

FCC Test Report

Report No.: RF150107C25A

FCC ID: AUH-7500-M2

Test Model: WiP7500

Received Date: Oct. 08, 2015

Test Date: Oct. 21 ~ Nov. 11, 2015

Issued Date: Nov. 16, 2015

Applicant: Wi3 Inc

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Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch

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Release Control Record

Issue No.	Description	Date Issued
RF150107C25A	Original release	Nov. 16, 2015

1 Certificate of Conformity

Product: Adapter, coax bridge
Test Model: WiP7500
Sample Status: Engineering sample
Applicant: Wi3 Inc
Test Date: Oct. 21 ~ Nov. 11, 2015
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 : Polly Chien, **Date:** Nov. 16, 2015
Polly Chien / Specialist

Approved by : Ken Liu, **Date:** Nov. 16, 2015
Ken Liu / Senior 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 -17.47dB at 0.36484MHz
15.205 / 15.209 / 15.247(d)	Radiated Emissions and Band Edge Measurement	Pass	Meet the requirement of limit. Minimum passing margin is -0.6dB at 2483.50MHz
15.247(d)	Antenna Port Emission	Pass	Meet the requirement of limit.
15.247(a)(2)	6dB bandwidth	Pass	Meet the requirement of limit.
15.247(b)	Conducted power	Pass	Meet the requirement of limit.
15.247(e)	Power Spectral Density	Pass	Meet the requirement of limit.
15.203	Antenna Requirement	Pass	Antenna connector is i-pex(MHF) not a standard connector.

2.1 Measurement Uncertainty

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

Measurement	Frequency	Expanded Uncertainty (k=2) ($\pm$)
Conducted Emissions at mains ports	150kHz ~ 30MHz	2.44 dB
Radiated Emissions up to 1 GHz	30MHz ~ 200MHz	3.63 dB
	200MHz ~ 1000MHz	3.64 dB
Radiated Emissions above 1 GHz	1GHz ~ 18GHz	2.29 dB
	18GHz ~ 40GHz	2.29 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	Adapter, coax bridge
Test Model	WiP7500
Status of EUT	Engineering sample
Power Supply Rating	12Vdc from adapter
Modulation Type	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
Modulation Technology	DSSS, OFDM
Transfer Rate	802.11b: 11.0/ 5.5/ 2.0/ 1.0Mbps 802.11g: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0Mbps 802.11n: up to 300Mbps
Operating Frequency	2412 ~ 2462MHz
Number of Channel	11 for 802.11b, 802.11g, 802.11n (HT20) 7 for 802.11n (HT40)
Output Power	CDD Mode: 925.807mW Beamforming Mode: 827.574mW
Antenna Type	Refer to Note
Antenna Connector	Refer to Note
Accessory Device	Adapter, cover
Data Cable Supplied	NA

Note:

1. The EUT incorporates a MIMO function. Physically, the EUT provides 2 completed transmitters and 2 receivers.

Modulation Mode	Beamforming Mode	TX Function
802.11b	Not Support	1TX
802.11g	Not Support	1TX
802.11n (HT20)	Support	2TX
802.11n (HT40)	Support	2TX

* For 802.11b/g, the EUT doesn't support Beamforming mode.

2. The EUT uses following adapter.

Brand	Asian Power Devices Inc.
Model	WA-24Q12FU
Input Power	100-240Vac, 50-60Hz, 0.7A Max.
Output Power	12Vdc, 2A
Power Line	1.45m DC cable without core attached on adapter

3. The following antennas provided to this EUT.

Ant.	Antenna Type	Model	Gain (dBi) Including cable loss		Antenna Connector
			2.4GHz Band	5GHz Band	
1	External Dipole	EDA-8709-25GR2-A3	2.47	3.00	i-pex (MHF)
2	External Dipole	EDA-8709-25GR2-A3	2.73	3.50	i-pex (MHF)

* The maximum antenna gain is chosen for final test.

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≥1G	RE<1G	PLC	APCM	
-	√	√	√	√	-

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

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

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
-	802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1.0
-	802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6.0
-	802.11n (HT20)	1 to 11	1, 6, 11	OFDM	BPSK	7.2
-	802.11n (HT40)	3 to 9	3, 6, 9	OFDM	BPSK	15.0

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.

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
-	802.11n (HT20)	1 to 11	6	OFDM	BPSK	7.2

Power Line Conducted Emission Test:

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

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
-	802.11n (HT20)	1 to 11	6	OFDM	BPSK	7.2

Antenna Port Conducted Measurement:

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

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
-	802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1.0
-	802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6.0
-	802.11n (HT20)	1 to 11	1, 6, 11	OFDM	BPSK	7.2
-	802.11n (HT40)	3 to 9	3, 6, 9	OFDM	BPSK	15.0

Test Condition:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE $\geq$ 1G	25deg. C, 65%RH	120Vac, 60Hz	Bayu Chen
RE<1G	25deg. C, 65%RH	120Vac, 60Hz	Tank Wu
PLC	25deg. C, 60%RH	120Vac, 60Hz	Tank Wu
APCM	24deg. C, 64%RH	120Vac, 60Hz	Match Tsui

3.3 Duty Cycle of Test Signal

CDD Mode

Duty cycle of test signal is > 98%.

802.11b: Duty cycle = 100%

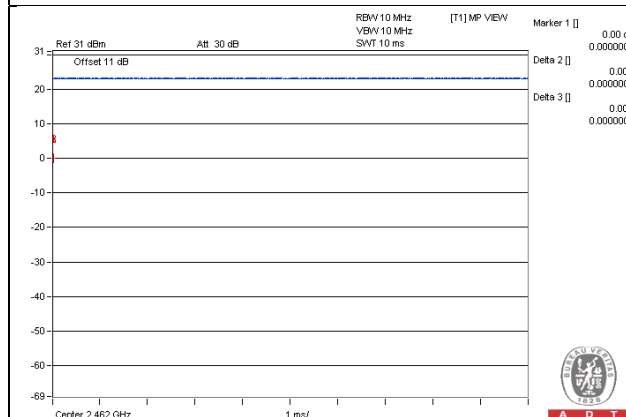
Duty cycle of test signal is < 98%.

802.11g: Duty cycle = $1.392/1.582 = 0.880$, Duty factor = $10 * \log(1/0.880) = 0.56$

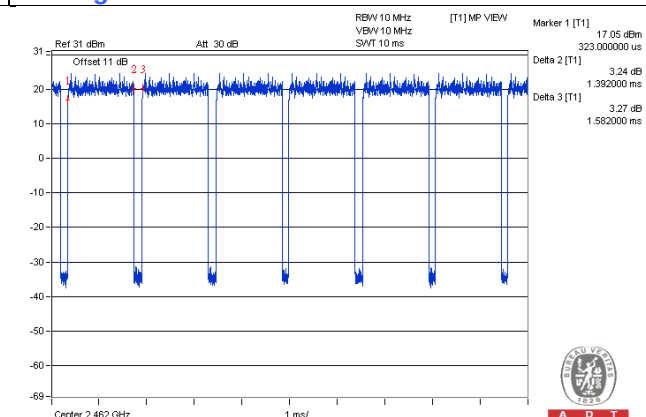
802.11n (HT20): Duty cycle = $1.295/1.377 = 0.940$, Duty factor = $10 * \log(1/0.940) = 0.27$

802.11n (HT40): Duty cycle = $0.642/0.714 = 0.899$, Duty factor = $10 * \log(1/0.899) = 0.46$

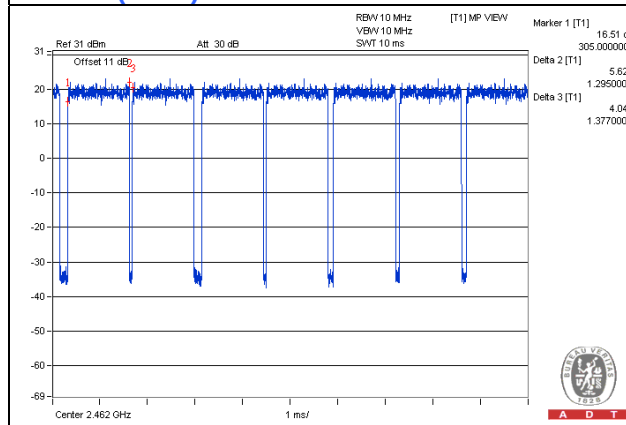
802.11b



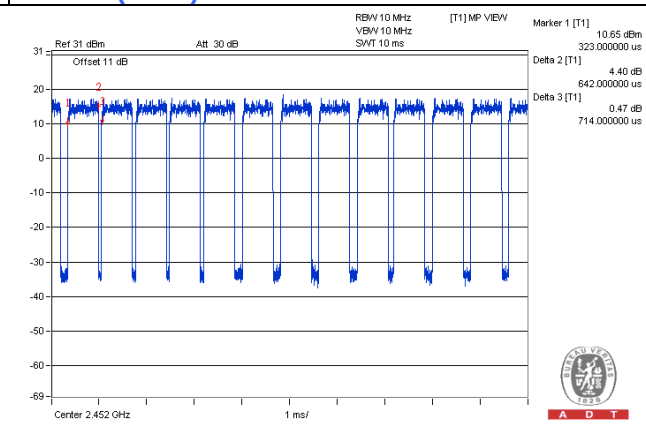
802.11g



802.11n (HT20)



802.11n (HT40)



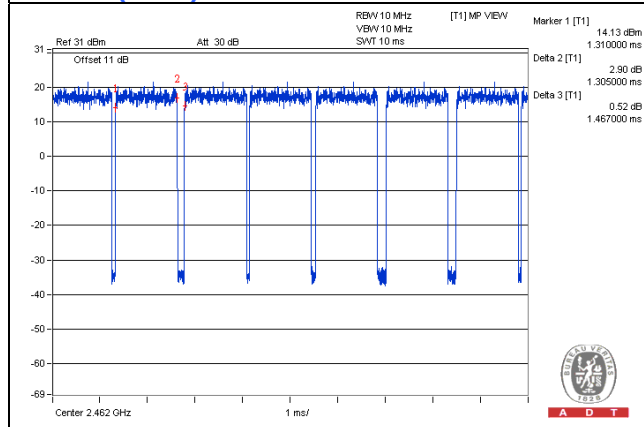
Beamforming Mode

Duty cycle of test signal is < 98%.

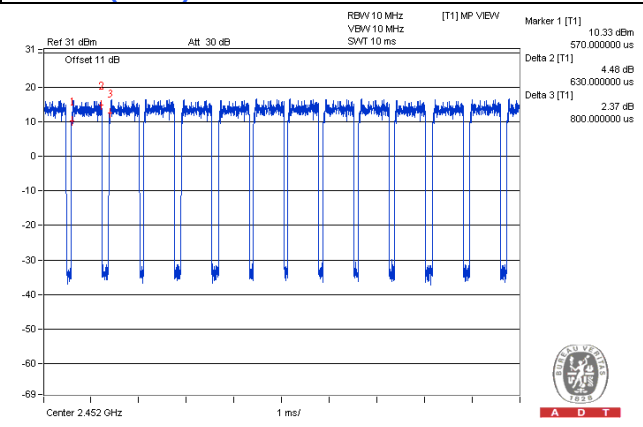
802.11n (HT20): Duty cycle = $1.305/1.467 = 0.890$, Duty factor = $10 * \log(1/0.890) = 0.51$

802.11n (HT40): Duty cycle = $0.630/0.800 = 0.788$, Duty factor = $10 * \log(1/0.788) = 0.97$

802.11n (HT20)



802.11n (HT40)



3.4 Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

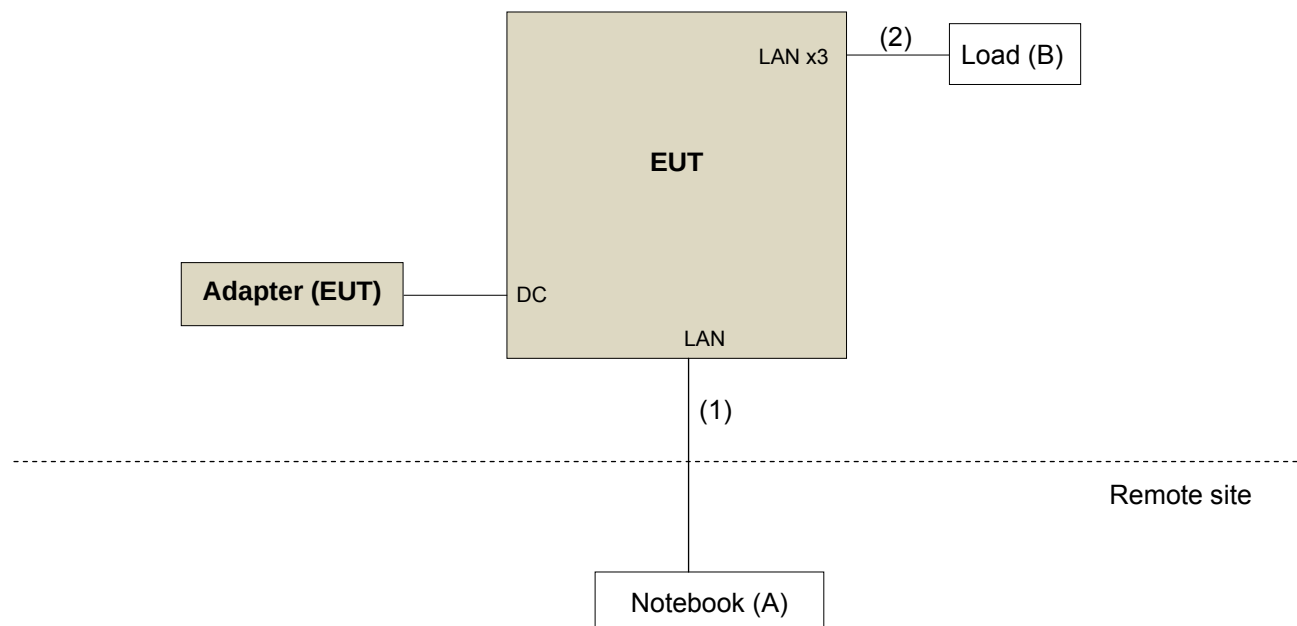
ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Notebook	DELL	D531	CN-0XM006-48643-81U-2610	QDS-BRCM1020	-
B.	Load	N/A	N/A	N/A	N/A	-

Note:

1. All power cords of the above support units are non-shielded (1.8m).
2. Item A acted as a communication partner to transfer data.

ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	LAN cable	1	10	N	0	Cat5e
2.	LAN cable	3	1.8	N	0	Cat5e

3.4.1 Configuration of System under Test



3.5 General Description of Applied Standards

The EUT is a RF Product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

FCC Part 15, Subpart C (15.247)

558074 D01 DTS Meas Guidance v03r03

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 20dB below the highest level of the desired power:

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

Note:

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

4.1.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver ROHDE & SCHWARZ	ESCS30	100289	Dec. 01, 2014	Nov. 30, 2015
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100269	Mar. 30, 2015	Mar. 29, 2016
BILOG Antenna SCHWARZBECK	VULB9168	9168-156	Feb. 06, 2015	Feb. 05, 2016
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-1169	Feb. 09, 2015	Feb. 08, 2016
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170241	Feb. 09, 2015	Feb. 08, 2016
Preamplifier Agilent	8449B	3008A01911	Aug. 09, 2015	Aug. 08, 2016
Preamplifier Agilent	8447D	2944A10638	Aug. 09, 2015	Aug. 08, 2016
RF signal cable HUBER+SUHNER	SUCOFLEX 104	CABLE-CH9-02(309222 +248780)	Aug. 09, 2015	Aug. 08, 2016
RF signal cable HUBER+SUHNER	SUCOFLEX 104	CABLE-CH9-03(274092)	Aug. 09, 2015	Aug. 08, 2016
RF signal cable Woken	8D-FB	Cable-CH9-01	Aug. 11, 2015	Aug. 10, 2016
Software BV ADT	ADT_Radiated_ V7.6.15.9.4	NA	NA	NA
Antenna Tower EMCO	2070/2080	512.835.4684	NA	NA
Turn Table EMCO	2087-2.03	NA	NA	NA
Antenna Tower & Turn BV ADT	AT100	AT93021705	NA	NA
Turn Table BV ADT	TT100	TT93021705	NA	NA
Turn Table Controller BV ADT	SC100	SC93021705	NA	NA
High Speed Peak Power Meter	ML2495A	0824011	Jul. 09, 2015	Jul. 08, 2016
Power Sensor	MA2411B	0738171	Jul. 09, 2015	Jul. 08, 2016

- Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in HwaYa Chamber 9.
3. The horn antenna and preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
4. The FCC Site Registration No. is 215374.
5. The IC Site Registration No. is IC 7450F-9.

4.1.3 Test Procedures

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

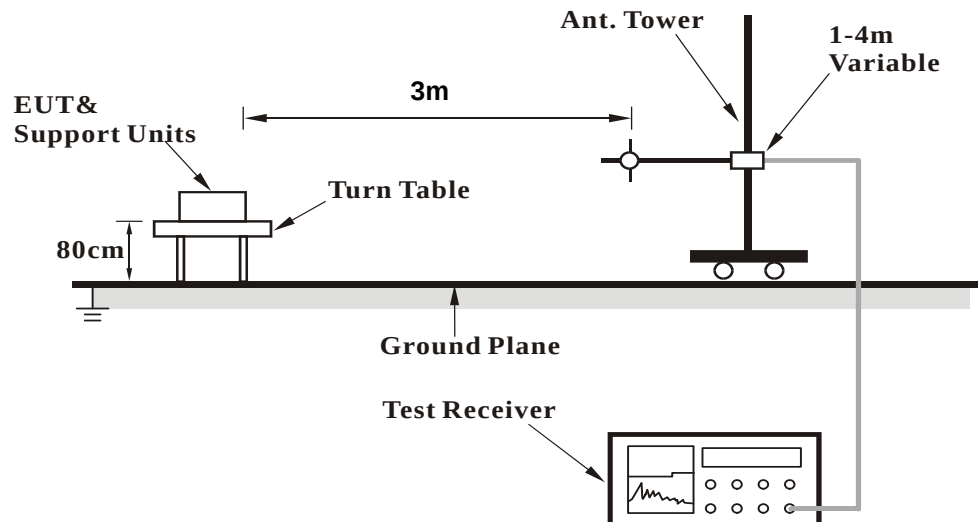
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 3MHz for RMS Average (Duty cycle < 98%) for Average detection (AV) at frequency above 1GHz, then the measurement results was added to a correction factor ($10 \log(1/\text{duty cycle})$).
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 10Hz (Duty cycle $\geq 98\%$) for Average detection (AV) at frequency above 1GHz.
5. All modes of operation were investigated and the worst-case emissions are reported.

4.1.4 Deviation from Test Standard

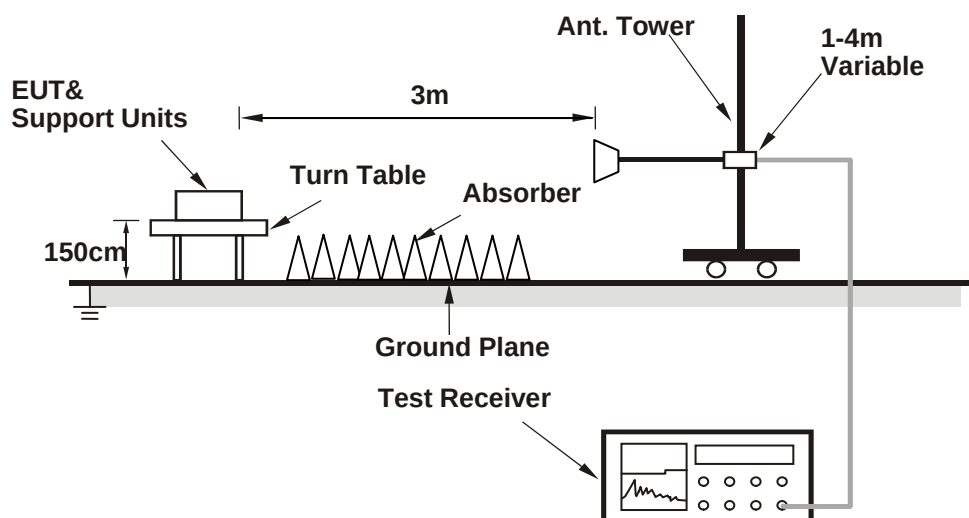
No deviation.

4.1.5 Test Set Up

<Frequency Range below 1GHz>



<Frequency Range above 1GHz>



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

4.1.6 EUT Operating Conditions

- Placed the EUT on the testing table.
- Prepared notebook to act as communication partner and placed it outside of testing area.
- The communication partner connected with EUT via a RJ45 cable and ran a test program (provided by manufacturer) to enable EUT under transmission condition continuously at specific channel frequency.
- The communication partner sent data to EUT by command "PING".
- The necessary accessories enable the system in full functions.

4.1.7 Test Results

Above 1GHz data:

802.11b

CHANNEL	TX Channel 1	DETECTOR	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz	FUNCTION	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	59.7 PK	74.0	-14.3	1.19 H	240	25.00	34.70
2	2390.00	48.5 AV	54.0	-5.5	1.19 H	240	13.80	34.70
3	*2412.00	106.0 PK			1.19 H	240	71.10	34.90
4	*2412.00	102.1 AV			1.19 H	240	67.20	34.90
5	4824.00	54.0 PK	74.0	-20.0	1.57 H	353	50.00	4.00
6	4824.00	49.0 AV	54.0	-5.0	1.57 H	353	45.00	4.00
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	63.5 PK	74.0	-10.5	1.31 V	182	28.80	34.70
2	2390.00	52.9 AV	54.0	-1.1	1.31 V	182	18.20	34.70
3	*2412.00	115.2 PK			1.31 V	182	80.30	34.90
4	*2412.00	111.3 AV			1.31 V	182	76.40	34.90
5	4824.00	53.7 PK	74.0	-20.3	1.88 V	45	49.70	4.00
6	4824.00	47.8 AV	54.0	-6.2	1.88 V	45	43.80	4.00

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)
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	*2437.00	98.5 PK			1.10 H	267	63.50	35.00
2	*2437.00	95.2 AV			1.10 H	267	60.20	35.00
3	4874.00	50.2 PK	74.0	-23.8	1.54 H	219	46.20	4.00
4	4874.00	41.9 AV	54.0	-12.1	1.54 H	219	37.90	4.00
5	7311.00	58.6 PK	74.0	-15.4	1.00 H	216	48.90	9.70
6	7311.00	50.3 AV	54.0	-3.7	1.00 H	216	40.60	9.70
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	111.7 PK			1.00 V	205	76.70	35.00
2	*2437.00	108.0 AV			1.00 V	205	73.00	35.00
3	4874.00	52.5 PK	74.0	-21.5	1.00 V	75	48.50	4.00
4	4874.00	44.4 AV	54.0	-9.6	1.00 V	75	40.40	4.00
5	7311.00	61.3 PK	74.0	-12.7	1.31 V	5	51.60	9.70
6	7311.00	52.7 AV	54.0	-1.3	1.31 V	5	43.00	9.70

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

CHANNEL	TX Channel 11	DETECTOR	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz	FUNCTION	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	101.4 PK			1.00 H	330	66.20	35.20
2	*2462.00	97.4 AV			1.00 H	330	62.20	35.20
3	2483.50	60.3 PK	74.0	-13.7	1.00 H	330	25.10	35.20
4	2483.50	48.1 AV	54.0	-5.9	1.00 H	330	12.90	35.20
5	4924.00	53.5 PK	74.0	-20.5	1.29 H	12	49.30	4.20
6	4924.00	47.3 AV	54.0	-6.7	1.29 H	12	43.10	4.20
7	7386.00	57.1 PK	74.0	-16.9	1.02 H	314	47.50	9.60
8	7386.00	47.0 AV	54.0	-7.0	1.02 H	314	37.40	9.60
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			1.66 V	75	78.80	35.20
2	*2462.00	110.2 AV			1.66 V	75	75.00	35.20
3	2483.50	65.0 PK	74.0	-9.0	1.66 V	75	29.80	35.20
4	2483.50	52.8 AV	54.0	-1.2	1.66 V	75	17.60	35.20
5	4924.00	52.1 PK	74.0	-21.9	3.28 V	12	47.90	4.20
6	4924.00	43.8 AV	54.0	-10.2	3.28 V	12	39.60	4.20
7	7386.00	60.3 PK	74.0	-13.7	1.28 V	10	50.70	9.60
8	7386.00	52.9 AV	54.0	-1.1	1.28 V	10	43.30	9.60

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

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CHANNEL	TX Channel 1	DETECTOR FUNCTION	Peak (PK)
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	63.1 PK	74.0	-10.9	1.01 H	314	28.40	34.70
2	2390.00	48.5 AV	54.0	-5.5	1.01 H	314	13.80	34.70
3	*2412.00	99.3 PK			1.01 H	314	64.40	34.90
4	*2412.00	89.8 AV			1.01 H	314	54.90	34.90
5	4824.00	50.2 PK	74.0	-23.8	1.26 H	98	46.20	4.00
6	4824.00	37.1 AV	54.0	-16.9	1.26 H	98	33.10	4.00
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	72.7 PK	74.0	-1.3	1.31 V	223	38.00	34.70
2	2390.00	52.6 AV	54.0	-1.4	1.31 V	223	17.90	34.70
3	*2412.00	109.3 PK			1.31 V	223	74.40	34.90
4	*2412.00	99.6 AV			1.31 V	223	64.70	34.90
5	4824.00	50.7 PK	74.0	-23.3	1.22 V	37	46.70	4.00
6	4824.00	37.3 AV	54.0	-16.7	1.22 V	37	33.30	4.00

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)
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	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz	FUNCTION	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	61.9 PK	74.0	-12.1	1.00 H	323	27.20	34.70
2	2390.00	48.5 AV	54.0	-5.5	1.00 H	323	13.80	34.70
3	*2437.00	103.2 PK			1.00 H	323	68.20	35.00
4	*2437.00	94.2 AV			1.00 H	323	59.20	35.00
5	2483.50	62.1 PK	74.0	-11.9	1.00 H	323	26.90	35.20
6	2483.50	48.6 AV	54.0	-5.4	1.00 H	323	13.40	35.20
7	4874.00	52.5 PK	74.0	-21.5	1.29 H	23	48.50	4.00
8	4874.00	39.6 AV	54.0	-14.4	1.29 H	23	35.60	4.00
9	7311.00	58.2 PK	74.0	-15.8	1.00 H	314	48.50	9.70
10	7311.00	45.0 AV	54.0	-9.0	1.00 H	314	35.30	9.70
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	70.4 PK	74.0	-3.6	1.12 V	214	35.70	34.70
2	2390.00	52.6 AV	54.0	-1.4	1.12 V	214	17.90	34.70
3	*2437.00	114.4 PK			1.12 V	214	79.40	35.00
4	*2437.00	104.3 AV			1.12 V	214	69.30	35.00
5	2483.50	71.2 PK	74.0	-2.8	1.12 V	214	36.00	35.20
6	2483.50	53.0 AV	54.0	-1.0	1.12 V	214	17.80	35.20
7	4874.00	51.0 PK	74.0	-23.0	1.07 V	6	47.00	4.00
8	4874.00	38.2 AV	54.0	-15.8	1.07 V	6	34.20	4.00
9	7311.00	63.2 PK	74.0	-10.8	3.49 V	9	53.50	9.70
10	7311.00	49.2 AV	54.0	-4.8	3.49 V	9	39.50	9.70

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

CHANNEL	TX Channel 11	DETECTOR	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz	FUNCTION	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	100.2 PK			1.00 H	316	65.00	35.20
2	*2462.00	90.5 AV			1.00 H	316	55.30	35.20
3	2483.50	63.6 PK	74.0	-10.4	1.00 H	316	28.40	35.20
4	2483.50	49.0 AV	54.0	-5.0	1.00 H	316	13.80	35.20
5	4924.00	49.9 PK	74.0	-24.1	1.25 H	39	45.70	4.20
6	4924.00	36.8 AV	54.0	-17.2	1.25 H	39	32.60	4.20
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	108.7 PK			1.22 V	186	73.50	35.20
2	*2462.00	98.8 AV			1.22 V	186	63.60	35.20
3	2483.50	72.4 PK	74.0	-1.6	1.22 V	187	37.20	35.20
4	2483.50	52.8 AV	54.0	-1.2	1.22 V	187	17.60	35.20
5	4924.00	49.5 PK	74.0	-24.5	1.12 V	96	45.30	4.20
6	4924.00	36.7 AV	54.0	-17.3	1.12 V	96	32.50	4.20

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)
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	65.9 PK	74.0	-8.1	1.01 H	341	31.20	34.70
2	2390.00	50.0 AV	54.0	-4.0	1.01 H	341	15.30	34.70
3	*2412.00	104.5 PK			1.84 H	75	69.60	34.90
4	*2412.00	93.9 AV			1.84 H	75	59.00	34.90
5	4824.00	50.3 PK	74.0	-23.7	1.44 H	5	46.30	4.00
6	4824.00	36.5 AV	54.0	-17.5	1.44 H	5	32.50	4.00
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	72.8 PK	74.0	-1.2	2.65 V	147	38.10	34.70
2	2390.00	52.2 AV	54.0	-1.8	2.65 V	147	17.50	34.70
3	*2412.00	112.8 PK			2.58 V	317	77.90	34.90
4	*2412.00	102.6 AV			2.58 V	317	67.70	34.90
5	4824.00	50.8 PK	74.0	-23.2	1.22 V	40	46.80	4.00
6	4824.00	36.7 AV	54.0	-17.3	1.22 V	40	32.70	4.00

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)
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	63.2 PK	74.0	-10.8	1.21 H	344	28.50	34.70
2	2390.00	50.1 AV	54.0	-3.9	1.21 H	344	15.40	34.70
3	*2437.00	109.7 PK			1.62 H	73	74.70	35.00
4	*2437.00	99.7 AV			1.62 H	73	64.70	35.00
5	2483.50	61.1 PK	74.0	-12.9	1.01 H	59	25.90	35.20
6	2483.50	49.1 AV	54.0	-4.9	1.01 H	59	13.90	35.20
7	4874.00	57.4 PK	74.0	-16.6	1.06 H	337	53.40	4.00
8	4874.00	44.6 AV	54.0	-9.4	1.06 H	337	40.60	4.00
9	7311.00	59.5 PK	74.0	-14.5	1.00 H	307	49.80	9.70
10	7311.00	45.9 AV	54.0	-8.1	1.00 H	307	36.20	9.70
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	72.7 PK	74.0	-1.3	2.57 V	140	38.00	34.70
2	2390.00	53.0 AV	54.0	-1.0	2.57 V	140	18.30	34.70
3	*2437.00	115.7 PK			1.00 V	189	80.70	35.00
4	*2437.00	105.8 AV			1.00 V	189	70.80	35.00
5	2483.50	72.2 PK	74.0	-1.8	1.10 V	42	37.00	35.20
6	2483.50	53.1 AV	54.0	-0.9	1.10 V	42	17.90	35.20
7	4874.00	53.4 PK	74.0	-20.6	2.11 V	250	49.40	4.00
8	4874.00	39.6 AV	54.0	-14.4	2.11 V	250	35.60	4.00
9	7311.00	63.2 PK	74.0	-10.8	1.64 V	11	53.50	9.70
10	7311.00	49.4 AV	54.0	-4.6	1.64 V	11	39.70	9.70

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

CHANNEL	TX Channel 11	DETECTOR	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz	FUNCTION	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	102.5 PK			1.54 H	72	67.30	35.20
2	*2462.00	92.1 AV			1.54 H	72	56.90	35.20
3	2483.50	61.6 PK	74.0	-12.4	1.45 H	337	26.40	35.20
4	2483.50	49.1 AV	54.0	-4.9	1.45 H	337	13.90	35.20
5	4924.00	50.0 PK	74.0	-24.0	1.26 H	56	45.80	4.20
6	4924.00	36.5 AV	54.0	-17.5	1.26 H	56	32.30	4.20
7	7386.00	54.9 PK	74.0	-19.1	1.78 H	276	45.30	9.60
8	7386.00	41.5 AV	54.0	-12.5	1.78 H	276	31.90	9.60
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	111.0 PK			1.07 V	174	75.80	35.20
2	*2462.00	100.5 AV			1.07 V	174	65.30	35.20
3	2483.50	72.7 PK	74.0	-1.3	1.09 V	187	37.50	35.20
4	2483.50	52.6 AV	54.0	-1.4	1.09 V	187	17.40	35.20
5	4924.00	49.9 PK	74.0	-24.1	1.00 V	36	45.70	4.20
6	4924.00	36.1 AV	54.0	-17.9	1.00 V	36	31.90	4.20
7	7386.00	56.8 PK	74.0	-17.2	1.70 V	2	47.20	9.60
8	7386.00	43.0 AV	54.0	-11.0	1.70 V	2	33.40	9.60

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)
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	63.1 PK	74.0	-10.9	1.74 H	13	28.40	34.70
2	2390.00	49.2 AV	54.0	-4.8	1.74 H	13	14.50	34.70
3	*2422.00	99.5 PK			1.00 H	217	64.60	34.90
4	*2422.00	90.9 AV			1.00 H	217	56.00	34.90
5	4844.00	49.5 PK	74.0	-24.5	1.02 H	122	45.50	4.00
6	4844.00	35.7 AV	54.0	-18.3	1.02 H	122	31.70	4.00
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	71.8 PK	74.0	-2.2	1.07 V	195	37.10	34.70
2	2390.00	52.8 AV	54.0	-1.2	1.07 V	195	18.10	34.70
3	*2422.00	110.4 PK			1.00 V	193	75.50	34.90
4	*2422.00	100.0 AV			1.00 V	193	65.10	34.90
5	4844.00	49.8 PK	74.0	-24.2	1.82 V	12	45.80	4.00
6	4844.00	36.7 AV	54.0	-17.3	1.82 V	12	32.70	4.00

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)
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	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz	FUNCTION	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	189	28.70	34.70
2	2390.00	48.2 AV	54.0	-5.8	1.00 H	189	13.50	34.70
3	*2437.00	101.0 PK			1.00 H	229	66.00	35.00
4	*2437.00	90.9 AV			1.00 H	229	55.90	35.00
5	2483.50	62.4 PK	74.0	-11.6	1.06 H	199	27.20	35.20
6	2483.50	49.0 AV	54.0	-5.0	1.06 H	199	13.80	35.20
7	4874.00	50.6 PK	74.0	-23.4	1.00 H	45	46.60	4.00
8	4874.00	36.8 AV	54.0	-17.2	1.00 H	45	32.80	4.00
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	69.8 PK	74.0	-4.2	1.00 V	190	35.10	34.70
2	2390.00	52.6 AV	54.0	-1.4	1.00 V	190	17.90	34.70
3	*2437.00	108.2 PK			1.00 V	176	73.20	35.00
4	*2437.00	98.4 AV			1.00 V	176	63.40	35.00
5	2483.50	66.8 PK	74.0	-7.2	1.00 V	214	31.60	35.20
6	2483.50	53.4 AV	54.0	-0.6	1.00 V	214	18.20	35.20
7	4874.00	50.5 PK	74.0	-23.5	1.68 V	18	46.50	4.00
8	4874.00	37.1 AV	54.0	-16.9	1.68 V	18	33.10	4.00

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

CHANNEL	TX Channel 9	DETECTOR FUNCTION	Peak (PK)
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	*2452.00	93.6 PK			1.00 H	172	58.60	35.00
2	*2452.00	92.9 AV			1.00 H	172	57.90	35.00
3	2483.50	60.0 PK	74.0	-14.0	1.00 H	216	24.80	35.20
4	2483.50	49.9 AV	54.0	-4.1	1.00 H	216	14.70	35.20
5	4904.00	49.8 PK	74.0	-24.2	1.00 H	319	45.60	4.20
6	4904.00	36.6 AV	54.0	-17.4	1.00 H	319	32.40	4.20
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	103.9 PK			1.00 V	206	68.90	35.00
2	*2452.00	93.0 AV			1.00 V	206	58.00	35.00
3	2483.50	66.1 PK	74.0	-7.9	1.00 V	216	30.90	35.20
4	2483.50	53.2 AV	54.0	-0.8	1.00 V	216	18.00	35.20
5	4904.00	49.9 PK	74.0	-24.1	1.00 V	113	45.70	4.20
6	4904.00	36.4 AV	54.0	-17.6	1.00 V	113	32.20	4.20

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

Below 1GHz worst-case data: 802.11n (HT20)

CHANNEL	TX Channel 6	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	30MHz ~ 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	51.34	35.9 QP	40.0	-4.1	1.01 H	273	50.20	-14.30
2	99.84	32.7 QP	43.5	-10.8	2.00 H	121	51.40	-18.70
3	125.06	32.6 QP	43.5	-10.9	1.51 H	259	48.60	-16.00
4	249.22	36.5 QP	46.0	-9.5	1.01 H	163	50.90	-14.40
5	375.32	36.3 QP	46.0	-9.7	1.01 H	18	47.20	-10.90
6	625.58	36.4 QP	46.0	-9.6	1.01 H	16	42.20	-5.80
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	64.92	36.7 QP	40.0	-3.3	1.49 V	25	51.90	-15.20
2	103.72	32.5 QP	43.5	-11.0	1.00 V	62	50.60	-18.10
3	173.56	34.6 QP	43.5	-8.9	1.00 V	226	49.00	-14.40
4	249.22	36.7 QP	46.0	-9.3	2.00 V	276	51.10	-14.40
5	375.32	34.8 QP	46.0	-11.2	1.24 V	203	45.70	-10.90
6	499.48	39.6 QP	46.0	-6.4	1.00 V	329	48.20	-8.60

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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value

4.2 Conducted Emission Measurement

4.2.1 Limits of Conducted Emission Measurement

Frequency (MHz)	Conducted Limit (dBuV)	
	Quasi-peak	Average
0.15 - 0.5	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30.0	60	50

Note: 1. The lower limit shall apply at the transition frequencies.
2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

4.2.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver ROHDE & SCHWARZ	ESCS 30	100288	Apr. 27, 2015	Apr. 26, 2016
RF signal cable (with 10dB PAD) Woken	5D-FB	Cable-cond2-01	Dec. 26, 2014	Dec. 25, 2015
LISN ROHDE & SCHWARZ (EUT)	ESH2-Z5	100100	Dec. 30, 2014	Dec. 29, 2015
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100312	Jul. 21, 2015	Jul. 20, 2016
Software ADT	BV ADT_Conc_ V7.3.7.3	NA	NA	NA

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in HwaYa Shielded Room 2.
3. The VCCI Site Registration No. is C-2047.

4.2.3 Test Procedures

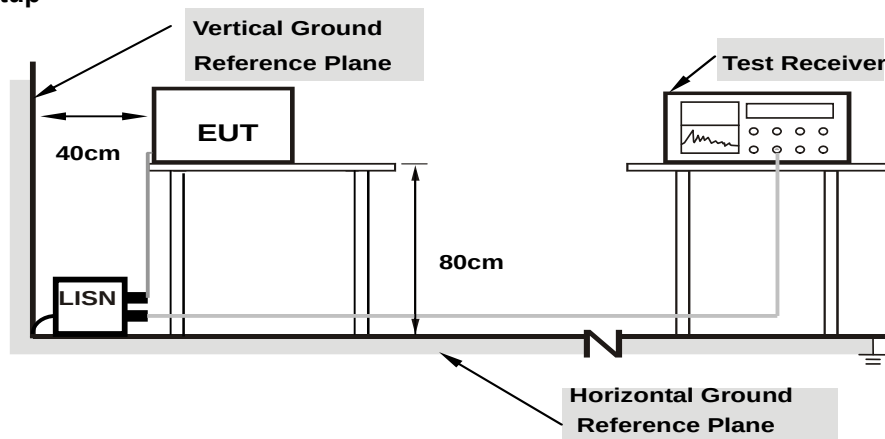
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance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

Note: The resolution bandwidth and video bandwidth of test receiver is 9kHz for quasi-peak detection (QP) and average detection (AV) at frequency 0.15MHz-30MHz.

4.2.4 Deviation from Test Standard

No deviation.

4.2.5 Test Setup



Note: 1.Support units were connected to second LISN.

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

4.2.6 EUT Operating Conditions

Same as 4.1.6.

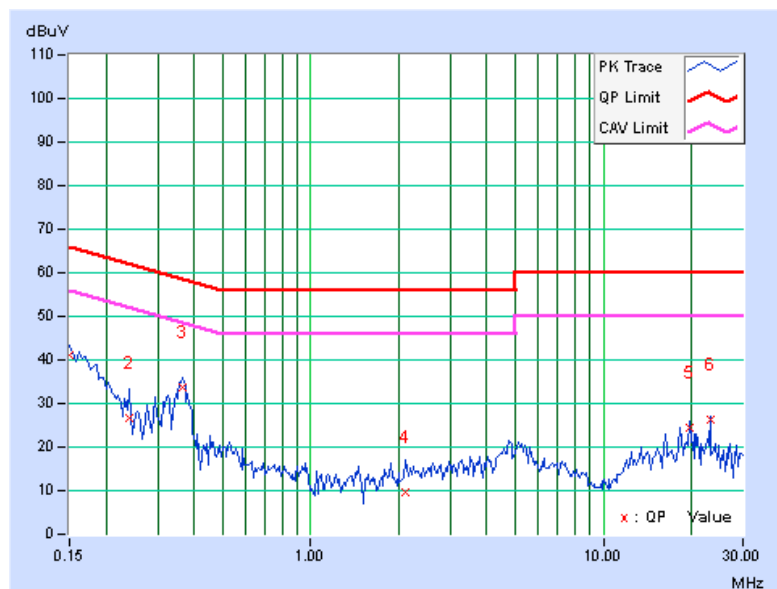
4.2.7 Test Results

Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
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No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	0.16	40.90	27.98	41.06	28.14	66.00	56.00	-24.94	-27.86
2	0.23984	0.17	26.34	18.14	26.51	18.31	62.10	52.10	-35.59	-33.79
3	0.36484	0.18	33.60	30.97	33.78	31.15	58.62	48.62	-24.84	-17.47
4	2.12109	0.27	9.34	3.72	9.61	3.99	56.00	46.00	-46.39	-42.01
5	19.70703	0.62	23.89	19.96	24.51	20.58	60.00	50.00	-35.49	-29.42
6	23.12891	0.56	25.74	22.47	26.30	23.03	60.00	50.00	-33.70	-26.97

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.

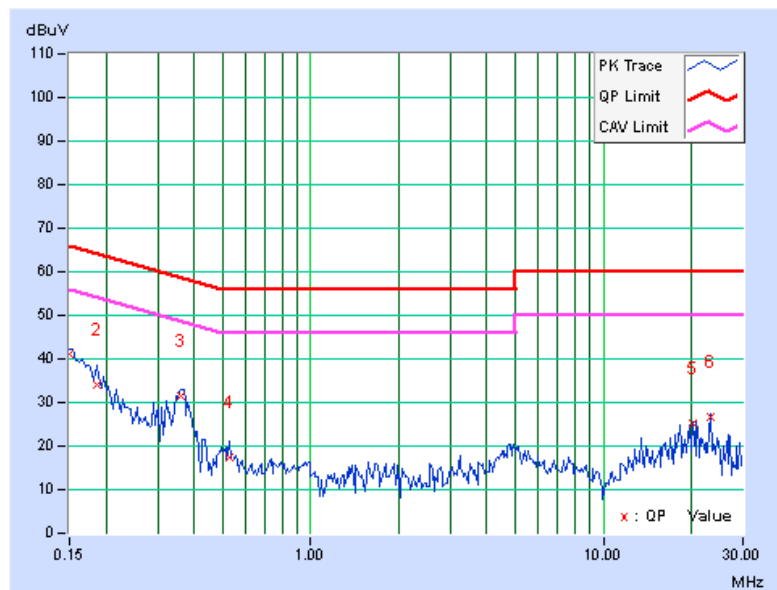


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
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No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	0.17	40.90	27.45	41.07	27.62	66.00	56.00	-24.93	-28.38
2	0.18516	0.18	33.84	22.55	34.02	22.73	64.25	54.25	-30.23	-31.52
3	0.36094	0.20	31.36	29.69	31.56	29.89	58.71	48.71	-27.15	-18.82
4	0.52891	0.21	17.19	13.23	17.40	13.44	56.00	46.00	-38.60	-32.56
5	20.25781	0.78	24.59	20.78	25.37	21.56	60.00	50.00	-34.63	-28.44
6	23.12891	0.71	26.12	22.92	26.83	23.63	60.00	50.00	-33.17	-26.37

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.

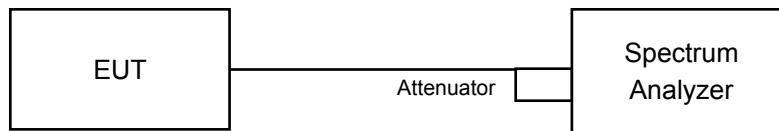


4.3 6dB Bandwidth Measurement

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

CDD Mode

802.11b

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
1	2412	10.05	0.5	PASS
6	2437	10.08	0.5	PASS
11	2462	10.08	0.5	PASS

802.11g

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
1	2412	16.39	0.5	PASS
6	2437	16.40	0.5	PASS
11	2462	16.40	0.5	PASS

802.11n (HT20)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		CHAIN 0	CHAIN 1		
1	2412	17.61	17.63	0.5	PASS
6	2437	17.62	17.62	0.5	PASS
11	2462	17.65	17.63	0.5	PASS

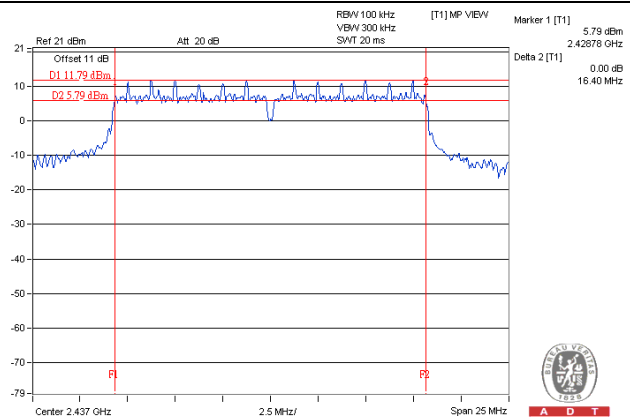
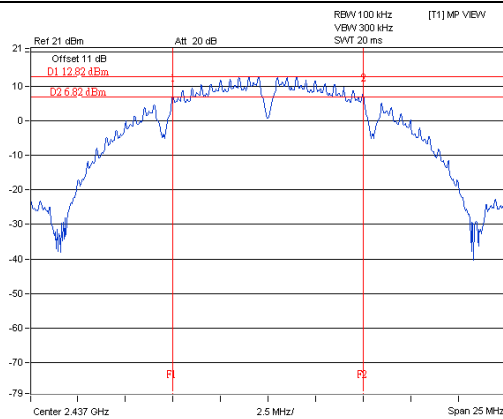
802.11n (HT40)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		CHAIN 0	CHAIN 1		
3	2422	35.82	35.56	0.5	PASS
6	2437	35.71	35.47	0.5	PASS
9	2452	35.74	35.46	0.5	PASS

Spectrum Plot of Worst Value

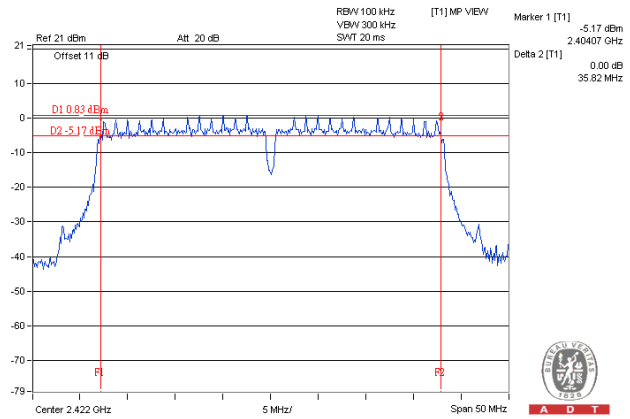
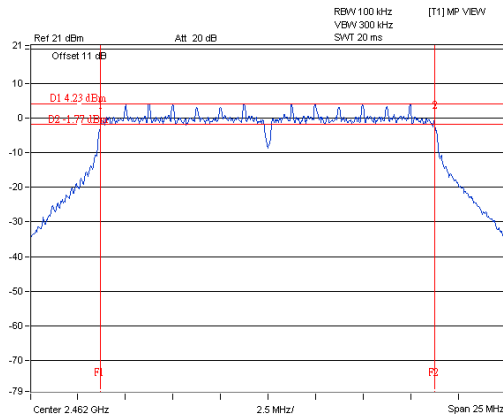
802.11b

802.11g



802.11n (HT20)

802.11n (HT40)



Beamforming Mode

802.11n (HT20)

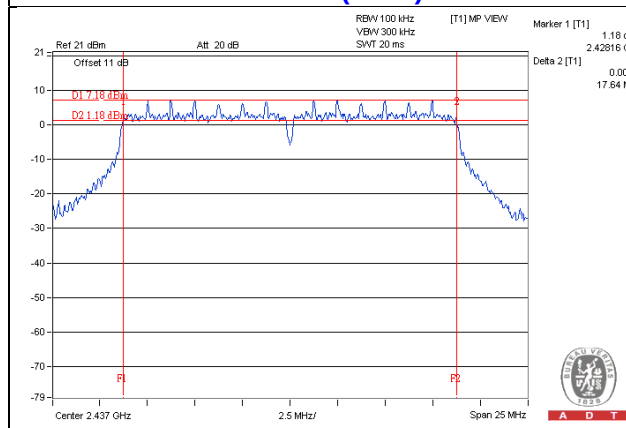
Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		CHAIN 0	CHAIN 1		
1	2412	17.59	17.61	0.5	PASS
6	2437	17.64	17.61	0.5	PASS
11	2462	17.63	17.64	0.5	PASS

802.11n (HT40)

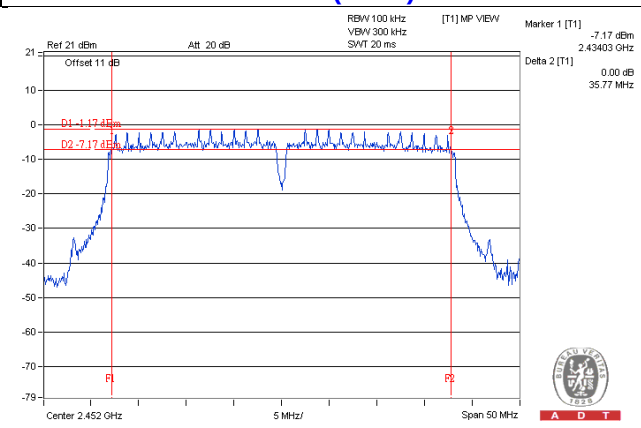
Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		CHAIN 0	CHAIN 1		
3	2422	35.75	35.55	0.5	PASS
6	2437	35.75	35.67	0.5	PASS
9	2452	35.77	35.63	0.5	PASS

Spectrum Plot of Worst Value

802.11n (HT20)



802.11n (HT40)



4.4 Conducted Output Power Measurement

4.4.1 Limits of Conducted Output Power Measurement

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

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

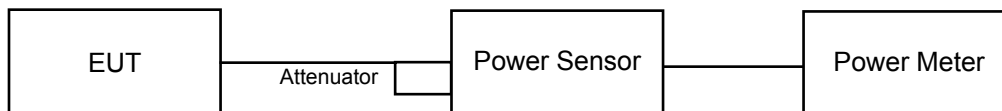
Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$;

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

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

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

4.4.2 Test Setup



4.4.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.4.4 Test Procedures

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

4.4.5 Deviation from Test Standard

No deviation.

4.4.6 EUT Operating Conditions

Same as Item 4.3.6.

4.4.7 Test Results

CDD Mode

FOR PEAK POWER

802.11b

Channel	Frequency (MHz)	Peak Power (mW)	Peak Power (dBm)	Limit (dBm)	Pass/Fail
1	2412	202.302	23.06	30	Pass
6	2437	314.051	24.97	30	Pass
11	2462	243.781	23.87	30	Pass

802.11g

Channel	Frequency (MHz)	Peak Power (mW)	Peak Power (dBm)	Limit (dBm)	Pass/Fail
1	2412	239.883	23.80	30	Pass
6	2437	564.937	27.52	30	Pass
11	2462	281.190	24.49	30	Pass

802.11n (HT20)

Chan.	Freq. (MHz)	Peak Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
1	2412	23.36	21.78	367.431	25.65	30	Pass
6	2437	27.00	26.28	925.807	29.67	30	Pass
11	2462	23.49	21.85	376.466	25.76	30	Pass

802.11n (HT40)

Chan.	Freq. (MHz)	Peak Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
3	2422	22.80	22.78	380.217	25.80	30	Pass
6	2437	25.05	23.15	526.428	27.21	30	Pass
9	2452	22.02	20.02	259.683	24.14	30	Pass

FOR AVERAGE POWER

802.11b

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)
1	2412	127.644	21.06
6	2437	207.014	23.16
11	2462	176.198	22.46

802.11g

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)
1	2412	49.545	16.95
6	2437	218.776	23.40
11	2462	58.345	17.66

802.11n (HT20)

Chan.	Frequency (MHz)	Avg. Power (dBm)		Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1		
1	2412	15.56	14.46	63.900	18.06
6	2437	22.22	21.14	296.742	24.72
11	2462	16.46	15.27	77.910	18.92

802.11n (HT40)

Chan.	Frequency (MHz)	Avg. Power (dBm)		Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1		
3	2422	15.28	14.32	60.769	17.84
6	2437	17.59	15.88	96.138	19.83
9	2452	13.88	12.07	40.540	16.08

Beamforming Mode
FOR PEAK POWER
802.11n (HT20)

Chan.	Freq. (MHz)	Peak Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
1	2412	22.83	21.22	324.301	25.11	30	Pass
6	2437	26.32	26.01	827.574	29.18	30	Pass
11	2462	23.01	21.22	332.420	25.22	30	Pass

802.11n (HT40)

Chan.	Freq. (MHz)	Peak Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
3	2422	21.66	21.71	294.807	24.70	30	Pass
6	2437	24.87	23.00	506.428	27.05	30	Pass
9	2452	21.65	20.11	248.783	23.96	30	Pass

FOR AVERAGE POWER

802.11n (HT20)

Chan.	Frequency (MHz)	Avg. Power (dBm)		Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1		
1	2412	14.91	14.06	56.442	17.52
6	2437	19.43	19.04	167.868	22.25
11	2462	14.42	14.02	52.904	17.23

802.11n (HT40)

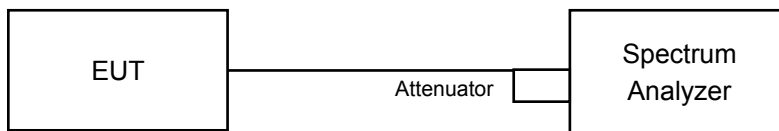
Chan.	Frequency (MHz)	Avg. Power (dBm)		Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1		
3	2422	13.43	13.02	42.074	16.24
6	2437	15.89	15.58	74.956	18.75
9	2452	12.23	11.90	32.199	15.08

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

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

4.5.5 Deviation from Test Standard

No deviation.

4.5.6 EUT Operating Condition

Same as Item 4.3.6

4.5.7 Test Results

CDD Mode

802.11b

Channel	Freq. (MHz)	PSD (dBm)	Limit (dBm)	Pass /Fail
1	2412	-3.30	8.00	Pass
6	2437	-1.28	8.00	Pass
11	2462	-1.94	8.00	Pass

802.11g

Channel	Freq. (MHz)	PSD (dBm)	Limit (dBm)	Pass /Fail
1	2412	-10.55	8.00	Pass
6	2437	-3.60	8.00	Pass
11	2462	-9.70	8.00	Pass

802.11n (HT20)

TX chain	Channel	Freq. (MHz)	PSD (dBm)	10 log (N=2) dB	Total PSD (dBm)	Limit (dBm)	Pass /Fail
0	1	2412	-11.59	3.01	-8.58	8.00	Pass
	6	2437	-4.30	3.01	-1.29	8.00	Pass
	11	2462	-10.62	3.01	-7.61	8.00	Pass
1	1	2412	-12.01	3.01	-9.00	8.00	Pass
	6	2437	-5.80	3.01	-2.79	8.00	Pass
	11	2462	-11.33	3.01	-8.32	8.00	Pass

Note:

1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = $2.73\text{dBi} + 10\log(2) = 5.74\text{dBi} < 6\text{dBi}$, so the power density limit shall be not reduced.

802.11n (HT40)

TX chain	Channel	Freq. (MHz)	PSD (dBm)	10 log (N=2) dB	Total PSD (dBm)	Limit (dBm)	Pass /Fail
0	3	2422	-14.57	3.01	-11.56	8.00	Pass
	6	2437	-13.48	3.01	-10.47	8.00	Pass
	9	2452	-17.45	3.01	-14.44	8.00	Pass
1	3	2422	-15.25	3.01	-12.24	8.00	Pass
	6	2437	-12.54	3.01	-9.53	8.00	Pass
	9	2452	-17.15	3.01	-14.14	8.00	Pass

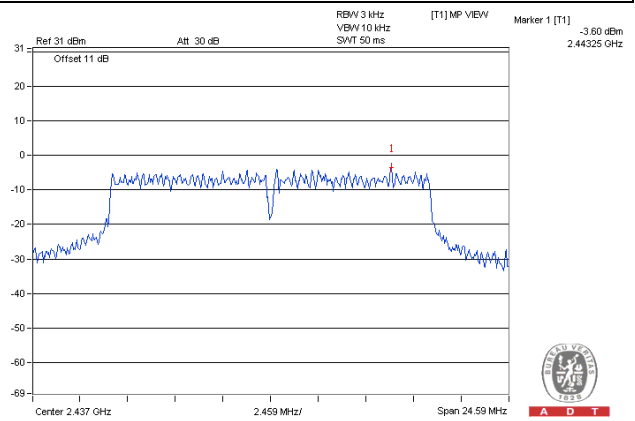
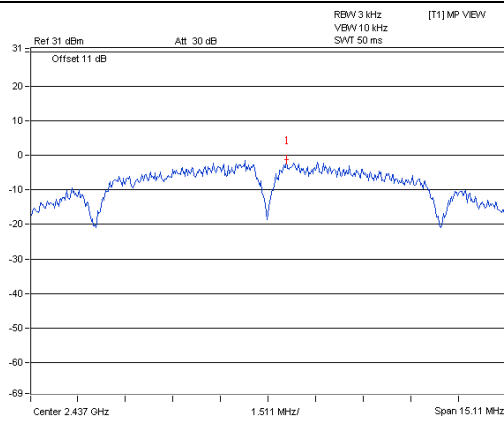
Note:

1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = $2.73\text{dBi} + 10\log(2) = 5.74\text{dBi} < 6\text{dBi}$, so the power density limit shall be not reduced.

Spectrum Plot of Worst Value

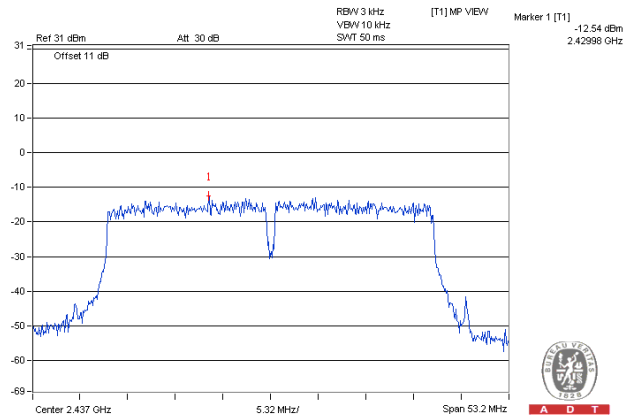
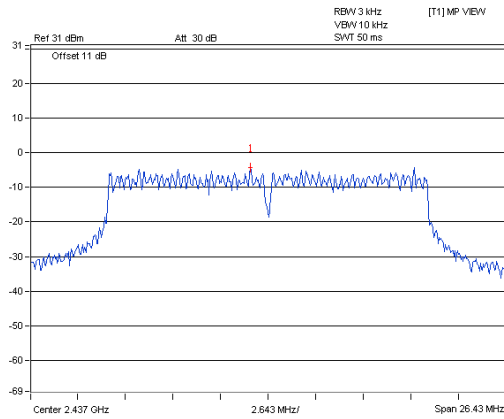
802.11b

802.11g



802.11n (HT20)

802.11n (HT40)



Beamforming Mode

802.11n (HT20)

TX chain	Channel	Freq. (MHz)	PSD (dBm)	10 log (N=2) dB	Total PSD (dBm)	Limit (dBm)	Pass /Fail
0	1	2412	-11.27	3.01	-8.26	8.00	Pass
	6	2437	-7.80	3.01	-4.79	8.00	Pass
	11	2462	-12.55	3.01	-9.54	8.00	Pass
1	1	2412	-12.64	3.01	-9.63	8.00	Pass
	6	2437	-8.48	3.01	-5.47	8.00	Pass
	11	2462	-13.34	3.01	-10.33	8.00	Pass

Note:

- Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- Directional gain = $2.73\text{dBi} + 10\log(2) = 5.74\text{dBi} < 6\text{dBi}$, so the power density limit shall be not reduced.

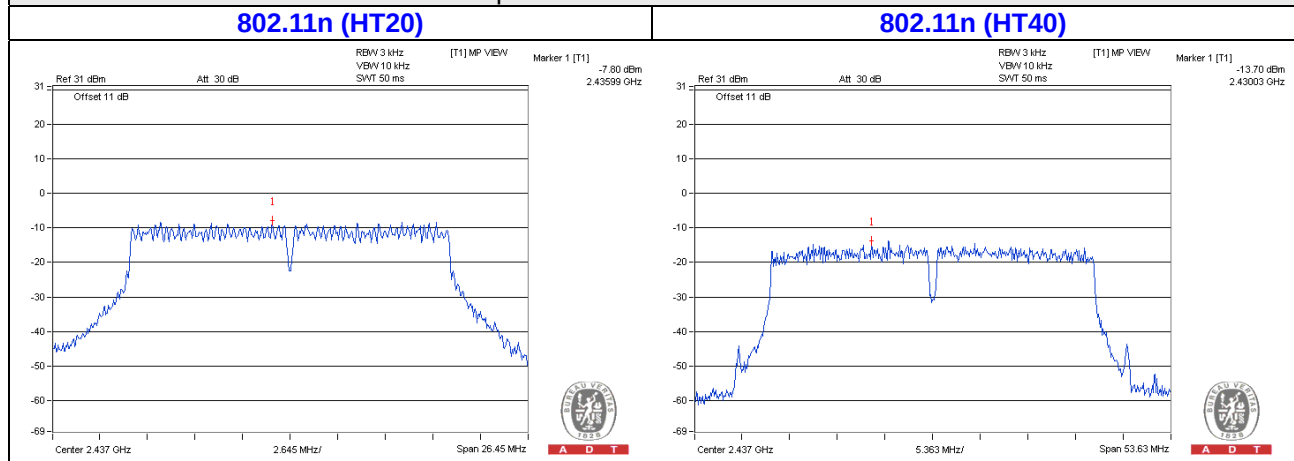
802.11n (HT40)

TX chain	Channel	Freq. (MHz)	PSD (dBm)	10 log (N=2) dB	Total PSD (dBm)	Limit (dBm)	Pass /Fail
0	3	2422	-17.31	3.01	-14.30	8.00	Pass
	6	2437	-13.70	3.01	-10.69	8.00	Pass
	9	2452	-16.71	3.01	-13.70	8.00	Pass
1	3	2422	-17.71	3.01	-14.70	8.00	Pass
	6	2437	-15.48	3.01	-12.47	8.00	Pass
	9	2452	-19.02	3.01	-16.01	8.00	Pass

Note:

- Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- Directional gain = $2.73\text{dBi} + 10\log(2) = 5.74\text{dBi} < 6\text{dBi}$, so the power density limit shall be not reduced.

Spectrum Plot of Worst Value

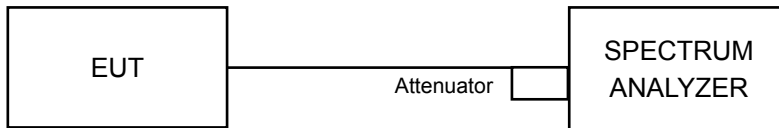


4.6 Conducted Out of Band Emission Measurement

4.6.1 Limits of Conducted Out of Band Emission Measurement

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

4.6.2 Test Setup



4.6.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.6.4 Test Procedure

MEASUREMENT PROCEDURE REF

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

MEASUREMENT PROCEDURE OOB

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

4.6.5 Deviation from Test Standard

No deviation.

4.6.6 EUT Operating Condition

Same as Item 4.3.6

4.6.7 Test Results

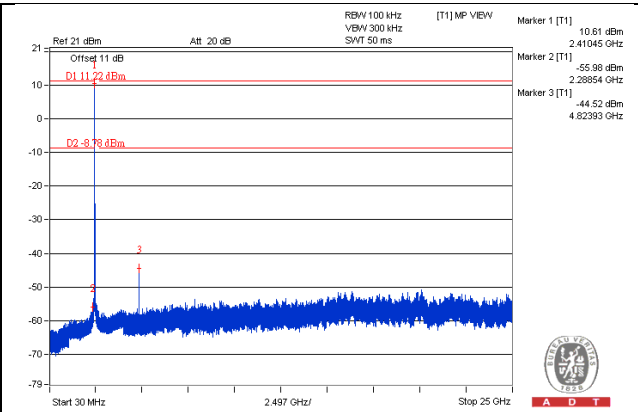
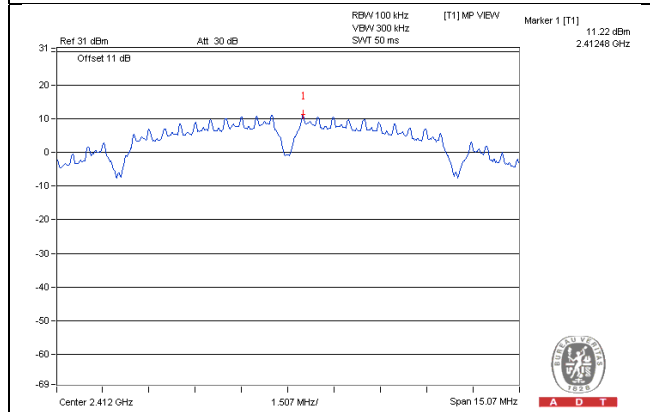
The spectrum plots are attached on the following pages. D1 line indicates the highest level, and D2 line indicates the 20dB offset below D1. It shows compliance with the requirement.



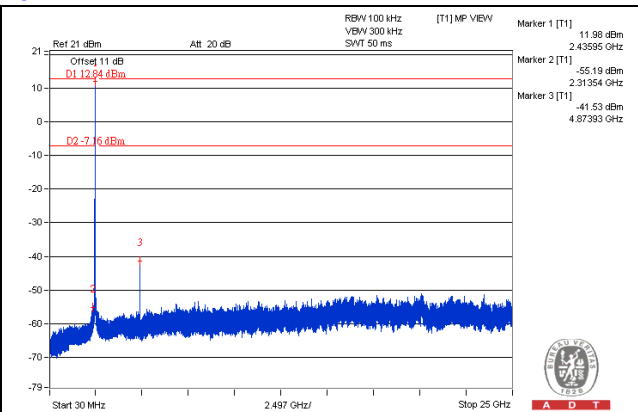
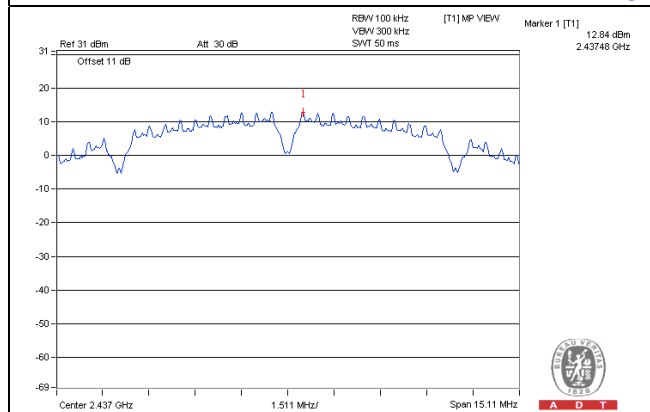
A D T

CDD Mode 802.11b

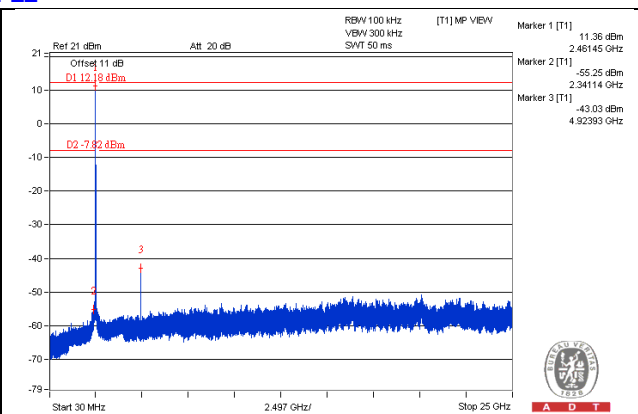
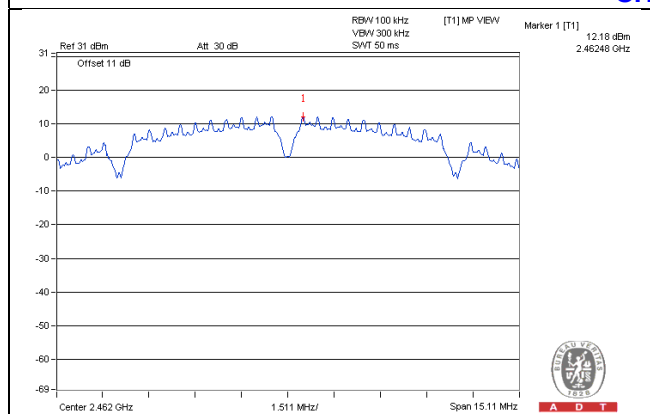
CH 1



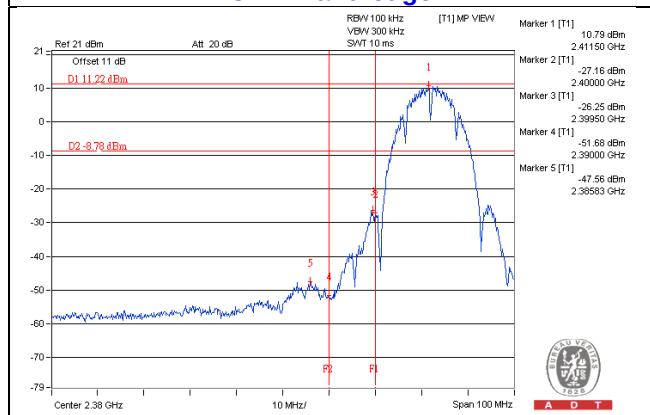
CH 6



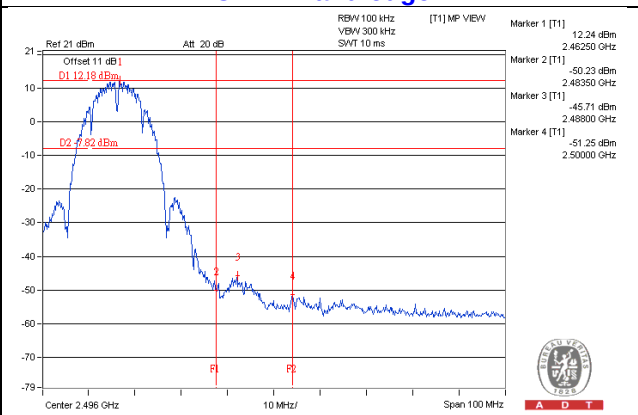
CH 11



CH 1 Band edge

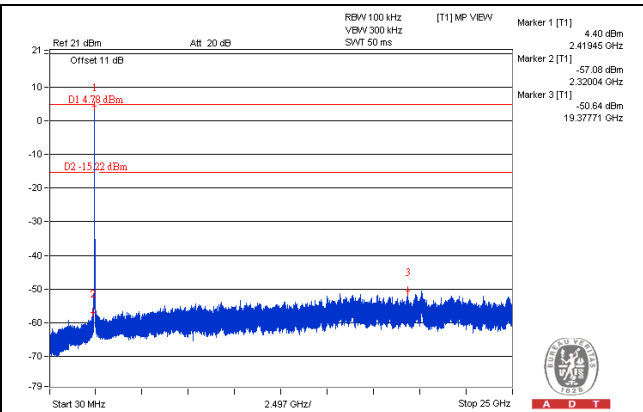
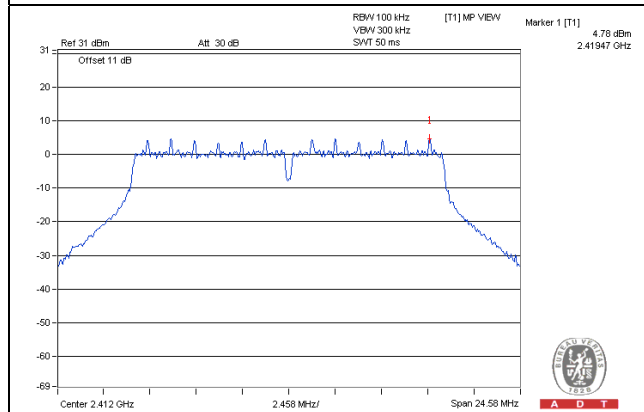


CH 11 Band edge

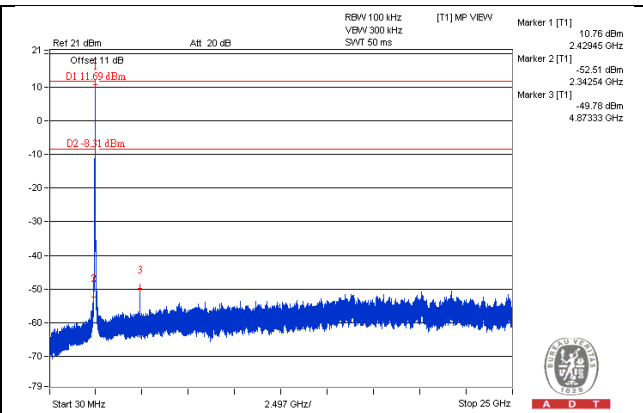
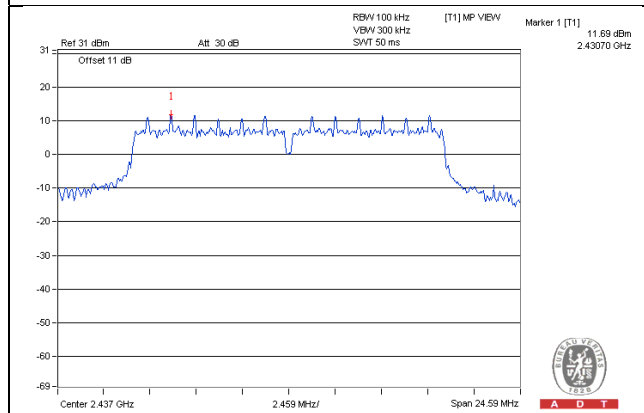


802.11g

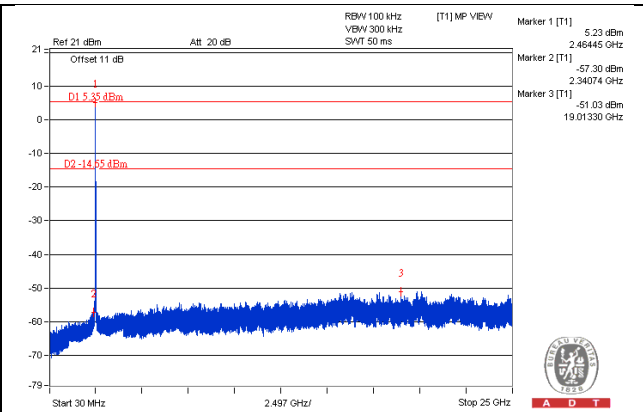
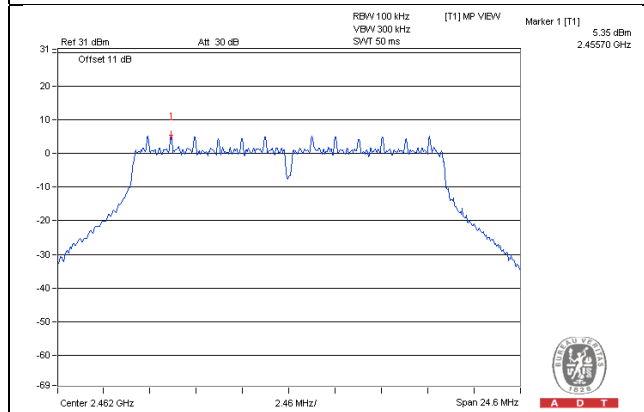
CH 1



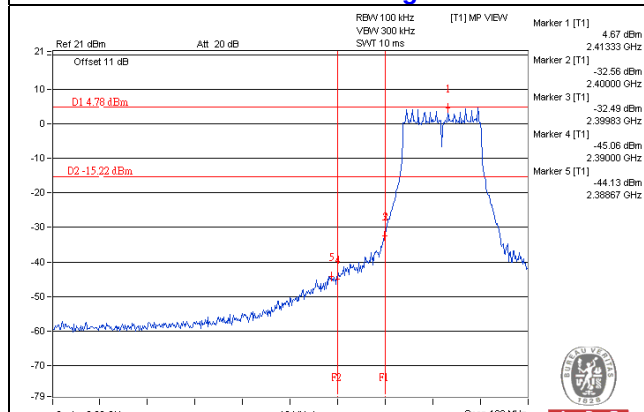
CH 6



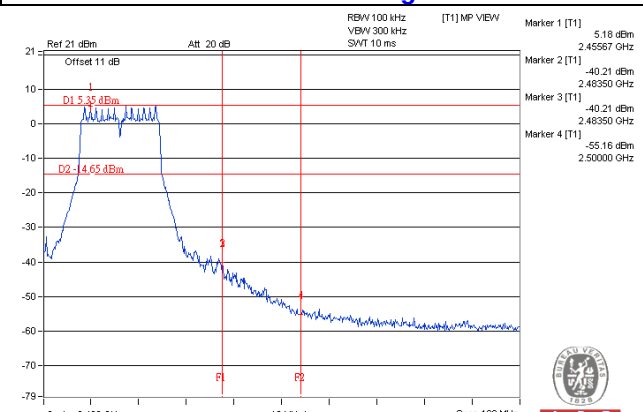
CH 11



CH 1 Band edge

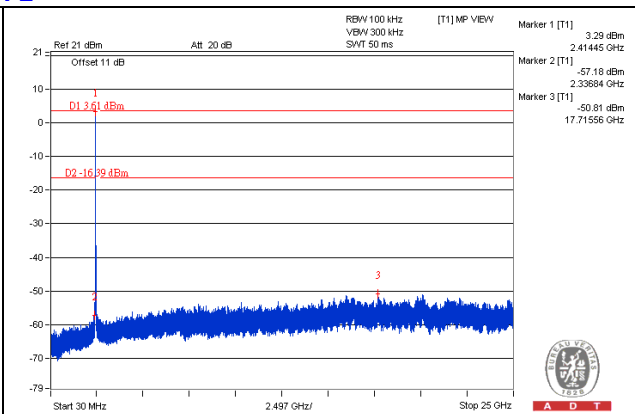
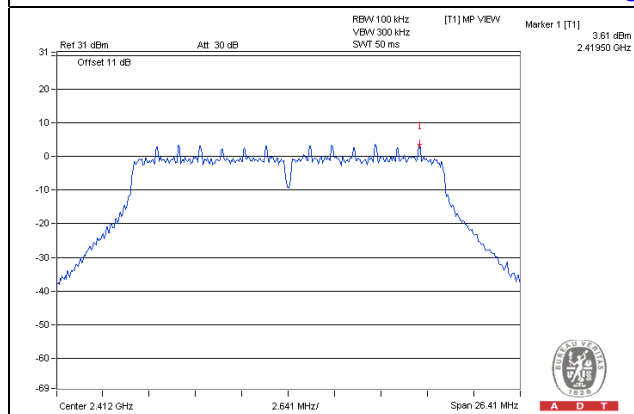


CH 11 Band edge

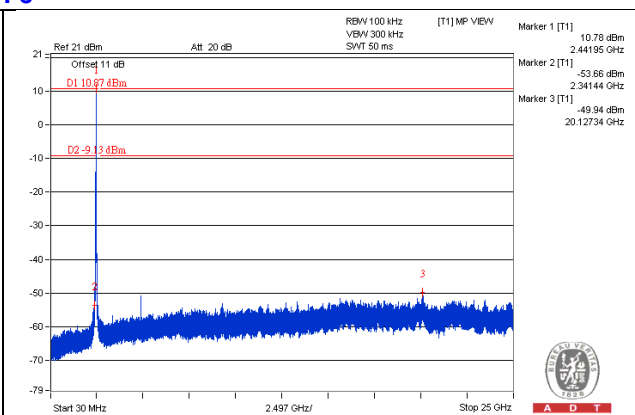
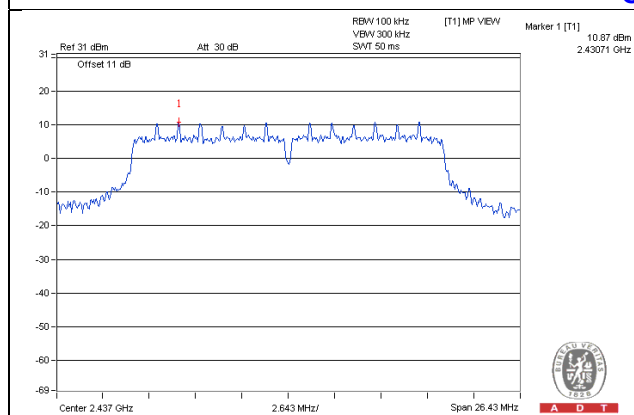


802.11n (HT20)_CHAIN 0

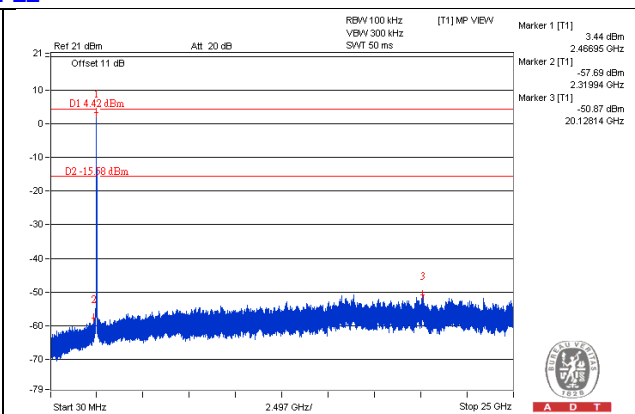
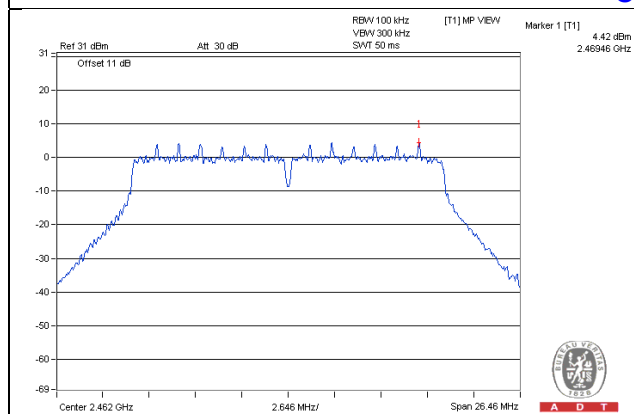
CH 1



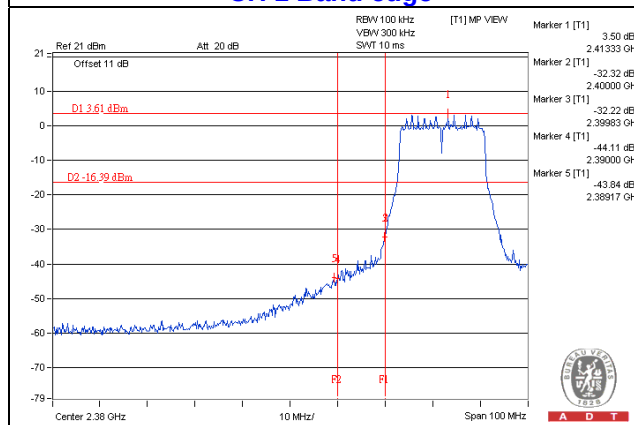
CH 6



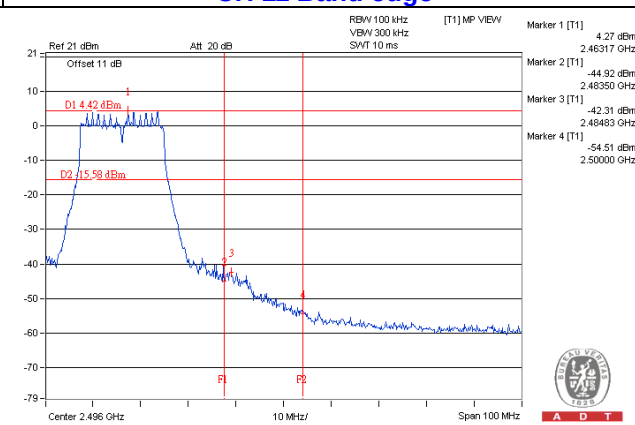
CH 11



CH 1 Band edge

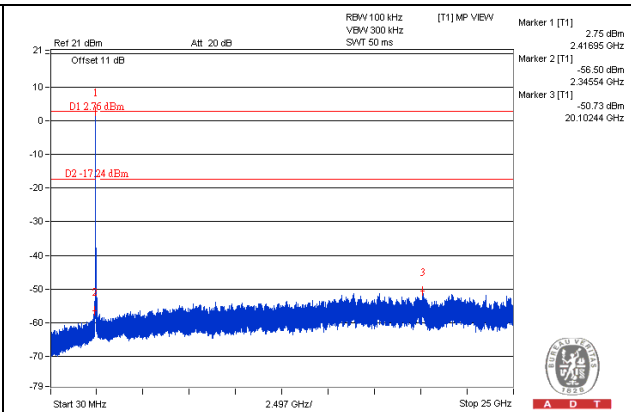
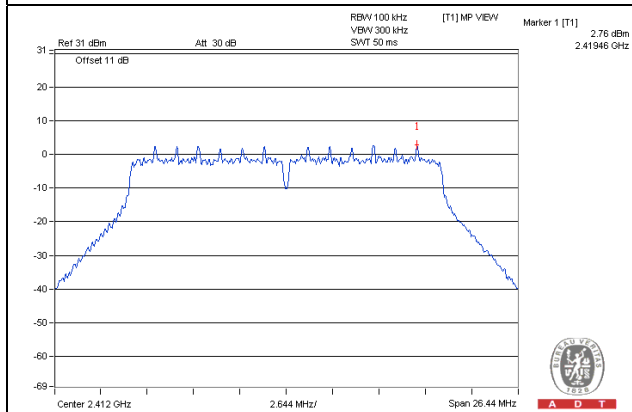


CH 11 Band edge

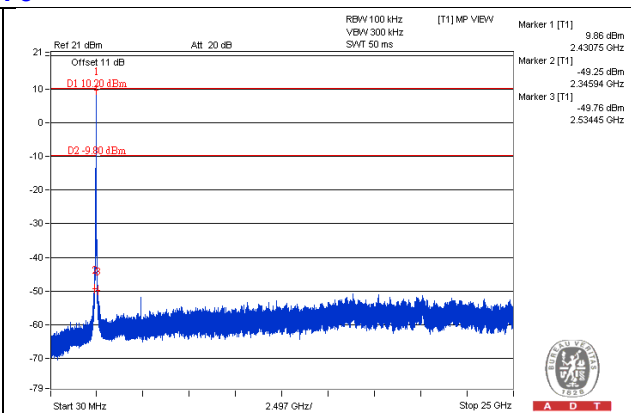
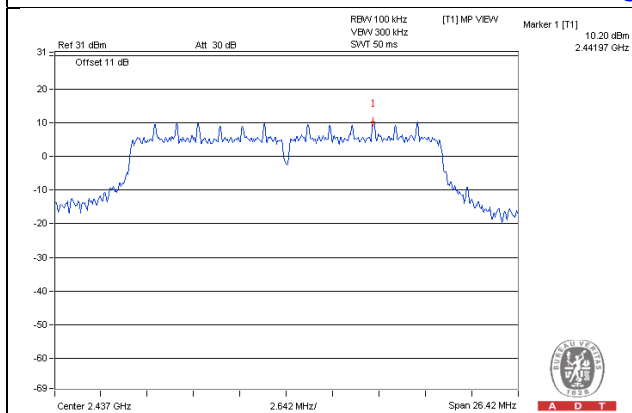


CHAIN 1

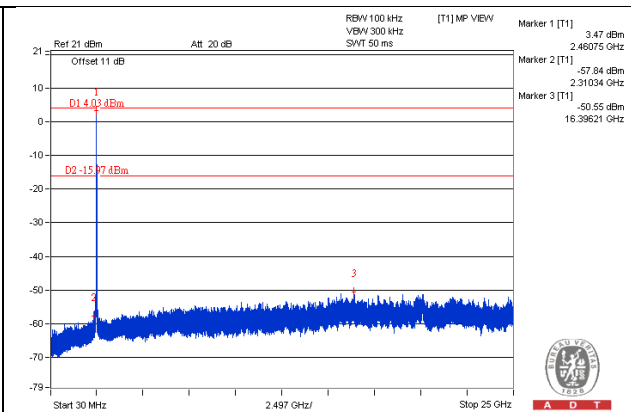
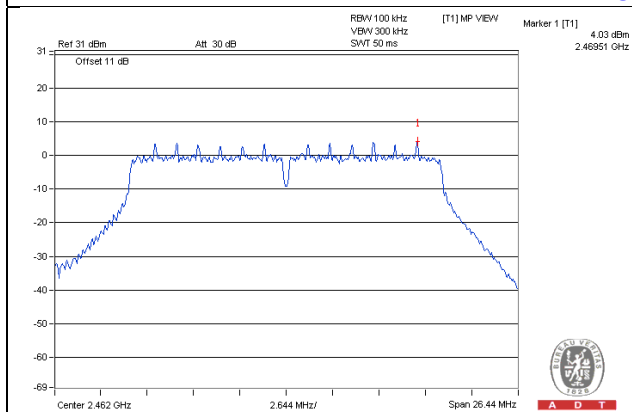
CH 1



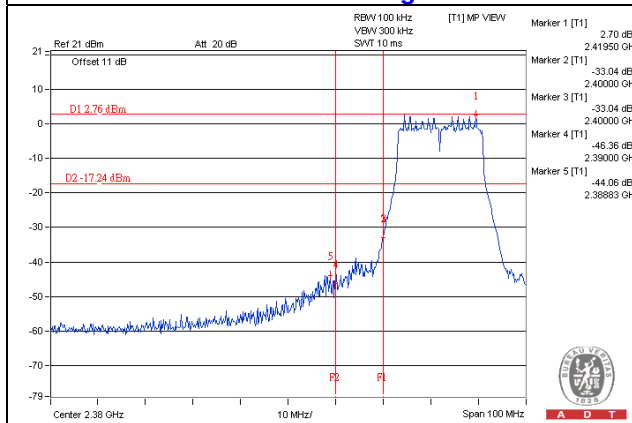
CH 6



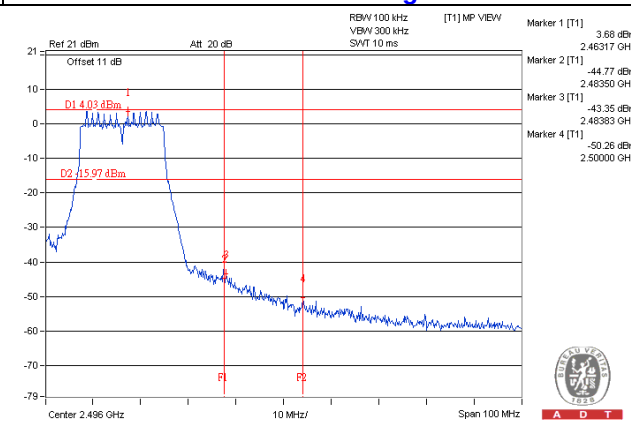
CH 11



CH 1 Band edge

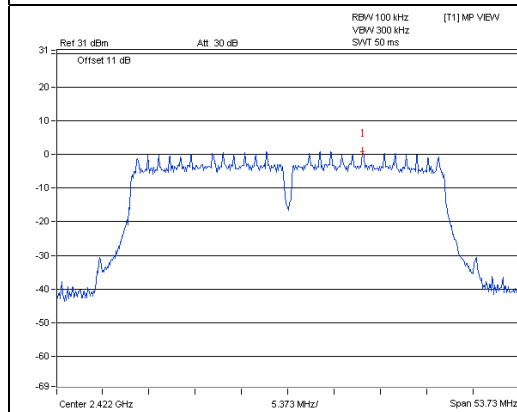


CH 11 Band edge

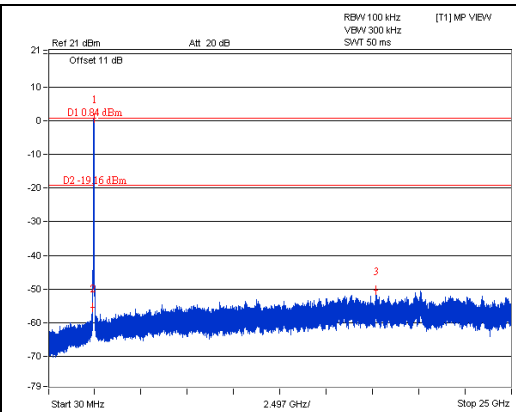


802.11n (HT40)_CHAIN 0

CH 3

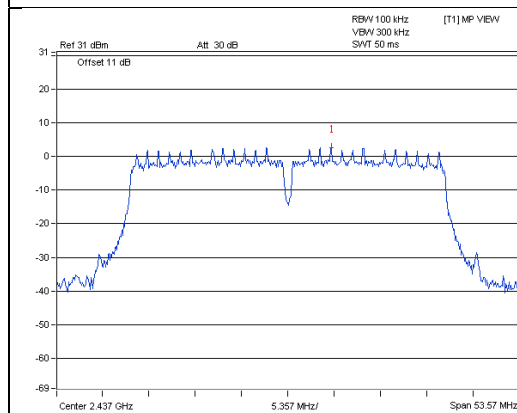


A D T

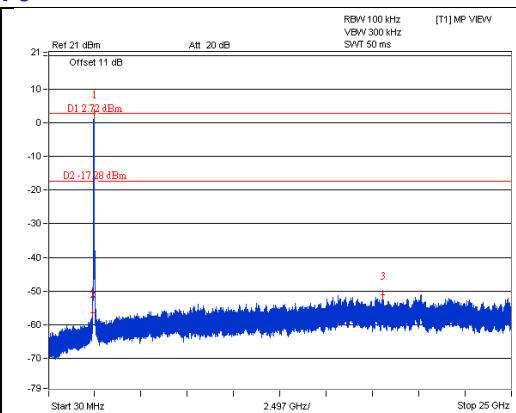


A D T

CH 6

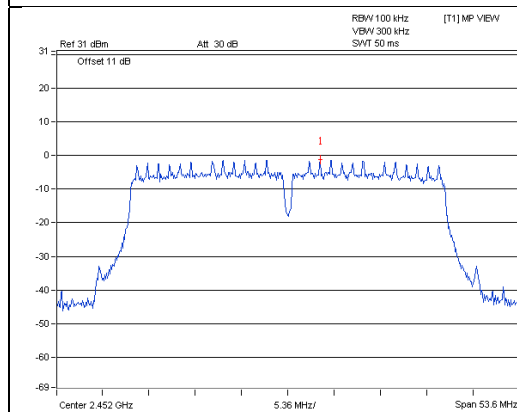


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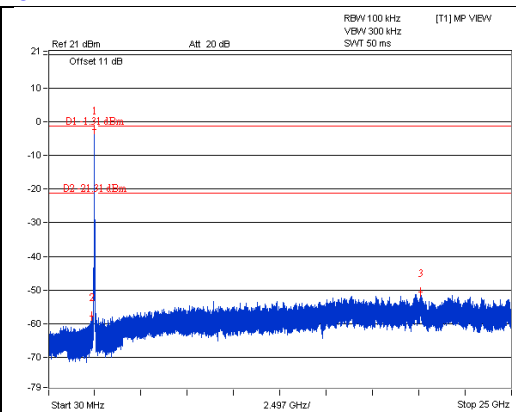


A D T

CH 9

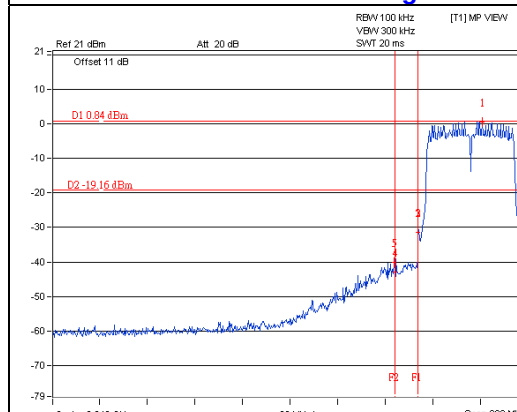


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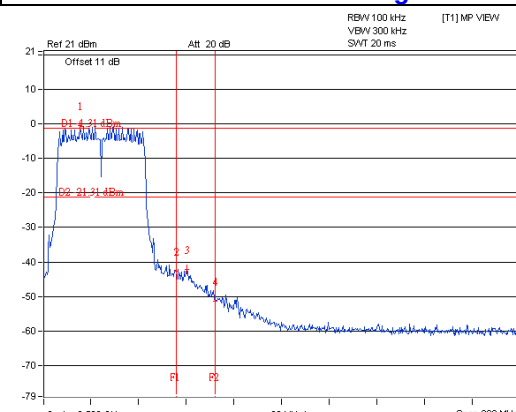
A D T

CH 3 Band edge



A D T

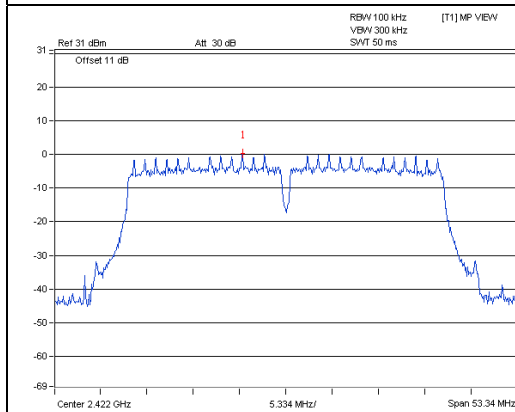
CH 9 Band edge



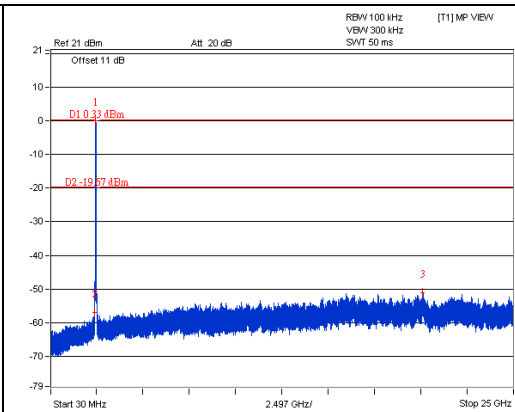
A D T

CHAIN 1

CH 3

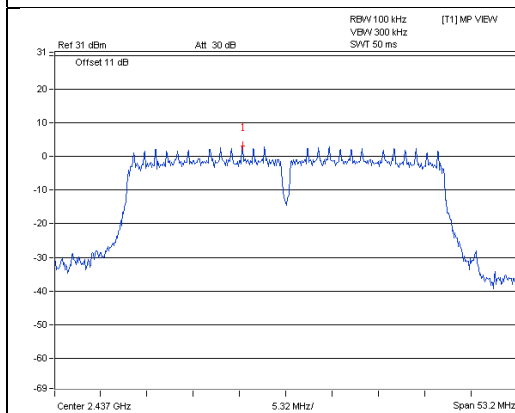


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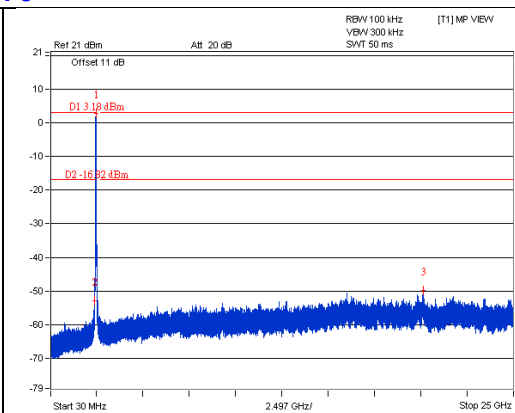


A D T

CH 6

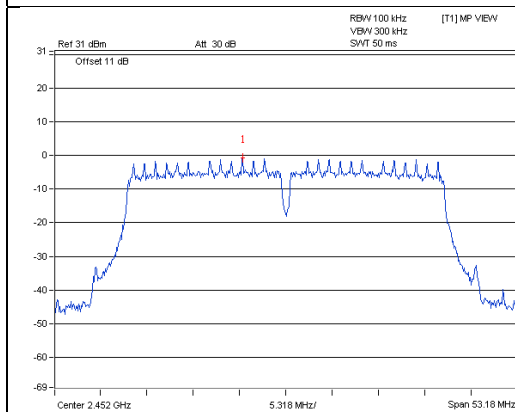


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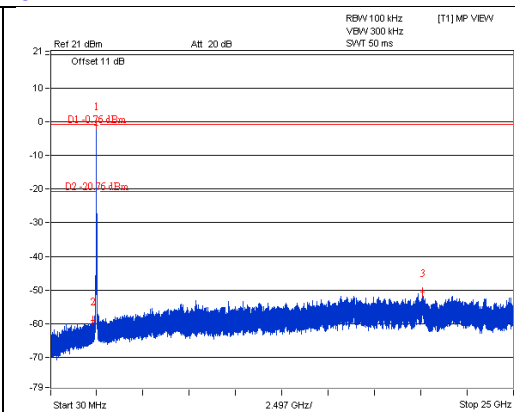


A D T

CH 9

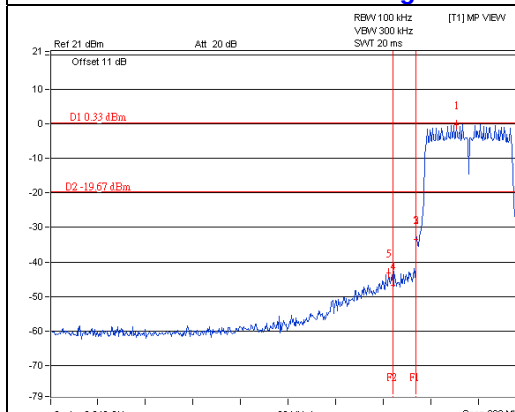


A D T



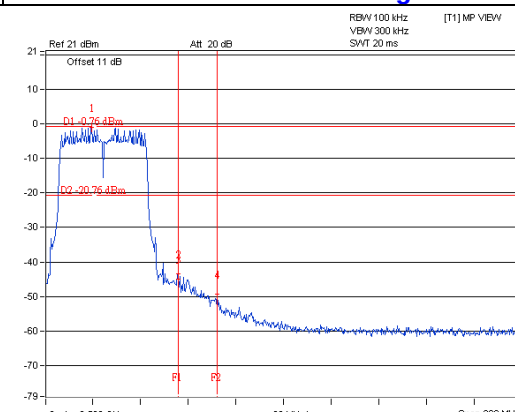
A D T

CH 3 Band edge



A D T

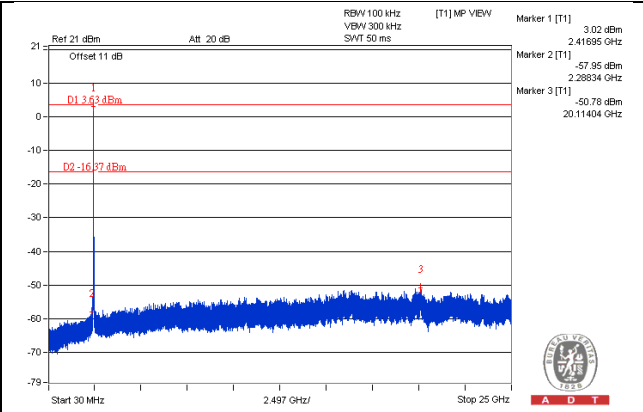
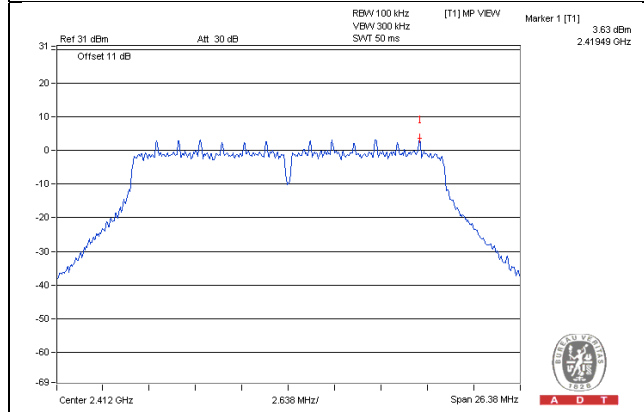
CH 9 Band edge



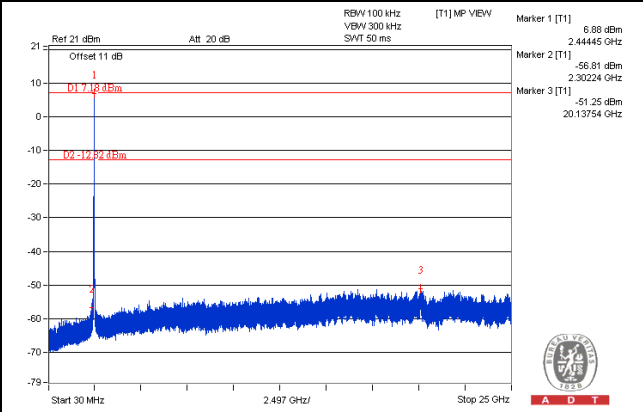
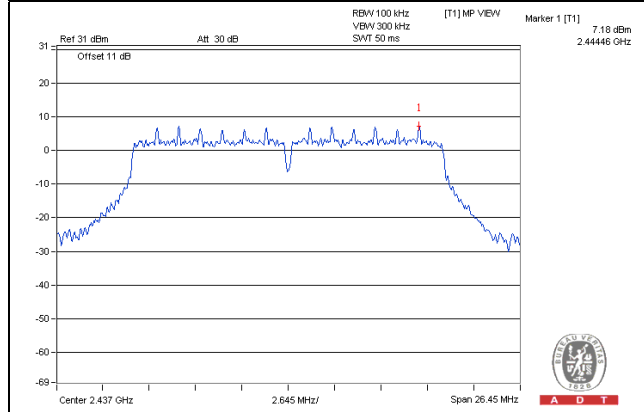
A D T

Beamforming Mode 802.11n (HT20)_CHAIN 0

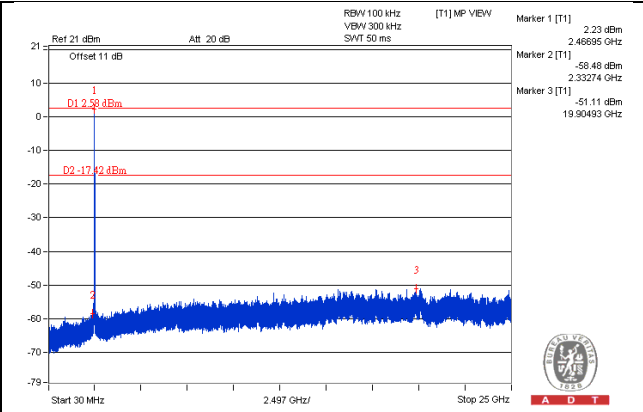
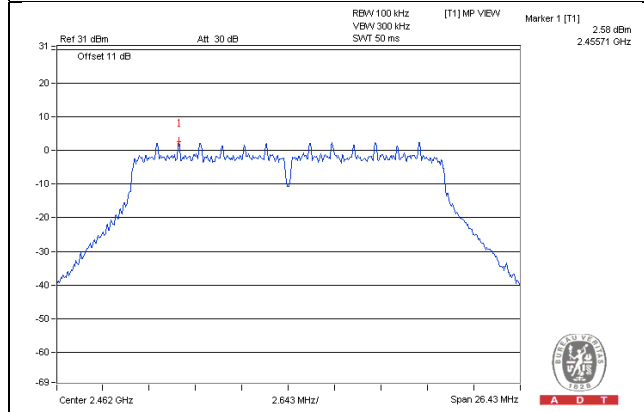
CH 1



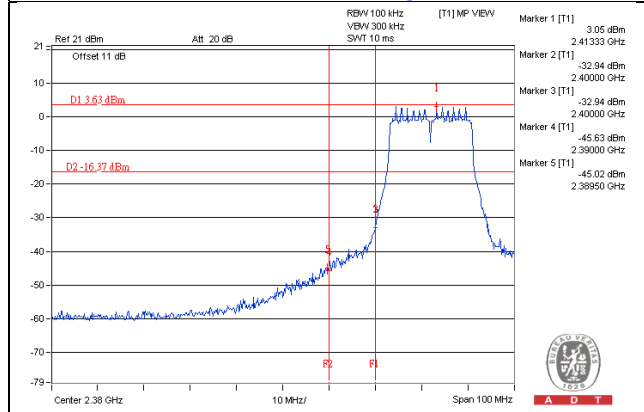
CH 6



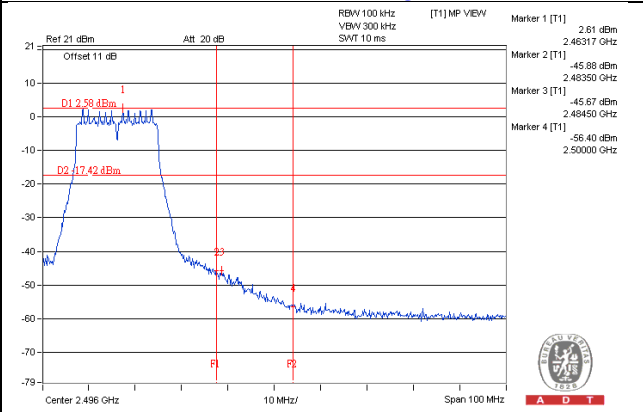
CH 11



CH 1 Band edge

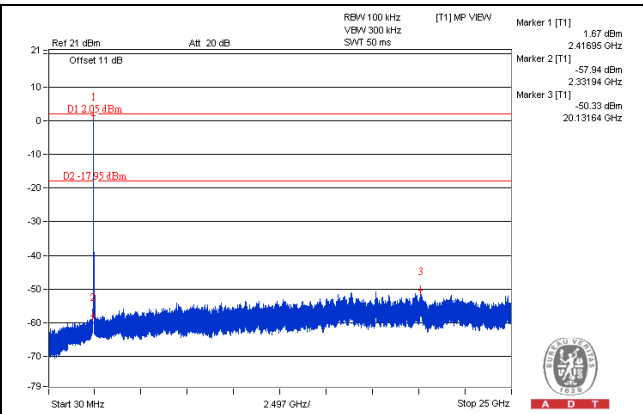
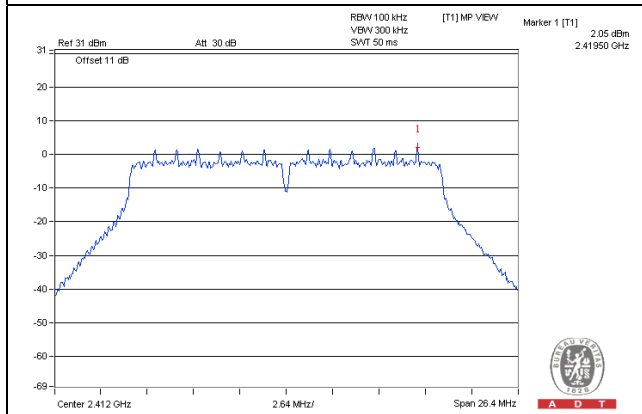


CH 11 Band edge

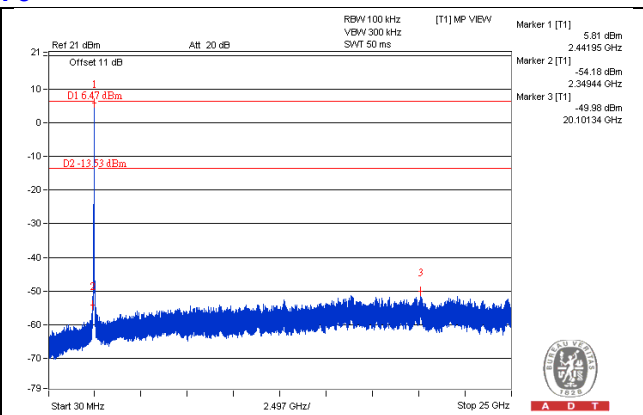
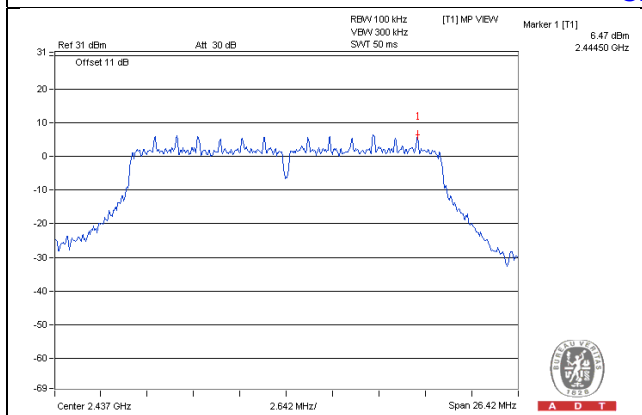


CHAIN 1

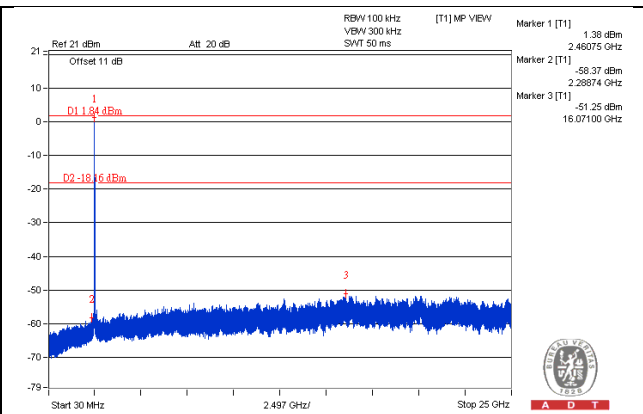
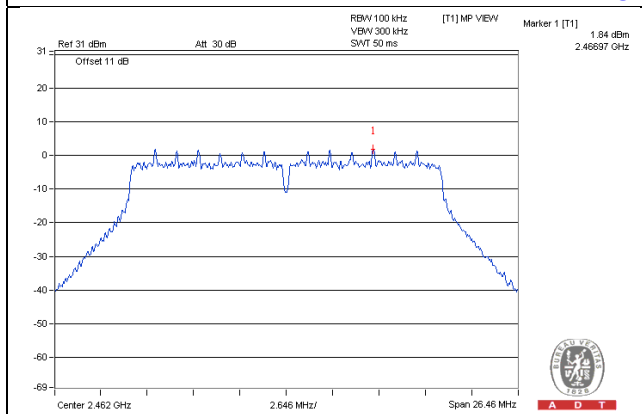
CH 1



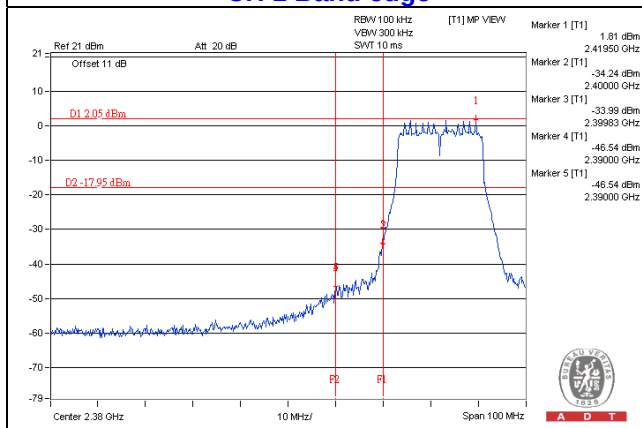
CH 6



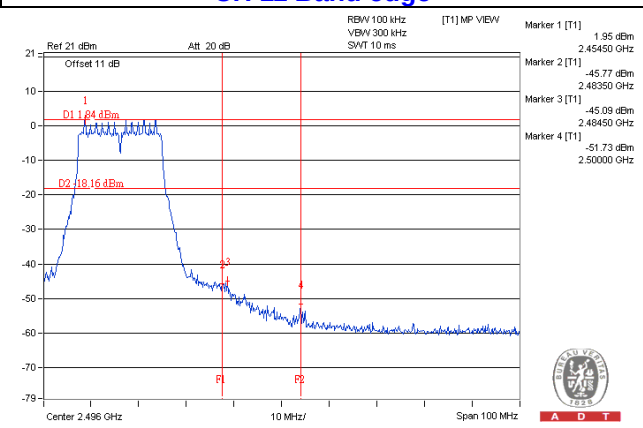
CH 11



CH 1 Band edge

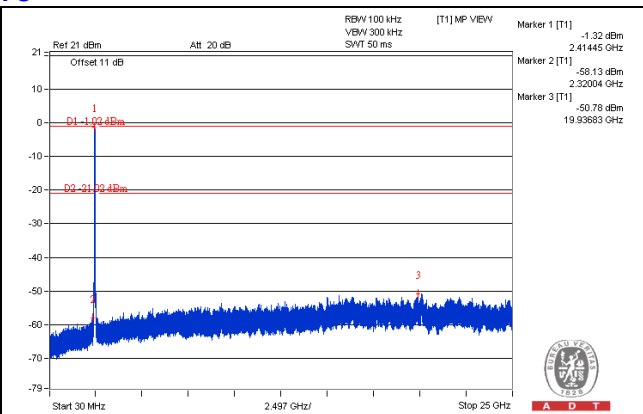
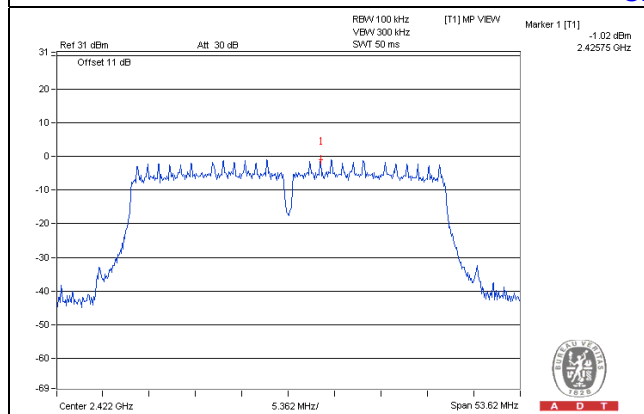


CH 11 Band edge

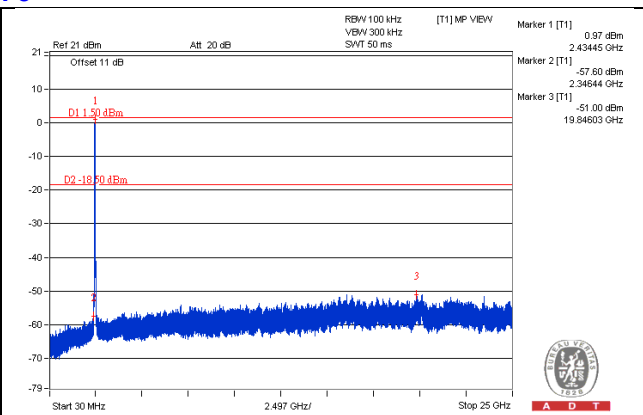
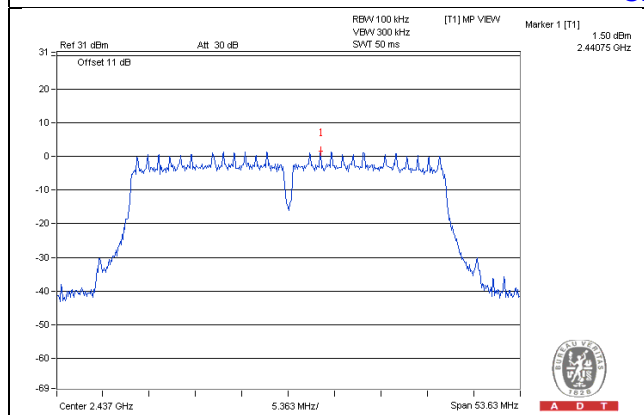


802.11n (HT40)_CHAIN 0

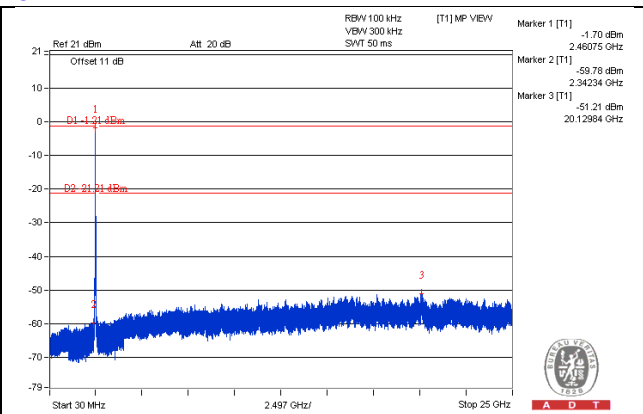
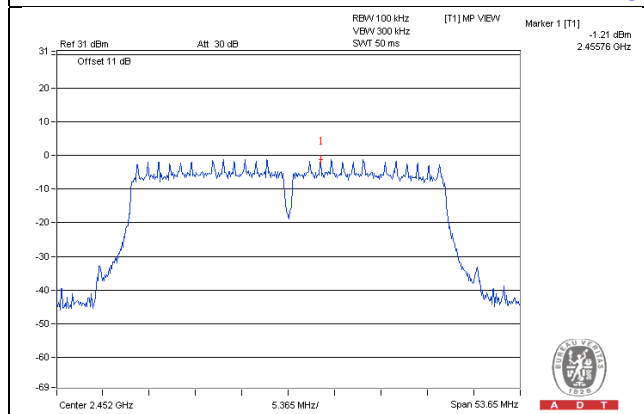
CH 3



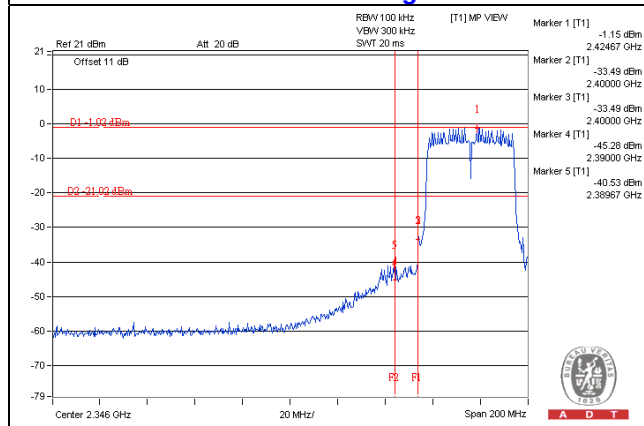
CH 6



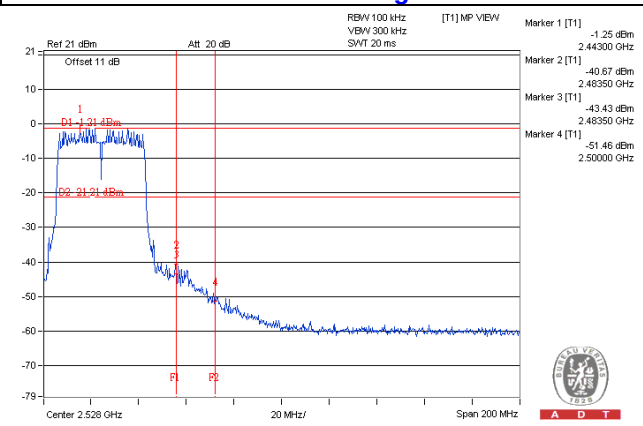
CH 9



CH 3 Band edge

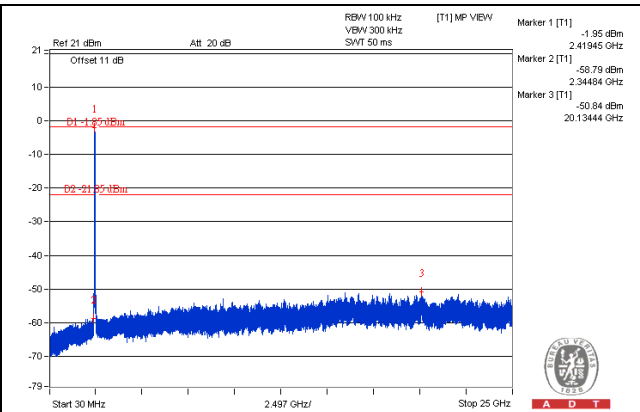
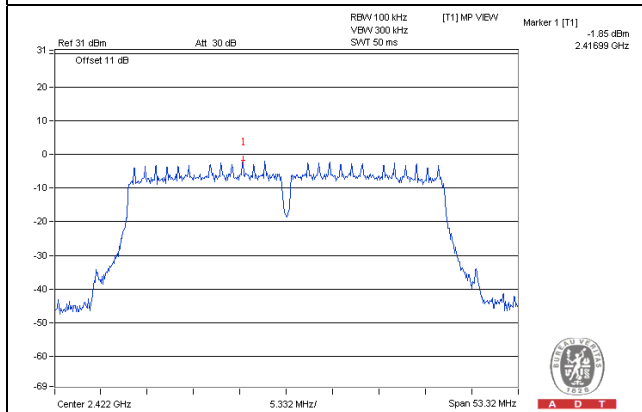


CH 9 Band edge

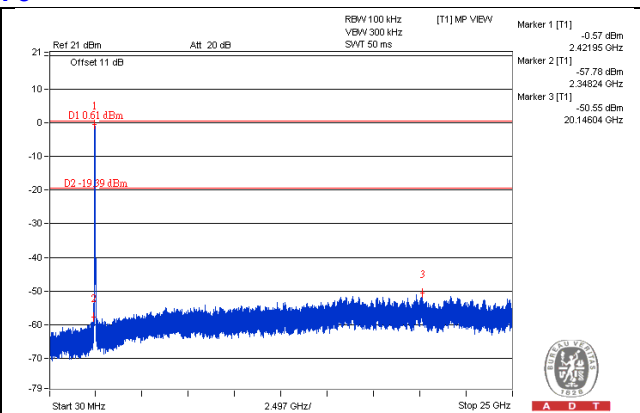
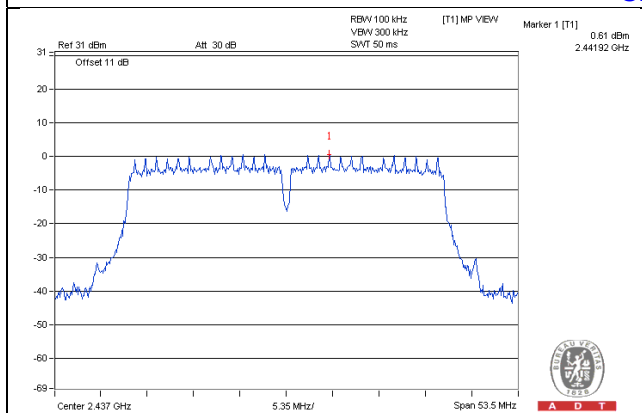


CHAIN 1

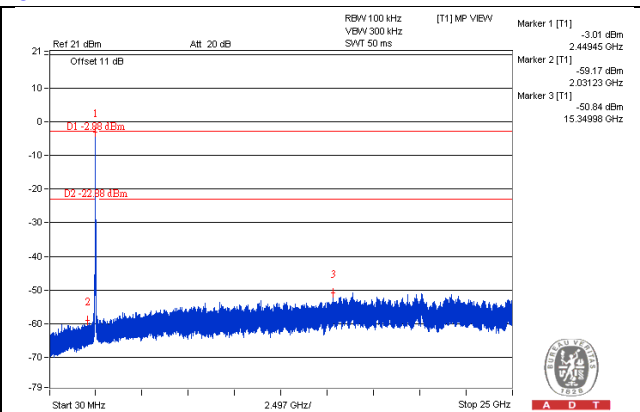
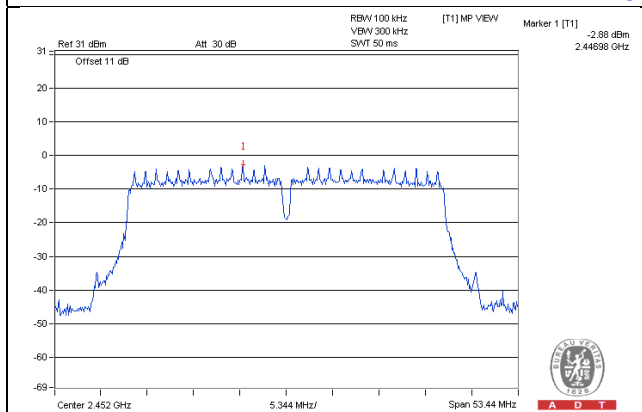
CH 3



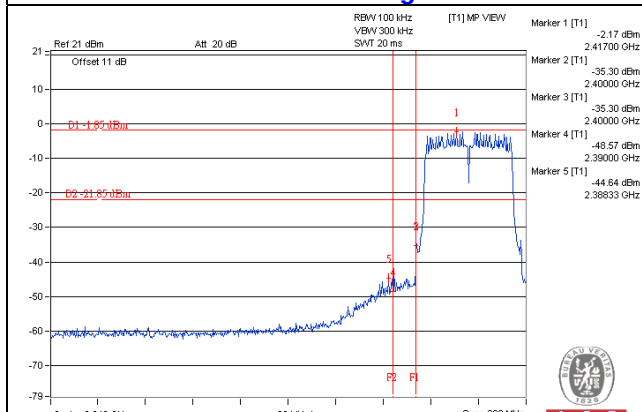
CH 6



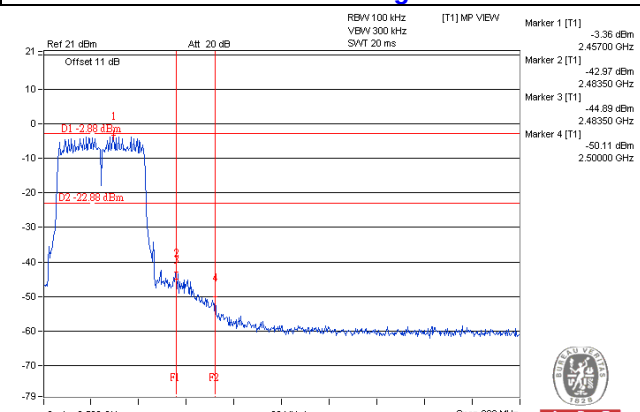
CH 9



CH 3 Band edge



CH 9 Band edge



5 Pictures of Test Arrangements

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

Appendix – Information on the Testing Laboratories

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

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

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

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