1

**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2452.00	109.3 PK			1.21 V	241	110.8	-1.5
2	*2452.00	97.6 AV			1.21 V	241	99.1	-1.5
3	2483.50	69.8 PK	74.0	-4.2	1.21 V	241	71.2	-1.4
4	2483.50	53.3 AV	54.0	-0.7	1.21 V	241	54.7	-1.4
5	4904.00	50.1 PK	74.0	-23.9	2.53 V	320	46.9	3.2
6	4904.00	38.1 AV	54.0	-15.9	2.53 V	320	34.9	3.2
7	7356.00	43.7 PK	74.0	-30.3	2.12 V	323	34.6	9.1
8	7356.00	30.3 AV	54.0	-23.7	2.12 V	323	21.2	9.1

**REMARKS:**

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

#### 4.1.10 Test Results (Mode 4)

##### Above 1GHz Data:

##### 802.11b

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	52.6 PK	74.0	-21.4	1.52 H	61	54.2	-1.6
2	2390.00	45.5 AV	54.0	-8.5	1.52 H	61	47.1	-1.6
3	*2412.00	105.7 PK			1.52 H	61	107.2	-1.5
4	*2412.00	101.7 AV			1.52 H	61	103.2	-1.5
5	4824.00	42.3 PK	74.0	-31.7	1.06 H	169	39.3	3.0
6	4824.00	39.5 AV	54.0	-14.5	1.06 H	169	36.5	3.0
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	60.4 PK	74.0	-13.6	1.20 V	336	62.0	-1.6
2	2390.00	53.4 AV	54.0	-0.6	1.20 V	336	55.0	-1.6
3	*2412.00	113.6 PK			1.20 V	336	115.1	-1.5
4	*2412.00	111.4 AV			1.20 V	336	112.9	-1.5
5	4824.00	43.6 PK	74.0	-30.4	2.60 V	212	40.6	3.0
6	4824.00	40.7 AV	54.0	-13.3	2.60 V	212	37.7	3.0

##### REMARKS:

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

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

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	48.5 PK	74.0	-25.5	1.46 H	76	50.1	-1.6
2	2390.00	40.7 AV	54.0	-13.3	1.46 H	76	42.3	-1.6
3	*2437.00	106.3 PK			1.46 H	76	107.8	-1.5
4	*2437.00	102.3 AV			1.46 H	76	103.8	-1.5
5	2483.50	49.3 PK	74.0	-24.7	1.46 H	76	50.7	-1.4
6	2483.50	38.7 AV	54.0	-15.3	1.46 H	76	40.1	-1.4
7	3667.00	35.7 PK	74.0	-38.3	1.74 H	318	34.9	0.8
8	3667.00	30.5 AV	54.0	-23.5	1.74 H	318	29.7	0.8
9	4874.00	45.4 PK	74.0	-28.6	1.09 H	158	42.2	3.2
10	4874.00	42.6 AV	54.0	-11.4	1.09 H	158	39.4	3.2
11	7311.00	41.6 PK	74.0	-32.4	1.43 H	211	32.7	8.9
12	7311.00	30.6 AV	54.0	-23.4	1.43 H	211	21.7	8.9
13	12184.00	47.5 PK	74.0	-26.5	1.65 H	274	34.0	13.5
14	12184.00	39.8 AV	54.0	-14.2	1.65 H	274	26.3	13.5

**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	56.6 PK	74.0	-17.4	3.99 V	325	58.2	-1.6
2	2390.00	48.6 AV	54.0	-5.4	3.99 V	325	50.2	-1.6
3	*2437.00	114.4 PK			3.99 V	325	115.9	-1.5
4	*2437.00	112.1 AV			3.99 V	325	113.6	-1.5
5	2483.50	57.3 PK	74.0	-16.7	3.99 V	325	58.7	-1.4
6	2483.50	46.6 AV	54.0	-7.4	3.99 V	325	48.0	-1.4
7	3667.00	39.5 PK	74.0	-34.5	2.70 V	182	38.7	0.8
8	3667.00	34.8 AV	54.0	-19.2	2.70 V	182	34.0	0.8
9	4874.00	47.2 PK	74.0	-26.8	2.72 V	332	44.0	3.2
10	4874.00	44.8 AV	54.0	-9.2	2.72 V	332	41.6	3.2
11	7311.00	43.0 PK	74.0	-31.0	1.23 V	328	34.1	8.9
12	7311.00	32.7 AV	54.0	-21.3	1.23 V	328	23.8	8.9
13	12184.00	50.4 PK	74.0	-23.6	1.85 V	188	36.9	13.5
14	12184.00	43.1 AV	54.0	-10.9	1.85 V	188	29.6	13.5

**REMARKS:**

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	104.4 PK			1.52 H	72	105.8	-1.4
2	*2462.00	100.1 AV			1.52 H	72	101.5	-1.4
3	2483.50	51.7 PK	74.0	-22.3	1.52 H	72	53.1	-1.4
4	2483.50	45.6 AV	54.0	-8.4	1.52 H	72	47.0	-1.4
5	4924.00	45.4 PK	74.0	-28.6	1.11 H	148	42.1	3.3
6	4924.00	42.7 AV	54.0	-11.3	1.11 H	148	39.4	3.3
7	7386.00	41.8 PK	74.0	-32.2	1.38 H	208	32.7	9.1
8	7386.00	30.7 AV	54.0	-23.3	1.38 H	208	21.6	9.1
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	112.5 PK			3.49 V	325	113.9	-1.4
2	*2462.00	110.2 AV			3.49 V	325	111.6	-1.4
3	2483.50	61.0 PK	74.0	-13.0	3.49 V	325	62.4	-1.4
4	2483.50	53.8 AV	54.0	-0.2	3.49 V	325	55.2	-1.4
5	4924.00	46.1 PK	74.0	-27.9	2.77 V	337	42.8	3.3
6	4924.00	43.6 AV	54.0	-10.4	2.77 V	337	40.3	3.3
7	7386.00	42.9 PK	74.0	-31.1	1.18 V	324	33.8	9.1
8	7386.00	32.9 AV	54.0	-21.1	1.18 V	324	23.8	9.1

**REMARKS:**

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

# 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	2390.00	54.8 PK	74.0	-19.2	1.21 H	51	56.4	-1.6
2	2390.00	44.5 AV	54.0	-9.5	1.21 H	51	46.1	-1.6
3	*2412.00	105.7 PK			1.21 H	51	107.2	-1.5
4	*2412.00	95.3 AV			1.21 H	51	96.8	-1.5
5	4824.00	36.2 PK	74.0	-37.8	1.09 H	142	33.2	3.0
6	4824.00	23.3 AV	54.0	-30.7	1.09 H	142	20.3	3.0
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	64.7 PK	74.0	-9.3	1.20 V	336	66.3	-1.6
2	2390.00	53.3 AV	54.0	-0.7	1.20 V	336	54.9	-1.6
3	*2412.00	111.3 PK			1.20 V	336	112.8	-1.5
4	*2412.00	100.0 AV			1.20 V	336	101.5	-1.5
5	4824.00	37.6 PK	74.0	-36.4	2.15 V	341	34.6	3.0
6	4824.00	24.7 AV	54.0	-29.3	2.15 V	341	21.7	3.0

## REMARKS:

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



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

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	55.7 PK	74.0	-18.3	1.21 H	63	57.3	-1.6
2	2390.00	41.3 AV	54.0	-12.7	1.21 H	63	42.9	-1.6
3	*2437.00	110.2 PK			1.21 H	63	111.7	-1.5
4	*2437.00	100.0 AV			1.21 H	63	101.5	-1.5
5	2483.50	58.9 PK	74.0	-15.1	1.21 H	63	60.3	-1.4
6	2483.50	43.2 AV	54.0	-10.8	1.21 H	63	44.6	-1.4
7	4874.00	36.9 PK	74.0	-37.1	1.13 H	145	33.7	3.2
8	4874.00	23.8 AV	54.0	-30.2	1.13 H	145	20.6	3.2
9	7311.00	41.7 PK	74.0	-32.3	1.32 H	212	32.8	8.9
10	7311.00	28.7 AV	54.0	-25.3	1.32 H	212	19.8	8.9

**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	65.9 PK	74.0	-8.1	3.99 V	326	67.5	-1.6
2	2390.00	50.3 AV	54.0	-3.7	3.99 V	326	51.9	-1.6
3	*2437.00	116.2 PK			3.99 V	326	117.7	-1.5
4	*2437.00	105.9 AV			3.99 V	326	107.4	-1.5
5	2483.50	66.8 PK	74.0	-7.2	3.99 V	326	68.2	-1.4
6	2483.50	51.2 AV	54.0	-2.8	3.99 V	326	52.6	-1.4
7	4874.00	37.7 PK	74.0	-36.3	2.16 V	335	34.5	3.2
8	4874.00	24.9 AV	54.0	-29.1	2.16 V	335	21.7	3.2
9	7311.00	42.4 PK	74.0	-31.6	2.40 V	337	33.5	8.9
10	7311.00	29.5 AV	54.0	-24.5	2.40 V	337	20.6	8.9

**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
5. " \* ": Fundamental frequency.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	104.3 PK			1.23 H	57	105.7	-1.4
2	*2462.00	94.6 AV			1.23 H	57	96.0	-1.4
3	2483.50	59.3 PK	74.0	-14.7	1.23 H	57	60.7	-1.4
4	2483.50	45.7 AV	54.0	-8.3	1.23 H	57	47.1	-1.4
5	4924.00	36.2 PK	74.0	-37.8	1.13 H	144	32.9	3.3
6	4924.00	23.1 AV	54.0	-30.9	1.13 H	144	19.8	3.3
7	7386.00	41.2 PK	74.0	-32.8	1.35 H	206	32.1	9.1
8	7386.00	28.3 AV	54.0	-25.7	1.35 H	206	19.2	9.1
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	110.5 PK			3.18 V	318	111.9	-1.4
2	*2462.00	99.4 AV			3.18 V	318	100.8	-1.4
3	2483.50	67.1 PK	74.0	-6.9	3.18 V	318	68.5	-1.4
4	2483.50	53.9 AV	54.0	-0.1	3.18 V	318	55.3	-1.4
5	4924.00	37.1 PK	74.0	-36.9	2.17 V	339	33.8	3.3
6	4924.00	24.1 AV	54.0	-29.9	2.17 V	339	20.8	3.3
7	7386.00	42.1 PK	74.0	-31.9	2.36 V	348	33.0	9.1
8	7386.00	28.9 AV	54.0	-25.1	2.36 V	348	19.8	9.1

**REMARKS:**

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

### 802.11n (HT20)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	65.9 PK	74.0	-8.1	1.26 H	58	67.5	-1.6
2	2390.00	45.7 AV	54.0	-8.3	1.26 H	58	47.3	-1.6
3	*2412.00	104.7 PK			1.26 H	58	106.2	-1.5
4	*2412.00	93.5 AV			1.26 H	58	95.0	-1.5
5	4824.00	37.3 PK	74.0	-36.7	1.11 H	151	34.3	3.0
6	4824.00	23.9 AV	54.0	-30.1	1.11 H	151	20.9	3.0
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	65.8 PK	74.0	-8.2	2.19 V	325	67.4	-1.6
2	2390.00	53.2 AV	54.0	-0.8	2.19 V	325	54.8	-1.6
3	*2412.00	110.2 PK			2.19 V	325	111.7	-1.5
4	*2412.00	98.6 AV			2.19 V	325	100.1	-1.5
5	4824.00	37.4 PK	74.0	-36.6	2.14 V	332	34.4	3.0
6	4824.00	24.4 AV	54.0	-29.6	2.14 V	332	21.4	3.0

#### REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	60.2 PK	74.0	-13.8	1.24 H	64	61.8	-1.6
2	2390.00	45.6 AV	54.0	-8.4	1.24 H	64	47.2	-1.6
3	*2437.00	110.6 PK			1.24 H	64	112.1	-1.5
4	*2437.00	100.1 AV			1.24 H	64	101.6	-1.5
5	2483.50	59.8 PK	74.0	-14.2	1.24 H	64	61.2	-1.4
6	2483.50	45.9 AV	54.0	-8.1	1.24 H	64	47.3	-1.4
7	4874.00	37.5 PK	74.0	-36.5	1.18 H	133	34.3	3.2
8	4874.00	24.1 AV	54.0	-29.9	1.18 H	133	20.9	3.2
9	7311.00	42.0 PK	74.0	-32.0	1.36 H	224	33.1	8.9
10	7311.00	28.9 AV	54.0	-25.1	1.36 H	224	20.0	8.9

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	70.0 PK	74.0	-4.0	3.97 V	330	71.6	-1.6
2	2390.00	53.7 AV	54.0	-0.3	3.97 V	330	55.3	-1.6
3	*2437.00	116.5 PK			3.97 V	330	118.0	-1.5
4	*2437.00	104.9 AV			3.97 V	330	106.4	-1.5
5	2483.50	69.9 PK	74.0	-4.1	3.97 V	330	71.3	-1.4
6	2483.50	53.8 AV	54.0	-0.2	3.97 V	330	55.2	-1.4
7	4874.00	37.9 PK	74.0	-36.1	2.14 V	332	34.7	3.2
8	4874.00	24.8 AV	54.0	-29.2	2.14 V	332	21.6	3.2
9	7311.00	42.7 PK	74.0	-31.3	2.34 V	342	33.8	8.9
10	7311.00	29.8 AV	54.0	-24.2	2.34 V	342	20.9	8.9

#### 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
5. " \* ": Fundamental frequency.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	104.7 PK			1.26 H	61	106.1	-1.4
2	*2462.00	94.3 AV			1.26 H	61	95.7	-1.4
3	2483.50	56.7 PK	74.0	-17.3	1.26 H	61	58.1	-1.4
4	2483.50	45.9 AV	54.0	-8.1	1.26 H	61	47.3	-1.4
5	4924.00	37.3 PK	74.0	-36.7	1.08 H	140	34.0	3.3
6	4924.00	23.8 AV	54.0	-30.2	1.08 H	140	20.5	3.3
7	7386.00	41.6 PK	74.0	-32.4	1.34 H	202	32.5	9.1
8	7386.00	28.7 AV	54.0	-25.3	1.34 H	202	19.6	9.1
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	110.4 PK			3.84 V	331	111.8	-1.4
2	*2462.00	99.6 AV			3.84 V	331	101.0	-1.4
3	2483.50	66.4 PK	74.0	-7.6	3.84 V	331	67.8	-1.4
4	2483.50	53.8 AV	54.0	-0.2	3.84 V	331	55.2	-1.4
5	4924.00	37.3 PK	74.0	-36.7	2.14 V	318	34.0	3.3
6	4924.00	24.3 AV	54.0	-29.7	2.14 V	318	21.0	3.3
7	7386.00	42.5 PK	74.0	-31.5	2.34 V	335	33.4	9.1
8	7386.00	29.3 AV	54.0	-24.7	2.34 V	335	20.2	9.1

**REMARKS:**

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

# 802.11n (HT40)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	54.7 PK	74.0	-19.3	1.28 H	66	56.3	-1.6
2	2390.00	45.3 AV	54.0	-8.7	1.28 H	66	46.9	-1.6
3	*2422.00	99.9 PK			1.28 H	66	101.5	-1.6
4	*2422.00	90.4 AV			1.28 H	66	92.0	-1.6
5	4844.00	37.1 PK	74.0	-36.9	1.14 H	161	34.0	3.1
6	4844.00	23.9 AV	54.0	-30.1	1.14 H	161	20.8	3.1
7	7266.00	41.2 PK	74.0	-32.8	1.44 H	209	32.3	8.9
8	7266.00	27.9 AV	54.0	-26.1	1.44 H	209	19.0	8.9
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	64.4 PK	74.0	-9.6	3.94 V	316	66.0	-1.6
2	2390.00	53.2 AV	54.0	-0.8	3.94 V	316	54.8	-1.6
3	*2422.00	105.4 PK			3.94 V	316	107.0	-1.6
4	*2422.00	95.3 AV			3.94 V	316	96.9	-1.6
5	4844.00	38.1 PK	74.0	-35.9	2.05 V	330	35.0	3.1
6	4844.00	24.8 AV	54.0	-29.2	2.05 V	330	21.7	3.1
7	7266.00	43.4 PK	74.0	-30.6	2.39 V	332	34.5	8.9
8	7266.00	30.3 AV	54.0	-23.7	2.39 V	332	21.4	8.9

## 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
5. " \* ": Fundamental frequency.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	55.2 PK	74.0	-18.8	1.28 H	66	56.8	-1.6
2	2390.00	46.3 AV	54.0	-7.7	1.28 H	66	47.9	-1.6
3	*2437.00	101.8 PK			1.21 H	51	103.3	-1.5
4	*2437.00	92.7 AV			1.21 H	51	94.2	-1.5
5	2483.50	59.3 PK	74.0	-14.7	1.00 H	0	60.7	-1.4
6	2483.50	45.9 AV	54.0	-8.1	1.00 H	0	47.3	-1.4
7	4874.00	37.5 PK	74.0	-36.5	1.08 H	139	34.3	3.2
8	4874.00	24.3 AV	54.0	-29.7	1.08 H	139	21.1	3.2
9	7311.00	41.7 PK	74.0	-32.3	1.36 H	199	32.8	8.9
10	7311.00	28.5 AV	54.0	-25.5	1.36 H	199	19.6	8.9

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	65.4 PK	74.0	-8.6	3.96 V	330	67.0	-1.6
2	2390.00	51.2 AV	54.0	-2.8	3.96 V	330	52.8	-1.6
3	*2437.00	107.7 PK			3.96 V	330	109.2	-1.5
4	*2437.00	97.8 AV			3.96 V	330	99.3	-1.5
5	2483.50	69.1 PK	74.0	-4.9	3.96 V	330	70.5	-1.4
6	2483.50	53.6 AV	54.0	-0.4	3.96 V	330	55.0	-1.4
7	4874.00	38.2 PK	74.0	-35.8	2.08 V	330	35.0	3.2
8	4874.00	24.9 AV	54.0	-29.1	2.08 V	330	21.7	3.2
9	7311.00	43.1 PK	74.0	-30.9	2.36 V	347	34.2	8.9
10	7311.00	30.1 AV	54.0	-23.9	2.36 V	347	21.2	8.9

#### 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
5. " \* ": Fundamental frequency.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2452.00	98.1 PK			1.31 H	46	99.6	-1.5
2	*2452.00	88.1 AV			1.31 H	46	89.6	-1.5
3	2483.50	58.1 PK	74.0	-15.9	1.28 H	66	59.5	-1.4
4	2483.50	45.7 AV	54.0	-8.3	1.28 H	66	47.1	-1.4
5	4904.00	37.5 PK	74.0	-36.5	1.06 H	162	34.3	3.2
6	4904.00	24.0 AV	54.0	-30.0	1.06 H	162	20.8	3.2
7	7356.00	41.3 PK	74.0	-32.7	1.36 H	199	32.2	9.1
8	7356.00	28.2 AV	54.0	-25.8	1.36 H	199	19.1	9.1
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2452.00	103.6 PK			3.80 V	330	105.1	-1.5
2	*2452.00	93.5 AV			3.80 V	330	95.0	-1.5
3	2483.50	68.2 PK	74.0	-5.8	3.80 V	330	69.6	-1.4
4	2483.50	53.6 AV	54.0	-0.4	3.80 V	330	55.0	-1.4
5	4904.00	38.6 PK	74.0	-35.4	2.08 V	322	35.4	3.2
6	4904.00	25.0 AV	54.0	-29.0	2.08 V	322	21.8	3.2
7	7356.00	43.1 PK	74.0	-30.9	2.38 V	351	34.0	9.1
8	7356.00	30.3 AV	54.0	-23.7	2.38 V	351	21.2	9.1

**REMARKS:**

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



## 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 17, 2017

#### 4.2.3 Test Procedures

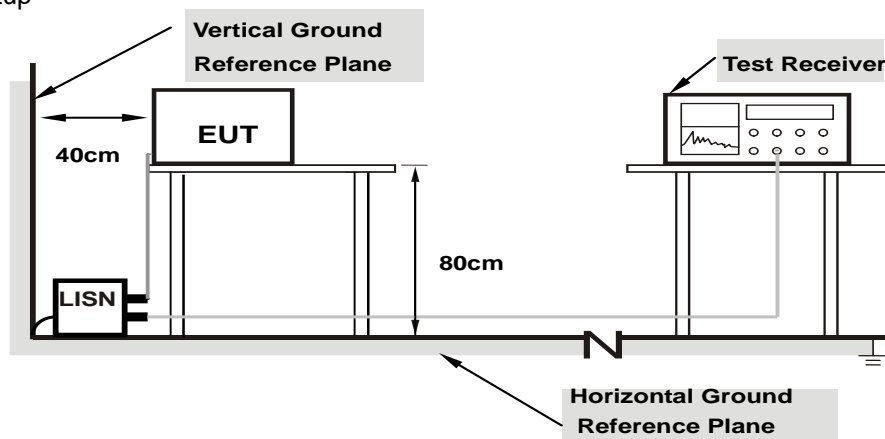
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance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

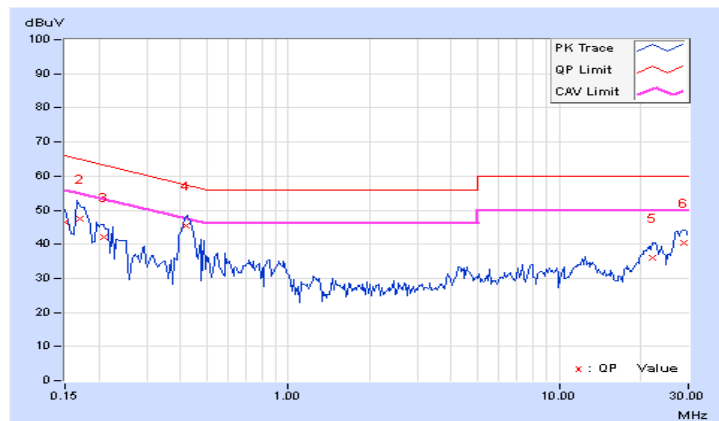
#### 4.2.7 Test Results (Mode 1)

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

No	Freq. [MHz]	Corr.	Reading Value		Emission Level		Limit		Margin	
		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
		(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	10.19	36.44	18.42	46.63	28.61	66.00	56.00	-19.37	-27.39
2	0.16937	10.19	37.19	24.20	47.38	34.39	64.99	54.99	-17.61	-20.60
3	0.20859	10.19	31.84	20.72	42.03	30.91	63.26	53.26	-21.23	-22.35
4	0.41953	10.22	35.39	28.00	45.61	38.22	57.46	47.46	-11.85	-9.24
5	22.12500	11.40	24.53	19.09	35.93	30.49	60.00	50.00	-24.07	-19.51
6	29.02734	11.46	28.91	23.48	40.37	34.94	60.00	50.00	-19.63	-15.06

#### REMARKS:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level - Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value.

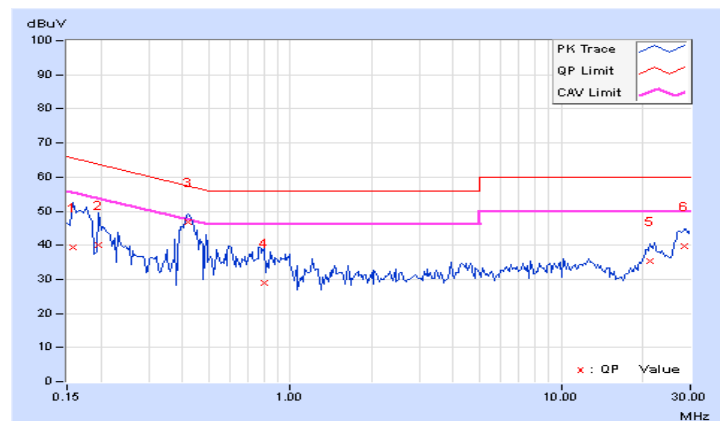


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
-------	-------------	-------------------	--------------------------------

No	Freq. [MHz]	Corr.	Reading Value		Emission Level		Limit		Margin	
		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
		(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15781	10.18	29.15	8.92	39.33	19.10	65.58	55.58	-26.25	-36.48
2	0.19687	10.16	29.78	10.53	39.94	20.69	63.74	53.74	-23.80	-33.05
<b>3</b>	<b>0.41953</b>	<b>10.21</b>	<b>36.67</b>	<b>29.37</b>	<b>46.88</b>	<b>39.58</b>	<b>57.46</b>	<b>47.46</b>	<b>-10.58</b>	<b>-7.88</b>
4	0.79844	10.22	18.84	7.25	29.06	17.47	56.00	46.00	-26.94	-28.53
5	21.35547	11.09	24.17	18.65	35.26	29.74	60.00	50.00	-24.74	-20.26
6	28.67969	11.06	28.71	23.16	39.77	34.22	60.00	50.00	-20.23	-15.78

#### 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.

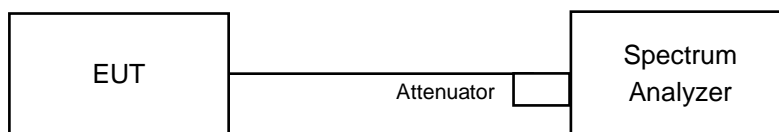


### 4.3 6dB Bandwidth Measurement

#### 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

- Set resolution bandwidth (RBW) = 100kHz
- Set the video bandwidth (VBW)  $\geq 3 \times$  RBW, Detector = Peak.
- Trace mode = max hold.
- Sweep = auto couple.
- 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 (Mode 1)

##### 802.11b

Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
1	2412	8.13	8.12	8.60	8.12	0.5	PASS
6	2437	9.04	8.56	9.04	9.02	0.5	PASS
11	2462	8.12	8.08	8.12	8.11	0.5	PASS

##### 802.11g

Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
1	2412	16.39	16.00	16.37	16.34	0.5	PASS
6	2437	16.34	15.78	16.37	16.35	0.5	PASS
11	2462	16.35	15.79	16.35	16.36	0.5	PASS

##### 802.11n (HT20)

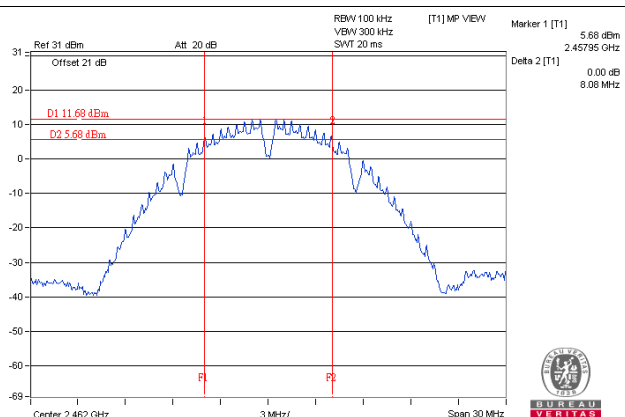
Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
1	2412	16.59	16.95	17.18	16.61	0.5	PASS
6	2437	17.60	16.60	17.18	16.95	0.5	PASS
11	2462	17.22	16.36	17.19	17.20	0.5	PASS

##### 802.11n (HT40)

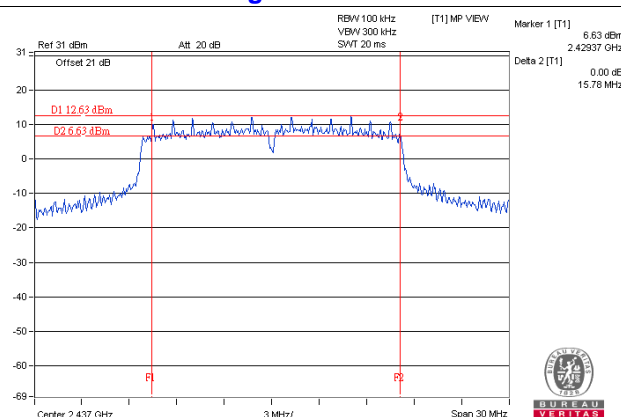
Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
3	2422	35.17	35.14	35.14	35.16	0.5	Pass
6	2437	35.19	35.09	35.13	35.22	0.5	Pass
9	2452	35.18	35.19	35.43	35.22	0.5	Pass

# Spectrum Plot of Worst Value

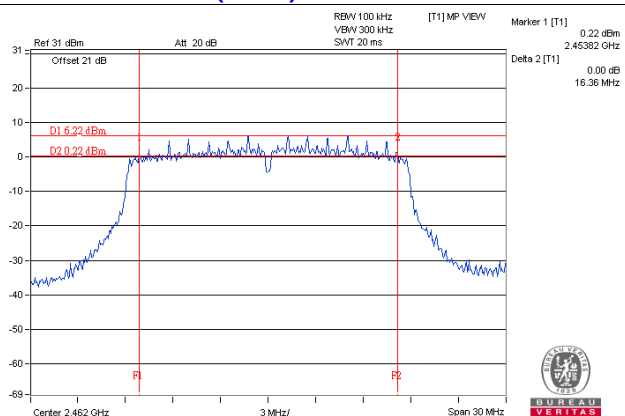
## 802.11b / Chain 1 : CH11



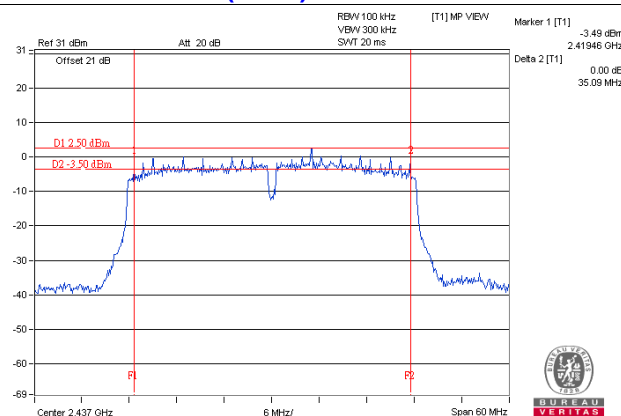
## 802.11g / Chain 1 : CH6



## 802.11n (HT20) / Chain 1 : CH11



## 802.11n (HT40) / Chain 1 : CH6



#### 4.3.8 Test Result (Mode 2)

##### 802.11b

Channel	Frequency (MHz)	6dB Bandwidth (MHz)			Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 3		
1	2412	8.12	8.54	8.58	0.5	PASS
6	2437	9.08	8.59	8.09	0.5	PASS
11	2462	9.07	8.06	8.09	0.5	PASS

##### 802.11g

Channel	Frequency (MHz)	6dB Bandwidth (MHz)			Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 3		
1	2412	16.35	16.05	16.35	0.5	PASS
6	2437	16.37	16.37	16.37	0.5	PASS
11	2462	16.34	16.35	16.37	0.5	PASS

##### 802.11n (HT20)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)			Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 3		
1	2412	16.60	17.60	16.96	0.5	Pass
6	2437	17.61	17.19	17.62	0.5	Pass
11	2462	16.84	16.70	16.95	0.5	Pass

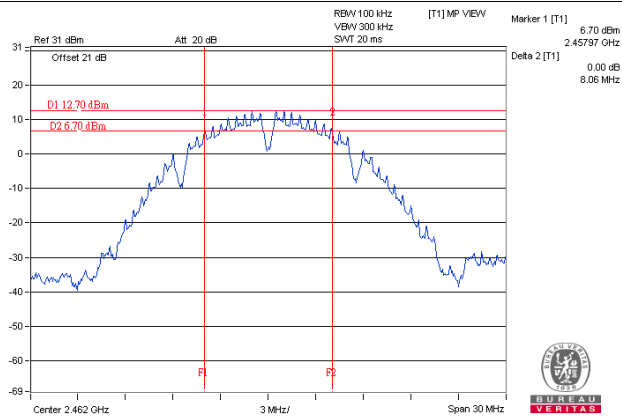
##### 802.11n (HT40)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)			Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 3		
3	2422	35.16	35.14	35.15	0.5	Pass
6	2437	34.02	35.15	35.18	0.5	Pass
9	2452	35.26	35.14	35.22	0.5	Pass

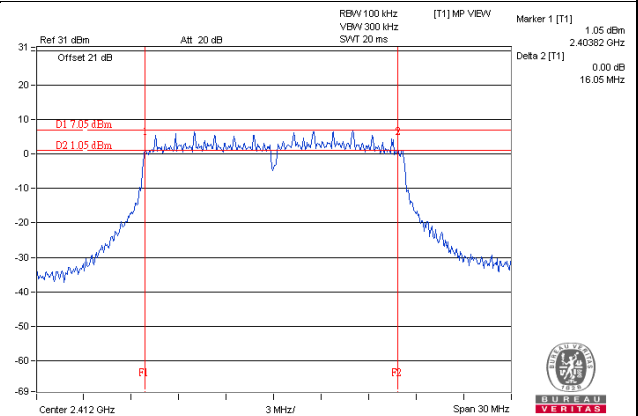


## Spectrum Plot of Worst Value

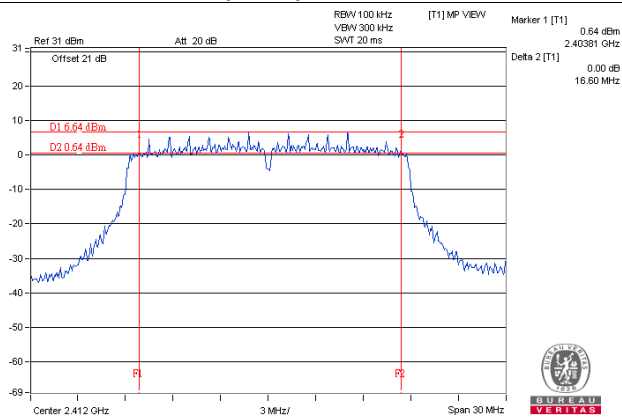
### 802.11b / Chain 1 : CH1



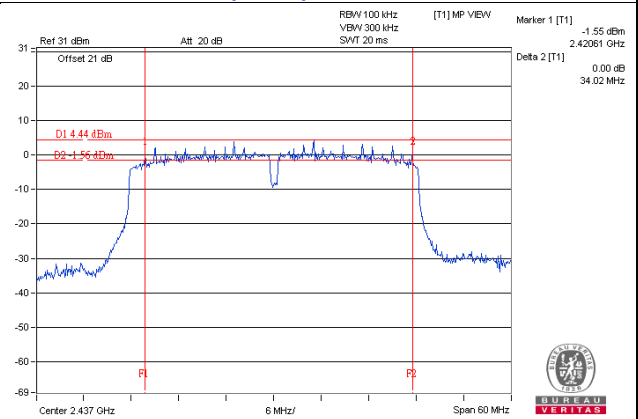
### 802.11g / Chain 1 : CH1



### 802.11n (HT20) / Chain 0 : CH1



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



#### 4.3.9 Test Result (Mode 3)

##### 802.11b

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 3		
1	2412	8.15	8.13	0.5	PASS
6	2437	9.57	9.07	0.5	PASS
11	2462	9.04	9.07	0.5	PASS

##### 802.11g

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 3		
1	2412	16.34	15.96	0.5	PASS
6	2437	16.36	16.39	0.5	PASS
11	2462	16.36	16.33	0.5	PASS

##### 802.11n (HT20)

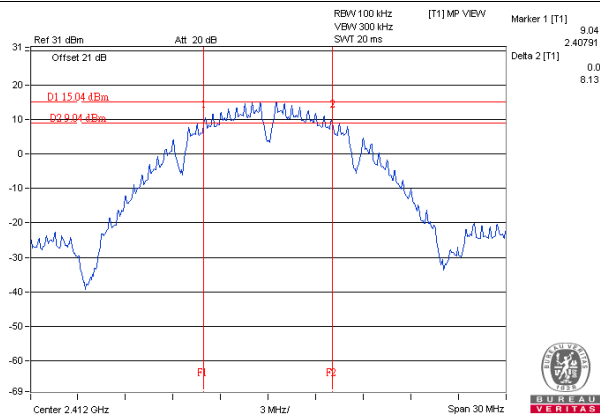
Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 3		
1	2412	17.20	17.54	0.5	Pass
6	2437	17.63	17.36	0.5	Pass
11	2462	17.29	17.59	0.5	Pass

##### 802.11n (HT40)

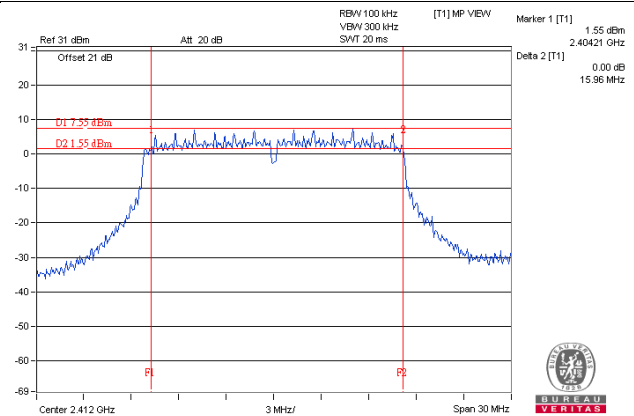
Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 3		
3	2422	35.15	35.31	0.5	Pass
6	2437	35.23	33.98	0.5	Pass
9	2452	35.21	32.83	0.5	Pass

## Spectrum Plot of Worst Value

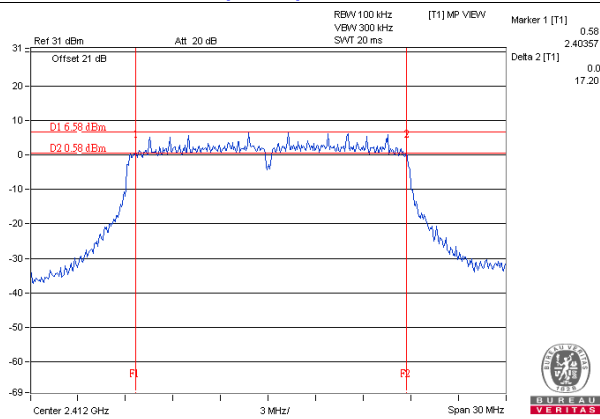
### 802.11b / Chain 3 : CH1



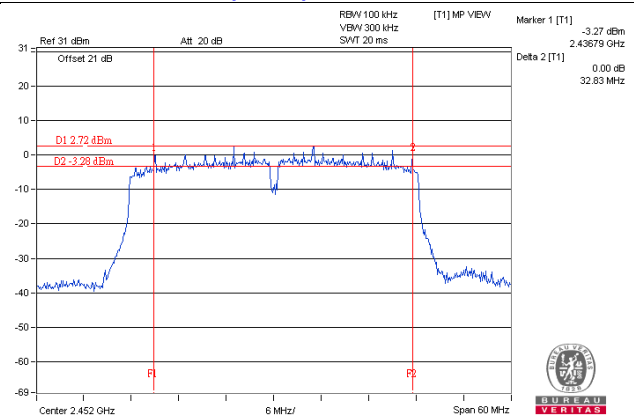
### 802.11g / Chain 3 : CH1



### 802.11n (HT20) / Chain 0 : CH1



### 802.11n (HT40) / Chain 3 : CH9



#### 4.3.10 Test Result (Mode 4)

##### 802.11b

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
1	2412	8.14	0.5	PASS
6	2437	9.11	0.5	PASS
11	2462	9.08	0.5	PASS

##### 802.11g

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
1	2412	16.37	0.5	PASS
6	2437	16.34	0.5	PASS
11	2462	16.34	0.5	PASS

##### 802.11n (HT20)

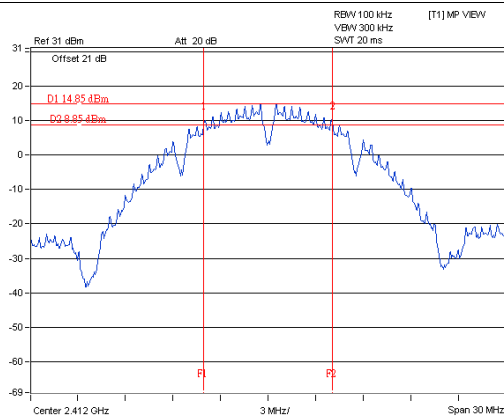
Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
1	2412	17.56	0.5	PASS
6	2437	17.57	0.5	PASS
11	2462	17.59	0.5	PASS

##### 802.11n (HT40)

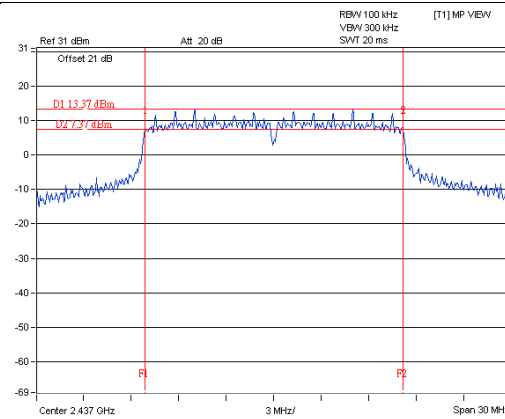
Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
3	2422	35.14	0.5	Pass
6	2437	35.25	0.5	Pass
9	2452	35.26	0.5	Pass

## Spectrum Plot of Worst Value

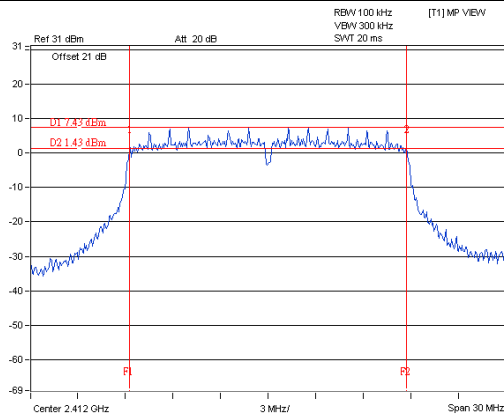
### 802.11b : CH1



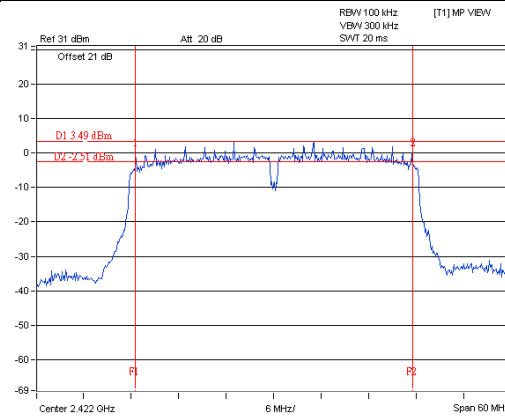
### 802.11g : CH6



### 802.11n (HT20) : CH1



### 802.11n (HT40) : CH3



## 4.4 Conducted Output Power Measurement

### 4.4.1 Limits of Conducted Output Power Measurement

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

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

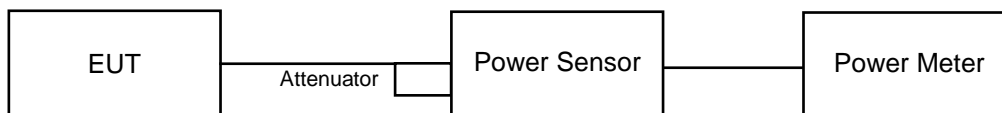
Array Gain = 0 dB (i.e., no array gain) for  $N_{ANT} \leq 4$ ;

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

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

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

### 4.4.2 Test Setup



### 4.4.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

### 4.4.4 Test Procedures

An average power sensor was used on the output port of the EUT. A power meter was used to read the response of the 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 (Mode 1)

##### CDD Mode

##### 802.11b

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
1	2412	20.08	20.06	20.40	20.64	428.776	26.32	30	Pass
6	2437	22.14	22.06	22.05	22.27	653.356	28.15	30	Pass
11	2462	20.06	19.54	19.90	20.31	396.464	25.98	30	Pass

##### 802.11g

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
1	2412	17.06	17.15	17.45	17.53	214.91	23.32	30	Pass
6	2437	23.36	23.11	23.08	23.71	859.613	29.34	30	Pass
11	2462	15.28	15.22	15.30	15.69	137.947	21.40	30	Pass

##### 802.11n (HT20)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
1	2412	16.97	16.84	17.03	17.20	201.027	23.03	30	Pass
6	2437	22.22	21.77	21.80	22.26	636.662	28.04	30	Pass
11	2462	16.32	16.34	16.42	16.99	179.764	22.55	30	Pass

##### 802.11n (HT40)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
3	2422	14.87	14.52	14.68	15.24	121.8	20.86	30	Pass
6	2437	15.59	15.32	15.21	15.66	140.267	21.47	30	Pass
9	2452	14.50	14.19	14.14	14.75	110.222	20.42	30	Pass

## Beamforming Mode

### 802.11n (HT20)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
1	2412	16.97	16.84	17.03	17.20	201.027	23.03	25.47	Pass
6	2437	19.20	18.67	18.68	19.24	314.533	24.98	25.47	Pass
11	2462	16.32	16.34	16.42	16.99	179.764	22.55	25.47	Pass

**Note:** 1. Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + 10^{G2/20} + 10^{G2/20})^2 / 4] = 10.53\text{dBi} > 6\text{dBi}$ , so the power limit shall be reduced to  $30 - (10.53 - 6) = 25.47\text{dBm}$ .

### 802.11n (HT40)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
3	2422	14.87	14.52	14.68	15.24	121.8	20.86	25.47	Pass
6	2437	15.59	15.32	15.21	15.66	140.267	21.47	25.47	Pass
9	2452	14.50	14.19	14.14	14.75	110.222	20.42	25.47	Pass

**Note:** 1. Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + 10^{G2/20} + 10^{G2/20})^2 / 4] = 10.53\text{dBi} > 6\text{dBi}$ , so the power limit shall be reduced to  $30 - (10.53 - 6) = 25.47\text{dBm}$ .



#### 4.4.8 Test Results (Mode 2)

##### CDD Mode

##### 802.11b

Chan.	Chan. Freq. (MHz)	Average Power (dBm)			Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 3				
1	2412	21.05	21.14	21.21	389.497	25.91	30	Pass
6	2437	22.14	22.06	22.27	493.031	26.93	30	Pass
11	2462	21.28	21.08	21.32	398.028	26.00	30	Pass

##### 802.11g

Chan.	Chan. Freq. (MHz)	Average Power (dBm)			Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 3				
1	2412	17.06	17.15	17.53	159.32	22.02	30	Pass
6	2437	23.36	23.11	23.71	656.377	28.17	30	Pass
11	2462	15.28	15.22	15.69	104.063	20.17	30	Pass

##### 802.11n (HT20)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)			Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 3				
1	2412	16.97	16.84	17.20	150.561	21.78	30	Pass
6	2437	23.42	23.13	23.26	637.211	28.04	30	Pass
11	2462	16.32	16.34	16.99	135.911	21.33	30	Pass

##### 802.11n (HT40)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)			Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 3				
3	2422	16.02	15.91	16.12	119.914	20.79	30	Pass
6	2437	17.87	17.69	17.40	174.938	22.43	30	Pass
9	2452	15.19	14.80	15.12	95.746	19.81	30	Pass

## Beamforming Mode

### 802.11n (HT20)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)			Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 3				
1	2412	16.97	16.84	17.20	150.561	21.78	26.46	Pass
6	2437	21.37	21.05	21.16	395.055	25.97	26.46	Pass
11	2462	16.32	16.34	16.99	135.911	21.33	26.46	Pass

**Note:** 1. Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + 10^{G2/20})^2 / 3] = 9.54\text{dBi} > 6\text{dBi}$ , so the power limit shall be reduced to  $30 - (9.54 - 6) = 26.46\text{dBm}$ .

### 802.11n (HT40)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)			Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 3				
3	2422	16.02	15.91	16.12	119.914	20.79	26.46	Pass
6	2437	17.87	17.69	17.40	174.938	22.43	26.46	Pass
9	2452	15.19	14.80	15.12	95.746	19.81	26.46	Pass

**Note:** 1. Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + 10^{G2/20})^2 / 3] = 9.54\text{dBi} > 6\text{dBi}$ , so the power limit shall be reduced to  $30 - (9.54 - 6) = 26.46\text{dBm}$ .

#### 4.4.9 Test Results (Mode 3)

##### CDD Mode

##### 802.11b

Chan.	Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 3				
1	2412	23.20	23.32	423.713	26.27	30.00	Pass
6	2437	25.06	24.85	626.119	27.97	30.00	Pass
11	2462	22.31	22.24	337.71	25.29	30.00	Pass

##### 802.11g

Chan.	Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 3				
1	2412	18.03	18.06	127.506	21.06	30.00	Pass
6	2437	24.10	24.02	509.388	27.07	30.00	Pass
11	2462	17.40	17.41	110.035	20.42	30.00	Pass

##### 802.11n (HT20)

Chan.	Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 3				
1	2412	17.54	17.68	115.368	20.62	30.00	Pass
6	2437	23.92	23.75	483.741	26.85	30.00	Pass
11	2462	16.32	16.16	84.16	19.25	30.00	Pass

##### 802.11n (HT40)

Chan.	Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 3				
3	2422	16.49	16.58	90.065	19.55	30.00	Pass
6	2437	18.56	18.55	143.393	21.57	30.00	Pass
9	2452	15.63	15.61	72.951	18.63	30.00	Pass

## Beamforming Mode

### 802.11n (HT20)

Chan.	Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 3				
1	2412	17.54	17.68	115.368	20.62	28.08	Pass
6	2437	23.92	23.75	483.741	26.85	28.08	Pass
11	2462	16.32	16.16	84.16	19.25	28.08	Pass

**Note:** 1. Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 7.92\text{dBi} > 6\text{dBi}$ , so the power limit shall be reduced to  $30 - (7.92 - 6) = 28.08\text{dBm}$ .

### 802.11n (HT40)

Chan.	Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 3				
3	2422	16.49	16.58	90.065	19.55	28.08	Pass
6	2437	18.56	18.55	143.393	21.57	28.08	Pass
9	2452	15.63	15.61	72.951	18.63	28.08	Pass

**Note:** 1. Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 7.92\text{dBi} > 6\text{dBi}$ , so the power limit shall be reduced to  $30 - (7.92 - 6) = 28.08\text{dBm}$ .

#### 4.4.10 Test Results (Mode 4)

##### 802.11b

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)	Limit (dBm)	Pass/Fail
1	2412	239.883	23.80	30	Pass
6	2437	320.627	25.06	30	Pass
11	2462	190.546	22.80	30	Pass

##### 802.11g

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)	Limit (dBm)	Pass/Fail
1	2412	73.282	18.65	30	Pass
6	2437	257.04	24.10	30	Pass
11	2462	54.954	17.40	30	Pass

##### 802.11n (HT20)

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)	Limit (dBm)	Pass/Fail
1	2412	71.779	18.56	30	Pass
6	2437	246.604	23.92	30	Pass
11	2462	50.699	17.05	30	Pass

##### 802.11n (HT40)

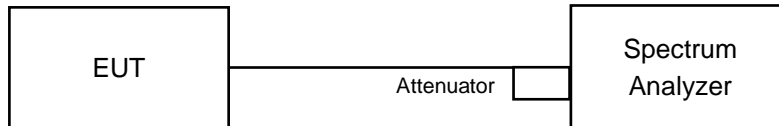
Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)	Limit (dBm)	Pass/Fail
3	2422	49.204	16.92	30	Pass
6	2437	79.983	19.03	30	Pass
9	2452	36.559	15.63	30	Pass

## 4.5 Power Spectral Density Measurement

### 4.5.1 Limits of Power Spectral Density Measurement

The Maximum of Power Spectral Density Measurement is 8dBm.

### 4.5.2 Test Setup



### 4.5.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

### 4.5.4 Test Procedure

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

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

#### 802.11g, 802.11n (HT40)

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

### 4.5.5 Deviation from Test Standard

No deviation.

### 4.5.6 EUT Operating Condition

Same as Item 4.3.6

#### 4.5.7 Test Results (Mode 1)

##### 802.11b

TX chain	Channel	Freq. (MHz)	PSD (dBm/3kHz)	10 log (N=4) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	Pass /Fail
0	1	2412	-10.76	6.02	-4.74	3.47	Pass
	6	2437	-8.77	6.02	-2.75	3.47	Pass
	11	2462	-10.48	6.02	-4.46	3.47	Pass
1	1	2412	-10.06	6.02	-4.04	3.47	Pass
	6	2437	-8.71	6.02	-2.69	3.47	Pass
	11	2462	-10.29	6.02	-4.27	3.47	Pass
2	1	2412	-10.09	6.02	-4.07	3.47	Pass
	6	2437	-8.45	6.02	-2.43	3.47	Pass
	11	2462	-10.86	6.02	-4.84	3.47	Pass
3	1	2412	-10.44	6.02	-4.42	3.47	Pass
	6	2437	-8.34	6.02	-2.32	3.47	Pass
	11	2462	-10.53	6.02	-4.51	3.47	Pass

**Note:** 1. Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + 10^{G2/20} + 10^{G2/20})^2 / 4] = 10.53\text{dBi} > 6\text{dBi}$ , so the power density limit shall be reduced to  $8 - (10.53 - 6) = 3.47\text{dBm}$ .

##### 802.11g

TX chain	Channel	Freq. (MHz)	PSD W/O Duty Factor (dBm/3kHz)	10 log (N=4) dB	Duty Factor (dB)	TOTAL PSD With Duty Factor (dBm/3kHz)	Limit (dBm/3kHz)	Pass /Fail
0	1	2412	-15.20	6.02	0.14	-9.04	3.47	Pass
	6	2437	-10.37	6.02	0.14	-4.21	3.47	Pass
	11	2462	-17.45	6.02	0.14	-11.29	3.47	Pass
1	1	2412	-16.12	6.02	0.14	-9.96	3.47	Pass
	6	2437	-10.45	6.02	0.14	-4.29	3.47	Pass
	11	2462	-17.43	6.02	0.14	-11.27	3.47	Pass
2	1	2412	-15.30	6.02	0.14	-9.14	3.47	Pass
	6	2437	-9.32	6.02	0.14	-3.16	3.47	Pass
	11	2462	-17.74	6.02	0.14	-11.58	3.47	Pass
3	1	2412	-15.51	6.02	0.14	-9.35	3.47	Pass
	6	2437	-8.57	6.02	0.14	-2.41	3.47	Pass
	11	2462	-17.84	6.02	0.14	-11.68	3.47	Pass

**Note:** 1. Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + 10^{G2/20} + 10^{G2/20})^2 / 4] = 10.53\text{dBi} > 6\text{dBi}$ , so the power density limit shall be reduced to  $8 - (10.53 - 6) = 3.47\text{dBm}$ .

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

### 802.11n (HT20)

TX chain	Channel	Freq. (MHz)	PSD (dBm/3kHz)	10 log (N=4) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	Pass /Fail
0	1	2412	-16.15	6.02	-10.13	3.47	Pass
	6	2437	-10.63	6.02	-4.61	3.47	Pass
	11	2462	-16.45	6.02	-10.43	3.47	Pass
1	1	2412	-16.32	6.02	-10.30	3.47	Pass
	6	2437	-11.57	6.02	-5.55	3.47	Pass
	11	2462	-15.69	6.02	-9.67	3.47	Pass
2	1	2412	-16.14	6.02	-10.12	3.47	Pass
	6	2437	-12.05	6.02	-6.03	3.47	Pass
	11	2462	-16.82	6.02	-10.80	3.47	Pass
3	1	2412	-16.13	6.02	-10.11	3.47	Pass
	6	2437	-10.60	6.02	-4.58	3.47	Pass
	11	2462	-16.54	6.02	-10.52	3.47	Pass

**Note:** 1. Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + 10^{G2/20} + 10^{G2/20})^2 / 4] = 10.53\text{dBi} > 6\text{dBi}$ , so the power density limit shall be reduced to  $8-(10.53-6) = 3.47\text{dBm}$ .

### 802.11n (HT40)

TX chain	Channel	Freq. (MHz)	PSD W/O Duty Factor (dBm/3kHz)	10 log (N=4) dB	Duty Factor (dB)	TOTAL PSD With Duty Factor (dBm/3kHz)	Limit (dBm/3kHz)	Pass /Fail
0	3	2422	-20.87	6.02	0.13	-14.72	3.47	Pass
	6	2437	-19.23	6.02	0.13	-13.08	3.47	Pass
	9	2452	-20.89	6.02	0.13	-14.74	3.47	Pass
1	3	2422	-19.76	6.02	0.13	-13.61	3.47	Pass
	6	2437	-20.04	6.02	0.13	-13.89	3.47	Pass
	9	2452	-21.00	6.02	0.13	-14.85	3.47	Pass
2	3	2422	-21.06	6.02	0.13	-14.91	3.47	Pass
	6	2437	-20.57	6.02	0.13	-14.42	3.47	Pass
	9	2452	-21.56	6.02	0.13	-15.41	3.47	Pass
3	3	2422	-20.81	6.02	0.13	-14.66	3.47	Pass
	6	2437	-19.97	6.02	0.13	-13.82	3.47	Pass
	9	2452	-20.26	6.02	0.13	-14.11	3.47	Pass

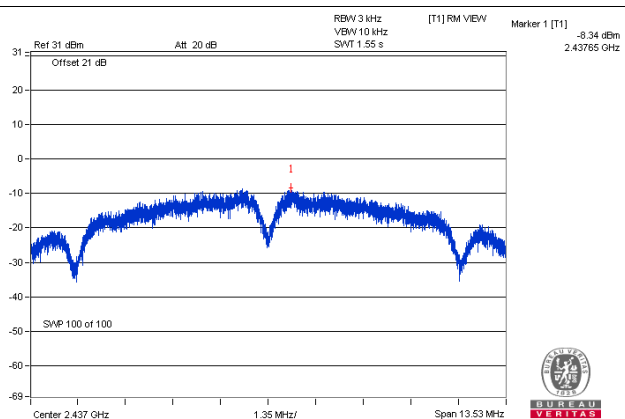
**Note:** 1. Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + 10^{G2/20} + 10^{G2/20})^2 / 4] = 10.53\text{dBi} > 6\text{dBi}$ , so the power density limit shall be reduced to  $8-(10.53-6) = 3.47\text{dBm}$ .

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

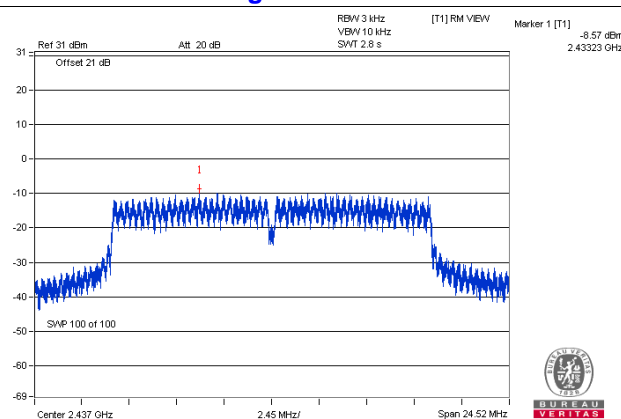


## Spectrum Plot of Worst Value

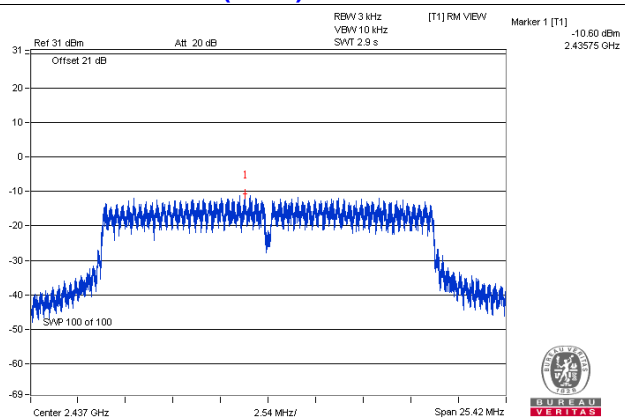
**802.11b / Chain 3 : CH6**



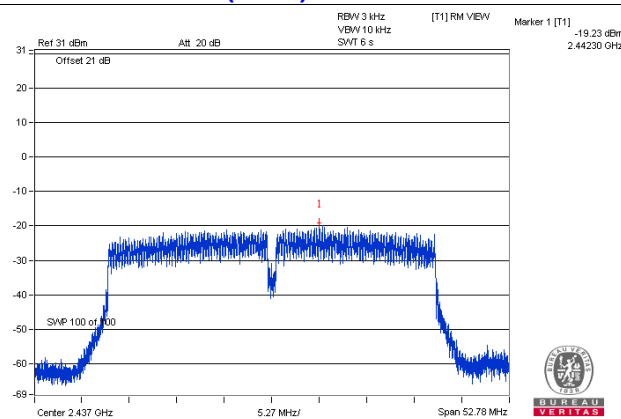
**802.11g / Chain 3 : CH6**



**802.11n (HT20) / Chain 3 : CH6**



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



#### 4.5.8 Test Results (Mode 2)

##### 802.11b

TX chain	Channel	Freq. (MHz)	PSD (dBm/3kHz)	10 log (N=3) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	Pass /Fail
0	1	2412	-9.07	4.77	-4.30	4.46	Pass
	6	2437	-8.42	4.77	-3.65	4.46	Pass
	11	2462	-9.04	4.77	-4.27	4.46	Pass
1	1	2412	-9.50	4.77	-4.73	4.46	Pass
	6	2437	-9.06	4.77	-4.29	4.46	Pass
	11	2462	-9.53	4.77	-4.76	4.46	Pass
3	1	2412	-9.52	4.77	-4.75	4.46	Pass
	6	2437	-8.68	4.77	-3.91	4.46	Pass
	11	2462	-9.20	4.77	-4.43	4.46	Pass

**Note:** 1. Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + 10^{G2/20})^2 / 3] = 9.54\text{dBi} > 6\text{dBi}$ , so the power density limit shall be reduced to  $8-(9.54-6) = 4.46\text{dBm}$ .

##### 802.11g

TX chain	Channel	Freq. (MHz)	PSD W/O Duty Factor (dBm/3kHz)	10 log (N=3) dB	Duty Factor (dB)	TOTAL PSD With Duty Factor (dBm/3kHz)	Limit (dBm/3kHz)	Pass /Fail
0	1	2412	-15.18	4.77	0.14	-10.27	4.46	Pass
	6	2437	-9.88	4.77	0.14	-4.97	4.46	Pass
	11	2462	-17.17	4.77	0.14	-12.26	4.46	Pass
1	1	2412	-15.08	4.77	0.14	-10.17	4.46	Pass
	6	2437	-10.47	4.77	0.14	-5.56	4.46	Pass
	11	2462	-17.84	4.77	0.14	-12.93	4.46	Pass
3	1	2412	-15.62	4.77	0.14	-10.71	4.46	Pass
	6	2437	-10.26	4.77	0.14	-5.35	4.46	Pass
	11	2462	-17.53	4.77	0.14	-12.62	4.46	Pass

**Note:** 1. Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + 10^{G2/20})^2 / 3] = 9.54\text{dBi} > 6\text{dBi}$ , so the power density limit shall be reduced to  $8-(9.54-6) = 4.46\text{dBm}$ .

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

### 802.11n (HT20)

TX chain	Channel	Freq. (MHz)	PSD (dBm/3kHz)	10 log (N=3) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	Pass /Fail
0	1	2412	-16.22	4.77	-11.45	4.46	Pass
	6	2437	-10.02	4.77	-5.25	4.46	Pass
	11	2462	-16.89	4.77	-12.12	4.46	Pass
1	1	2412	-16.90	4.77	-12.13	4.46	Pass
	6	2437	-10.74	4.77	-5.97	4.46	Pass
	11	2462	-16.42	4.77	-11.65	4.46	Pass
3	1	2412	-15.91	4.77	-11.14	4.46	Pass
	6	2437	-9.20	4.77	-4.43	4.46	Pass
	11	2462	-16.86	4.77	-12.09	4.46	Pass

**Note:** 1. Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + 10^{G2/20})^2 / 3] = 9.54\text{dBi} > 6\text{dBi}$ , so the power density limit shall be reduced to  $8-(9.54-6) = 4.46\text{dBm}$ .

### 802.11n (HT40)

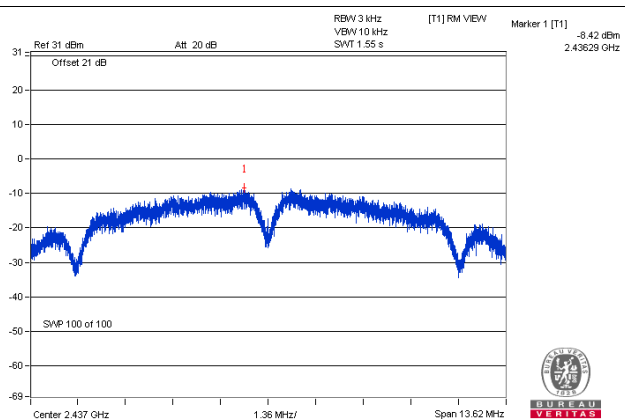
TX chain	Channel	Freq. (MHz)	PSD W/O Duty Factor (dBm/3kHz)	10 log (N=3) dB	Duty Factor (dB)	TOTAL PSD With Duty Factor (dBm/3kHz)	Limit (dBm/3kHz)	Pass /Fail
0	3	2422	-19.42	4.77	0.13	-14.52	4.46	Pass
	6	2437	-18.64	4.77	0.13	-13.74	4.46	Pass
	9	2452	-20.62	4.77	0.13	-15.72	4.46	Pass
1	3	2422	-18.44	4.77	0.13	-13.54	4.46	Pass
	6	2437	-17.27	4.77	0.13	-12.37	4.46	Pass
	9	2452	-20.89	4.77	0.13	-15.99	4.46	Pass
3	3	2422	-18.30	4.77	0.13	-13.40	4.46	Pass
	6	2437	-17.31	4.77	0.13	-12.41	4.46	Pass
	9	2452	-19.87	4.77	0.13	-14.97	4.46	Pass

**Note:** 1. Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + 10^{G2/20})^2 / 3] = 9.54\text{dBi} > 6\text{dBi}$ , so the power density limit shall be reduced to  $8-(9.54-6) = 4.46\text{dBm}$ .

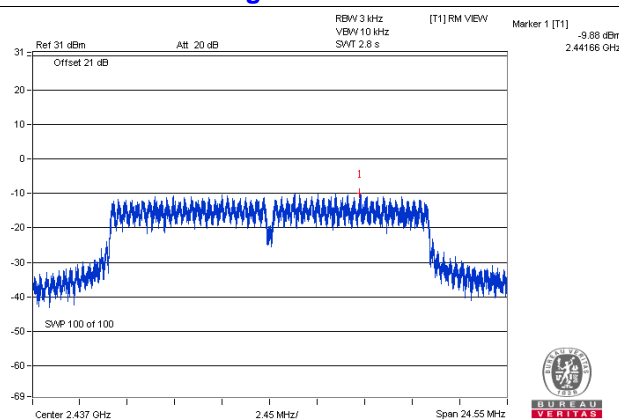
2. Refer to section 3.3 for duty cycle spectrum plot.

## Spectrum Plot of Worst Value

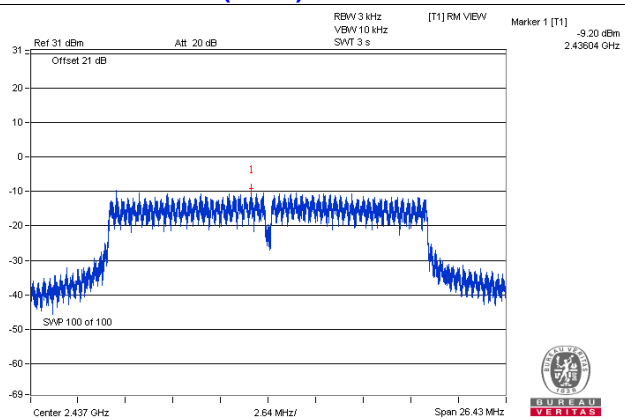
### 802.11b / Chain 0 : CH6



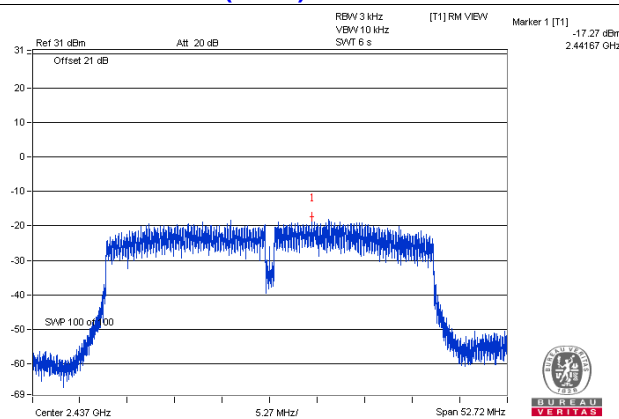
### 802.11g / Chain 0 : CH6



### 802.11n (HT20) / Chain 3 : CH6



### 802.11n (HT40) / Chain 1 : CH6



#### 4.5.9 Test Results (Mode 3)

##### 802.11b

TX chain	Channel	Freq. (MHz)	PSD (dBm/3kHz)	10 log (N=2) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	Pass /Fail
0	1	2412	-7.94	3.01	-4.93	6.08	Pass
	6	2437	-7.26	3.01	-4.25	6.08	Pass
	11	2462	-8.25	3.01	-5.24	6.08	Pass
3	1	2412	-7.54	3.01	-4.53	6.08	Pass
	6	2437	-6.99	3.01	-3.98	6.08	Pass
	11	2462	-8.33	3.01	-5.32	6.08	Pass

**Note:** 1. Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 7.92\text{dBi} > 6\text{dBi}$ , so the power density limit shall be reduced to  $8-(7.92-6) = 6.08\text{dBm}$ .

##### 802.11g

TX chain	Channel	Freq. (MHz)	PSD W/O Duty Factor (dBm/3kHz)	10 log (N=2) dB	Duty Factor (dB)	TOTAL PSD With Duty Factor (dBm/3kHz)	Limit (dBm/3kHz)	Pass /Fail
0	1	2412	-15.60	3.01	0.14	-12.45	6.08	Pass
	6	2437	-9.00	3.01	0.14	-5.85	6.08	Pass
	11	2462	-16.27	3.01	0.14	-13.12	6.08	Pass
3	1	2412	-14.76	3.01	0.14	-11.61	6.08	Pass
	6	2437	-9.38	3.01	0.14	-6.23	6.08	Pass
	11	2462	-15.51	3.01	0.14	-12.36	6.08	Pass

**Note:** 1. Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 7.92\text{dBi} > 6\text{dBi}$ , so the power density limit shall be reduced to  $8-(7.92-6) = 6.08\text{dBm}$ .

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

### 802.11n (HT20)

TX chain	Channel	Freq. (MHz)	PSD (dBm/3kHz)	10 log (N=2) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	Pass /Fail
0	1	2412	-15.74	3.01	-12.73	6.08	Pass
	6	2437	-8.91	3.01	-5.90	6.08	Pass
	11	2462	-16.73	3.01	-13.72	6.08	Pass
3	1	2412	-15.44	3.01	-12.43	6.08	Pass
	6	2437	-9.40	3.01	-6.39	6.08	Pass
	11	2462	-16.50	3.01	-13.49	6.08	Pass

**Note:** 1. Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 7.92\text{dBi} > 6\text{dBi}$ , so the power density limit shall be reduced to  $8-(7.92-6) = 6.08\text{dBm}$ .

### 802.11n (HT40)

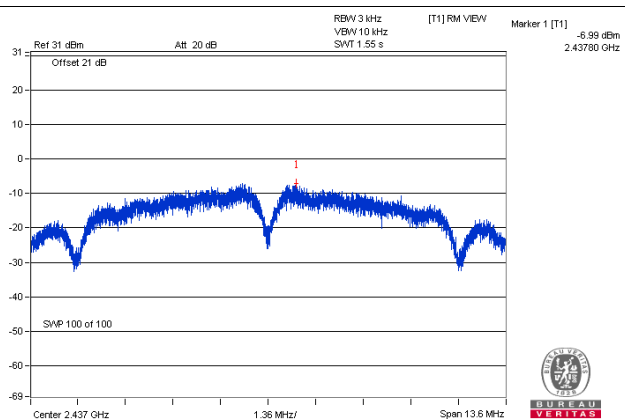
TX chain	Channel	Freq. (MHz)	PSD W/O Duty Factor (dBm/3kHz)	10 log (N=2) dB	Duty Factor (dB)	TOTAL PSD With Duty Factor (dBm/3kHz)	Limit (dBm/3kHz)	Pass /Fail
0	3	2422	-19.77	3.01	0.13	-16.63	6.08	Pass
	6	2437	-17.59	3.01	0.13	-14.45	6.08	Pass
	9	2452	-19.55	3.01	0.13	-16.41	6.08	Pass
3	3	2422	-18.65	3.01	0.13	-15.51	6.08	Pass
	6	2437	-17.85	3.01	0.13	-14.71	6.08	Pass
	9	2452	-19.88	3.01	0.13	-16.74	6.08	Pass

**Note:** 1. Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 7.92\text{dBi} > 6\text{dBi}$ , so the power density limit shall be reduced to  $8-(7.92-6) = 6.08\text{dBm}$ .

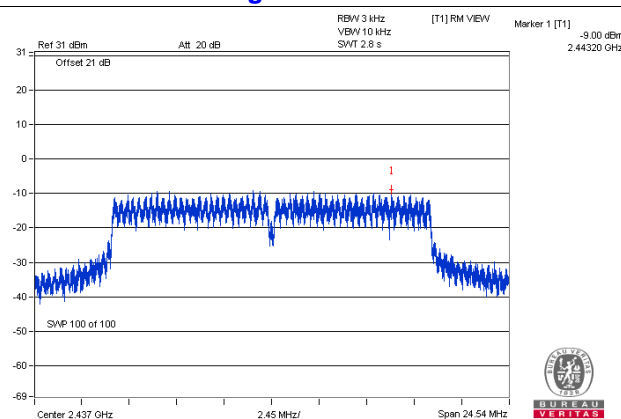
2. Refer to section 3.3 for duty cycle spectrum plot.

## Spectrum Plot of Worst Value

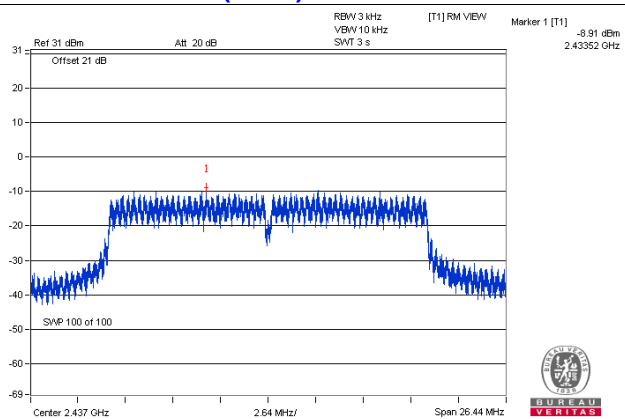
### 802.11b / Chain 3 : CH6



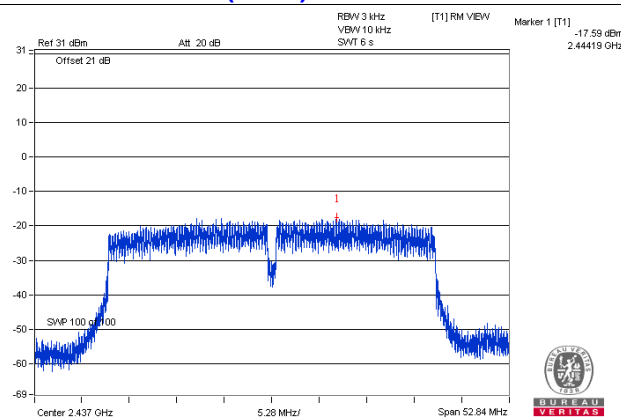
### 802.11g / Chain 0 : CH6



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



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



#### 4.5.10 Test Results (Mode 4)

##### 802.11b

Channel	Freq. (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Pass /Fail
1	2412	-7.40	8	Pass
6	2437	-6.75	8	Pass
11	2462	-8.66	8	Pass

##### 802.11g

Channel	Frequency (MHz)	PSD W/O Duty Factor (dBm/3kHz)	Duty Factor (dB)	TOTAL PSD With Duty Factor (dBm/3kHz)	Limit (dBm/3kHz)	Pass /Fail
1	2412	-14.20	0.14	-14.06	8	Pass
6	2437	-9.89	0.14	-9.75	8	Pass
11	2462	-15.96	0.14	-15.82	8	Pass

##### 802.11n (HT20)

Channel	Freq. (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Pass /Fail
1	2412	-15.46	8	Pass
6	2437	-9.47	8	Pass
11	2462	-16.20	8	Pass

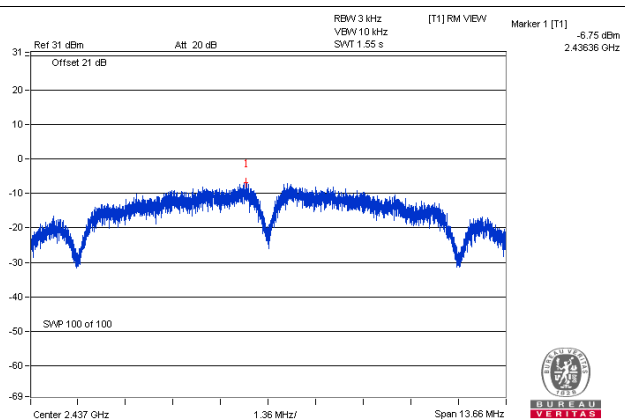
##### 802.11n (HT40)

Channel	Frequency (MHz)	PSD W/O Duty Factor (dBm/3kHz)	Duty Factor (dB)	TOTAL PSD With Duty Factor (dBm/3kHz)	Limit (dBm/3kHz)	Pass /Fail
3	2422	-18.82	0.13	-18.69	8	Pass
6	2437	-16.86	0.13	-16.73	8	Pass
9	2452	-20.67	0.13	-20.54	8	Pass

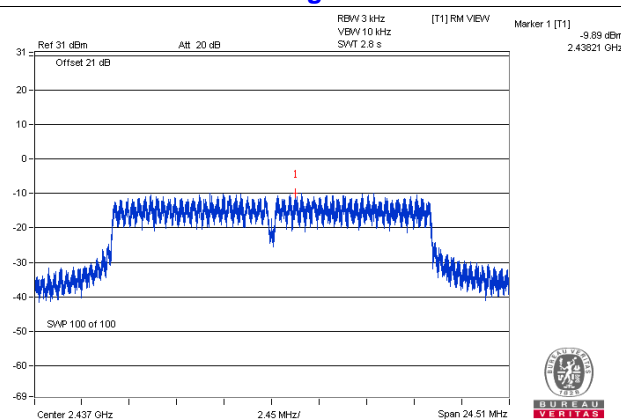


## Spectrum Plot of Worst Value

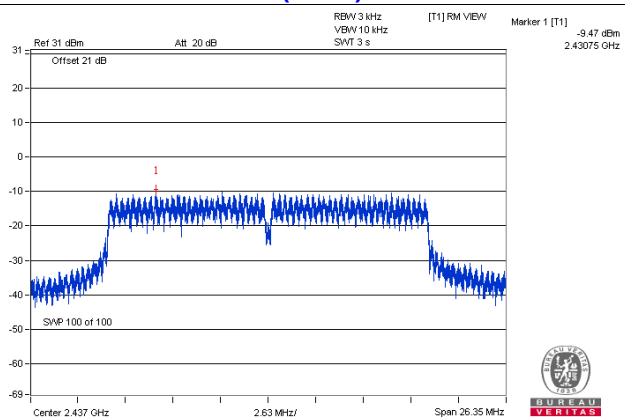
### 802.11b : CH6



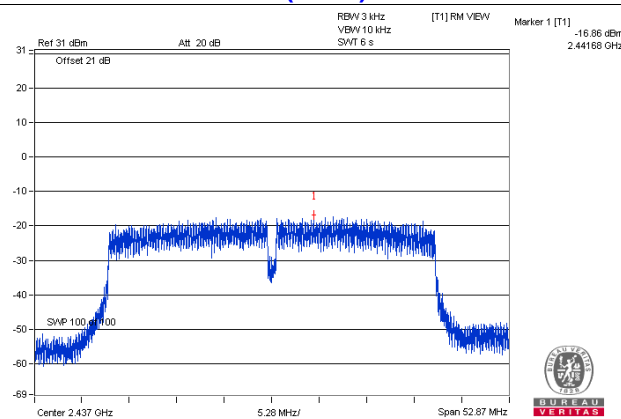
### 802.11g : CH6



### 802.11n (HT20) : CH6



### 802.11n (HT40) : CH6

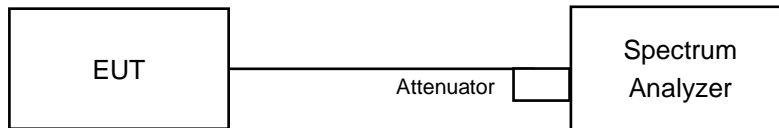


## 4.6 Conducted Out of Band Emission Measurement

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

Below 30dB of the highest emission level of operating band (in 100kHz Resolution Bandwidth).

### 4.6.2 Test Setup



### 4.6.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

### 4.6.4 Test Procedure

#### MEASUREMENT PROCEDURE REF

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

#### MEASUREMENT PROCEDURE OOB

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

### 4.6.5 Deviation from Test Standard

No deviation.

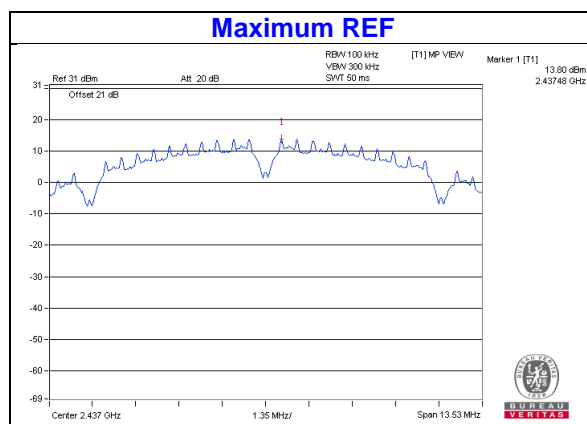
### 4.6.6 EUT Operating Condition

Same as Item 4.3.6

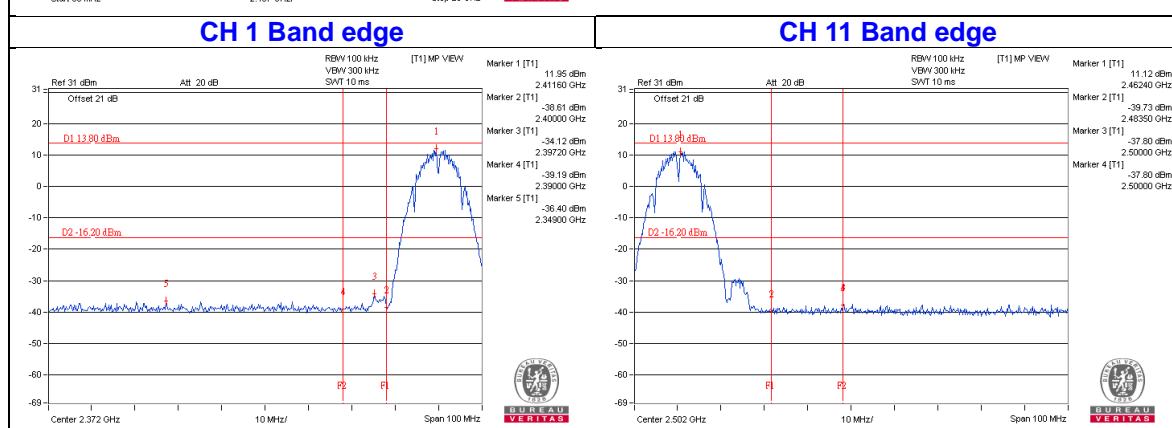
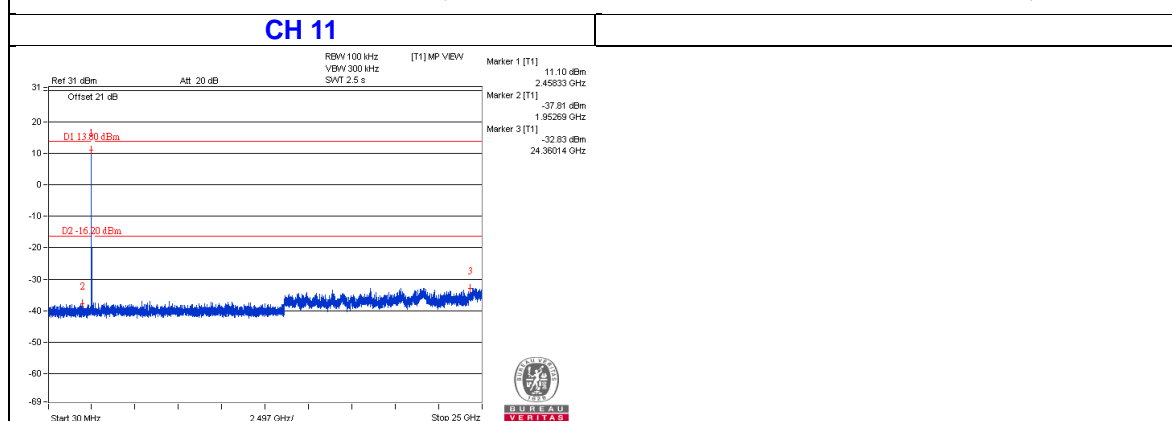
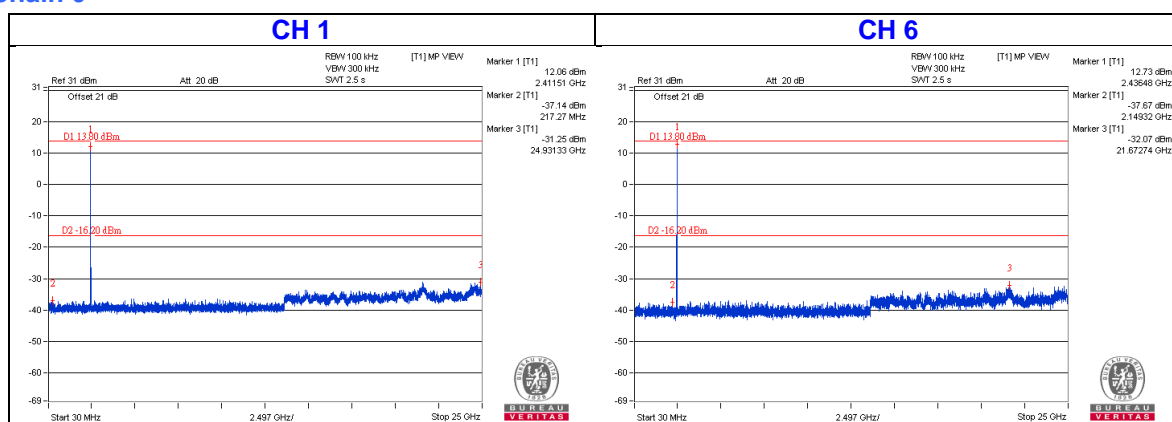
### 4.6.7 Test Results

The spectrum plots are attached on the following pages. D1 line indicates the highest level, and D2 line indicates the 30dB offset below D1. It shows compliance with the requirement.

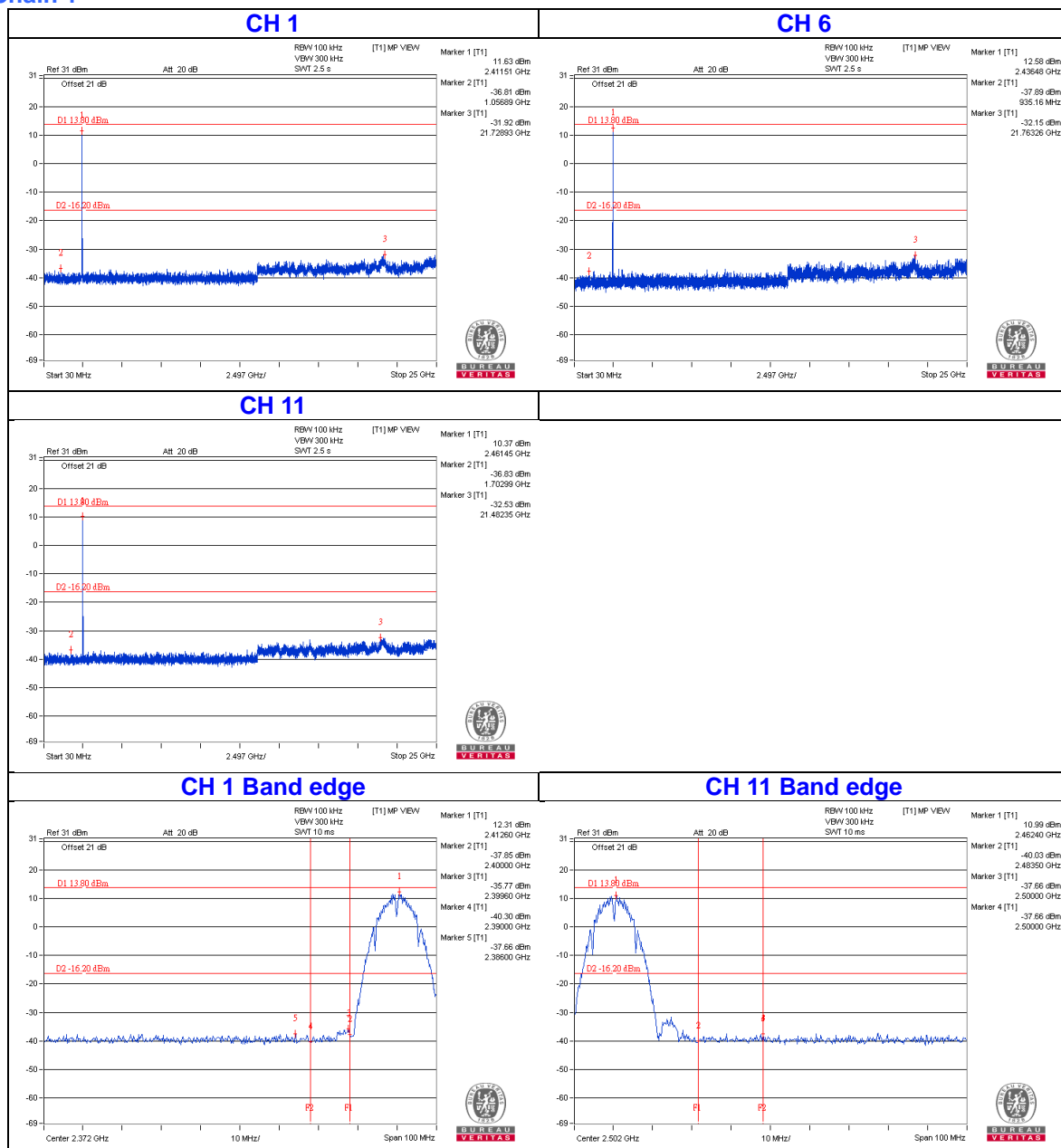
## 4TX Mode 802.11b



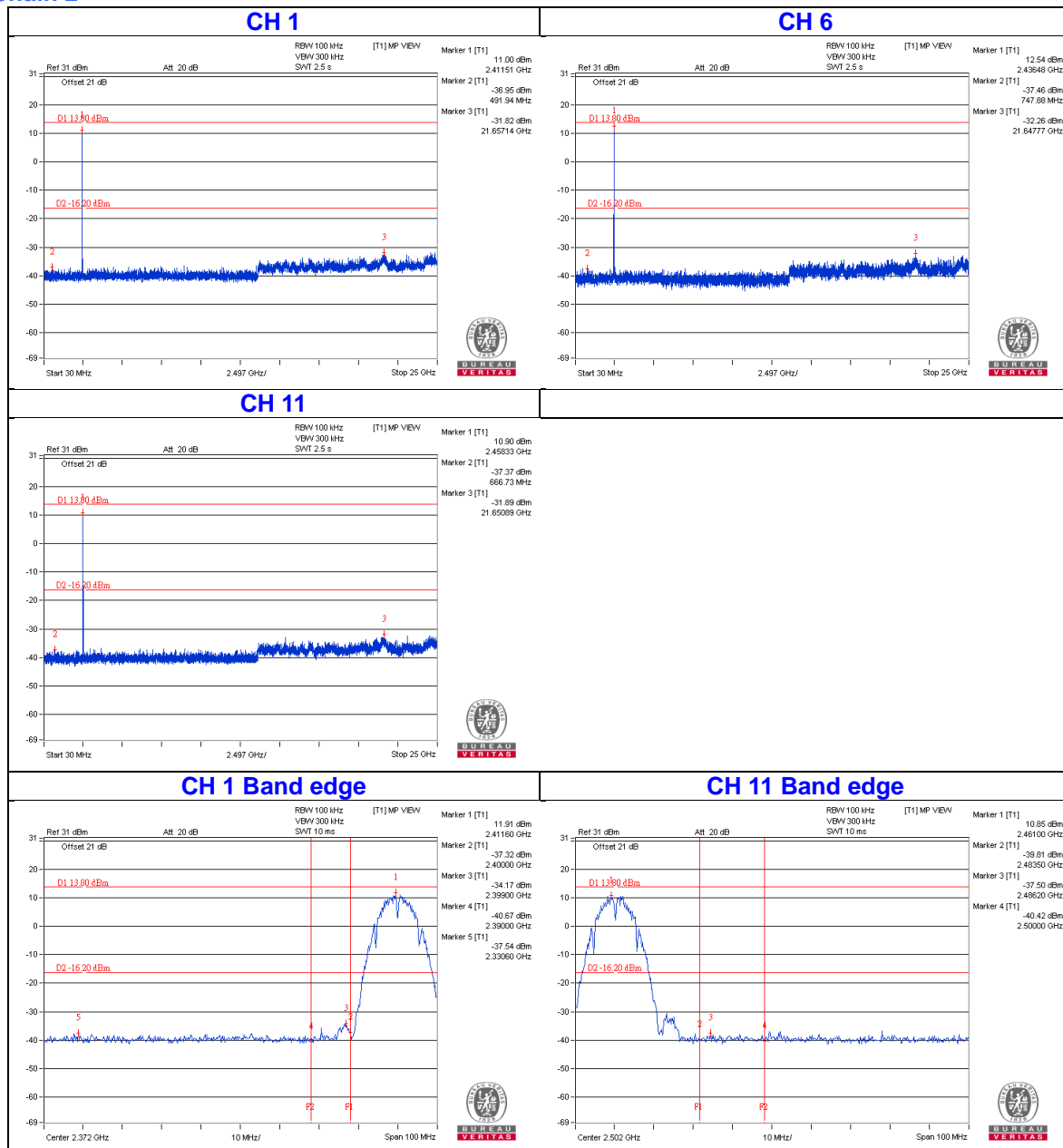
## Chain 0



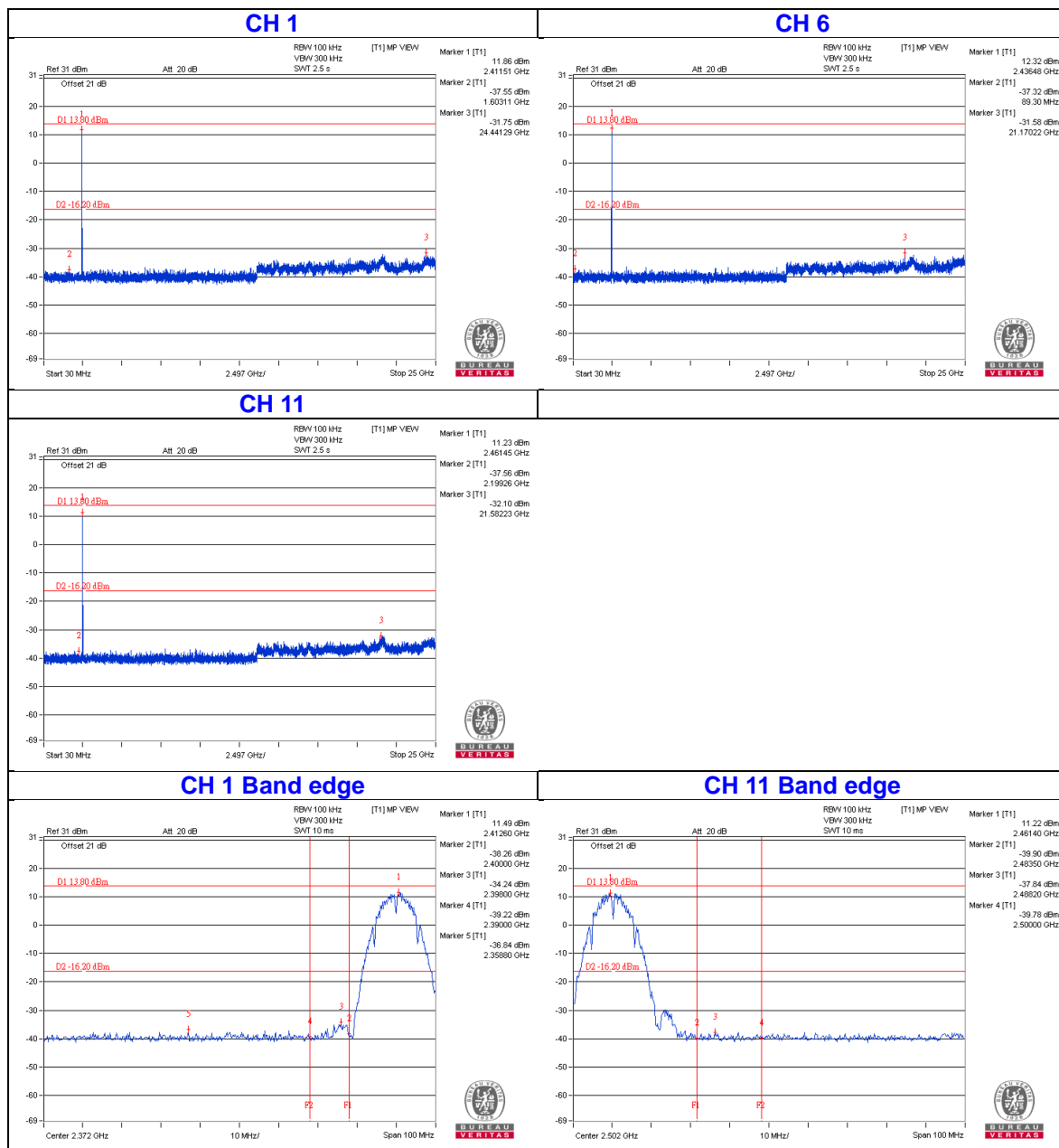
## Chain 1



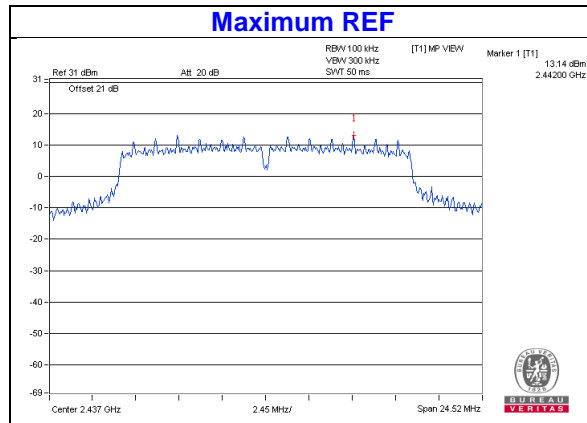
## Chain 2



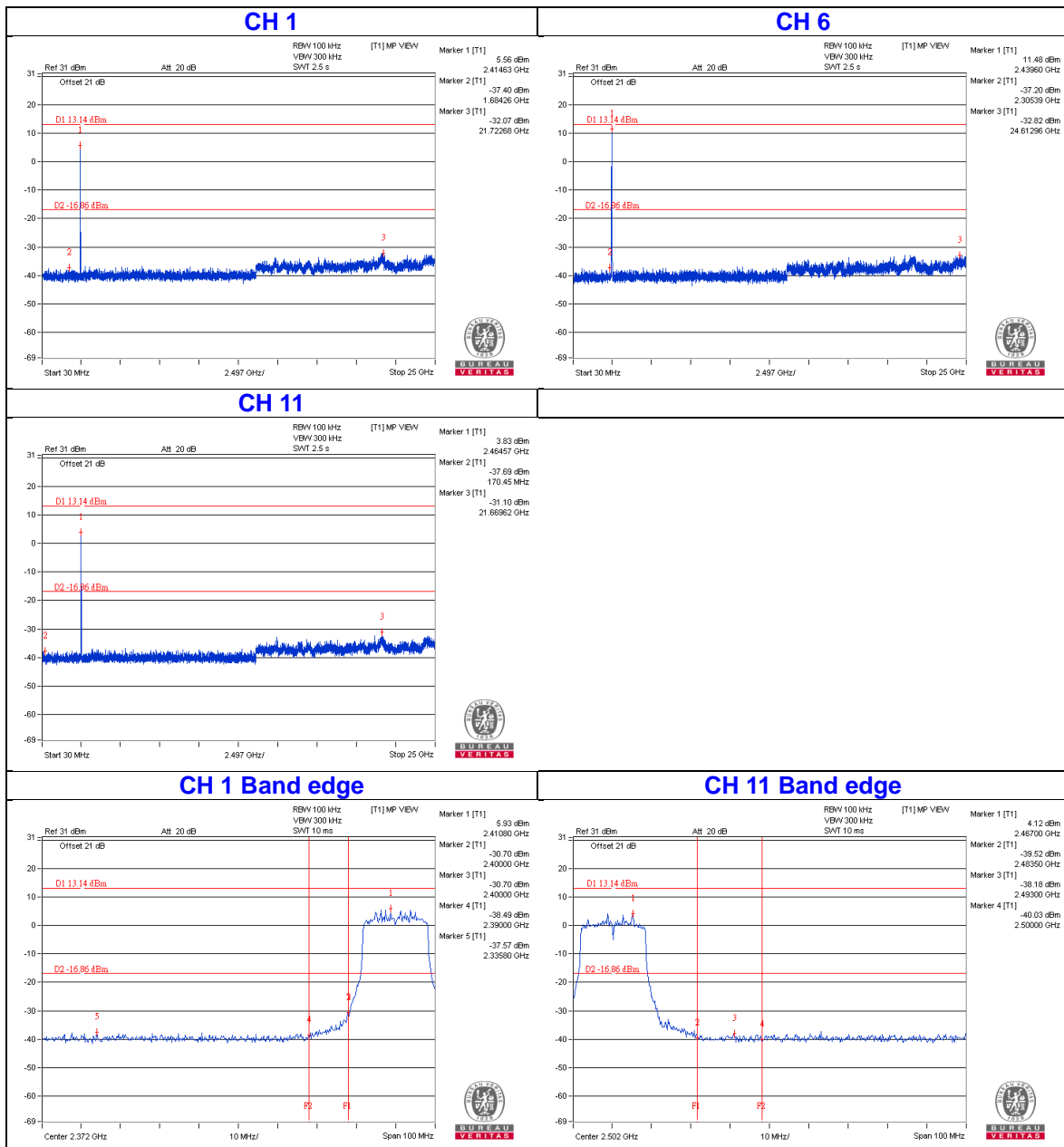
## Chain 3



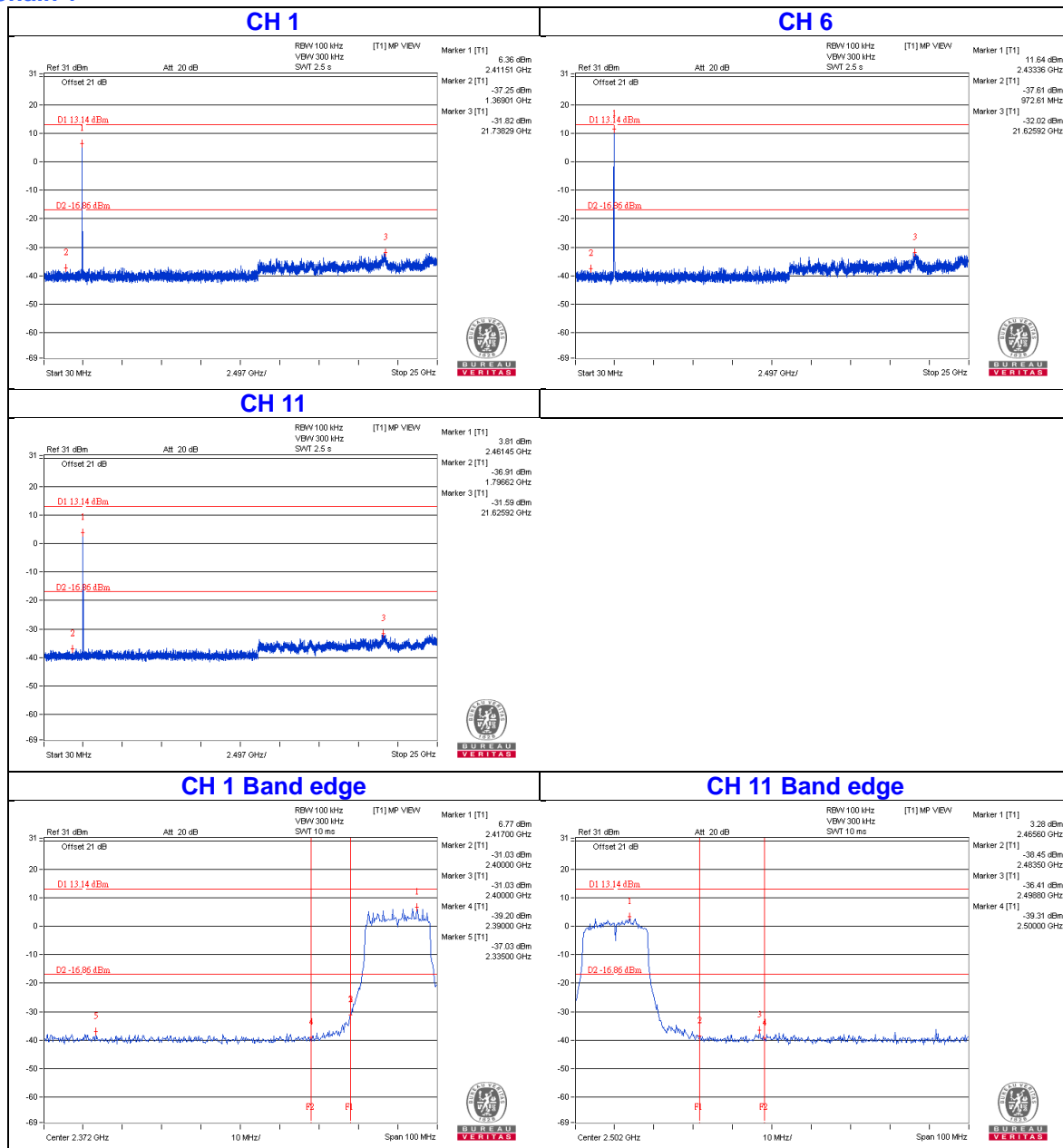
802.11g



Chain 0

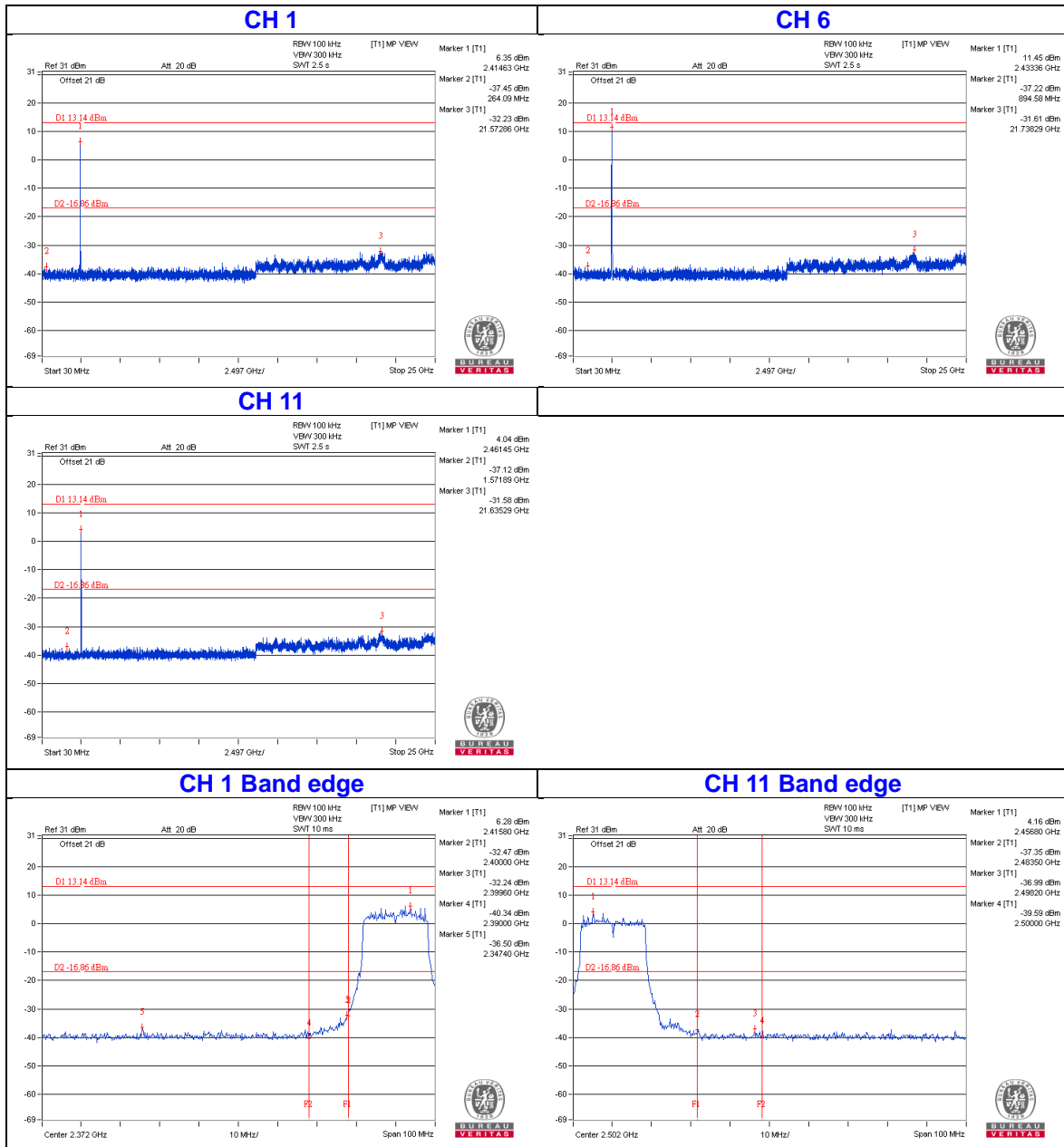


## Chain 1

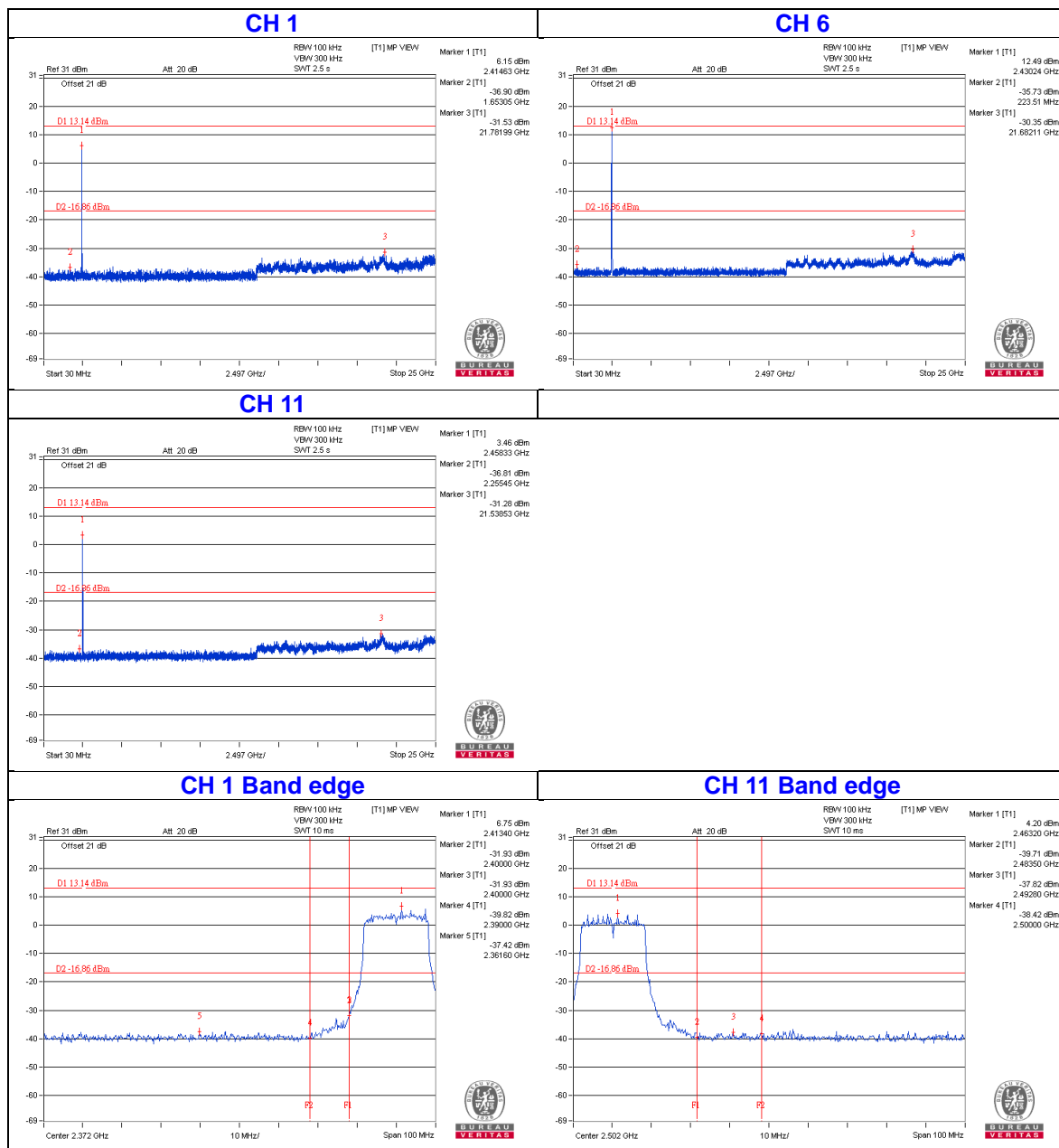




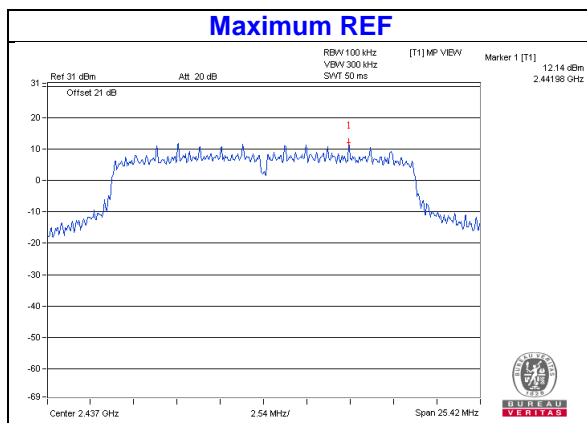
## Chain 2



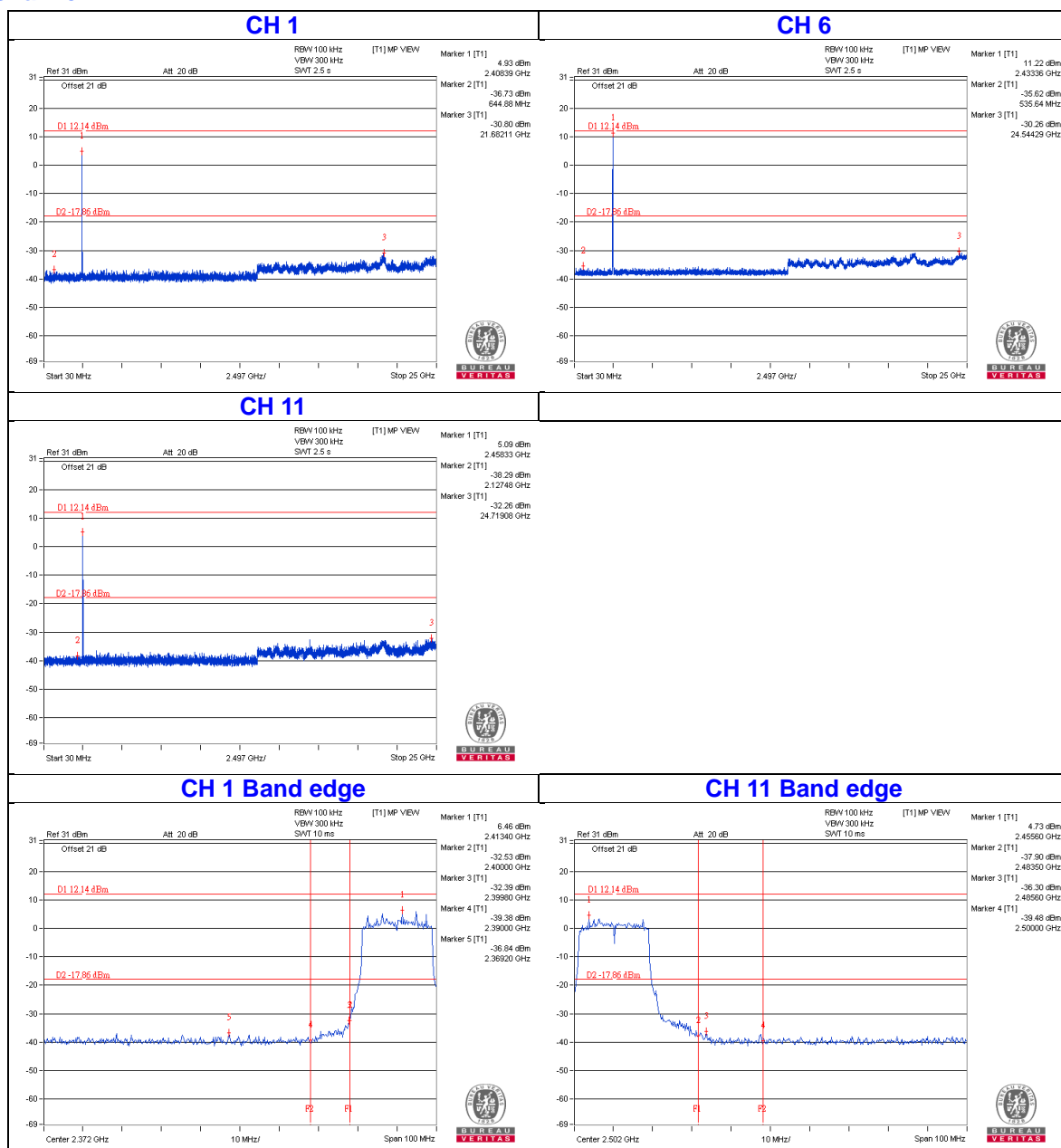
## Chain 3



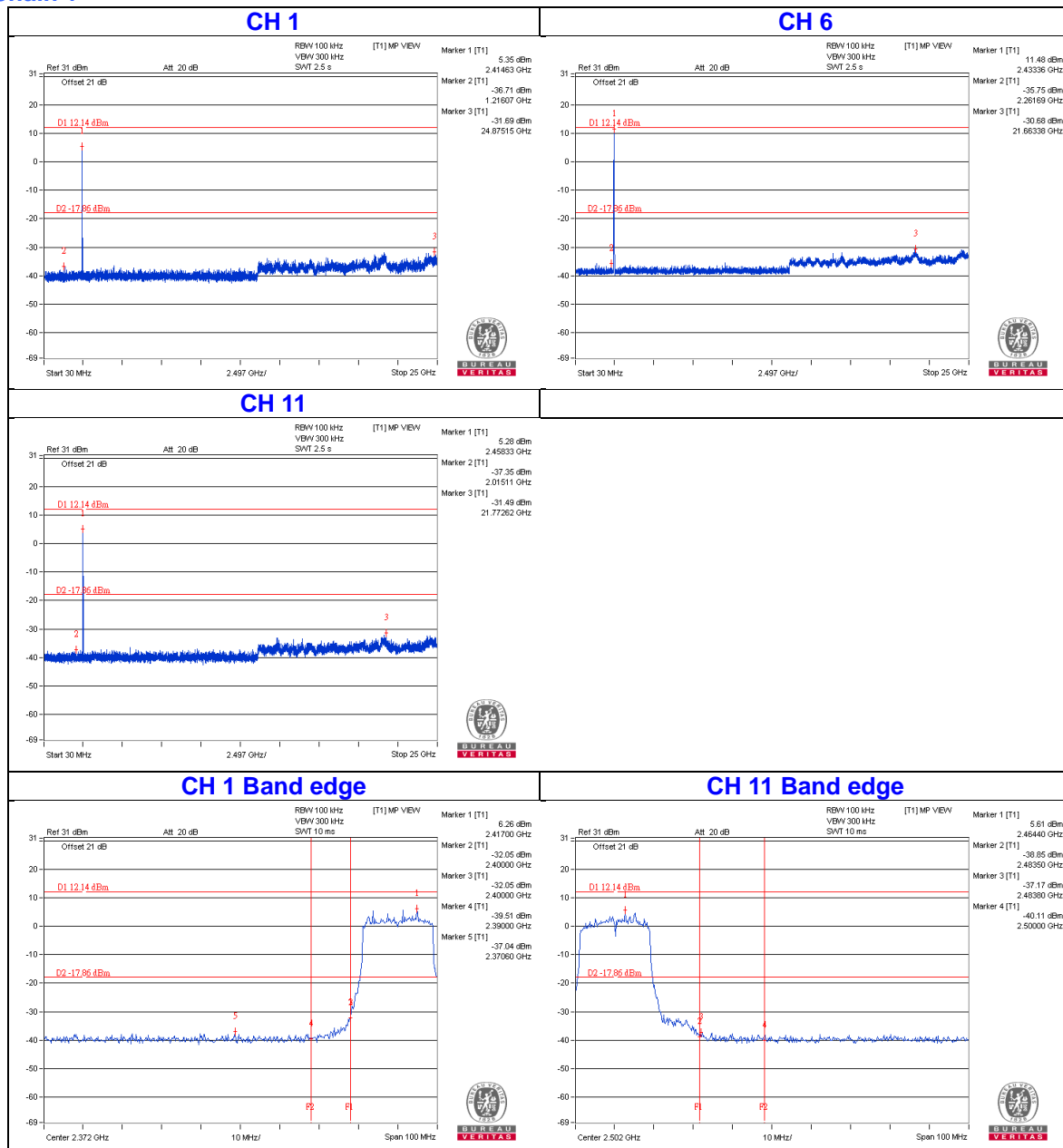
## 802.11n (HT20)



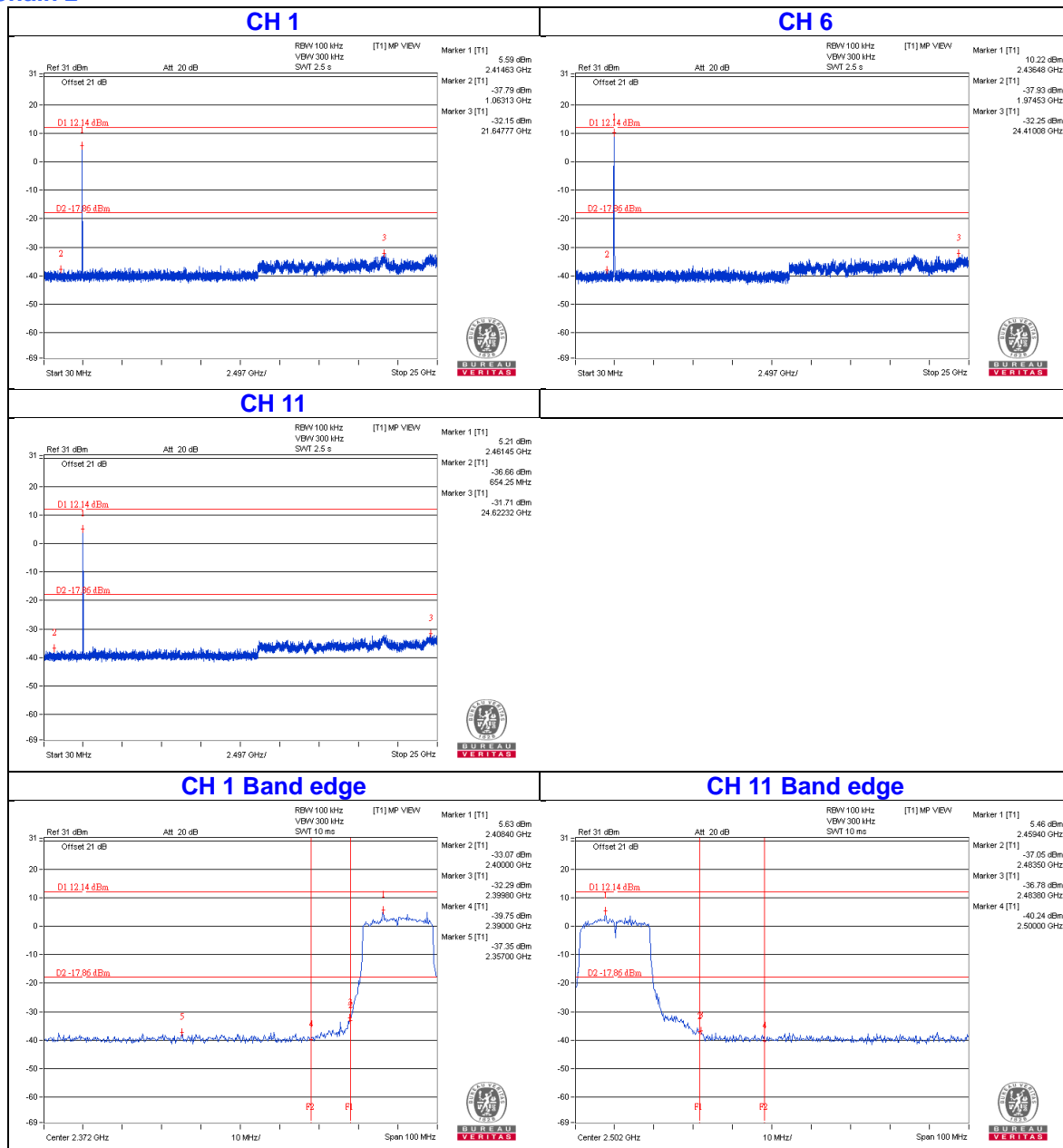
## Chain 0



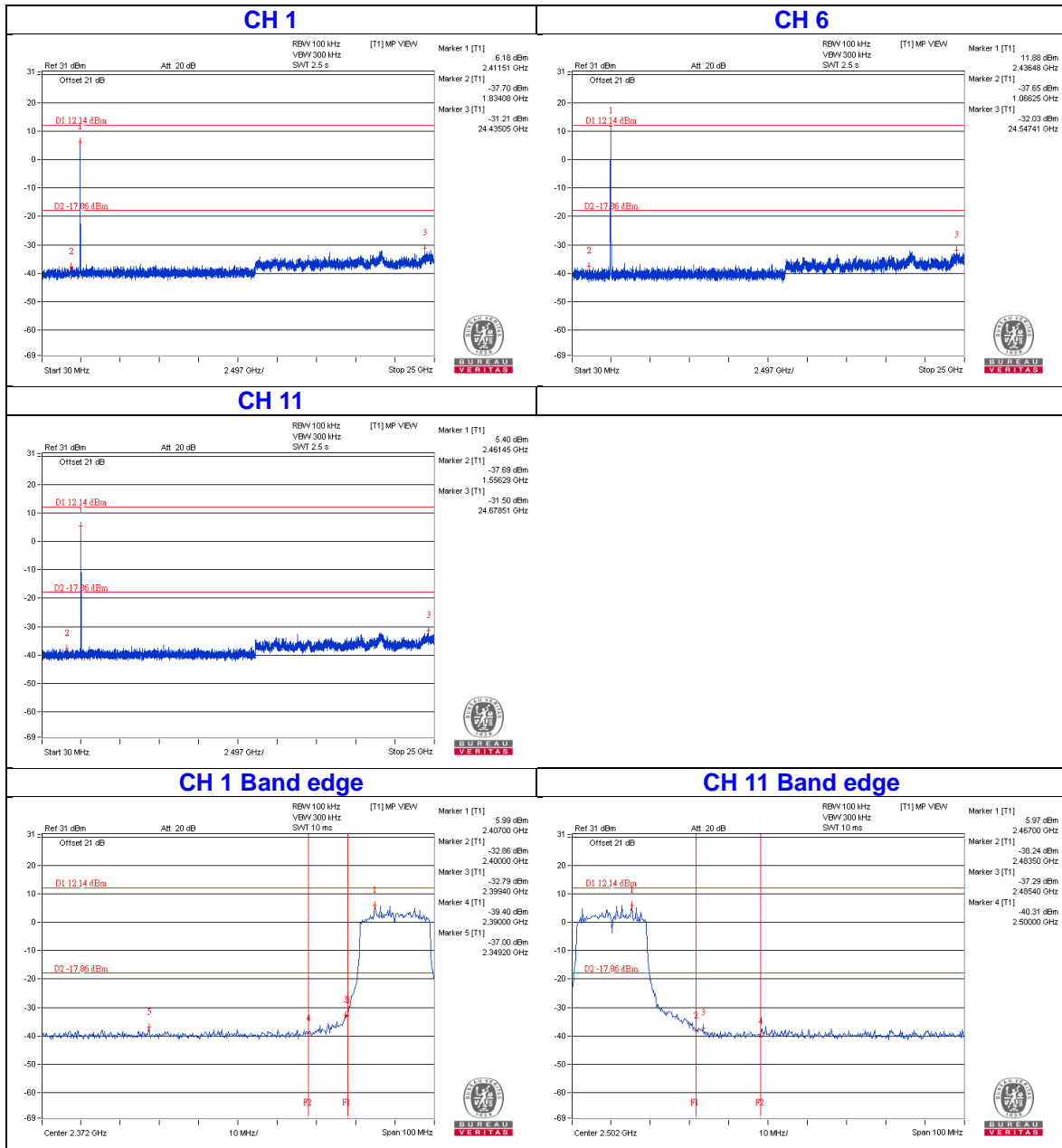
## Chain 1



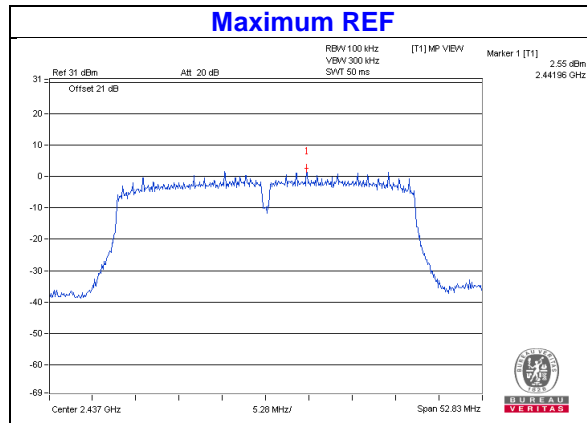
## Chain 2



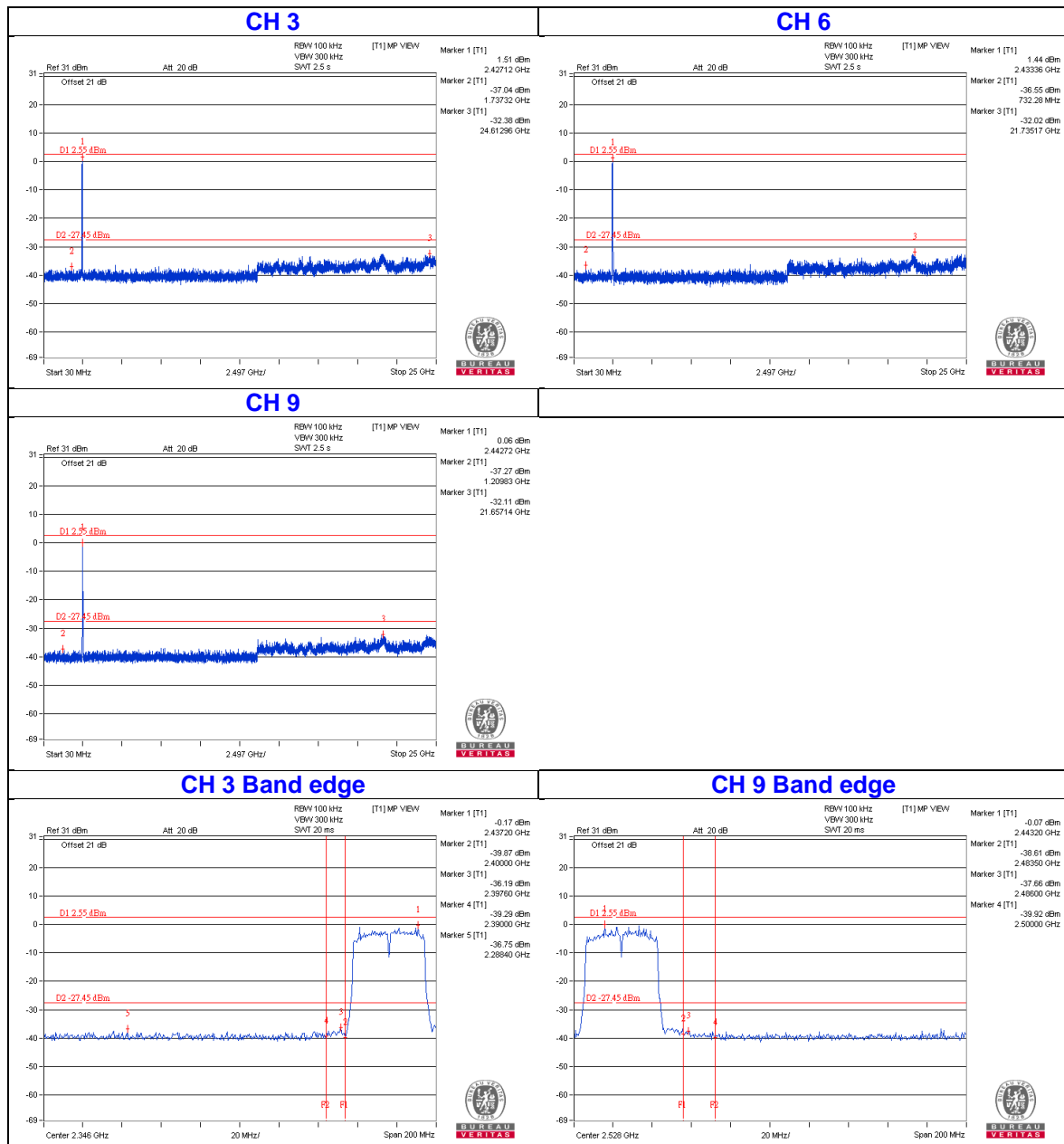
## Chain 3



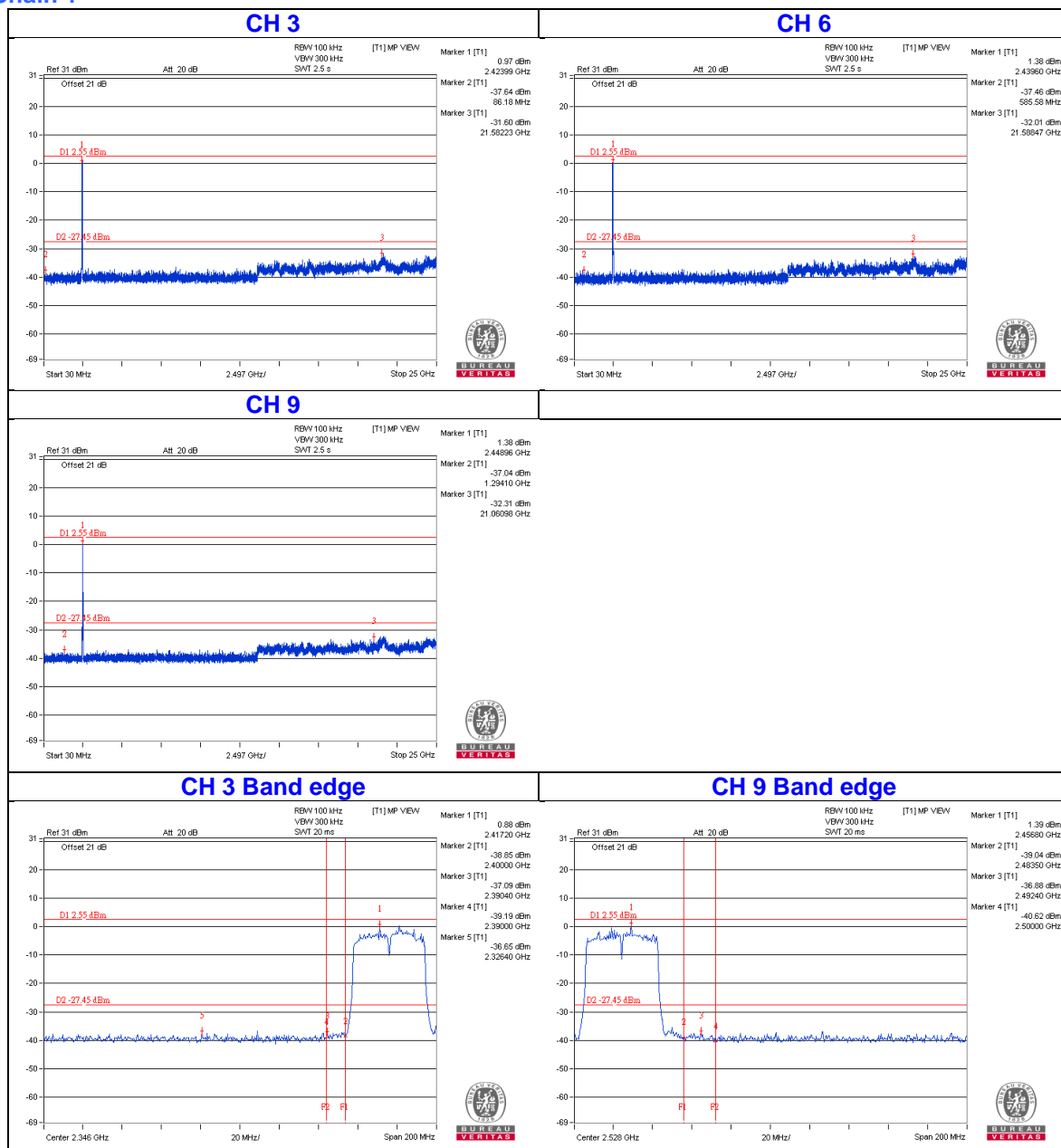
## 802.11n (HT40)



## Chain 0

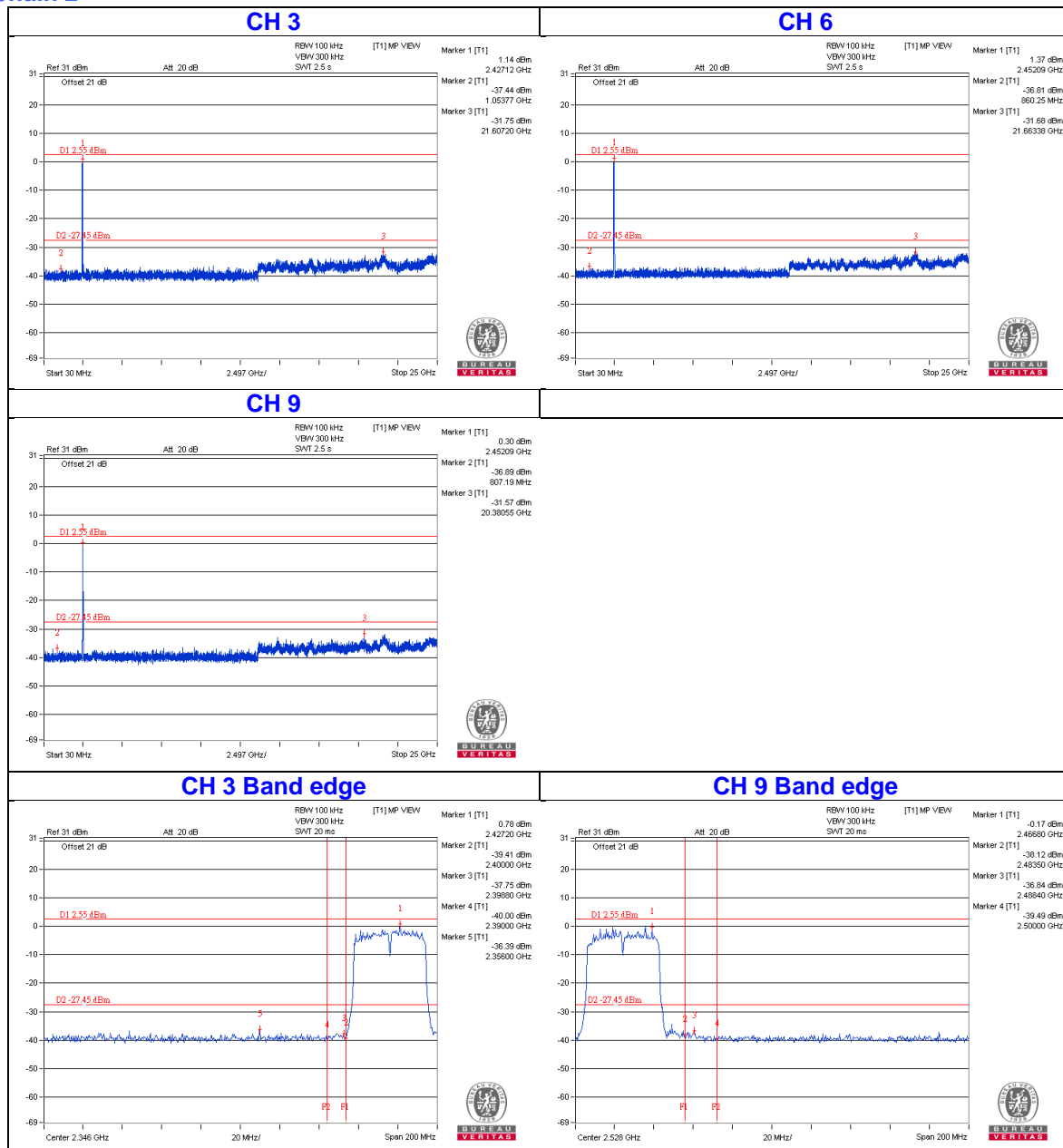


## Chain 1

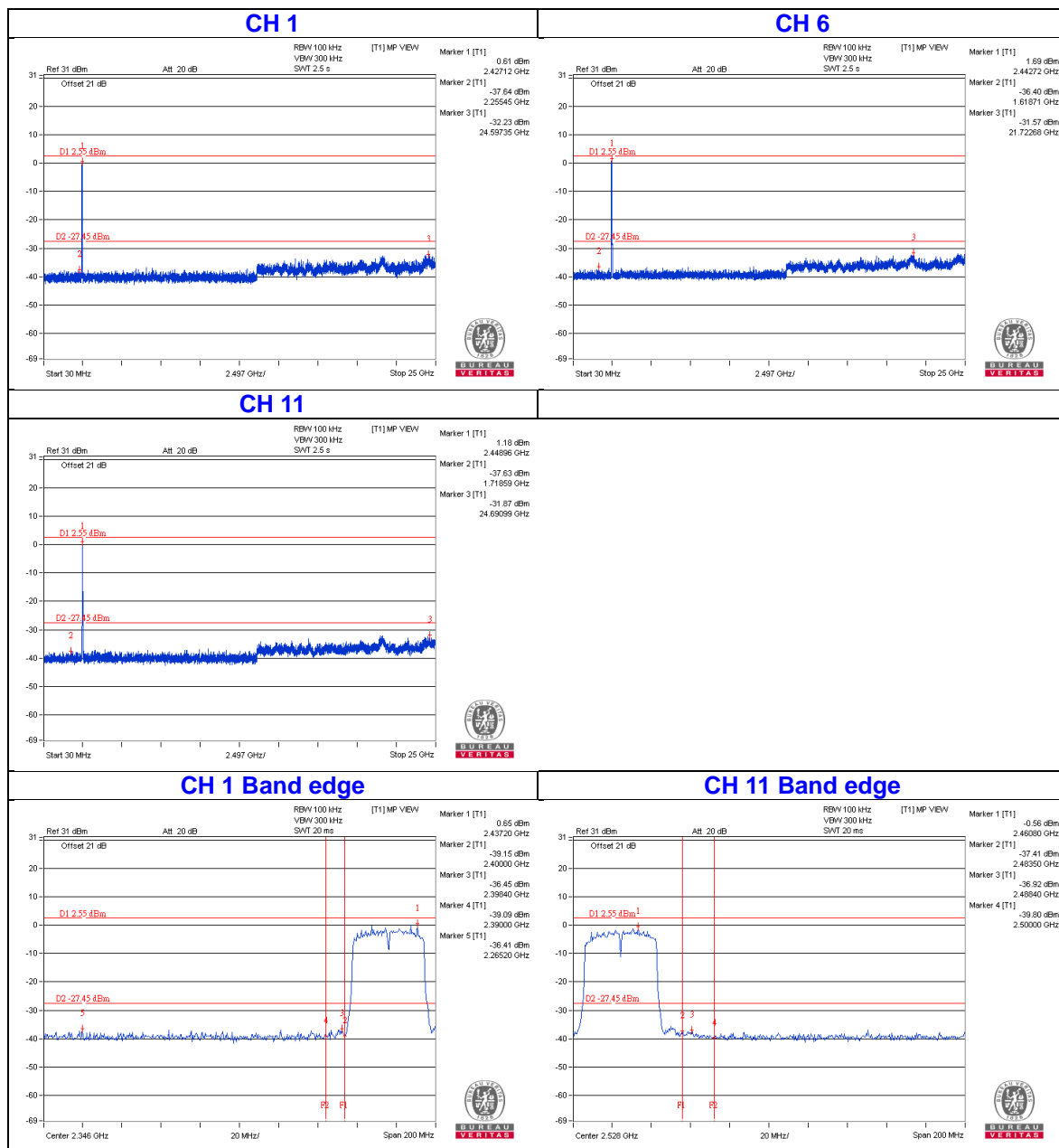




## Chain 2

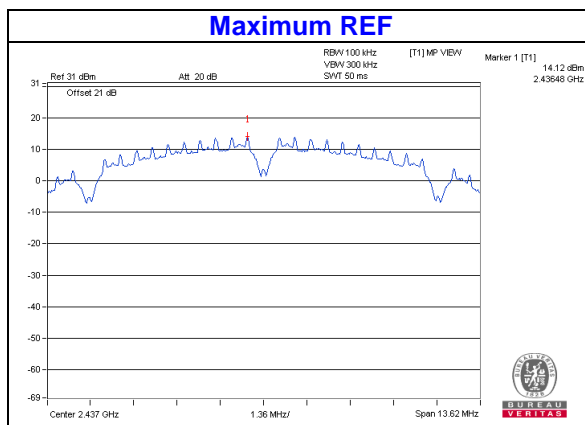


## Chain 3

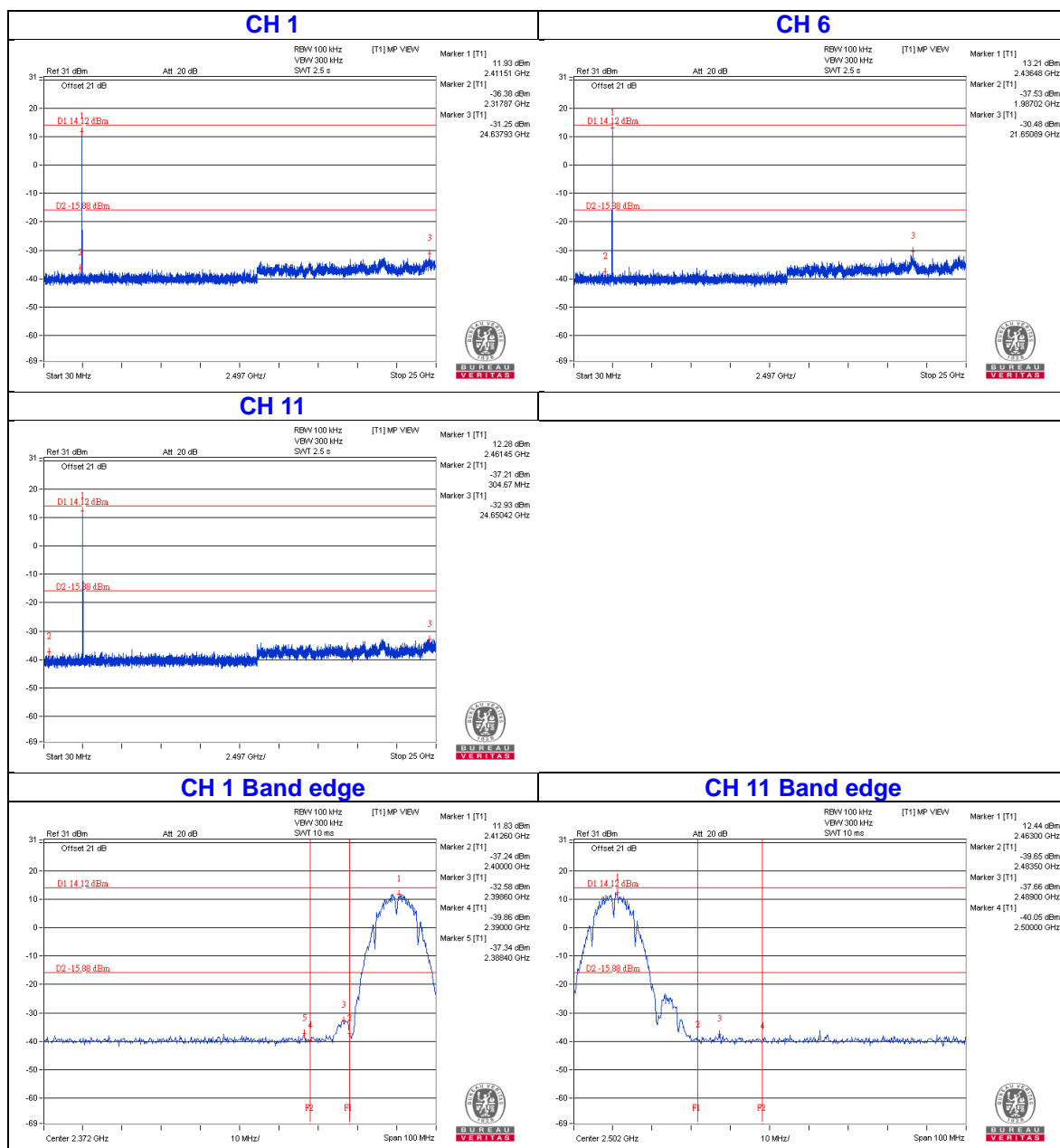


## 3TX Mode

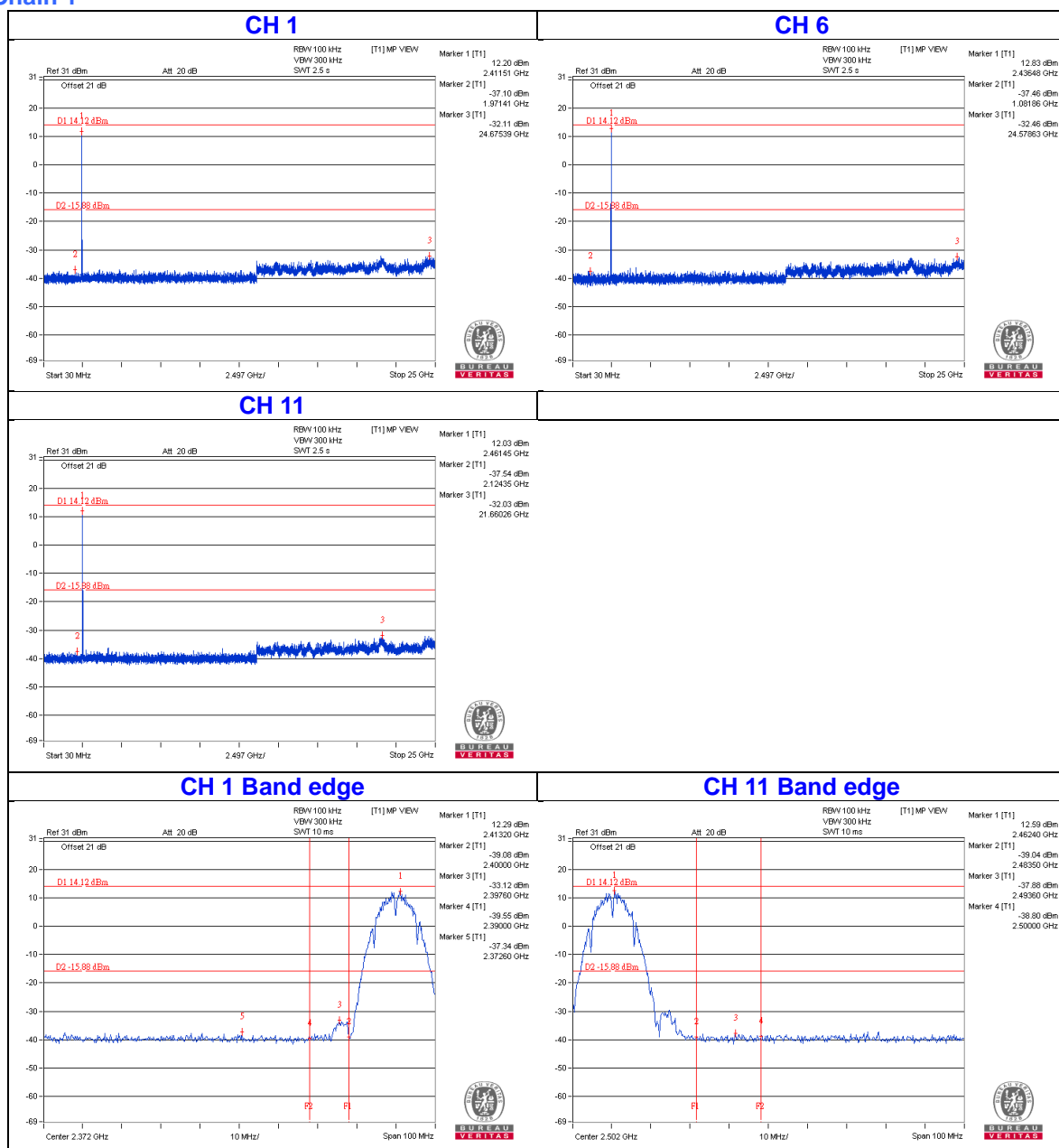
802.11b



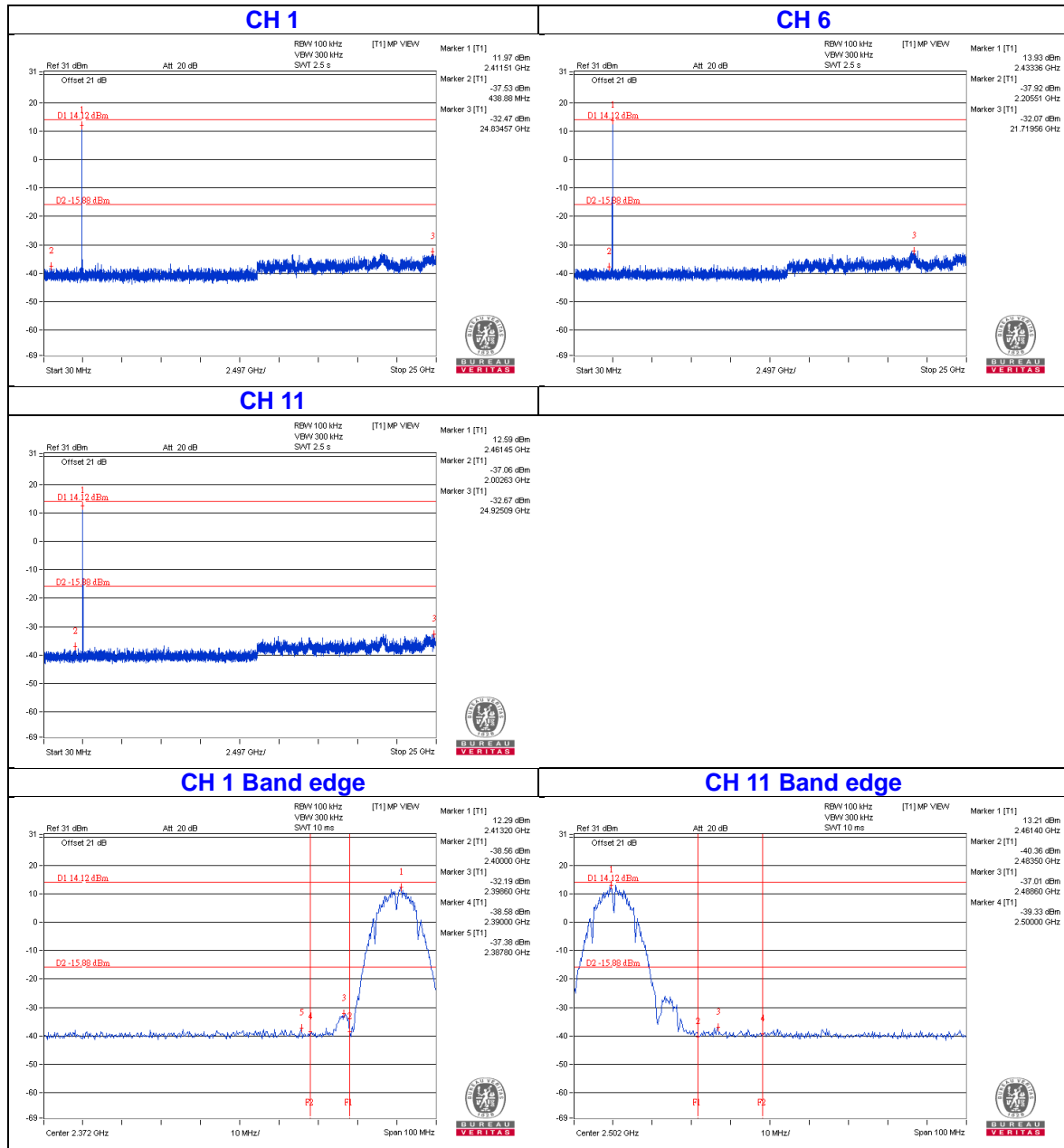
## Chain 0



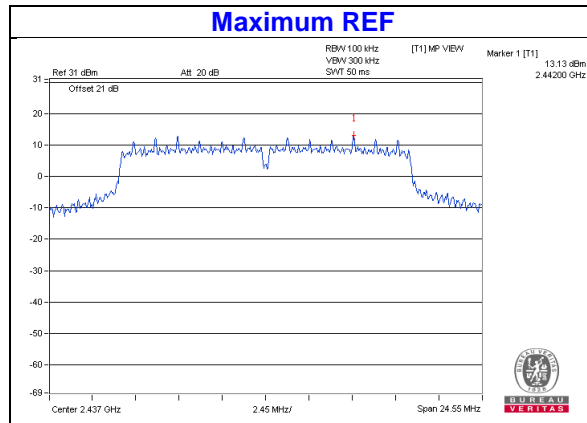
## Chain 1



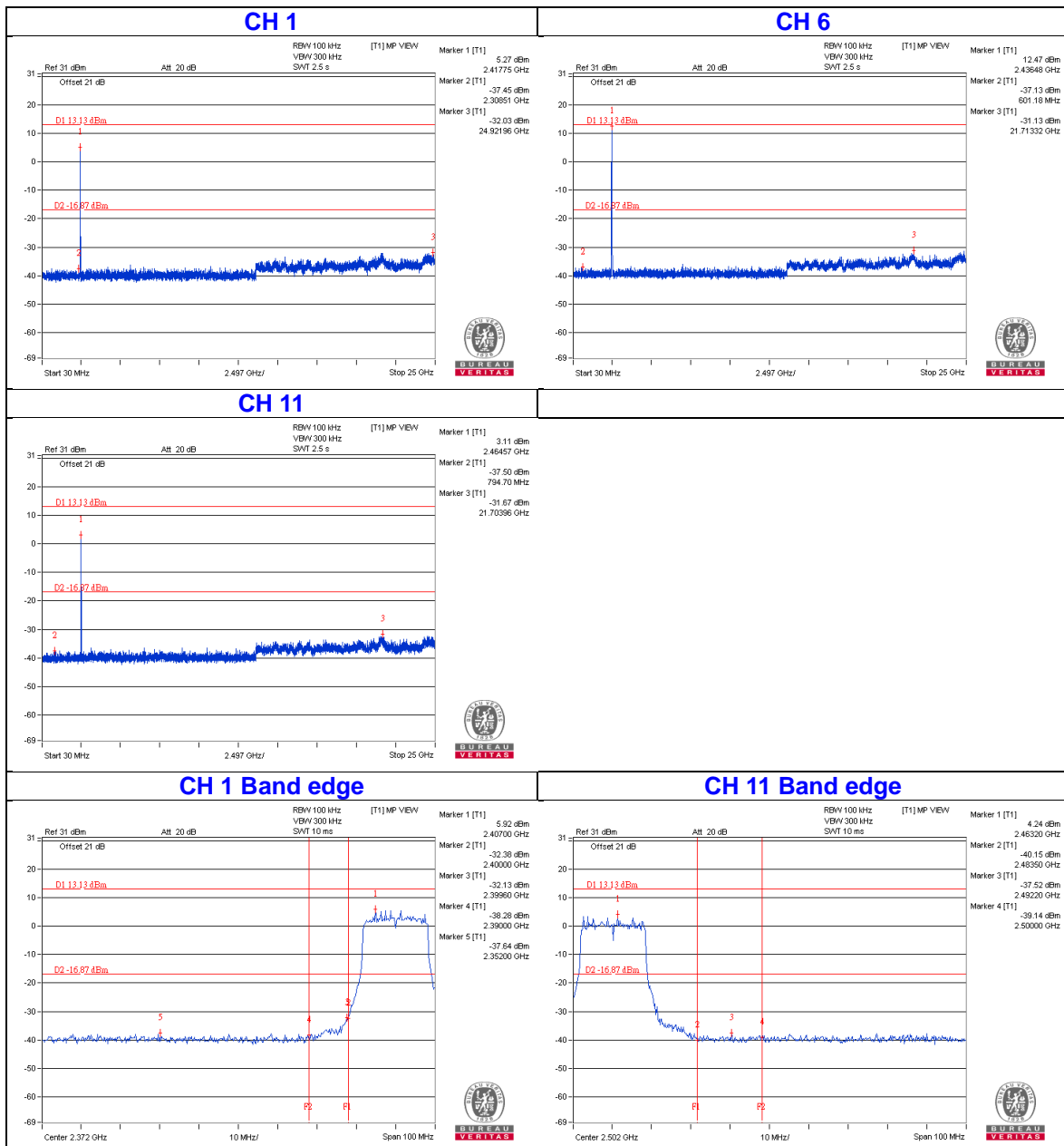
## Chain 3



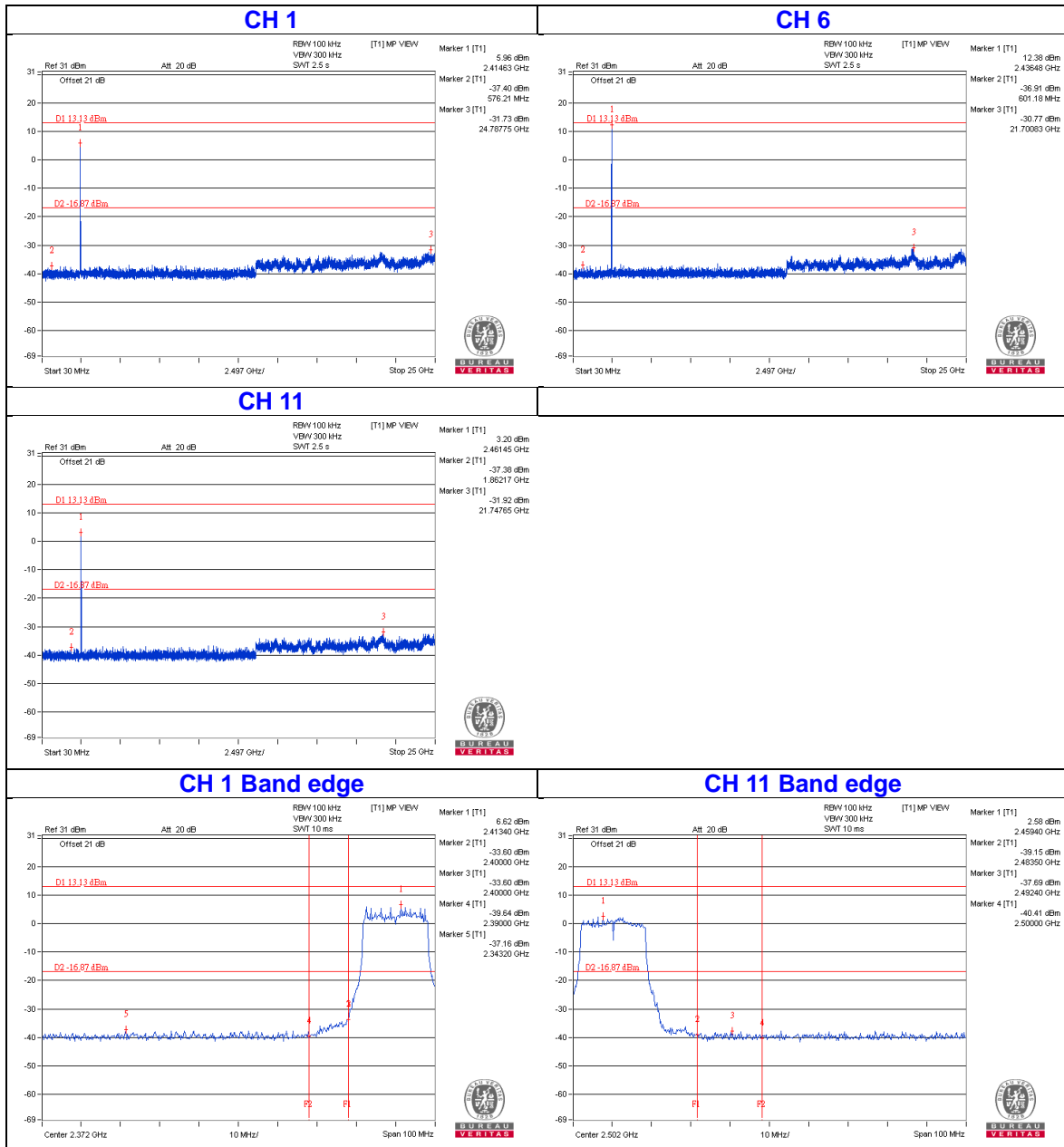
802.11g



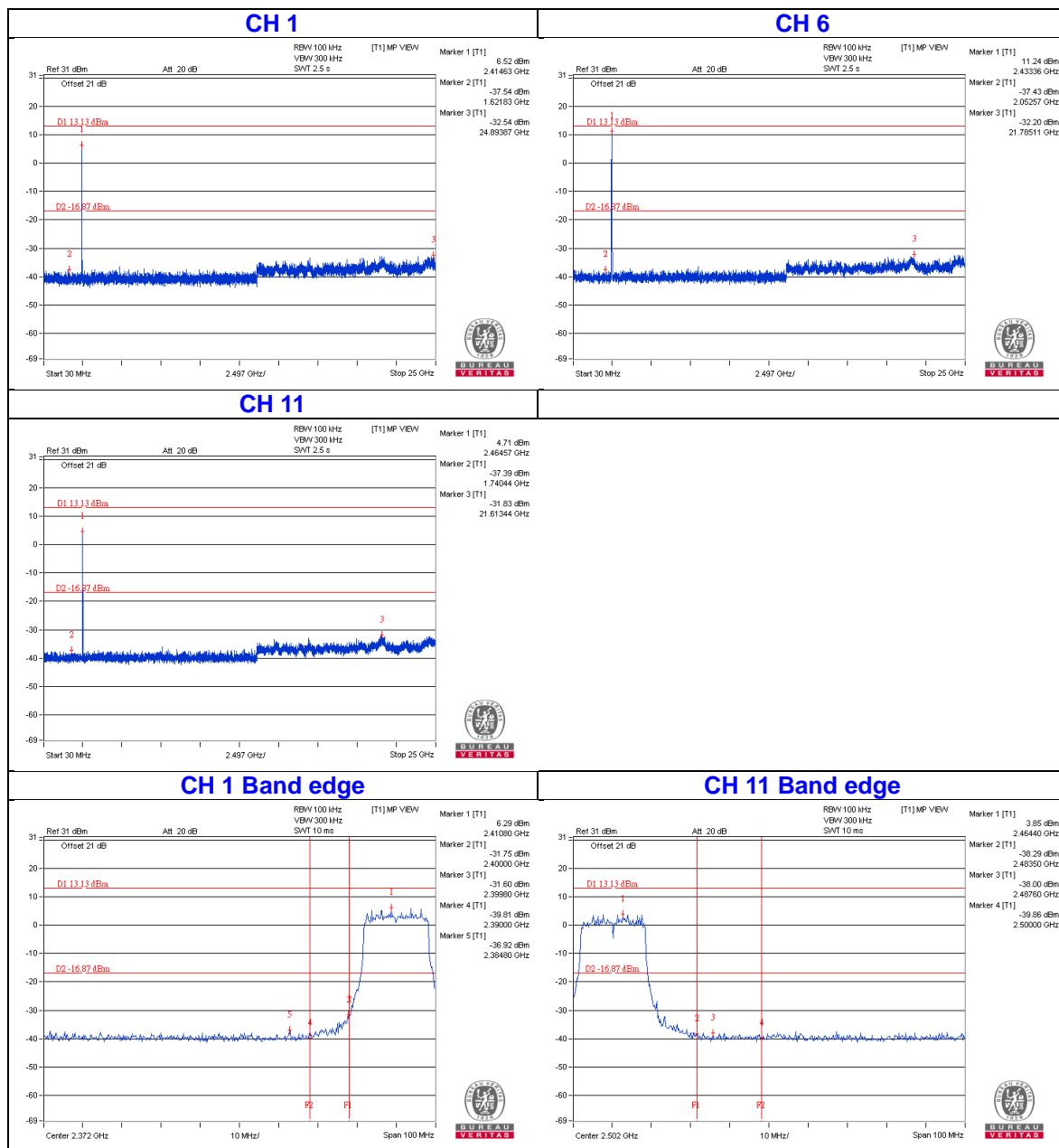
Chain 0



## Chain 1

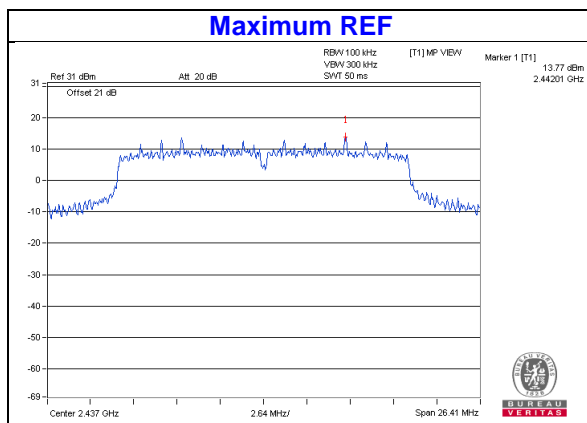


## Chain 3

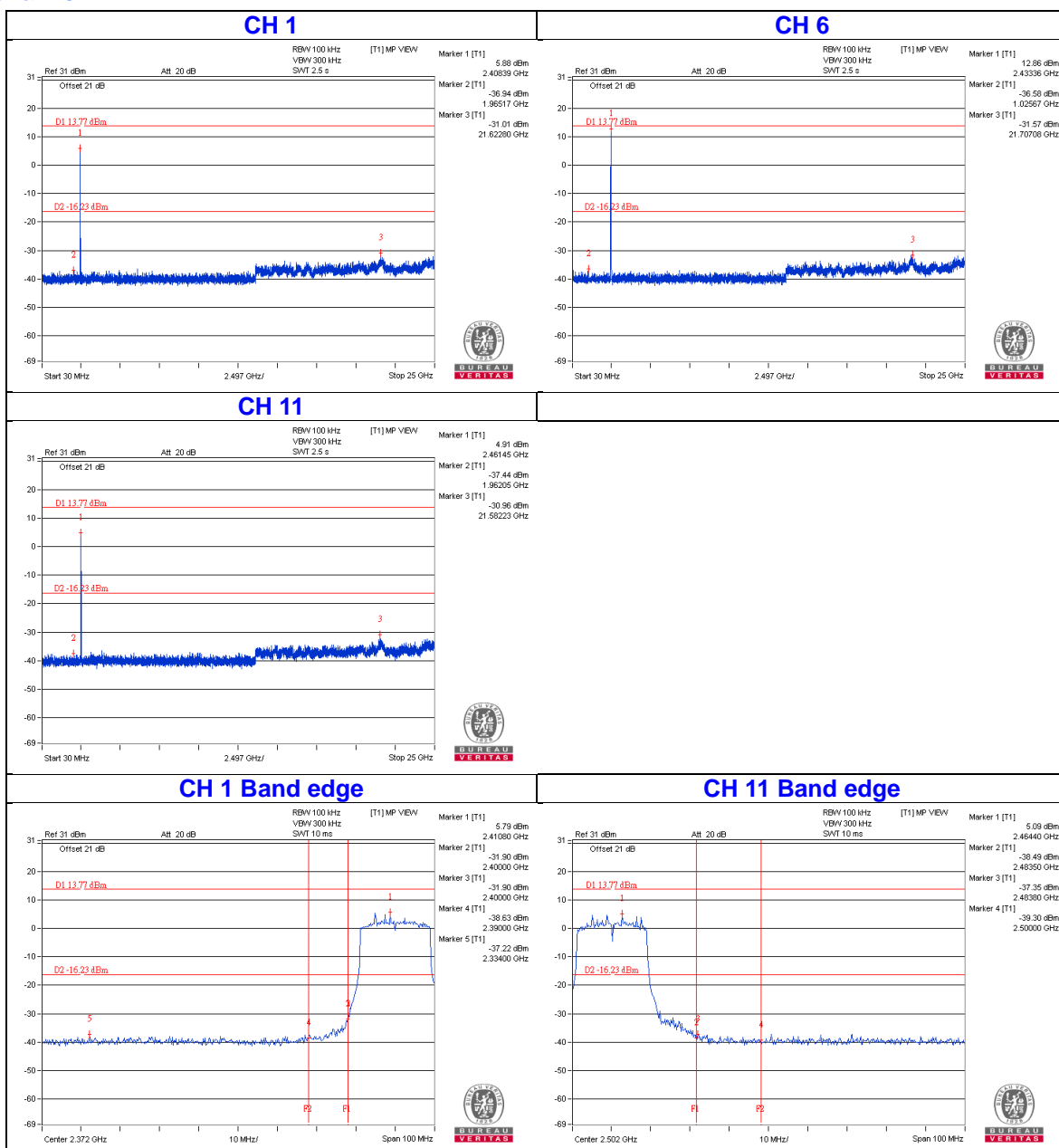




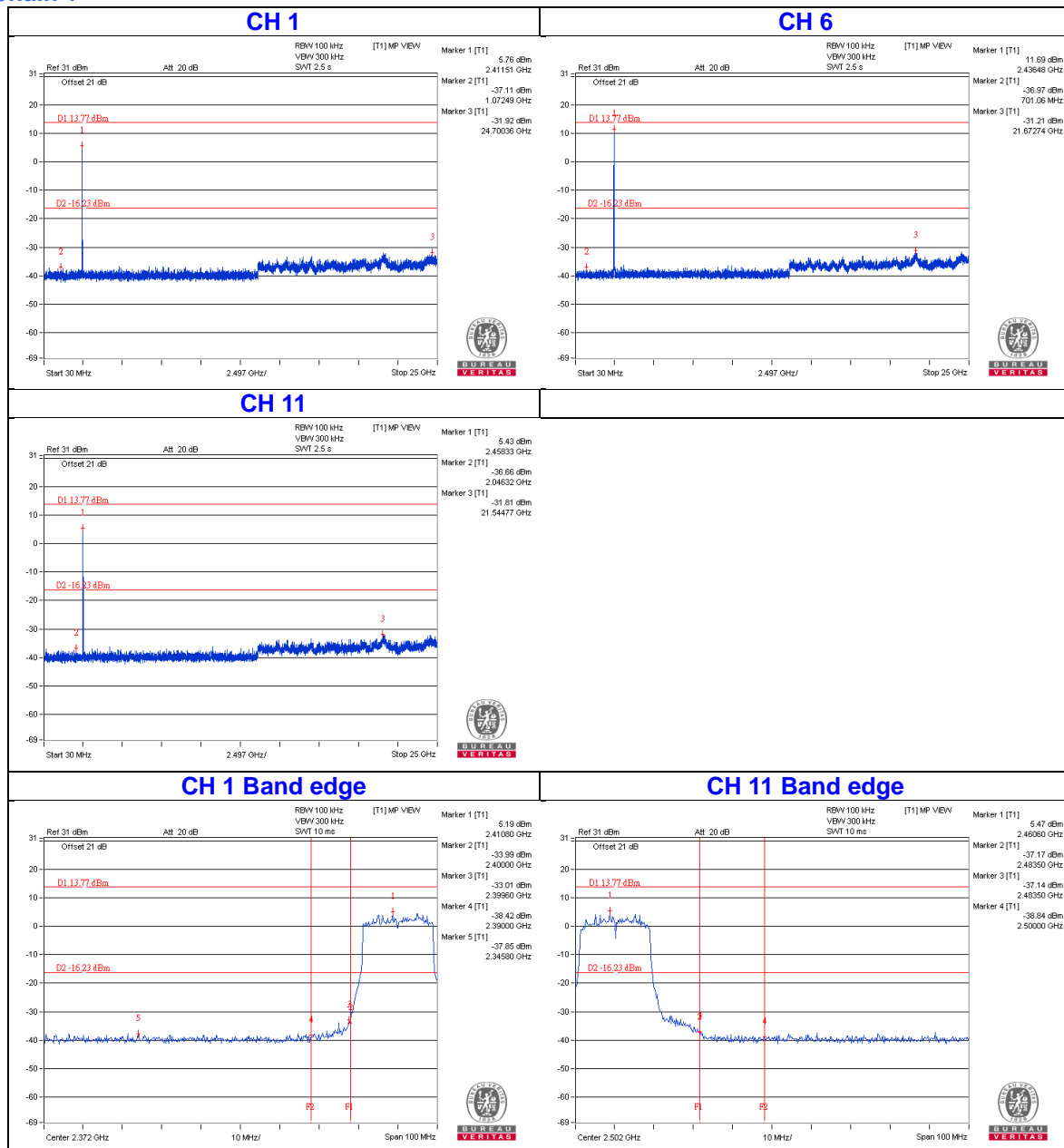
## 802.11n (HT20)



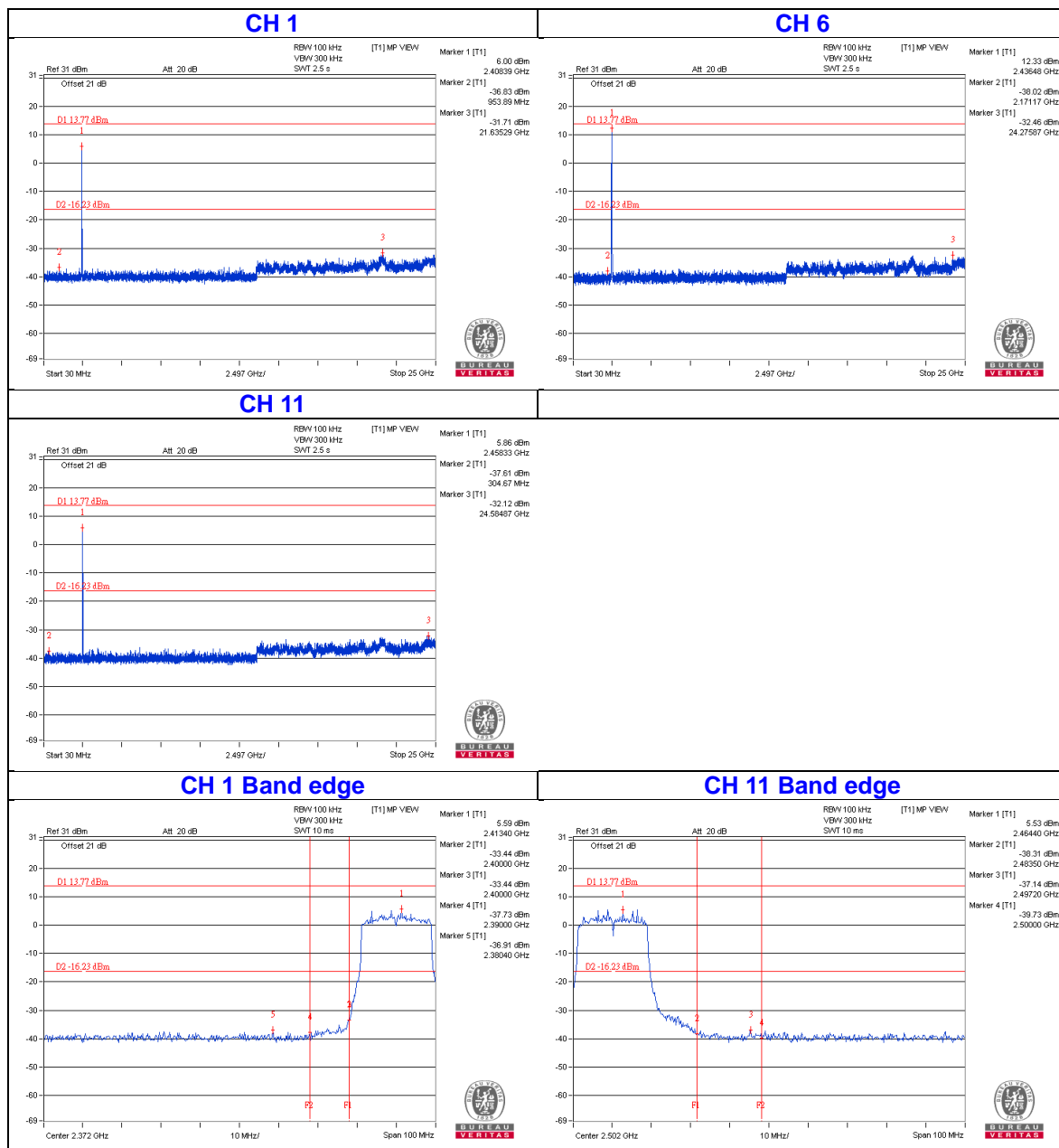
## Chain 0



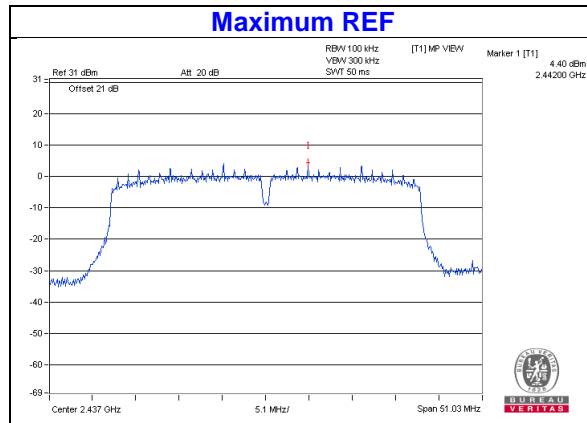
## Chain 1



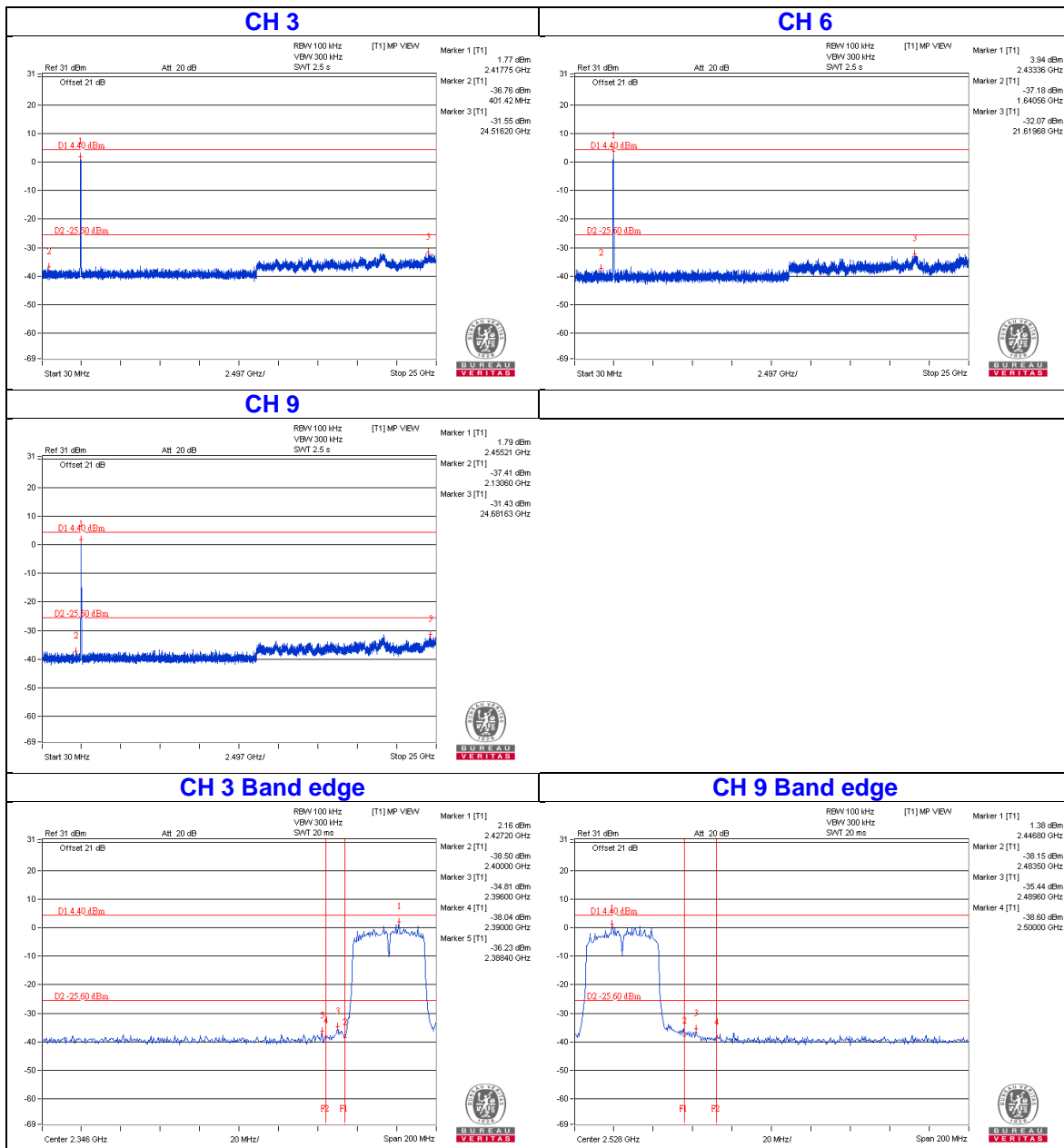
## Chain 3



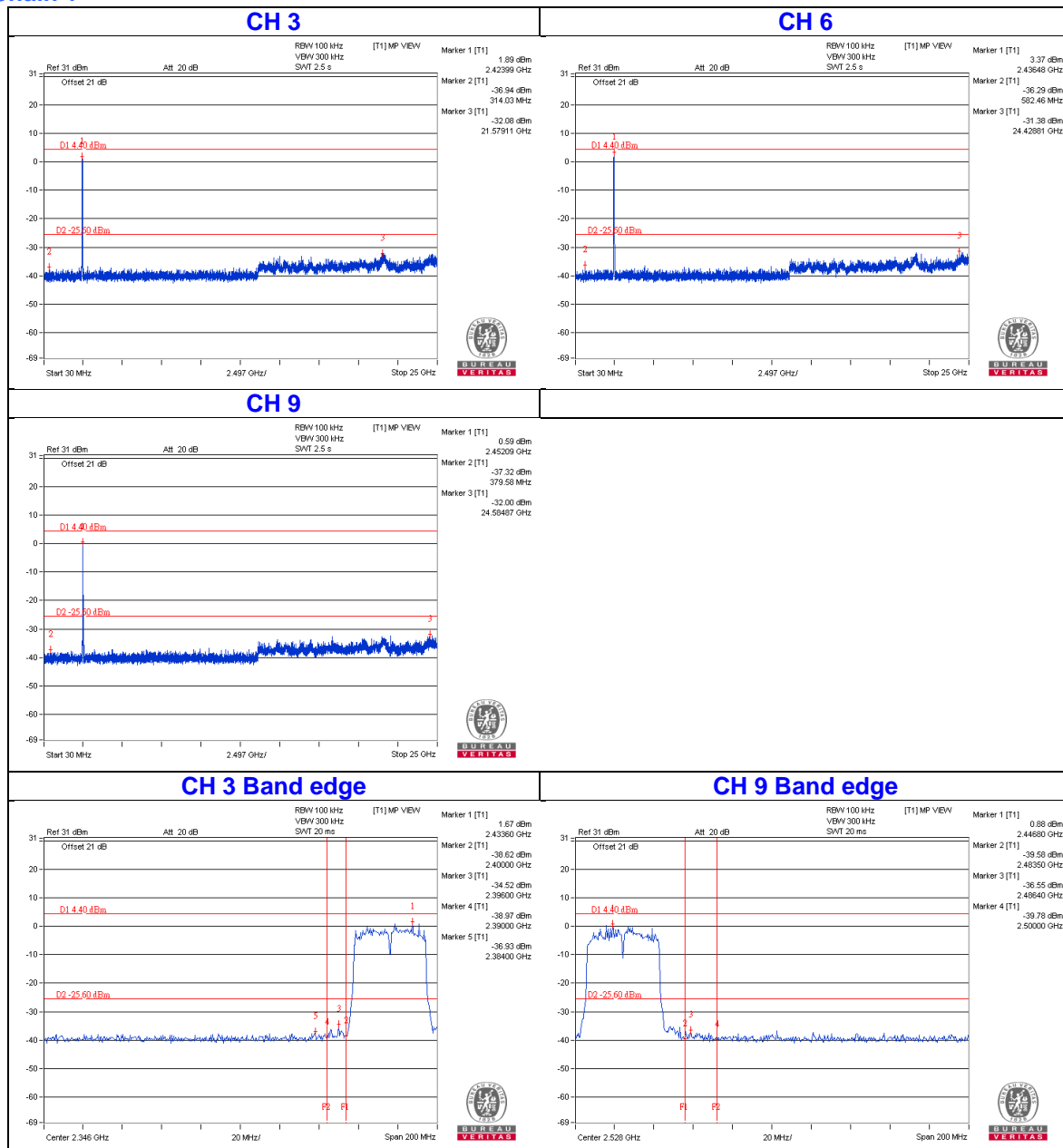
## 802.11n (HT40)



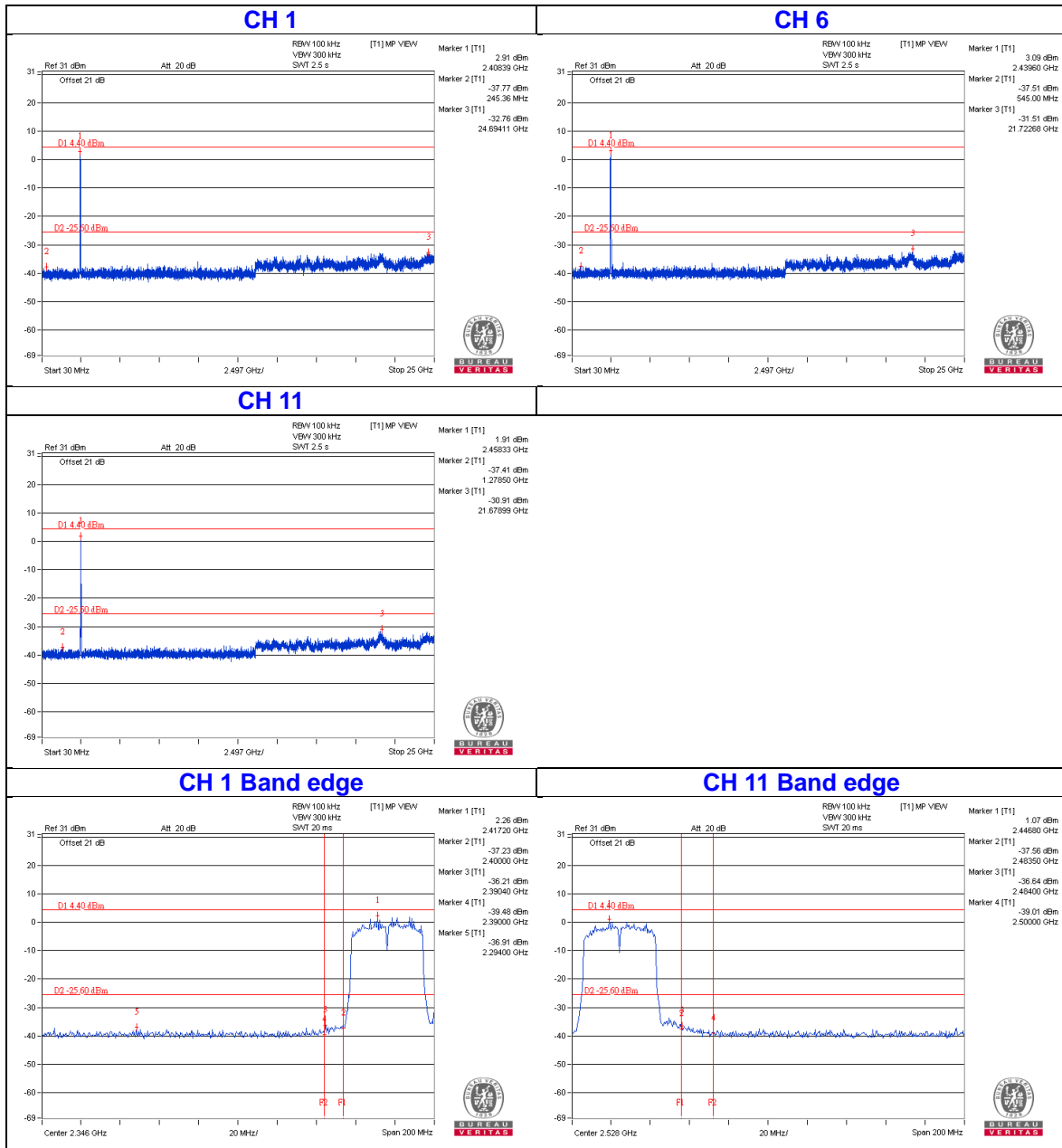
## Chain 0



## Chain 1

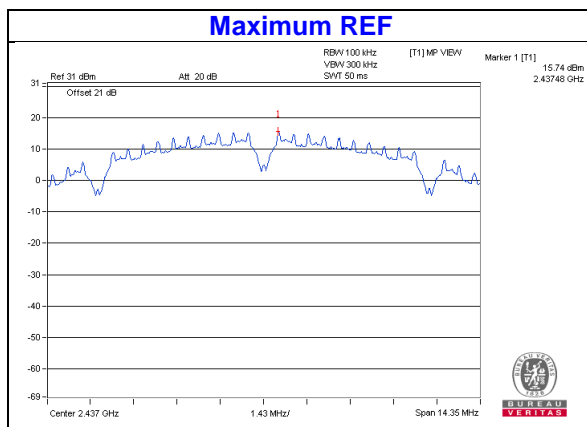


## Chain 3

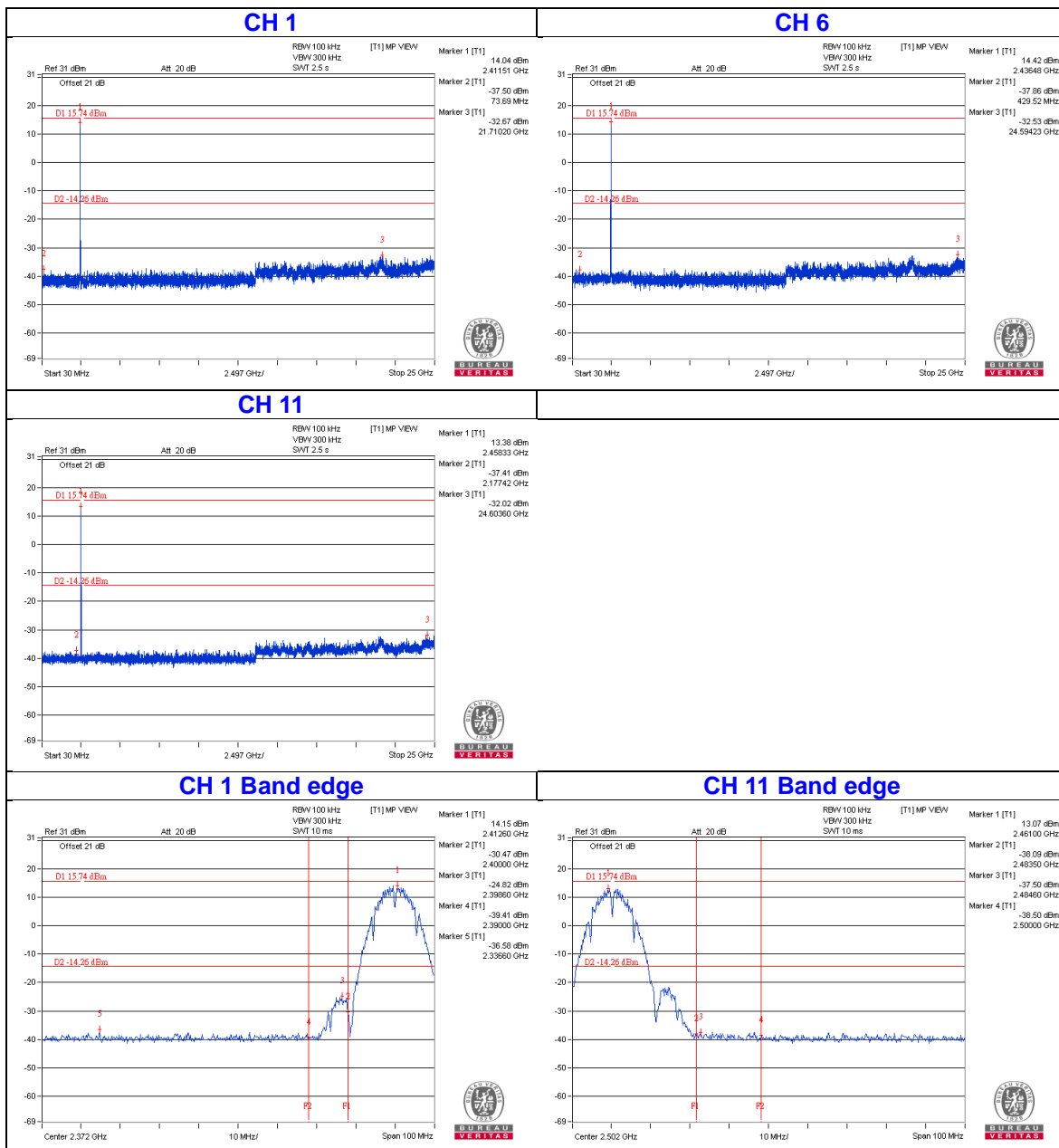


## 2TX Mode

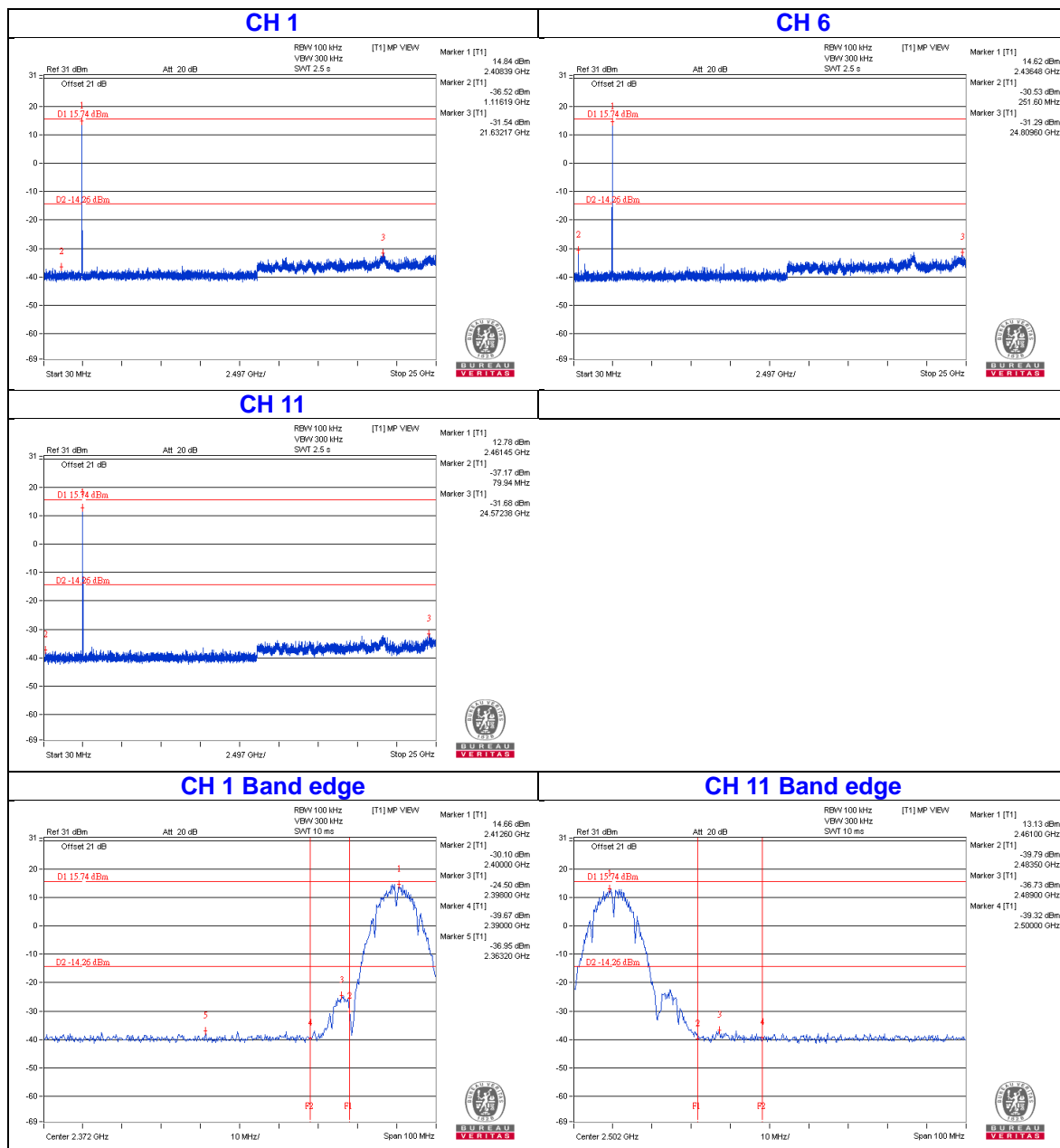
802.11b



## Chain 0

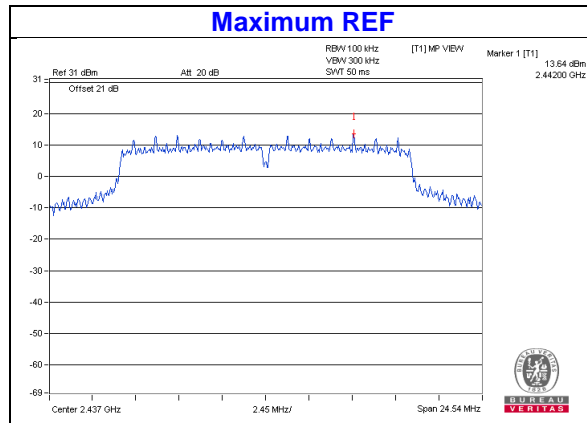


## Chain 3

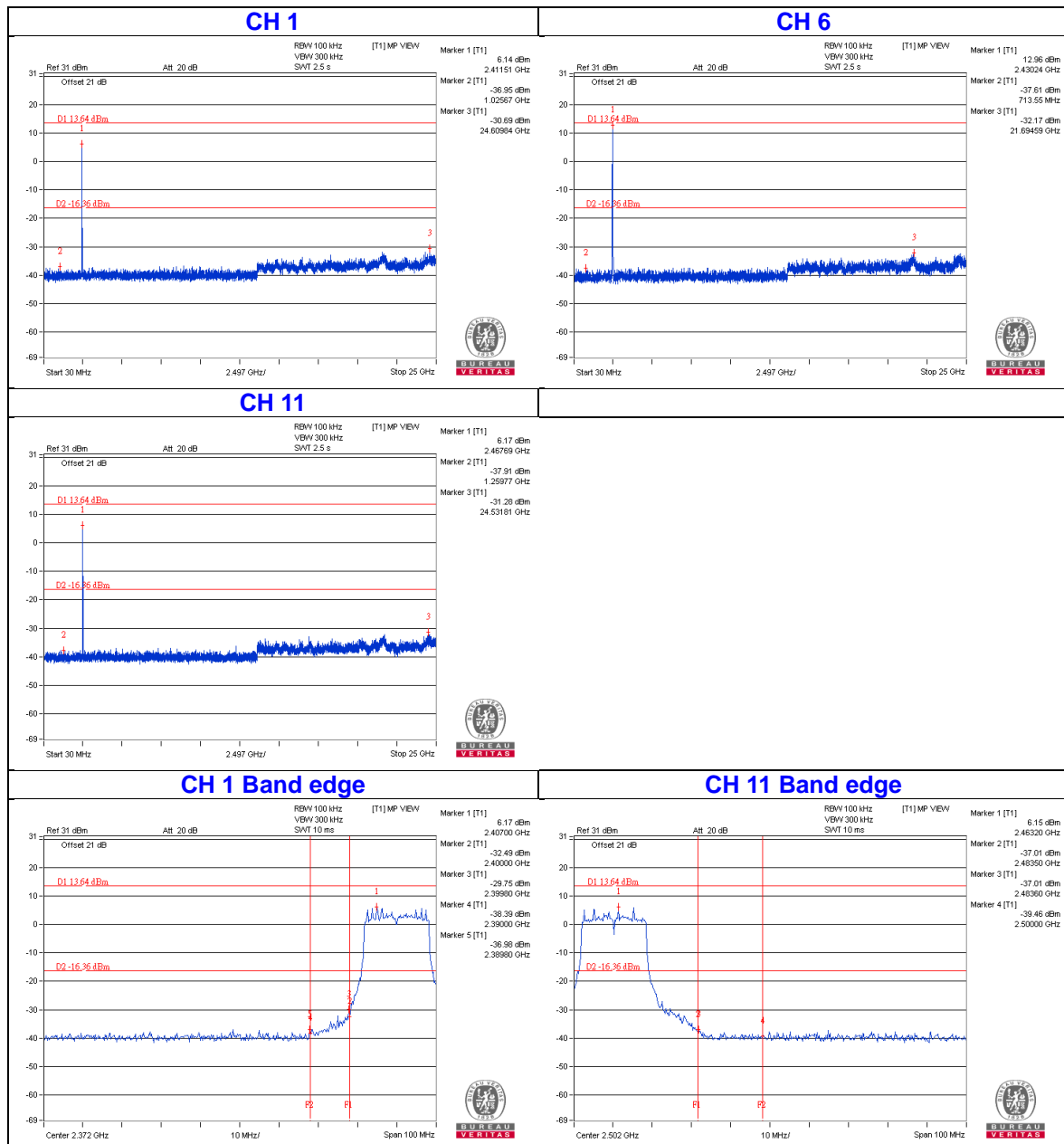




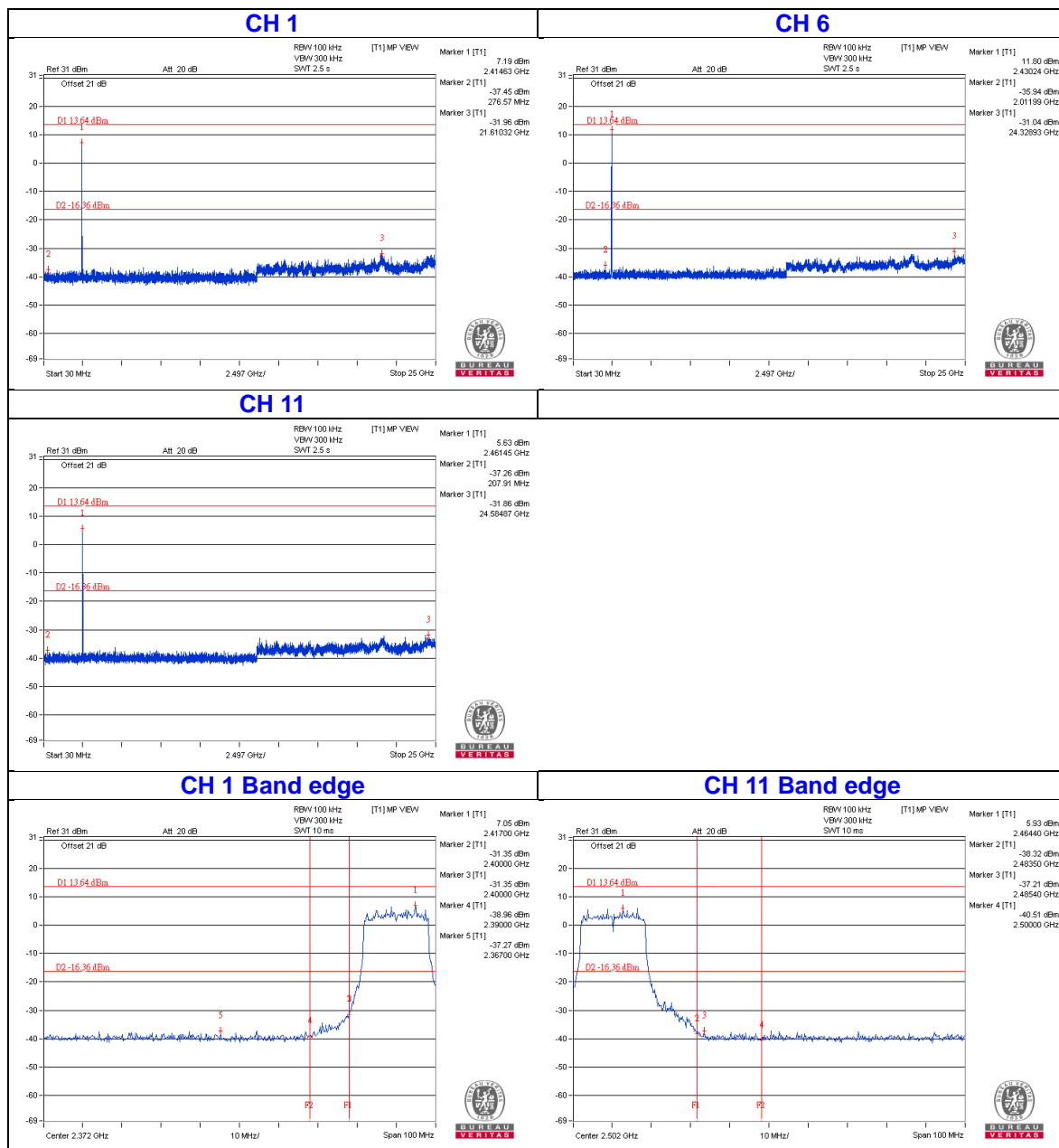
802.11g



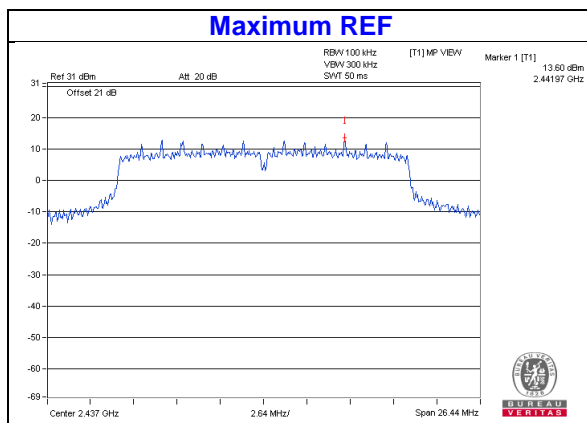
Chain 0



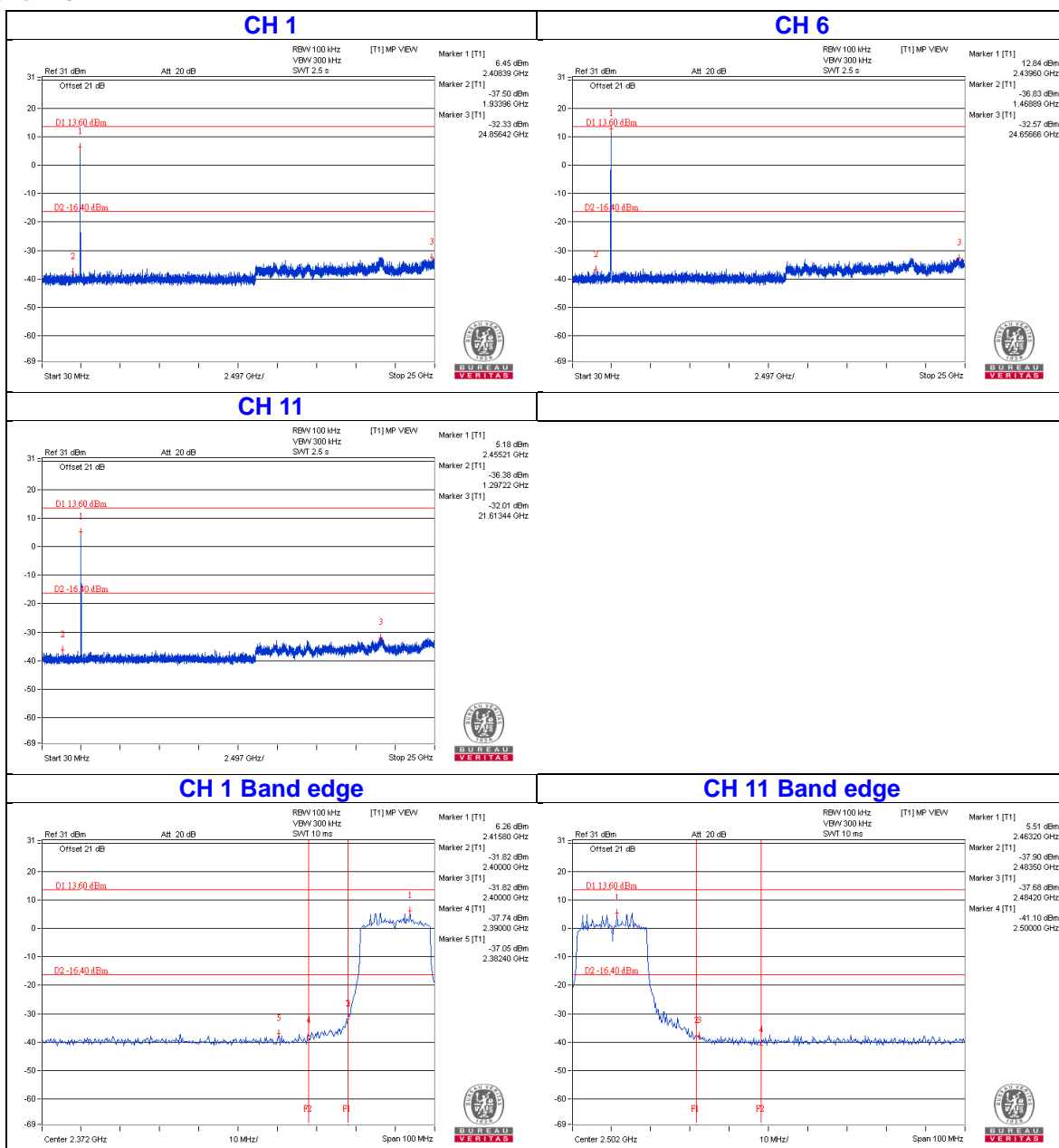
## Chain 3



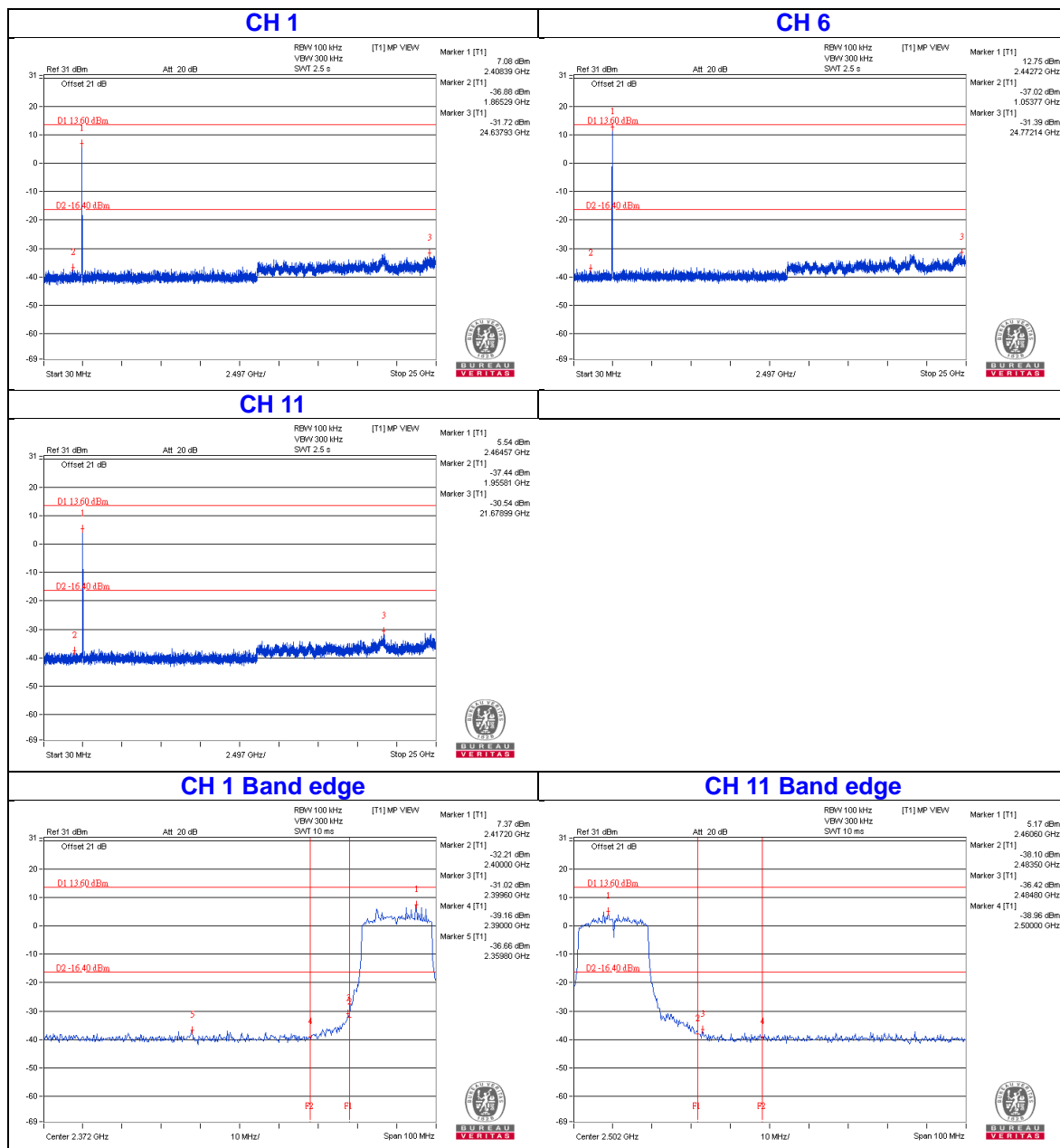
## 802.11n (HT20)



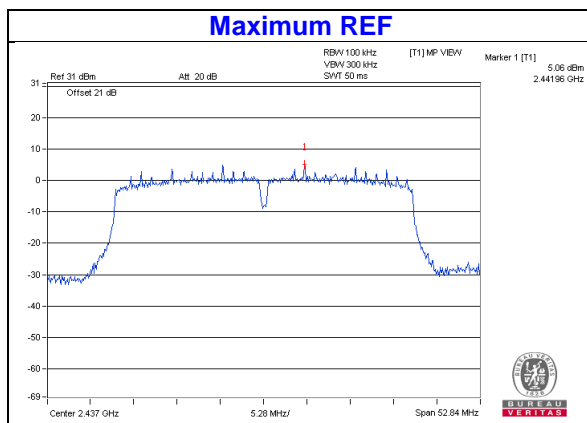
## Chain 0



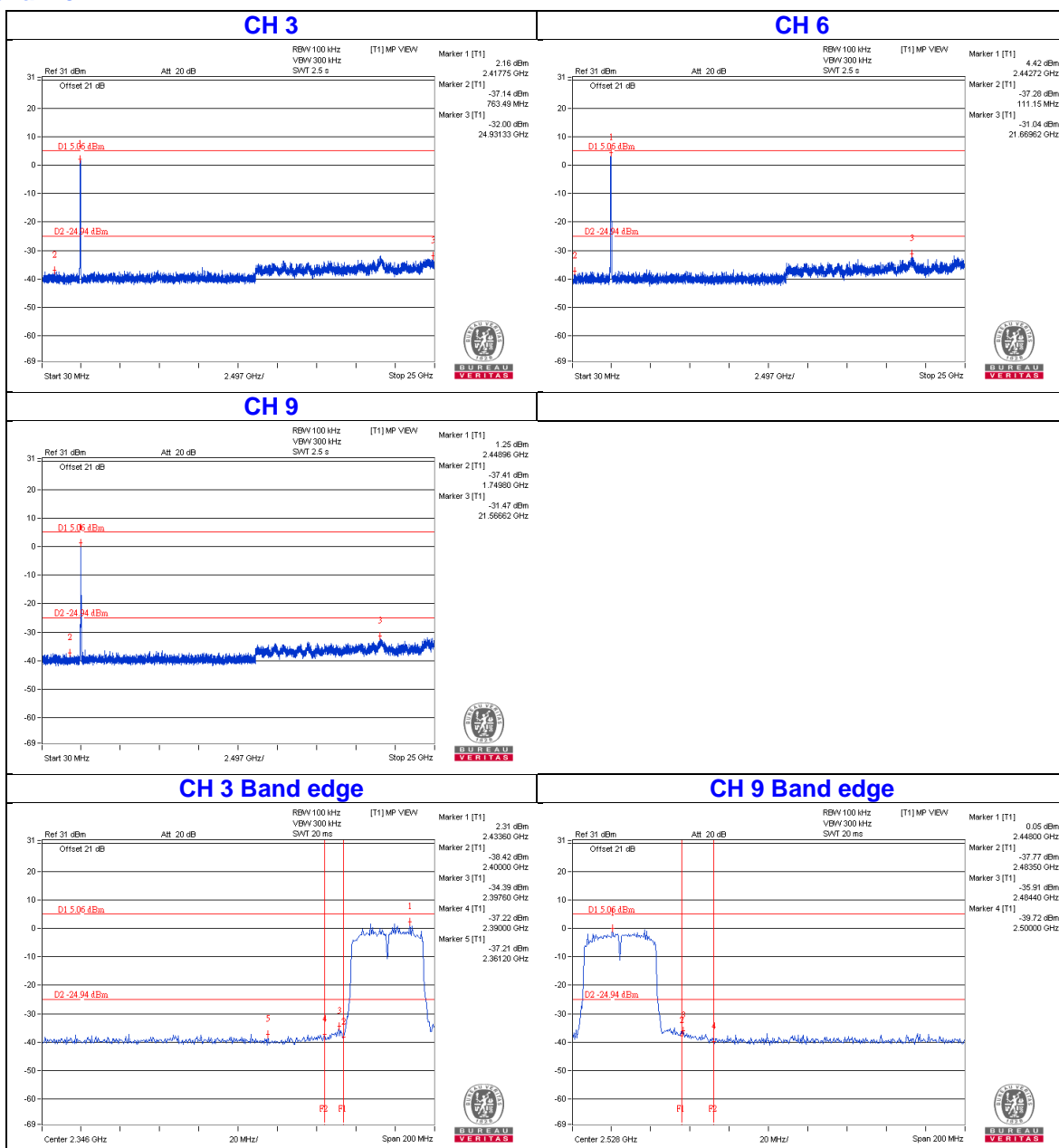
## Chain 3



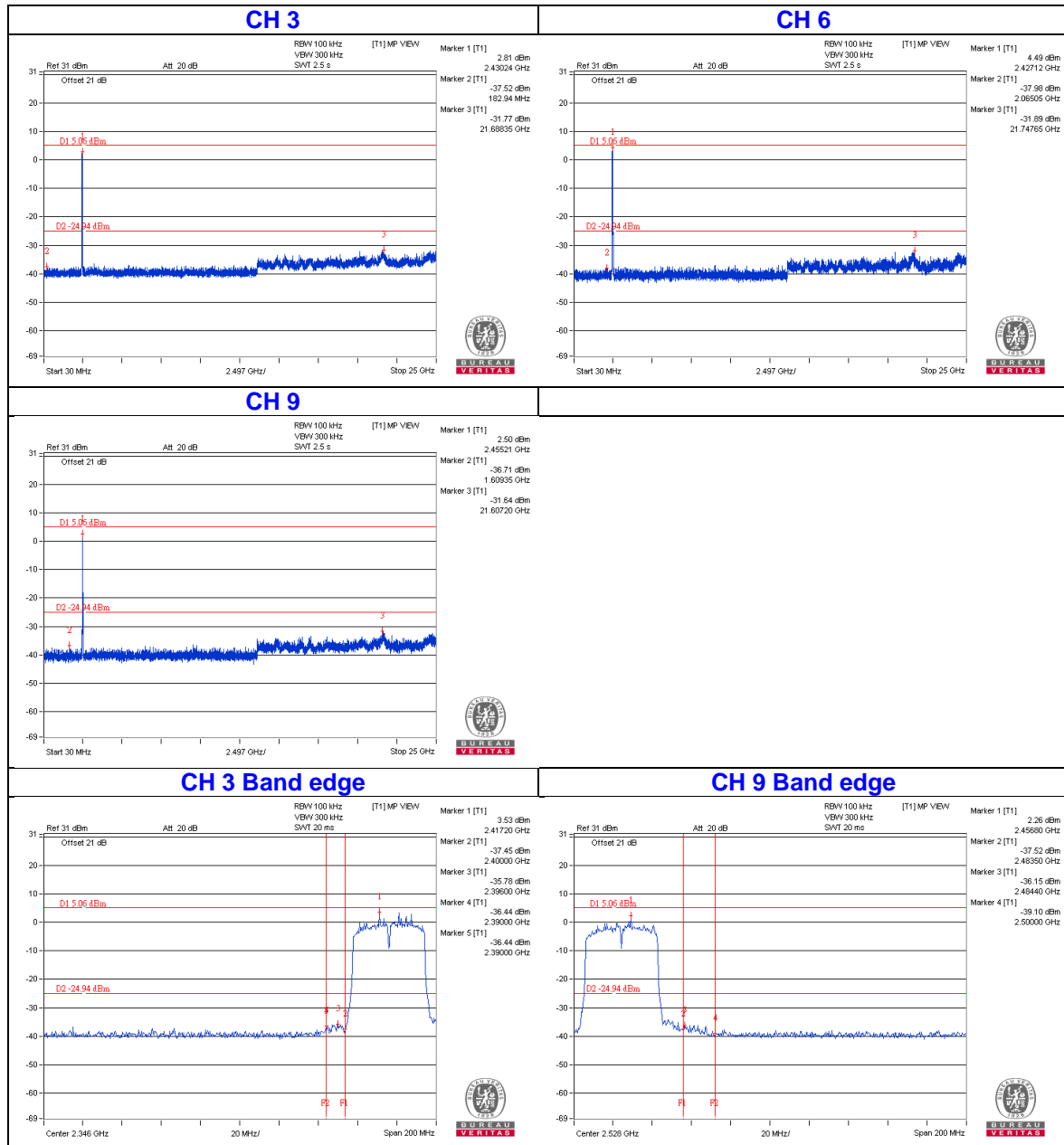
## 802.11n (HT40)



## Chain 0

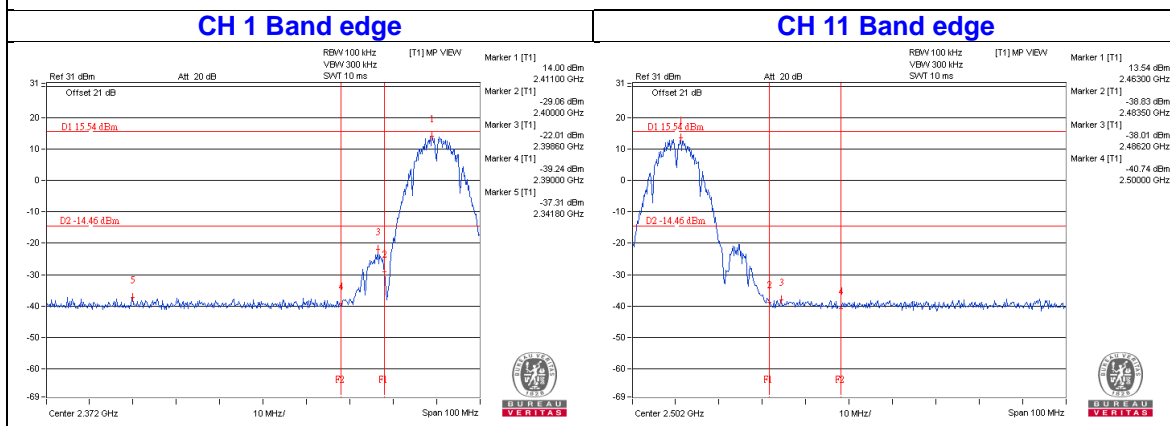
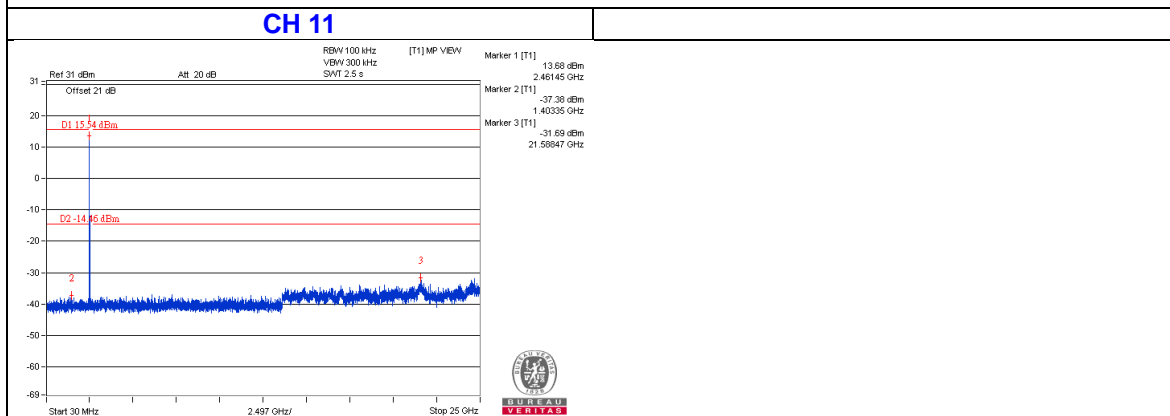
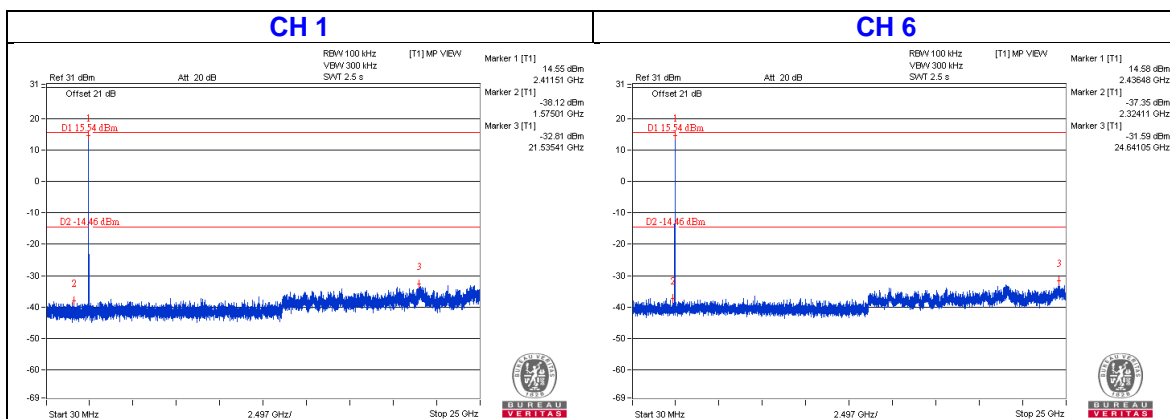
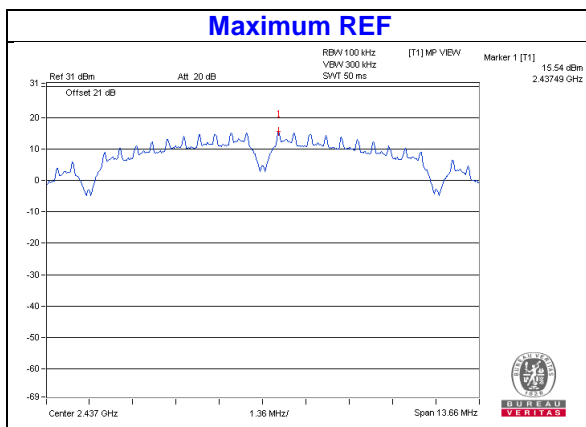


## Chain 3

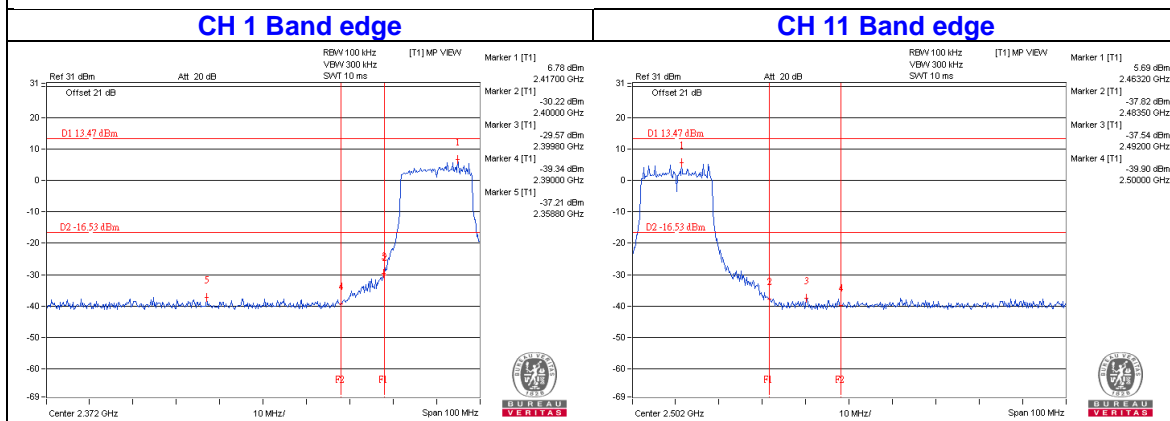
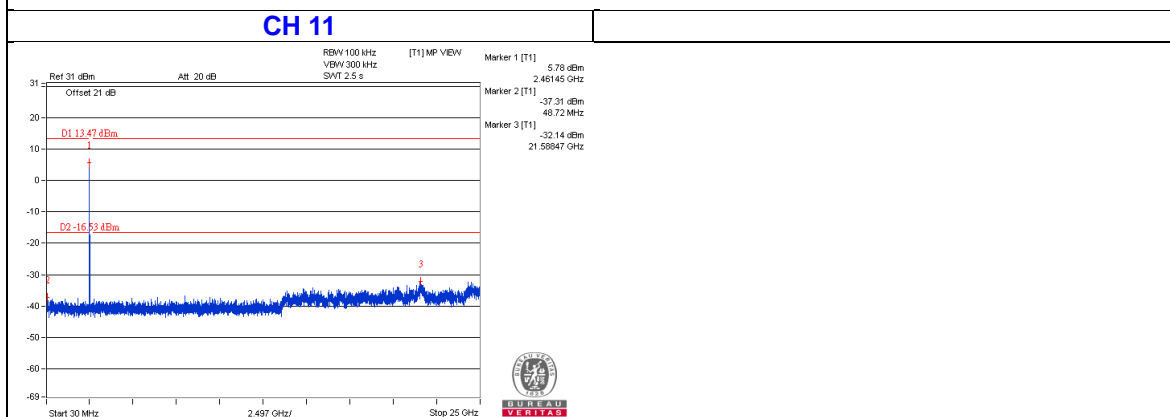
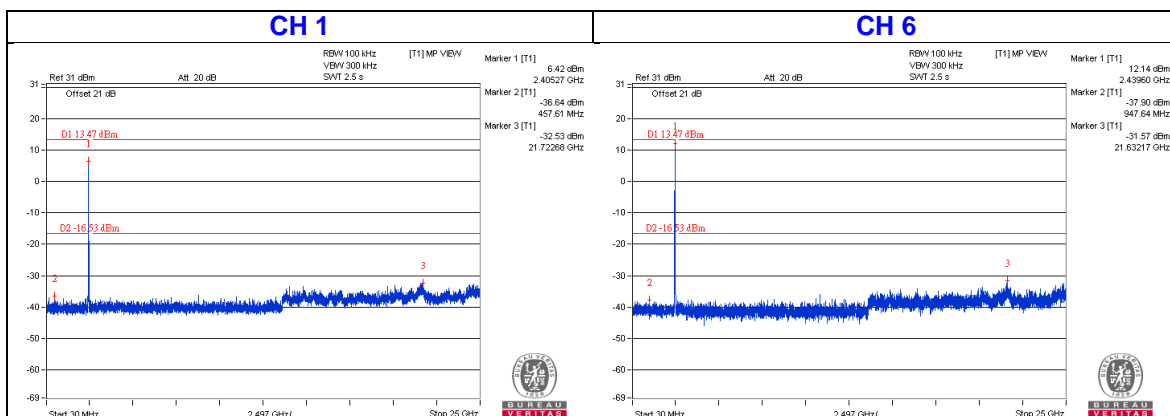
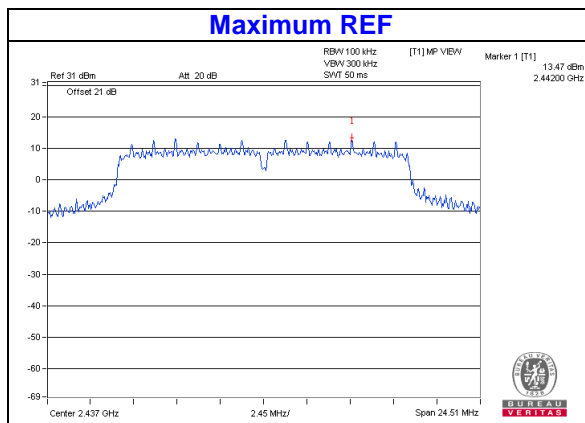


# 1TX Mode

802.11b

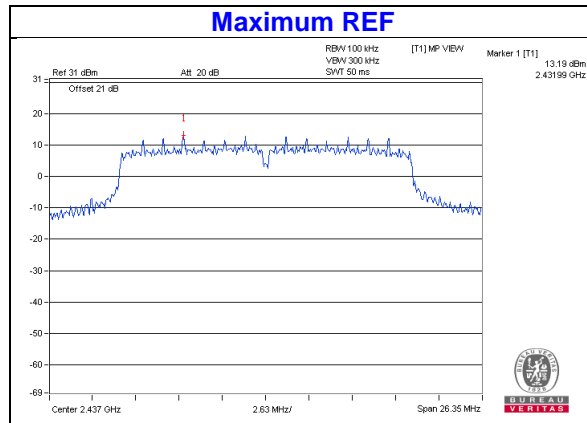


802.11g

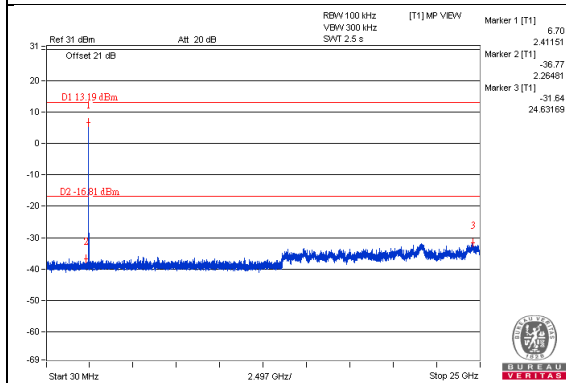




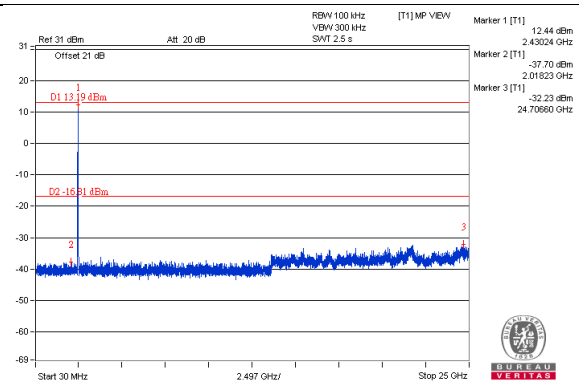
## 802.11n (HT20)



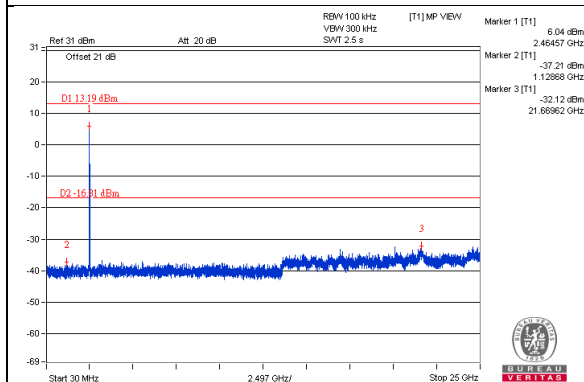
### CH 1



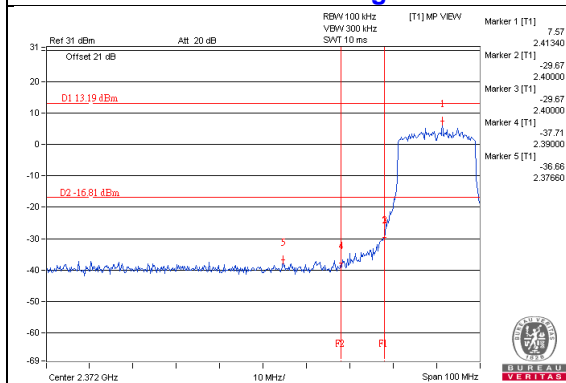
### CH 6



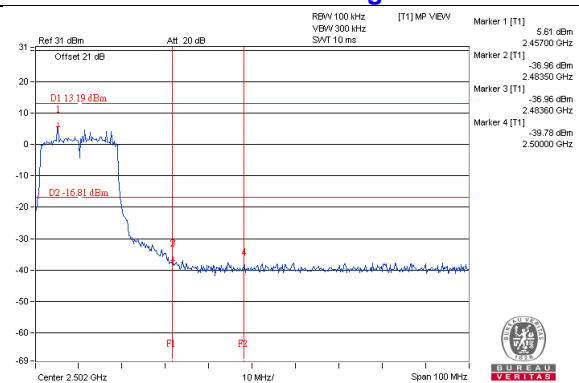
### CH 11



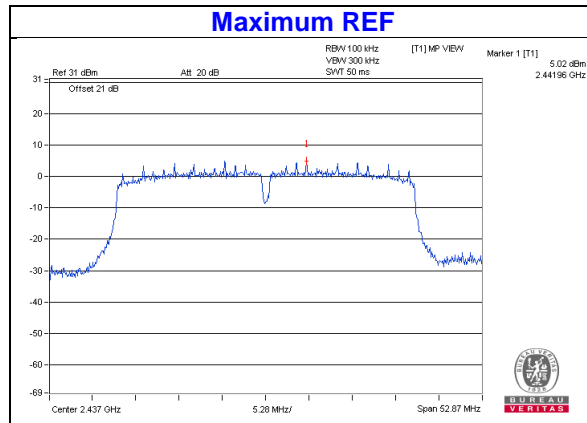
### CH 1 Band edge



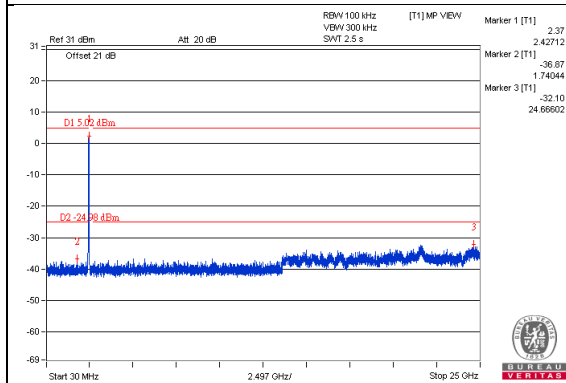
### CH 11 Band edge



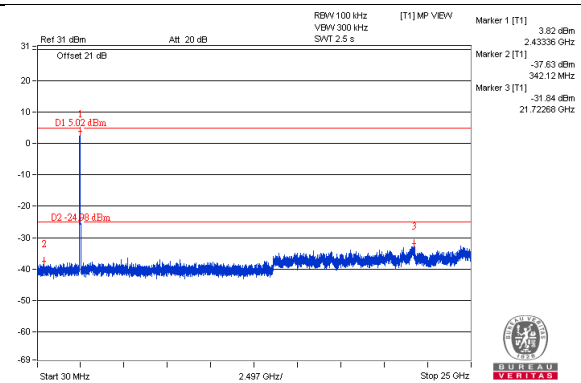
## 802.11n (HT40)



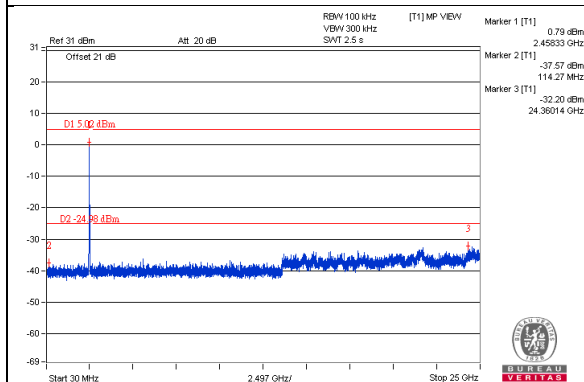
### CH 3



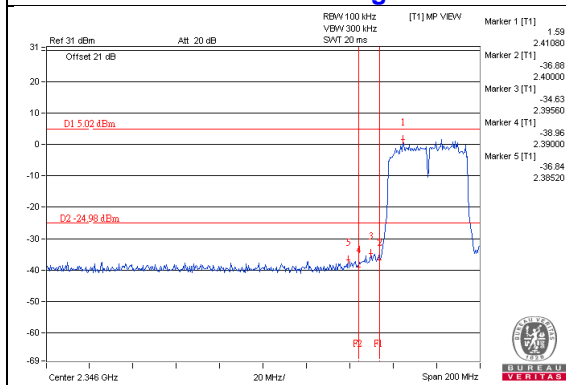
### CH 6



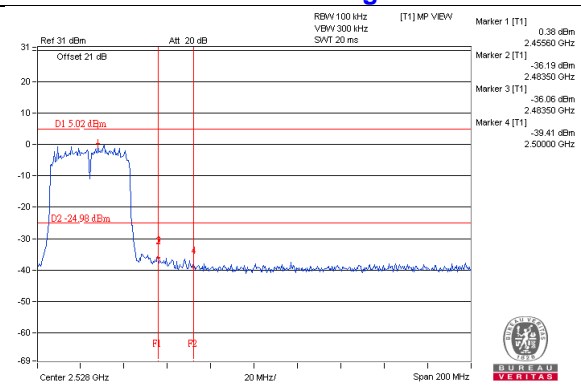
### CH 9



### CH 3 Band edge



### CH 9 Band edge



## 5 Pictures of Test Arrangements

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

## Appendix – Information on the Testing Laboratories

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

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

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

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