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FCC TEST REPORT (15.247)

REPORT NO.: RF131220C10

MODEL NO.: XR600

FCC ID: SK6-XR630

RECEIVED: Dec. 12, 2013

TESTED: Dec. 24, 2013 ~ Jan. 09, 2014

ISSUED: Jan. 10, 2014

APPLICANT: Xirrus, INC.

ADDRESS: 2101 Corporate Center Drive Thousand Oaks,
California 91320

ISSUED BY: Bureau Veritas Consumer Products Services
(H.K.) Ltd., Taoyuan Branch

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New Taipei City, Taiwan, R.O.C.

TEST LOCATION: No. 19, Hwa Ya 2nd Rd, Wen Hwa Tsuen, Kwei
Shan Hsiang, Taoyuan Hsien 333, Taiwan, R.O.C.

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF131220C10	Original release	Jan. 10, 2014



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1. CERTIFICATION

PRODUCT: 802.11ac 3x3 AP

MODEL NO.: XR600

BRAND: Xirrus

APPLICANT: Xirrus, INC.

TESTED: Dec. 24, 2013 ~ Jan. 09, 2014

TEST SAMPLE: ENGINEERING SAMPLE

STANDARDS: **FCC Part 15, Subpart C (Section 15.247)**

ANSI C63.10-2009

The above equipment (model: XR600) 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 : Maggie Wu , **DATE :** Jan. 10, 2014
Maggie Wu / Specialist

APPROVED BY : Ken Liu , **DATE :** Jan. 10, 2014
Ken Liu / Senior Manager



2. SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC PART 15, SUBPART C (SECTION 15.247)			
STANDARD SECTION	TEST TYPE	RESULT	REMARK
15.207	AC Power Conducted Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -9.64dB at 3.75893MHz.
15.247(d) 15.209	Radiated Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -1.1dB at 2483.50 & 2390.00MHz.
15.247(d)	Band Edge Measurement	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 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	UNCERTAINTY
Conducted emissions	9kHz~30MHz	2.44 dB
Radiated emissions	30MHz ~ 200MHz	3.19 dB
	200MHz ~1000MHz	3.21 dB
	1GHz ~ 18GHz	2.26 dB
	18GHz ~ 40GHz	1.94 dB

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k = 2$.



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3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

EUT	802.11ac 3x3 AP
MODEL NO.	XR600
POWER SUPPLY	55Vdc (POE)
MODULATION TYPE	CCK, DQPSK, DBPSK for DSSS 256QAM, 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 802.11a: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0Mbps 802.11n: up to 450.0Mbps 802.11ac: up to 1300.0Mbps
OPERATING FREQUENCY	2.4GHz: 2412 ~ 2462MHz 5.0GHz: 5745 ~ 5825MHz
NUMBER OF CHANNEL	2.4GHz: 11 for 802.11b, 802.11g, 802.11n (20MHz) 7 for 802.11n (40MHz) 5.0GHz: 5 for 802.11a, 802.11n (20MHz) 2 for 802.11n (40MHz) 1 for 802.11ac (VHT80)
OUTPUT POWER	437.397mW for 2412 ~ 2462MHz 289.740mW for 5745 ~ 5825MHz
ANTENNA TYPE	2.4GHz: Monopole antenna with 4.08dBi gain 5.0GHz: Monopole antenna with 5.97dBi gain
ANTENNA CONNECTOR	I-PEX
DATA CABLE	NA
I/O PORTS	Refer to user's manual
ACCESSORY DEVICES	NA



NOTE:

1. The EUT is collocated two dual band RF modules (Radio 1, Radio 2), which cannot co-transmit in the same band.
2. The EUT incorporates a MIMO function. Physically, the EUT provides three completed transmitters and three receivers.

MODULATION MODE	TX FUNCTION
802.11b	3TX
802.11g	3TX
802.11a	3TX
802.11n (20MHz) (MCS 16-23)	3TX
802.11n (40MHz) (MCS 16-23)	3TX
802.11ac (VHT80)	3TX

3. The EUT was powered by the following POE (provided as a support unit only).

BRAND	PowerDsine
MODEL	PD9001G
INPUT POWER	100-250Vac, 50/60Hz, 0.8A
OUTPUT POWER	55Vdc, 0.60A

4. 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

FOR 2.4GHz:

11 channels are provided for 802.11b, 802.11g and 802.11n (20MHz):

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 (40MHz):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
3	2422MHz	7	2442MHz
4	2427MHz	8	2447MHz
5	2432MHz	9	2452MHz
6	2437MHz		

FOR 5.0GHz (5745 ~ 5825MHz):

5 channels are provided for 802.11a, 802.11n (20MHz):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
149	5745MHz	161	5805MHz
153	5765MHz	165	5825MHz
157	5785MHz		

2 channels are provided for 802.11n (40MHz):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
151	5755MHz	159	5795MHz

1 channel is provided for 802.11ac (VHT80):

CHANNEL	FREQUENCY
155	5775MHz

3.2.1 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

FOR 2.4GHz:

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	RE \geq 1G	RE<1G	PLC	APCM	
A	√	√	√	√	Radio 1
B	√	√	√	√	Radio 2

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

NOTE:

1. Radio 1: The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **Y-plane**.

2. Radio 2: 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)
A, B	802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1.0
A, B	802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6.0
A, B	802.11n (20MHz)	1 to 11	1, 6, 11	OFDM	BPSK	7.2
A, B	802.11n (40MHz)	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)
A, B	802.11g	1 to 11	6	OFDM	BPSK	6.0



POWER LINE CONDUCTED EMISSION TEST:

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

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A, B	802.11g	1 to 11	6	OFDM	BPSK	6.0

BANDEDGE MEASUREMENT:

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

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A, B	802.11b	1 to 11	1, 11	DSSS	DBPSK	1.0
A, B	802.11g	1 to 11	1, 11	OFDM	BPSK	6.0
A, B	802.11n (20MHz)	1 to 11	1, 11	OFDM	BPSK	7.2
A, B	802.11n (40MHz)	3 to 9	3, 9	OFDM	BPSK	15.0

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)
A, B	802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1.0
A, B	802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6.0
A, B	802.11n (20MHz)	1 to 11	1, 6, 11	OFDM	BPSK	7.2
A, B	802.11n (40MHz)	3 to 9	3, 6, 9	OFDM	BPSK	15.0



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TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER (SYSTEM)	TESTED BY
RE \geq 1G	22deg. C, 69%RH	120Vac, 60Hz	Jones Chang, Brad Tung
RE<1G	22deg. C, 69%RH	120Vac, 60Hz	Brad Tung
PLC	24deg. C, 70%RH	120Vac, 60Hz	Jones Chang
APCM	24deg. C, 64%RH	120Vac, 60Hz	Match Tsui



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FOR 5.0GHz (5745 ~ 5825MHz):

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	RE≥1G	RE<1G	PLC	APCM	
A	√	√	√	√	Radio 1
B	√	√	√	√	Radio 2

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

NOTE:

- Radio 1:** The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **X-plane**.
- Radio 2:** The EUT had been pre-tested on the positioned of each 3 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.

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A, B	802.11a	149 to 165	149, 157, 165	OFDM	BPSK	6.0
A, B	802.11n (20MHz)	149 to 165	149, 157, 165	OFDM	BPSK	7.2
A, B	802.11n (40MHz)	151 to 159	151, 159	OFDM	BPSK	15.0
A, B	802.11ac (VHT80)	155	155	OFDM	BPSK	97.5

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.

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A	802.11n (40MHz)	151 to 159	159	OFDM	BPSK	15.0
B	802.11a	149 to 165	149	OFDM	BPSK	6.0



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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)
A	802.11n (40MHz)	151 to 159	159	OFDM	BPSK	15.0
B	802.11a	149 to 165	149	OFDM	BPSK	6.0

BANDEDGE MEASUREMENT:

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

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A, B	802.11a	149 to 165	149, 165	OFDM	BPSK	6.0
A, B	802.11n (20MHz)	149 to 165	149, 165	OFDM	BPSK	7.2
A, B	802.11n (40MHz)	151 to 159	151, 159	OFDM	BPSK	15.0
A, B	802.11ac (VHT80)	155	155	OFDM	BPSK	97.5

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)
A, B	802.11a	149 to 165	149, 157, 165	OFDM	BPSK	6.0
A, B	802.11n (20MHz)	149 to 165	149, 157, 165	OFDM	BPSK	7.2
A, B	802.11n (40MHz)	151 to 159	151, 159	OFDM	BPSK	15.0
A, B	802.11ac (VHT80)	155	155	OFDM	BPSK	97.5



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TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER (SYSTEM)	TESTED BY
RE \geq 1G	22deg. C, 69%RH	120Vac, 60Hz	Brad Tung,
RE $<$ 1G	22deg. C, 69%RH	120Vac, 60Hz	Brad Tung
PLC	24deg. C, 70%RH	120Vac, 60Hz	Jones Chang
APCM	24deg. C, 64%RH	120Vac, 60Hz	Match Tsui

3.3 DUTY CYCLE OF TEST SIGNAL

2.4GHz Band:

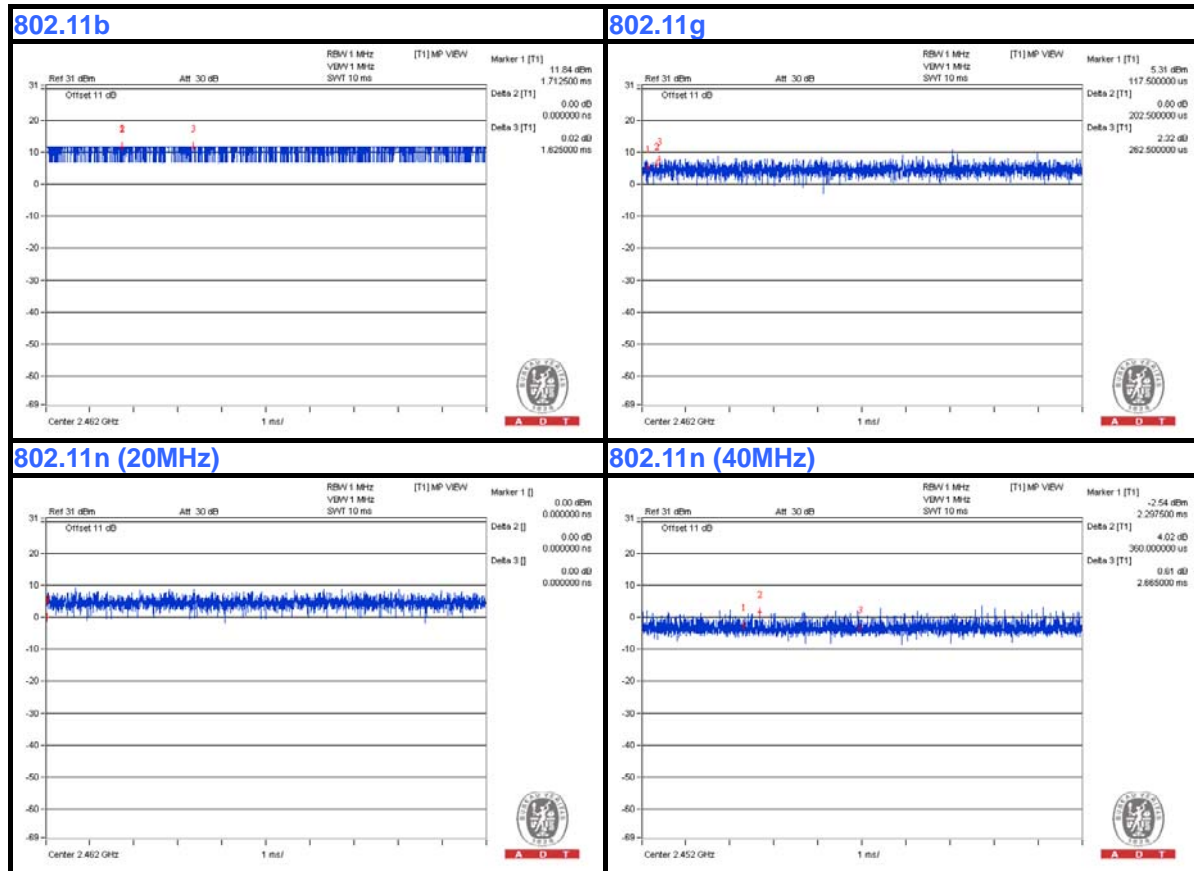
Test mode A

802.11b: Duty cycle of test signal is 100 %

802.11g: Duty cycle of test signal is > 98 %

802.11n (20MHz): Duty cycle of test signal is > 98 %

802.11n (40MHz): Duty cycle of test signal is > 98 %





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2.4GHz Band:

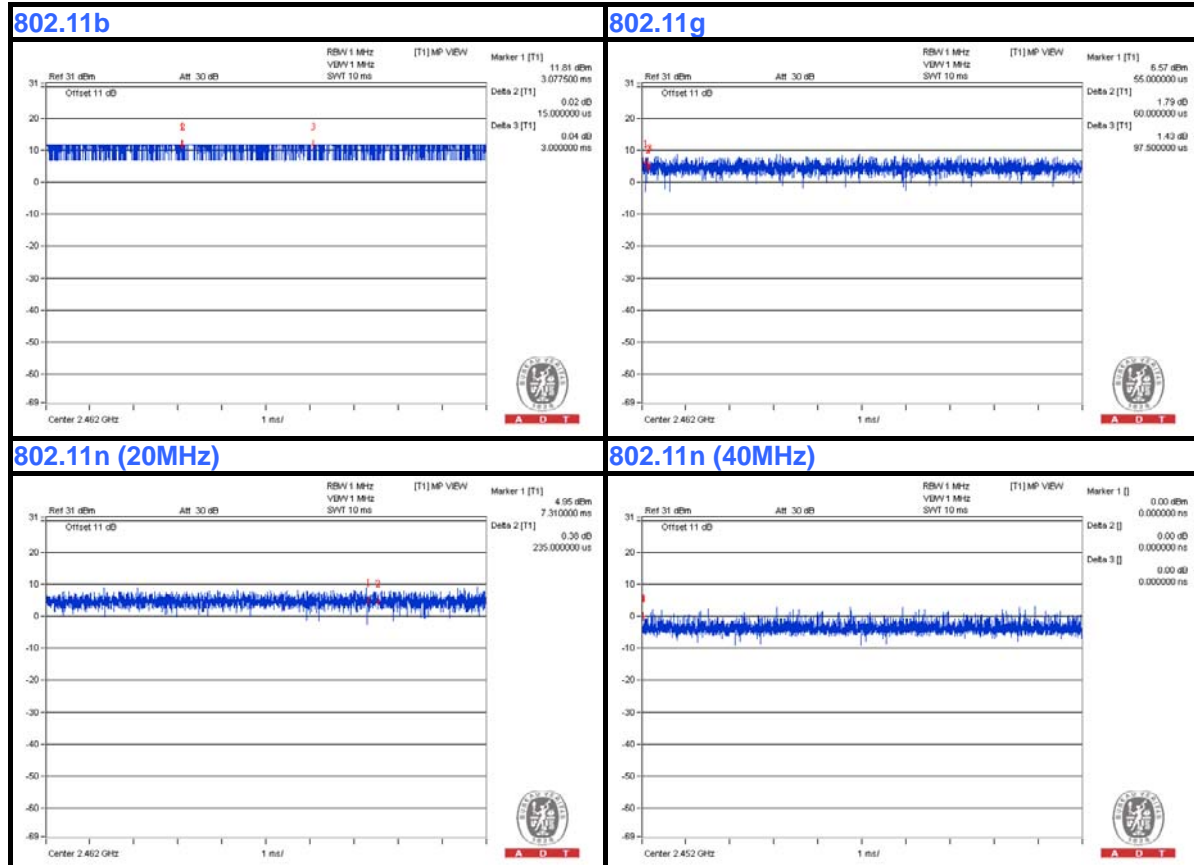
Test mode B

802.11b: Duty cycle of test signal is 100 %

802.11g: Duty cycle of test signal is > 98 %

802.11n (20MHz): Duty cycle of test signal is > 98 %

802.11n (40MHz): Duty cycle of test signal is > 98 %





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5.0GHz Band:

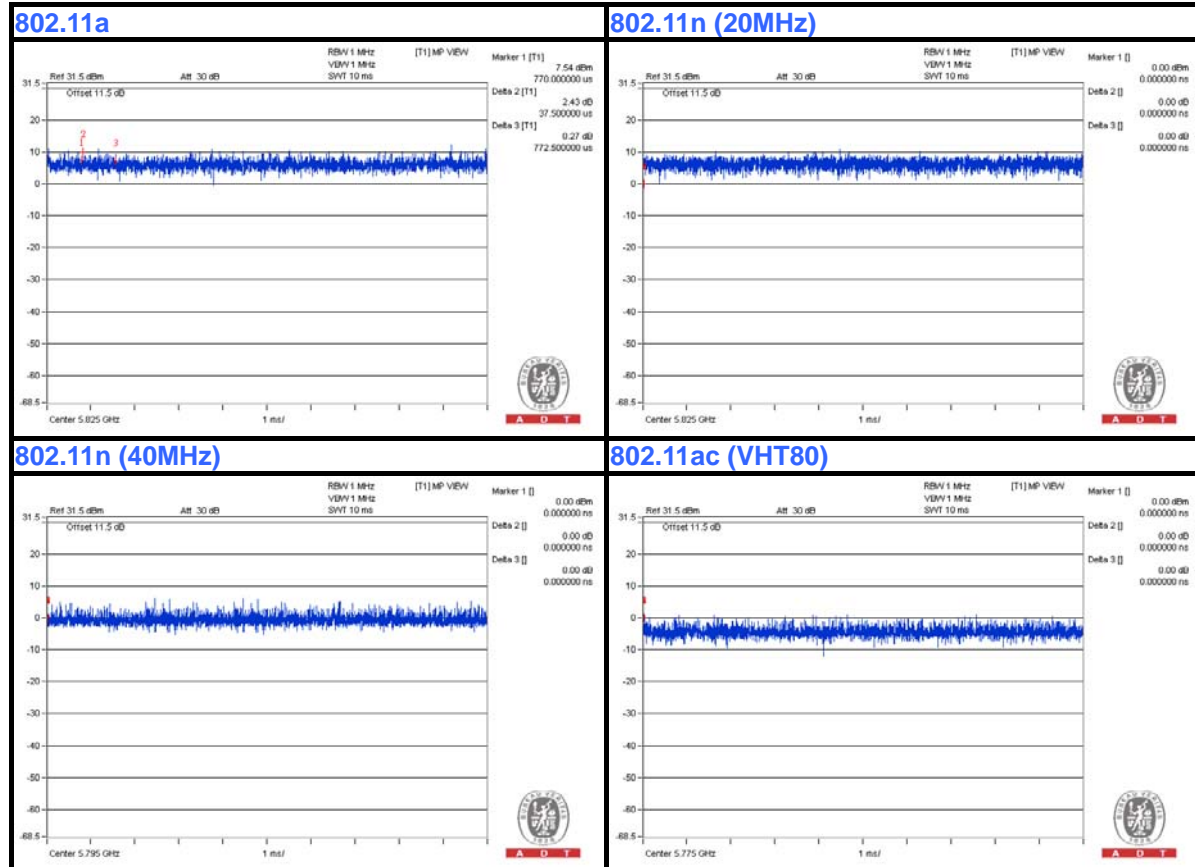
Test mode A

802.11a: Duty cycle of test signal is > 98 %

802.11n (20MHz): Duty cycle of test signal is > 98 %

802.11n (40MHz): Duty cycle of test signal is > 98 %

802.11ac (VHT80): Duty cycle of test signal is > 98 %





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5.0GHz Band:

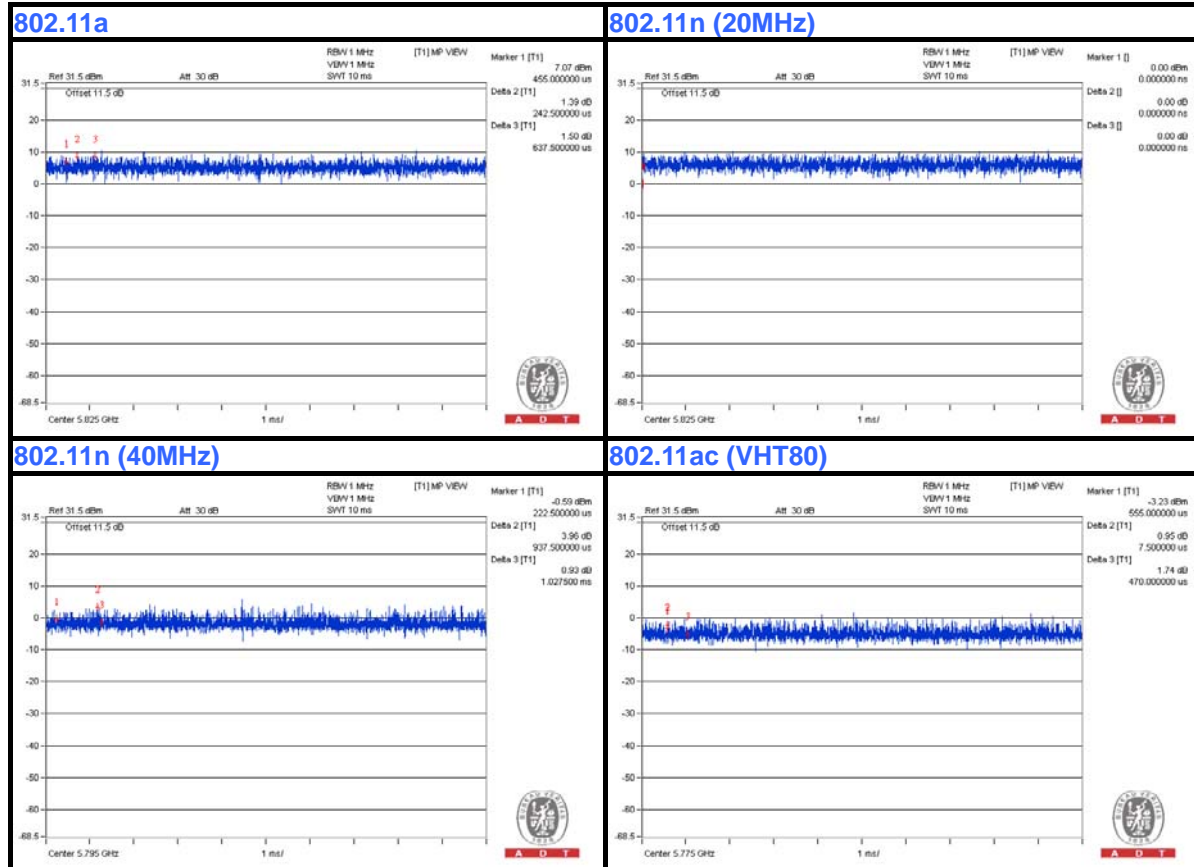
Test mode B

802.11a: Duty cycle of test signal is > 98 %

802.11n (20MHz): Duty cycle of test signal is > 98 %

802.11n (40MHz): Duty cycle of test signal is > 98 %

802.11ac (VHT80): Duty cycle of test signal is > 98 %





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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.

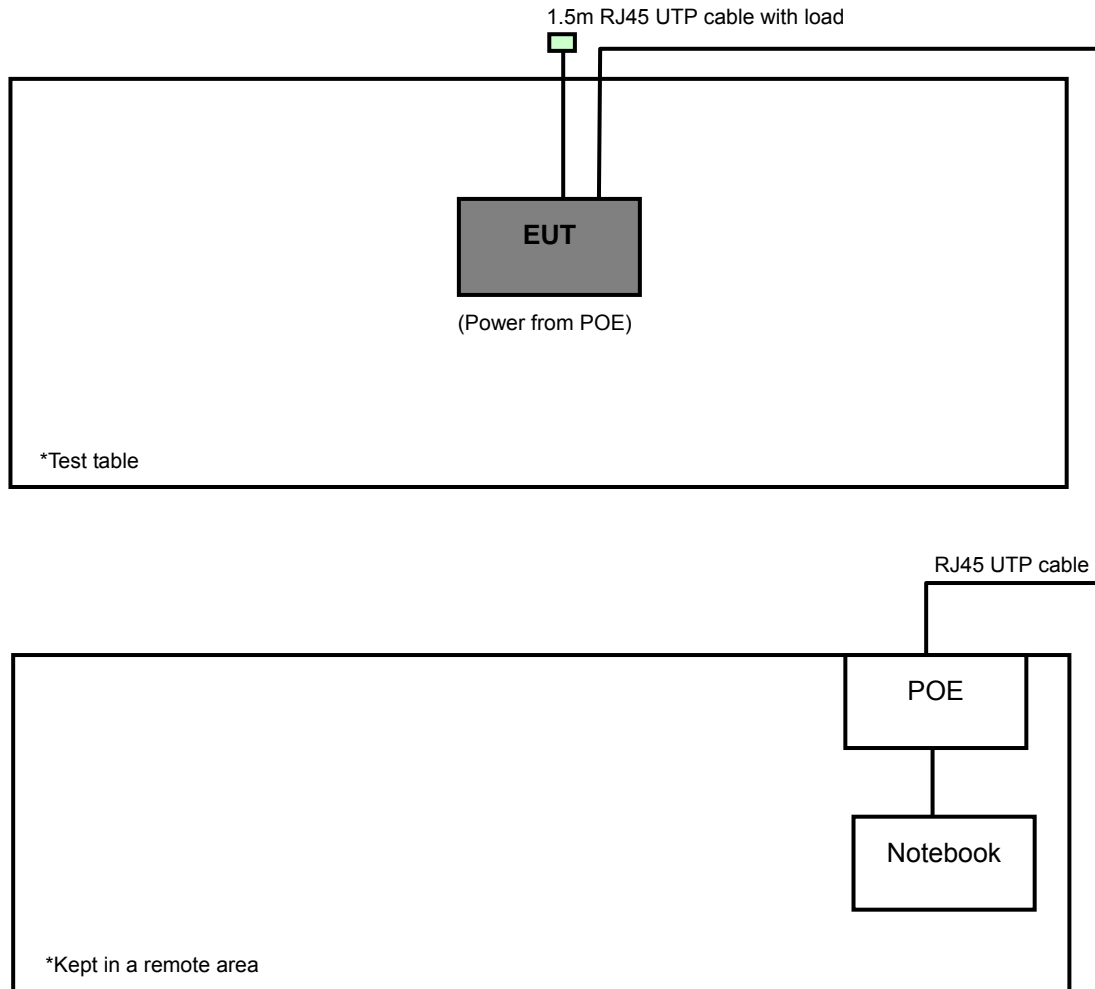
NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	Notebook	DELL	D531	CN-0XM006-48643-8 1U-2973	QDS-BRCM1020
2	POE	PowerDsine	PD9001G	NA	NA

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	3m RJ45 UTP cable
2	1.5m RJ45 UTP cable

NOTE:

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

3.4.1 CONFIGURATION OF SYSTEM UNDER TEST





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3.5 GENERAL DESCRIPTION OF APPLIED STANDARDS

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

FCC Part 15, Subpart C (15.247)

558074 D01 DTS Meas Guidance v03r01

662911 D01 Multiple Transmitter Output v02r01

ANSI C63.10-2009

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

NOTE: The EUT is also considered as a kind of computer peripheral, because the connection to computer is necessary for typical use. It 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 (FOR 2.4GHz BAND)

4.1 RADIATED EMISSIONS AND BANDEDGE MEASUREMENT

4.1.1 LIMITS OF RADIATED EMISSIONS 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.



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4.1.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Test Receiver ROHDE & SCHWARZ	ESCI	100424	Sep. 09, 2013	Sep. 08, 2014
Spectrum Analyzer ROHDE & SCHWARZ	FSU 43	100115	Dec. 18, 2013	Dec. 17, 2014
BILOG Antenna SCHWARZBECK	VULB9168	9168-155	Mar. 25, 2013	Mar. 24, 2014
HORN Antenna SCHWARZBECK	BBHA 9120D	9120D-405	Feb. 21, 2013	Feb. 20, 2014
HORN Antenna SCHWARZBECK	BBHA 9170	148	Jul. 15, 2013	Jul. 14, 2014
Preamplifier Agilent	8449B	3008A01961	Oct. 28, 2013	Oct. 27, 2014
Preamplifier Agilent	8447D	2944A10738	Oct. 18, 2013	Oct. 17, 2014
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	309220/4	Aug. 26, 2013	Aug. 25, 2014
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	250724/4	Aug. 26, 2013	Aug. 25, 2014
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	295012/4	Aug. 26, 2013	Aug. 25, 2014
Software BV ADT	ADT_Radiated_ V7.6.15.9.4	NA	NA	NA
Antenna Tower inn-co GmbH	MA 4000	010303	NA	NA
Antenna Tower Controller inn-co GmbH	CO2000	019303	NA	NA
Turn Table BV ADT	TT100.	TT93021704	NA	NA
Turn Table Controller BV ADT	SC100.	SC93021704	NA	NA
26GHz ~ 40GHz Amplifier	EM26400	815221	Oct. 18, 2013	Oct. 17, 2014
High Speed Peak Power Meter	ML2495A	0824011	Jul. 29, 2013	Jul. 28, 2014
Power Sensor	MA2411B	0738171	Jul. 29, 2013	Jul. 28, 2014

- 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 4.
3. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
4. The FCC Site Registration No. is 460141.
5. The IC Site Registration No. is IC7450F-4.



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4.1.3 TEST PROCEDURES

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meters semi-anechoic chamber. 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 antenna is a broadband antenna, and its height 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 Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- f. If the emission level of the EUT in peak mode was lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

NOTE:

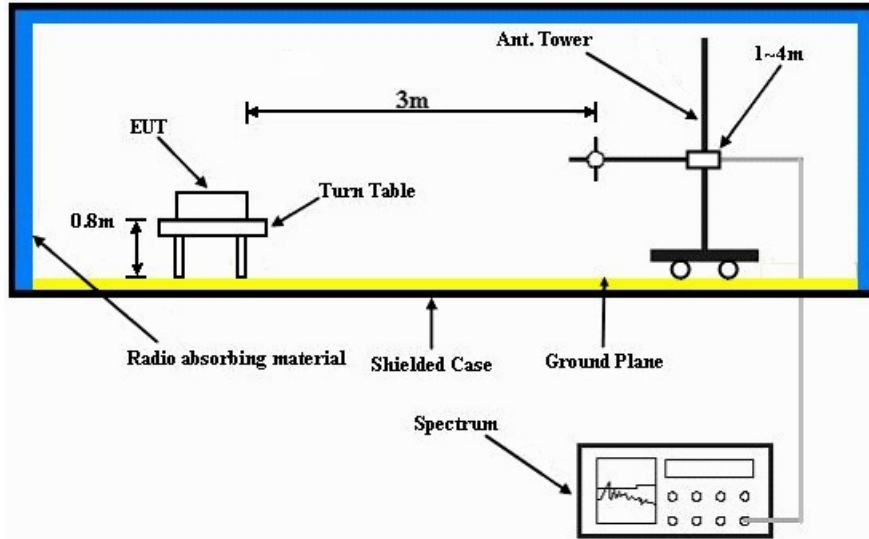
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is $\geq 1/T$ (Duty cycle < 98%) or 10Hz (Duty cycle > 98%) for Average detection (AV) at frequency above 1GHz.
4. All modes of operation were investigated and the worst-case emissions are reported.

4.1.4 DEVIATION FROM TEST STANDARD

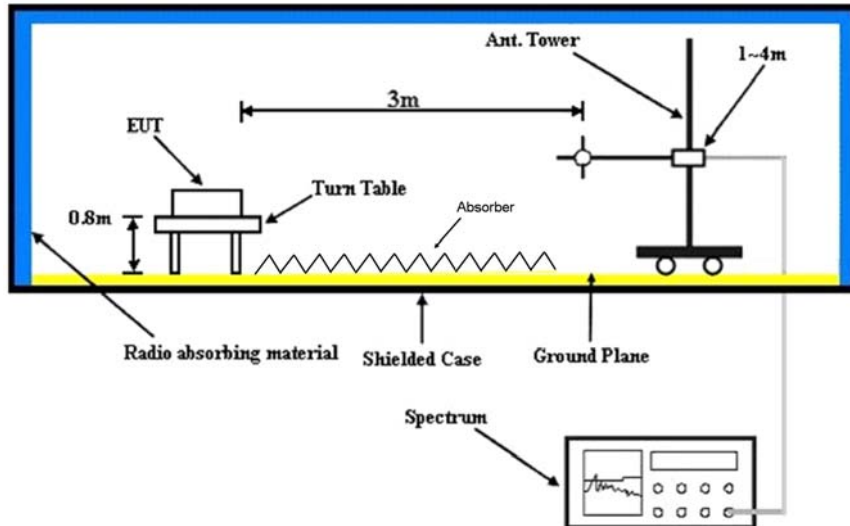
No deviation.

4.1.5 TEST SETUP

Frequency range 30MHz~1GHz



Frequency range above 1GHz



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



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4.1.6 EUT OPERATING CONDITIONS

- a. Placed the EUT on the testing table.
- b. Prepared notebook and POE to act as communication partners and placed them outside of testing area.
- c. 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.
- d. The communication partner sent data to EUT by command "PING".



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4.1.7 TEST RESULTS

TEST MODE A

ABOVE 1GHz DATA:

802.11b

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 69%RH	TESTED BY	Jones Chang

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	1.01 H	56	31.30	31.90
2	2390.00	48.0 AV	54.0	-6.0	1.01 H	56	16.10	31.90
3	*2412.00	112.5 PK			1.01 H	60	80.50	32.00
4	*2412.00	109.0 AV			1.01 H	60	77.00	32.00
5	4824.00	47.2 PK	74.0	-26.8	1.12 H	312	42.40	4.80
6	4824.00	35.6 AV	54.0	-18.4	1.12 H	312	30.80	4.80
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	2390.00	66.3 PK	74.0	-7.7	1.00 V	97	34.40	31.90
2	2390.00	46.4 AV	54.0	-7.6	1.00 V	97	14.50	31.90
3	*2412.00	109.0 PK			1.00 V	286	77.00	32.00
4	*2412.00	105.8 AV			1.00 V	286	73.80	32.00
5	4824.00	46.8 PK	74.0	-27.2	1.02 V	12	42.00	4.80
6	4824.00	34.2 AV	54.0	-19.8	1.02 V	12	29.40	4.80

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.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 69%RH	TESTED BY	Jones Chang

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	111.6 PK			1.01 H	55	79.60	32.00
2	*2437.00	108.4 AV			1.01 H	55	76.40	32.00
3	4874.00	47.4 PK	74.0	-26.6	1.21 H	126	42.40	5.00
4	4874.00	36.2 AV	54.0	-17.8	1.21 H	126	31.20	5.00
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	*2437.00	108.8 PK			1.01 V	101	76.80	32.00
2	*2437.00	105.6 AV			1.01 V	101	73.60	32.00
3	4874.00	46.3 PK	74.0	-27.7	1.01 V	11	41.30	5.00
4	4874.00	35.5 AV	54.0	-18.5	1.01 V	11	30.50	5.00

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)
– 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.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 69%RH	TESTED BY	Jones Chang

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	112.1 PK			1.91 H	303	79.90	32.20
2	*2462.00	108.9 AV			1.91 H	303	76.70	32.20
3	2483.50	57.8 PK	74.0	-16.2	1.11 H	303	25.50	32.30
4	2483.50	49.1 AV	54.0	-4.9	1.11 H	303	16.80	32.30
5	4924.00	48.7 PK	74.0	-25.3	1.09 H	101	43.70	5.00
6	4924.00	37.8 AV	54.0	-16.2	1.09 H	101	32.80	5.00
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	*2462.00	109.3 PK			1.01 V	103	77.10	32.20
2	*2462.00	106.2 AV			1.01 V	103	74.00	32.20
3	2483.50	55.7 PK	74.0	-18.3	1.01 V	303	23.40	32.30
4	2483.50	45.9 AV	54.0	-8.1	1.01 V	289	13.60	32.30
5	4924.00	46.5 PK	74.0	-27.5	1.00 V	221	41.50	5.00
6	4924.00	35.9 AV	54.0	-18.1	1.00 V	211	30.90	5.00

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)
– 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.



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802.11g

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 69%RH	TESTED BY	Jones Chang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	68.7 PK	74.0	-5.3	2.06 H	317	36.80	31.90
2	2390.00	52.5 AV	54.0	-1.5	2.06 H	317	20.60	31.90
3	*2412.00	111.6 PK			1.97 H	58	79.60	32.00
4	*2412.00	101.8 AV			1.97 H	58	69.80	32.00
5	4824.00	47.9 PK	74.0	-26.1	1.22 H	236	43.10	4.80
6	4824.00	36.1 AV	54.0	-17.9	1.22 H	236	31.30	4.80
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	2390.00	63.9 PK	74.0	-10.1	1.01 V	103	32.00	31.90
2	2390.00	50.7 AV	54.0	-3.3	1.01 V	103	18.80	31.90
3	*2412.00	108.0 PK			1.00 V	94	76.00	32.00
4	*2412.00	98.7 AV			1.00 V	94	66.70	32.00
5	4824.00	46.3 PK	74.0	-27.7	1.02 V	140	41.50	4.80
6	4824.00	34.6 AV	54.0	-19.4	1.02 V	140	29.80	4.80

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.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 69%RH	TESTED BY	Jones Chang

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	114.1 PK			1.95 H	85	81.90	32.20
2	*2462.00	104.7 AV			1.95 H	85	72.50	32.20
3	4874.00	49.1 PK	74.0	-24.9	1.00 H	23	44.10	5.00
4	4874.00	38.0 AV	54.0	-16.0	1.00 H	23	33.00	5.00
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	*2462.00	110.6 PK			1.02 V	95	78.40	32.20
2	*2462.00	101.2 AV			1.02 V	95	69.00	32.20
3	4874.00	46.3 PK	74.0	-27.7	1.00 V	353	41.30	5.00
4	4874.00	35.2 AV	54.0	-18.8	1.00 V	353	30.20	5.00

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)
– 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.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 69%RH	TESTED BY	Jones Chang

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			1.87 H	71	79.40	32.20
2	*2462.00	101.9 AV			1.87 H	71	69.70	32.20
3	2483.50	70.1 PK	74.0	-3.9	1.86 H	67	37.80	32.30
4	2483.50	52.9 AV	54.0	-1.1	1.86 H	67	20.60	32.30
5	4924.00	47.1 PK	74.0	-26.9	1.12 H	292	42.10	5.00
6	4924.00	36.5 AV	54.0	-17.5	1.12 H	292	31.50	5.00
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	*2462.00	107.2 PK			1.00 V	123	75.00	32.20
2	*2462.00	96.8 AV			1.00 V	123	64.60	32.20
3	2483.50	57.8 PK	74.0	-16.2	1.00 V	123	25.50	32.30
4	2483.50	47.8 AV	54.0	-6.2	1.00 V	123	15.50	32.30
5	4924.00	46.0 PK	74.0	-28.0	1.02 V	302	41.00	5.00
6	4924.00	34.5 AV	54.0	-19.5	1.02 V	302	29.50	5.00

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)
– 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.



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802.11n (20MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 69%RH	TESTED BY	Jones Chang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	69.3 PK	74.0	-4.7	1.95 H	237	37.40	31.90
2	2390.00	52.9 AV	54.0	-1.1	1.95 H	237	21.00	31.90
3	*2412.00	112.9 PK			1.95 H	75	80.90	32.00
4	*2412.00	102.9 AV			1.95 H	75	70.90	32.00
5	4824.00	47.2 PK	74.0	-26.8	1.17 H	60	42.40	4.80
6	4824.00	37.1 AV	54.0	-16.9	1.17 H	60	32.30	4.80
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	2390.00	67.8 PK	74.0	-6.2	1.00 V	89	35.90	31.90
2	2390.00	52.5 AV	54.0	-1.5	1.00 V	89	20.60	31.90
3	*2412.00	105.4 PK			1.00 V	94	73.40	32.00
4	*2412.00	97.1 AV			1.00 V	94	65.10	32.00
5	4824.00	45.7 PK	74.0	-28.3	1.00 V	279	40.90	4.80
6	4824.00	35.1 AV	54.0	-18.9	1.00 V	279	30.30	4.80

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.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 69%RH	TESTED BY	Jones Chang

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	114.6 PK			1.89 H	69	82.60	32.00
2	*2437.00	105.2 AV			1.89 H	69	73.20	32.00
3	4874.00	48.9 PK	74.0	-25.1	1.23 H	119	43.90	5.00
4	4874.00	38.3 AV	54.0	-15.7	1.23 H	119	33.30	5.00
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	*2437.00	107.8 PK			1.00 V	123	75.80	32.00
2	*2437.00	100.9 AV			1.00 V	123	68.90	32.00
3	4874.00	46.3 PK	74.0	-27.7	1.03 V	289	41.30	5.00
4	4874.00	35.4 AV	54.0	-18.6	1.03 V	289	30.40	5.00

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) – 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.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 69%RH	TESTED BY	Jones Chang

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	112.3 PK			1.90 H	313	80.10	32.20
2	*2462.00	103.0 AV			1.90 H	313	70.80	32.20
3	2483.50	69.1 PK	74.0	-4.9	1.80 H	241	36.80	32.30
4	2483.50	52.8 AV	54.0	-1.2	1.80 H	241	20.50	32.30
5	4924.00	49.2 PK	74.0	-24.8	1.11 H	331	44.20	5.00
6	4924.00	37.5 AV	54.0	-16.5	1.11 H	331	32.50	5.00
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	*2462.00	69.7 PK			1.00 V	99	71.80	-2.10
2	*2462.00	61.2 AV			1.00 V	99	63.30	-2.10
3	2483.50	59.7 PK	74.0	-14.3	1.00 V	84	27.40	32.30
4	2483.50	50.8 AV	54.0	-3.2	1.00 V	84	18.50	32.30
5	4924.00	47.0 PK	74.0	-27.0	1.00 V	359	42.00	5.00
6	4924.00	35.5 AV	54.0	-18.5	1.00 V	359	30.50	5.00

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)
– 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.



A D T

802.11n (40MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 3	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 69%RH	TESTED BY	Jones Chang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	68.1 PK	74.0	-5.9	2.00 H	241	36.20	31.90
2	2390.00	52.8 AV	54.0	-1.2	2.00 H	241	20.90	31.90
3	*2422.00	106.7 PK			1.94 H	72	74.70	32.00
4	*2422.00	97.1 AV			1.94 H	72	65.10	32.00
5	4844.00	47.3 PK	74.0	-26.7	1.17 H	122	42.50	4.80
6	4844.00	36.6 AV	54.0	-17.4	1.17 H	122	31.80	4.80
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	2390.00	67.5 PK	74.0	-6.5	1.00 V	92	35.60	31.90
2	2390.00	52.5 AV	54.0	-1.5	1.00 V	92	20.60	31.90
3	*2422.00	100.7 PK			1.00 V	92	68.70	32.00
4	*2422.00	91.8 AV			1.00 V	92	59.80	32.00
5	4844.00	46.0 PK	74.0	-28.0	1.00 V	332	41.20	4.80
6	4844.00	34.3 AV	54.0	-19.7	1.00 V	332	29.50	4.80

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.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 69%RH	TESTED BY	Jones Chang

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	63.9 PK	74.0	-10.1	2.00 H	320	32.00	31.90
2	2390.00	52.8 AV	54.0	-1.2	2.00 H	320	20.90	31.90
3	*2437.00	107.0 PK			2.01 H	319	75.00	32.00
4	*2437.00	97.5 AV			2.01 H	319	65.50	32.00
5	2483.50	60.4 PK	74.0	-13.6	2.04 H	315	28.10	32.30
6	2483.50	50.3 AV	54.0	-3.7	2.04 H	315	18.00	32.30
7	4874.00	46.3 PK	74.0	-27.7	1.04 H	295	41.30	5.00
8	4874.00	35.6 AV	54.0	-18.4	1.04 H	295	30.60	5.00

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	62.7 PK	74.0	-11.3	1.48 V	316	30.80	31.90
2	2390.00	51.4 AV	54.0	-2.6	1.48 V	316	19.50	31.90
3	*2437.00	100.3 PK			1.48 V	316	68.30	32.00
4	*2437.00	90.9 AV			1.48 V	316	58.90	32.00
5	2483.50	61.0 PK	74.0	-13.0	1.48 V	316	28.70	32.30
6	2483.50	49.2 AV	54.0	-4.8	1.48 V	316	16.90	32.30
7	4874.00	45.6 PK	74.0	-28.4	1.00 V	235	40.60	5.00
8	4874.00	34.9 AV	54.0	-19.1	1.00 V	235	29.90	5.00

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.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 9	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 69%RH	TESTED BY	Jones Chang

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	106.7 PK			1.93 H	80	74.50	32.20
2	*2452.00	96.7 AV			1.93 H	80	64.50	32.20
3	2483.50	63.9 PK	74.0	-10.1	1.98 H	33	31.60	32.30
4	2483.50	52.9 AV	54.0	-1.1	1.98 H	33	20.60	32.30
5	4904.00	46.4 PK	74.0	-27.6	1.11 H	180	41.40	5.00
6	4904.00	35.6 AV	54.0	-18.4	1.11 H	180	30.60	5.00
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	*2452.00	101.0 PK			1.00 V	276	68.80	32.20
2	*2452.00	88.5 AV			1.00 V	276	56.30	32.20
3	2483.50	62.6 PK	74.0	-11.4	1.00 V	276	30.30	32.30
4	2483.50	51.6 AV	54.0	-2.4	1.00 V	276	19.30	32.30
5	4904.00	46.1 PK	74.0	-27.9	1.00 V	343	41.10	5.00
6	4904.00	34.7 AV	54.0	-19.3	1.00 V	343	29.70	5.00

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)
– 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.



A D T

TEST MODE B

ABOVE 1GHz DATA:

802.11b

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 69%RH	TESTED BY	Brad Tung

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	57.8 PK	74.0	-16.2	1.41 H	58	25.90	31.90
2	2390.00	45.4 AV	54.0	-8.6	1.41 H	58	13.50	31.90
3	*2412.00	112.9 PK			1.41 H	58	80.90	32.00
4	*2412.00	109.0 AV			1.41 H	58	77.00	32.00
5	4824.00	49.4 PK	74.0	-24.6	1.00 H	35	44.60	4.80
6	4824.00	38.5 AV	54.0	-15.5	1.00 H	35	33.70	4.80

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	2390.00	54.9 PK	74.0	-19.1	1.02 V	105	23.00	31.90
2	2390.00	44.5 AV	54.0	-9.5	1.02 V	105	12.60	31.90
3	*2412.00	108.4 PK			1.02 V	105	76.40	32.00
4	*2412.00	104.9 AV			1.02 V	105	72.90	32.00
5	4824.00	49.1 PK	74.0	-24.9	1.27 V	222	44.30	4.80
6	4824.00	38.0 AV	54.0	-16.0	1.27 V	222	33.20	4.80

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.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 69%RH	TESTED BY	Brad Tung

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	112.9 PK			1.96 H	275	80.90	32.00
2	*2437.00	109.7 AV			1.96 H	275	77.70	32.00
3	4874.00	49.8 PK	74.0	-24.2	1.00 H	15	44.80	5.00
4	4874.00	38.9 AV	54.0	-15.1	1.00 H	15	33.90	5.00
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	*2437.00	108.6 PK			1.03 V	100	76.60	32.00
2	*2437.00	105.0 AV			1.03 V	100	73.00	32.00
3	4874.00	49.6 PK	74.0	-24.4	1.23 V	125	44.60	5.00
4	4874.00	38.4 AV	54.0	-15.6	1.23 V	125	33.40	5.00

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) – 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.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 69%RH	TESTED BY	Brad Tung

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	113.1 PK			1.46 H	83	80.90	32.20
2	*2462.00	109.5 AV			1.46 H	83	77.30	32.20
3	2483.50	63.2 PK	74.0	-10.8	1.46 H	83	30.90	32.30
4	2483.50	45.9 AV	54.0	-8.1	1.46 H	83	13.60	32.30
5	4924.00	49.8 PK	74.0	-24.2	1.04 H	18	44.80	5.00
6	4924.00	38.3 AV	54.0	-15.7	1.04 H	18	33.30	5.00
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	*2462.00	108.8 PK			1.00 V	95	76.60	32.20
2	*2462.00	105.3 AV			1.00 V	95	73.10	32.20
3	2483.50	60.4 PK	74.0	-13.6	1.00 V	95	28.10	32.30
4	2483.50	45.0 AV	54.0	-9.0	1.00 V	95	12.70	32.30
5	4924.00	49.5 PK	74.0	-24.5	1.21 V	213	44.50	5.00
6	4924.00	38.0 AV	54.0	-16.0	1.21 V	213	33.00	5.00

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)
– 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.



A D T

802.11g

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 69%RH	TESTED BY	Brad Tung

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	72.4 PK	74.0	-1.6	1.00 H	320	40.50	31.90
2	2390.00	52.9 AV	54.0	-1.1	1.00 H	320	21.00	31.90
3	*2412.00	109.2 PK			1.00 H	318	77.20	32.00
4	*2412.00	100.2 AV			1.00 H	318	68.20	32.00
5	4824.00	46.2 PK	74.0	-27.8	1.24 H	220	41.40	4.80
6	4824.00	33.7 AV	54.0	-20.3	1.24 H	220	28.90	4.80
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	2390.00	68.9 PK	74.0	-5.1	1.00 V	125	37.00	31.90
2	2390.00	51.4 AV	54.0	-2.6	1.00 V	125	19.50	31.90
3	*2412.00	106.2 PK			1.00 V	125	74.20	32.00
4	*2412.00	97.2 AV			1.00 V	125	65.20	32.00
5	4824.00	46.1 PK	74.0	-27.9	1.03 V	50	41.30	4.80
6	4824.00	33.5 AV	54.0	-20.5	1.03 V	50	28.70	4.80

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.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 69%RH	TESTED BY	Brad Tung

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	111.3 PK			1.00 H	319	79.30	32.00
2	*2437.00	101.8 AV			1.00 H	319	69.80	32.00
3	4874.00	48.5 PK	74.0	-25.5	1.34 H	216	43.50	5.00
4	4874.00	35.8 AV	54.0	-18.2	1.34 H	216	30.80	5.00
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	*2437.00	108.5 PK			1.00 V	120	76.50	32.00
2	*2437.00	99.0 AV			1.00 V	120	67.00	32.00
3	4874.00	48.2 PK	74.0	-25.8	1.13 V	62	43.20	5.00
4	4874.00	35.5 AV	54.0	-18.5	1.13 V	62	30.50	5.00

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) – 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.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 69%RH	TESTED BY	Brad Tung

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	109.5 PK			1.00 H	310	77.30	32.20
2	*2462.00	99.9 AV			1.00 H	310	67.70	32.20
3	2483.50	68.8 PK	74.0	-5.2	1.00 H	225	36.50	32.30
4	2483.50	52.8 AV	54.0	-1.2	1.00 H	225	20.50	32.30
5	4924.00	47.2 PK	74.0	-26.8	1.15 H	195	42.20	5.00
6	4924.00	34.4 AV	54.0	-19.6	1.15 H	195	29.40	5.00
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	*2462.00	106.8 PK			1.00 V	123	74.60	32.20
2	*2462.00	97.2 AV			1.00 V	123	65.00	32.20
3	2483.50	66.5 PK	74.0	-7.5	1.00 V	123	34.20	32.30
4	2483.50	50.8 AV	54.0	-3.2	1.00 V	123	18.50	32.30
5	4924.00	47.0 PK	74.0	-27.0	1.09 V	17	42.00	5.00
6	4924.00	34.4 AV	54.0	-19.6	1.09 V	17	29.40	5.00

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)
– 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.



A D T

802.11n (20MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 69%RH	TESTED BY	Brad Tung

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	68.1 PK	74.0	-5.9	1.00 H	300	36.20	31.90
2	2390.00	52.6 AV	54.0	-1.4	1.00 H	300	20.70	31.90
3	*2412.00	108.8 PK			1.00 H	301	76.80	32.00
4	*2412.00	98.4 AV			1.00 H	301	66.40	32.00
5	4824.00	45.8 PK	74.0	-28.2	1.11 H	163	41.00	4.80
6	4824.00	34.3 AV	54.0	-19.7	1.11 H	163	29.50	4.80
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	2390.00	66.3 PK	74.0	-7.7	1.00 V	88	34.40	31.90
2	2390.00	50.9 AV	54.0	-3.1	1.00 V	88	19.00	31.90
3	*2412.00	105.0 PK			1.00 V	88	73.00	32.00
4	*2412.00	95.0 AV			1.00 V	88	63.00	32.00
5	4824.00	45.6 PK	74.0	-28.4	1.07 V	60	40.80	4.80
6	4824.00	34.1 AV	54.0	-19.9	1.07 V	60	29.30	4.80

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.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 69%RH	TESTED BY	Brad Tung

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	113.2 PK			1.36 H	274	81.20	32.00
2	*2437.00	103.0 AV			1.36 H	274	71.00	32.00
3	4874.00	47.2 PK	74.0	-26.8	1.08 H	154	42.20	5.00
4	4874.00	35.0 AV	54.0	-19.0	1.08 H	154	30.00	5.00
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	*2437.00	109.3 PK			1.00 V	93	77.30	32.00
2	*2437.00	99.0 AV			1.00 V	93	67.00	32.00
3	4874.00	47.0 PK	74.0	-27.0	1.15 V	43	42.00	5.00
4	4874.00	34.7 AV	54.0	-19.3	1.15 V	43	29.70	5.00

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)
– 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.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 69%RH	TESTED BY	Brad Tung

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	108.9 PK			1.00 H	305	76.70	32.20
2	*2462.00	98.7 AV			1.00 H	305	66.50	32.20
3	2483.50	70.2 PK	74.0	-3.8	1.00 H	305	37.90	32.30
4	2483.50	52.8 AV	54.0	-1.2	1.00 H	305	20.50	32.30
5	4924.00	46.0 PK	74.0	-28.0	1.27 H	208	41.00	5.00
6	4924.00	35.0 AV	54.0	-19.0	1.27 H	208	30.00	5.00
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	*2462.00	105.3 PK			1.00 V	80	73.10	32.20
2	*2462.00	95.2 AV			1.00 V	80	63.00	32.20
3	2483.50	67.3 PK	74.0	-6.7	1.00 V	80	35.00	32.30
4	2483.50	49.5 AV	54.0	-4.5	1.00 V	80	17.20	32.30
5	4924.00	45.8 PK	74.0	-28.2	1.17 V	34	40.80	5.00
6	4924.00	34.7 AV	54.0	-19.3	1.17 V	34	29.70	5.00

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)
– 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.



A D T

802.11n (40MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 3	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 69%RH	TESTED BY	Brad Tung

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	67.8 PK	74.0	-6.2	1.44 H	316	35.90	31.90
2	2390.00	52.7 AV	54.0	-1.3	1.44 H	316	20.80	31.90
3	*2422.00	104.6 PK			1.39 H	280	72.60	32.00
4	*2422.00	93.8 AV			1.39 H	280	61.80	32.00
5	4844.00	45.8 PK	74.0	-28.2	1.15 H	138	41.00	4.80
6	4844.00	33.7 AV	54.0	-20.3	1.15 H	138	28.90	4.80
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	2390.00	65.5 PK	74.0	-8.5	1.00 V	102	33.60	31.90
2	2390.00	50.9 AV	54.0	-3.1	1.00 V	102	19.00	31.90
3	*2422.00	100.5 PK			1.00 V	102	68.50	32.00
4	*2422.00	89.8 AV			1.00 V	102	57.80	32.00
5	4844.00	45.5 PK	74.0	-28.5	1.17 V	124	40.70	4.80
6	4844.00	33.7 AV	54.0	-20.3	1.17 V	124	28.90	4.80

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.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 69%RH	TESTED BY	Brad Tung

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	108.8 PK			1.31 H	279	76.80	32.00
2	*2437.00	98.8 AV			1.31 H	279	66.80	32.00
3	2483.50	33.9 PK	74.0	-40.1	1.26 H	280	35.90	-2.00
4	2483.50	18.3 AV	54.0	-35.7	1.26 H	280	20.30	-2.00
5	4874.00	46.1 PK	74.0	-27.9	1.10 H	105	41.10	5.00
6	4874.00	34.0 AV	54.0	-20.0	1.10 H	105	29.00	5.00
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	*2437.00	104.6 PK			1.00 V	106	72.60	32.00
2	*2437.00	94.4 AV			1.00 V	106	62.40	32.00
3	2483.50	31.5 PK	74.0	-42.5	1.00 V	106	33.50	-2.00
4	2483.50	16.6 AV	54.0	-37.4	1.00 V	106	18.60	-2.00
5	4874.00	46.2 PK	74.0	-27.8	1.03 V	136	41.20	5.00
6	4874.00	34.1 AV	54.0	-19.9	1.03 V	136	29.10	5.00

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)
– 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.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 9	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 69%RH	TESTED BY	Brad Tung

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	100.5 PK			1.00 H	231	68.30	32.20
2	*2452.00	90.7 AV			1.00 H	231	58.50	32.20
3	2483.50	65.5 PK	74.0	-8.5	1.00 H	231	33.20	32.30
4	2483.50	52.6 AV	54.0	-1.4	1.00 H	231	20.30	32.30
5	4904.00	46.5 PK	74.0	-27.5	1.04 H	151	41.50	5.00
6	4904.00	35.7 AV	54.0	-18.3	1.04 H	151	30.70	5.00
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	*2452.00	96.4 PK			1.00 V	98	64.20	32.20
2	*2452.00	86.6 AV			1.00 V	98	54.40	32.20
3	2483.50	63.4 PK	74.0	-10.6	1.00 V	98	31.10	32.30
4	2483.50	50.8 AV	54.0	-3.2	1.00 V	98	18.50	32.30
5	4904.00	46.3 PK	74.0	-27.7	1.11 V	130	41.30	5.00
6	4904.00	35.6 AV	54.0	-18.4	1.11 V	130	30.60	5.00

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)
– 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.



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TEST MODE A

BELOW 1GHz WORST-CASE DATA: 802.11g

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	Below 1000MHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	22deg. C, 69%RH	TESTED BY	Brad Tung

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	101.69	41.8 QP	43.5	-1.7	1.25 H	159	60.20	-18.40
2	249.17	42.1 QP	46.0	-3.9	1.49 H	106	56.60	-14.50
3	499.48	35.7 QP	46.0	-10.3	1.49 H	76	44.70	-9.00
4	600.38	38.7 QP	46.0	-7.3	1.49 H	102	45.70	-7.00
5	701.28	39.9 QP	46.0	-6.1	2.00 H	229	45.30	-5.40
6	800.24	38.6 QP	46.0	-7.4	1.00 H	139	41.70	-3.10

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	45.42	33.9 QP	40.0	-6.1	1.25 V	222	48.10	-14.20
2	113.34	40.2 QP	43.5	-3.3	1.00 V	334	57.40	-17.20
3	249.17	32.1 QP	46.0	-13.9	1.50 V	325	46.60	-14.50
4	499.48	31.2 QP	46.0	-14.8	2.00 V	238	40.20	-9.00
5	600.38	38.5 QP	46.0	-7.5	1.00 V	166	45.50	-7.00
6	800.24	34.9 QP	46.0	-11.1	1.50 V	65	38.00	-3.10

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



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TEST MODE B

BELOW 1GHz WORST-CASE DATA: 802.11g

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	Below 1000MHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	22deg. C, 69%RH	TESTED BY	Brad Tung

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	111.40	41.9 QP	43.5	-1.6	1.50 H	49	59.00	-17.10
2	249.17	42.4 QP	46.0	-3.6	2.00 H	84	56.90	-14.50
3	499.48	33.0 QP	46.0	-13.0	1.00 H	281	42.00	-9.00
4	600.38	33.7 QP	46.0	-12.3	1.50 H	135	40.70	-7.00
5	701.28	40.0 QP	46.0	-6.0	1.50 H	234	45.40	-5.40
6	800.24	38.6 QP	46.0	-7.4	1.00 H	135	41.70	-3.10

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	45.42	36.4 QP	40.0	-3.6	1.50 V	291	50.60	-14.20
2	111.40	41.9 QP	43.5	-1.6	1.00 V	8	59.00	-17.10
3	249.17	31.9 QP	46.0	-14.1	1.50 V	335	46.40	-14.50
4	516.94	32.6 QP	46.0	-13.4	1.25 V	282	41.40	-8.80
5	600.38	33.0 QP	46.0	-13.0	2.00 V	245	40.00	-7.00
6	701.28	33.7 QP	46.0	-12.3	2.00 V	274	39.10	-5.40

REMARKS:

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



4.2 CONDUCTED EMISSION MEASUREMENT

4.2.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

FREQUENCY OF EMISSION (MHz)	CONDUCTED LIMIT (dBµV)	
	Quasi-peak	Average
0.15 ~ 0.5	66 to 56	56 to 46
0.5 ~ 5	56	46
5 ~ 30	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.
 3. All emanations from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

4.2.2 TEST INSTRUMENTS

Tested Date: Dec. 24, 2013

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Test Receiver ROHDE & SCHWARZ	ESCS30	100289	Nov. 29, 2013	Nov. 28, 2014
RF signal cable Woken	5D-FB	Cable-HYC01-01	Dec. 28, 2012	Dec. 27, 2013
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100311	Jul. 17, 2013	Jul. 16, 2014
LISN ROHDE & SCHWARZ (EUT)	ESH3-Z5	835239/001	Feb. 04, 2013	Feb. 03, 2014
Software ADT	BV ADT_Cond_ V7.3.7.3	NA	NA	NA

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

4.2.3 TEST PROCEDURES

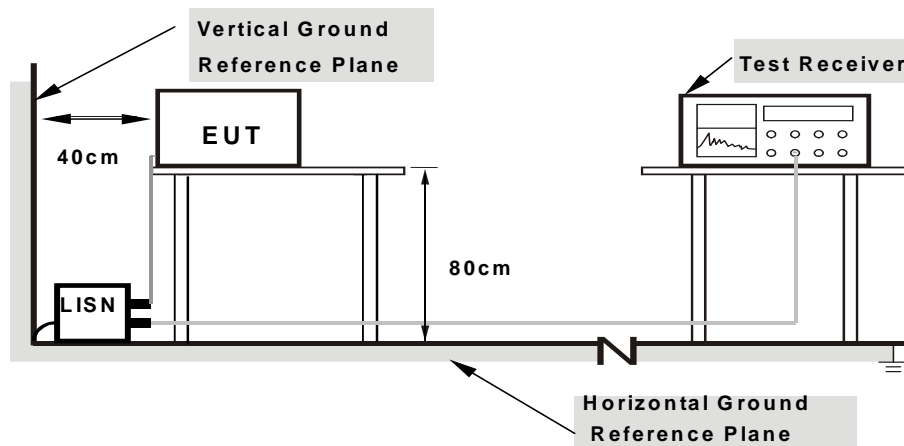
- a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling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

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

4.2.4 DEVIATION FROM TEST STANDARD

No deviation.

4.2.5 TEST SETUP



- Note:**
1. Support units were connected to second LISN.
 2. Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

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.



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4.2.7 TEST RESULTS

TEST MODE A

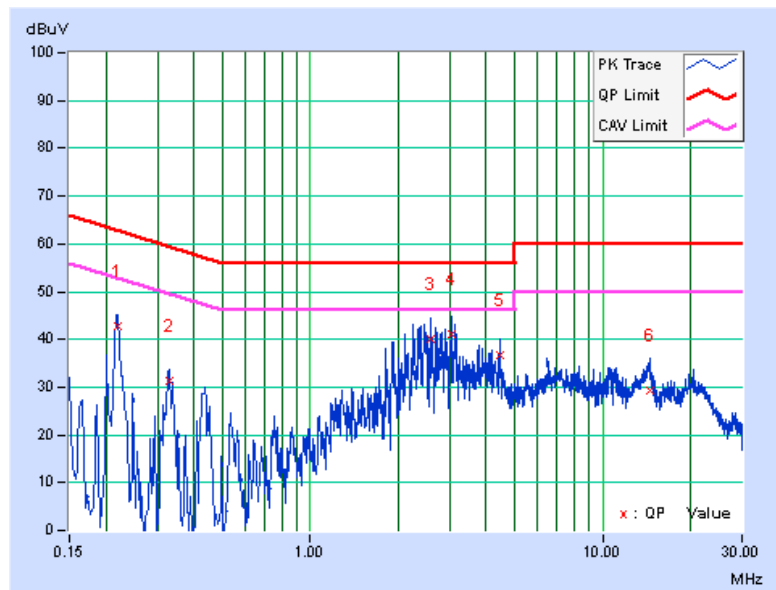
CONDUCTED WORST-CASE DATA: 802.11g

PHASE	Line 1	6dB BANDWIDTH	9kHz
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No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.22038	0.17	42.69	30.71	42.86	30.88	62.80	52.80	-19.95	-21.93
2	0.32986	0.21	30.98	19.44	31.19	19.65	59.45	49.45	-28.27	-29.81
3	2.59375	0.32	39.65	27.11	39.97	27.43	56.00	46.00	-16.03	-18.57
4	3.03558	0.35	40.72	26.78	41.07	27.13	56.00	46.00	-14.93	-18.87
5	4.43927	0.42	36.27	31.71	36.69	32.13	56.00	46.00	-19.31	-13.87
6	14.51534	0.95	28.28	20.88	29.23	21.83	60.00	50.00	-30.77	-28.17

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

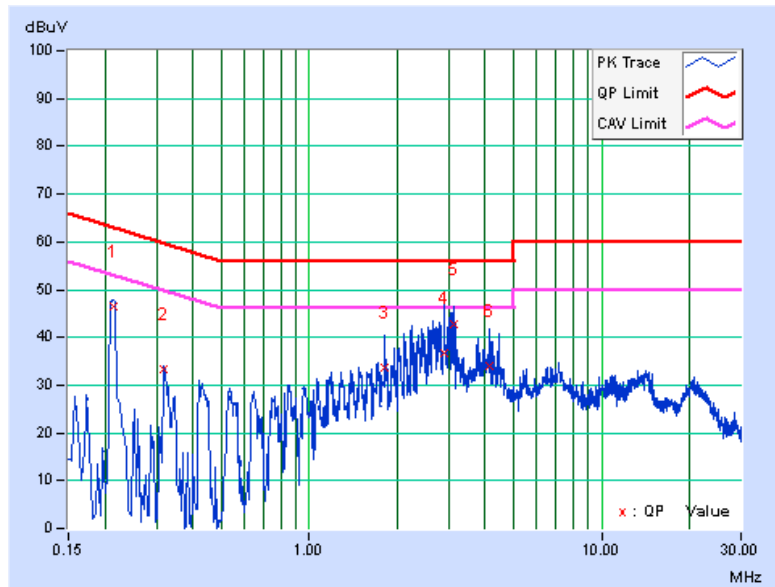


PHASE	Line 2	6dB BANDWIDTH	9kHz
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No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.21282	0.17	46.20	32.63	46.37	32.80	63.09	53.09	-16.72	-20.29
2	0.31849	0.21	33.07	21.83	33.28	22.04	59.75	49.75	-26.46	-27.70
3	1.81957	0.27	33.42	22.77	33.69	23.04	56.00	46.00	-22.31	-22.96
4	2.89873	0.32	36.38	25.19	36.70	25.51	56.00	46.00	-19.30	-20.49
5	3.12942	0.34	42.34	26.70	42.68	27.04	56.00	46.00	-13.32	-18.96
6	4.12256	0.38	33.55	23.63	33.93	24.01	56.00	46.00	-22.07	-21.99

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



TEST MODE B

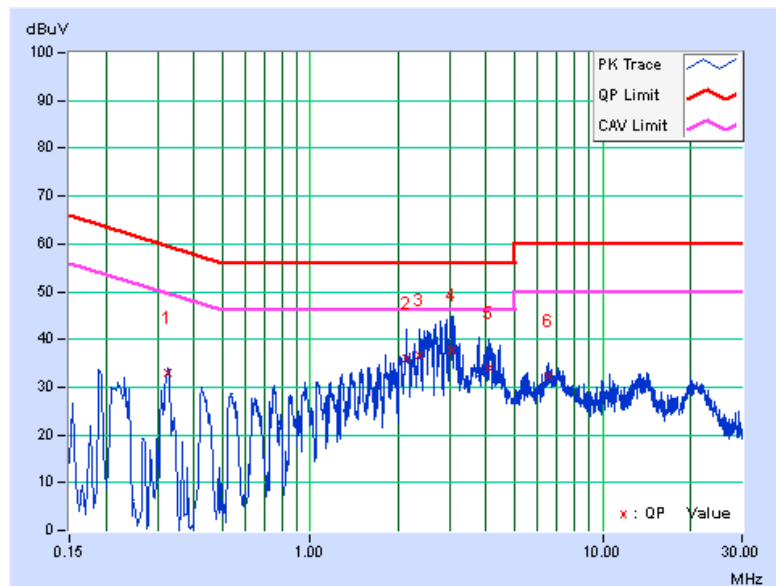
CONDUCTED WORST-CASE DATA: 802.11g

PHASE	Line 1	6dB BANDWIDTH	9kHz
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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	0.32614	0.20	32.78	21.94	32.98	22.14	59.55
2	2.13237	0.30	35.87	23.55	36.17	23.85	56.00	46.00	-19.83	-22.15
3	2.35524	0.31	36.55	25.16	36.86	25.47	56.00	46.00	-19.14	-20.53
4	3.04340	0.35	37.36	22.66	37.71	23.01	56.00	46.00	-18.29	-22.99
5	4.06391	0.40	33.74	24.29	34.14	24.69	56.00	46.00	-21.86	-21.31
6	6.49593	0.53	31.95	26.95	32.48	27.48	60.00	50.00	-27.52	-22.52

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

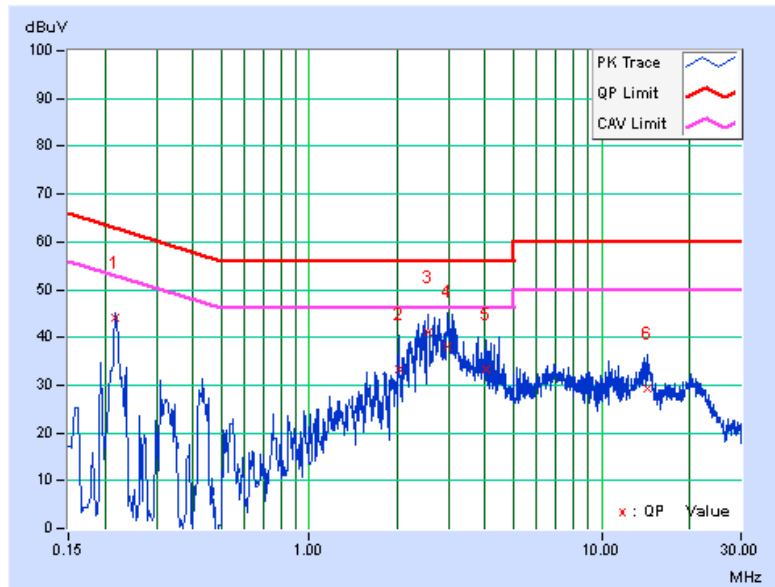


PHASE	Line 2	6dB BANDWIDTH	9kHz
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No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.21679	0.18	43.96	33.36	44.14	33.54	62.94	52.94	-18.81	-19.41
2	2.02680	0.28	33.01	21.73	33.29	22.01	56.00	46.00	-22.71	-23.99
3	2.56638	0.31	40.93	28.25	41.24	28.56	56.00	46.00	-14.76	-17.44
4	2.98475	0.33	37.78	26.27	38.11	26.60	56.00	46.00	-17.89	-19.40
5	4.04827	0.38	32.92	23.81	33.30	24.19	56.00	46.00	-22.70	-21.81
6	14.37067	0.74	28.42	21.36	29.16	22.10	60.00	50.00	-30.84	-27.90

REMARKS:

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

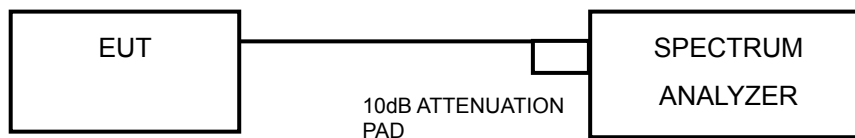


4.3 6dB BANDWIDTH MEASUREMENT

4.3.1 LIMITS OF 6dB BANDWIDTH MEASUREMENT

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

4.3.2 TEST SETUP



4.3.3 TEST INSTRUMENTS

Refer to section 4.1.2 to get information of above instrument.

4.3.4 TEST PROCEDURE

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

4.3.5 DEVIATION FROM TEST STANDARD

No deviation.

4.3.6 EUT OPERATING CONDITIONS

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



A D T

4.3.7 TEST RESULTS

TEST MODE A

802.11b

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)			MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2		
1	2412	6.63	7.09	6.62	0.5	PASS
6	2437	7.13	7.11	6.62	0.5	PASS
11	2462	7.13	7.12	7.08	0.5	PASS

802.11g

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)			MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2		
1	2412	16.42	16.50	16.45	0.5	PASS
6	2437	16.41	16.43	16.47	0.5	PASS
11	2462	16.52	16.42	16.55	0.5	PASS

802.11n (20MHz)

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)			MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2		
1	2412	17.59	17.59	17.62	0.5	PASS
6	2437	17.69	17.66	17.67	0.5	PASS
11	2462	17.56	17.75	17.75	0.5	PASS

802.11n (40MHz)

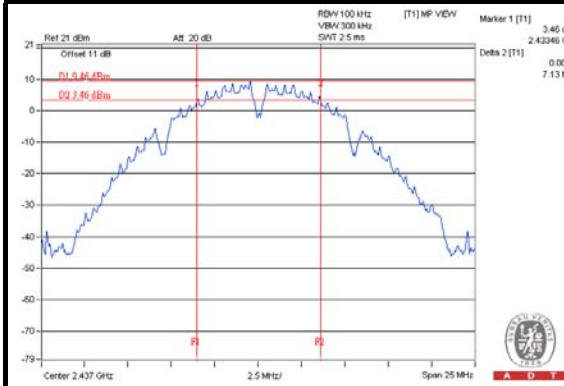
CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)			MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2		
3	2422	36.52	35.43	36.52	0.5	PASS
6	2437	36.46	36.49	36.45	0.5	PASS
9	2452	36.33	36.43	36.40	0.5	PASS



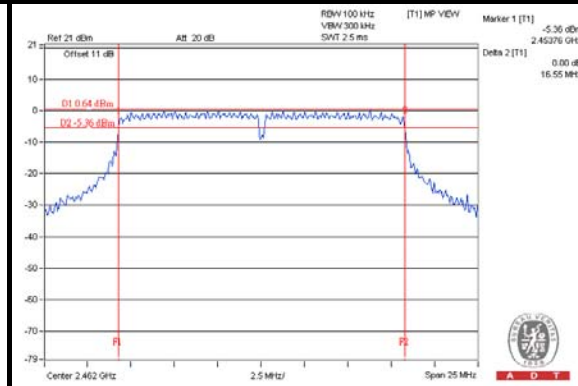
A D T

SPECTRUM PLOT OF WORST VALUE

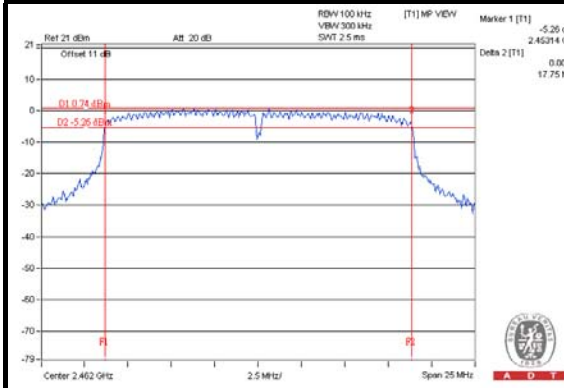
802.11b



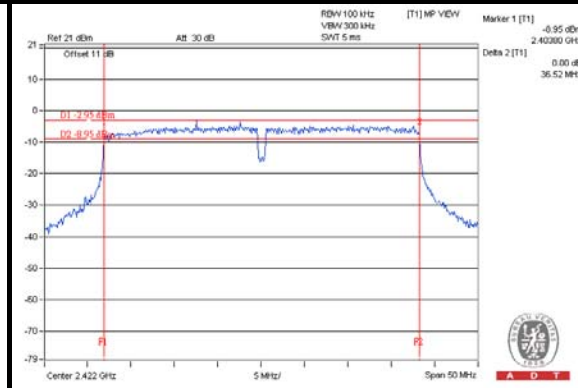
802.11g



802.11n (20MHz)



802.11n (40MHz)



**TEST MODE B****802.11b**

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)			MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2		
1	2412	7.09	7.11	6.61	0.5	PASS
6	2437	6.68	6.64	8.06	0.5	PASS
11	2462	7.08	7.58	7.10	0.5	PASS

802.11g

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)			MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2		
1	2412	16.44	16.57	16.54	0.5	PASS
6	2437	16.44	16.45	16.55	0.5	PASS
11	2462	16.46	16.57	16.45	0.5	PASS

802.11n (20MHz)

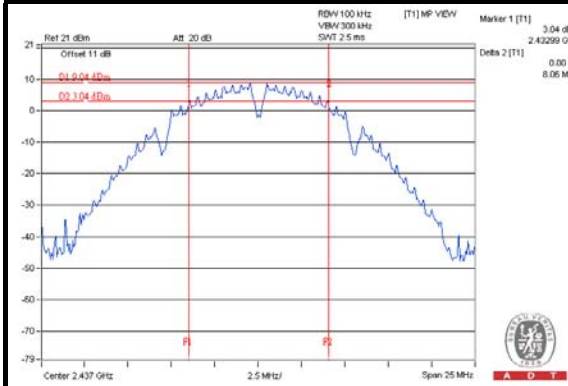
CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)			MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2		
1	2412	17.80	17.69	17.76	0.5	PASS
6	2437	17.73	17.70	17.73	0.5	PASS
11	2462	17.64	17.63	17.67	0.5	PASS

802.11n (40MHz)

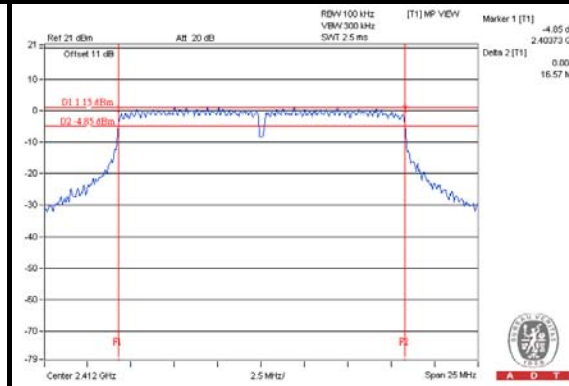
CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)			MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2		
3	2422	36.45	36.48	36.55	0.5	PASS
6	2437	36.48	36.47	36.50	0.5	PASS
9	2452	36.38	36.45	36.52	0.5	PASS

SPECTRUM PLOT OF WORST VALUE

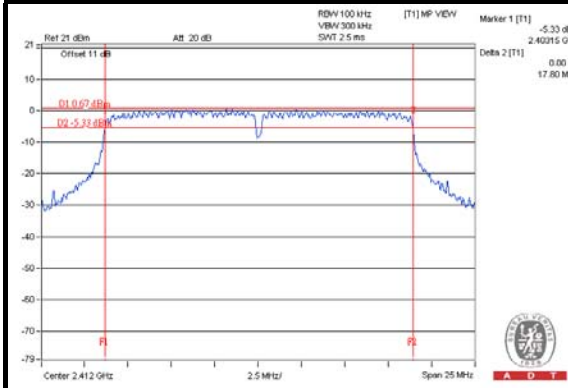
802.11b



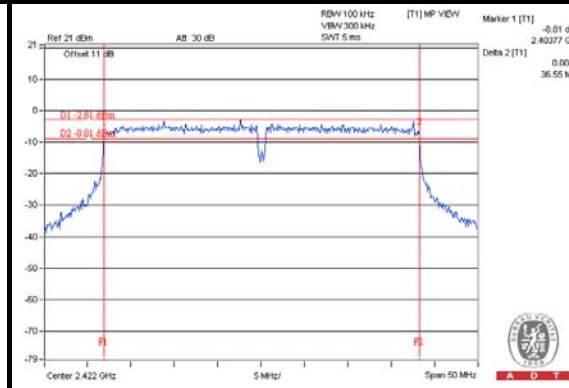
802.11g



802.11n (20MHz)



802.11n (40MHz)



4.4 CONDUCTED OUTPUT POWER

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 v02r01 Method of conducted output power measurement on IEEE 802.11 devices,

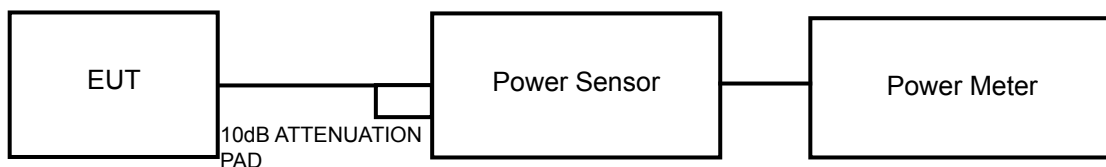
Array Gain = 0 dB (i.e., no array gain) for $NANT \leq 4$;

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

Array Gain = $5 \log(NANT/NSS)$ dB or 3 dB, whichever is less for 20-MHz channel widths with $NANT \geq 5$.

For power measurements on all other devices: Array Gain = $10 \log(NANT/NSS)$ 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 peak power level.



A D T

4.4.5 DEVIATION FROM TEST STANDARD

No deviation.

4.4.6 EUT OPERATING CONDITIONS

Same as Item 4.3.6.



A D T

4.4.7 TEST RESULTS

FOR PEAK POWER

TEST MODE A

802.11b

CHAN.	FREQ. (MHz)	PEAK POWER (dBm)			TOTAL POWER (mW)	TOTAL POWER (dBm)	LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2				
1	2412	20.41	19.99	20.16	313.424	24.96	30	PASS
6	2437	20.19	20.61	20.34	327.695	25.15	30	PASS
11	2462	19.82	20.43	19.64	298.393	24.75	30	PASS

802.11g

CHAN.	FREQ. (MHz)	PEAK POWER (dBm)			TOTAL POWER (mW)	TOTAL POWER (dBm)	LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2				
1	2412	20.21	20.06	20.24	312.027	24.94	30	PASS
6	2437	21.66	21.73	21.52	437.397	26.41	30	PASS
11	2462	19.53	19.51	19.32	264.581	24.23	30	PASS

802.11n (20MHz)

CHAN.	FREQ. (MHz)	PEAK POWER (dBm)			TOTAL POWER (mW)	TOTAL POWER (dBm)	LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2				
1	2412	20.06	19.86	19.88	295.494	24.71	30	PASS
6	2437	21.62	21.72	21.45	433.442	26.37	30	PASS
11	2462	19.52	19.72	19.33	268.996	24.30	30	PASS

802.11n (40MHz)

CHAN.	FREQ. (MHz)	PEAK POWER (dBm)			TOTAL POWER (mW)	TOTAL POWER (dBm)	LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2				
3	2422	18.02	17.89	18.06	188.878	22.76	30	PASS
6	2437	19.73	19.88	19.83	287.408	24.58	30	PASS
9	2452	18.12	18.21	18.14	196.248	22.93	30	PASS



A D T

TEST MODE B

802.11b

CHAN.	FREQ. (MHz)	PEAK POWER (dBm)			TOTAL POWER (mW)	TOTAL POWER (dBm)	LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2				
1	2412	20.05	20.19	20.32	313.277	24.96	30	PASS
6	2437	20.11	20.32	20.19	314.684	24.98	30	PASS
11	2462	19.73	19.77	20.30	295.966	24.71	30	PASS

802.11g

CHAN.	FREQ. (MHz)	PEAK POWER (dBm)			TOTAL POWER (mW)	TOTAL POWER (dBm)	LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2				
1	2412	20.06	20.03	20.26	308.254	24.89	30	PASS
6	2437	20.87	21.11	20.94	375.467	25.75	30	PASS
11	2462	19.73	19.77	19.79	284.094	24.53	30	PASS

802.11n (20MHz)

CHAN.	FREQ. (MHz)	PEAK POWER (dBm)			TOTAL POWER (mW)	TOTAL POWER (dBm)	LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2				
1	2412	20.08	20.98	20.12	329.975	25.18	30	PASS
6	2437	20.86	20.98	20.89	369.957	25.68	30	PASS
11	2462	19.77	19.80	19.74	284.530	24.54	30	PASS

802.11n (40MHz)

CHAN.	FREQ. (MHz)	PEAK POWER (dBm)			TOTAL POWER (mW)	TOTAL POWER (dBm)	LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2				
3	2422	18.38	18.16	18.43	203.992	23.10	30	PASS
6	2437	20.02	20.24	20.21	311.098	24.93	30	PASS
9	2452	18.42	18.58	18.62	214.391	23.31	30	PASS



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FOR AVERAGE POWER

TEST MODE A

802.11b

CHAN.	FREQUENCY (MHz)	AVG. POWER (dBm)			TOTAL POWER (mW)	TOTAL POWER (dBm)
		CHAIN 0	CHAIN 1	CHAIN 2		
1	2412	17.43	16.92	17.43	159.874	22.04
6	2437	17.35	17.77	17.42	169.374	22.29
11	2462	17.14	17.53	16.78	156.028	21.93

802.11g

CHAN.	FREQUENCY (MHz)	AVG. POWER (dBm)			TOTAL POWER (mW)	TOTAL POWER (dBm)
		CHAIN 0	CHAIN 1	CHAIN 2		
1	2412	15.42	15.12	15.55	103.235	20.14
6	2437	17.52	17.82	17.42	172.236	22.36
11	2462	14.25	14.32	14.11	79.410	19.00

802.11n (20MHz)

CHAN.	FREQUENCY (MHz)	AVG. POWER (dBm)			TOTAL POWER (mW)	TOTAL POWER (dBm)
		CHAIN 0	CHAIN 1	CHAIN 2		
1	2412	15.06	14.72	15.14	94.370	19.75
6	2437	17.52	17.82	17.33	171.103	22.33
11	2462	14.65	14.72	14.17	84.944	19.29

802.11n (40MHz)

CHAN.	FREQUENCY (MHz)	AVG. POWER (dBm)			TOTAL POWER (mW)	TOTAL POWER (dBm)
		CHAIN 0	CHAIN 1	CHAIN 2		
3	2422	12.67	12.42	12.66	54.401	17.36
6	2437	14.88	15.06	14.89	93.656	19.72
9	2452	12.68	12.89	12.86	57.309	17.58



TEST MODE B

802.11b

CHAN.	FREQUENCY (MHz)	AVG. POWER (dBm)			TOTAL POWER (mW)	TOTAL POWER (dBm)
		CHAIN 0	CHAIN 1	CHAIN 2		
1	2412	17.32	17.42	17.66	167.504	22.24
6	2437	17.56	17.71	17.58	173.316	22.39
11	2462	17.42	17.76	17.42	170.120	22.31

802.11g

CHAN.	FREQUENCY (MHz)	AVG. POWER (dBm)			TOTAL POWER (mW)	TOTAL POWER (dBm)
		CHAIN 0	CHAIN 1	CHAIN 2		
1	2412	15.33	15.35	15.62	104.871	20.21
6	2437	17.55	17.55	17.66	172.115	22.36
11	2462	14.86	15.31	14.86	95.203	19.79

802.11n (20MHz)

CHAN.	FREQUENCY (MHz)	AVG. POWER (dBm)			TOTAL POWER (mW)	TOTAL POWER (dBm)
		CHAIN 0	CHAIN 1	CHAIN 2		
1	2412	15.46	15.34	15.45	104.429	20.19
6	2437	17.42	17.67	17.66	172.032	22.36
11	2462	14.86	15.06	14.72	92.331	19.65

802.11n (40MHz)

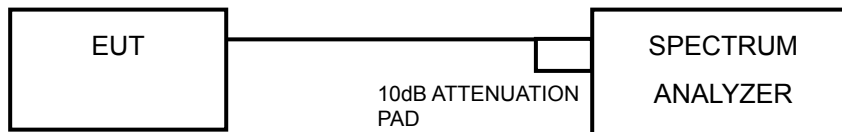
CHAN.	FREQUENCY (MHz)	AVG. POWER (dBm)			TOTAL POWER (mW)	TOTAL POWER (dBm)
		CHAIN 0	CHAIN 1	CHAIN 2		
3	2422	13.06	12.93	13.18	60.661	17.83
6	2437	15.38	15.63	15.63	107.632	20.32
9	2452	13.04	13.36	13.21	62.755	17.98

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 the RBW = 3 kHz, VBW = 10 kHz, Detector = peak.
- Sweep time = auto couple, Trace mode = max hold, allow trace to fully stabilize.
- Use the peak marker function to determine the maximum power level in any 100 kHz band segment within the fundamental EBW.

4.5.5 DEVIATION FROM TEST STANDARD

No deviation.

4.5.6 EUT OPERATING CONDITION

Same as Item 4.3.6



A D T

4.5.7 TEST RESULTS

TEST MODE A

802.11b

TX chain	Channel	Freq. (MHz)	PSD (dBm/3kHz)	10 log (N=3) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
0	1	2412	-5.41	4.77	-0.64	5.15	PASS
	6	2437	-5.30	4.77	-0.53	5.15	PASS
	11	2462	-5.72	4.77	-0.95	5.15	PASS
1	1	2412	-5.01	4.77	-0.24	5.15	PASS
	6	2437	-4.31	4.77	0.46	5.15	PASS
	11	2462	-3.95	4.77	0.82	5.15	PASS
2	1	2412	-5.45	4.77	-0.68	5.15	PASS
	6	2437	-4.95	4.77	-0.18	5.15	PASS
	11	2462	-5.89	4.77	-1.12	5.15	PASS

NOTE: Directional gain = $4.08\text{dBi} + 10\log(3) = 8.85\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $8-(8.85-6) = 5.15\text{dBm}$.

802.11g

TX chain	Channel	Freq. (MHz)	PSD (dBm/3kHz)	10 log (N=3) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
0	1	2412	-10.66	4.77	-5.89	5.15	PASS
	6	2437	-7.25	4.77	-2.48	5.15	PASS
	11	2462	-10.62	4.77	-5.85	5.15	PASS
1	1	2412	-10.32	4.77	-5.55	5.15	PASS
	6	2437	-8.09	4.77	-3.32	5.15	PASS
	11	2462	-10.53	4.77	-5.76	5.15	PASS
2	1	2412	-10.74	4.77	-5.97	5.15	PASS
	6	2437	-8.08	4.77	-3.31	5.15	PASS
	11	2462	-11.86	4.77	-7.09	5.15	PASS

NOTE: Directional gain = $4.08\text{dBi} + 10\log(3) = 8.85\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $8-(8.85-6) = 5.15\text{dBm}$.



802.11n (20MHz)

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	-11.11	4.77	-6.34	8.00	PASS
	6	2437	-8.39	4.77	-3.62	8.00	PASS
	11	2462	-11.58	4.77	-6.81	8.00	PASS
1	1	2412	-11.43	4.77	-6.66	8.00	PASS
	6	2437	-9.27	4.77	-4.50	8.00	PASS
	11	2462	-12.07	4.77	-7.30	8.00	PASS
2	1	2412	-11.48	4.77	-6.71	8.00	PASS
	6	2437	-9.54	4.77	-4.77	8.00	PASS
	11	2462	-12.38	4.77	-7.61	8.00	PASS

NOTE: IEEE 802.11n, MCS = 16-23, NSS = 3,
 Directional gain = 4.08dBi + 10log(3/3) = 4.08dBi < 6dBi, so the limit no need to reduced.

802.11n (40MHz)

TX chain	Channel	Freq. (MHz)	PSD (dBm/3kHz)	10 log (N=3) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
0	3	2422	-16.08	4.77	-11.31	8.00	PASS
	6	2437	-13.89	4.77	-9.12	8.00	PASS
	9	2452	-14.96	4.77	-10.19	8.00	PASS
1	3	2422	-15.43	4.77	-10.66	8.00	PASS
	6	2437	-14.08	4.77	-9.31	8.00	PASS
	9	2452	-16.66	4.77	-11.89	8.00	PASS
2	3	2422	-16.71	4.77	-11.94	8.00	PASS
	6	2437	-13.88	4.77	-9.11	8.00	PASS
	9	2452	-16.19	4.77	-11.42	8.00	PASS

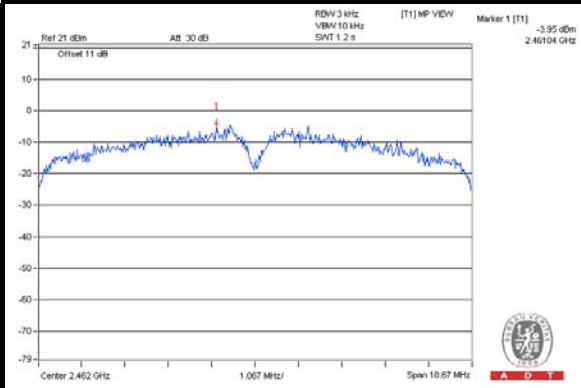
NOTE: IEEE 802.11n, MCS = 16-23, NSS = 3,
 Directional gain = 4.08dBi + 10log(3/3) = 4.08dBi < 6dBi, so the limit no need to reduced.



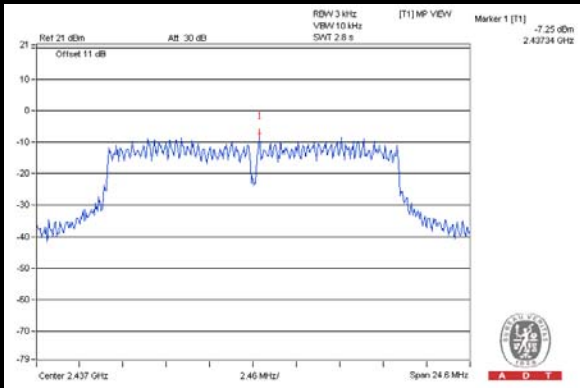
A D T

SPECTRUM PLOT OF WORST VALUE

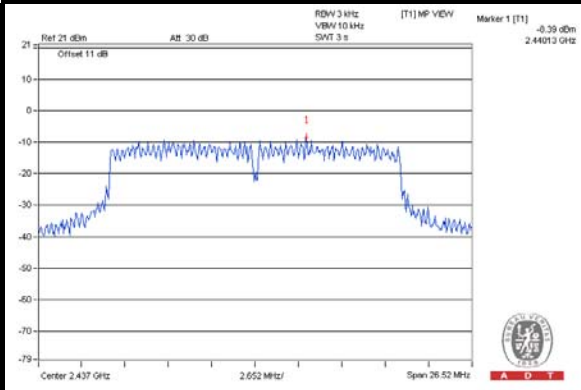
802.11b



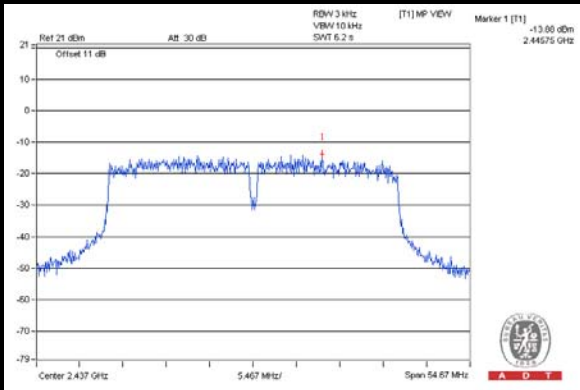
802.11g



802.11n (20MHz)



802.11n (40MHz)





A D T

TEST MODE B

802.11b

TX chain	Channel	Freq. (MHz)	PSD (dBm/3kHz)	10 log (N=3) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
0	1	2412	-5.66	4.77	-0.89	5.15	PASS
	6	2437	-5.52	4.77	-0.75	5.15	PASS
	11	2462	-5.43	4.77	-0.66	5.15	PASS
1	1	2412	-4.17	4.77	0.60	5.15	PASS
	6	2437	-3.81	4.77	0.96	5.15	PASS
	11	2462	-5.00	4.77	-0.23	5.15	PASS
2	1	2412	-4.80	4.77	-0.03	5.15	PASS
	6	2437	-4.25	4.77	0.52	5.15	PASS
	11	2462	-5.73	4.77	-0.96	5.15	PASS

NOTE: Directional gain = $4.08\text{dBi} + 10\log(3) = 8.85\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $8 - (8.85 - 6) = 5.15\text{dBm}$.

802.11g

TX chain	Channel	Freq. (MHz)	PSD (dBm/3kHz)	10 log (N=3) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
0	1	2412	-10.54	4.77	-5.77	5.15	PASS
	6	2437	-9.09	4.77	-4.32	5.15	PASS
	11	2462	-10.58	4.77	-5.81	5.15	PASS
1	1	2412	-9.95	4.77	-5.18	5.15	PASS
	6	2437	-8.52	4.77	-3.75	5.15	PASS
	11	2462	-10.64	4.77	-5.87	5.15	PASS
2	1	2412	-10.26	4.77	-5.49	5.15	PASS
	6	2437	-9.18	4.77	-4.41	5.15	PASS
	11	2462	-10.81	4.77	-6.04	5.15	PASS

NOTE: Directional gain = $4.08\text{dBi} + 10\log(3) = 8.85\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $8 - (8.85 - 6) = 5.15\text{dBm}$.



802.11n (20MHz)

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	-9.22	4.77	-4.45	8.00	PASS
	6	2437	-9.67	4.77	-4.90	8.00	PASS
	11	2462	-12.21	4.77	-7.44	8.00	PASS
1	1	2412	-12.10	4.77	-7.33	8.00	PASS
	6	2437	-8.59	4.77	-3.82	8.00	PASS
	11	2462	-10.50	4.77	-5.73	8.00	PASS
2	1	2412	-10.39	4.77	-5.62	8.00	PASS
	6	2437	-7.64	4.77	-2.87	8.00	PASS
	11	2462	-12.00	4.77	-7.23	8.00	PASS

NOTE: IEEE 802.11n, MCS = 16-23, NSS = 3,
 Directional gain = 4.08dBi + 10log(3/3) = 4.08dBi < 6dBi, so the limit no need to reduced.

802.11n (40MHz)

TX chain	Channel	Freq. (MHz)	PSD (dBm/3kHz)	10 log (N=3) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
0	3	2422	-15.49	4.77	-10.72	8.00	PASS
	6	2437	-13.80	4.77	-9.03	8.00	PASS
	9	2452	-16.17	4.77	-11.40	8.00	PASS
1	3	2422	-15.81	4.77	-11.04	8.00	PASS
	6	2437	-13.93	4.77	-9.16	8.00	PASS
	9	2452	-16.35	4.77	-11.58	8.00	PASS
2	3	2422	-16.40	4.77	-11.63	8.00	PASS
	6	2437	-13.70	4.77	-8.93	8.00	PASS
	9	2452	-16.06	4.77	-11.29	8.00	PASS

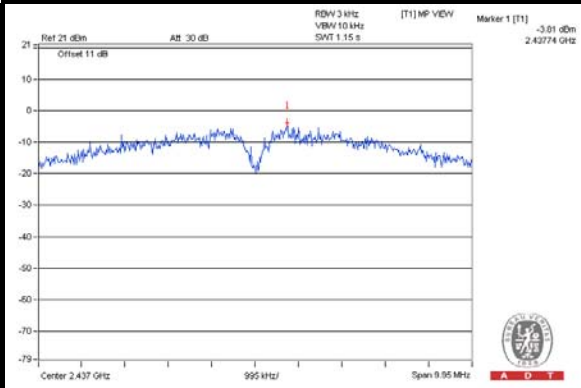
NOTE: IEEE 802.11n, MCS = 16-23, NSS = 3,
 Directional gain = 4.08dBi + 10log(3/3) = 4.08dBi < 6dBi, so the limit no need to reduced.



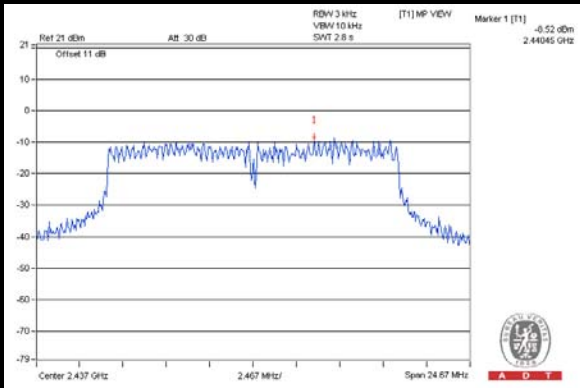
A D T

SPECTRUM PLOT OF WORST VALUE

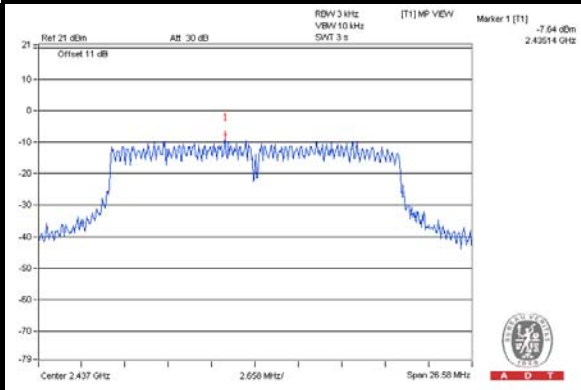
802.11b



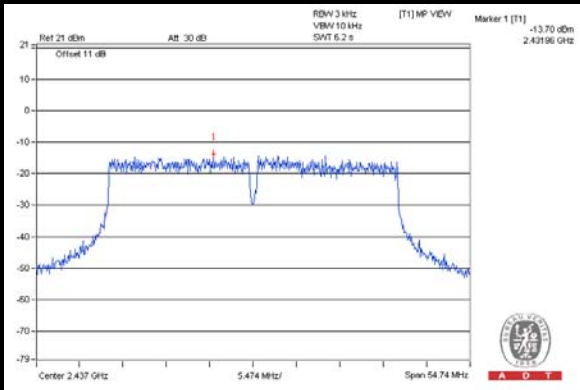
802.11g



802.11n (20MHz)



802.11n (40MHz)

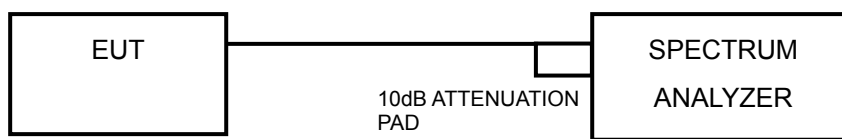


4.6 CONDUCTED OUT OF BAND EMISSION MEASUREMENT

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.



A D T

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. Ensure that the number of measurement points \geq span/RBW
4. According to measurement points to set differ measurement span.
5. Detector = peak.
6. Trace Mode = max hold.
7. Sweep = auto couple.

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

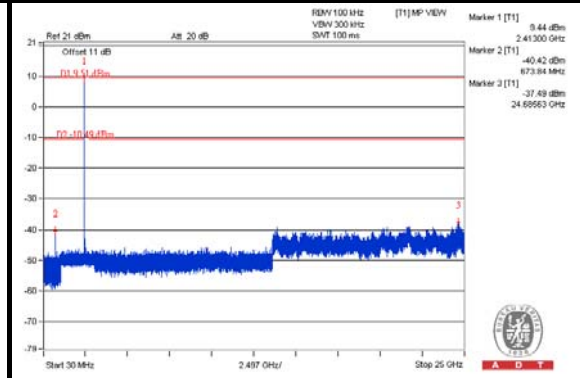
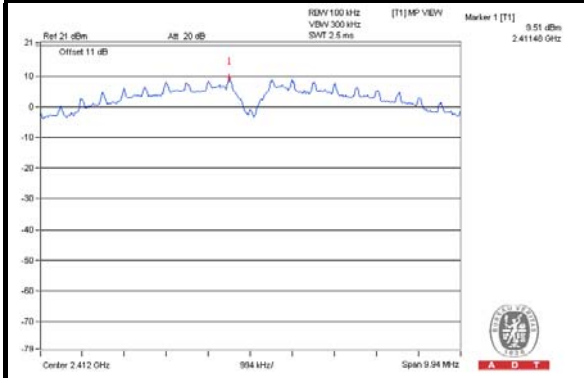
The spectrum plots are attached on the following pages. D1 line indicates the highest level, and D2 line indicates the 20dB offset below D1. It shows compliance with the requirement.



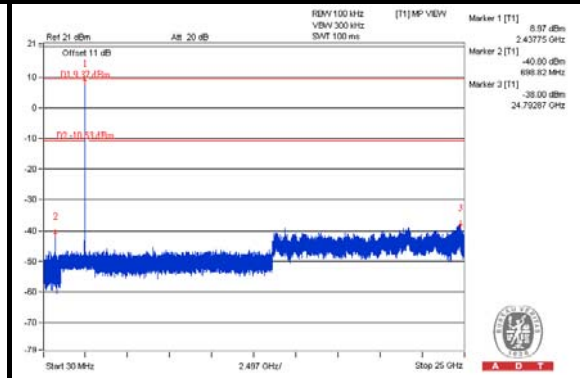
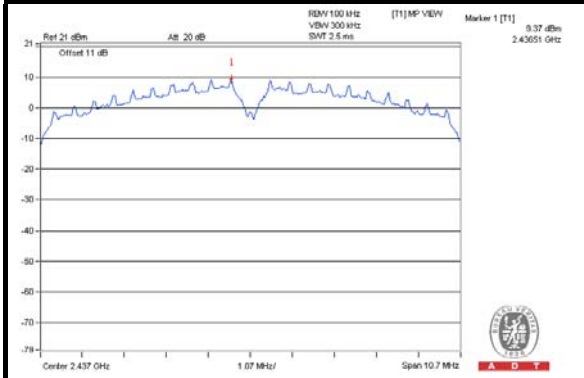
A D T

TEST MODE A 802.11b CHAIN 0

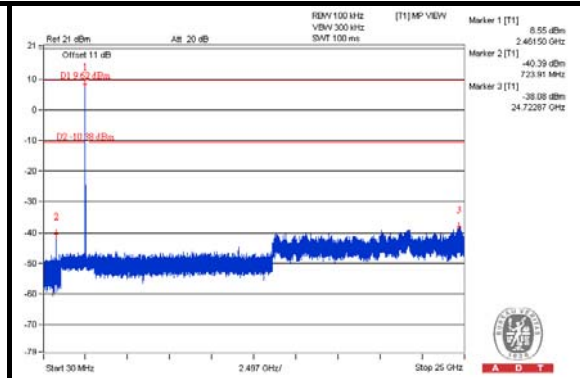
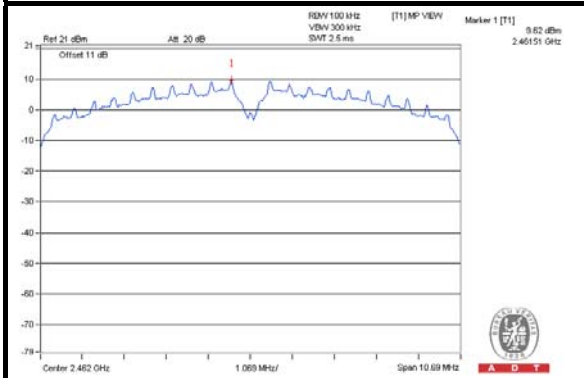
CH 1



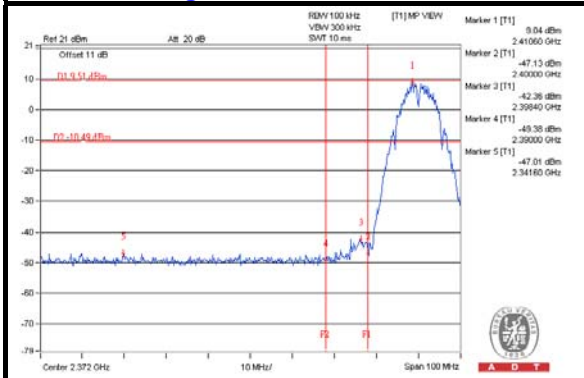
CH 6



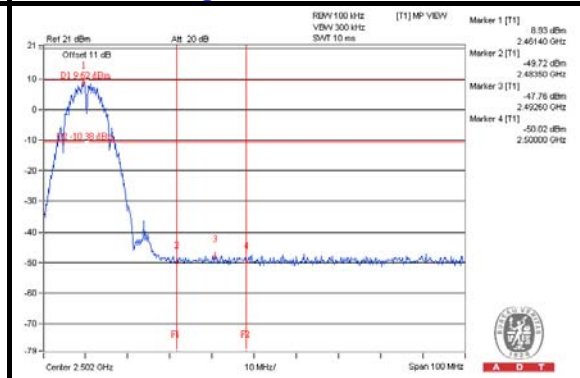
CH 11



CH 1 Band edge



CH 11 Band edge

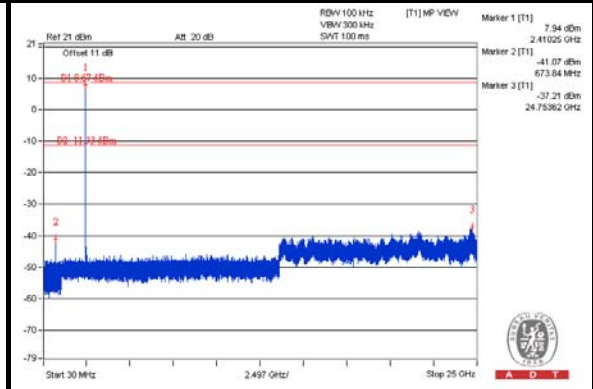
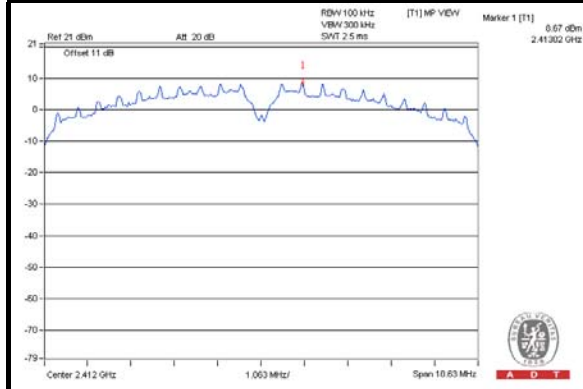




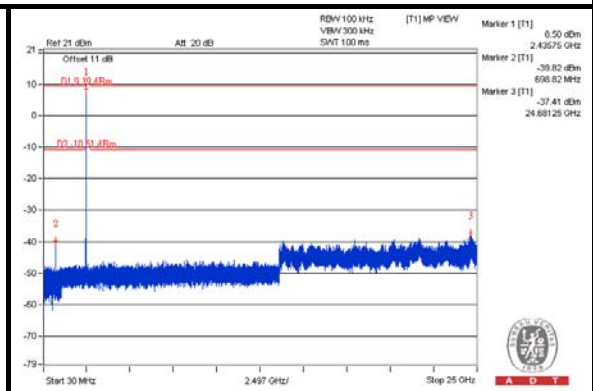
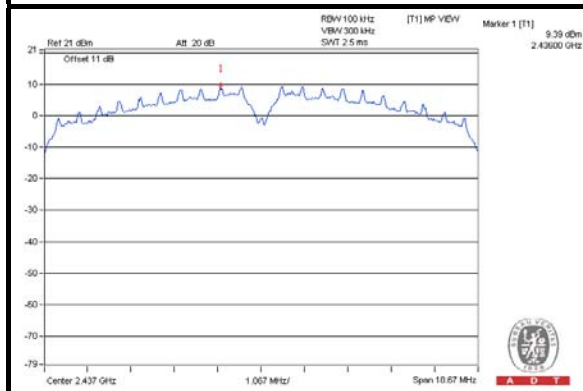
A D T

CHAIN 1

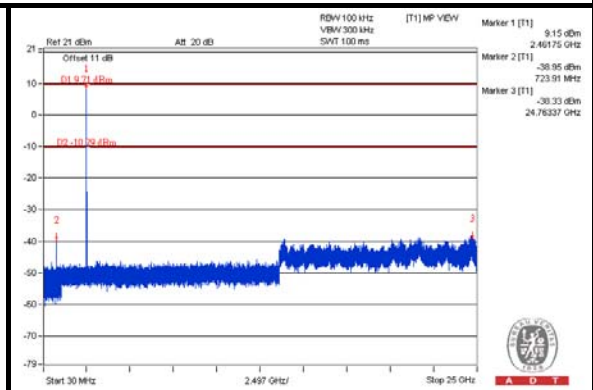
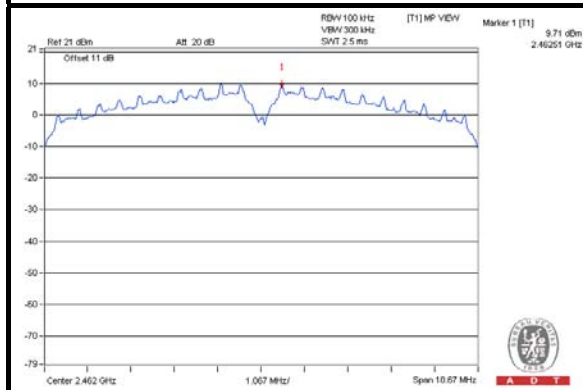
CH 1



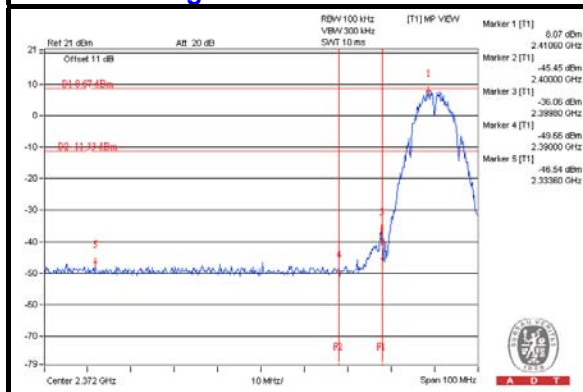
CH 6



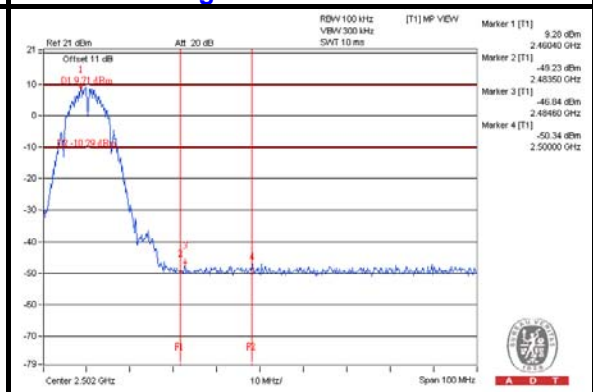
CH 11



CH 1 Band edge



CH 11 Band edge

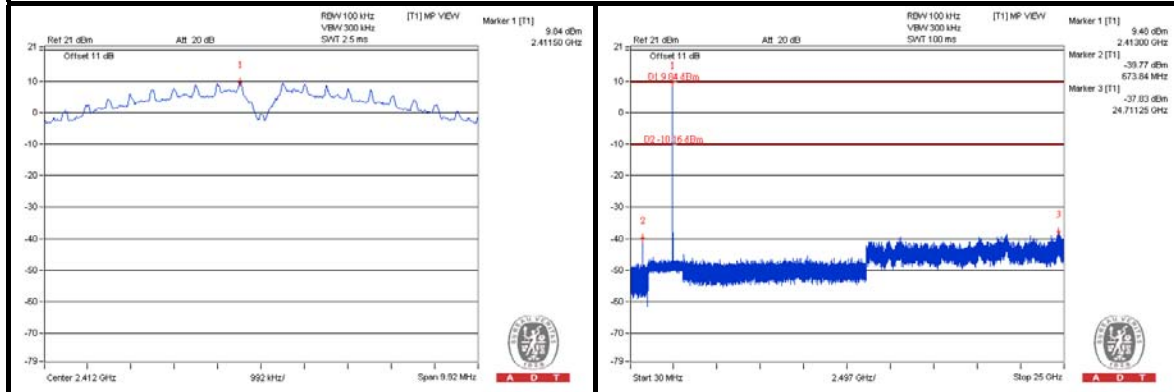




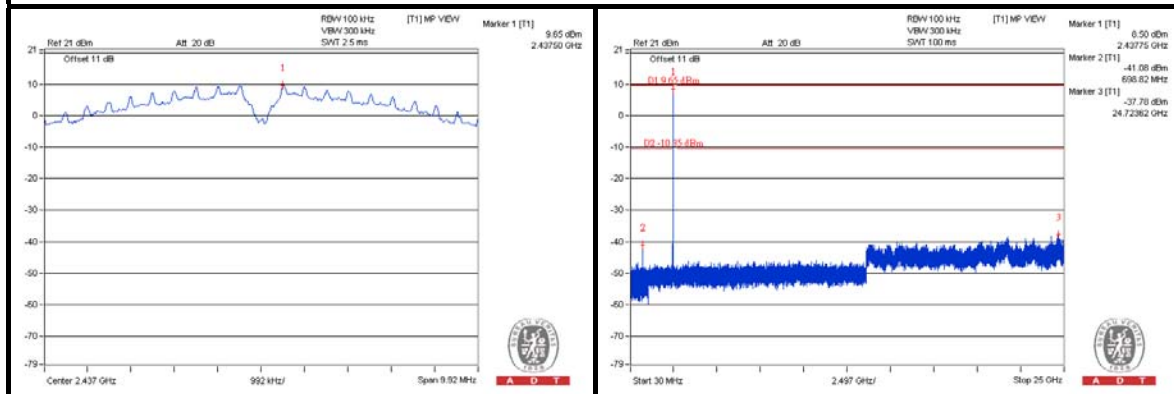
A D T

CHAIN 2

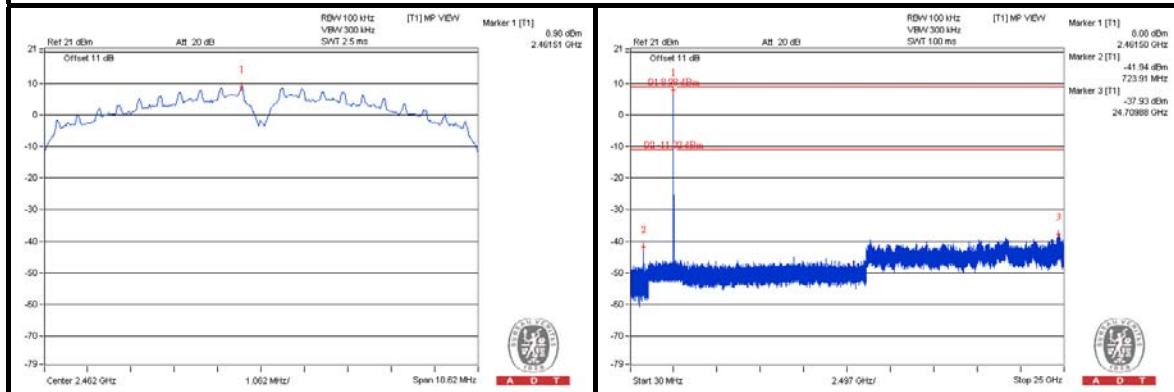
CH 1



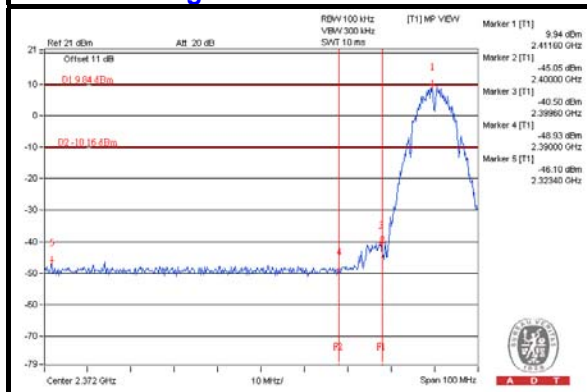
CH 6



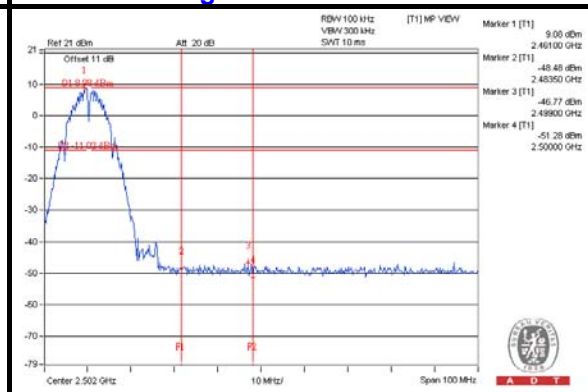
CH 11



CH 1 Band edge



CH 11 Band edge

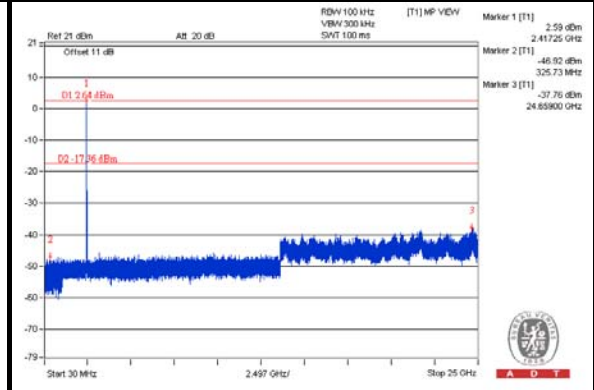
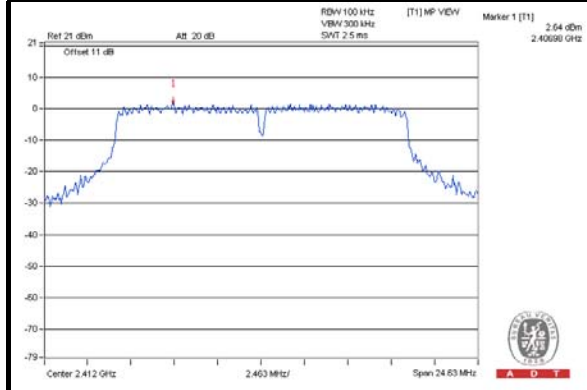




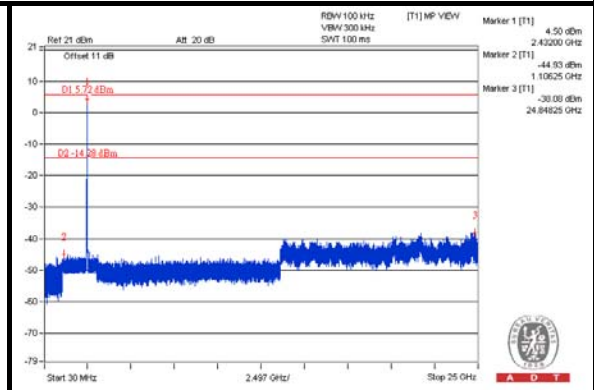
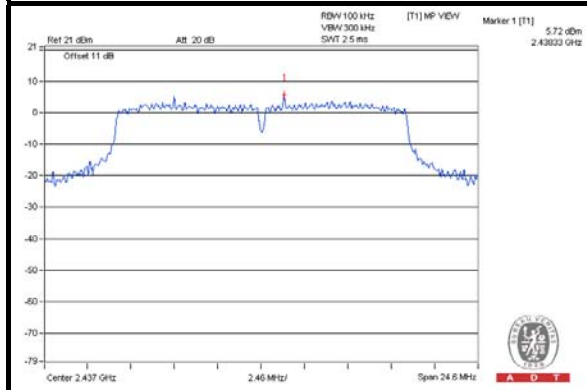
A D T

802.11g CHAIN 0

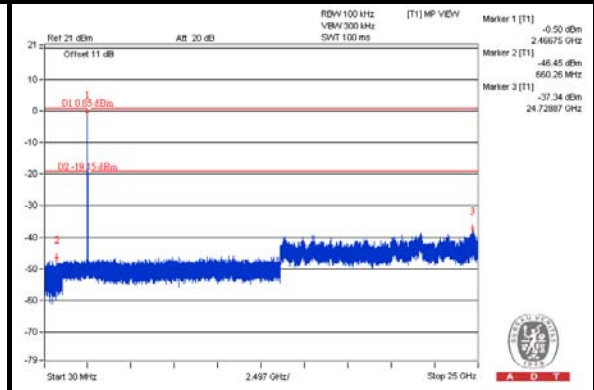
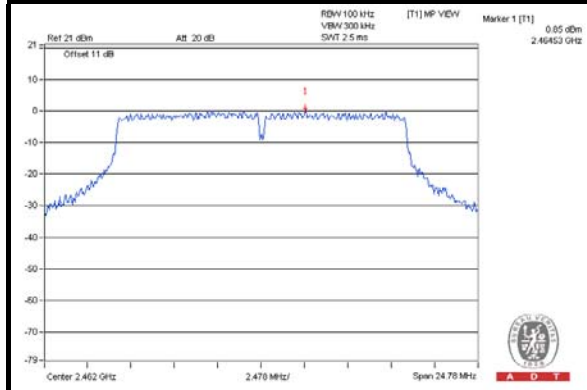
CH 1



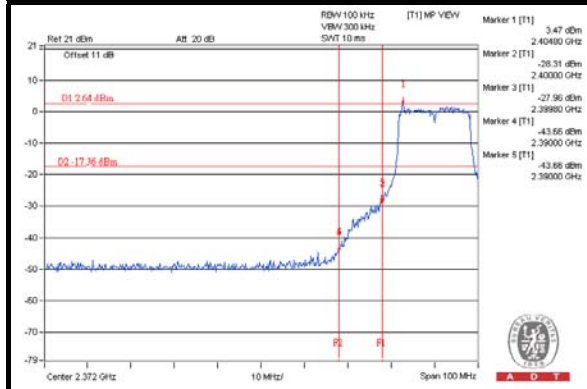
CH 6



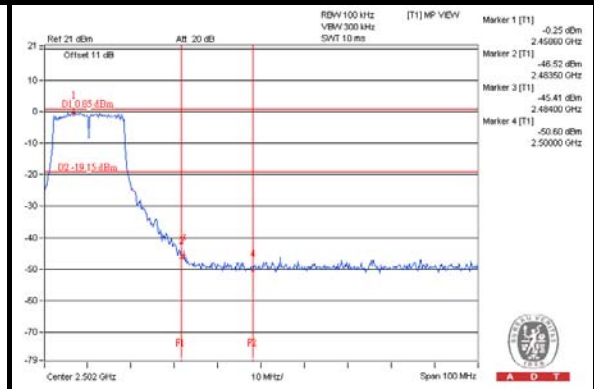
CH 11



CH 1 Band edge



CH 11 Band edge

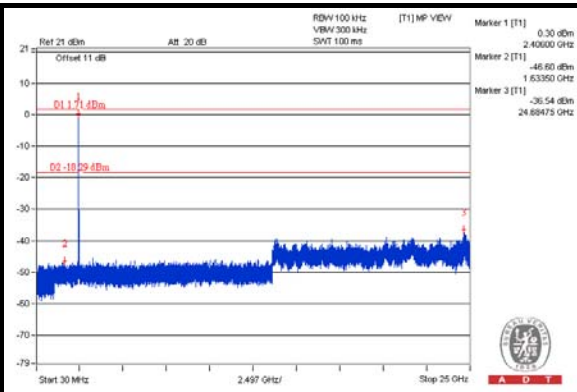
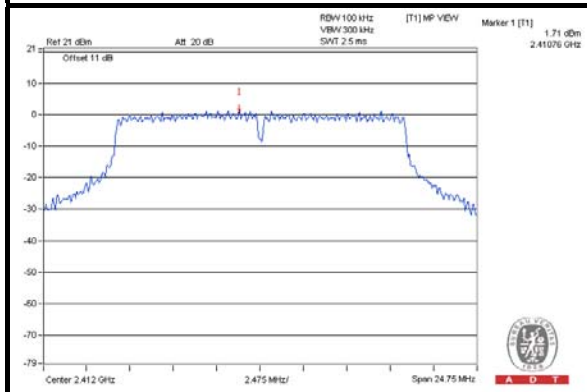




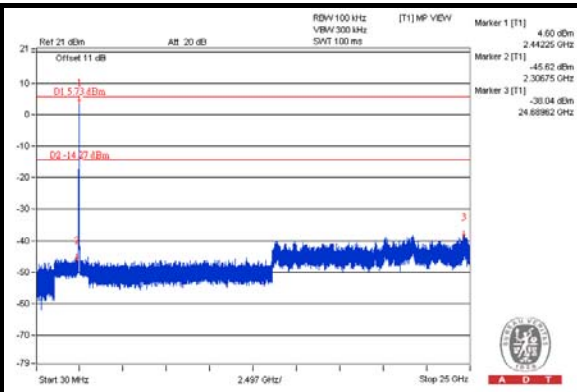
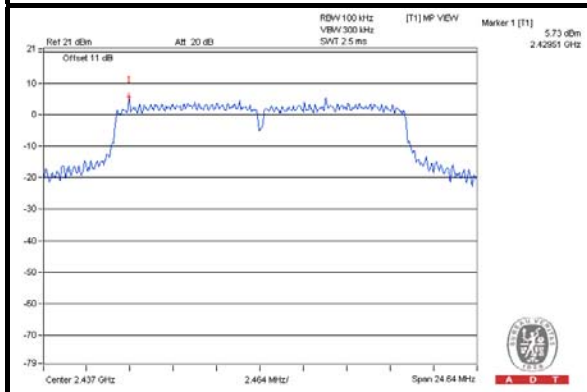
A D T

CHAIN 1

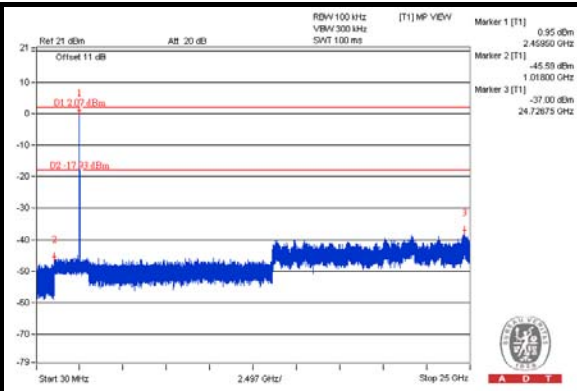
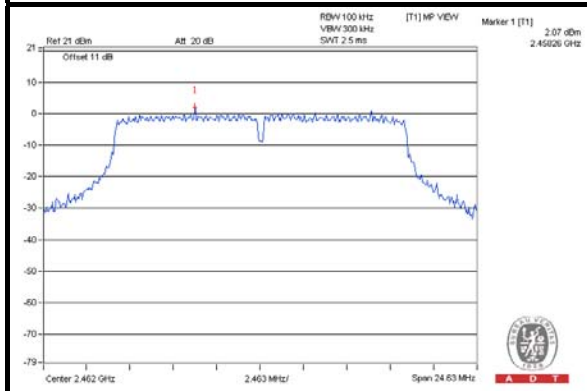
CH 1



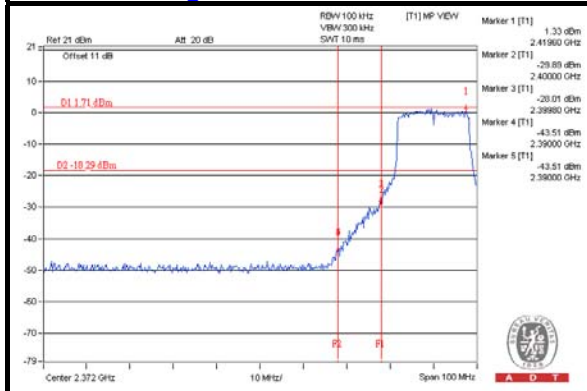
CH 6



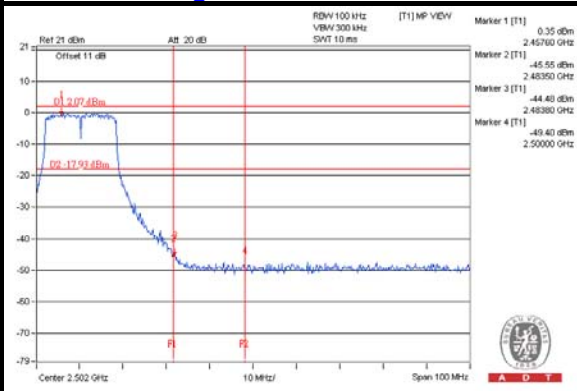
CH 11



CH 1 Band edge



CH 11 Band edge

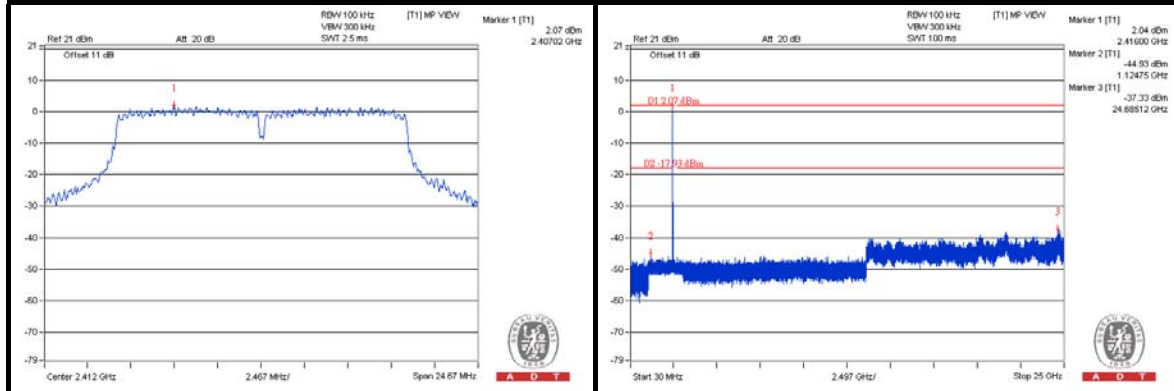




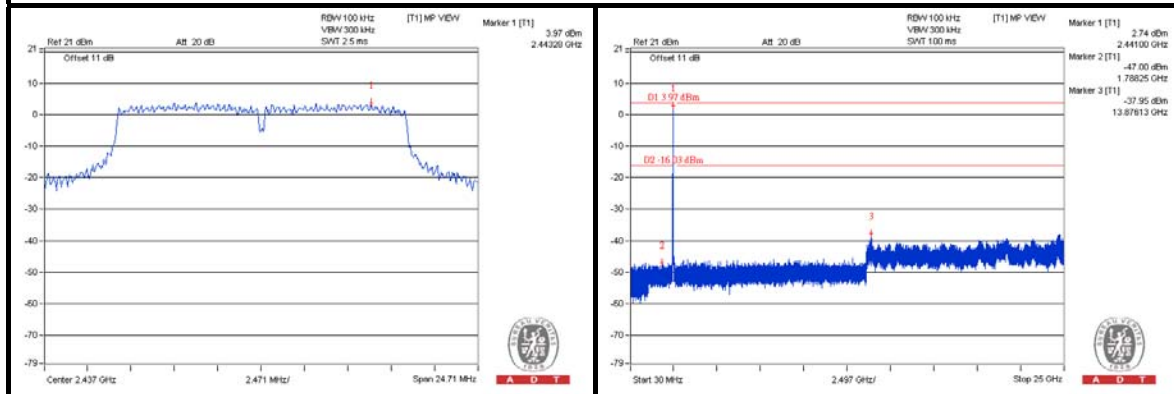
A D T

CHAIN 2

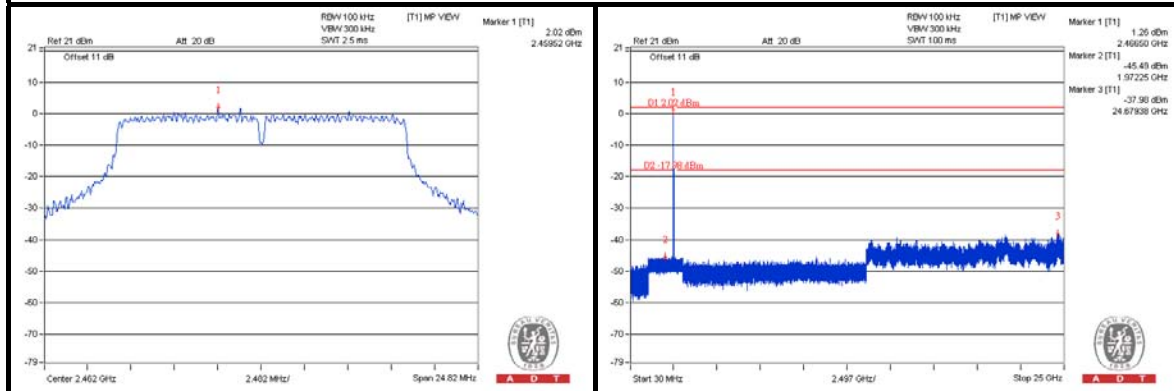
CH 1



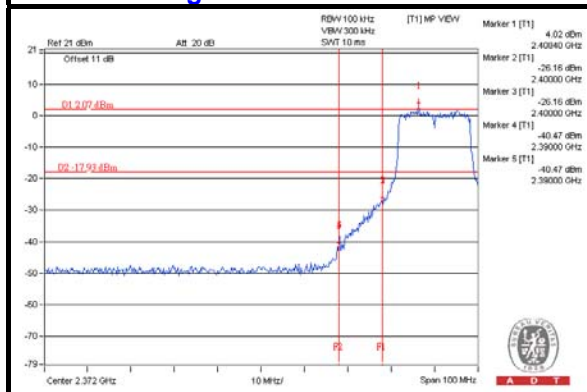
CH 6



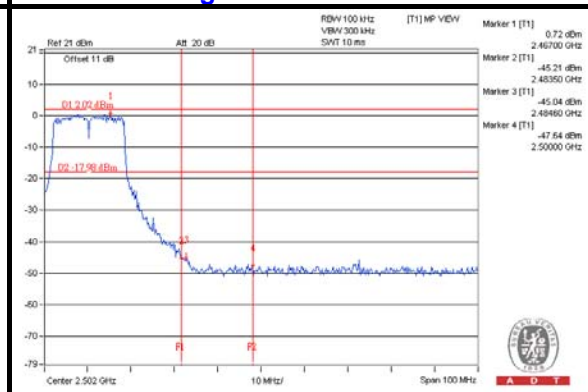
CH 11



CH 1 Band edge



CH 11 Band edge

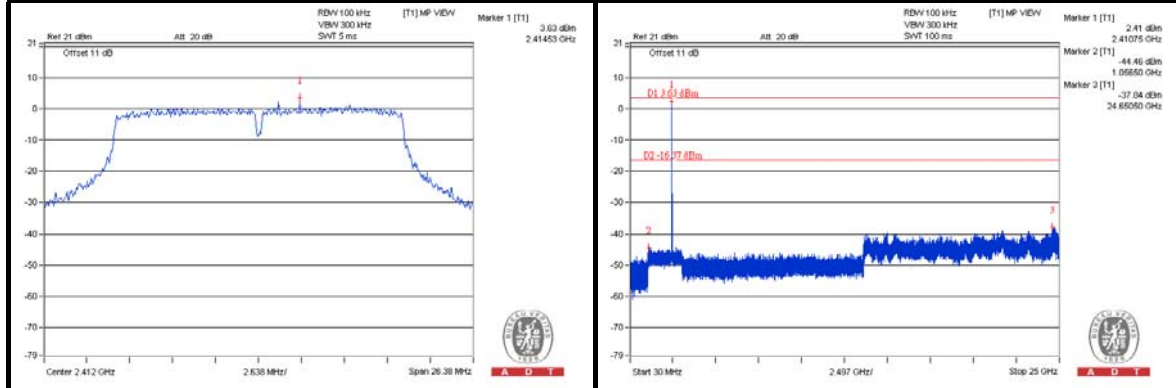




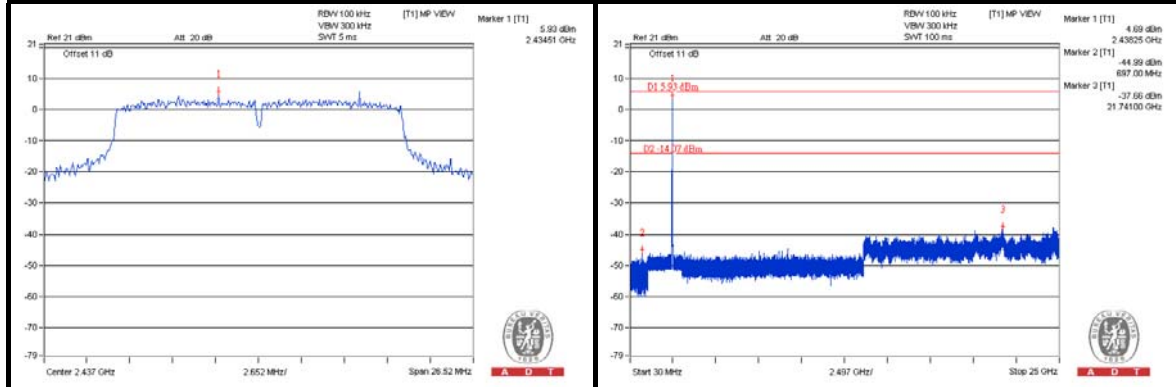
A D T

802.11n (20MHz) CHAIN 0

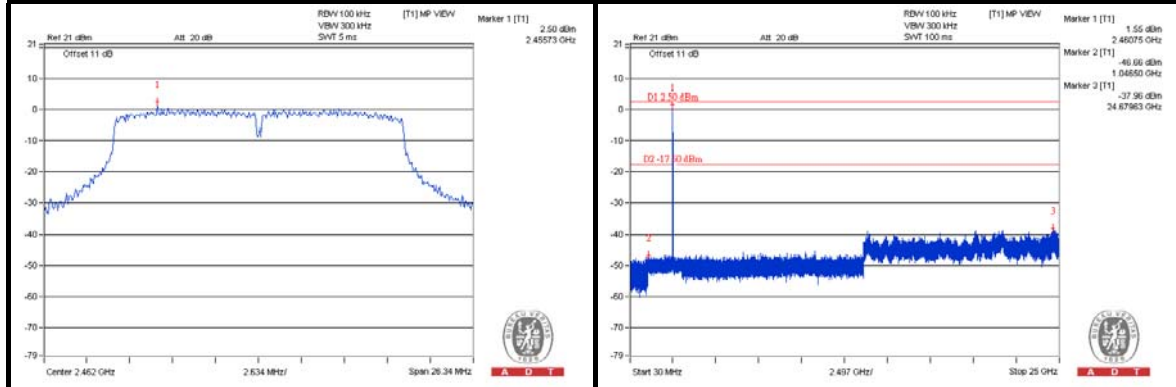
CH 1



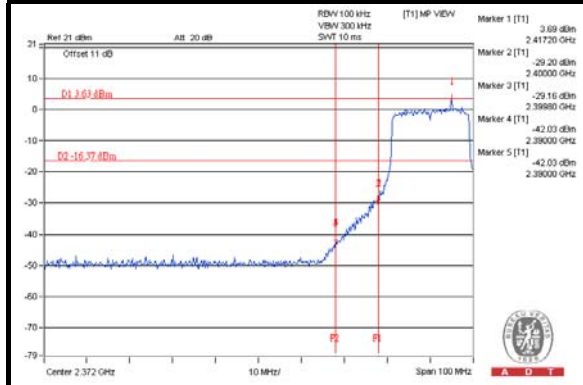
CH 6



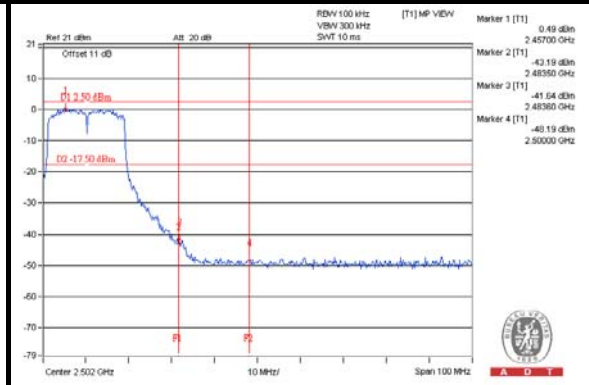
CH 11



CH 1 Band edge



CH 11 Band edge

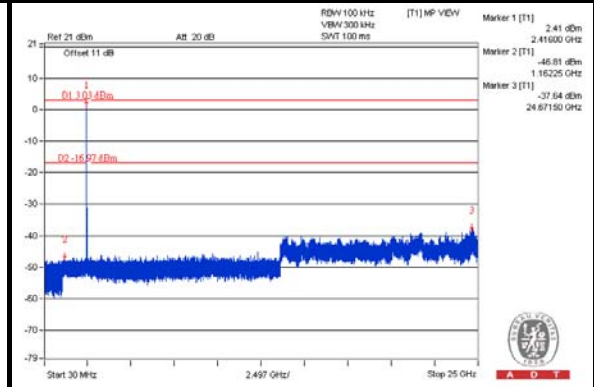
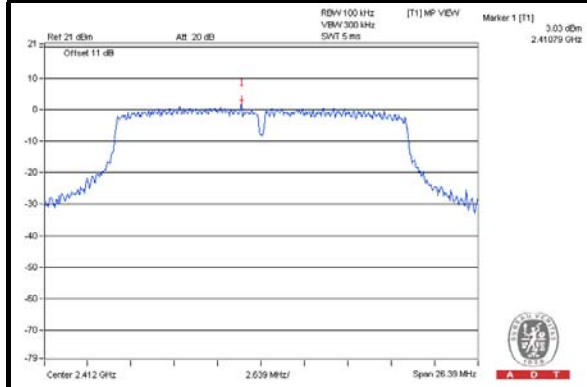




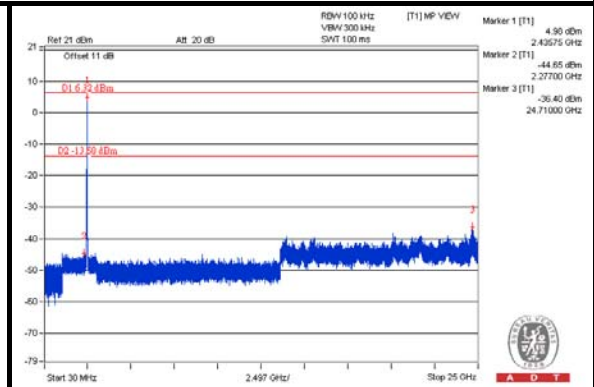
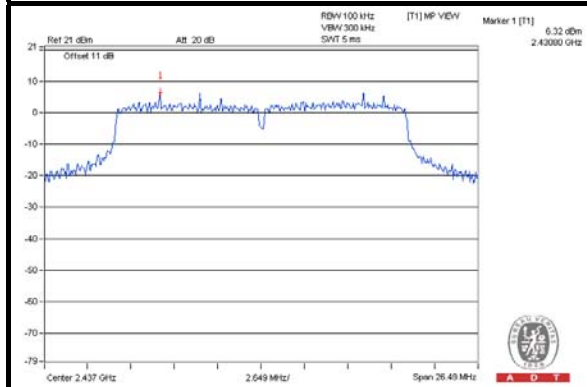
A D T

CHAIN 1

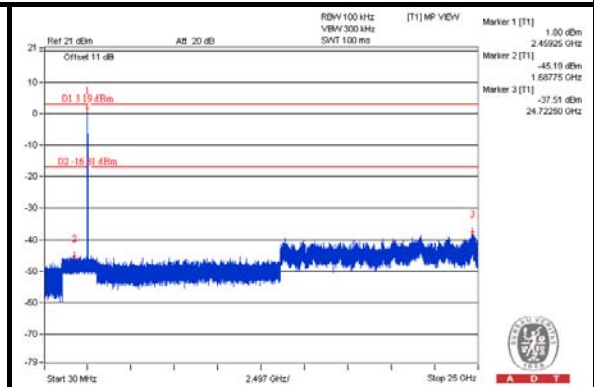
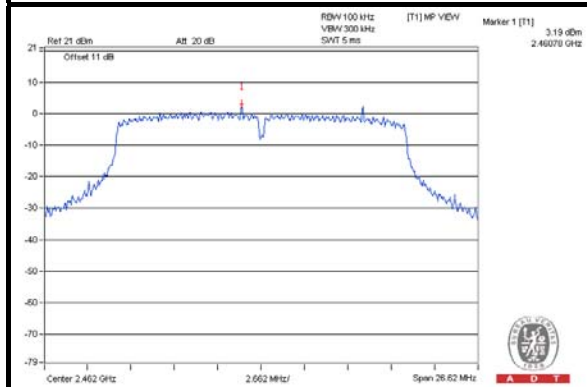
CH 1



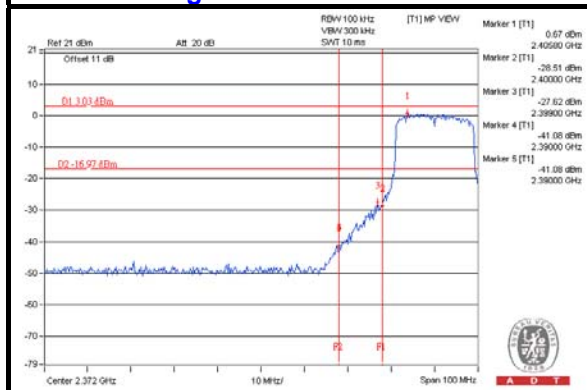
CH 6



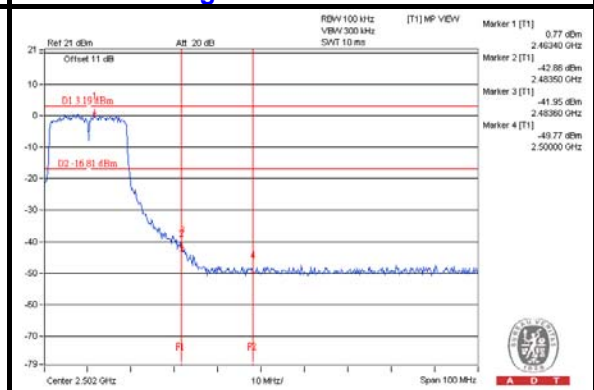
CH 11



CH 1 Band edge



CH 11 Band edge

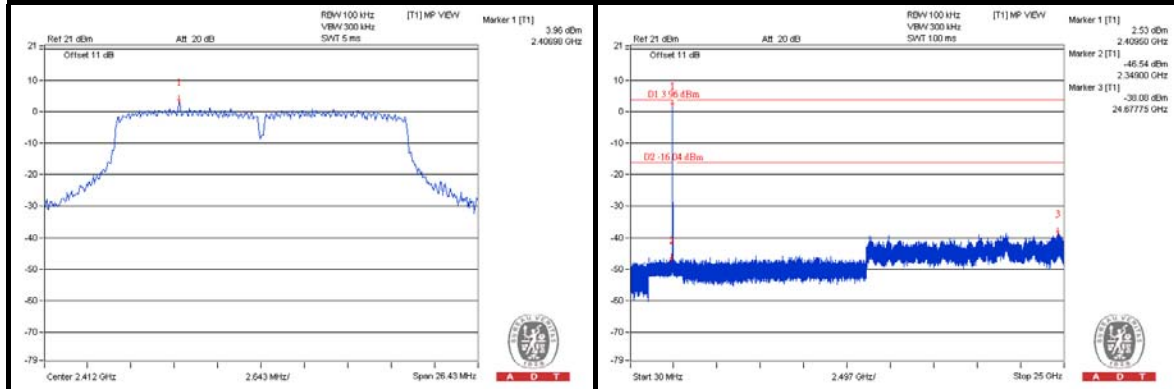




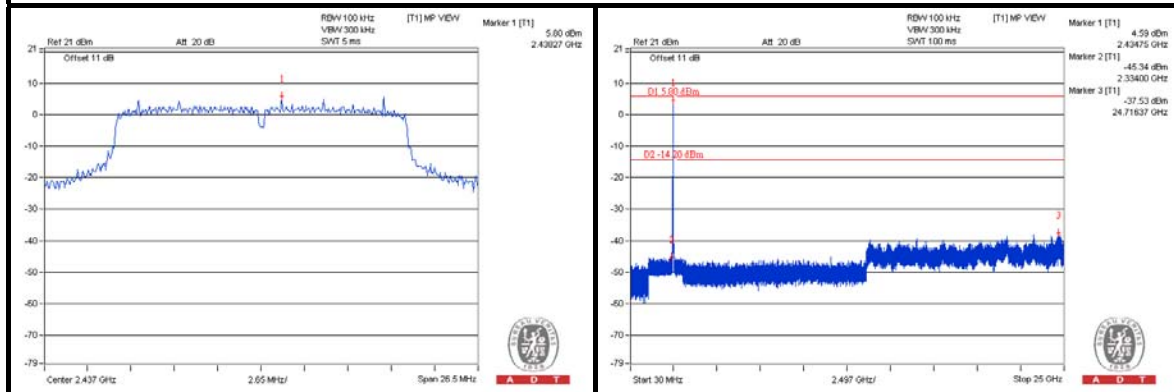
A D T

CHAIN 2

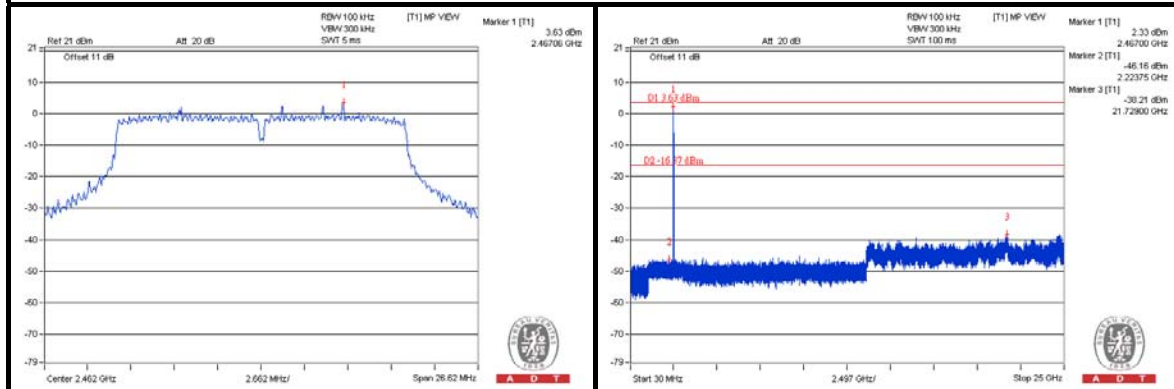
CH 1



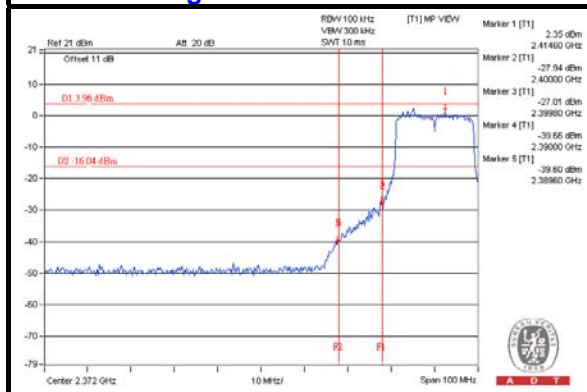
CH 6



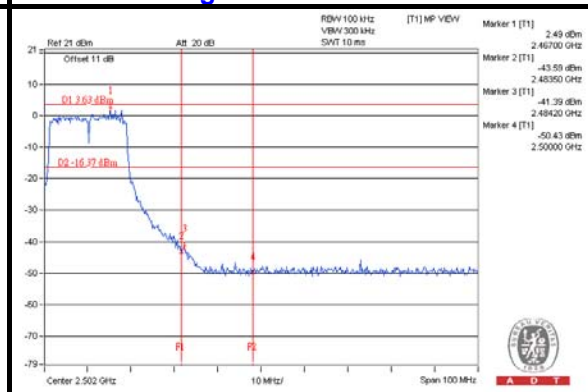
CH 11



CH 1 Band edge



CH 11 Band edge

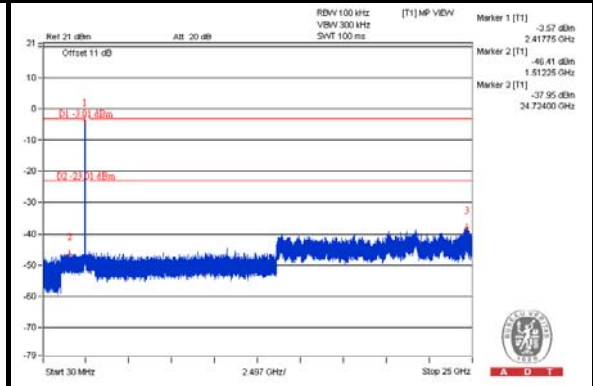
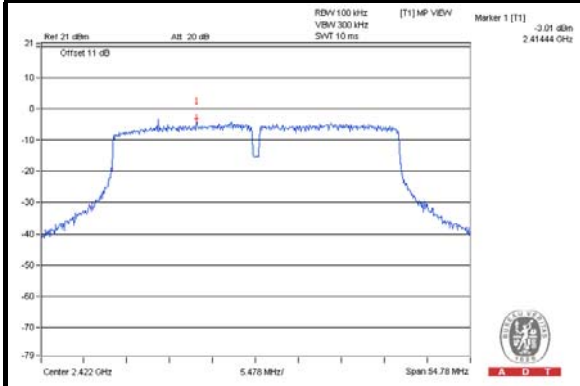




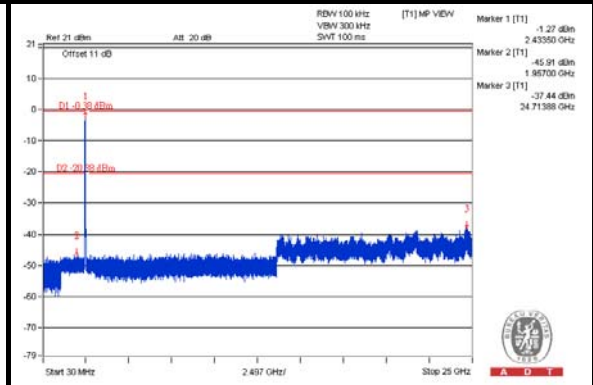
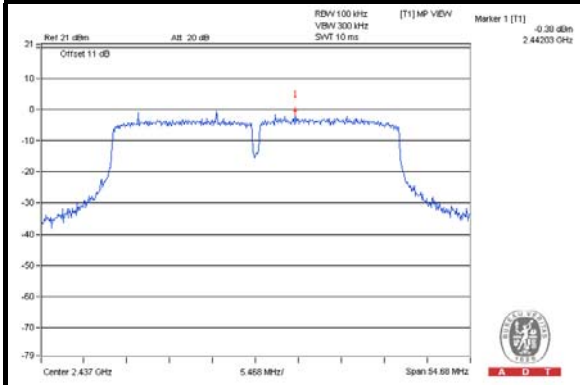
A D T

802.11n (40MHz) CHAIN 0

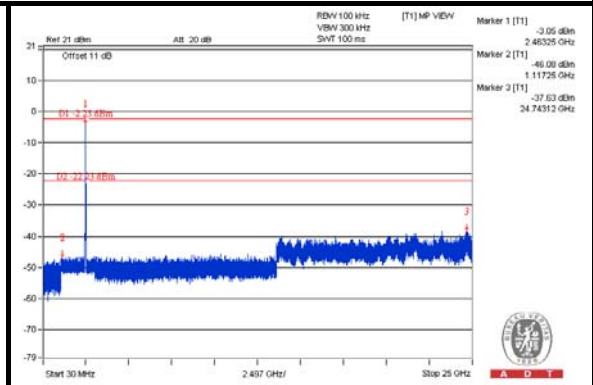
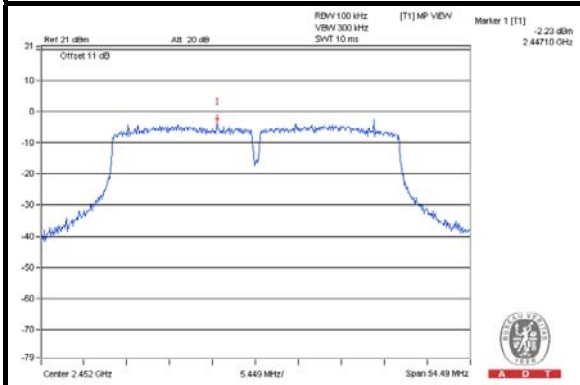
CH 3



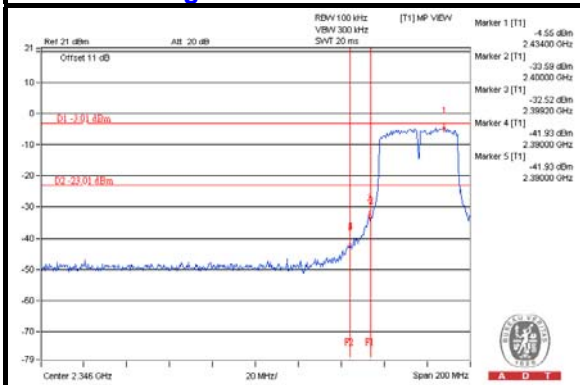
CH 6



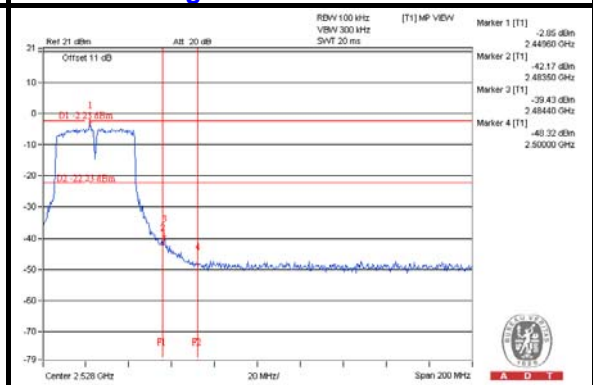
CH 9



CH 3 Band edge



CH 9 Band edge

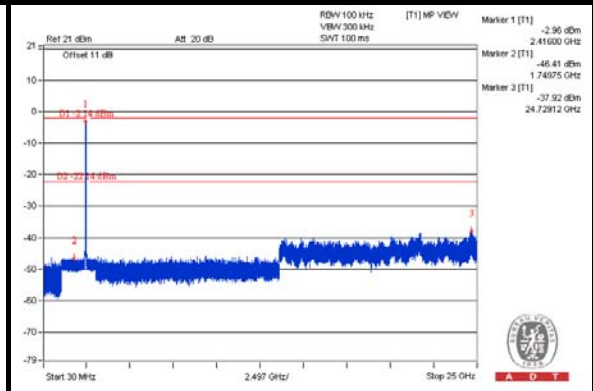
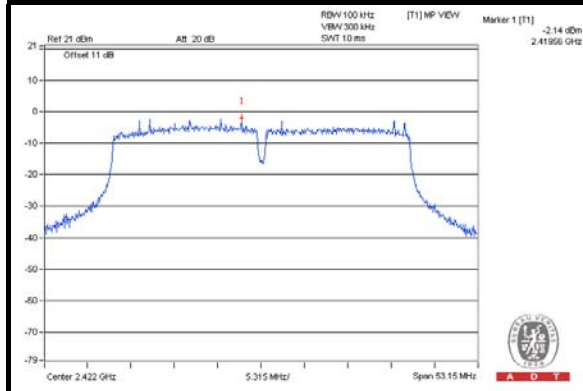




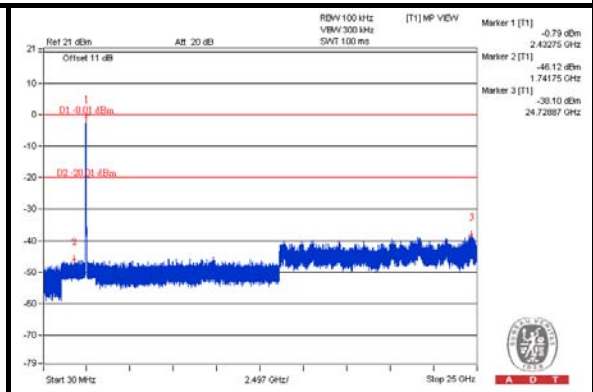
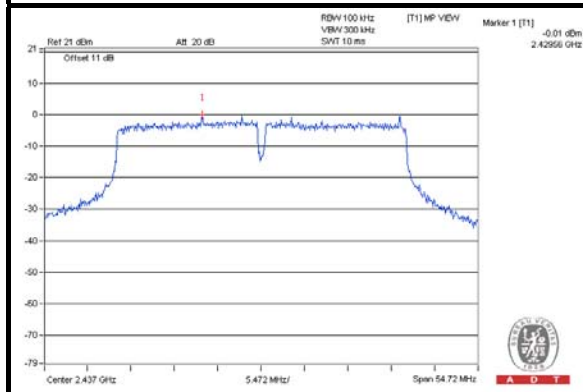
A D T

CHAIN 1

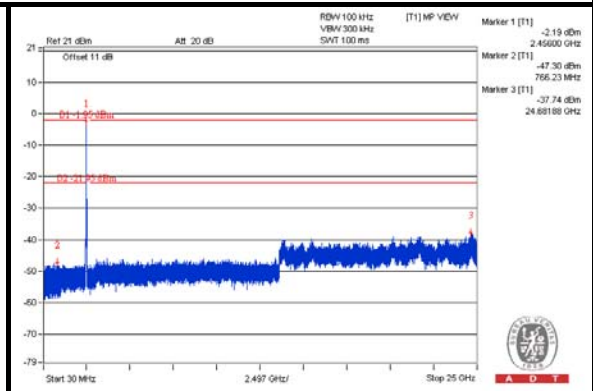
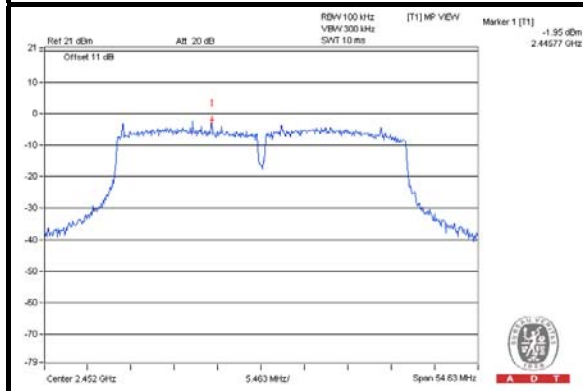
CH 3



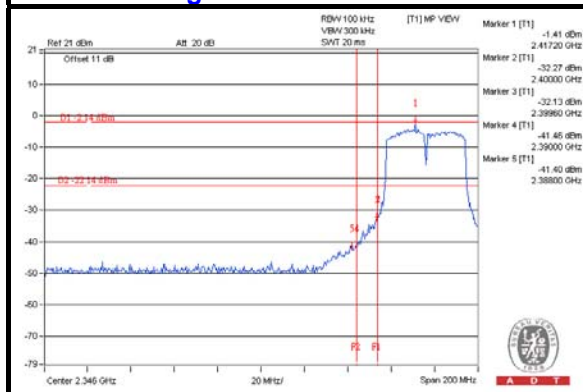
CH 6



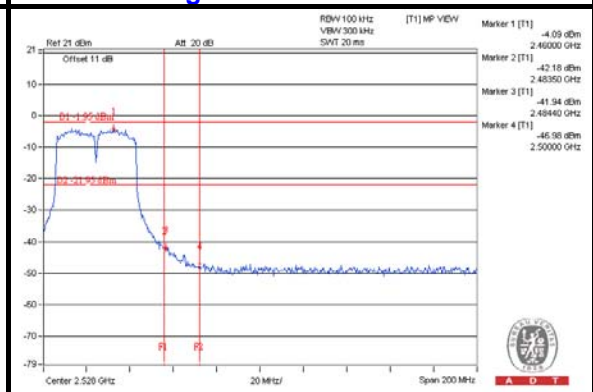
CH 9



CH 3 Band edge



CH 9 Band edge

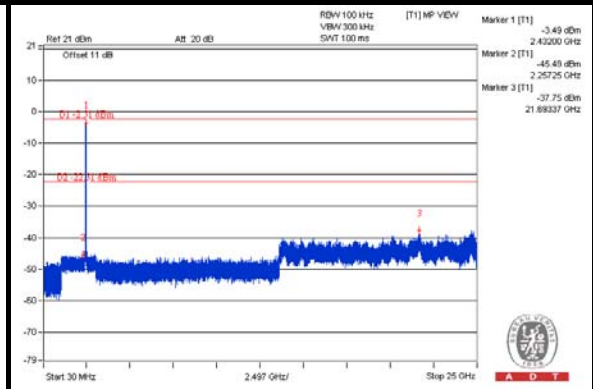
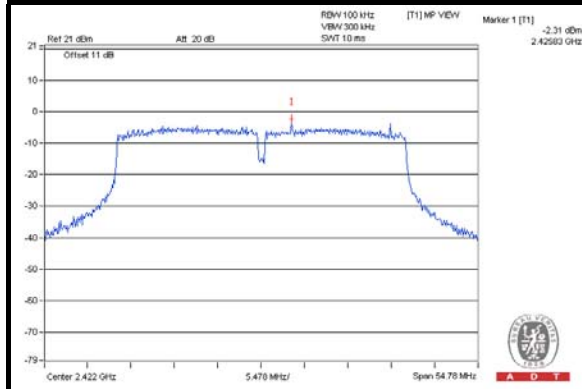




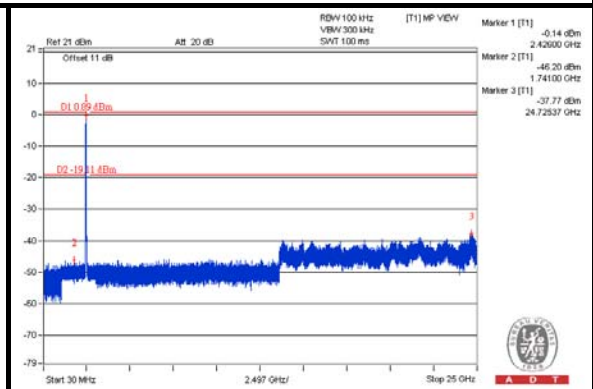
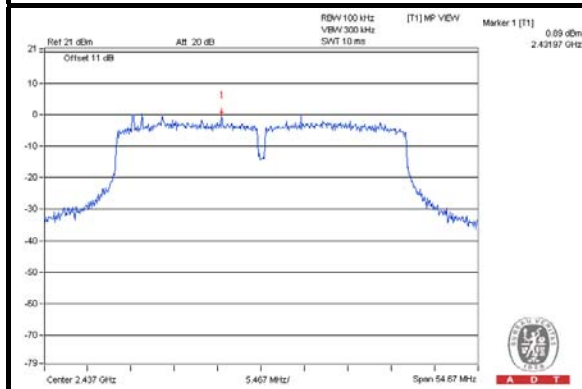
A D T

CHAIN 2

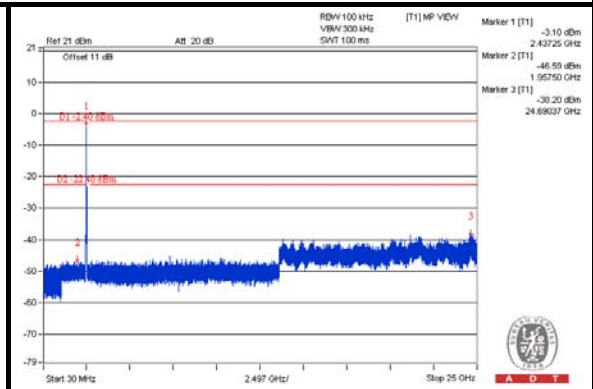
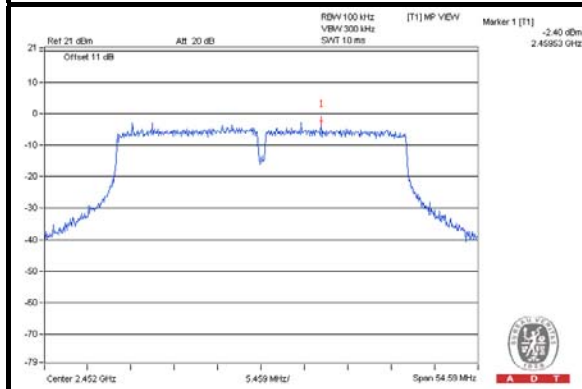
CH 3



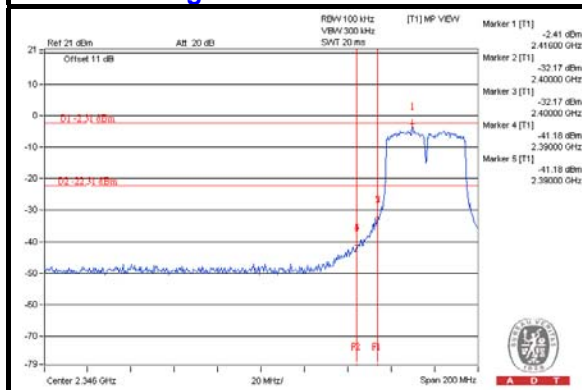
CH 6



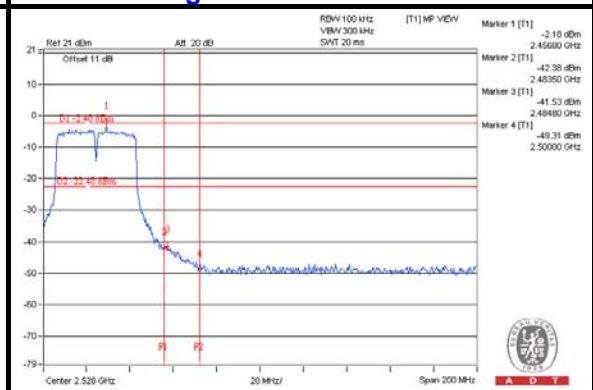
CH 9



CH 3 Band edge



CH 9 Band edge

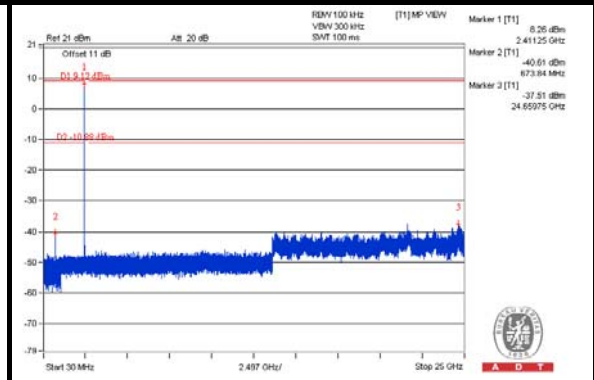
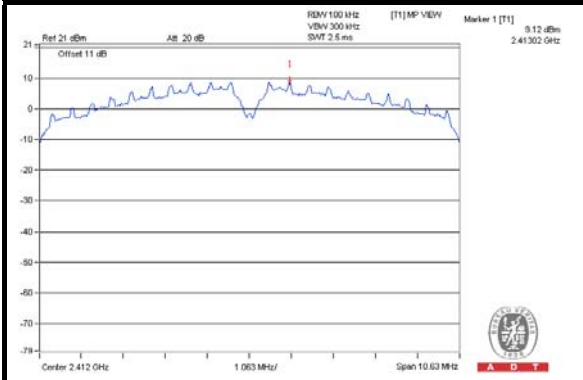




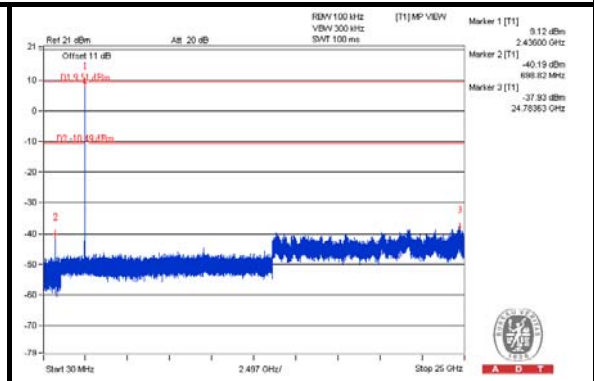
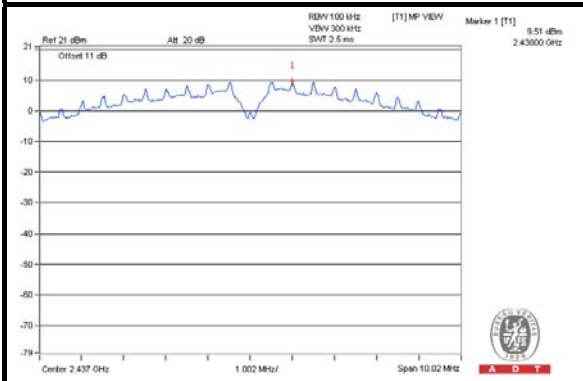
A D T

TEST MODE B 802.11b CHAIN 0

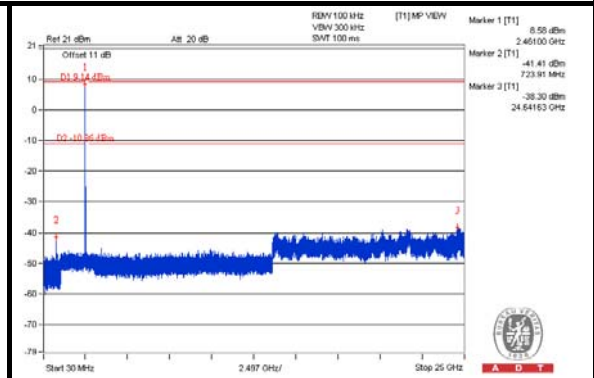
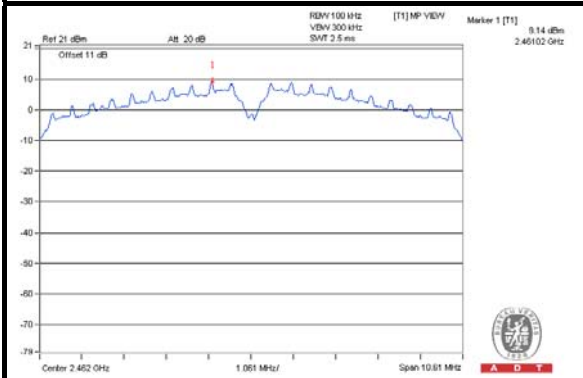
CH 1



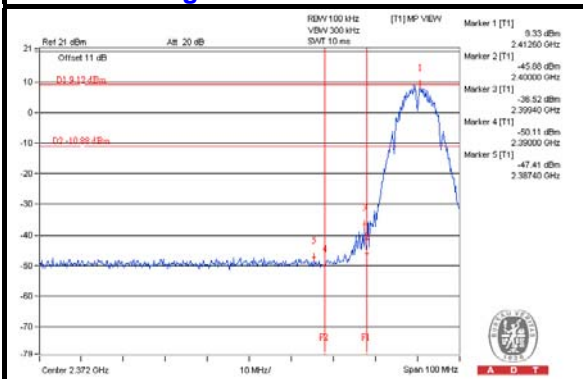
CH 6



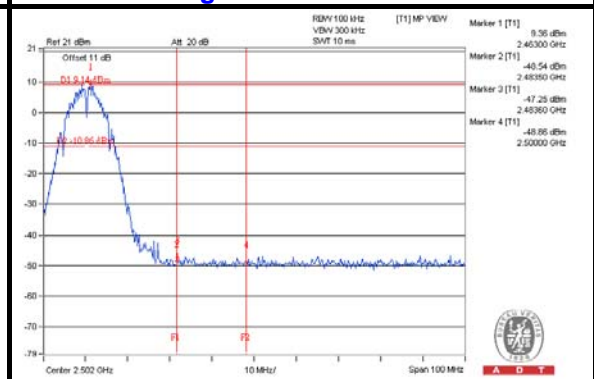
CH 11



CH 1 Band edge



CH 11 Band edge

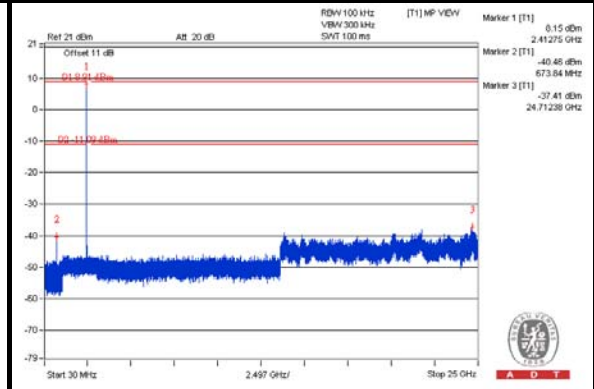
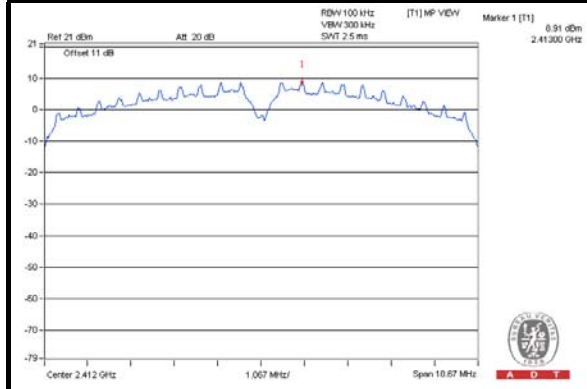




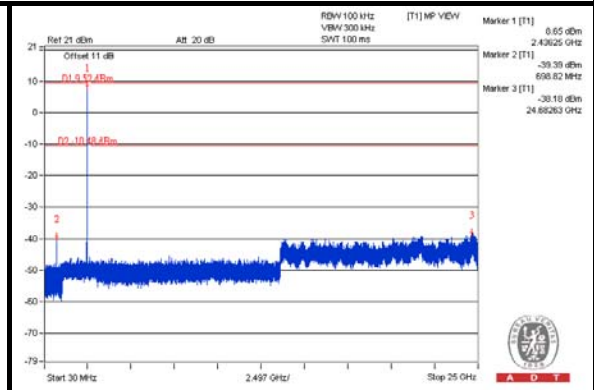
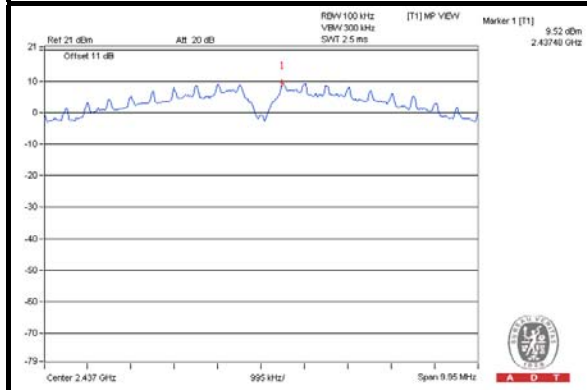
A D T

CHAIN 1

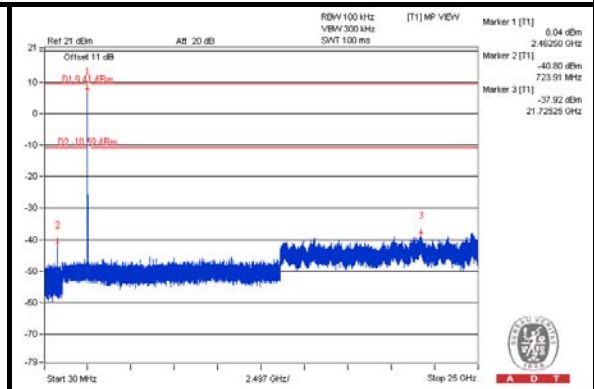
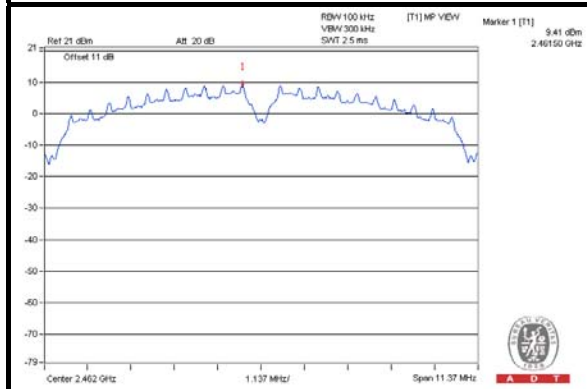
CH 1



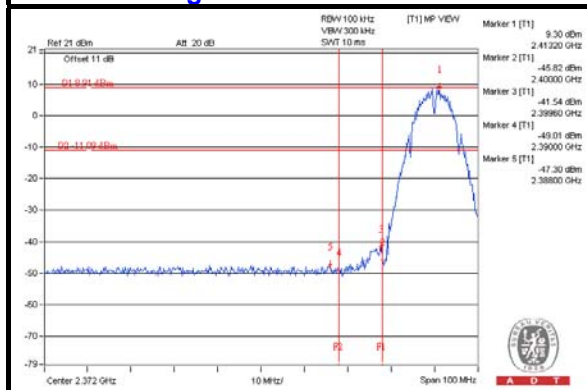
CH 6



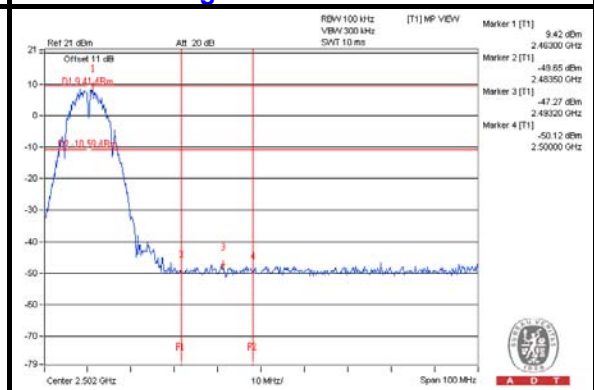
CH 11



CH 1 Band edge



CH 11 Band edge

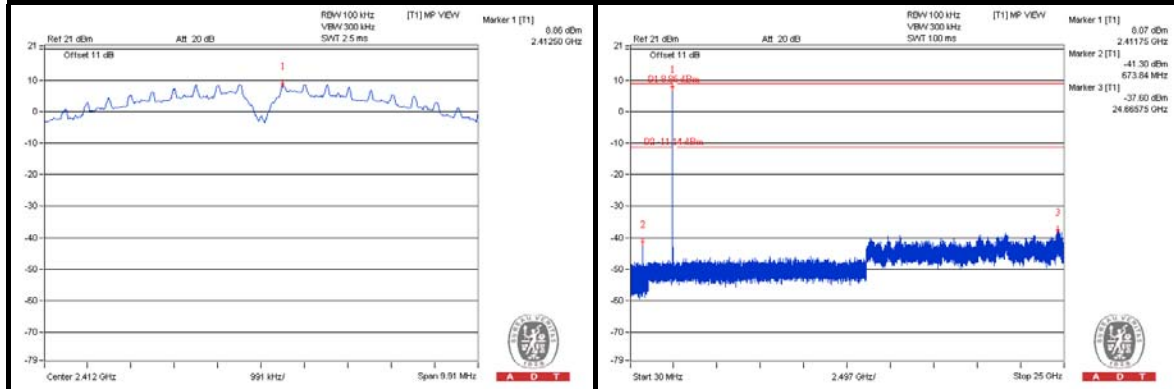




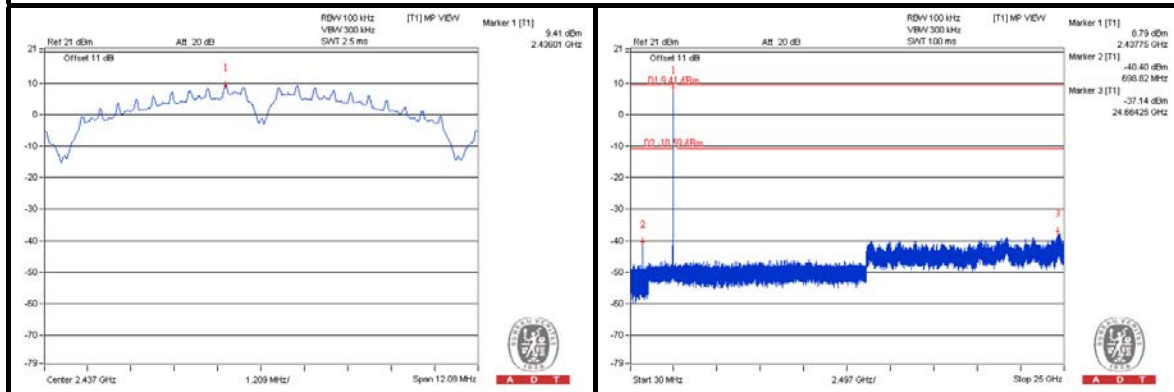
A D T

CHAIN 2

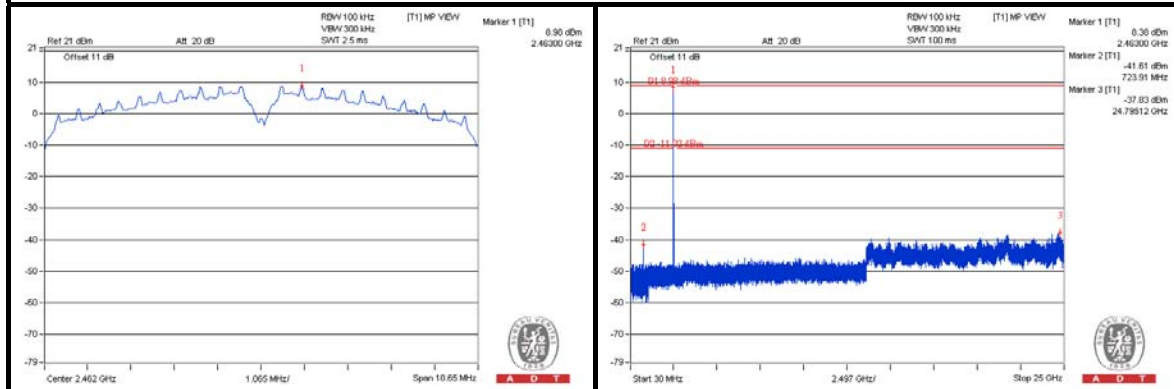
CH 1



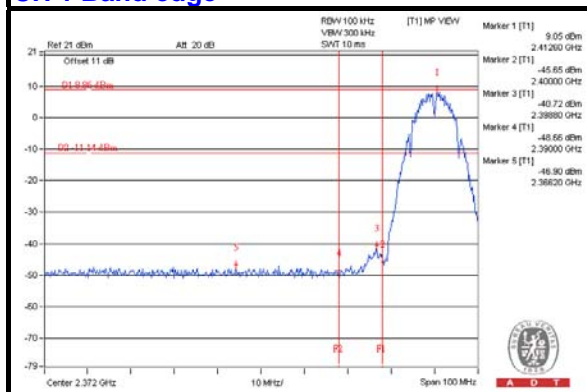
CH 6



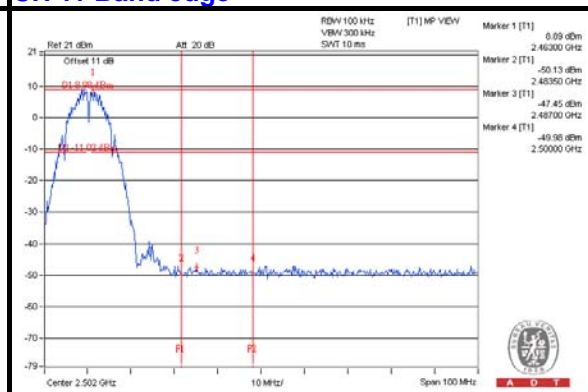
CH 11



CH 1 Band edge



CH 11 Band edge

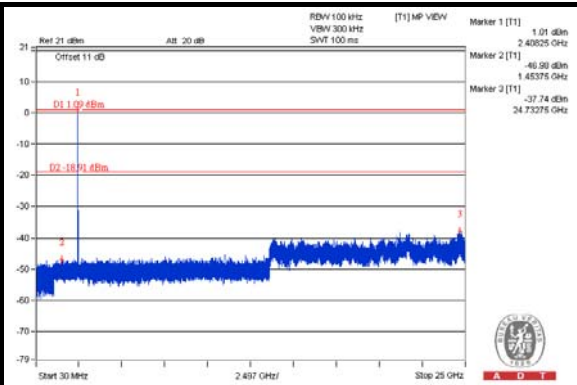
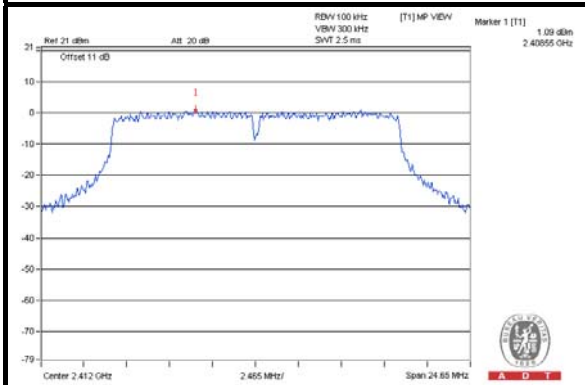




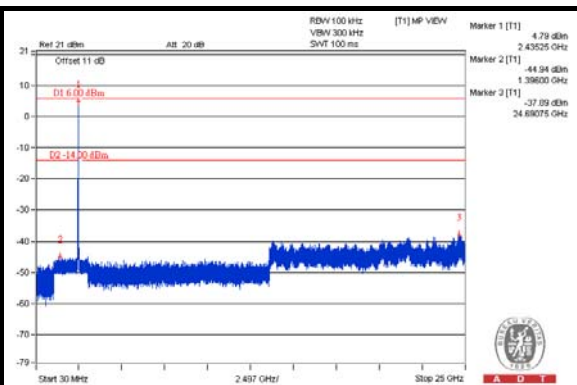
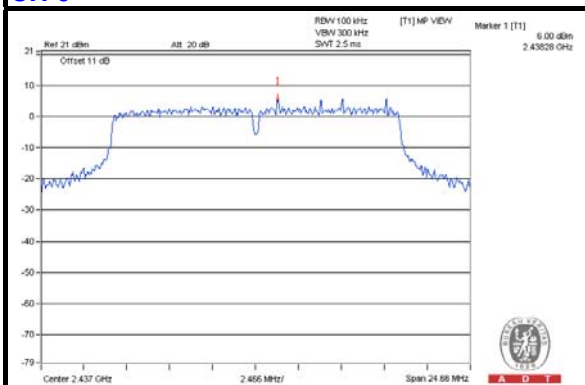
A D T

802.11g CHAIN 0

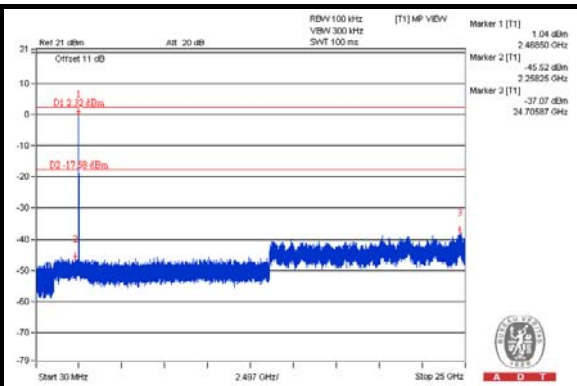
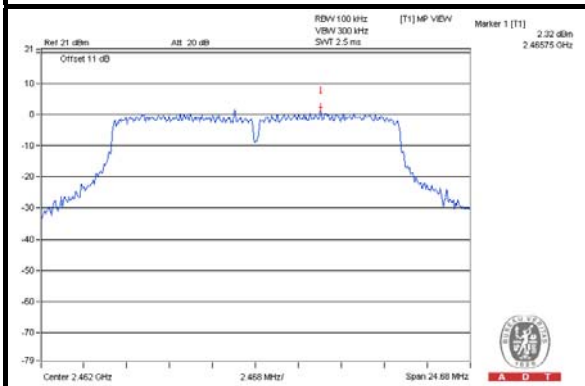
CH 1



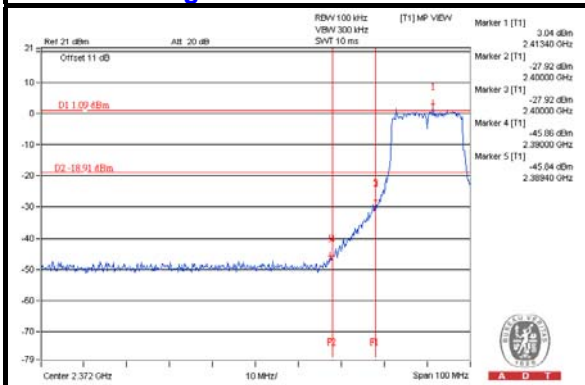
CH 6



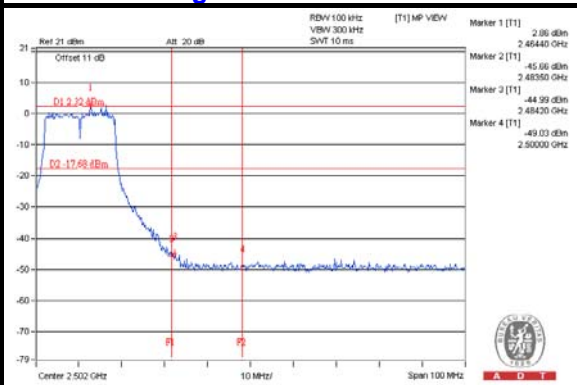
CH 11



CH 1 Band edge



CH 11 Band edge

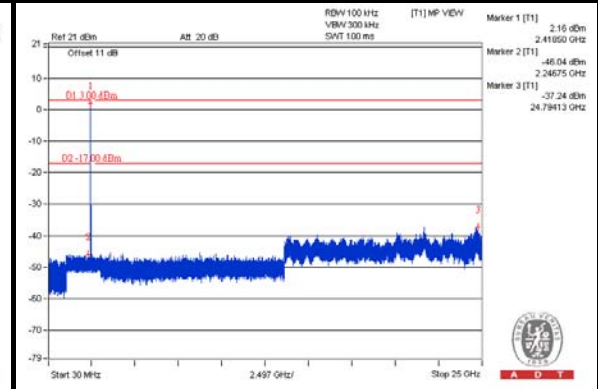
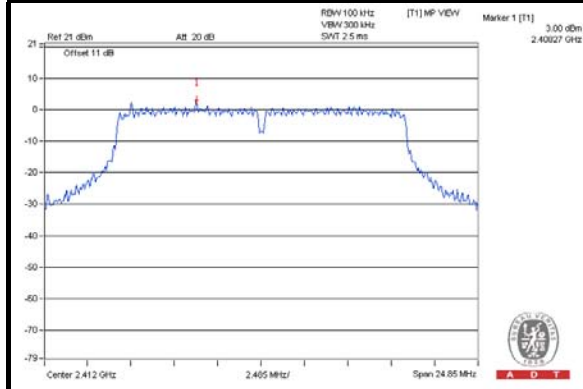




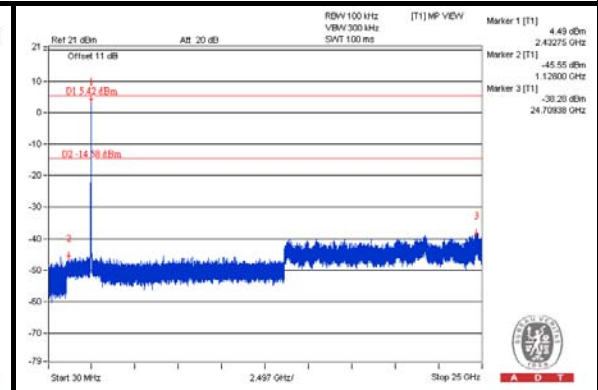
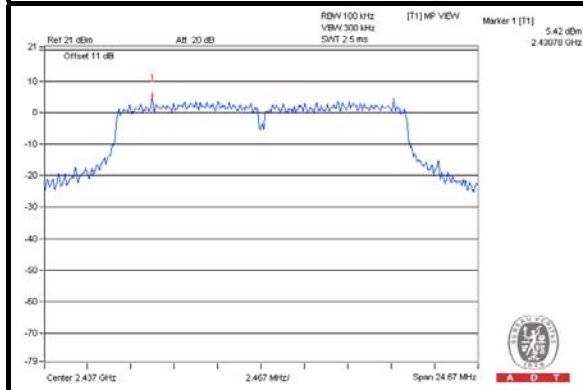
A D T

CHAIN 1

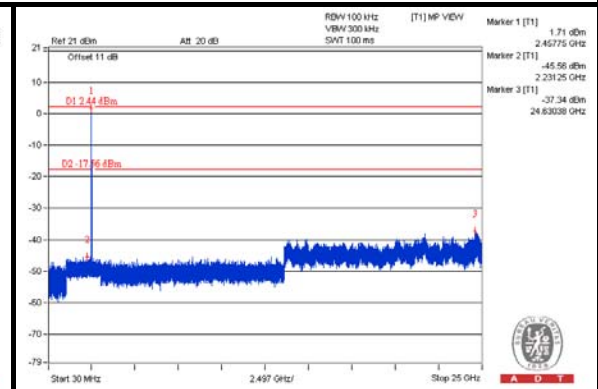
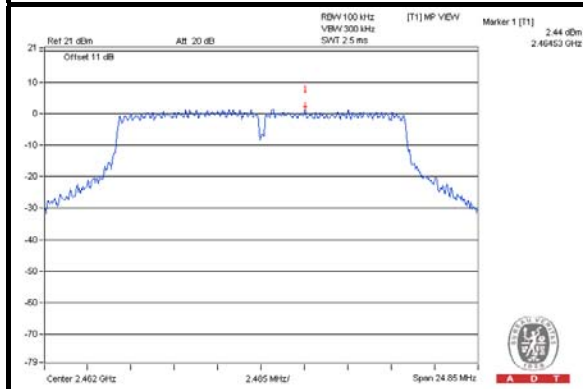
CH 1



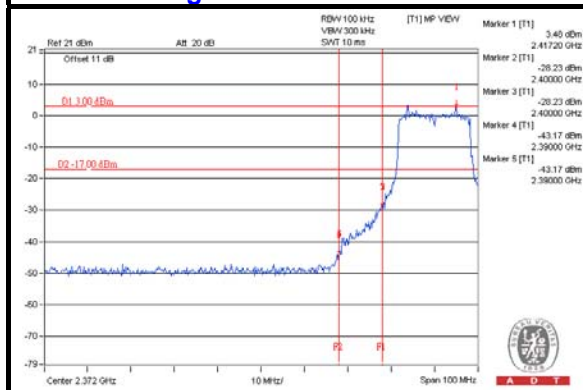
CH 6



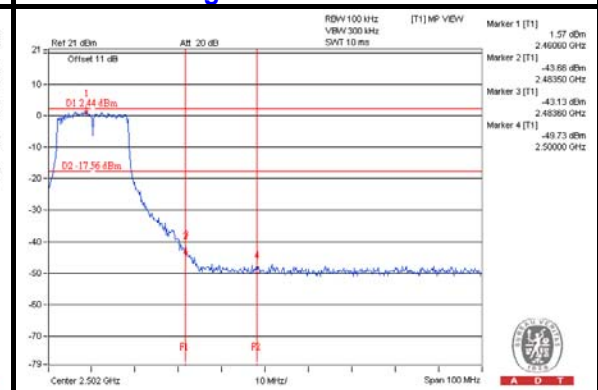
CH 11



CH 1 Band edge



CH 11 Band edge

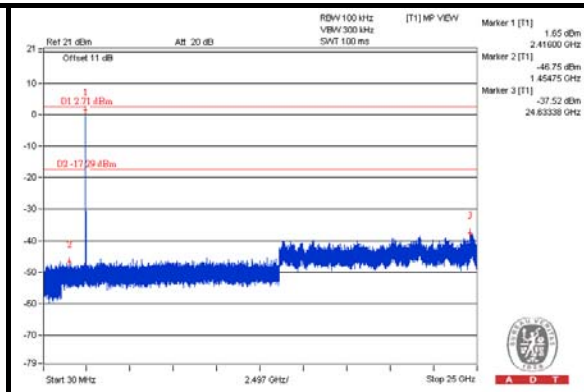
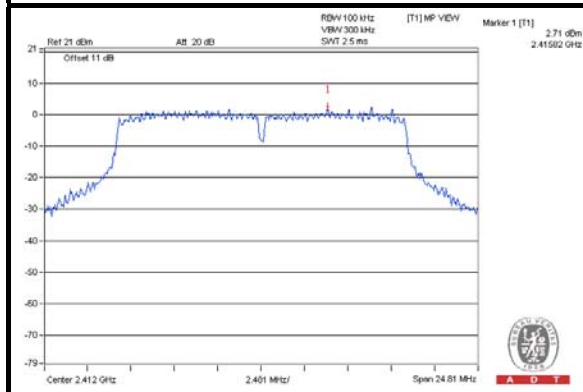




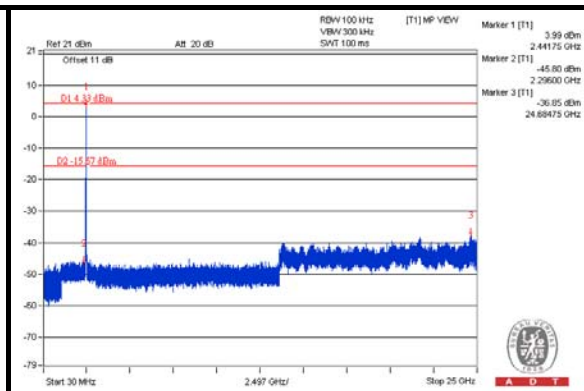
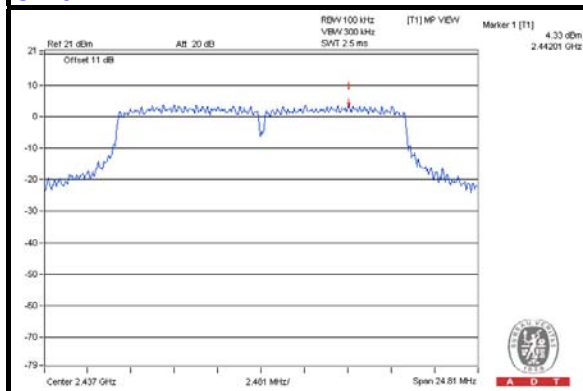
A D T

CHAIN 2

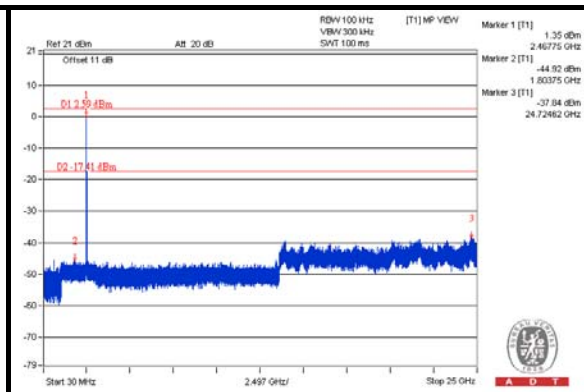
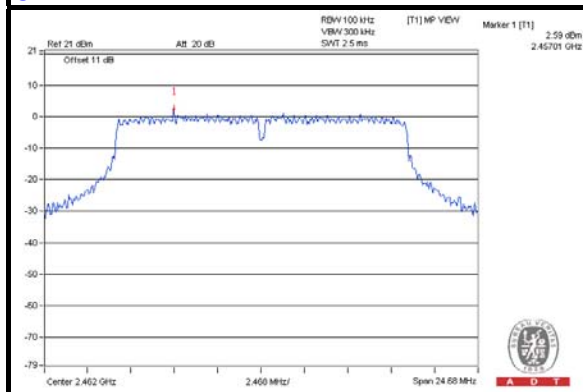
CH 1



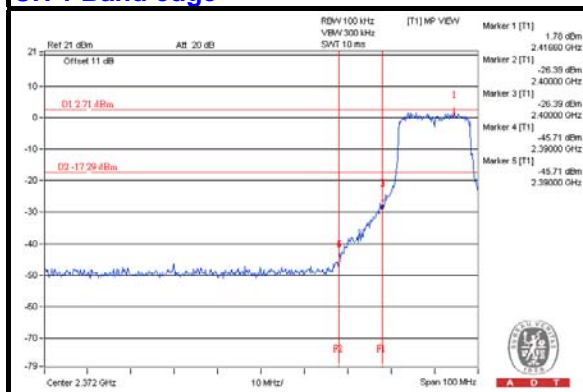
CH 6



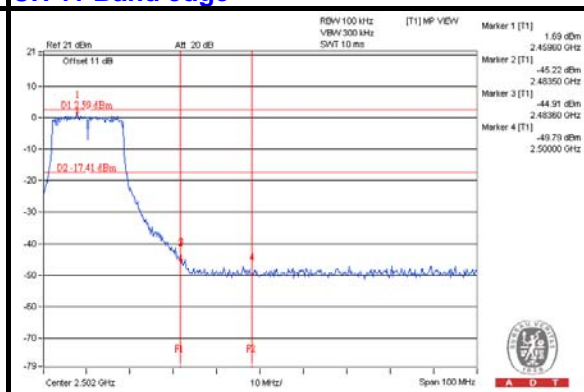
CH 11



CH 1 Band edge



CH 11 Band edge

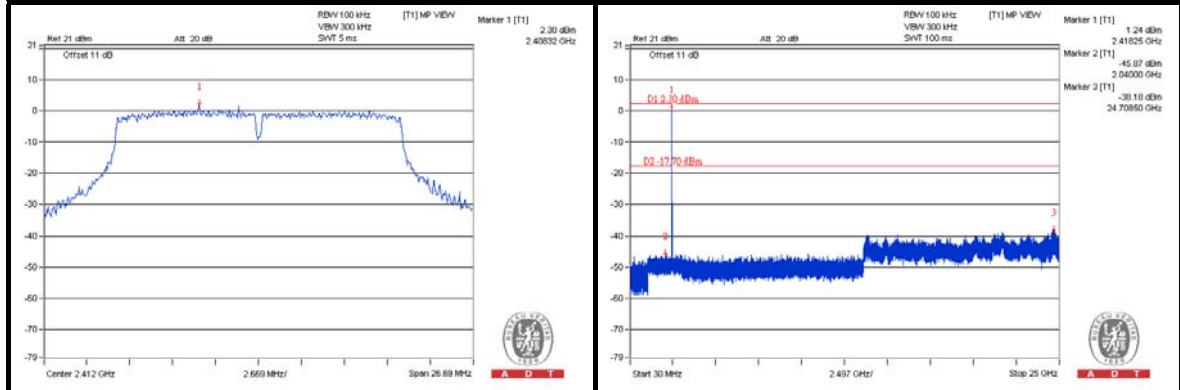




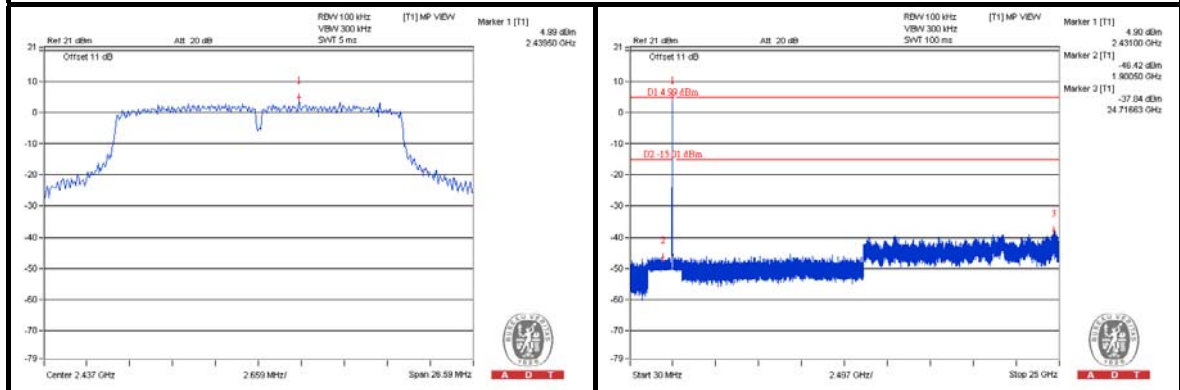
A D T

802.11n (20MHz) CHAIN 0

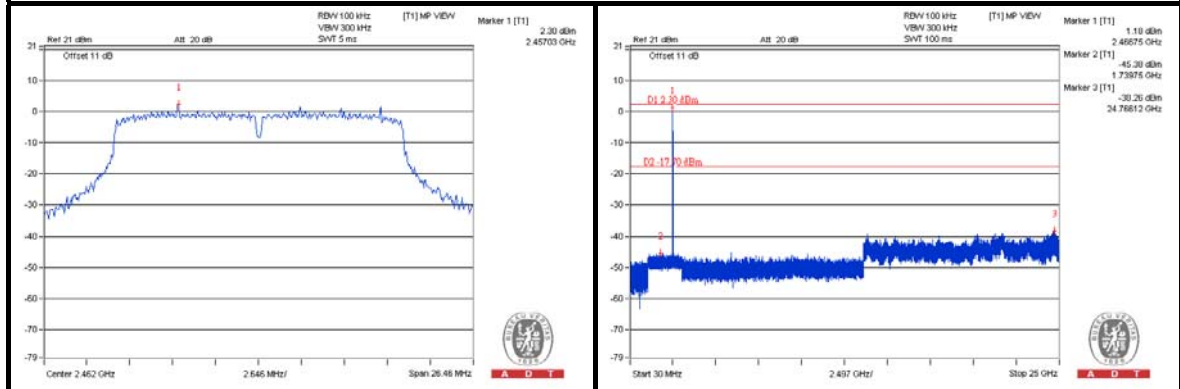
CH 1



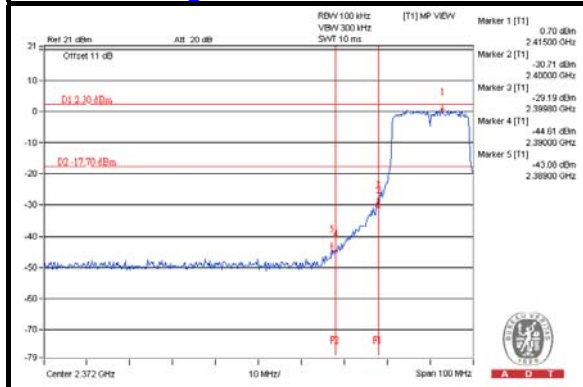
CH 6



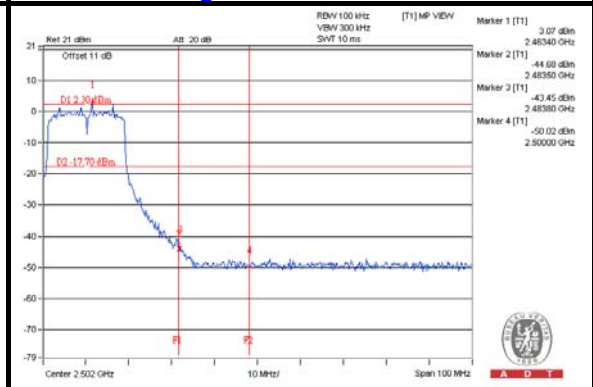
CH 11



CH 1 Band edge



CH 11 Band edge

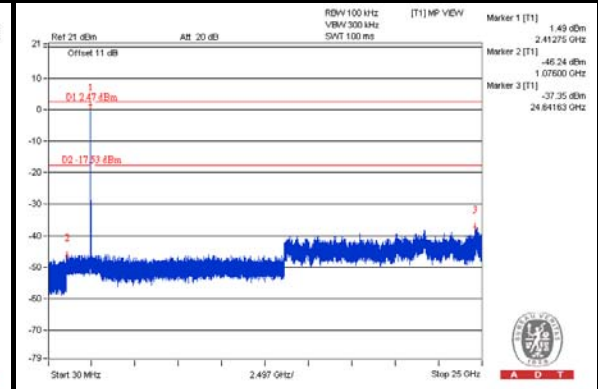
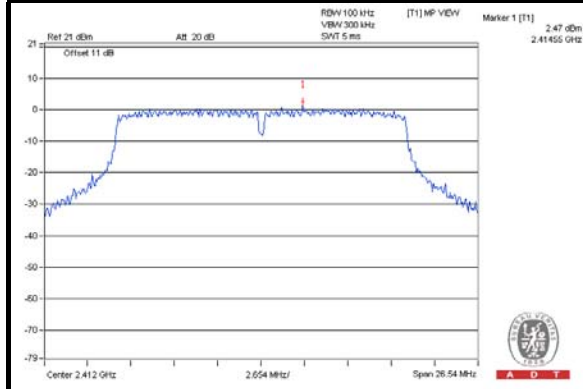




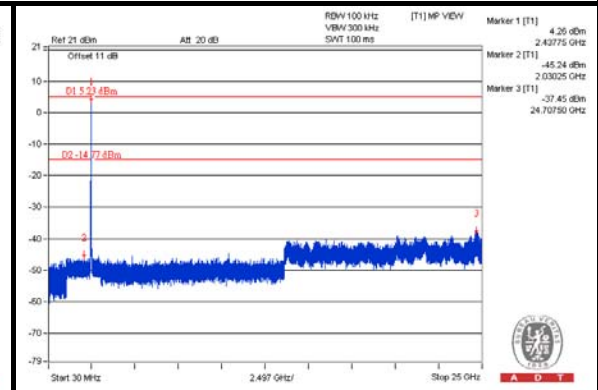
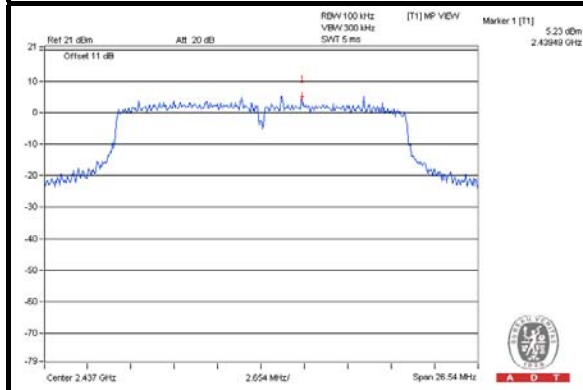
A D T

CHAIN 1

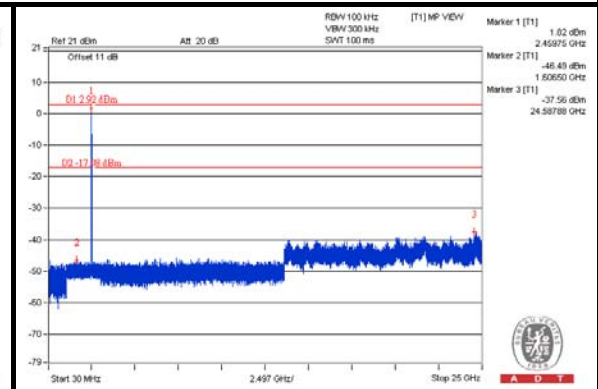
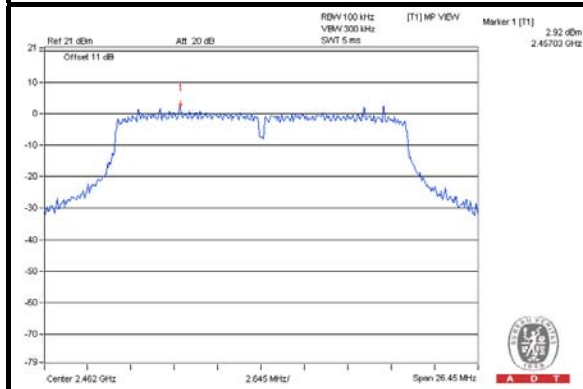
CH 1



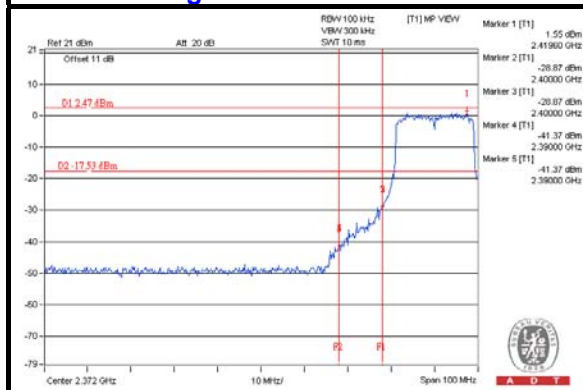
CH 6



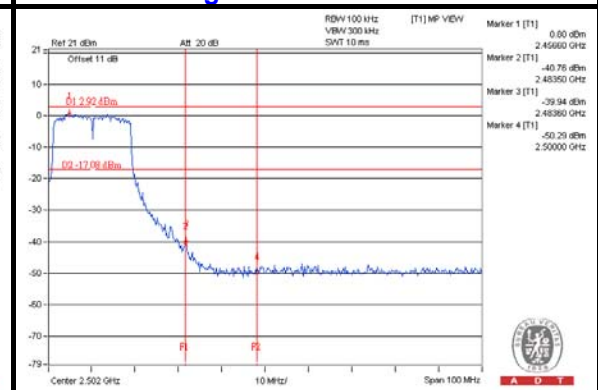
CH 11



CH 1 Band edge



CH 11 Band edge

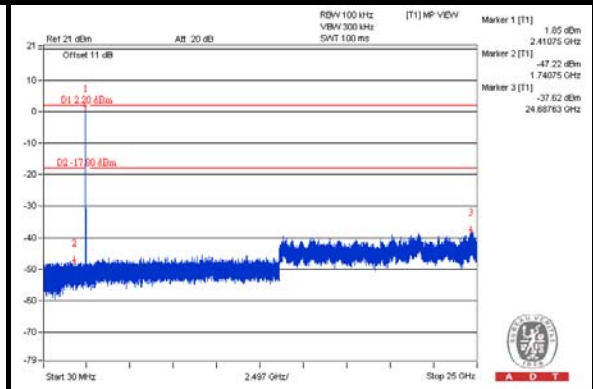
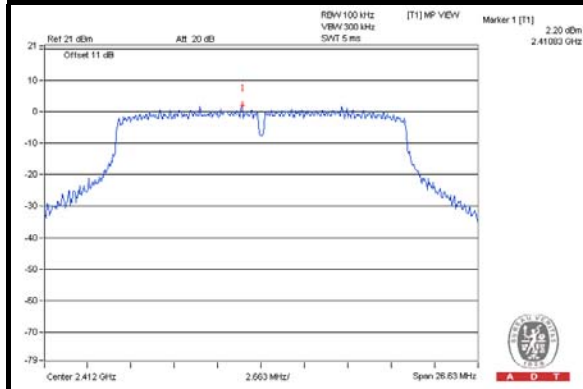




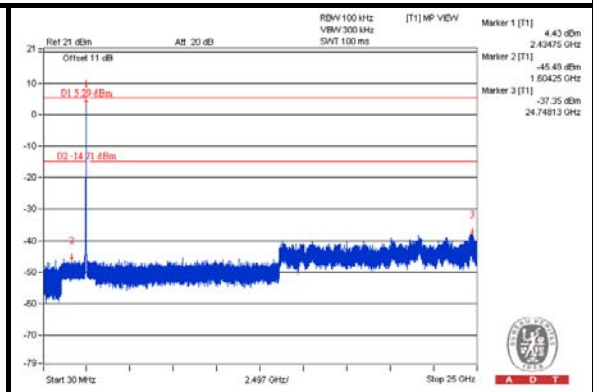
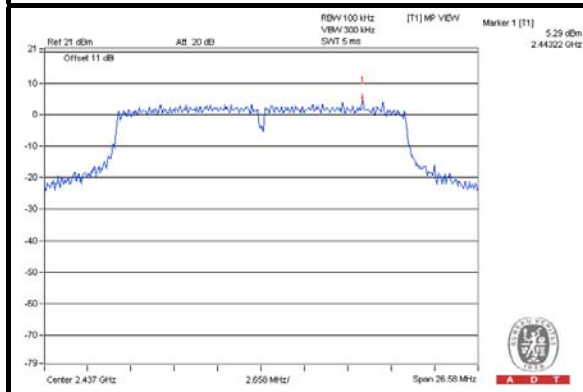
A D T

CHAIN 2

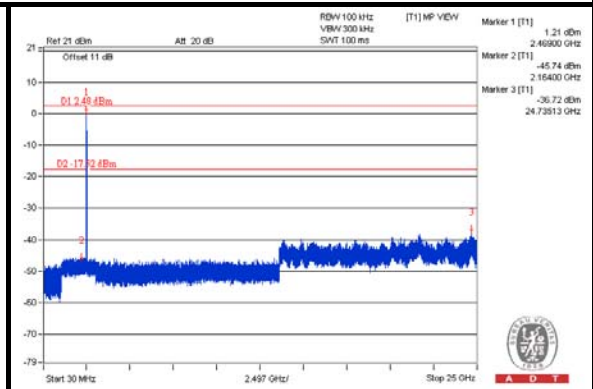
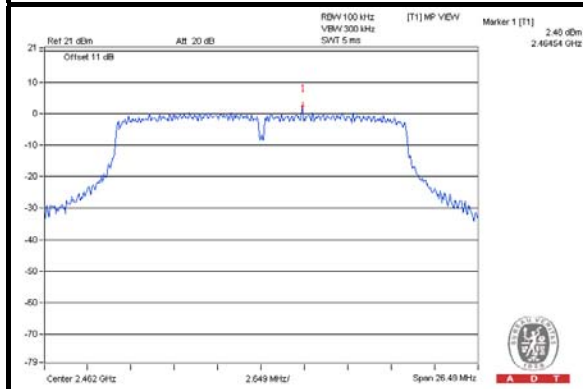
CH 1



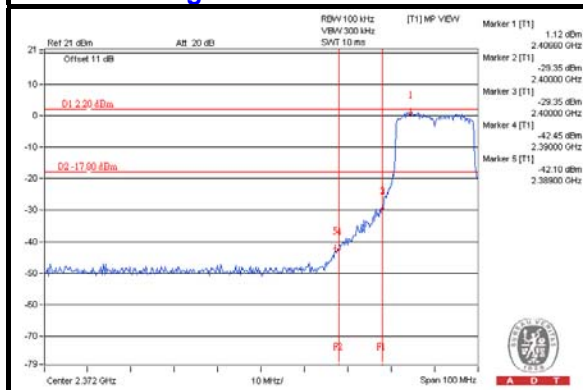
CH 6



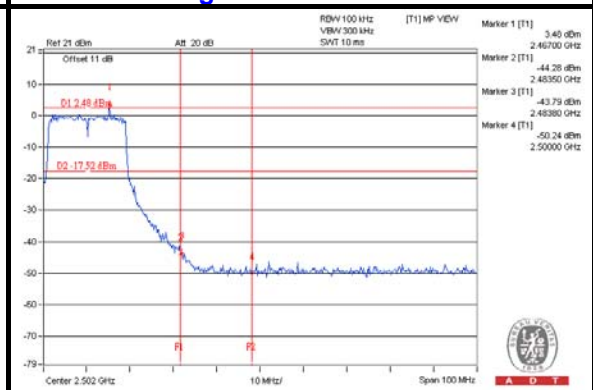
CH 11



CH 1 Band edge



CH 11 Band edge

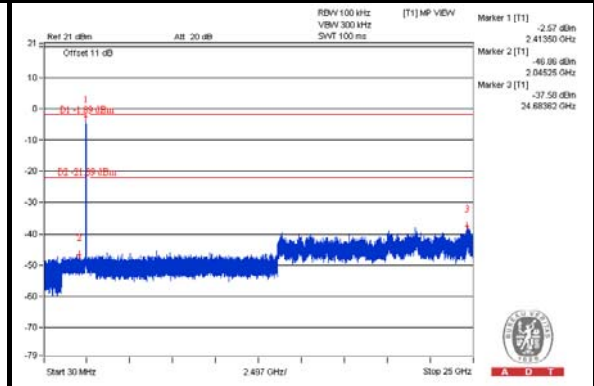
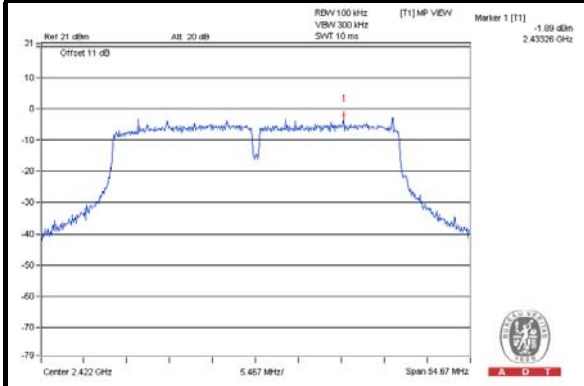




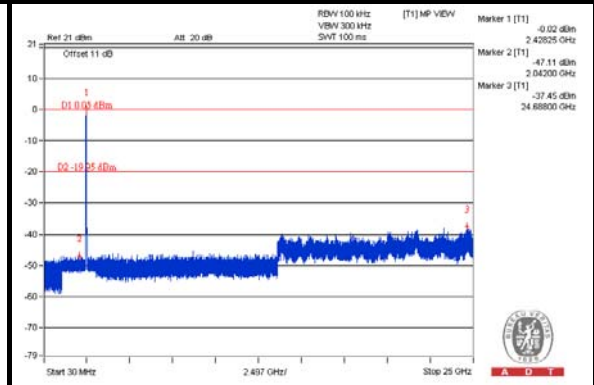
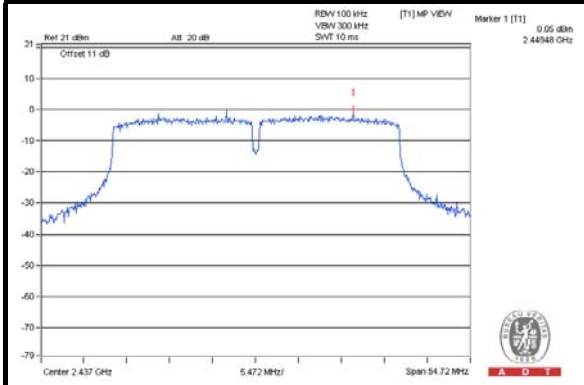
A D T

802.11n (40MHz) CHAIN 0

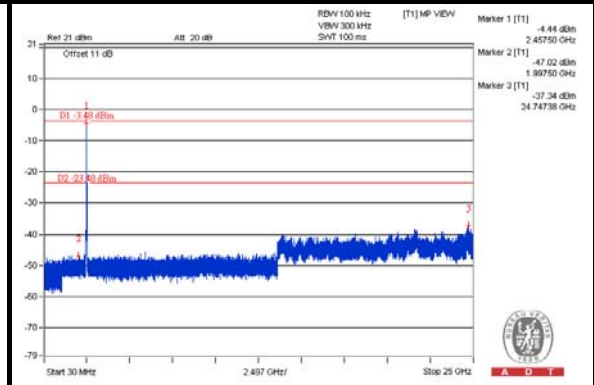
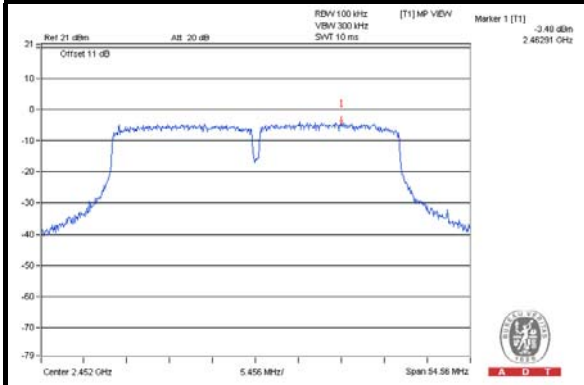
CH 3



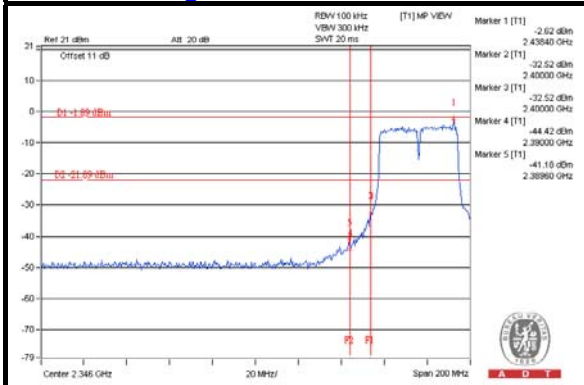
CH 6



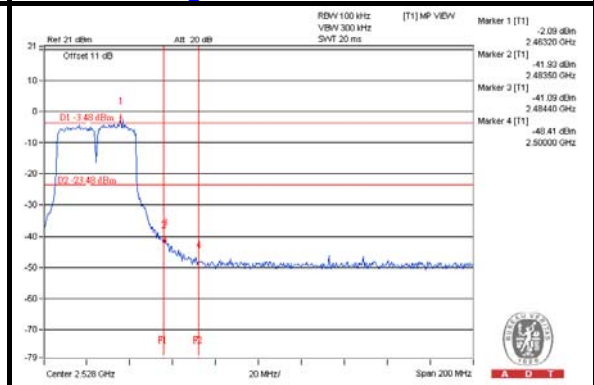
CH 9



CH 3 Band edge



CH 9 Band edge

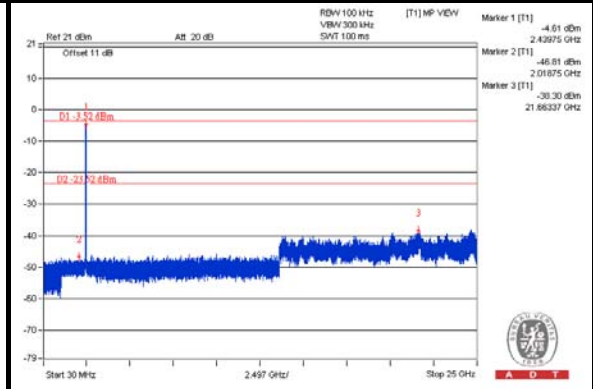
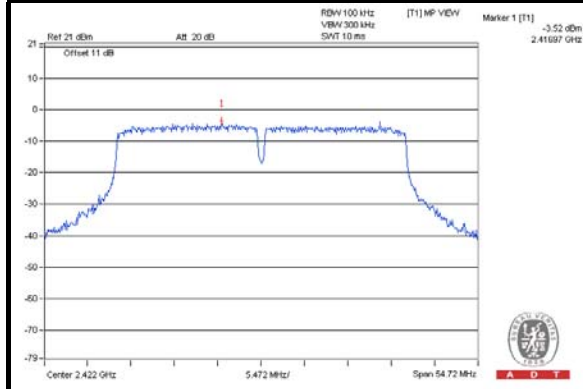




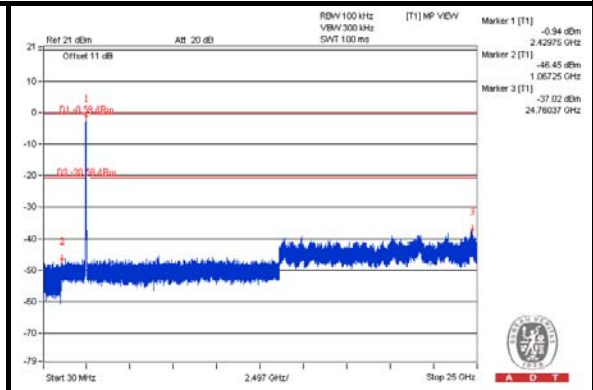
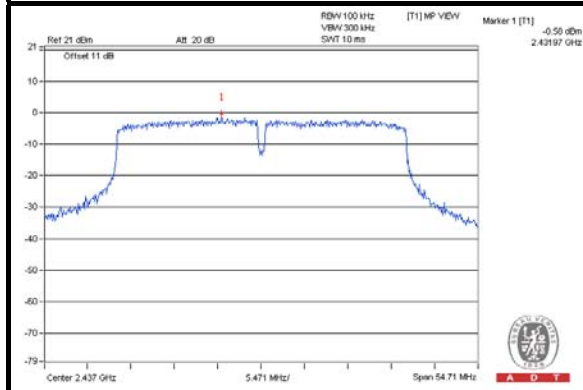
A D T

CHAIN 1

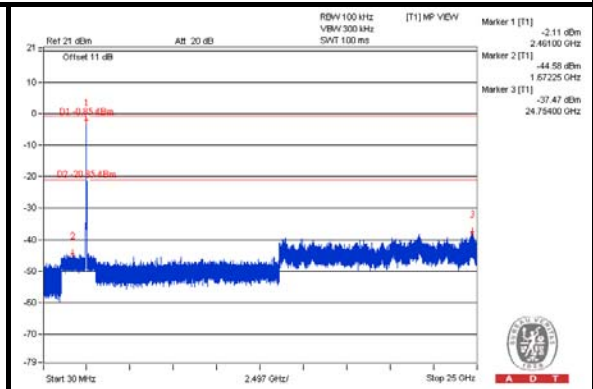
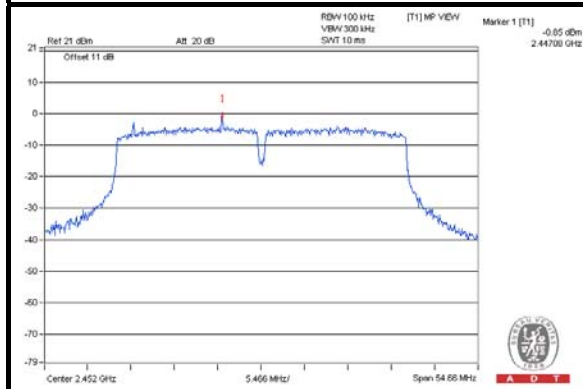
CH 3



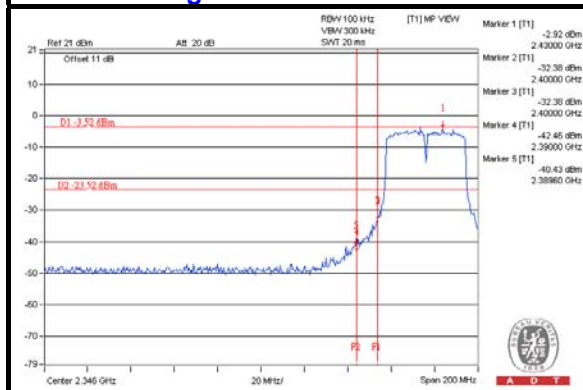
CH 6



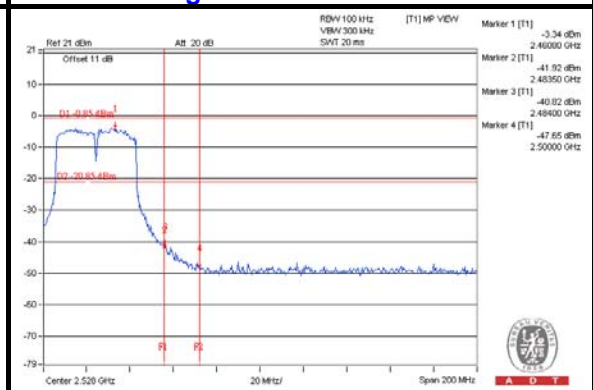
CH 9



CH 3 Band edge



CH 9 Band edge

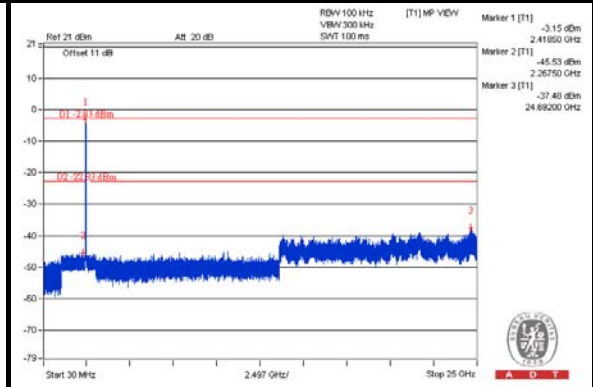
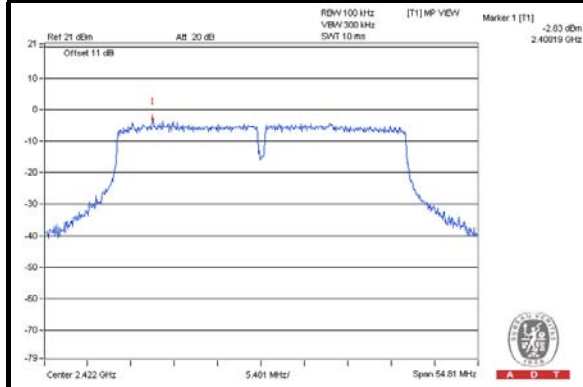




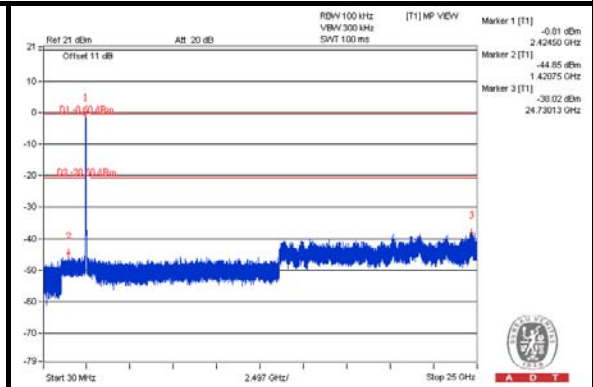
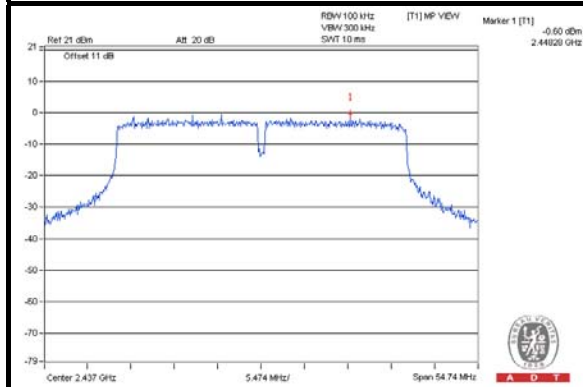
A D T

CHAIN 2

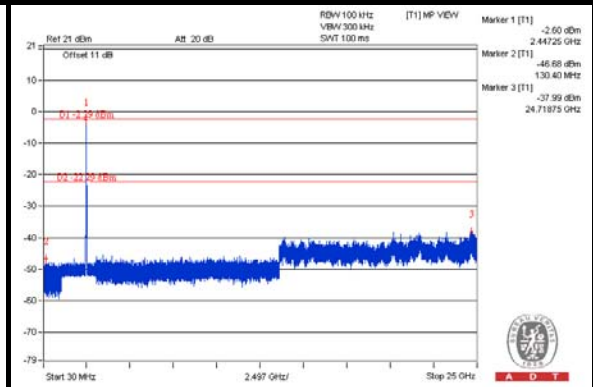
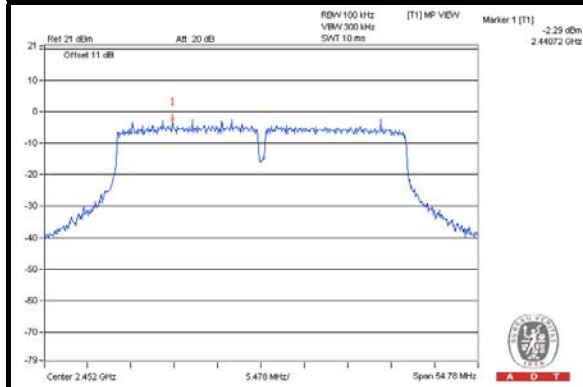
CH 3



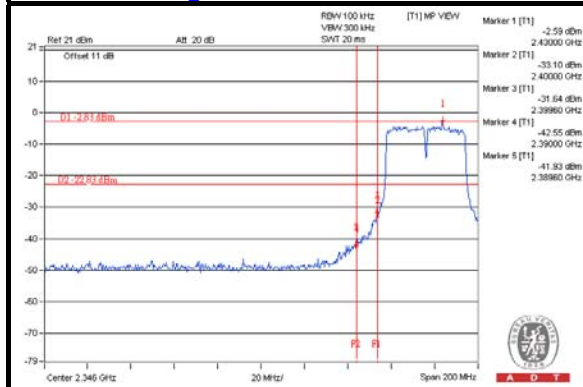
CH 6



CH 9



CH 3 Band edge



CH 9 Band edge

