

FCC TEST REPORT

Report No.: RF130927E08L

Model No.: FiOS-G1100

FCC ID: Z3M-FG1100

Received Date: Sep. 27, 2013

Test Date: Oct. 07 to Dec. 04, 2013 and
Jan. 28 to Feb. 02, 2016

Issued Date: Feb. 25, 2016

Applicant: Greenwave Systems Pte. Ltd.

Address: 10 Science Park Road, #02-07/08, The
Alpha (Science Park II), Singapore 117684

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

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

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

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



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



A D T

Table of Contents

RELEASE CONTROL RECORD	4
1. CERTIFICATION	5
2. SUMMARY OF TEST RESULTS	6
2.1 MEASUREMENT UNCERTAINTY	7
3. GENERAL INFORMATION	8
3.1 GENERAL DESCRIPTION OF EUT	8
3.2 DESCRIPTION OF TEST MODES	13
3.2.1 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL	14
3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS	19
3.4 DUTY CYCLE OF TEST SIGNAL	20
3.5 DESCRIPTION OF SUPPORT UNITS	22
3.6 CONFIGURATION OF SYSTEM UNDER TEST	24
4. TEST TYPES AND RESULTS	26
4.1 CONDUCTED EMISSION MEASUREMENT	26
4.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT	26
4.1.2 TEST INSTRUMENTS	26
4.1.3 TEST PROCEDURES	27
4.1.4 DEVIATION FROM TEST STANDARD	27
4.1.5 TEST SETUP	27
4.1.6 EUT OPERATING CONDITIONS	28
4.1.7 TEST RESULTS (MODE 1)	29
4.1.8 TEST RESULTS (MODE 2)	31
4.2 RADIATED EMISSION AND BANDEDGE MEASUREMENT	33
4.2.1 LIMITS OF RADIATED EMISSION AND BANDEDGE MEASUREMENT	33
4.2.2 TEST INSTRUMENTS	34
4.2.3 TEST PROCEDURES	37
4.2.4 DEVIATION FROM TEST STANDARD	37
4.2.5 TEST SETUP	38
4.2.6 EUT OPERATING CONDITIONS	38
4.2.7 TEST RESULTS (MODE 1)	39
4.2.8 TEST RESULTS (MODE 2)	55
4.2.9 TEST RESULTS (MODE 3)	64
4.3 6dB BANDWIDTH MEASUREMENT	76
4.3.1 LIMITS OF 6dB BANDWIDTH MEASUREMENT	76
4.3.2 TEST INSTRUMENTS	76
4.3.3 TEST PROCEDURE	76
4.3.4 DEVIATION FROM TEST STANDARD	76
4.3.5 TEST SETUP	76
4.3.6 EUT OPERATING CONDITIONS	76
4.3.7 TEST RESULTS (MODE 1)	77
4.3.8 TEST RESULTS (MODE 2)	79
4.3.9 TEST RESULTS (MODE 3)	81
4.4 CONDUCTED OUTPUT POWER MEASUREMENT	83
4.4.1 LIMITS OF MAXIMUM PEAK OUTPUT POWER MEASUREMENT	83
4.4.2 INSTRUMENTS	83
4.4.3 TEST PROCEDURES	83
4.4.4 DEVIATION FROM TEST STANDARD	83
4.4.5 TEST SETUP	84
4.4.6 EUT OPERATING CONDITIONS	84
4.4.7 TEST RESULTS (MODE 1)	85
4.4.8 TEST RESULTS (MODE 2)	86



A D T

4.4.9	TEST RESULTS (MODE 3).....	87
4.5	POWER SPECTRAL DENSITY MEASUREMENT.....	88
4.5.1	LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT	88
4.5.2	TEST INSTRUMENTS	88
4.5.3	TEST PROCEDURE	88
4.5.4	DEVIATION FROM TEST STANDARD	88
4.5.5	TEST SETUP	88
4.5.6	EUT OPERATING CONDITION	88
4.5.7	TEST RESULTS (MODE 1).....	89
4.5.8	TEST RESULTS (MODE 2).....	93
4.5.9	TEST RESULTS (MODE 3).....	95
4.6	CONDUCTED OUT-BAND EMISSION MEASUREMENT.....	97
4.6.1	LIMITS OF CONDUCTED OUT-BAND EMISSION MEASUREMENT	97
4.6.2	TEST INSTRUMENTS	97
4.6.3	TEST PROCEDURE	97
4.6.4	DEVIATION FROM TEST STANDARD	98
4.6.5	TEST SETUP	98
4.6.6	EUT OPERATING CONDITION	98
4.6.7	TEST RESULTS	98
4.6.7.1	TEST RESULTS (MODE 1).....	99
4.6.7.2	TEST RESULTS (MODE 2).....	114
4.6.7.3	TEST RESULTS (MODE 3).....	120
5.	PHOTOGRAPHS OF THE TEST CONFIGURATION.....	124
6.	INFORMATION ON THE TESTING LABORATORIES	125
7.	APPENDIX A - MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB.....	126



A D T

RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF130927E08L	Original release	Feb. 25, 2016



A D T

1. CERTIFICATION

Product: FiOS Gateway

Brand Name: Frontier

Model No.: FiOS-G1100

Test Sample: ENGINEERING SAMPLE

Applicant: Greenwave Systems Pte. Ltd.

Tested: Oct. 07 to Dec. 04, 2013 and Jan. 28 to Feb. 02, 2016

Standards: FCC Part 15, Subpart C (Section 15.247)
ANSI C63.10-2009

The above equipment (Model: FiOS-G1100) 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 : Claire Kuan , **Date:** Feb. 25, 2016
Claire Kuan / Specialist

Approved by : May Chen , **Date:** Feb. 25, 2016
May Chen / 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 Emission	PASS	Meet the requirement of limit. Minimum passing margin is -2.17dB at 0.25547MHz.
15.247(d) 15.209	Radiated Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -0.1dB at 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 Output power	PASS	Meet the requirement of limit.
15.247(e)	Power Spectral Density	PASS	Meet the requirement of limit.
15.203	Antenna Requirement	PASS	No antenna connector is used.

NOTE: 1. The EUT was operating in 2.400 ~ 2.4835GHz, 5.15~5.25GHz and 5.725~5.850GHz frequencies band. This report was recorded the RF parameters including 2.400 ~ 2.4835GHz. For the 5.15~5.25GHz and 5.725~5.850GHz RF parameters was recorded in another test report.

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:

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

Measurement	Value
Conducted emissions	2.86 dB
Radiated emissions (30MHz-1GHz)	5.31 dB
Radiated emissions (1GHz -6GHz) for Chamber G	3.65 dB
Radiated emissions (1GHz -6GHz) for Chamber H	3.72 dB
Radiated emissions (6GHz -18GHz) for Chamber G	3.88 dB
Radiated emissions (6GHz -18GHz) for Chamber H	4.00 dB
Radiated emissions (18GHz -40GHz)	4.11 dB

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT(WLAN)

Product	FiOS Gateway
Brand	Frontier
Test Model	FiOS-G1100
Status of EUT	ENGINEERING SAMPLE
Power Supply Rating	DC 12V from power adapter
Modulation Type	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM 256QAM for OFDM in 11ac mode only
Modulation Technology	DSSS,OFDM
Transfer Rate	802.11b: up to 11Mbps 802.11a / g: up to 54Mbps 802.11n: up to 450Mbps 802.11ac: up to 1300Mbps
Operating Frequency	2.4GHz: 2.412GHz ~ 2.462GHz 5GHz: 5.18GHz ~ 5.24GHz, 5.745GHz ~ 5.825GHz
Number of Channel	2.4GHz: 11 for 802.11b, 802.11g, 802.11n (HT20) 7 for 802.11n (HT40) 5GHz: 9 for 802.11a, 802.11n (HT20), 802.11ac (VHT20) 4 for 802.11n (HT40), 802.11ac (VHT40) 2 for 802.11ac (VHT80)
Output Power	2.4GHz: 1Tx 802.11b: 76.033mW 802.11g: 287.078mW 802.11n(HT20): 490.908mW 802.11n(HT40): 84.723mW 2Tx CDD Mode: 802.11b: 120.238mW SDM Mode: 802.11n(HT20): 379.835mW 802.11n(HT40): 105.681mW 3Tx CDD Mode: 802.11b: 116.819mW 802.11n(HT20): 535.959mW 802.11n(HT40): 189.726mW STBC Mode: 802.11n(HT20): 919.616mW 802.11n(HT40): 196.924mW

Output Power	5GHz (5.18 ~ 5.24GHz): 1Tx 802.11a: 93.541mW 2Tx SDM Mode: 802.11ac (VHT20): 262.238mW 802.11ac (VHT40): 277.179mW 802.11ac (VHT80): 162.532mW CDD Mode: 802.11ac (VHT20): 203.085mW 802.11ac (VHT40): 277.179mW 802.11ac (VHT80): 129.105mW STBC Mode: 802.11ac (VHT20): 262.238mW 802.11ac (VHT40): 277.179mW 802.11ac (VHT80): 162.532mW Beamforming Mode (NSS1): 802.11ac (VHT20): 203.085mW 802.11ac (VHT40): 277.179mW 802.11ac (VHT80): 129.105mW Beamforming Mode (NSS2): 802.11ac (VHT20): 203.085mW 802.11ac (VHT40): 277.179mW 802.11ac (VHT80): 129.105mW
	3Tx SDM Mode: 802.11ac (VHT20): 391.063mW 802.11ac (VHT40): 406.897mW 802.11ac (VHT80): 232.678mW CDD Mode: 802.11ac (VHT20): 298.765mW 802.11ac (VHT40): 406.897mW 802.11ac (VHT80): 186.915mW STBC Mode: 802.11ac (VHT20): 391.063mW 802.11ac (VHT40): 406.897mW 802.11ac (VHT80): 232.678mW Beamforming Mode (NSS1): 802.11ac (VHT20): 298.765mW 802.11ac (VHT40): 406.897mW 802.11ac (VHT80): 186.915mW Beamforming Mode (NSS2): 802.11ac (VHT20): 298.765mW 802.11ac (VHT40): 406.897mW 802.11ac (VHT80): 186.915mW Beamforming Mode (NSS3): 802.11ac (VHT20): 298.765mW 802.11ac (VHT40): 406.897mW 802.11ac (VHT80): 186.915mW

Output Power	5GHz (5.745 ~ 5.825GHz): 1Tx 802.11a: 74.473mW 2Tx SDM Mode: 802.11ac (VHT20): 235.438mW 802.11ac (VHT40): 180.504mW 802.11ac (VHT80): 122.095mW CDD Mode: 802.11ac (VHT20): 178.293mW 802.11ac (VHT40): 115.215mW 802.11ac (VHT80): 88.569mW STBC Mode: 802.11ac (VHT20): 235.438mW 802.11ac (VHT40): 180.504mW 802.11ac (VHT80): 122.095mW Beamforming Mode (NSS1): 802.11ac (VHT20): 178.293mW 802.11ac (VHT40): 115.215mW 802.11ac (VHT80): 88.569mW Beamforming Mode (NSS2): 802.11ac (VHT20): 178.293mW 802.11ac (VHT40): 115.215mW 802.11ac (VHT80): 88.569mW 3Tx SDM Mode: 802.11ac (VHT20): 357.337mW 802.11ac (VHT40): 278.453mW 802.11ac (VHT80): 193.053mW CDD Mode: 802.11ac (VHT20): 262.626mW 802.11ac (VHT40): 183.764mW 802.11ac (VHT80): 141.414mW STBC Mode: 802.11ac (VHT20): 357.337mW 802.11ac (VHT40): 278.453mW 802.11ac (VHT80): 193.053mW Beamforming Mode (NSS1): 802.11ac (VHT20): 262.626mW 802.11ac (VHT40): 183.764mW 802.11ac (VHT80): 141.414mW Beamforming Mode (NSS2): 802.11ac (VHT20): 262.626mW 802.11ac (VHT40): 183.764mW 802.11ac (VHT80): 141.414mW Beamforming Mode (NSS3): 802.11ac (VHT20): 262.626mW 802.11ac (VHT40): 183.764mW 802.11ac (VHT80): 141.414mW
Antenna Type	Refer to Note
Antenna Connector	Refer to Note
Accessory Device	Adapter x1
Data Cable Supplied	NA

NOTE:

1. There are Z-Wave technology and WLAN (2.4GHz & 5GHz) technology used for the EUT.
2. The emission of the simultaneous operation (Z-Wave & WLAN) has been evaluated and no non-compliance was found.
3. The antennas provided to the EUT, please refer to the following table:

WLAN Antenna Spec.				
2.4GHz				
Transmitter Circuit	Gain (dBi) (Include cable loss)	Antenna Type	Connector Type	Frequency range (GHz to GHz)
Chain (0)	3.97	Dipole(Metal)	NA	2.4~2.4835
Chain (1)	4.1	Dipole(Metal)	NA	2.4~2.4835
Chain (2)	3.36	PIFA(Metal)	NA	2.4~2.4835
5GHz				
Transmitter Circuit	Gain (dBi) (Include cable loss)	Antenna Type	Connector Type	Frequency range (GHz to GHz)
Chain (0)	3.56	Dipole(Metal)	NA	5.15~5.25
	4.05			5.725~5.85
Chain (1)	5.3	Dipole(Metal)	NA	5.15~5.25
	5.71			5.725~5.85
Chain (2)	4.6	Dipole(Metal)	NA	5.15~5.25
	4.21			5.725~5.85
Z-Wave Antenna Spec.				
Gain (dBi) (Include cable loss)		Antenna Type	Connector Type	Frequency range (MHz to MHz)
1.73		PIFA (Metal)	NA	902~928
Note: 1. For 1Tx mode will fix transmission on Chain (0). 2. For 2Tx mode will fix transmission on Chain (0) and Chain (1)				
4. The EUT must be supplied with a power adapter and following two different model names could be chosen:				
No.	Brand	Model No.	Spec.	
1	Ktec	KSA20C1200300HU	AC Input : 100-240V, 1A, 50-60Hz DC Output : 12V, 3.0A DC output cable(unshielded ,1.5m)	
2	LEI	MU36-D120300-A1	AC Input : 100-240V, 1.5A, 50-60Hz DC Output : 12V, 3.0A DC output cable(unshielded ,1.5m)	
From the above newly adapters, the worst radiated emission were found in Adapter 1 . Therefore only the test data of the modes were recorded in this report.				

6. The specifications of EUT listed as below:

MODULATION MODE	TX/RX FUNCTION
802.11b	1TX/3RX
	2TX/3RX(CDD Mode)
	3TX/3RX(CDD Mode)
802.11g	1TX/3RX
802.11n (HT20)	1TX/3RX
	2TX/3RX (SDM Mode)
	3TX/3RX (CDD Mode)
	3TX/3RX (STBC Mode)
	2TX/3RX (Beamforming Mode, only 5GHz band)
	3TX/3RX (Beamforming Mode, only 5GHz band)
802.11n (HT40)	1TX/3RX
	2TX/3RX (SDM Mode)
	3TX/3RX (CDD Mode)
	3TX/3RX (STBC Mode)
	2TX/3RX (Beamforming Mode, only 5GHz band)
	3TX/3RX (Beamforming Mode, only 5GHz band)
802.11a	1TX/3RX
802.11ac (VHT20)	2TX/3RX (SDM Mode)
	2TX/3RX (CDD Mode)
	2TX/3RX (STBC Mode)
	2TX/3RX (Beamforming Mode)
	3TX/3RX (SDM Mode)
	3TX/3RX (CDD Mode)
	3TX/3RX (STBC Mode)
	3TX/3RX (Beamforming Mode)
802.11ac (VHT40)	2TX/3RX (SDM Mode)
	2TX/3RX (CDD Mode)
	2TX/3RX (STBC Mode)
	2TX/3RX (Beamforming Mode)
	3TX/3RX (SDM Mode)
	3TX/3RX (CDD Mode)
	3TX/3RX (STBC Mode)
	3TX/3RX (Beamforming Mode)
802.11ac (VHT80)	2TX/3RX (SDM Mode)
	2TX/3RX (CDD Mode)
	2TX/3RX (STBC Mode)
	2TX/3RX (Beamforming Mode)
	3TX/3RX (SDM Mode)
	3TX/3RX (CDD Mode)
	3TX/3RX (STBC Mode)
	3TX/3RX (Beamforming Mode)

- When the EUT operating in 802.11n, the software operation, which is defined by manufacturer, MCS (Modulation and Coding Schemes) from 0 to 23.
- When the EUT operating in 802.11ac, the software operation, which is defined by manufacturer, MCS (Modulation and Coding Schemes) from 0 to 9.
- The above EUT information was declared by the manufacturer and for more detailed features description, please refer to the manufacturer's specifications or User's Manual.

3.2 DESCRIPTION OF TEST MODES

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

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

7 channels are provided for 802.11n (HT40):

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

3.2.1 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

EUT CONFIGURE MODE	APPLICABLE TO					DESCRIPTION
	PLC	RE < 1G	RE ≥ 1G	APCM	OB	
1	√	√	√	√	√	3TX configuration (with Adapter 1)
2	√	-	-	-	-	3TX configuration (with Adapter 2)
	-	-	√	√	√	2TX configuration (with Adapter 1)
3	-	-	√	√	√	1TX configuration (with Adapter 1)

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

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.

STBC MODE					
MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
For 2.4 GHz 802.11n (HT20)	1 to 11	6	OFDM	BPSK	6.5

RADIATED EMISSION TEST (BELOW 1 GHz):

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

STBC MODE					
MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
For 2.4 GHz 802.11n (HT20)	1 to 11	6	OFDM	BPSK	6.5

RADIATED EMISSION TEST (ABOVE 1 GHz):

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

1TX CONFIGURATION					
MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1
802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6
For 2.4 GHz 802.11n (HT20)	1 to 11	1, 6, 11	OFDM	BPSK	6.5
For 2.4 GHz 802.11n (HT40)	3 to 9	3, 6, 9	OFDM	BPSK	13.5
2TX CONFIGURATION					
CDD MODE					
MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1
SDM MODE					
MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
For 2.4 GHz 802.11n (HT20)	1 to 11	1, 6, 11	OFDM	BPSK	13
For 2.4 GHz 802.11n (HT40)	3 to 9	3, 6, 9	OFDM	BPSK	27
3TX CONFIGURATION					
CDD MODE					
MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1
For 2.4 GHz 802.11n (HT20)	1 to 11	1, 6, 11	OFDM	BPSK	6.5
For 2.4 GHz 802.11n (HT40)	3 to 9	3, 6, 9	OFDM	BPSK	13.5
STBC MODE					
MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
For 2.4 GHz 802.11n (HT20)	1 to 11	1, 6, 11	OFDM	BPSK	6.5
For 2.4 GHz 802.11n (HT40)	3 to 9	3, 6, 9	OFDM	BPSK	13.5

ANTENNA PORT CONDUCTED 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.

1TX CONFIGURATION					
MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1
802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6
For 2.4 GHz 802.11n (HT20)	1 to 11	1, 6, 11	OFDM	BPSK	6.5
For 2.4 GHz 802.11n (HT40)	3 to 9	3, 6, 9	OFDM	BPSK	13.5
2TX CONFIGURATION					
CDD MODE					
MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1
SDM MODE					
MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
For 2.4 GHz 802.11n (HT20)	1 to 11	1, 6, 11	OFDM	BPSK	13
For 2.4 GHz 802.11n (HT40)	3 to 9	3, 6, 9	OFDM	BPSK	27
3TX CONFIGURATION					
CDD MODE					
MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1
For 2.4 GHz 802.11n (HT20)	1 to 11	1, 6, 11	OFDM	BPSK	6.5
For 2.4 GHz 802.11n (HT40)	3 to 9	3, 6, 9	OFDM	BPSK	13.5
STBC MODE					
MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
For 2.4 GHz 802.11n (HT20)	1 to 11	1, 6, 11	OFDM	BPSK	6.5
For 2.4 GHz 802.11n (HT40)	3 to 9	3, 6, 9	OFDM	BPSK	13.5

CONDUCTED OUT-BAND EMISSION 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.

1TX CONFIGURATION					
MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1
802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6
For 2.4 GHz 802.11n (HT20)	1 to 11	1, 6, 11	OFDM	BPSK	6.5
For 2.4 GHz 802.11n (HT40)	3 to 9	3, 6, 9	OFDM	BPSK	13.5
2TX CONFIGURATION					
CDD MODE					
MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1
SDM MODE					
MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
For 2.4 GHz 802.11n (HT20)	1 to 11	1, 6, 11	OFDM	BPSK	13
For 2.4 GHz 802.11n (HT40)	3 to 9	3, 6, 9	OFDM	BPSK	27
3TX CONFIGURATION					
CDD MODE					
MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1
For 2.4 GHz 802.11n (HT20)	1 to 11	1, 6, 11	OFDM	BPSK	6.5
For 2.4 GHz 802.11n (HT40)	3 to 9	3, 6, 9	OFDM	BPSK	13.5
STBC MODE					
MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
For 2.4 GHz 802.11n (HT20)	1 to 11	1, 6, 11	OFDM	BPSK	6.5
For 2.4 GHz 802.11n (HT40)	3 to 9	3, 6, 9	OFDM	BPSK	13.5



A D T

TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
PLC	25deg. C, 65%RH	120Vac, 60Hz	Jason Huang
RE<1G	22deg. C, 64%RH	120Vac, 60Hz	JyunChun Lin
RE≥1G	24deg. C, 66%RH	120Vac, 60Hz	Robert Cheng
	23deg. C, 67%RH	120Vac, 60Hz	Nelson Teng
	22deg. C, 67%RH	120Vac, 60Hz	Nelson Teng
	22deg. C, 67%RH	120Vac, 60Hz	Tim Ho
APCM	25deg. C, 60%RH	120Vac, 60Hz	Nelson Teng
OB	25deg. C, 60%RH	120Vac, 60Hz	Nelson Teng

3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS

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

FCC Part 15, Subpart C. (15.247)

KDB 558074 D01 DTS Meas Guidance v03r01

KDB 662911 D01 Multiple Transmitter Output v01 r02

ANSI C63.10-2009

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

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

3.4 DUTY CYCLE OF TEST SIGNAL

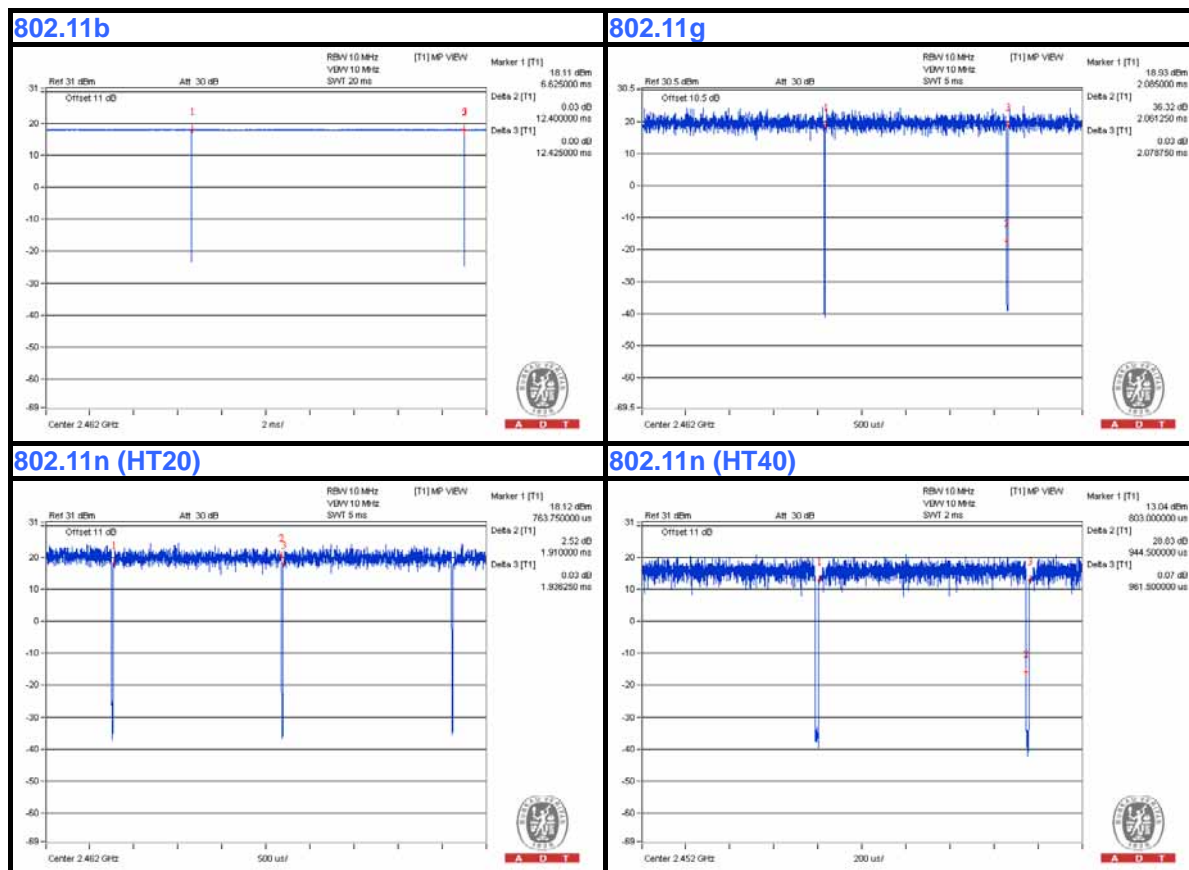
If duty cycle of test signal is $\geq 98\%$, duty factor is not required.

802.11b: Duty cycle = 12.4 ms/12.425 ms = 0.998

802.11g: Duty cycle = 2.061 ms/2.079 ms = 0.991

802.11n (HT20): Duty cycle = 1.91 ms/1.936 ms = 0.987

802.11n (HT40): Duty cycle = 0.945 ms/0.962 ms = 0.982



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

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

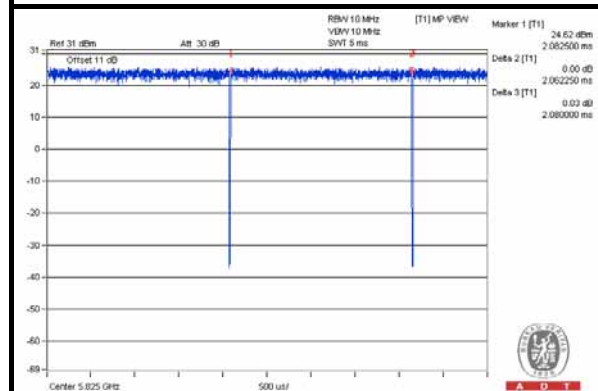
802.11a: Duty cycle = 2.062 ms/2.08 ms = 0.991

802.11ac (VHT20): Duty cycle = 1.931 ms/1.95 ms = 0.99

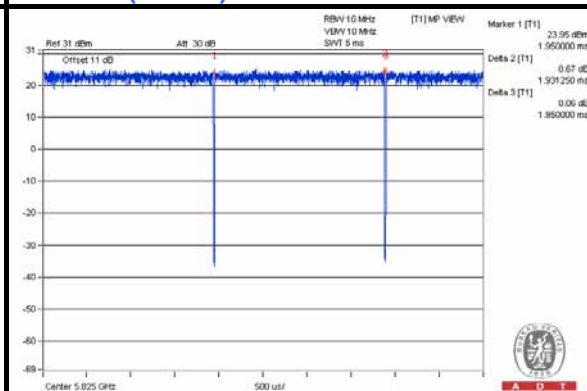
802.11ac (VHT40): Duty cycle = 0.959 ms/0.974 ms = 0.985

802.11ac (VHT80): Duty cycle = 0.462 ms/0.477 ms = 0.969, Duty factor = $10 \cdot \log(1/0.969) = 0.14$

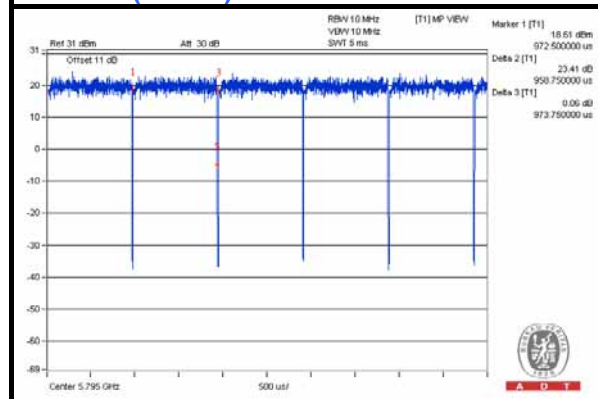
802.11a



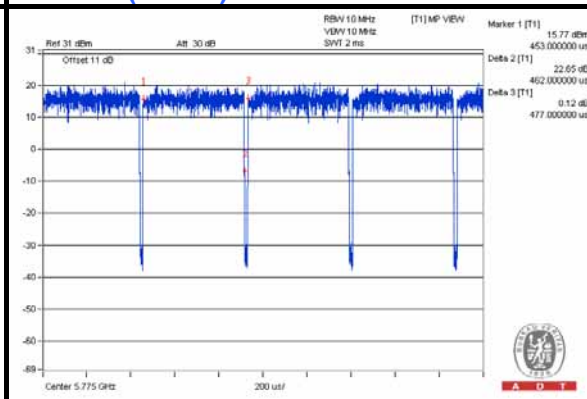
802.11ac (VHT20)



802.11ac (VHT40)



802.11ac (VHT80)



3.5 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.

For conducted / Radiated (Below 1GHz) test						
ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	IPOD	BUFFALO	HD-LBU3	55291820800967	NA	Provided by Lab
B.	NOTEBOOK COMPUTER	DELL	E5430	4YV4VY1	FCC DoC	Provided by Lab
C.	NOTEBOOK COMPUTER	DELL	E5430	HYV4VY1	FCC DoC	Provided by Lab
D.	HUB	ZyXEL	ES-116P	S060H02000215	FCC DoC	Provided by Lab
E.	IPOD	Apple	MD778TA/A	CC4JG680F4T1	NA	Provided by Lab

Note:

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

ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	DC	1	1.5	No	0	Supplied by Client
2.	USB	1	0.1	Yes	0	Provided by Lab
3.	RJ-45	1	10	No	0	Provided by Lab
4.	RJ-45	1	10	No	0	Provided by Lab
5.	RJ-45	3	10	No	0	Provided by Lab
6.	USB	1	0.1	Yes	0	Provided by Lab
7.	Coaxial	1	1.2	Yes	0	Provided by Lab



A D T

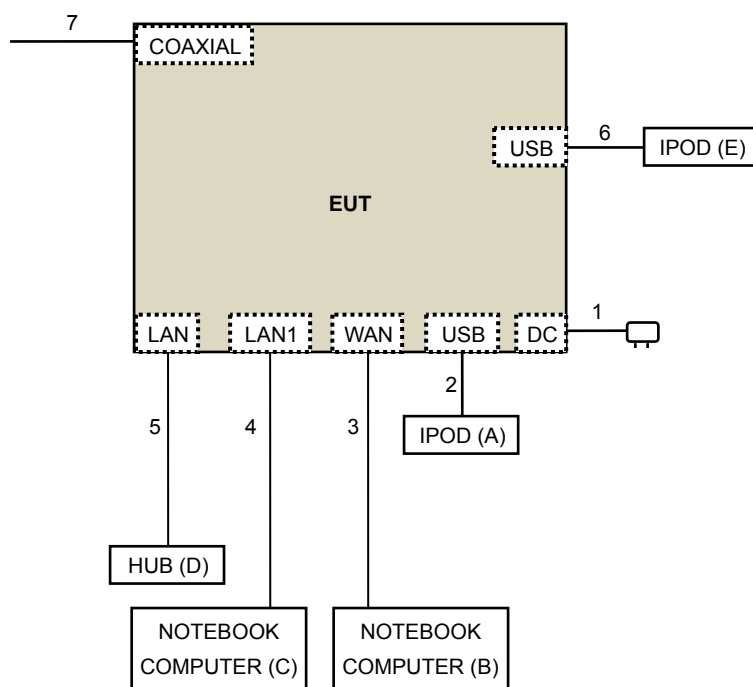
For other test items					
NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	NOTEBOOK COMPUTER	DELL	PP32LA	FSLB32S	FCC DoC
2	NOTEBOOK COMPUTER	DELL	PP32LA	HSLB32S	FCC DoC
3	HUB	Linksys	SD028	NA	NA
4	USB FLASH DISK	SanDisk	SDCZ33	NA	FCC DoC
5	USB FLASH DISK	SanDisk	SDCZ33	NA	FCC DoC
6	SPLITTER	DIRECTV	SWS-2-WNC	NA	NA
7	BROADBAND HOME ROUTER	NA	JG101	NA	NA
8	BROADBAND HOME ROUTER	NA	JG101	NA	NA

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	UTP Cable, 10m
2	UTP Cable, 10m
3	UTP Cable, 10m
4	NA (for other test items)
5	NA (for other test items)
6	Coaxial Cable, 10m
7	Coaxial Cable, 3m
8	Coaxial Cable, 3m

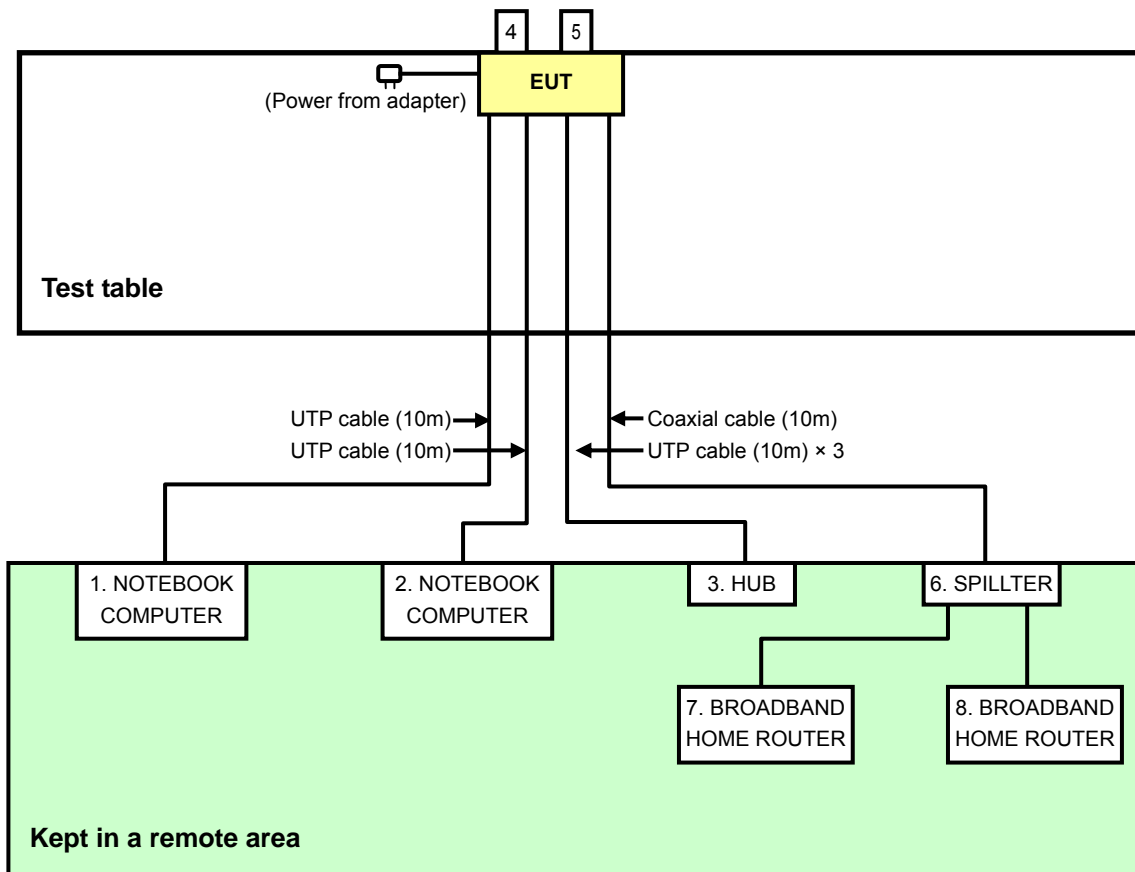
NOTE: All power cords of the above support units are non shielded (1.8m).

3.6 CONFIGURATION OF SYSTEM UNDER TEST

For Conducted / Radiated (Below 1GHz) test:



For Other test items:



Note: Support unit 4 & 5 are USB FLASH DISK.

4. TEST TYPES AND RESULTS

4.1 CONDUCTED EMISSION MEASUREMENT

4.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

FREQUENCY OF EMISSION (MHz)	CONDUCTED LIMIT (dB μ V)	
	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 0.50 MHz.

4.1.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver R&S	ESCS 30	100375	May 06, 2015	May 05, 2016
Line-Impedance Stabilization Network (for EUT) SCHWARZBECK	NSLK-8127	8127-522	Sep. 01, 2015	Aug. 31, 2016
Line-Impedance Stabilization Network (for Peripheral) R&S	ENV216	100072	June 11, 2015	June 10, 2016
RF Cable	5D-FB	COCCAB-001	Mar. 09, 2015	Mar. 08, 2016
50 ohms Terminator	N/A	EMC-03	Sep. 23, 2015	Sep. 22, 2016
50 ohms Terminator	N/A	EMC-02	Oct. 01, 2015	Sep. 30, 2016
Software BVADT	BVADT_Cond_ V7.3.7.3	NA	NA	NA

Note:

1. The calibration interval of the above test instruments are 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in Shielded Room No. C.
3. The VCCI Con C Registration No. is C-3611.
4. Tested Date: Jan. 30, 2016

4.1.3 TEST PROCEDURES

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

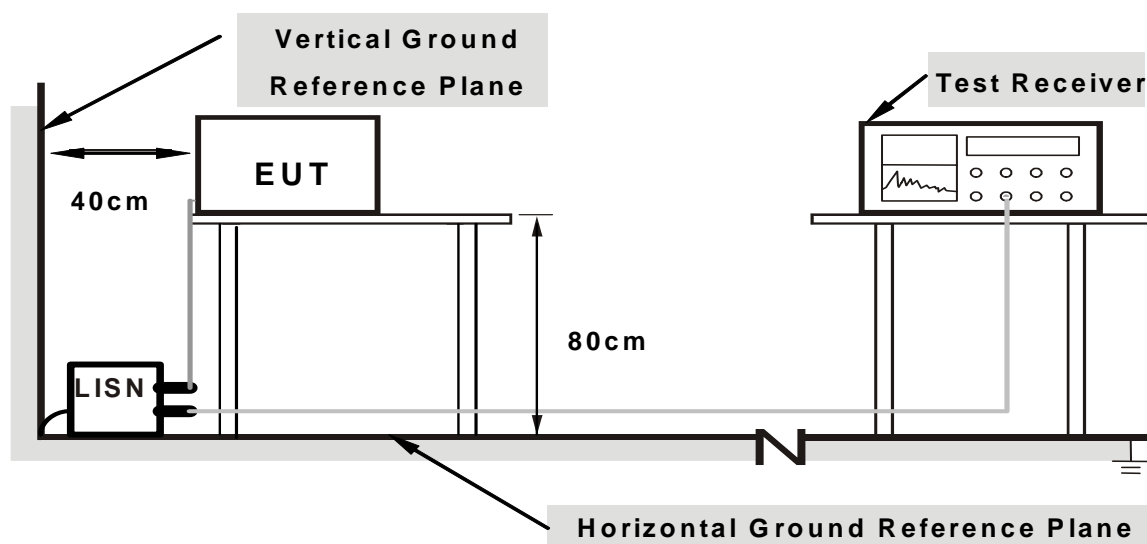
NOTE:

- The resolution bandwidth of test receiver is 9kHz for Quasi-peak detection (QP) & Average detection (AV).

4.1.4 DEVIATION FROM TEST STANDARD

No deviation

4.1.5 TEST SETUP



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

For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

4.1.6 EUT OPERATING CONDITIONS

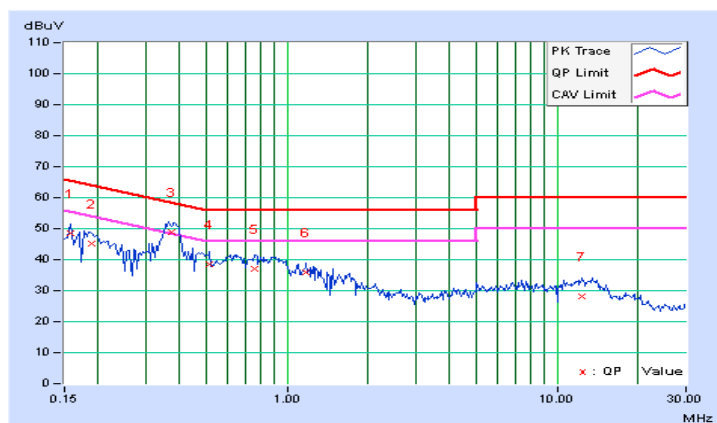
1. Placed the EUT on testing table.
2. Prepared computer system (support unit 1) to act as communication partner.
3. The communication partner run test program “BCMTool BHR4 Greenwave.exe” to enable EUT under transmission/receiving condition continuously at specific channel frequency.

4.1.7 TEST RESULTS (MODE 1)

Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)							
No	Freq. [MHz]	Corr.	Reading Value		Emission Level		Limit		Margin	
		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
		(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15781	10.37	38.06	25.33	48.43	35.70	65.58	55.58	-17.14	-19.87
2	0.18906	10.35	34.67	25.14	45.02	35.49	64.08	54.08	-19.06	-18.59
3	0.37234	10.37	38.40	33.78	48.77	44.15	58.45	48.45	-9.68	-4.30
4	0.51328	10.36	28.05	19.90	38.41	30.26	56.00	46.00	-17.59	-15.74
5	0.75938	10.34	26.54	21.98	36.88	32.32	56.00	46.00	-19.12	-13.68
6	1.17188	10.33	25.60	20.29	35.93	30.62	56.00	46.00	-20.07	-15.38
7	12.35547	11.06	17.27	12.88	28.33	23.94	60.00	50.00	-31.67	-26.06

REMARKS:

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

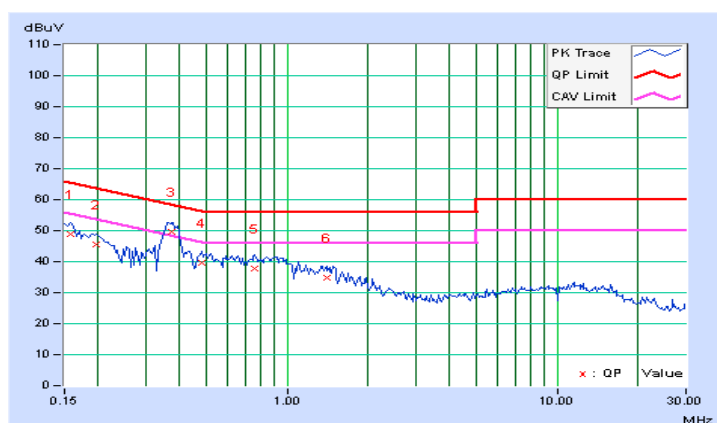


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
-------	-------------	-------------------	--------------------------------

No	Freq. [MHz]	Corr.	Reading Value		Emission Level		Limit		Margin	
		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
		(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15781	10.38	38.34	25.93	48.72	36.31	65.58	55.58	-16.86	-19.27
2	0.19687	10.39	35.07	25.69	45.46	36.08	63.74	53.74	-18.28	-17.66
3	0.37244	10.42	39.21	34.36	49.63	44.78	58.45	48.45	-8.82	-3.67
4	0.48594	10.41	29.13	24.14	39.54	34.55	56.24	46.24	-16.69	-11.68
5	0.75938	10.39	27.43	22.46	37.82	32.85	56.00	46.00	-18.18	-13.15
6	1.39844	10.40	24.55	18.55	34.95	28.95	56.00	46.00	-21.05	-17.05

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



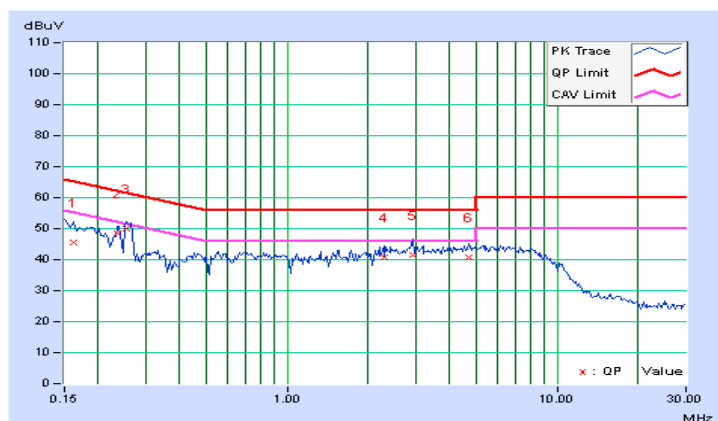
4.1.8 TEST RESULTS (MODE 2)

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

No	Freq. [MHz]	Corr.	Reading Value		Emission Level		Limit		Margin	
		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
		(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16172	10.37	35.07	24.68	45.44	35.05	65.38	55.38	-19.93	-20.32
2	0.23594	10.35	38.17	35.16	48.52	45.51	62.24	52.24	-13.72	-6.73
3	0.25547	10.35	39.47	39.06	49.82	49.41	61.58	51.58	-11.76	-2.17
4	2.27734	10.42	30.23	23.87	40.65	34.29	56.00	46.00	-15.35	-11.71
5	2.92188	10.48	30.91	24.66	41.39	35.14	56.00	46.00	-14.61	-10.86
6	4.73438	10.62	30.16	24.76	40.78	35.38	56.00	46.00	-15.22	-10.62

REMARKS:

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

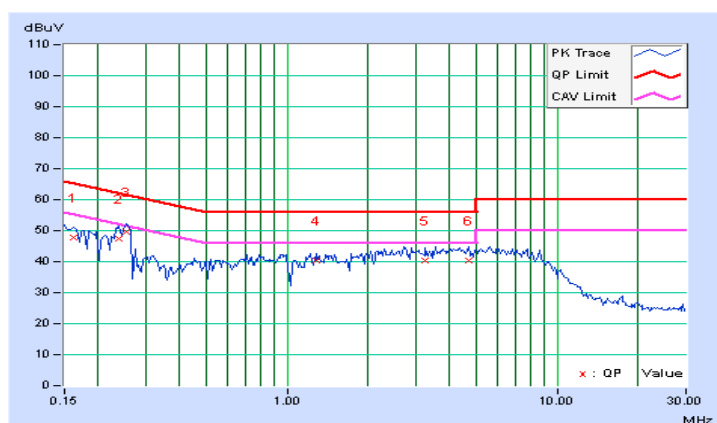


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
-------	-------------	-------------------	--------------------------------

No	Freq. [MHz]	Corr.	Reading Value		Emission Level		Limit		Margin	
		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
		(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16172	10.38	37.25	27.50	47.63	37.88	65.38	55.38	-17.74	-17.49
2	0.23984	10.40	36.98	31.14	47.38	41.54	62.10	52.10	-14.73	-10.57
3	0.25547	10.40	39.33	38.76	49.73	49.16	61.58	51.58	-11.85	-2.42
4	1.28125	10.39	30.01	22.89	40.40	33.28	56.00	46.00	-15.60	-12.72
5	3.25391	10.59	29.94	23.50	40.53	34.09	56.00	46.00	-15.47	-11.91
6	4.68359	10.71	29.83	24.66	40.54	35.37	56.00	46.00	-15.46	-10.63

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



4.2 RADIATED EMISSION AND BANDEDGE MEASUREMENT

4.2.1 LIMITS OF RADIATED EMISSION AND BANDEDGE MEASUREMENT

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

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

NOTE:

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



A D T

4.2.2 TEST INSTRUMENTS

For below 1GHz test

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver Agilent	N9038A	MY50010156	Aug. 12, 2015	Aug. 11, 2016
Pre-Amplifier ^(*) EMCI	EMC001340	980142	Jan. 20, 2016	Jan. 19, 2018
Loop Antenna ^(*) Electro-Metrics	EM-6879	264	Dec. 16, 2014	Dec. 15, 2016
RF Cable	NA	LOOPCAB-00 1 LOOPCAB-00 2	Jan. 18, 2016	Jan. 17, 2017
Pre-Amplifier Mini-Circuits	ZFL-1000VH2 B	AMP-ZFL-07	May 08, 2015	May 07, 2016
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	138	Jan. 18, 2016	Jan. 17, 2017
RF Cable	8D	966-3-1 966-3-2 966-3-3	Apr. 03, 2015	Apr. 02, 2016
Software	ADT_Radiated _V8.7.07	NA	NA	NA
Antenna Tower & Turn Table CT	NA	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 966 Chamber No. 3.
3. The FCC Site Registration No. is 147459
4. The CANADA Site Registration No. is 20331-1
5. Tested Date: Jan. 28, 2016



A D T

For MODE 1 – 802.11n / MODE 3 – 802.11b, g above 1GHz test

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
MXE EMI Receiver Agilent	N9038A	MY50010156	Jan. 16, 2013	Jan. 15, 2014
Pre-Amplifier Mini-Circuits	ZFL-1000VH2 B	AMP-ZFL-04	Nov. 14, 2012	Nov. 13, 2013
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-361	Mar. 25, 2013	Mar. 24, 2014
RF Cable	NA	CHHCAB_001	Oct. 06, 2013	Oct. 05, 2014
Horn_Antenna AISI	AIH.8018	0000220091110	Nov. 27, 2012	Nov. 26, 2013
Pre-Amplifier Agilent	8449B	3008A01923	Oct. 30, 2012	Oct. 29, 2013
RF Cable	NA	RF104-205 RF104-207 RF104-202	Dec. 26, 2012	Dec. 25, 2013
Spectrum Analyzer Agilent	E4446A	MY48250253	Aug. 28, 2013	Aug. 27, 2014
Pre-Amplifier SPACEK LABS	SLKKa-48-6	9K16	Nov. 14, 2012	Nov. 13, 2013
Horn_Antenna SCHWARZBECK	BBHA 9170	9170-424	Oct. 08, 2013	Oct. 07, 2014
Software	ADT_Radiated _V8.7.07	NA	NA	NA
Antenna Tower & Turn Table CT	NA	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 horn antenna, preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
3. The test was performed in 966 Chamber No. H.
4. The FCC Site Registration No. is 797305.
5. The CANADA Site Registration No. is IC 7450H-3.
6. Tested Date: Oct. 10, 2013



A D T

For MODE 1 – 802.11b, g / MODE 2 – 802.11b, g, n / MODE 3 – 802.11n above 1GHz test

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
MXE EMI Receiver Agilent	N9038A	MY51210105	Jan. 29, 2013	Jan. 28, 2014
Pre-Amplifier Mini-Circuits	ZFL-1000VH2 B	AMP-ZFL-03	Nov. 13, 2013	Nov. 12, 2014
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-360	Mar. 19, 2013	Mar. 18, 2014
RF Cable	NA	CHGCAB_001	Oct. 05, 2013	Oct. 04, 2014
Horn_Antenna AISI	AIH.8018	0000320091110	Nov. 13, 2013	Nov. 12, 2014
Pre-Amplifier Agilent	8449B	3008A02578	June 25, 2013	June 24, 2014
RF Cable	NA	RF104-201 RF104-203 RF104-204	Dec. 25, 2012	Dec. 24, 2013
Spectrum Analyzer Agilent	E4446A	MY48250253	Aug. 28, 2013	Aug. 27, 2014
Pre-Amplifier SPACEK LABS	SLKKa-48-6	9K16	Nov. 13, 2013	Nov. 12, 2014
Horn_Antenna SCHWARZBECK	BBHA 9170	9170-424	Oct. 08, 2013	Oct. 07, 2014
Software	ADT_Radiated _V8.7.07	NA	NA	NA
Antenna Tower & Turn Table CT	NA	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 horn antenna, preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
3. The test was performed in 966 Chamber No. G.
4. The FCC Site Registration No. is 966073.
5. The VCCI Site Registration No. is G-137.
6. The CANADA Site Registration No. is IC 7450H-2.
7. Tested Date: Dec. 03, 2013

4.2.3 TEST PROCEDURES

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

Note:

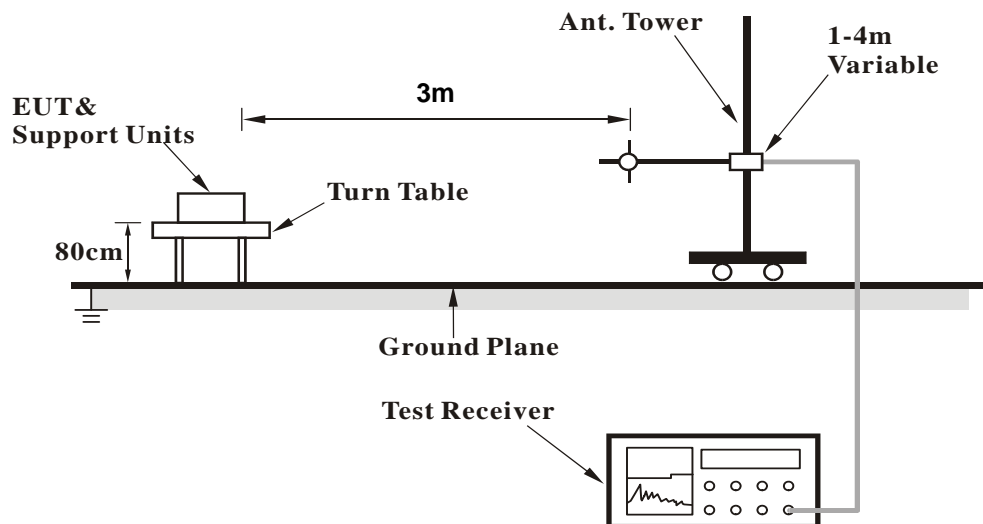
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.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

4.2.4 DEVIATION FROM TEST STANDARD

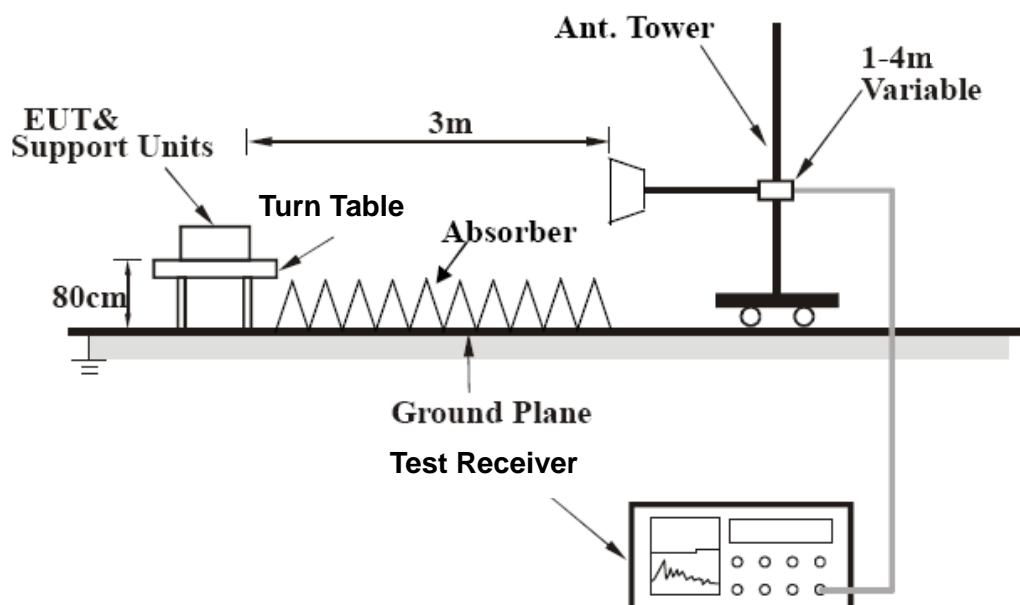
No deviation

4.2.5 TEST SETUP

<Frequency Range below 1GHz>



<Frequency Range above 1GHz>



For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

4.2.6 EUT OPERATING CONDITIONS

Same as 4.1.6

4.2.7 TEST RESULTS (MODE 1)

STBC_MODE

BELOW 1GHz WORST-CASE DATA

802.11n (HT20)

CHANNEL	TX Channel 6	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	Below 1GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	69.94	35.8 QP	40.0	-4.2	1.30 H	145	45.55	-9.75
2	90.34	37.6 QP	43.5	-5.9	1.90 H	105	51.50	-13.90
3	160.60	38.5 QP	43.5	-5.0	1.90 H	246	46.17	-7.67
4	437.54	41.3 QP	46.0	-4.8	1.33 H	289	44.89	-3.64
5	562.49	40.8 QP	46.0	-5.2	1.40 H	242	42.06	-1.28
6	875.14	40.8 QP	46.0	-5.2	1.40 H	113	36.63	4.14
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	375.41	40.7 QP	46.0	-5.3	1.44 V	118	46.12	-5.44
2	437.44	42.5 QP	46.0	-3.5	1.20 V	106	46.13	-3.64
3	562.54	40.5 QP	46.0	-5.5	1.05 V	229	41.77	-1.28
4	600.20	40.8 QP	46.0	-5.2	1.10 V	102	40.79	-0.02
5	625.14	41.7 QP	46.0	-4.3	1.10 V	103	41.45	0.25
6	875.11	41.4 QP	46.0	-4.6	1.01 V	105	37.26	4.14

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

CDD_MODE

ABOVE 1GHz DATA

802.11b

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	57.5 PK	74.0	-16.5	1.30 H	301	59.44	-1.94
2	2390.00	46.5 AV	54.0	-7.5	1.30 H	301	48.44	-1.94
3	*2412.00	109.6 PK			1.30 H	301	111.44	-1.84
4	*2412.00	107.4 AV			1.30 H	301	109.24	-1.84
5	2491.26	56.7 PK	74.0	-17.3	1.08 H	214	58.19	-1.49
6	2491.26	48.1 AV	54.0	-5.9	1.08 H	214	49.59	-1.49
7	4824.00	53.7 PK	74.0	-20.3	1.44 H	70	46.88	6.82
8	4824.00	47.4 AV	54.0	-6.6	1.44 H	70	40.58	6.82
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	56.4 PK	74.0	-17.6	1.06 V	217	58.34	-1.94
2	2390.00	45.9 AV	54.0	-8.1	1.06 V	217	47.84	-1.94
3	*2412.00	108.0 PK			1.06 V	217	109.84	-1.84
4	*2412.00	105.8 AV			1.06 V	217	107.64	-1.84
5	4824.00	58.1 PK	74.0	-15.9	1.00 V	81	51.28	6.82
6	4824.00	53.8 AV	54.0	-0.2	1.00 V	81	46.98	6.82

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	110.4 PK			1.31 H	299	112.13	-1.73
2	*2437.00	108.1 AV			1.31 H	299	109.83	-1.73
3	4874.00	53.5 PK	74.0	-20.5	1.41 H	61	46.50	7.00
4	4874.00	47.5 AV	54.0	-6.5	1.41 H	61	40.50	7.00
5	7311.00	54.9 PK	74.0	-19.1	1.25 H	285	40.30	14.60
6	7311.00	44.1 AV	54.0	-9.9	1.25 H	285	29.50	14.60
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	109.1 PK			1.05 V	211	110.83	-1.73
2	*2437.00	106.7 AV			1.05 V	211	108.43	-1.73
3	4874.00	56.9 PK	74.0	-17.1	1.00 V	80	49.90	7.00
4	4874.00	53.7 AV	54.0	-0.3	1.00 V	80	46.70	7.00
5	7311.00	56.1 PK	74.0	-17.9	1.00 V	157	41.50	14.60
6	7311.00	44.4 AV	54.0	-9.6	1.00 V	157	29.80	14.60

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – 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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	111.6 PK			1.27 H	301	113.22	-1.62
2	*2462.00	109.5 AV			1.27 H	301	111.12	-1.62
3	2483.50	58.5 PK	74.0	-15.5	1.27 H	301	60.02	-1.52
4	2483.50	47.0 AV	54.0	-7.0	1.27 H	301	48.52	-1.52
5	4924.00	53.1 PK	74.0	-20.9	1.46 H	52	45.95	7.15
6	4924.00	47.0 AV	54.0	-7.0	1.46 H	52	39.85	7.15
7	7386.00	54.8 PK	74.0	-19.2	1.31 H	286	40.33	14.47
8	7386.00	44.1 AV	54.0	-9.9	1.31 H	286	29.63	14.47
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	110.2 PK			1.06 V	218	111.82	-1.62
2	*2462.00	107.9 AV			1.06 V	218	109.52	-1.62
3	2483.50	57.2 PK	74.0	-16.8	1.06 V	218	58.72	-1.52
4	2483.50	46.0 AV	54.0	-8.0	1.06 V	218	47.52	-1.52
5	4924.00	57.5 PK	74.0	-16.5	1.00 V	74	50.35	7.15
6	4924.00	53.6 AV	54.0	-0.4	1.00 V	74	46.45	7.15
7	7386.00	55.6 PK	74.0	-18.4	1.00 V	145	41.13	14.47
8	7386.00	44.0 AV	54.0	-10.0	1.00 V	145	29.53	14.47

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 (HT20)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	71.4 PK	74.0	-2.6	1.05 H	293	37.87	33.53
2	2390.00	52.6 AV	54.0	-1.4	1.05 H	293	19.07	33.53
3	*2412.00	111.4 PK			1.05 H	293	77.81	33.59
4	*2412.00	99.9 AV			1.05 H	293	66.31	33.59
5	4824.00	53.4 PK	74.0	-20.6	1.69 H	70	10.22	43.18
6	4824.00	41.1 AV	54.0	-12.9	1.69 H	70	-2.08	43.18
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	73.6 PK	74.0	-0.4	1.10 V	225	40.07	33.53
2	2390.00	53.9 AV	54.0	-0.1	1.10 V	225	20.37	33.53
3	*2412.00	110.3 PK			1.10 V	225	76.71	33.59
4	*2412.00	99.7 AV			1.10 V	225	66.11	33.59
5	4824.00	55.3 PK	74.0	-18.7	1.02 V	80	12.12	43.18
6	4824.00	44.4 AV	54.0	-9.6	1.02 V	80	1.22	43.18

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	60.9 PK	74.0	-13.1	1.26 H	288	27.37	33.53
2	2390.00	48.0 AV	54.0	-6.0	1.26 H	288	14.47	33.53
3	*2437.00	117.0 PK			1.26 H	309	83.33	33.67
4	*2437.00	105.5 AV			1.26 H	309	71.83	33.67
5	2483.50	58.5 PK	74.0	-15.5	1.26 H	288	24.69	33.81
6	2483.50	48.0 AV	54.0	-6.0	1.26 H	288	14.19	33.81
7	4874.00	54.2 PK	74.0	-19.8	1.00 H	163	10.96	43.24
8	4874.00	42.1 AV	54.0	-11.9	1.00 H	163	-1.14	43.24
9	7311.00	58.6 PK	74.0	-15.4	1.00 H	27	10.53	48.07
10	7311.00	45.8 AV	54.0	-8.2	1.00 H	27	-2.27	48.07
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	63.8 PK	74.0	-10.2	1.12 V	185	30.27	33.53
2	2390.00	49.4 AV	54.0	-4.6	1.12 V	185	15.87	33.53
3	*2437.00	116.7 PK			1.12 V	185	83.03	33.67
4	*2437.00	106.3 AV			1.12 V	185	72.63	33.67
5	2483.50	62.3 PK	74.0	-11.7	1.12 V	185	28.49	33.81
6	2483.50	47.8 AV	54.0	-6.2	1.12 V	185	13.99	33.81
7	4874.00	62.5 PK	74.0	-11.5	1.00 V	80	19.26	43.24
8	4874.00	50.0 AV	54.0	-4.0	1.00 V	80	6.76	43.24
9	7311.00	66.9 PK	74.0	-7.1	1.22 V	83	18.83	48.07
10	7311.00	53.2 AV	54.0	-0.8	1.22 V	83	5.13	48.07

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	110.2 PK			1.00 H	286	76.46	33.74
2	*2462.00	98.9 AV			1.00 H	286	65.16	33.74
3	2483.50	64.9 PK	74.0	-9.1	1.00 H	286	31.09	33.81
4	2483.50	49.0 AV	54.0	-5.0	1.00 H	286	15.19	33.81
5	4924.00	50.3 PK	74.0	-23.7	1.49 H	155	7.03	43.27
6	4924.00	38.7 AV	54.0	-15.3	1.49 H	155	-4.57	43.27
7	7386.00	54.2 PK	74.0	-19.8	1.00 H	85	5.80	48.40
8	7386.00	42.2 AV	54.0	-11.8	1.00 H	85	-6.20	48.40
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	111.7 PK			1.12 V	195	77.96	33.74
2	*2462.00	101.9 AV			1.12 V	195	68.16	33.74
3	2483.50	71.5 PK	74.0	-2.5	1.12 V	195	37.69	33.81
4	2483.50	53.5 AV	54.0	-0.5	1.12 V	195	19.69	33.81
5	4924.00	58.1 PK	74.0	-15.9	1.00 V	80	14.83	43.27
6	4924.00	44.6 AV	54.0	-9.4	1.00 V	80	1.33	43.27
7	7386.00	55.2 PK	74.0	-18.8	1.00 V	83	6.80	48.40
8	7386.00	42.5 AV	54.0	-11.5	1.00 V	83	-5.90	48.40

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
5. " * ": Fundamental frequency.



A D T

802.11n (HT40)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	67.1 PK	74.0	-6.9	1.27 H	288	33.57	33.53
2	2390.00	52.9 AV	54.0	-1.1	1.27 H	288	19.37	33.53
3	*2422.00	105.2 PK			1.27 H	288	71.58	33.62
4	*2422.00	93.8 AV			1.27 H	288	60.18	33.62
5	4844.00	51.3 PK	74.0	-22.7	1.00 H	155	8.10	43.20
6	4844.00	38.5 AV	54.0	-15.5	1.00 H	155	-4.70	43.20
7	7266.00	55.2 PK	74.0	-18.8	1.00 H	155	7.29	47.91
8	7266.00	43.4 AV	54.0	-10.6	1.00 H	155	-4.51	47.91
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	68.3 PK	74.0	-5.7	1.06 V	237	34.77	33.53
2	2390.00	53.7 AV	54.0	-0.3	1.06 V	237	20.17	33.53
3	*2422.00	104.2 PK			1.06 V	237	70.58	33.62
4	*2422.00	94.0 AV			1.06 V	237	60.38	33.62
5	4844.00	54.8 PK	74.0	-19.2	1.00 V	73	11.60	43.20
6	4844.00	43.1 AV	54.0	-10.9	1.00 V	73	-0.10	43.20
7	7266.00	54.6 PK	74.0	-19.4	1.05 V	112	6.69	47.91
8	7266.00	42.8 AV	54.0	-11.2	1.05 V	112	-5.11	47.91

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	66.3 PK	74.0	-7.7	1.27 H	285	32.77	33.53
2	2390.00	51.6 AV	54.0	-2.4	1.27 H	285	18.07	33.53
3	*2437.00	110.2 PK			1.27 H	285	76.53	33.67
4	*2437.00	98.3 AV			1.27 H	285	64.63	33.67
5	2483.50	63.8 PK	74.0	-10.2	1.27 H	285	29.99	33.81
6	2483.50	48.6 AV	54.0	-5.4	1.27 H	285	14.79	33.81
7	4874.00	50.9 PK	74.0	-23.1	1.00 H	155	7.66	43.24
8	4874.00	38.1 AV	54.0	-15.9	1.00 H	155	-5.14	43.24
9	7311.00	54.9 PK	74.0	-19.1	1.00 H	156	6.83	48.07
10	7311.00	43.0 AV	54.0	-11.0	1.00 H	156	-5.07	48.07
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	71.1 PK	74.0	-2.9	1.08 V	239	37.57	33.53
2	2390.00	53.4 AV	54.0	-0.6	1.08 V	239	19.87	33.53
3	*2437.00	110.0 PK			1.08 V	239	76.33	33.67
4	*2437.00	99.3 AV			1.08 V	239	65.63	33.67
5	2483.50	65.4 PK	74.0	-8.6	1.08 V	239	31.59	33.81
6	2483.50	49.1 AV	54.0	-4.9	1.08 V	239	15.29	33.81
7	4874.00	54.5 PK	74.0	-19.5	1.00 V	80	11.26	43.24
8	4874.00	43.0 AV	54.0	-11.0	1.00 V	80	-0.24	43.24
9	7311.00	54.1 PK	74.0	-19.9	1.00 V	105	6.03	48.07
10	7311.00	42.5 AV	54.0	-11.5	1.00 V	105	-5.57	48.07

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2452.00	110.1 PK			1.05 H	293	76.39	33.71
2	*2452.00	98.0 AV			1.05 H	293	64.29	33.71
3	2483.50	72.4 PK	74.0	-1.6	1.05 H	293	38.59	33.81
4	2483.50	53.2 AV	54.0	-0.8	1.05 H	293	19.39	33.81
5	4904.00	50.8 PK	74.0	-23.2	1.00 H	153	7.53	43.27
6	4904.00	37.7 AV	54.0	-16.3	1.00 H	153	-5.57	43.27
7	7356.00	54.9 PK	74.0	-19.1	1.04 H	156	6.63	48.27
8	7356.00	43.2 AV	54.0	-10.8	1.04 H	156	-5.07	48.27

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	108.5 PK			1.06 V	223	74.79	33.71
2	*2452.00	98.4 AV			1.06 V	223	64.69	33.71
3	2483.50	72.8 PK	74.0	-1.2	1.06 V	223	38.99	33.81
4	2483.50	53.9 AV	54.0	-0.1	1.06 V	223	20.09	33.81
5	4904.00	54.9 PK	74.0	-19.1	1.01 V	75	11.63	43.27
6	4904.00	43.5 AV	54.0	-10.5	1.01 V	75	0.23	43.27
7	7356.00	53.7 PK	74.0	-20.3	1.00 V	110	5.43	48.27
8	7356.00	42.3 AV	54.0	-11.7	1.00 V	110	-5.97	48.27

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.

STBC_MODE

802.11n (HT20)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	68.7 PK	74.0	-5.3	1.27 H	271	35.17	33.53
2	2390.00	52.1 AV	54.0	-1.9	1.27 H	271	18.57	33.53
3	*2412.00	110.8 PK			1.27 H	271	77.21	33.59
4	*2412.00	99.1 AV			1.27 H	271	65.51	33.59
5	4824.00	56.9 PK	74.0	-17.1	1.00 H	163	13.72	43.18
6	4824.00	43.1 AV	54.0	-10.9	1.00 H	163	-0.08	43.18
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	70.8 PK	74.0	-3.2	1.37 V	206	37.27	33.53
2	2390.00	53.9 AV	54.0	-0.1	1.37 V	206	20.37	33.53
3	*2412.00	110.3 PK			1.37 V	206	76.71	33.59
4	*2412.00	99.3 AV			1.37 V	206	65.71	33.59
5	4824.00	61.6 PK	74.0	-12.4	1.01 V	90	18.42	43.18
6	4824.00	48.0 AV	54.0	-6.0	1.01 V	90	4.82	43.18

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	67.3 PK	74.0	-6.7	1.28 H	273	33.77	33.53
2	2390.00	52.3 AV	54.0	-1.7	1.28 H	273	18.77	33.53
3	*2437.00	119.9 PK			1.28 H	273	86.23	33.67
4	*2437.00	108.2 AV			1.28 H	273	74.53	33.67
5	2483.50	65.2 PK	74.0	-8.8	1.28 H	273	31.39	33.81
6	2483.50	51.7 AV	54.0	-2.3	1.28 H	273	17.89	33.81
7	4874.00	57.1 PK	74.0	-16.9	1.00 H	151	13.86	43.24
8	4874.00	43.1 AV	54.0	-10.9	1.00 H	151	-0.14	43.24
9	7311.00	60.8 PK	74.0	-13.2	1.63 H	19	12.73	48.07
10	7311.00	48.2 AV	54.0	-5.8	1.63 H	19	0.13	48.07
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	66.2 PK	74.0	-7.8	1.37 V	206	32.67	33.53
2	2390.00	52.6 AV	54.0	-1.4	1.37 V	206	19.07	33.53
3	*2437.00	120.0 PK			1.37 V	206	86.33	33.67
4	*2437.00	109.2 AV			1.37 V	206	75.53	33.67
5	2483.50	69.1 PK	74.0	-4.9	1.37 V	206	35.29	33.81
6	2483.50	51.0 AV	54.0	-3.0	1.37 V	206	17.19	33.81
7	4874.00	61.6 PK	74.0	-12.4	1.00 V	80	18.36	43.24
8	4874.00	48.1 AV	54.0	-5.9	1.00 V	80	4.86	43.24
9	7311.00	66.1 PK	74.0	-7.9	1.19 V	111	18.03	48.07
10	7311.00	53.9 AV	54.0	-0.1	1.19 V	111	5.83	48.07

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	112.3 PK			1.29 H	269	78.56	33.74
2	*2462.00	100.7 AV			1.29 H	269	66.96	33.74
3	2483.50	65.9 PK	74.0	-8.1	1.29 H	269	32.09	33.81
4	2483.50	51.6 AV	54.0	-2.4	1.29 H	269	17.79	33.81
5	4924.00	57.6 PK	74.0	-16.4	1.00 H	154	14.33	43.27
6	4924.00	43.5 AV	54.0	-10.5	1.00 H	154	0.23	43.27
7	7386.00	54.3 PK	74.0	-19.7	1.00 H	254	5.90	48.40
8	7386.00	41.2 AV	54.0	-12.8	1.00 H	254	-7.20	48.40

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	113.2 PK			1.36 V	203	79.46	33.74
2	*2462.00	101.4 AV			1.36 V	203	67.66	33.74
3	2483.50	69.2 PK	74.0	-4.8	1.36 V	203	35.39	33.81
4	2483.50	53.4 AV	54.0	-0.6	1.36 V	203	19.59	33.81
5	4924.00	62.1 PK	74.0	-11.9	1.04 V	78	18.83	43.27
6	4924.00	48.4 AV	54.0	-5.6	1.04 V	78	5.13	43.27
7	7386.00	54.6 PK	74.0	-19.4	1.33 V	129	6.20	48.40
8	7386.00	42.4 AV	54.0	-11.6	1.33 V	129	-6.00	48.40

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
5. " * ": Fundamental frequency.

802.11n (HT40)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	64.5 PK	74.0	-9.5	1.26 H	271	30.97	33.53
2	2390.00	50.7 AV	54.0	-3.3	1.26 H	271	17.17	33.53
3	*2422.00	105.8 PK			1.26 H	271	72.18	33.62
4	*2422.00	93.4 AV			1.26 H	271	59.78	33.62
5	4844.00	49.0 PK	74.0	-25.0	1.00 H	158	5.80	43.20
6	4844.00	38.2 AV	54.0	-15.8	1.00 H	158	-5.00	43.20
7	7266.00	54.5 PK	74.0	-19.5	1.00 H	149	6.59	47.91
8	7266.00	42.5 AV	54.0	-11.5	1.00 H	149	-5.41	47.91
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	70.5 PK	74.0	-3.5	1.39 V	205	36.97	33.53
2	2390.00	53.6 AV	54.0	-0.4	1.39 V	205	20.07	33.53
3	*2422.00	105.9 PK			1.39 V	205	72.28	33.62
4	*2422.00	94.7 AV			1.39 V	205	61.08	33.62
5	4844.00	56.9 PK	74.0	-17.1	1.02 V	149	13.70	43.20
6	4844.00	38.3 AV	54.0	-15.7	1.02 V	149	-4.90	43.20
7	7266.00	55.7 PK	74.0	-18.3	1.00 V	210	7.79	47.91
8	7266.00	43.5 AV	54.0	-10.5	1.00 V	210	-4.41	47.91

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	66.7 PK	74.0	-7.3	1.26 H	272	33.17	33.53
2	2390.00	50.7 AV	54.0	-3.3	1.26 H	272	17.17	33.53
3	*2437.00	110.9 PK			1.26 H	272	77.23	33.67
4	*2437.00	98.8 AV			1.26 H	272	65.13	33.67
5	2483.50	66.0 PK	74.0	-8.0	1.26 H	272	32.19	33.81
6	2483.50	49.2 AV	54.0	-4.8	1.26 H	272	15.39	33.81
7	4874.00	49.4 PK	74.0	-24.6	1.00 H	161	6.16	43.24
8	4874.00	38.5 AV	54.0	-15.5	1.00 H	161	-4.74	43.24
9	7311.00	55.1 PK	74.0	-18.9	1.00 H	155	7.03	48.07
10	7311.00	42.9 AV	54.0	-11.1	1.00 H	155	-5.17	48.07
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	70.4 PK	74.0	-3.6	1.37 V	201	36.87	33.53
2	2390.00	53.7 AV	54.0	-0.3	1.37 V	201	20.17	33.53
3	*2437.00	111.6 PK			1.37 V	201	77.93	33.67
4	*2437.00	100.5 AV			1.37 V	201	66.83	33.67
5	2483.50	65.8 PK	74.0	-8.2	1.37 V	201	31.99	33.81
6	2483.50	50.2 AV	54.0	-3.8	1.37 V	201	16.39	33.81
7	4874.00	56.6 PK	74.0	-17.4	1.00 V	156	13.36	43.24
8	4874.00	37.9 AV	54.0	-16.1	1.00 V	156	-5.34	43.24
9	7311.00	55.2 PK	74.0	-18.8	1.00 V	195	7.13	48.07
10	7311.00	43.1 AV	54.0	-10.9	1.00 V	195	-4.97	48.07

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2452.00	110.3 PK			1.04 H	270	76.59	33.71
2	*2452.00	97.2 AV			1.04 H	270	63.49	33.71
3	2483.50	68.9 PK	74.0	-5.1	1.04 H	270	35.09	33.81
4	2483.50	52.1 AV	54.0	-1.9	1.04 H	270	18.29	33.81
5	4904.00	49.1 PK	74.0	-24.9	1.00 H	173	5.83	43.27
6	4904.00	38.1 AV	54.0	-15.9	1.00 H	173	-5.17	43.27
7	7356.00	54.7 PK	74.0	-19.3	1.00 H	150	6.43	48.27
8	7356.00	42.7 AV	54.0	-11.3	1.00 H	150	-5.57	48.27

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2452.00	109.1 PK			1.38 V	196	75.39	33.71
2	*2452.00	97.5 AV			1.38 V	196	63.79	33.71
3	2483.50	71.9 PK	74.0	-2.1	1.38 V	196	38.09	33.81
4	2483.50	53.9 AV	54.0	-0.1	1.38 V	196	20.09	33.81
5	4904.00	56.1 PK	74.0	-17.9	1.00 V	147	12.83	43.27
6	4904.00	37.7 AV	54.0	-16.3	1.00 V	147	-5.57	43.27
7	7356.00	54.8 PK	74.0	-19.2	1.04 V	209	6.53	48.27
8	7356.00	42.8 AV	54.0	-11.2	1.04 V	209	-5.47	48.27

REMARKS:

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

4.2.8 TEST RESULTS (MODE 2)

CDD_MODE

ABOVE 1GHz DATA

802.11b

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	56.7 PK	74.0	-17.3	1.29 H	300	58.64	-1.94
2	2390.00	46.7 AV	54.0	-7.3	1.29 H	300	48.64	-1.94
3	*2412.00	108.5 PK			1.29 H	300	110.34	-1.84
4	*2412.00	106.4 AV			1.29 H	300	108.24	-1.84
5	2492.71	54.8 PK	74.0	-19.2	1.26 H	272	56.29	-1.49
6	2492.71	45.7 AV	54.0	-8.3	1.26 H	272	47.19	-1.49
7	4824.00	54.6 PK	74.0	-19.4	1.40 H	101	47.78	6.82
8	4824.00	49.3 AV	54.0	-4.7	1.40 H	101	42.48	6.82
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	54.6 PK	74.0	-19.4	1.38 V	270	56.54	-1.94
2	2390.00	45.7 AV	54.0	-8.3	1.38 V	270	47.64	-1.94
3	*2412.00	106.4 PK			1.38 V	270	108.24	-1.84
4	*2412.00	104.3 AV			1.38 V	270	106.14	-1.84
5	2491.26	54.9 PK	74.0	-19.1	1.10 V	171	56.39	-1.49
6	2491.26	46.4 AV	54.0	-7.6	1.10 V	171	47.89	-1.49
7	4824.00	57.7 PK	74.0	-16.3	1.01 V	96	50.88	6.82
8	4824.00	53.8 AV	54.0	-0.2	1.01 V	96	46.98	6.82

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	111.5 PK			1.24 H	301	113.23	-1.73
2	*2437.00	109.1 AV			1.24 H	301	110.83	-1.73
3	4874.00	54.9 PK	74.0	-19.1	1.41 H	89	47.90	7.00
4	4874.00	49.6 AV	54.0	-4.4	1.41 H	89	42.60	7.00
5	7311.00	55.3 PK	74.0	-18.7	1.52 H	191	40.70	14.60
6	7311.00	43.8 AV	54.0	-10.2	1.52 H	191	29.20	14.60
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	107.5 PK			1.37 V	271	109.23	-1.73
2	*2437.00	105.3 AV			1.37 V	271	107.03	-1.73
3	4874.00	57.1 PK	74.0	-16.9	1.00 V	96	50.10	7.00
4	4874.00	53.6 AV	54.0	-0.4	1.00 V	96	46.60	7.00
5	7311.00	57.1 PK	74.0	-16.9	1.22 V	96	42.50	14.60
6	7311.00	47.0 AV	54.0	-7.0	1.22 V	96	32.40	14.60

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – 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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	112.6 PK			1.29 H	277	114.22	-1.62
2	*2462.00	110.6 AV			1.29 H	277	112.22	-1.62
3	2483.50	58.9 PK	74.0	-15.1	1.29 H	277	60.42	-1.52
4	2483.50	47.5 AV	54.0	-6.5	1.29 H	277	49.02	-1.52
5	4924.00	54.3 PK	74.0	-19.7	1.39 H	99	47.15	7.15
6	4924.00	49.2 AV	54.0	-4.8	1.39 H	99	42.05	7.15
7	7386.00	55.6 PK	74.0	-18.4	1.50 H	184	41.13	14.47
8	7386.00	44.0 AV	54.0	-10.0	1.50 H	184	29.53	14.47

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	108.3 PK			1.09 V	219	109.92	-1.62
2	*2462.00	106.2 AV			1.09 V	219	107.82	-1.62
3	2483.50	56.4 PK	74.0	-17.6	1.09 V	218	57.92	-1.52
4	2483.50	45.6 AV	54.0	-8.4	1.09 V	218	47.12	-1.52
5	4924.00	57.6 PK	74.0	-16.4	1.00 V	95	50.45	7.15
6	4924.00	53.7 AV	54.0	-0.3	1.00 V	95	46.55	7.15
7	7386.00	57.0 PK	74.0	-17.0	1.17 V	112	42.53	14.47
8	7386.00	47.1 AV	54.0	-6.9	1.17 V	112	32.63	14.47

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.

SDM_MODE

802.11n (HT20)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	67.5 PK	74.0	-6.5	1.26 H	287	69.44	-1.94
2	2390.00	53.3 AV	54.0	-0.7	1.26 H	287	55.24	-1.94
3	*2412.00	111.2 PK			1.26 H	287	113.04	-1.84
4	*2412.00	101.1 AV			1.26 H	287	102.94	-1.84
5	4824.00	54.1 PK	74.0	-19.9	1.40 H	100	47.28	6.82
6	4824.00	41.2 AV	54.0	-12.8	1.40 H	100	34.38	6.82
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	68.5 PK	74.0	-5.5	1.40 V	222	70.44	-1.94
2	2390.00	53.7 AV	54.0	-0.3	1.40 V	222	55.64	-1.94
3	*2412.00	100.3 PK			1.40 V	222	102.14	-1.84
4	*2412.00	100.3 AV			1.40 V	222	102.14	-1.84
5	4824.00	55.3 PK	74.0	-18.7	1.01 V	115	48.48	6.82
6	4824.00	42.1 AV	54.0	-11.9	1.01 V	115	35.28	6.82

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2320.00	63.9 PK	74.0	-10.1	1.32 H	285	66.16	-2.26
2	2320.00	53.6 AV	54.0	-0.4	1.32 H	285	55.86	-2.26
3	*2437.00	120.8 PK			1.28 H	287	122.53	-1.73
4	*2437.00	109.9 AV			1.28 H	287	111.63	-1.73
5	2483.50	60.5 PK	74.0	-13.5	1.28 H	287	62.02	-1.52
6	2483.50	47.9 AV	54.0	-6.1	1.28 H	287	49.42	-1.52
7	4874.00	54.0 PK	74.0	-20.0	1.46 H	107	47.00	7.00
8	4874.00	41.1 AV	54.0	-12.9	1.46 H	107	34.10	7.00
9	7311.00	60.2 PK	74.0	-13.8	1.49 H	181	45.60	14.60
10	7311.00	47.2 AV	54.0	-6.8	1.49 H	181	32.60	14.60

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	63.2 PK	74.0	-10.8	1.09 V	242	65.14	-1.94
2	2390.00	52.0 AV	54.0	-2.0	1.09 V	242	53.94	-1.94
3	*2437.00	119.5 PK			1.09 V	242	121.23	-1.73
4	*2437.00	110.2 AV			1.09 V	242	111.93	-1.73
5	2483.50	64.0 PK	74.0	-10.0	1.09 V	242	65.52	-1.52
6	2483.50	50.7 AV	54.0	-3.3	1.09 V	242	52.22	-1.52
7	4874.00	57.2 PK	74.0	-16.8	1.00 V	111	50.20	7.00
8	4874.00	44.6 AV	54.0	-9.4	1.00 V	111	37.60	7.00
9	7311.00	63.3 PK	74.0	-10.7	1.21 V	100	48.70	14.60
10	7311.00	50.4 AV	54.0	-3.6	1.21 V	100	35.80	14.60

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – 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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	112.2 PK			1.28 H	274	113.82	-1.62
2	*2462.00	102.1 AV			1.28 H	274	103.72	-1.62
3	2483.50	64.3 PK	74.0	-9.7	1.28 H	274	65.82	-1.52
4	2483.50	52.7 AV	54.0	-1.3	1.28 H	274	54.22	-1.52
5	4924.00	54.1 PK	74.0	-19.9	1.42 H	94	46.95	7.15
6	4924.00	41.2 AV	54.0	-12.8	1.42 H	94	34.05	7.15
7	7386.00	60.4 PK	74.0	-13.6	1.47 H	181	45.93	14.47
8	7386.00	47.6 AV	54.0	-6.4	1.47 H	181	33.13	14.47
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	112.3 PK			1.05 V	242	113.92	-1.62
2	*2462.00	102.7 AV			1.05 V	242	104.32	-1.62
3	2483.50	65.5 PK	74.0	-8.5	1.05 V	242	67.02	-1.52
4	2483.50	53.8 AV	54.0	-0.2	1.05 V	242	55.32	-1.52
5	4924.00	54.7 PK	74.0	-19.3	1.00 V	101	47.55	7.15
6	4924.00	41.7 AV	54.0	-12.3	1.00 V	101	34.55	7.15
7	7386.00	57.4 PK	74.0	-16.6	1.17 V	101	42.93	14.47
8	7386.00	47.6 AV	54.0	-6.4	1.17 V	101	33.13	14.47

REMARKS:

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

802.11n (HT40)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	64.8 PK	74.0	-9.2	1.27 H	294	66.74	-1.94
2	2390.00	53.4 AV	54.0	-0.6	1.27 H	294	55.34	-1.94
3	*2422.00	108.1 PK			1.27 H	294	109.89	-1.79
4	*2422.00	97.1 AV			1.27 H	294	98.89	-1.79
5	4844.00	53.8 PK	74.0	-20.2	1.37 H	85	46.92	6.88
6	4844.00	41.2 AV	54.0	-12.8	1.37 H	85	34.32	6.88
7	7266.00	60.5 PK	74.0	-13.5	1.42 H	174	45.85	14.65
8	7266.00	47.8 AV	54.0	-6.2	1.42 H	174	33.15	14.65
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	68.3 PK	74.0	-5.7	1.12 V	222	70.24	-1.94
2	2390.00	53.8 AV	54.0	-0.2	1.12 V	222	55.74	-1.94
3	*2422.00	104.5 PK			1.12 V	222	106.29	-1.79
4	*2422.00	95.6 AV			1.12 V	222	97.39	-1.79
5	4844.00	55.4 PK	74.0	-18.6	1.01 V	85	48.52	6.88
6	4844.00	42.1 AV	54.0	-11.9	1.01 V	85	35.22	6.88
7	7266.00	58.0 PK	74.0	-16.0	1.20 V	104	43.35	14.65
8	7266.00	48.1 AV	54.0	-5.9	1.20 V	104	33.45	14.65

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	66.0 PK	74.0	-8.0	1.27 H	299	67.94	-1.94
2	2390.00	53.3 AV	54.0	-0.7	1.27 H	299	55.24	-1.94
3	*2437.00	113.2 PK			1.27 H	299	114.93	-1.73
4	*2437.00	102.8 AV			1.27 H	299	104.53	-1.73
5	2483.50	62.5 PK	74.0	-11.5	1.27 H	299	64.02	-1.52
6	2483.50	51.0 AV	54.0	-3.0	1.27 H	299	52.52	-1.52
7	4874.00	53.6 PK	74.0	-20.4	1.41 H	82	46.60	7.00
8	4874.00	40.9 AV	54.0	-13.1	1.41 H	82	33.90	7.00
9	7311.00	60.8 PK	74.0	-13.2	1.51 H	184	46.20	14.60
10	7311.00	47.8 AV	54.0	-6.2	1.51 H	184	33.20	14.60
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	65.9 PK	74.0	-8.1	1.07 V	240	67.84	-1.94
2	2390.00	53.5 AV	54.0	-0.5	1.07 V	240	55.44	-1.94
3	*2437.00	109.2 PK			1.07 V	240	110.93	-1.73
4	*2437.00	100.5 AV			1.07 V	240	102.23	-1.73
5	2483.50	64.0 PK	74.0	-10.0	1.07 V	240	65.52	-1.52
6	2483.50	52.0 AV	54.0	-2.0	1.07 V	240	53.52	-1.52
7	4874.00	54.8 PK	74.0	-19.2	1.04 V	114	47.80	7.00
8	4874.00	42.1 AV	54.0	-11.9	1.04 V	114	35.10	7.00
9	7311.00	56.7 PK	74.0	-17.3	1.13 V	101	42.10	14.60
10	7311.00	47.1 AV	54.0	-6.9	1.13 V	101	32.50	14.60

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – 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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2452.00	109.2 PK			1.27 H	292	110.86	-1.66
2	*2452.00	98.6 AV			1.27 H	292	100.26	-1.66
3	2483.50	65.6 PK	74.0	-8.4	1.27 H	292	67.12	-1.52
4	2483.50	53.1 AV	54.0	-0.9	1.27 H	292	54.62	-1.52
5	4904.00	54.2 PK	74.0	-19.8	1.47 H	87	47.10	7.10
6	4904.00	41.6 AV	54.0	-12.4	1.47 H	87	34.50	7.10
7	7356.00	59.8 PK	74.0	-14.2	1.49 H	178	45.28	14.52
8	7356.00	47.2 AV	54.0	-6.8	1.49 H	178	32.68	14.52
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	106.0 PK			1.10 V	190	107.66	-1.66
2	*2452.00	97.1 AV			1.10 V	190	98.76	-1.66
3	2483.50	67.9 PK	74.0	-6.1	1.10 V	190	69.42	-1.52
4	2483.50	53.9 AV	54.0	-0.1	1.10 V	190	55.42	-1.52
5	4904.00	54.7 PK	74.0	-19.3	1.02 V	101	47.60	7.10
6	4904.00	41.4 AV	54.0	-12.6	1.02 V	101	34.30	7.10
7	7356.00	57.2 PK	74.0	-16.8	1.13 V	87	42.68	14.52
8	7356.00	47.3 AV	54.0	-6.7	1.13 V	87	32.78	14.52

REMARKS:

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

4.2.9 TEST RESULTS (MODE 3)

ABOVE 1GHz DATA

802.11b

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	49.4 PK	74.0	-24.6	1.00 H	327	15.87	33.53
2	2390.00	36.8 AV	54.0	-17.2	1.00 H	327	3.27	33.53
3	*2412.00	98.5 PK			1.00 H	327	64.91	33.59
4	*2412.00	95.7 AV			1.00 H	327	62.11	33.59
5	2490.00	48.4 PK	74.0	-25.6	1.00 H	327	14.57	33.83
6	2490.00	36.1 AV	54.0	-17.9	1.00 H	327	2.27	33.83
7	4824.00	55.2 PK	74.0	-18.8	1.51 H	49	12.02	43.18
8	4824.00	49.9 AV	54.0	-4.1	1.51 H	49	6.72	43.18
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	59.0 PK	74.0	-15.0	1.14 V	165	25.47	33.53
2	2390.00	47.6 AV	54.0	-6.4	1.14 V	165	14.07	33.53
3	*2412.00	110.9 PK			1.14 V	165	77.31	33.59
4	*2412.00	107.8 AV			1.14 V	165	74.21	33.59
5	2490.00	56.8 PK	74.0	-17.2	1.14 V	165	22.97	33.83
6	2490.00	47.4 AV	54.0	-6.6	1.14 V	165	13.57	33.83
7	4824.00	57.5 PK	74.0	-16.5	1.00 V	77	14.32	43.18
8	4824.00	53.8 AV	54.0	-0.2	1.00 V	77	10.62	43.18

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	98.8 PK			1.00 H	321	65.13	33.67
2	*2437.00	96.4 AV			1.00 H	321	62.73	33.67
3	4874.00	54.7 PK	74.0	-19.3	1.59 H	48	11.46	43.24
4	4874.00	49.2 AV	54.0	-4.8	1.59 H	48	5.96	43.24
5	7311.00	54.6 PK	74.0	-19.4	1.00 H	227	6.53	48.07
6	7311.00	44.2 AV	54.0	-9.8	1.00 H	227	-3.87	48.07
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	111.2 PK			1.20 V	159	77.53	33.67
2	*2437.00	108.5 AV			1.20 V	159	74.83	33.67
3	4874.00	58.2 PK	74.0	-15.8	1.00 V	78	14.96	43.24
4	4874.00	53.9 AV	54.0	-0.1	1.00 V	78	10.66	43.24
5	7311.00	57.6 PK	74.0	-16.4	1.22 V	81	9.53	48.07
6	7311.00	47.8 AV	54.0	-6.2	1.22 V	81	-0.27	48.07

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2382.00	49.1 PK	74.0	-24.9	1.00 H	341	15.60	33.50
2	2382.00	36.5 AV	54.0	-17.5	1.00 H	341	3.00	33.50
3	*2462.00	99.0 PK			1.03 H	331	65.26	33.74
4	*2462.00	96.7 AV			1.03 H	331	62.96	33.74
5	2483.50	49.2 PK	74.0	-24.8	1.00 H	336	15.39	33.81
6	2483.50	36.4 AV	54.0	-17.6	1.00 H	336	2.59	33.81
7	4924.00	54.9 PK	74.0	-19.1	1.54 H	34	11.63	43.27
8	4924.00	49.5 AV	54.0	-4.5	1.54 H	34	6.23	43.27
9	7386.00	54.2 PK	74.0	-19.8	1.00 H	215	5.80	48.40
10	7386.00	43.9 AV	54.0	-10.1	1.00 H	215	-4.50	48.40

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	2382.00	57.4 PK	74.0	-16.6	1.09 V	154	23.90	33.50
2	2382.00	47.9 AV	54.0	-6.1	1.09 V	154	14.40	33.50
3	*2462.00	111.7 PK			1.14 V	171	77.96	33.74
4	*2462.00	108.9 AV			1.14 V	171	75.16	33.74
5	2483.50	59.3 PK	74.0	-14.7	1.14 V	171	25.49	33.81
6	2483.50	47.2 AV	54.0	-6.8	1.14 V	171	13.39	33.81
7	4924.00	57.8 PK	74.0	-16.2	1.00 V	79	14.53	43.27
8	4924.00	53.6 AV	54.0	-0.4	1.00 V	79	10.33	43.27
9	7386.00	57.5 PK	74.0	-16.5	1.21 V	94	9.10	48.40
10	7386.00	47.5 AV	54.0	-6.5	1.21 V	94	-0.90	48.40

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
5. " * ": Fundamental frequency.



A D T

802.11g

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	51.6 PK	74.0	-22.4	1.82 H	43	18.07	33.53
2	2390.00	39.6 AV	54.0	-14.4	1.82 H	43	6.07	33.53
3	*2412.00	98.8 PK			1.85 H	29	65.21	33.59
4	*2412.00	88.5 AV			1.85 H	29	54.91	33.59
5	4824.00	50.8 PK	74.0	-23.2	1.68 H	129	7.62	43.18
6	4824.00	38.5 AV	54.0	-15.5	1.68 H	129	-4.68	43.18
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	72.4 PK	74.0	-1.6	1.14 V	174	38.87	33.53
2	2390.00	53.5 AV	54.0	-0.5	1.14 V	174	19.97	33.53
3	*2412.00	112.4 PK			1.14 V	174	78.81	33.59
4	*2412.00	100.8 AV			1.14 V	174	67.21	33.59
5	4824.00	59.7 PK	74.0	-14.3	1.00 V	84	16.52	43.18
6	4824.00	45.8 AV	54.0	-8.2	1.00 V	84	2.62	43.18

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	51.8 PK	74.0	-22.2	1.85 H	41	18.27	33.53
2	2390.00	40.0 AV	54.0	-14.0	1.85 H	41	6.47	33.53
3	*2437.00	107.1 PK			1.85 H	41	73.43	33.67
4	*2437.00	96.3 AV			1.85 H	41	62.63	33.67
5	2483.50	52.7 PK	74.0	-21.3	1.85 H	41	18.89	33.81
6	2483.50	39.5 AV	54.0	-14.5	1.85 H	41	5.69	33.81
7	4874.00	50.4 PK	74.0	-23.6	1.63 H	142	7.16	43.24
8	4874.00	38.2 AV	54.0	-15.8	1.63 H	142	-5.04	43.24
9	7311.00	59.8 PK	74.0	-14.2	1.67 H	13	11.73	48.07
10	7311.00	45.9 AV	54.0	-8.1	1.67 H	13	-2.17	48.07

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	68.2 PK	74.0	-5.8	1.14 V	176	34.67	33.53
2	2390.00	53.7 AV	54.0	-0.3	1.14 V	176	20.17	33.53
3	*2437.00	120.7 PK			1.14 V	176	87.03	33.67
4	*2437.00	109.6 AV			1.14 V	176	75.93	33.67
5	2483.50	67.3 PK	74.0	-6.7	1.14 V	176	33.49	33.81
6	2483.50	51.7 AV	54.0	-2.3	1.14 V	176	17.89	33.81
7	4874.00	59.5 PK	74.0	-14.5	1.03 V	97	16.26	43.24
8	4874.00	45.7 AV	54.0	-8.3	1.03 V	97	2.46	43.24
9	7311.00	64.4 PK	74.0	-9.6	1.21 V	94	16.33	48.07
10	7311.00	51.8 AV	54.0	-2.2	1.21 V	94	3.73	48.07

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	99.7 PK			1.90 H	25	65.96	33.74
2	*2462.00	89.4 AV			1.90 H	25	55.66	33.74
3	2483.50	52.4 PK	74.0	-21.6	1.84 H	54	18.59	33.81
4	2483.50	39.3 AV	54.0	-14.7	1.84 H	54	5.49	33.81
5	4924.00	50.3 PK	74.0	-23.7	1.71 H	124	7.03	43.27
6	4924.00	38.3 AV	54.0	-15.7	1.71 H	124	-4.97	43.27
7	7386.00	59.7 PK	74.0	-14.3	1.66 H	2	11.30	48.40
8	7386.00	45.8 AV	54.0	-8.2	1.66 H	2	-2.60	48.40
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	113.2 PK			1.13 V	174	79.46	33.74
2	*2462.00	101.7 AV			1.13 V	174	67.96	33.74
3	2483.50	67.6 PK	74.0	-6.4	1.13 V	174	33.79	33.81
4	2483.50	53.6 AV	54.0	-0.4	1.13 V	174	19.79	33.81
5	4924.00	59.5 PK	74.0	-14.5	1.03 V	106	16.23	43.27
6	4924.00	45.7 AV	54.0	-8.3	1.03 V	106	2.43	43.27
7	7386.00	64.3 PK	74.0	-9.7	1.22 V	108	15.90	48.40
8	7386.00	52.0 AV	54.0	-2.0	1.22 V	108	3.60	48.40

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
5. " * ": Fundamental frequency.



A D T

802.11n (HT20)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	56.2 PK	74.0	-17.8	1.03 H	274	58.14	-1.94
2	2390.00	46.4 AV	54.0	-7.6	1.03 H	274	48.34	-1.94
3	*2412.00	95.7 PK			1.03 H	274	97.54	-1.84
4	*2412.00	84.5 AV			1.03 H	274	86.34	-1.84
5	4824.00	54.4 PK	74.0	-19.6	1.30 H	42	47.58	6.82
6	4824.00	40.1 AV	54.0	-13.9	1.30 H	42	33.28	6.82
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	72.5 PK	74.0	-1.5	1.18 V	177	74.44	-1.94
2	2390.00	53.9 AV	54.0	-0.1	1.18 V	177	55.84	-1.94
3	*2412.00	111.2 PK			1.18 V	177	113.04	-1.84
4	*2412.00	100.7 AV			1.18 V	177	102.54	-1.84
5	4824.00	54.4 PK	74.0	-19.6	1.49 V	92	47.58	6.82
6	4824.00	41.6 AV	54.0	-12.4	1.49 V	92	34.78	6.82

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	57.3 PK	74.0	-16.7	1.02 H	274	59.24	-1.94
2	2390.00	47.1 AV	54.0	-6.9	1.02 H	274	49.04	-1.94
3	*2437.00	97.4 PK			1.02 H	276	99.13	-1.73
4	*2437.00	85.8 AV			1.02 H	276	87.53	-1.73
5	2483.50	55.1 PK	74.0	-18.9	1.03 H	277	56.62	-1.52
6	2483.50	46.0 AV	54.0	-8.0	1.03 H	277	47.52	-1.52
7	4874.00	54.0 PK	74.0	-20.0	1.30 H	39	47.00	7.00
8	4874.00	39.9 AV	54.0	-14.1	1.30 H	39	32.90	7.00
9	7311.00	58.2 PK	74.0	-15.8	1.72 H	31	43.60	14.60
10	7311.00	46.3 AV	54.0	-7.7	1.72 H	31	31.70	14.60

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	68.2 PK	74.0	-5.8	1.44 V	171	70.14	-1.94
2	2390.00	53.8 AV	54.0	-0.2	1.44 V	171	55.74	-1.94
3	*2437.00	112.9 PK			1.44 V	171	114.63	-1.73
4	*2437.00	102.0 AV			1.44 V	171	103.73	-1.73
5	2483.50	68.6 PK	74.0	-5.4	1.44 V	171	70.12	-1.52
6	2483.50	52.6 AV	54.0	-1.4	1.44 V	171	54.12	-1.52
7	4874.00	54.6 PK	74.0	-19.4	1.47 V	92	47.60	7.00
8	4874.00	41.7 AV	54.0	-12.3	1.47 V	92	34.70	7.00
9	7311.00	66.5 PK	74.0	-7.5	1.29 V	97	51.90	14.60
10	7311.00	52.1 AV	54.0	-1.9	1.29 V	97	37.50	14.60

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – 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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	98.3 PK			1.04 H	292	99.92	-1.62
2	*2462.00	86.0 AV			1.04 H	292	87.62	-1.62
3	2483.50	56.7 PK	74.0	-17.3	1.06 H	283	58.22	-1.52
4	2483.50	46.6 AV	54.0	-7.4	1.06 H	283	48.12	-1.52
5	4924.00	53.6 PK	74.0	-20.4	1.34 H	49	46.45	7.15
6	4924.00	39.6 AV	54.0	-14.4	1.34 H	49	32.45	7.15
7	7386.00	57.9 PK	74.0	-16.1	1.67 H	34	43.43	14.47
8	7386.00	46.1 AV	54.0	-7.9	1.67 H	34	31.63	14.47
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	113.8 PK			1.16 V	188	115.42	-1.62
2	*2462.00	102.2 AV			1.16 V	188	103.82	-1.62
3	2483.50	72.1 PK	74.0	-1.9	1.16 V	188	73.62	-1.52
4	2483.50	53.9 AV	54.0	-0.1	1.16 V	188	55.42	-1.52
5	4924.00	54.5 PK	74.0	-19.5	1.46 V	97	47.35	7.15
6	4924.00	41.4 AV	54.0	-12.6	1.46 V	97	34.25	7.15
7	7386.00	57.5 PK	74.0	-16.5	1.27 V	100	43.03	14.47
8	7386.00	47.5 AV	54.0	-6.5	1.27 V	100	33.03	14.47

REMARKS:

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

802.11n (HT40)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	57.0 PK	74.0	-17.0	1.11 H	284	58.94	-1.94
2	2390.00	46.9 AV	54.0	-7.1	1.11 H	284	48.84	-1.94
3	*2422.00	90.7 PK			1.04 H	275	92.49	-1.79
4	*2422.00	79.0 AV			1.04 H	275	80.79	-1.79
5	4844.00	53.2 PK	74.0	-20.8	1.32 H	38	46.32	6.88
6	4844.00	39.2 AV	54.0	-14.8	1.32 H	38	32.32	6.88
7	7266.00	57.8 PK	74.0	-16.2	1.73 H	22	43.15	14.65
8	7266.00	45.9 AV	54.0	-8.1	1.73 H	22	31.25	14.65
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	1.44 V	185	70.84	-1.94
2	2390.00	53.9 AV	54.0	-0.1	1.44 V	185	55.84	-1.94
3	*2422.00	106.2 PK			1.44 V	185	107.99	-1.79
4	*2422.00	95.2 AV			1.44 V	185	96.99	-1.79
5	4844.00	54.7 PK	74.0	-19.3	1.46 V	85	47.82	6.88
6	4844.00	41.8 AV	54.0	-12.2	1.46 V	85	34.92	6.88
7	7266.00	57.3 PK	74.0	-16.7	1.23 V	112	42.65	14.65
8	7266.00	47.5 AV	54.0	-6.5	1.23 V	112	32.85	14.65

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	57.2 PK	74.0	-16.8	1.02 H	266	59.14	-1.94
2	2390.00	47.3 AV	54.0	-6.7	1.02 H	266	49.24	-1.94
3	*2437.00	96.0 PK			1.00 H	267	97.73	-1.73
4	*2437.00	84.6 AV			1.00 H	267	86.33	-1.73
5	2483.50	55.3 PK	74.0	-18.7	1.02 H	292	56.82	-1.52
6	2483.50	46.0 AV	54.0	-8.0	1.02 H	292	47.52	-1.52
7	4874.00	54.3 PK	74.0	-19.7	1.32 H	30	47.30	7.00
8	4874.00	40.1 AV	54.0	-13.9	1.32 H	30	33.10	7.00
9	7311.00	58.0 PK	74.0	-16.0	1.73 H	16	43.40	14.60
10	7311.00	46.2 AV	54.0	-7.8	1.73 H	16	31.60	14.60

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	69.4 PK	74.0	-4.6	1.45 V	171	71.34	-1.94
2	2390.00	53.8 AV	54.0	-0.2	1.45 V	171	55.74	-1.94
3	*2437.00	111.5 PK			1.45 V	171	113.23	-1.73
4	*2437.00	100.8 AV			1.45 V	171	102.53	-1.73
5	2483.50	65.3 PK	74.0	-8.7	1.45 V	171	66.82	-1.52
6	2483.50	50.4 AV	54.0	-3.6	1.45 V	171	51.92	-1.52
7	4874.00	54.3 PK	74.0	-19.7	1.50 V	88	47.30	7.00
8	4874.00	41.1 AV	54.0	-12.9	1.50 V	88	34.10	7.00
9	7311.00	58.1 PK	74.0	-15.9	1.25 V	89	43.50	14.60
10	7311.00	47.9 AV	54.0	-6.1	1.25 V	89	33.30	14.60

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – 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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2452.00	93.1 PK			1.01 H	289	94.76	-1.66
2	*2452.00	82.1 AV			1.01 H	289	83.76	-1.66
3	2483.50	56.7 PK	74.0	-17.3	1.07 H	300	58.22	-1.52
4	2483.50	46.9 AV	54.0	-7.1	1.07 H	300	48.42	-1.52
5	4904.00	53.3 PK	74.0	-20.7	1.32 H	53	46.20	7.10
6	4904.00	39.3 AV	54.0	-14.7	1.32 H	53	32.20	7.10
7	7356.00	57.4 PK	74.0	-16.6	1.70 H	16	42.88	14.52
8	7356.00	45.7 AV	54.0	-8.3	1.70 H	16	31.18	14.52

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	108.6 PK			1.41 V	155	110.26	-1.66
2	*2452.00	98.3 AV			1.41 V	155	99.96	-1.66
3	2483.50	72.3 PK	74.0	-1.7	1.41 V	155	73.82	-1.52
4	2483.50	53.7 AV	54.0	-0.3	1.41 V	155	55.22	-1.52
5	4904.00	54.5 PK	74.0	-19.5	1.51 V	102	47.40	7.10
6	4904.00	41.6 AV	54.0	-12.4	1.51 V	102	34.50	7.10
7	7356.00	57.9 PK	74.0	-16.1	1.26 V	116	43.38	14.52
8	7356.00	47.8 AV	54.0	-6.2	1.26 V	116	33.28	14.52

REMARKS:

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

4.3 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 INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Spectrum Analyzer R&S	FSP40	100036	Jan. 21, 2013	Jan. 20, 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. Tested date : Dec. 04, 2013

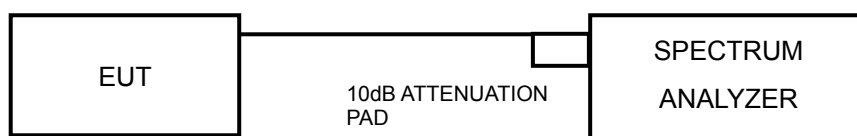
4.3.3 TEST PROCEDURE

1. Set resolution bandwidth (RBW) = 100kHz
2. Set the video bandwidth (VBW) $\geq 3 \times$ RBW, Detector = Peak.
3. Trace mode = max hold.
4. Sweep = auto couple.
5. 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

4.3.4 DEVIATION FROM TEST STANDARD

No deviation

4.3.5 TEST SETUP



4.3.6 EUT OPERATING CONDITIONS

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

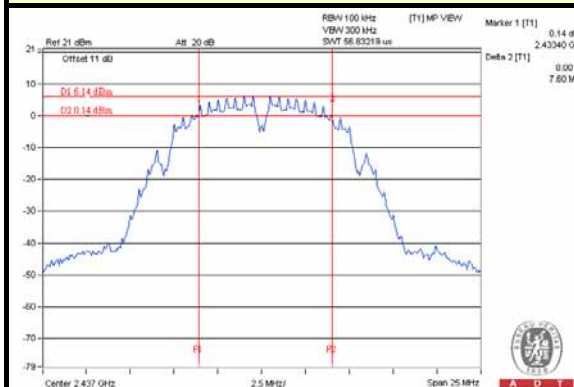
4.3.7 TEST RESULTS (MODE 1)

CDD_MODE						
CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)			MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2		
802.11b						
1	2412	8.03	7.62	8.07	0.5	PASS
6	2437	8.09	8.03	7.60	0.5	PASS
11	2462	8.04	7.62	7.65	0.5	PASS
802.11n (HT20)						
1	2412	17.73	17.71	17.70	0.5	PASS
6	2437	17.69	17.72	17.68	0.5	PASS
11	2462	17.70	17.66	17.71	0.5	PASS
802.11n (HT40)						
3	2422	36.44	36.50	36.45	0.5	PASS
6	2437	36.45	36.52	36.43	0.5	PASS
9	2452	36.48	36.46	36.46	0.5	PASS

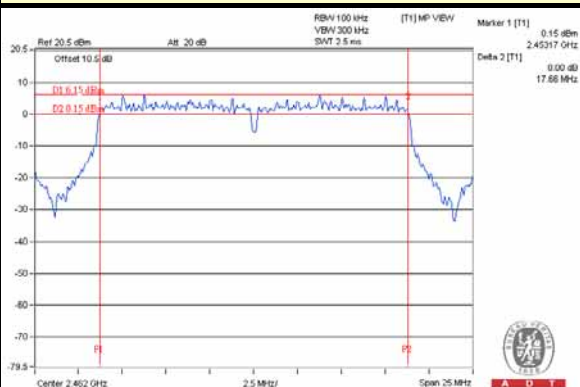
STBC_MODE						
CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)			MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2		
802.11n (HT20)						
1	2412	17.73	17.71	17.70	0.5	PASS
6	2437	17.70	17.68	17.70	0.5	PASS
11	2462	17.70	17.66	17.71	0.5	PASS
802.11n (HT40)						
3	2422	35.60	36.44	36.49	0.5	PASS
6	2437	35.55	36.27	36.51	0.5	PASS
9	2452	35.61	36.50	36.44	0.5	PASS

SPECTRUM PLOT OF WORST VALUE

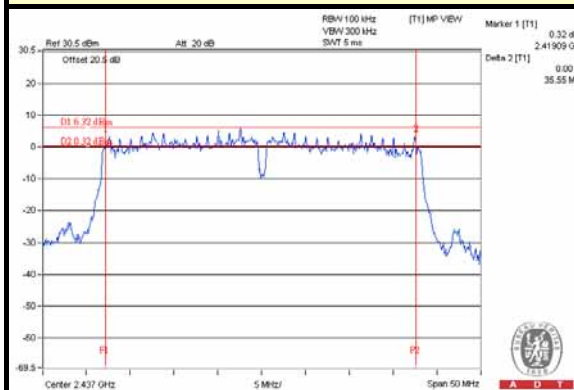
CDD_MODE <802.11b_Chain (2) / CH6>



CDD_MODE <802.11n (HT20)_Chain (1) / CH11>



STBC_MODE <802.11n (HT40)_Chain (0) / CH6>



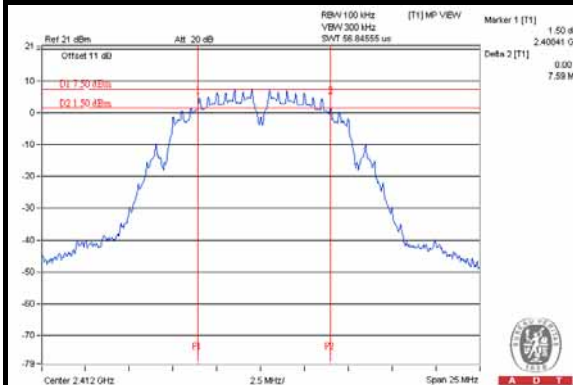
4.3.8 TEST RESULTS (MODE 2)

CDD_MODE					
CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1		
802.11b					
1	2412	8.08	7.59	0.5	PASS
6	2437	8.09	7.59	0.5	PASS
11	2462	8.06	8.53	0.5	PASS

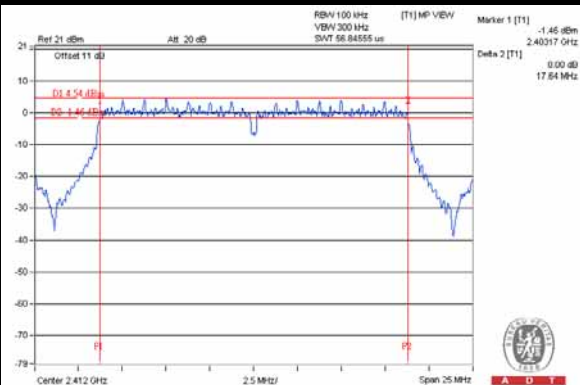
SDM_MODE					
CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1		
802.11n (HT20)					
1	2412	17.65	17.64	0.5	PASS
6	2437	17.64	17.67	0.5	PASS
11	2462	17.67	17.66	0.5	PASS
802.11n (HT40)					
3	2422	36.48	36.44	0.5	PASS
6	2437	36.05	36.47	0.5	PASS
9	2452	36.45	36.45	0.5	PASS

SPECTRUM PLOT OF WORST VALUE

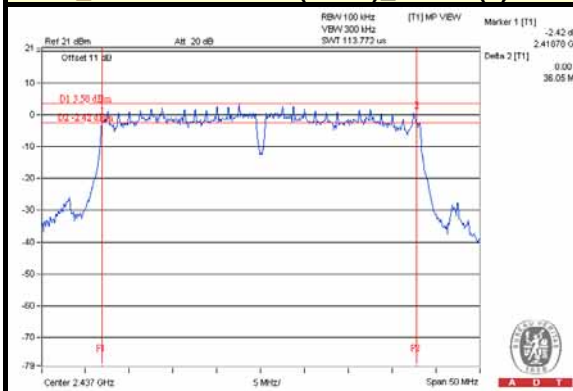
CDD_MODE <802.11b_Chain (1) / CH1>



SDM_MODE <802.11n (HT20)_Chain (1) / CH1



SDM_MODE <802.11n (HT40)_Chain (0) / CH6

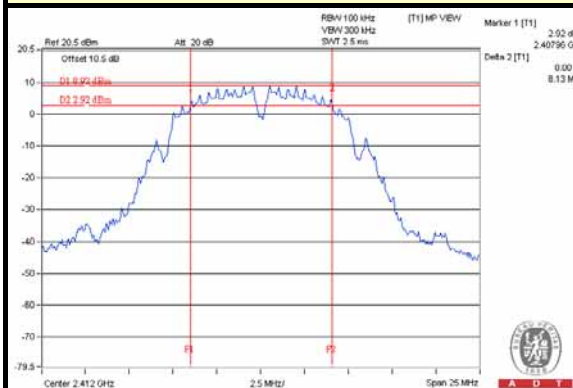


4.3.9 TEST RESULTS (MODE 3)

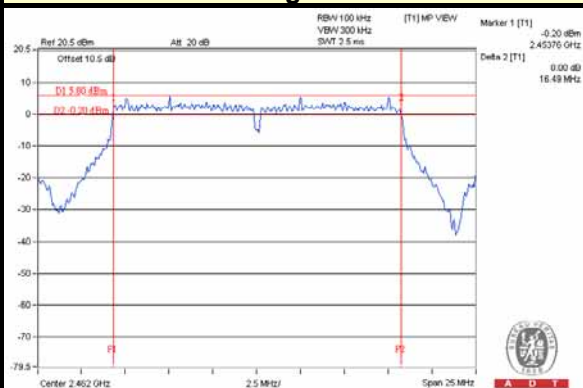
802.11b				
CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	8.13	0.5	PASS
6	2437	8.15	0.5	PASS
11	2462	8.14	0.5	PASS
802.11g				
1	2412	16.51	0.5	PASS
6	2437	16.50	0.5	PASS
11	2462	16.49	0.5	PASS
802.11n (HT20)				
1	2412	17.64	0.5	PASS
6	2437	17.61	0.5	PASS
11	2462	17.66	0.5	PASS
802.11n (HT40)				
3	2422	36.52	0.5	PASS
6	2437	36.44	0.5	PASS
9	2452	36.45	0.5	PASS

SPECTRUM PLOT OF WORST VALUE

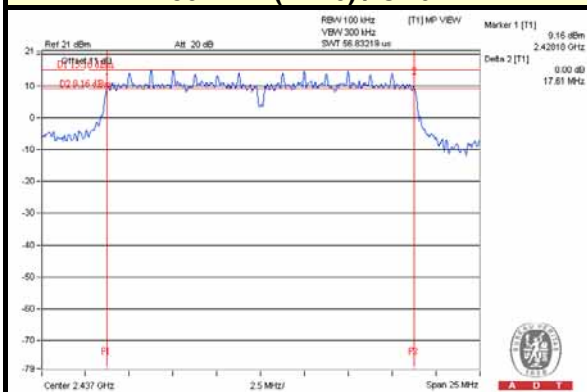
802.11b / CH1



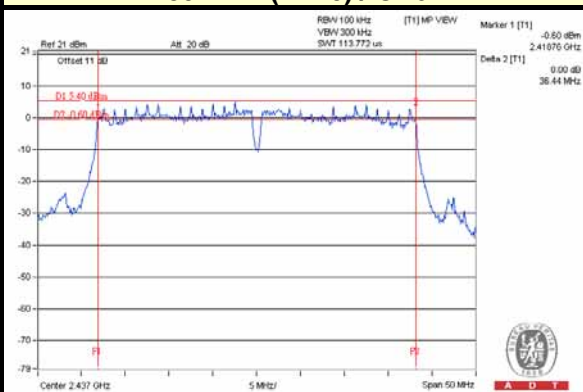
802.11g / CH11



802.11n (HT20) / CH6



802.11n (HT40) / CH6



4.4 CONDUCTED OUTPUT POWER MEASUREMENT

4.4.1 LIMITS OF MAXIMUM PEAK 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 v01r02 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 INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Power meter Anritsu	ML2495A	0824006	May 20, 2013	May 19, 2014
Power sensor Anritsu	MA2411B	0738172	May 20, 2013	May 19, 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. Tested date : Dec. 04, 2013

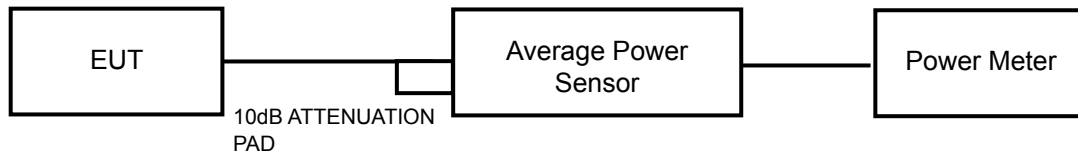
4.4.3 TEST PROCEDURES

Method PM is used to perform output power measurement, trigger and gating function of wide band power meter is enabled to measure max output power of TX on burst. Duty factor is not added to measured value.

4.4.4 DEVIATION FROM TEST STANDARD

No deviation.

4.4.5 TEST SETUP



4.4.6 EUT OPERATING CONDITIONS

Same as Item 4.3.6

4.4.7 TEST RESULTS (MODE 1)

CDD_MODE								
CHANNEL	FREQUENCY (MHz)	AVERAGE POWER (dBm)			TOTAL POWER (mW)	TOTAL POWER (dBm)	LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2				
802.11b								
1	2412	13.41	13.38	14.12	69.528	18.42	30	PASS
6	2437	14.71	14.91	15.27	94.205	19.74	30	PASS
11	2462	16.03	15.47	16.18	116.819	20.68	30	PASS
802.11n (HT20)								
1	2412	16.47	16.89	17.11	144.630	21.60	30	PASS
6	2437	22.53	22.55	22.48	535.959	27.29	30	PASS
11	2462	17.62	17.74	17.61	174.916	22.43	30	PASS
802.11n (HT40)								
3	2422	12.34	13.83	12.82	60.438	17.81	30	PASS
6	2437	17.51	18.26	18.22	189.726	22.78	30	PASS
9	2452	16.91	17.21	17.06	152.509	21.83	30	PASS

STBC_MODE								
CHANNEL	FREQUENCY (MHz)	AVERAGE POWER (dBm)			TOTAL POWER (mW)	TOTAL POWER (dBm)	LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2				
802.11n (HT20)								
1	2412	16.43	16.94	16.89	142.250	21.53	30	PASS
6	2437	24.73	25.01	24.85	919.616	29.64	30	PASS
11	2462	17.49	17.97	17.86	179.860	22.55	30	PASS
802.11n (HT40)								
3	2422	13.53	13.83	13.51	69.136	18.40	30	PASS
6	2437	17.81	18.47	18.21	196.924	22.94	30	PASS
9	2452	16.57	17.11	16.49	141.364	21.50	30	PASS

4.4.8 TEST RESULTS (MODE 2)

CDD_MODE							
CHANNEL	FREQUENCY (MHz)	AVERAGE POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
802.11b							
1	2412	15.52	15.68	72.628	18.61	30	PASS
6	2437	16.83	16.22	90.074	19.55	30	PASS
11	2462	17.82	17.76	120.238	20.80	30	PASS

SDM_MODE							
CHANNEL	FREQUENCY (MHz)	AVERAGE POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
802.11n (HT20)							
1	2412	16.34	16.01	82.955	19.19	30	PASS
6	2437	22.86	22.71	379.835	25.80	30	PASS
11	2462	16.81	16.03	88.060	19.45	30	PASS
802.11n (HT40)							
3	2422	12.11	11.75	31.217	14.94	30	PASS
6	2437	17.51	16.93	105.681	20.24	30	PASS
9	2452	13.34	13.08	41.901	16.22	30	PASS

4.4.9 TEST RESULTS (MODE 3)

802.11b					
CHANNEL	FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)	LIMIT (dBm)	PASS/FAIL
1	2412	59.841	17.77	30	PASS
6	2437	74.817	18.74	30	PASS
11	2462	76.033	18.81	30	PASS
802.11g					
1	2412	47.973	16.81	30	PASS
6	2437	287.078	24.58	30	PASS
11	2462	58.479	17.67	30	PASS
802.11n (HT20)					
1	2412	50.350	17.02	30	PASS
6	2437	490.908	26.91	30	PASS
11	2462	63.241	18.01	30	PASS
802.11n (HT40)					
3	2422	17.579	12.45	30	PASS
6	2437	84.723	19.28	30	PASS
9	2452	59.020	17.71	30	PASS

4.5 POWER SPECTRAL DENSITY MEASUREMENT

4.5.1 LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT

The Maximum of Power Spectral Density Measurement is 8dBm.

4.5.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Spectrum Analyzer R&S	FSP 40	100036	Jan. 21, 2013	Jan. 20, 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. Tested date : Dec. 04, 2013

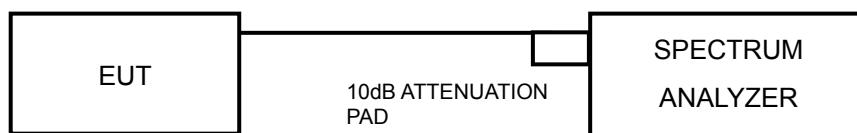
4.5.3 TEST PROCEDURE

1. Set the RBW = 30 kHz, VBW =100 kHz, Detector = power averaging (RMS).
2. Ensure that the number of measurement points in the sweep $\geq 2 \times$ span/RBW
3. Sweep time = auto couple,
4. Employ trace averaging (RMS) mode over a minimum of 100 traces.
5. Use the peak marker function to determine the maximum amplitude level.

4.5.4 DEVIATION FROM TEST STANDARD

No deviation

4.5.5 TEST SETUP



4.5.6 EUT OPERATING CONDITION

Same as Item 4.3.6

4.5.7 TEST RESULTS (MODE 1)

CDD_MODE

802.11b

TX CHAIN	CHANNEL	FREQUENCY (MHz)	PSD (dBm)	10 log (N=3) dB	TOTAL PSD (dBm)	LIMIT (dBm)	PASS /FAIL
0	1	2412	-10.31	4.77	-5.54	5.41	PASS
	6	2437	-9.76	4.77	-4.99	5.41	PASS
	11	2462	-8.23	4.77	-3.46	5.41	PASS
1	1	2412	-9.91	4.77	-5.14	5.41	PASS
	6	2437	-8.56	4.77	-3.79	5.41	PASS
	11	2462	-8.05	4.77	-3.28	5.41	PASS
2	1	2412	-9.80	4.77	-5.03	5.41	PASS
	6	2437	-8.85	4.77	-4.08	5.41	PASS
	11	2462	-6.80	4.77	-2.03	5.41	PASS

NOTE: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 3]$ = 8.59dBi > 6dBi , so the power density limit shall be reduced to $8-(8.59-6) = 5.41$ dBm.

802.11n (HT20)

TX CHAIN	CHANNEL	FREQUENCY (MHz)	PSD (dBm)	10 log (N=3) dB	TOTAL PSD (dBm)	LIMIT (dBm)	PASS /FAIL
0	1	2412	-9.53	4.77	-4.76	5.41	PASS
	6	2437	-2.58	4.77	2.19	5.41	PASS
	11	2462	-9.56	4.77	-4.79	5.41	PASS
1	1	2412	-9.80	4.77	-5.03	5.41	PASS
	6	2437	-3.04	4.77	1.73	5.41	PASS
	11	2462	-8.75	4.77	-3.98	5.41	PASS
2	1	2412	-9.47	4.77	-4.70	5.41	PASS
	6	2437	-2.80	4.77	1.97	5.41	PASS
	11	2462	-8.78	4.77	-4.01	5.41	PASS

NOTE: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 3]$ = 8.59dBi > 6dBi , so the power density limit shall be reduced to $8-(8.59-6) = 5.41$ dBm.

802.11n (HT40)

TX CHAIN	CHANNEL	FREQUENCY (MHz)	PSD (dBm)	10 log (N=3) dB	TOTAL PSD (dBm)	LIMIT (dBm)	PASS /FAIL
0	3	2422	-16.38	4.77	-11.61	5.41	PASS
	6	2437	-10.23	4.77	-5.46	5.41	PASS
	9	2452	-11.37	4.77	-6.60	5.41	PASS
1	3	2422	-14.53	4.77	-9.76	5.41	PASS
	6	2437	-10.16	4.77	-5.39	5.41	PASS
	9	2452	-11.60	4.77	-6.83	5.41	PASS
2	3	2422	-15.69	4.77	-10.92	5.41	PASS
	6	2437	-9.93	4.77	-5.16	5.41	PASS
	9	2452	-12.16	4.77	-7.39	5.41	PASS

NOTE: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 3]$ = 8.59dBi > 6dBi , so the power density limit shall be reduced to $8-(8.59-6) = 5.41$ dBm.

STBC_MODE

802.11n (HT20)

TX CHAIN	CHANNEL	FREQUENCY (MHz)	PSD (dBm)	10 log (N=3) dB	TOTAL PSD (dBm)	LIMIT (dBm)	PASS /FAIL
0	1	2412	-9.53	4.77	-4.76	8	PASS
	6	2437	1.36	4.77	6.13	8	PASS
	11	2462	-9.56	4.77	-4.79	8	PASS
1	1	2412	-9.80	4.77	-5.03	8	PASS
	6	2437	-0.34	4.77	4.43	8	PASS
	11	2462	-8.75	4.77	-3.98	8	PASS
2	1	2412	-9.47	4.77	-4.70	8	PASS
	6	2437	-0.08	4.77	4.69	8	PASS
	11	2462	-8.78	4.77	-4.01	8	PASS

802.11n (HT40)

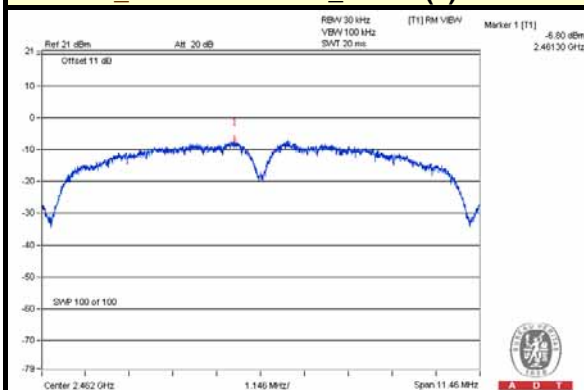
TX CHAIN	CHANNEL	FREQUENCY (MHz)	PSD (dBm)	10 log (N=3) dB	TOTAL PSD (dBm)	LIMIT (dBm)	PASS /FAIL
0	3	2422	-13.98	4.77	-9.21	8	PASS
	6	2437	-7.48	4.77	-2.71	8	PASS
	9	2452	-11.27	4.77	-6.50	8	PASS
1	3	2422	-15.45	4.77	-10.68	8	PASS
	6	2437	-9.03	4.77	-4.26	8	PASS
	9	2452	-12.00	4.77	-7.23	8	PASS
2	3	2422	-13.82	4.77	-9.05	8	PASS
	6	2437	-8.61	4.77	-3.84	8	PASS
	9	2452	-10.94	4.77	-6.17	8	PASS



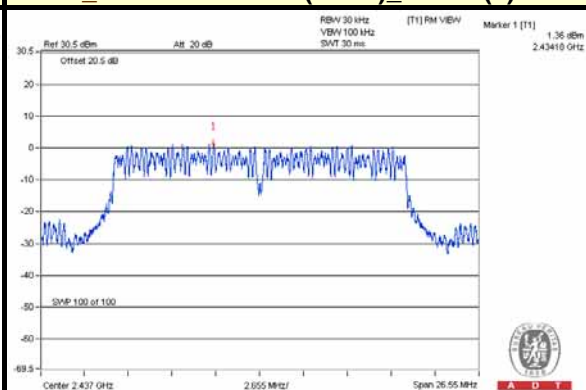
A D T

SPECTRUM PLOT OF WORST VALUE

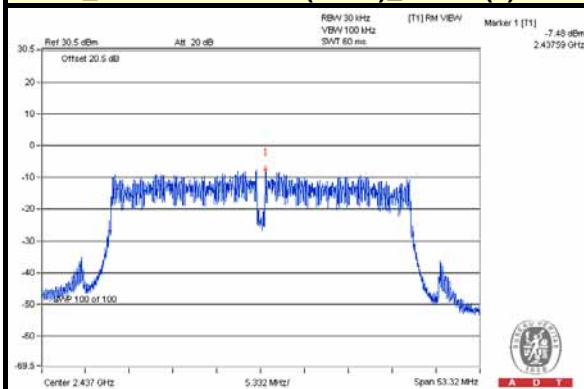
CDD_MODE <802.11b_Chain (2) / CH11



STBC_MODE <802.11n (HT20)_Chain (0) / CH6



STBC_MODE <802.11n (HT40)_Chain (0) / CH6



4.5.8 TEST RESULTS (MODE 2)

CDD_MODE

802.11b

TX CHAIN	CHANNEL	FREQUENCY (MHz)	PSD (dBm)	10 log (N=2) dB	TOTAL PSD (dBm)	LIMIT (dBm)	PASS /FAIL
0	1	2412	-7.91	3.01	-4.90	6.95	PASS
	6	2437	-7.35	3.01	-4.34	6.95	PASS
	11	2462	-6.10	3.01	-3.09	6.95	PASS
1	1	2412	-8.17	3.01	-5.16	6.95	PASS
	6	2437	-6.49	3.01	-3.48	6.95	PASS
	11	2462	-5.89	3.01	-2.88	6.95	PASS

NOTE: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 7.05\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $8-(7.05-6) = 6.95\text{dBm}$.

SDM_MODE

802.11n (HT20)

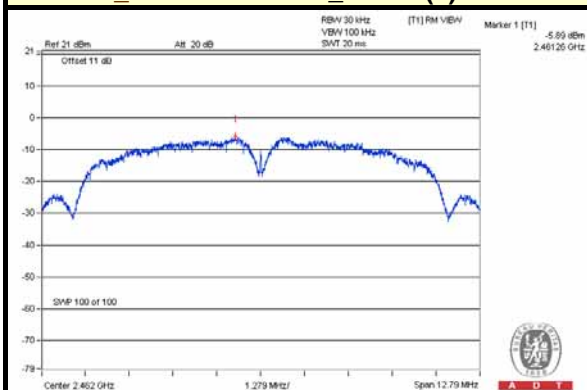
TX CHAIN	CHANNEL	FREQUENCY (MHz)	PSD (dBm)	10 log (N=2) dB	TOTAL PSD (dBm)	LIMIT (dBm)	PASS /FAIL
0	1	2412	-11.50	3.01	-8.49	8	PASS
	6	2437	-4.81	3.01	-1.80	8	PASS
	11	2462	-11.23	3.01	-8.22	8	PASS
1	1	2412	-11.77	3.01	-8.76	8	PASS
	6	2437	-4.74	3.01	-1.73	8	PASS
	11	2462	-12.74	3.01	-9.73	8	PASS

802.11n (HT40)

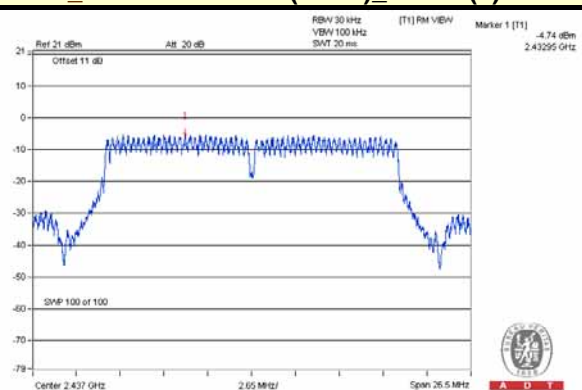
TX CHAIN	CHANNEL	FREQUENCY (MHz)	PSD (dBm)	10 log (N=2) dB	TOTAL PSD (dBm)	LIMIT (dBm)	PASS /FAIL
0	3	2422	-18.01	3.01	-15.00	8	PASS
	6	2437	-14.74	3.01	-11.73	8	PASS
	9	2452	-18.10	3.01	-15.09	8	PASS
1	3	2422	-17.27	3.01	-14.26	8	PASS
	6	2437	-13.53	3.01	-10.52	8	PASS
	9	2452	-17.75	3.01	-14.74	8	PASS

SPECTRUM PLOT OF WORST VALUE

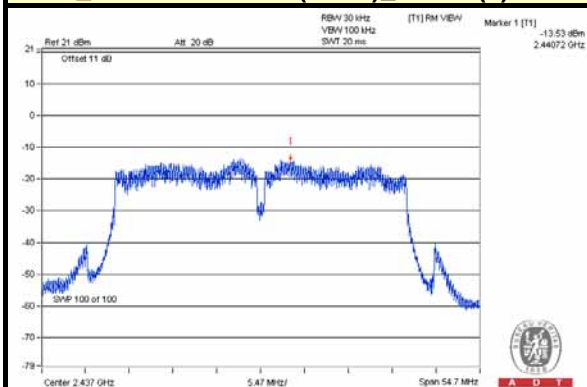
CDD_MODE <802.11b_Chain (1) / CH11



SDM_MODE <802.11n (HT20)_Chain (1) / CH6



SDM_MODE <802.11n (HT40)_Chain (1) / CH6



4.5.9 TEST RESULTS (MODE 3)

802.11b

CHANNEL	FREQUENCY (MHz)	PSD (dBm)	LIMIT (dBm)	PASS /FAIL
1	2412	-5.68	8	PASS
6	2437	-4.56	8	PASS
11	2462	-4.62	8	PASS

802.11g

CHANNEL	FREQUENCY (MHz)	PSD (dBm)	LIMIT (dBm)	PASS /FAIL
1	2412	-9.59	8	PASS
6	2437	0.18	8	PASS
11	2462	-8.46	8	PASS

802.11n (HT20)

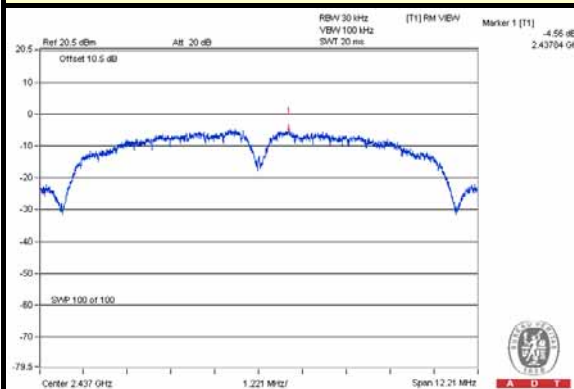
CHANNEL	FREQUENCY (MHz)	PSD (dBm)	LIMIT (dBm)	PASS /FAIL
1	2412	-10.96	8	PASS
6	2437	-1.21	8	PASS
11	2462	-9.91	8	PASS

802.11n (HT40)

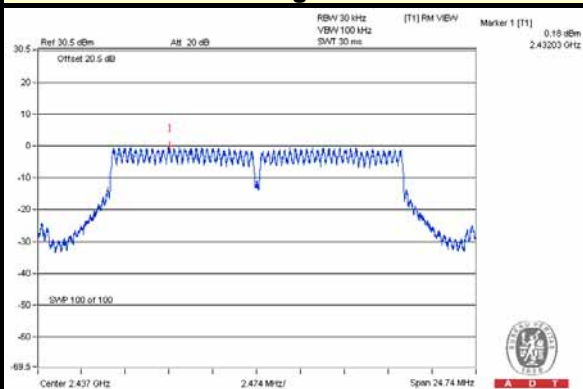
CHANNEL	FREQUENCY (MHz)	PSD (dBm)	LIMIT (dBm)	PASS /FAIL
3	2422	-17.28	8	PASS
6	2437	-10.85	8	PASS
9	2452	-16.98	8	PASS

SPECTRUM PLOT OF WORST VALUE

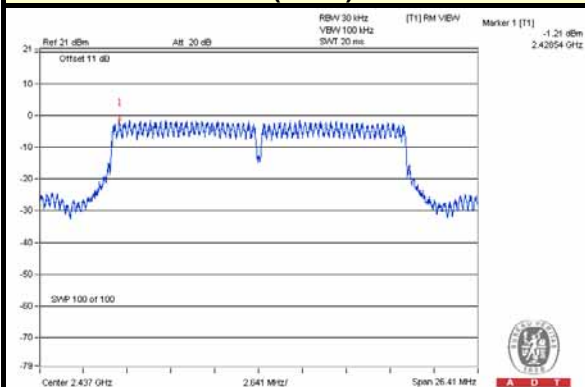
802.11b / CH6



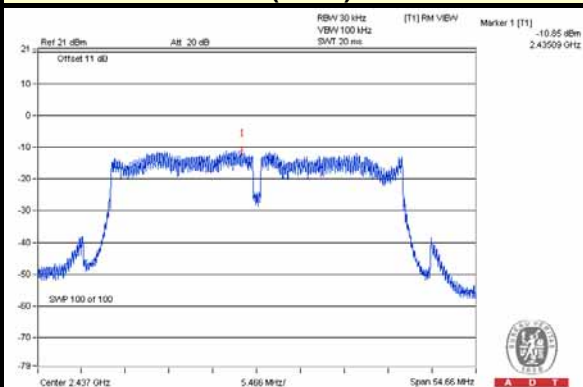
802.11g / CH6



802.11n (HT20) / CH6



802.11n (HT40) / CH6



4.6 CONDUCTED OUT-BAND EMISSION MEASUREMENT

4.6.1 LIMITS OF CONDUCTED OUT-BAND EMISSION MEASUREMENT

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

4.6.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Spectrum Analyzer R&S	FSP 40	100036	Jan. 21, 2013	Jan. 20, 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. Tested date : Dec. 04, 2013

4.6.3 TEST PROCEDURE

Measurement Procedure - Reference Level

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.

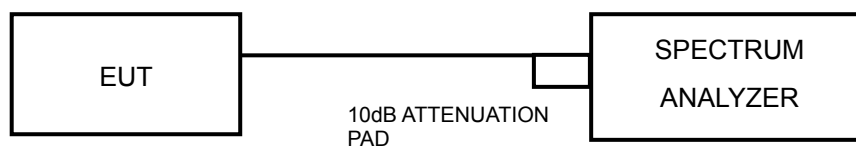
Measurement Procedure –Unwanted Emission Level

1. Set RBW = 100 kHz.
2. Set VBW \geq 300 kHz.
3. Set span to encompass the spectrum to be examined
4. Detector = peak.
5. Trace Mode = max hold.
6. Sweep = auto couple.

4.6.4 DEVIATION FROM TEST STANDARD

No deviation

4.6.5 TEST SETUP



4.6.6 EUT OPERATING CONDITION

Same as Item 4.3.6

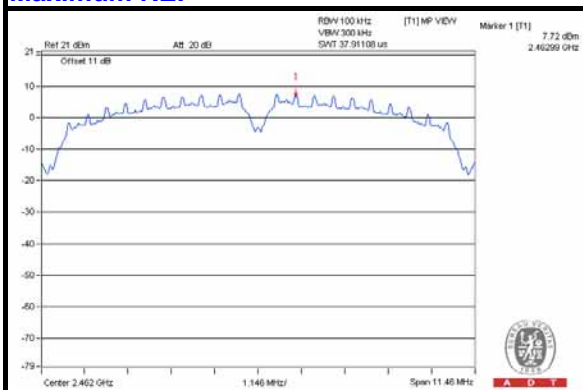
4.6.7 TEST RESULTS

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

4.6.7.1 TEST RESULTS (MODE 1)

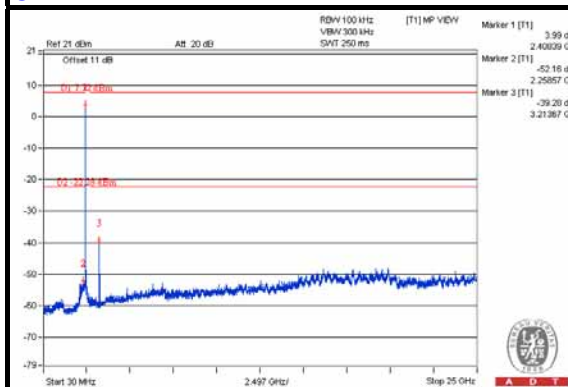
CDD_MODE<802.11b>

Maximum REF

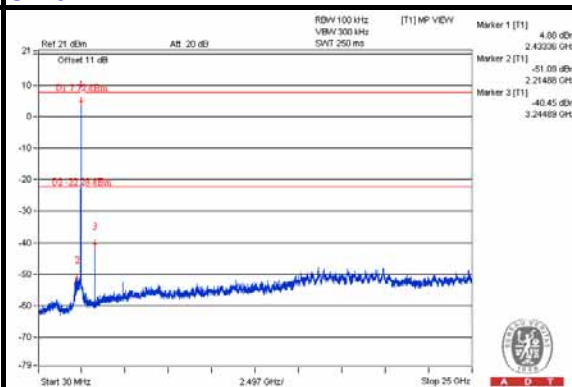


Chain (0)

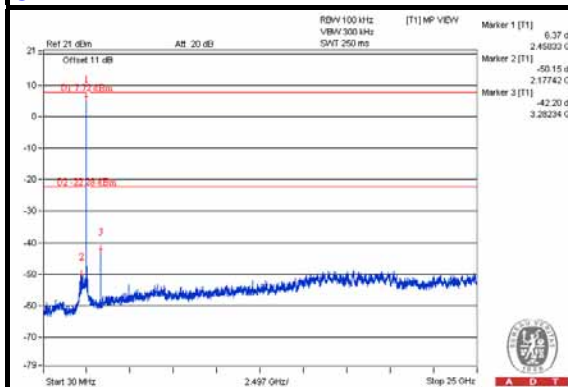
CH 1



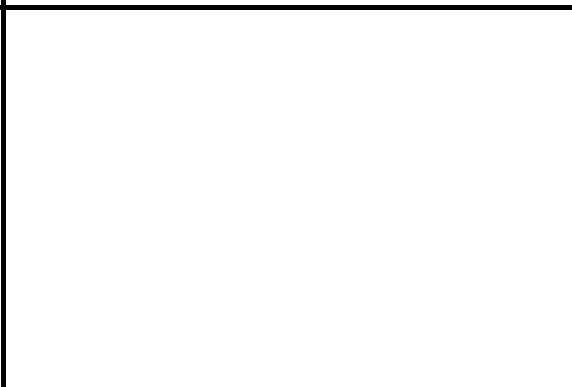
CH 6



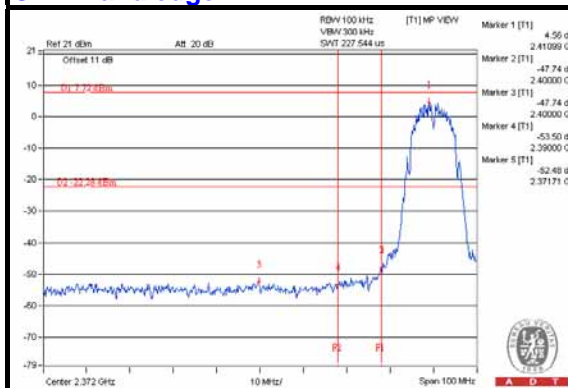
CH 11



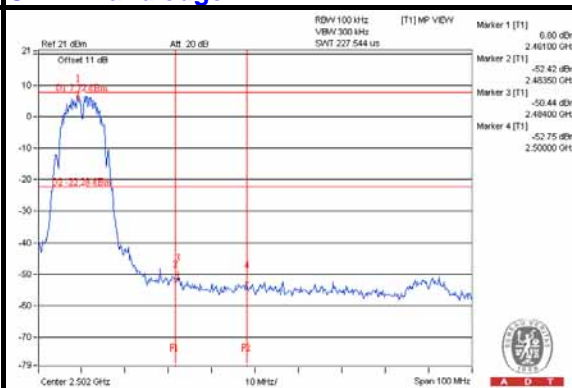
CH 11 Band edge



CH 1 Band edge

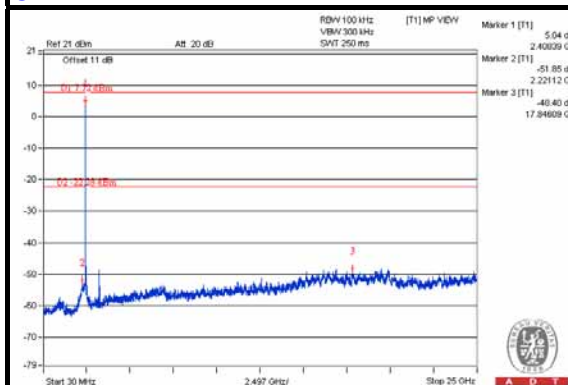


CH 11 Band edge

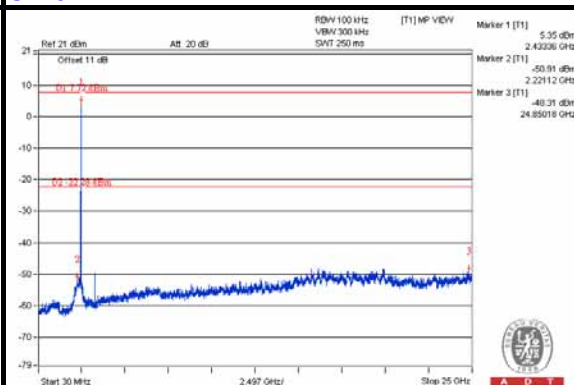


Chain (1)

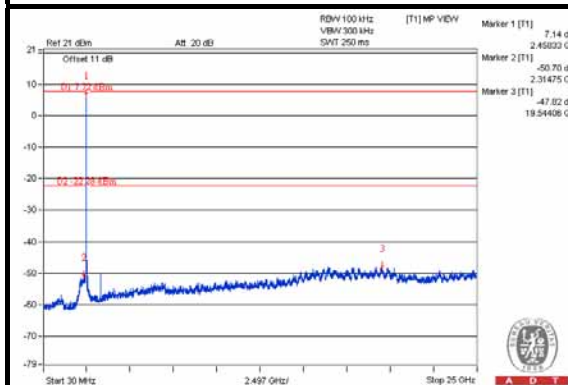
CH 1



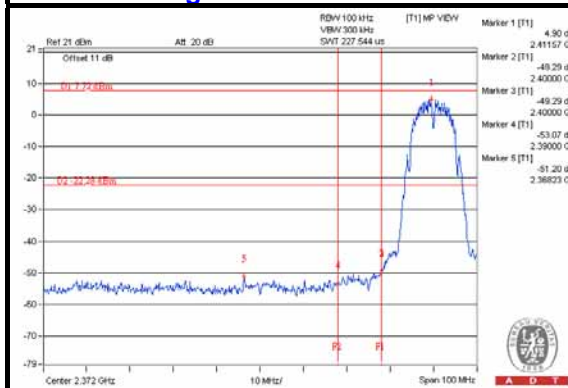
CH 6



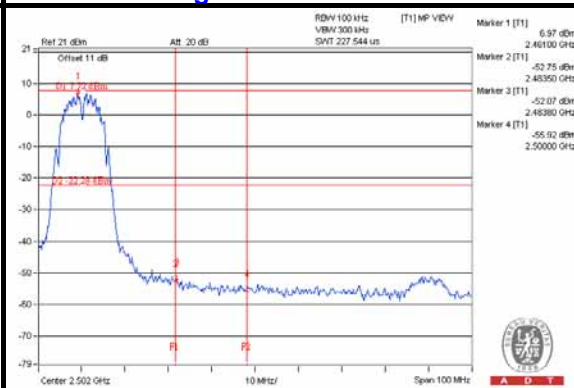
CH 11



CH 1 Band edge



CH 11 Band edge

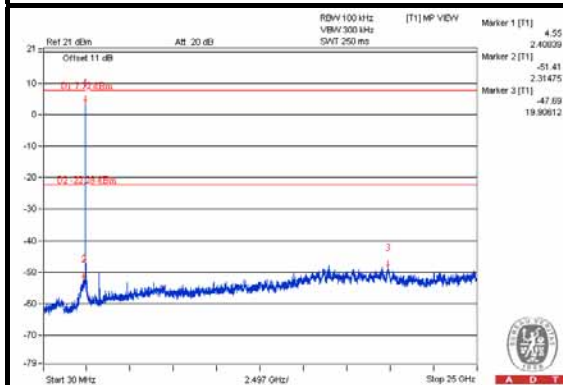




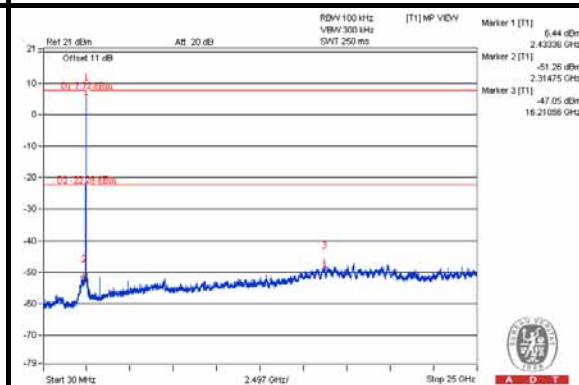
A D T

Chain (2)

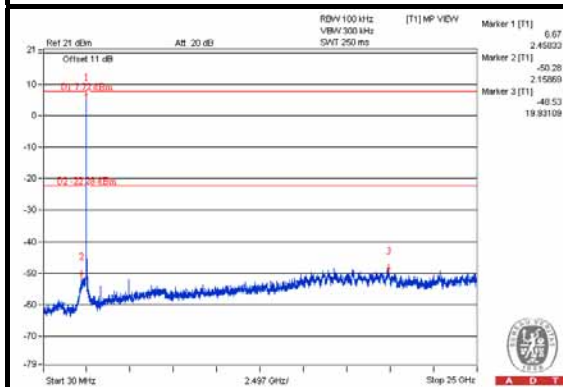
CH 1



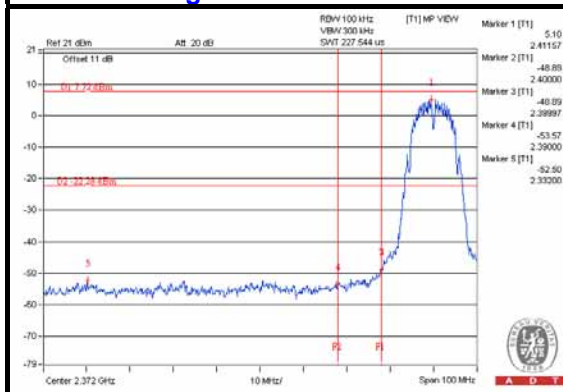
CH 6



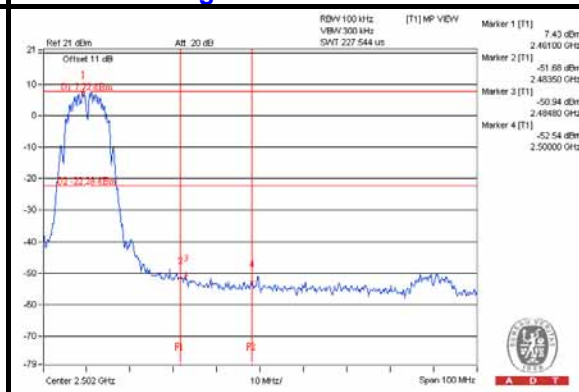
CH 11



CH 1 Band edge



CH 11 Band edge

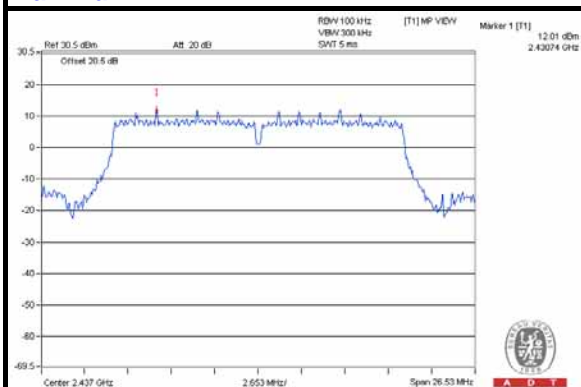




A D T

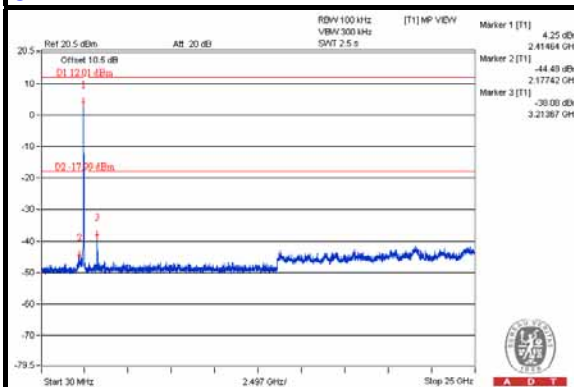
CDD_MODE<802.11n (HT20)>

Maximum REF

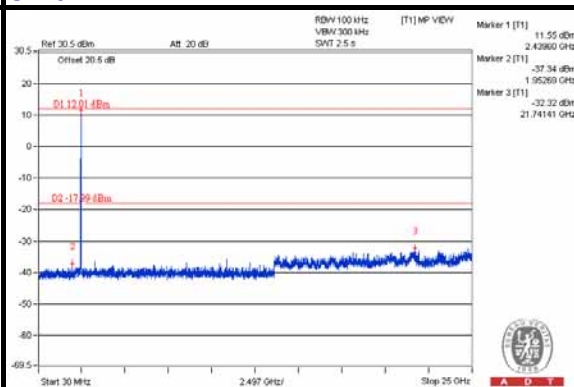


Chain (0)

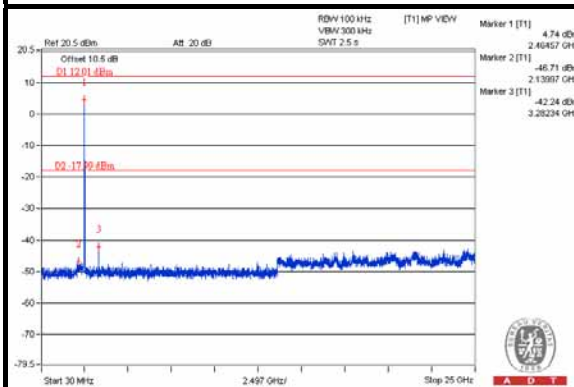
CH 1



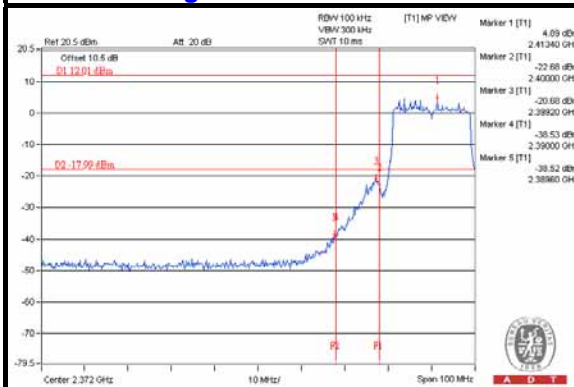
CH 6



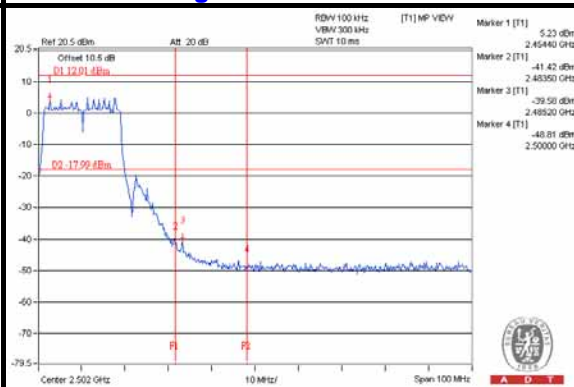
CH 11



CH 1 Band edge

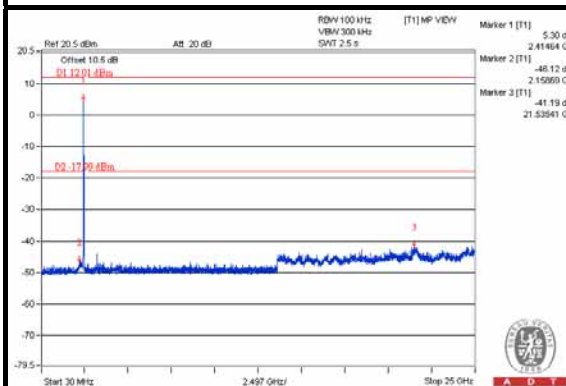


CH 11 Band edge

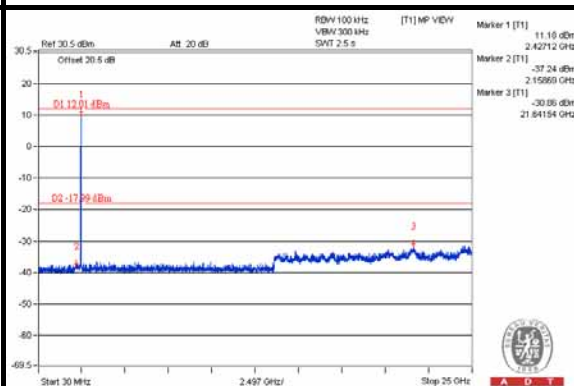


Chain (1)

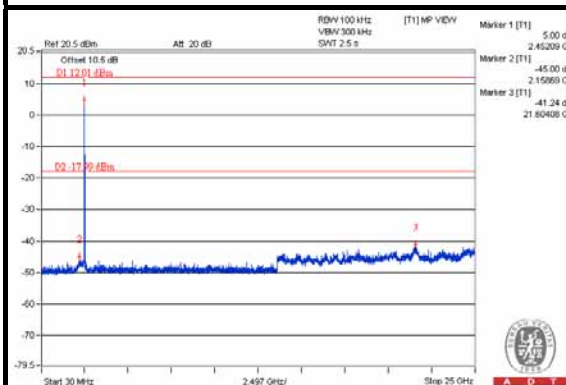
CH 1



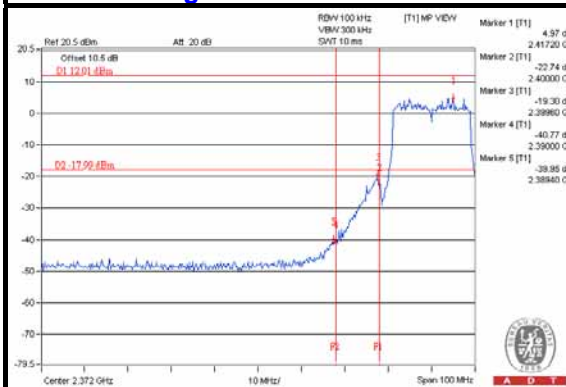
CH 6



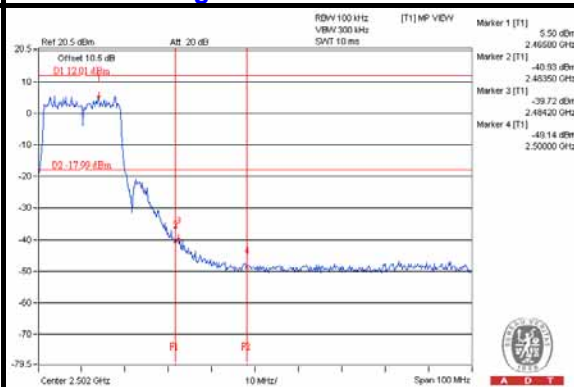
CH 11



CH 1 Band edge

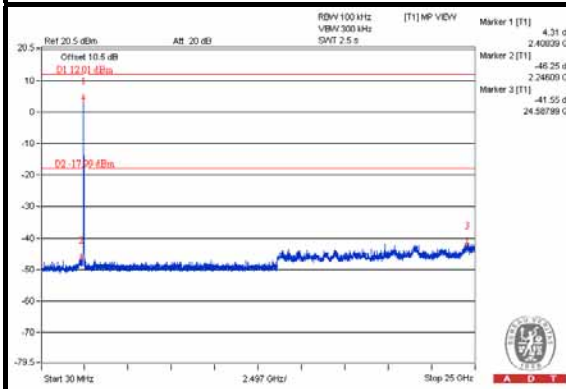


CH 11 Band edge

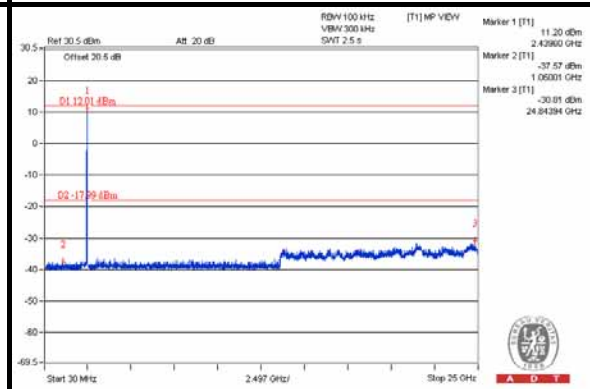


Chain (2)

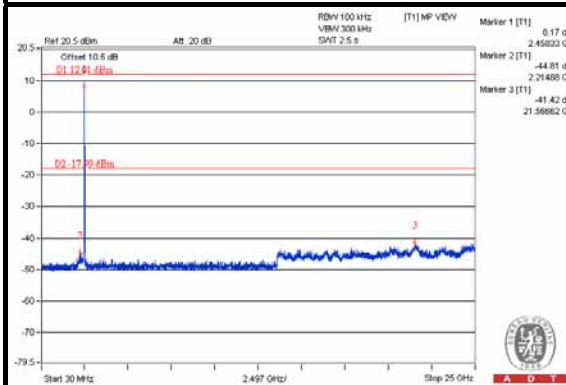
CH 1



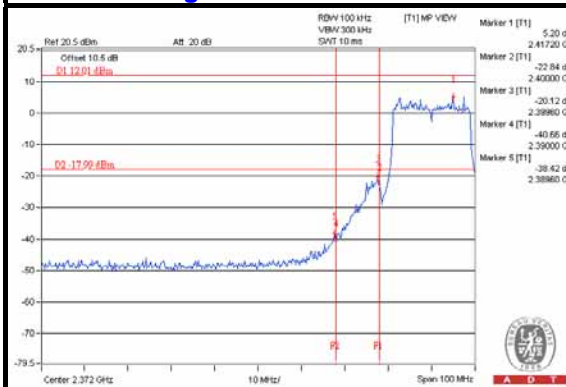
CH 6



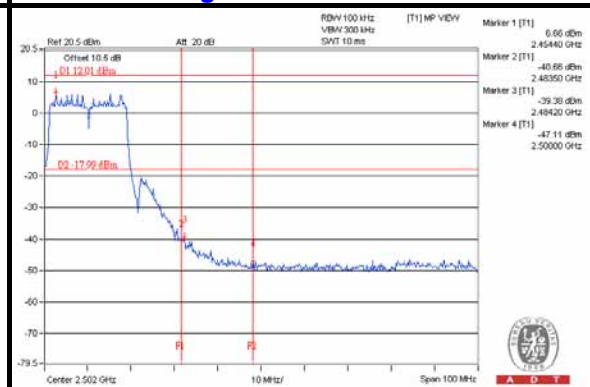
CH 11



CH 1 Band edge

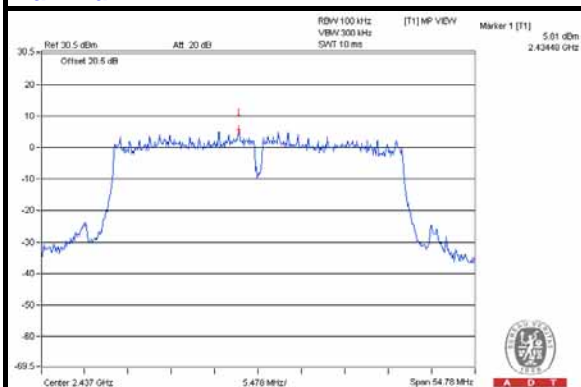


CH 11 Band edge



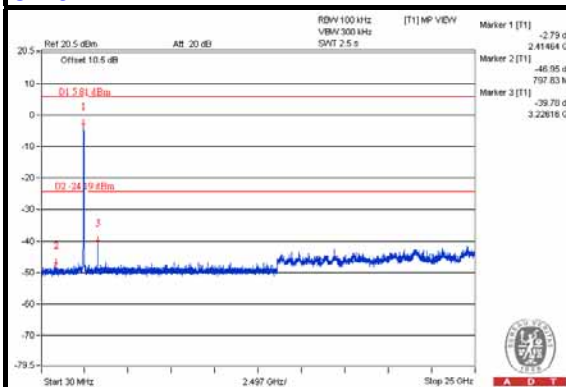
CDD_MODE<802.11n (HT40)>

Maximum REF

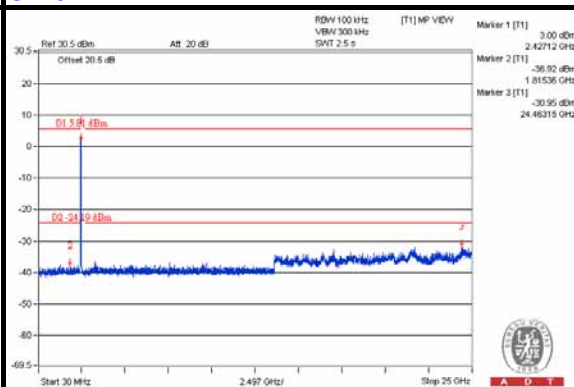


Chain (0)

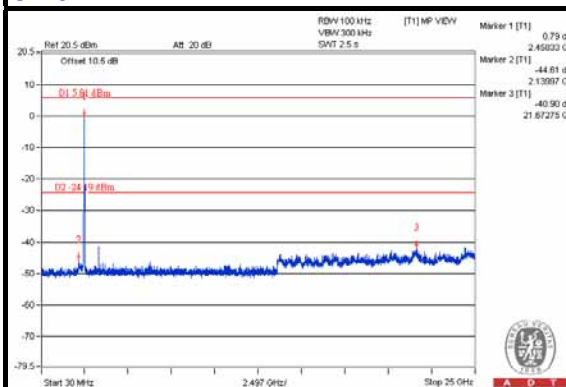
CH 3



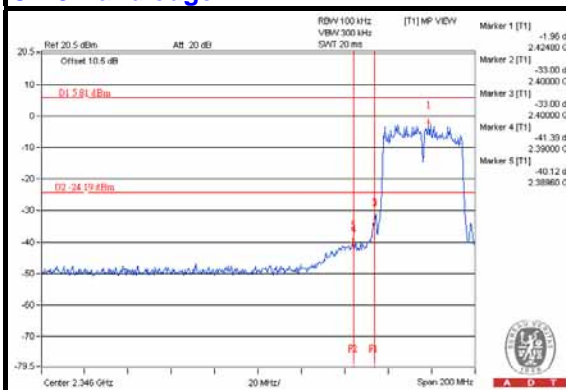
CH 6



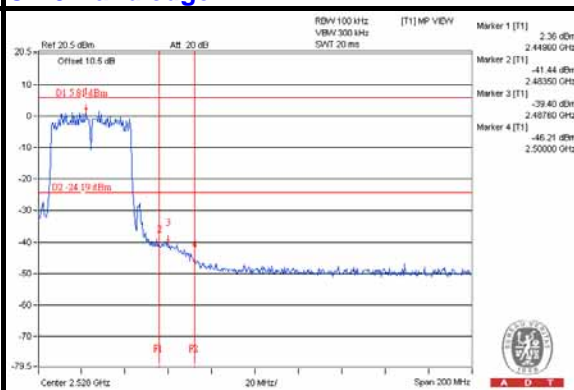
CH 9



CH 3 Band edge



CH 9 Band edge

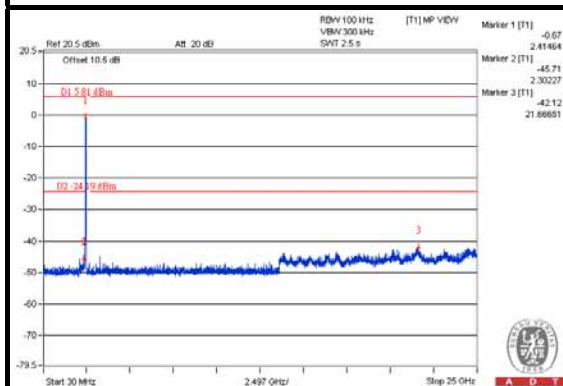




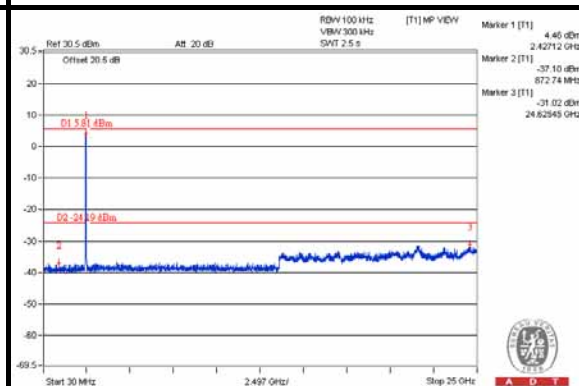
A D T

Chain (1)

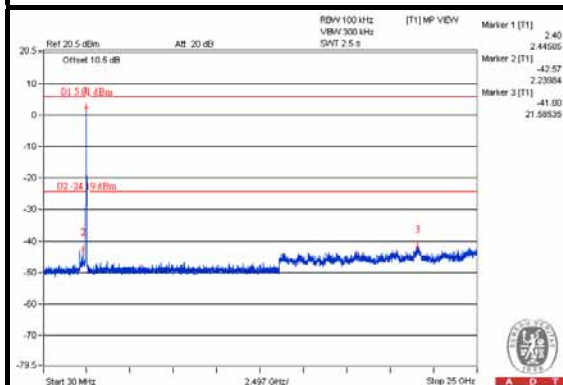
CH 3



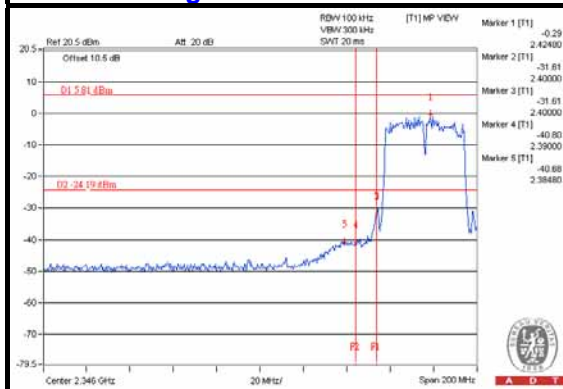
CH 6



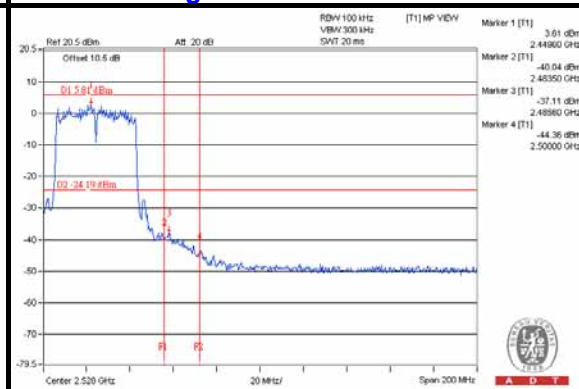
CH 9



CH 3 Band edge

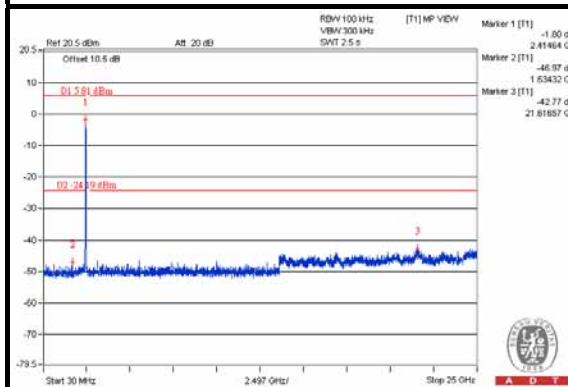


CH 9 Band edge

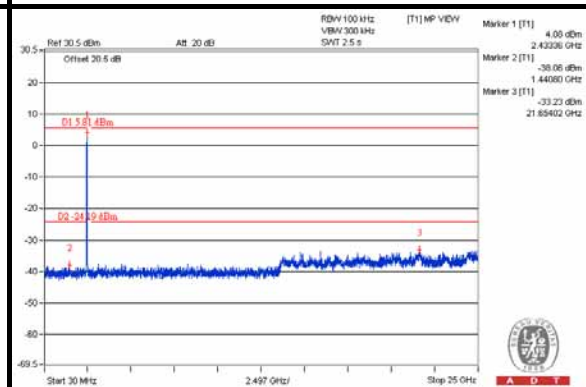


Chain (2)

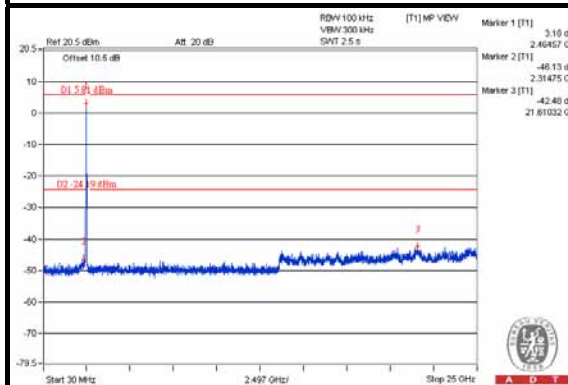
CH 3



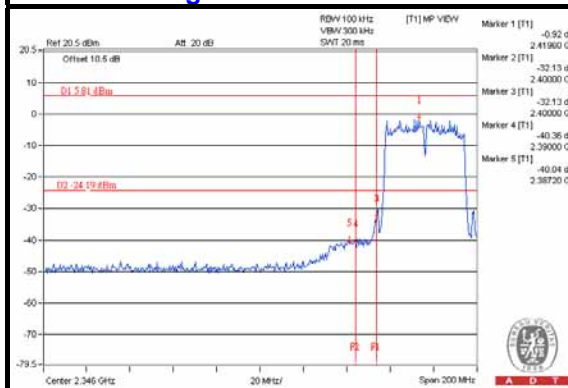
CH 6



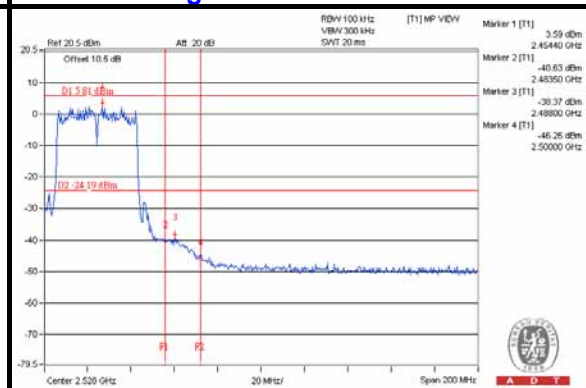
CH 9



CH 3 Band edge

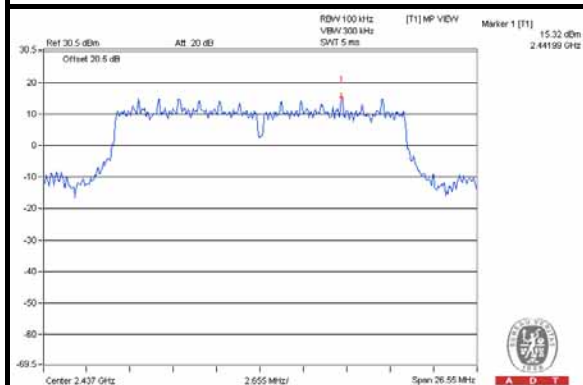


CH 9 Band edge



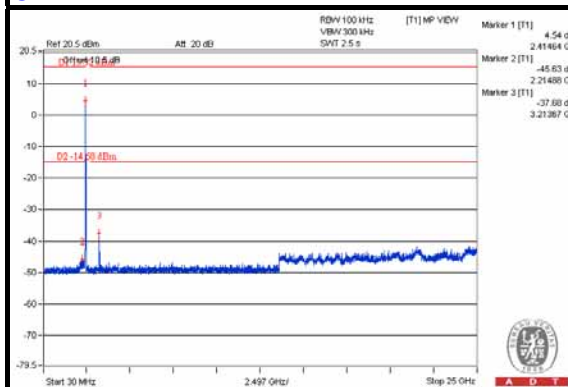
STBC_MODE<802.11n (HT20)>

Maximum REF

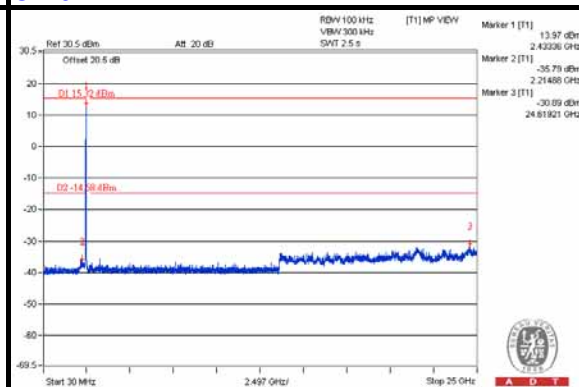


Chain (0)

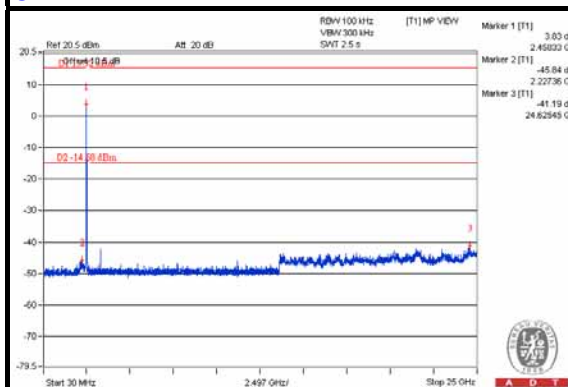
CH 1



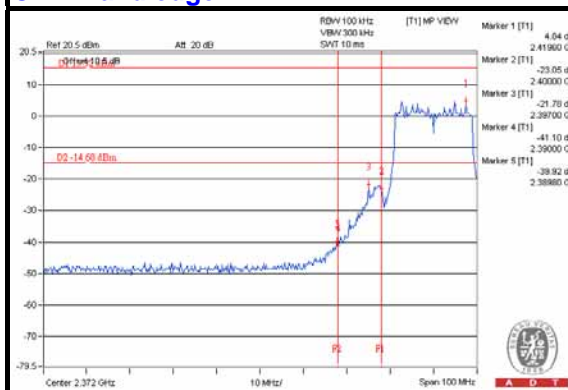
CH 6



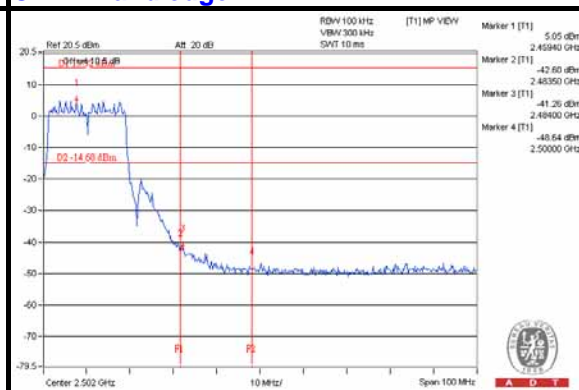
CH 11



CH 1 Band edge



CH 11 Band edge

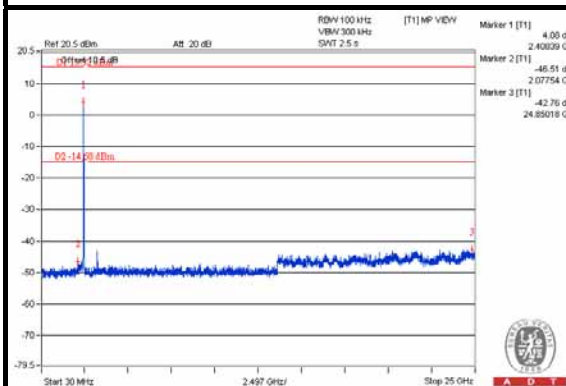




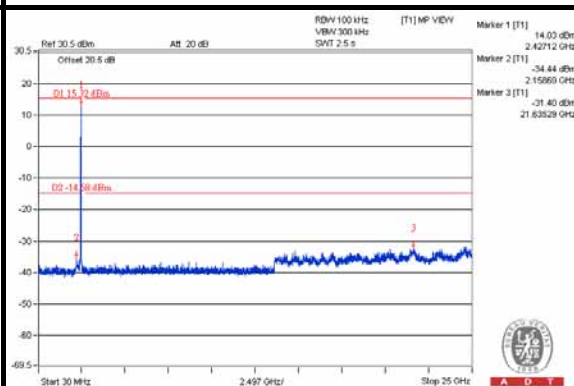
A D T

Chain (1)

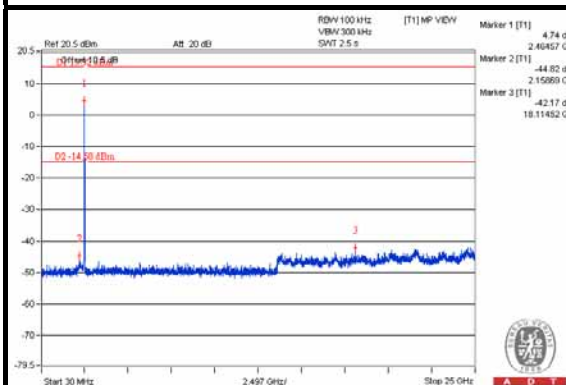
CH 1



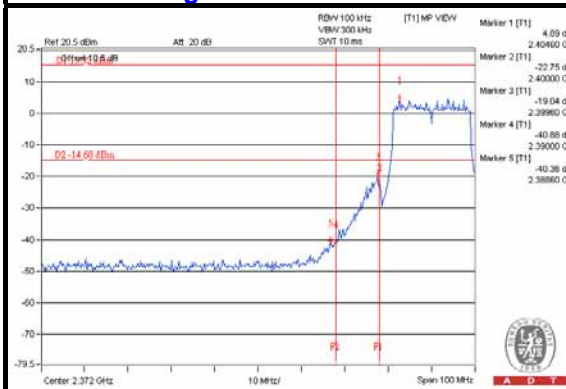
CH 6



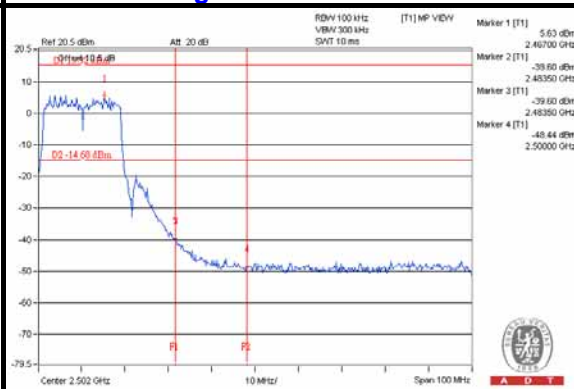
CH 11



CH 1 Band edge

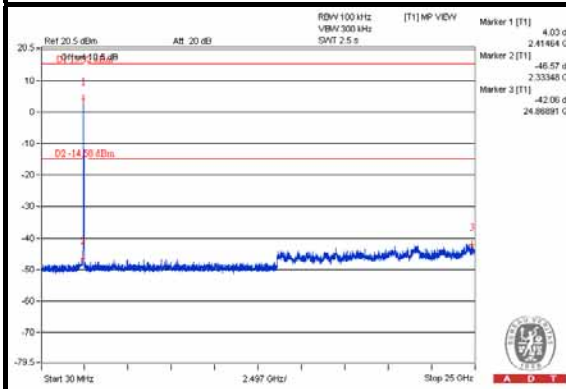


CH 11 Band edge

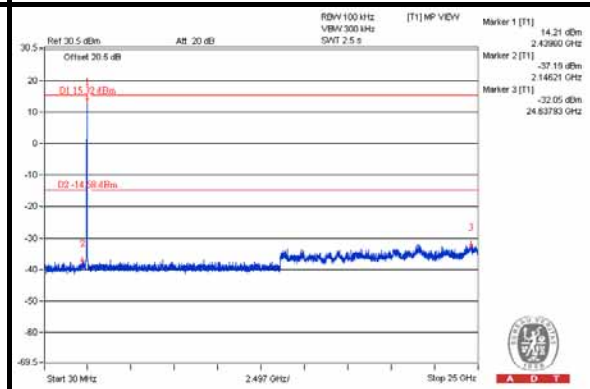


Chain (2)

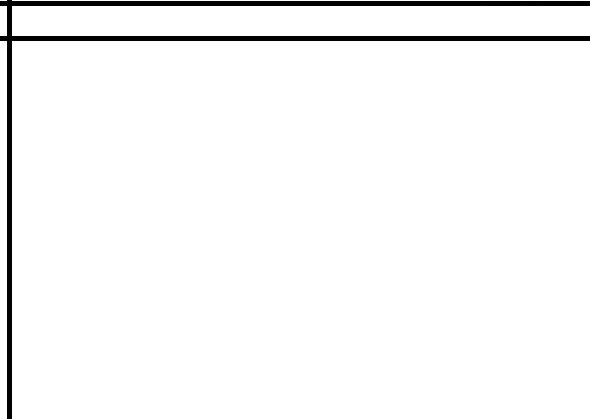
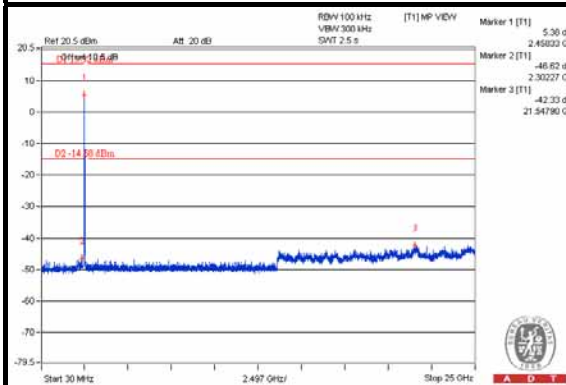
CH 1



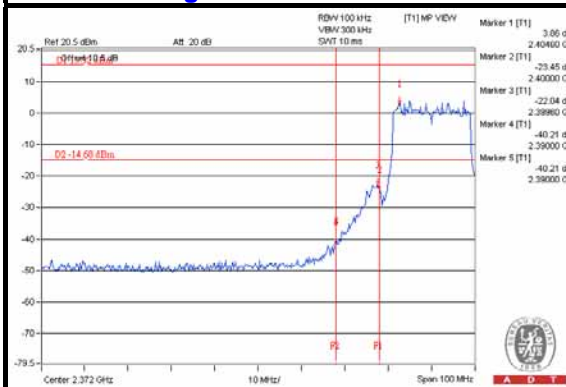
CH 6



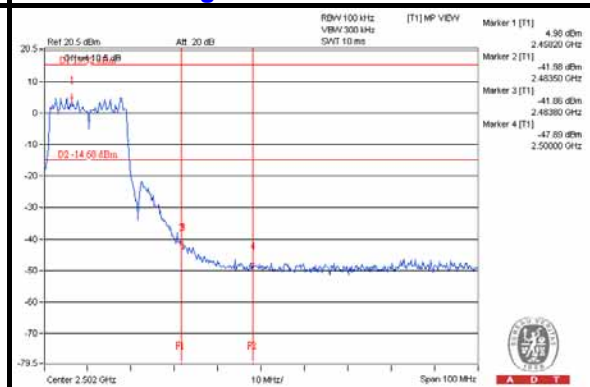
CH 11



CH 1 Band edge

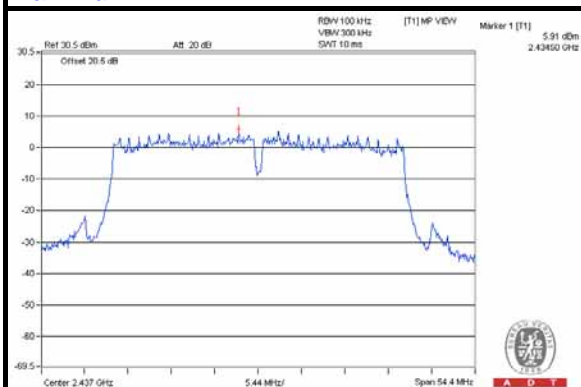


CH 11 Band edge



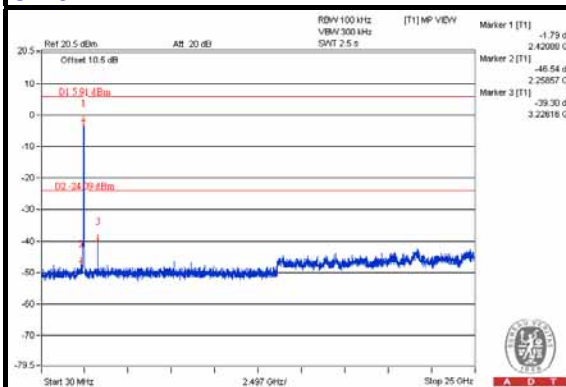
STBC_MODE<802.11n (HT40)>

Maximum REF

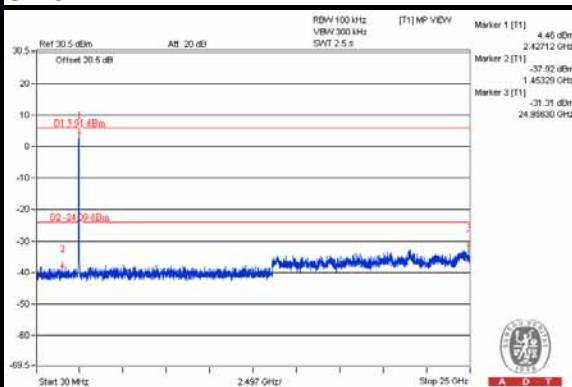


Chain (0)

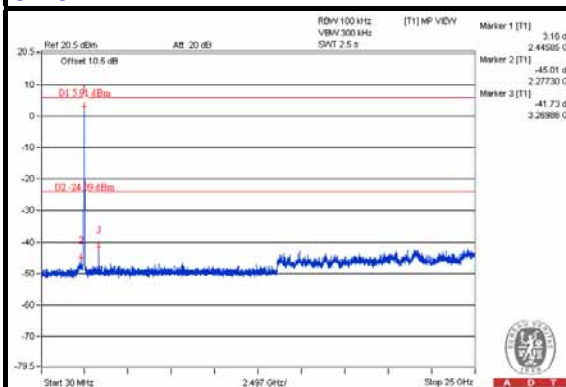
CH 3



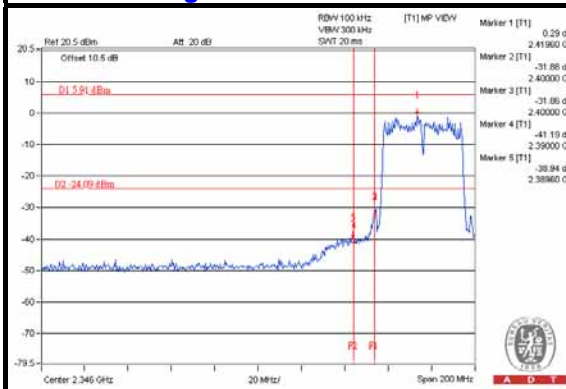
CH 6



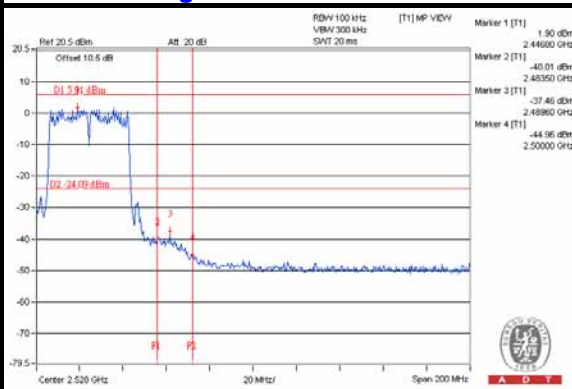
CH 9



CH 3 Band edge



CH 9 Band edge

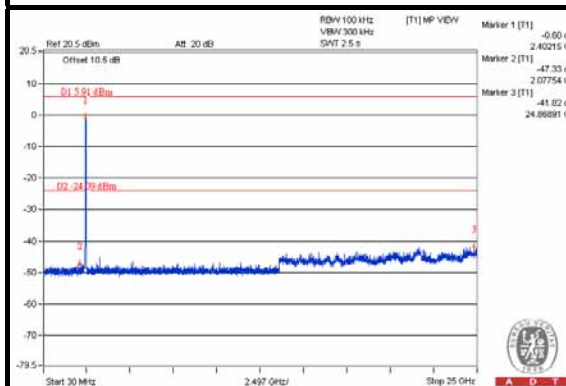




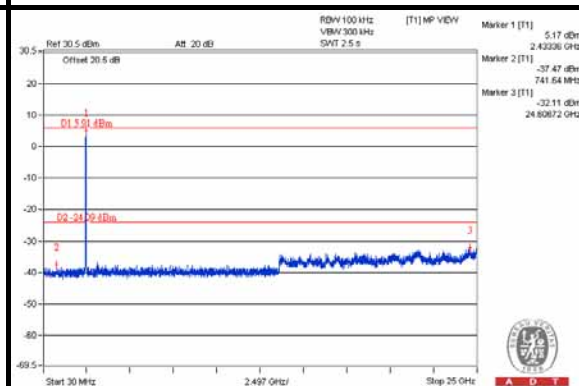
A D T

Chain (1)

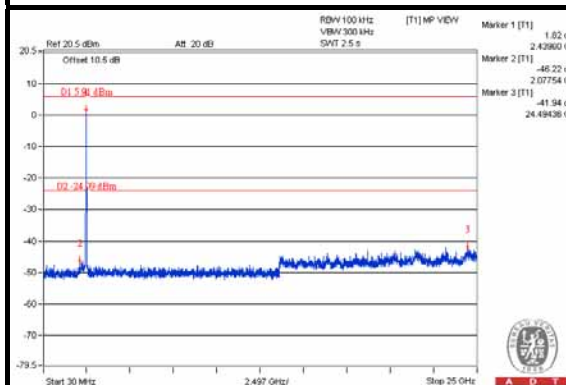
CH 3



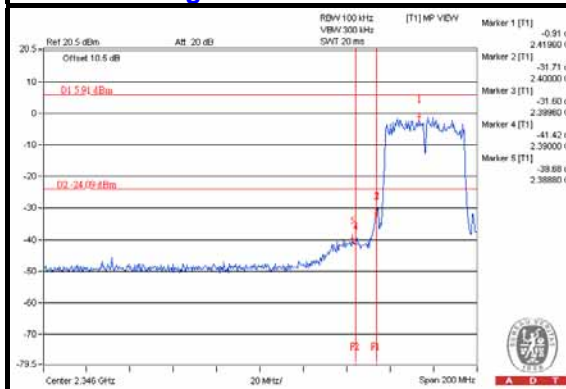
CH 6



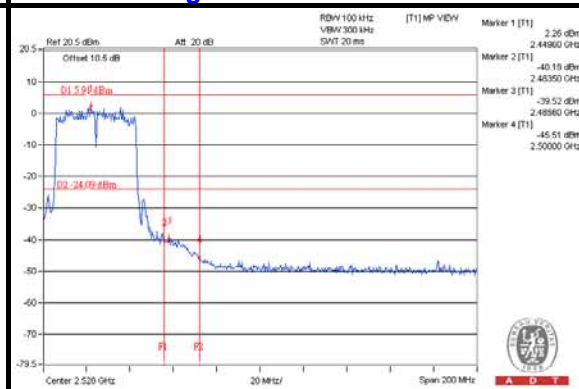
CH 9



CH 3 Band edge

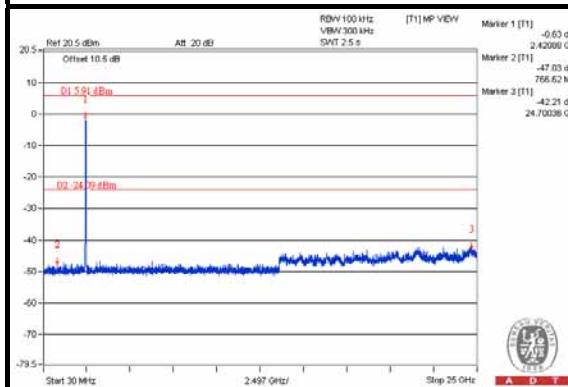


CH 9 Band edge

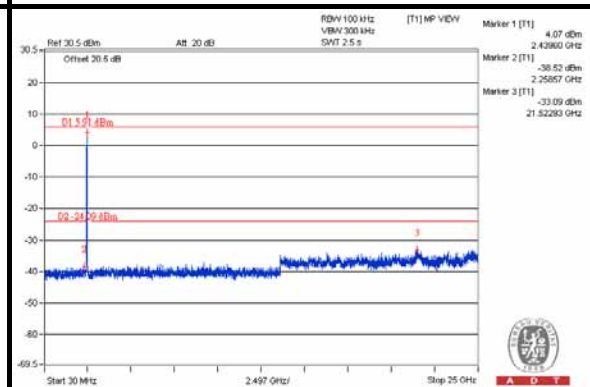


Chain (2)

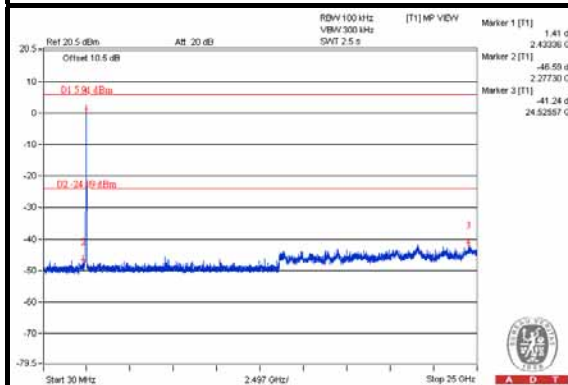
CH 3



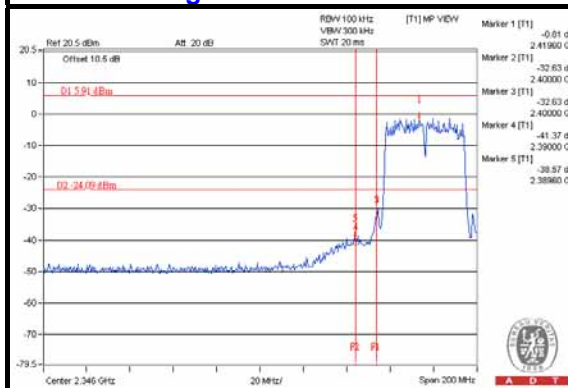
CH 6



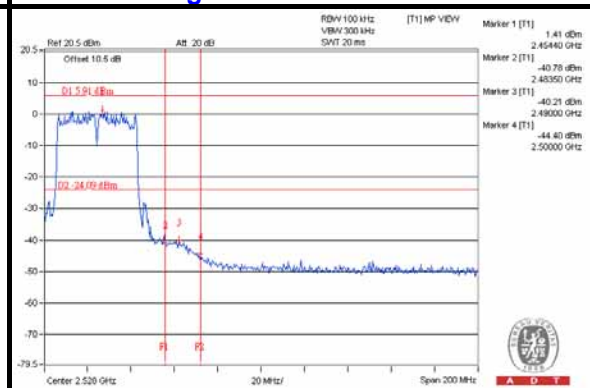
CH 9



CH 3 Band edge



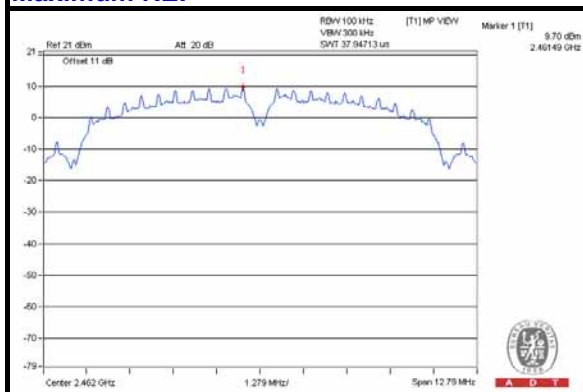
CH 9 Band edge



4.6.7.2 TEST RESULTS (MODE 2)

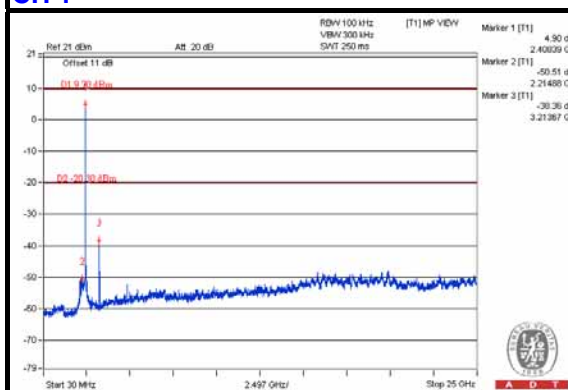
CDD_MODE<802.11b>

Maximum REF

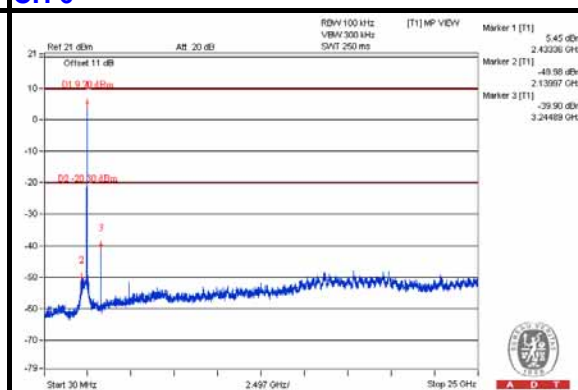


Chain (0)

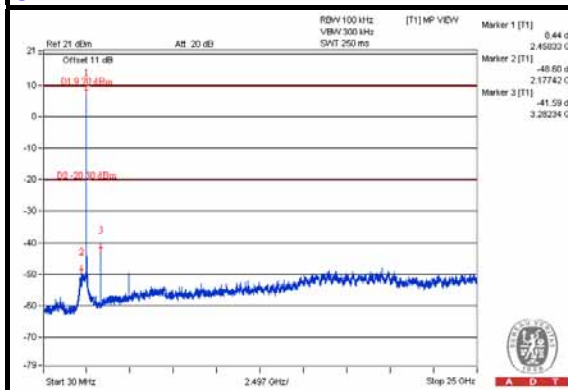
CH 1



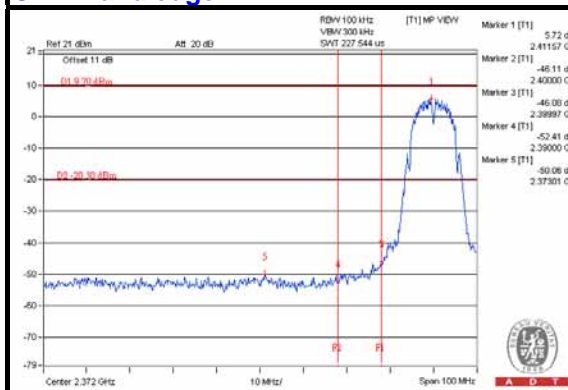
CH 6



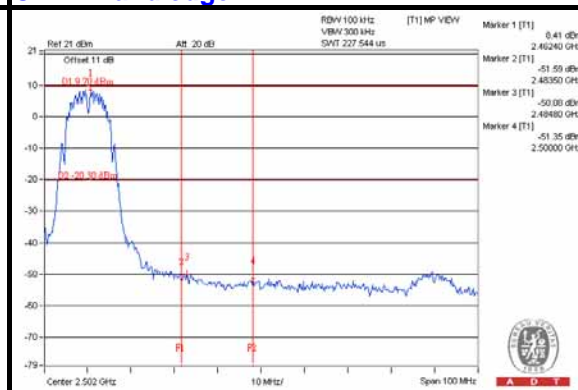
CH 11



CH 1 Band edge



CH 11 Band edge

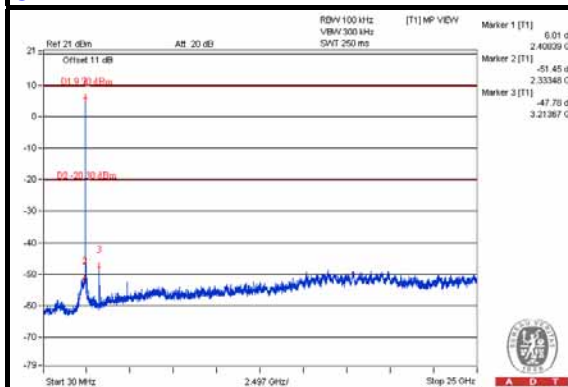




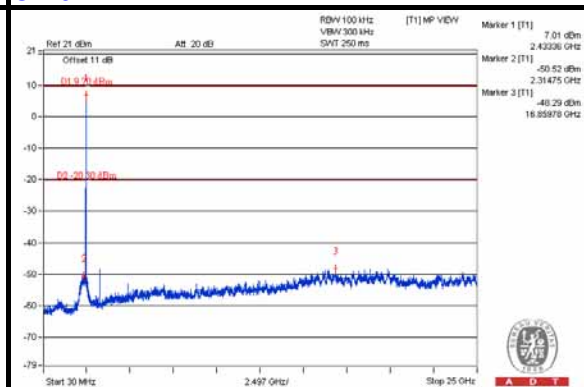
A D T

Chain (1)

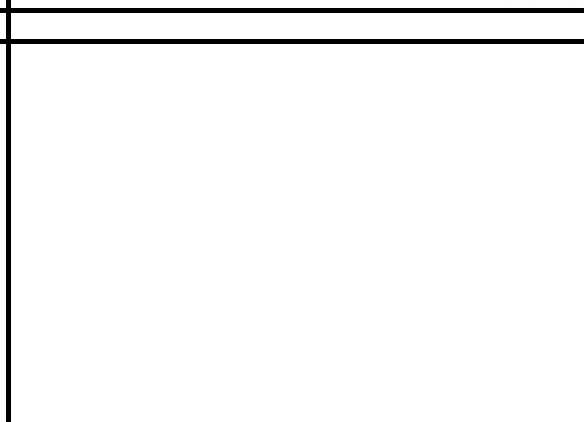
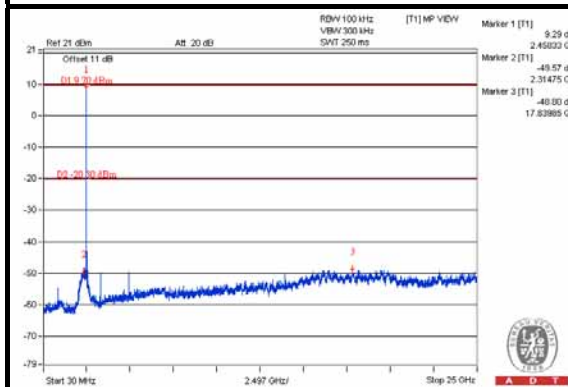
CH 1



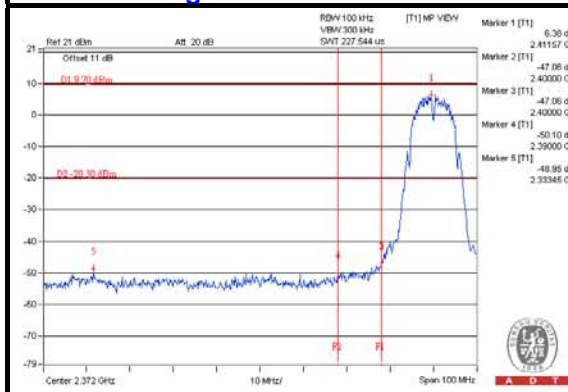
CH 6



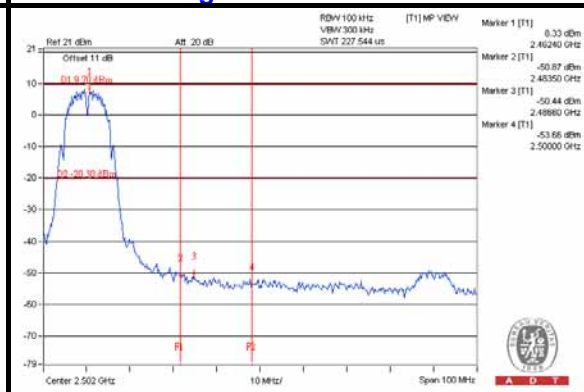
CH 11



CH 1 Band edge

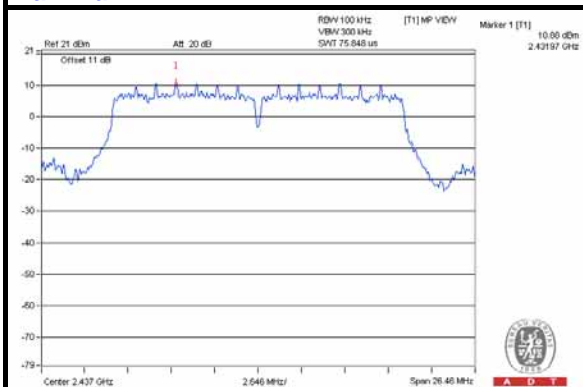


CH 11 Band edge



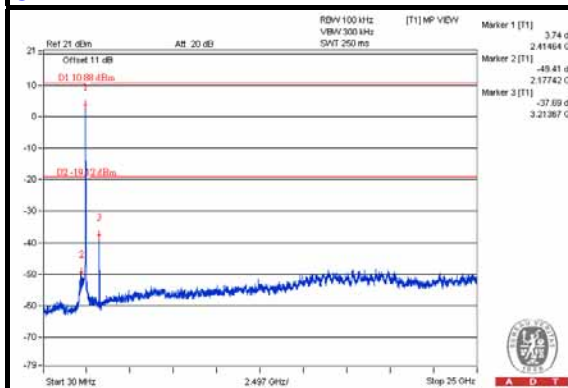
SDM_MODE<802.11n (HT20)>

Maximum REF

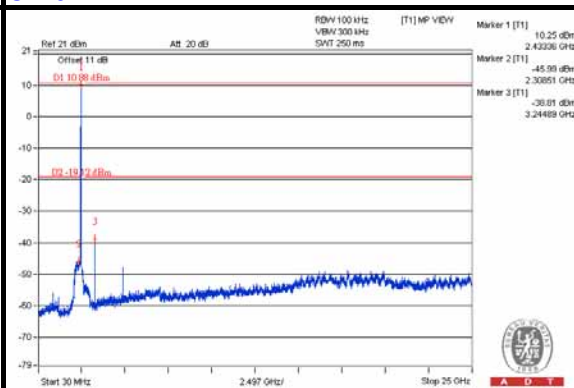


Chain (0)

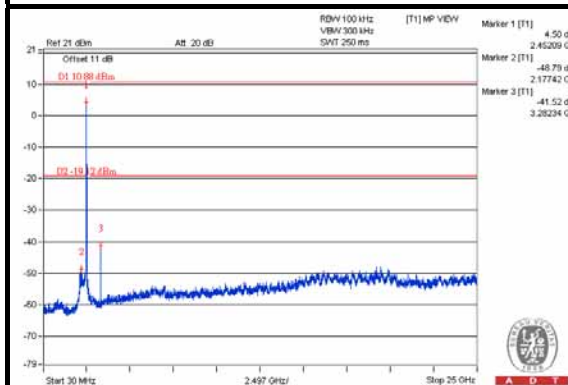
CH 1



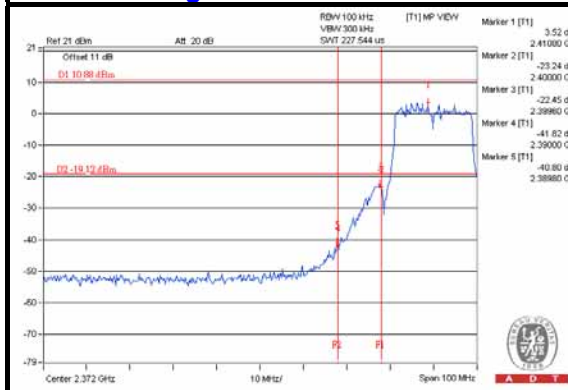
CH 6



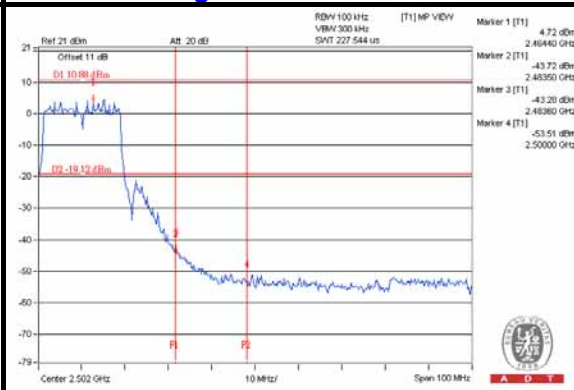
CH 11



CH 1 Band edge



CH 11 Band edge

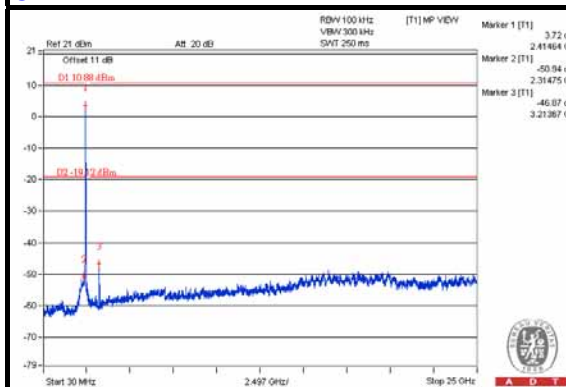




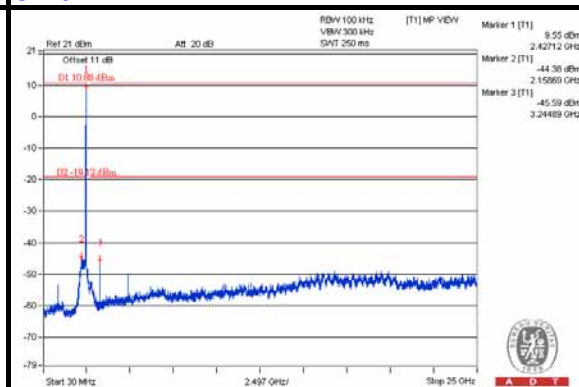
A D T

Chain (1)

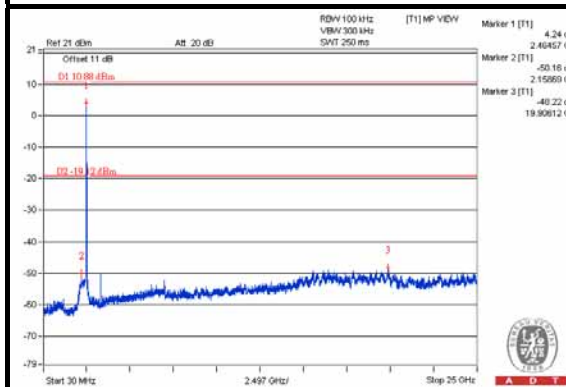
CH 1



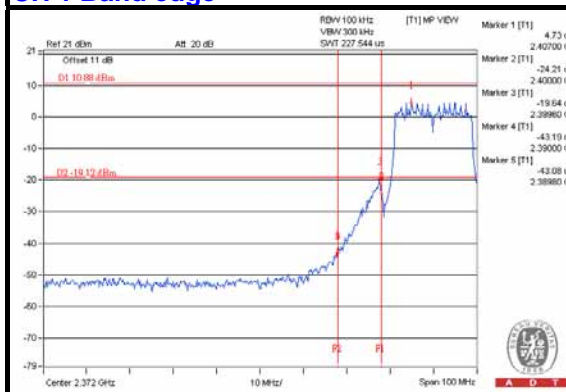
CH 6



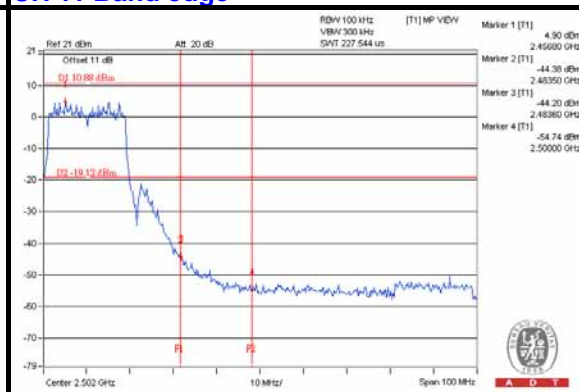
CH 11



CH 1 Band edge

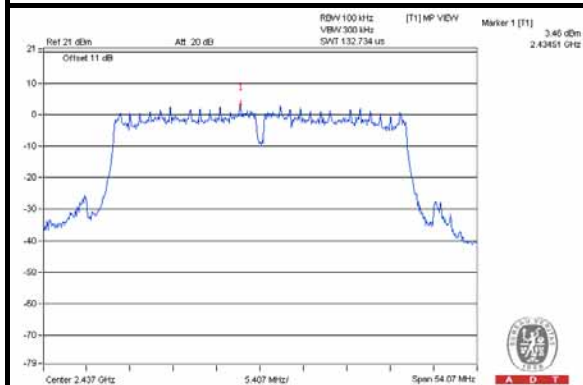


CH 11 Band edge



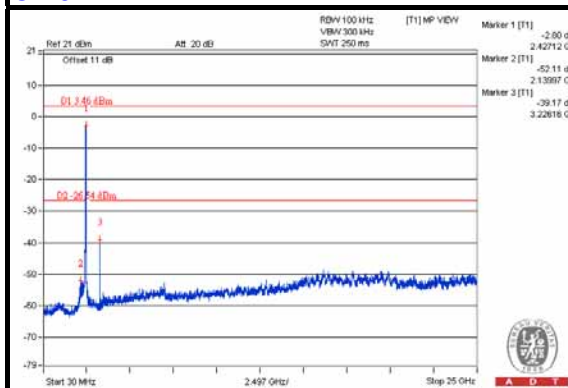
SDM_MODE<802.11n (HT40)>

Maximum REF

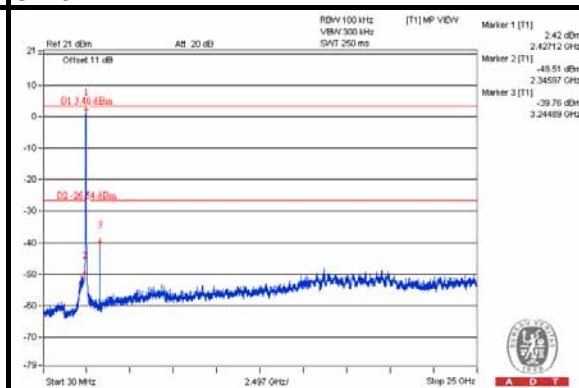


Chain (0)

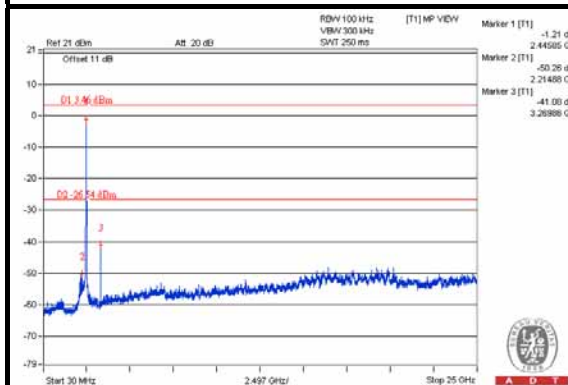
CH 3



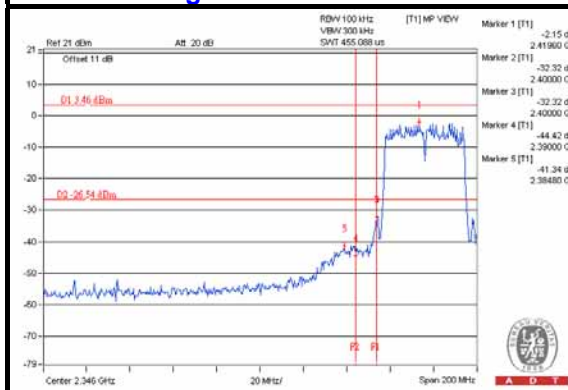
CH 6



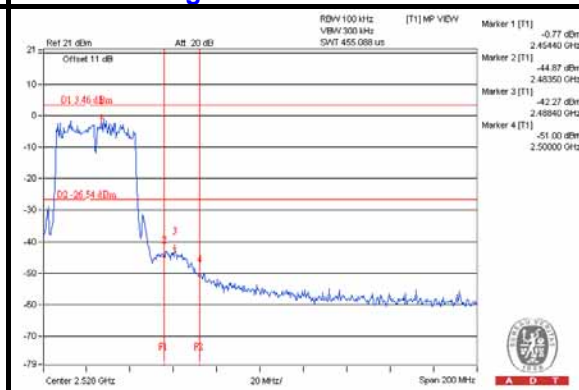
CH 9



CH 3 Band edge



CH 9 Band edge

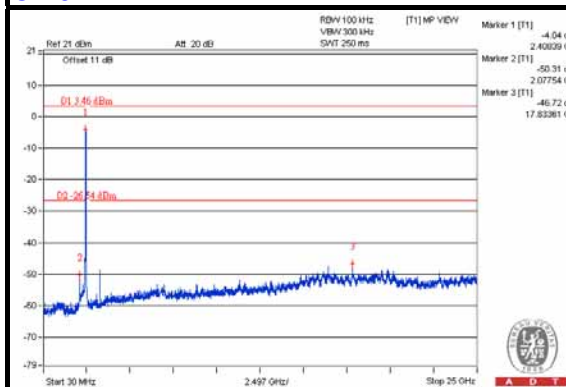




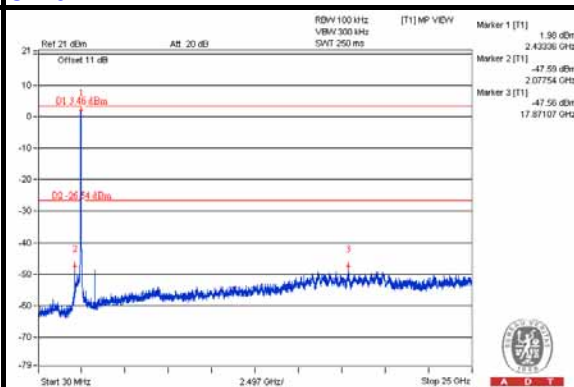
A D T

Chain (1)

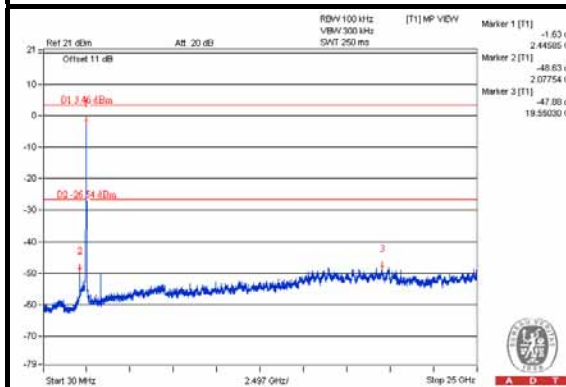
CH 3



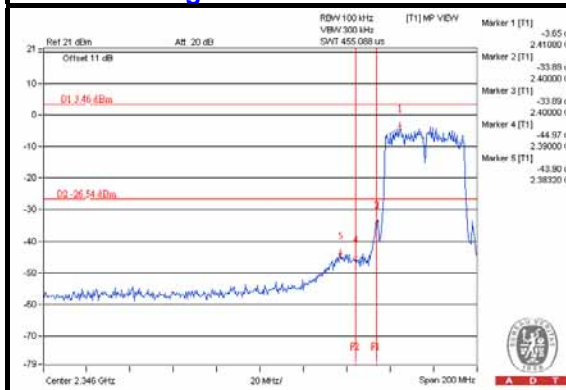
CH 6



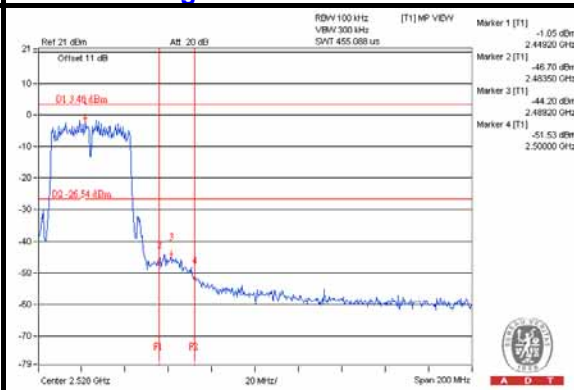
CH 9



CH 3 Band edge



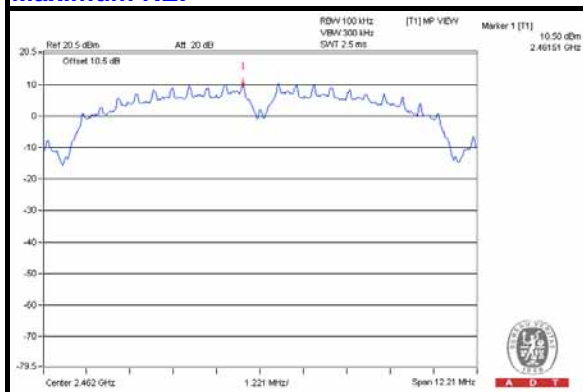
CH 9 Band edge



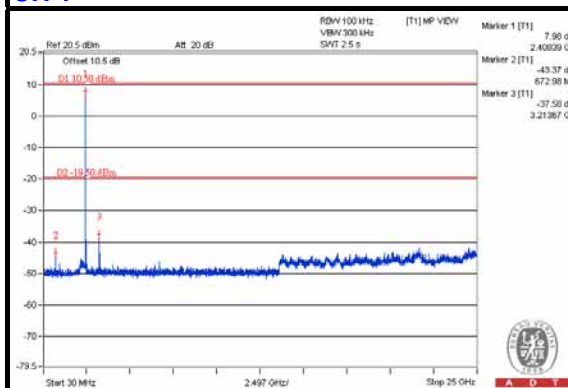
4.6.7.3 TEST RESULTS (MODE 3)

802.11b

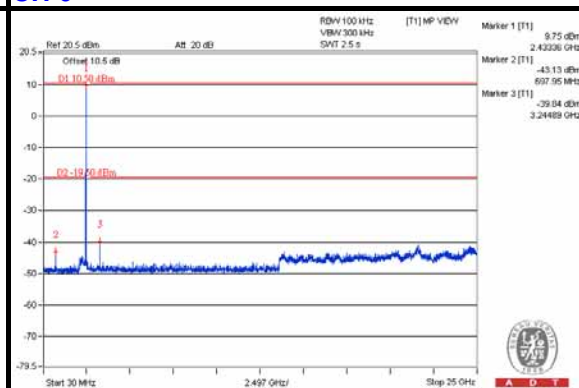
Maximum REF



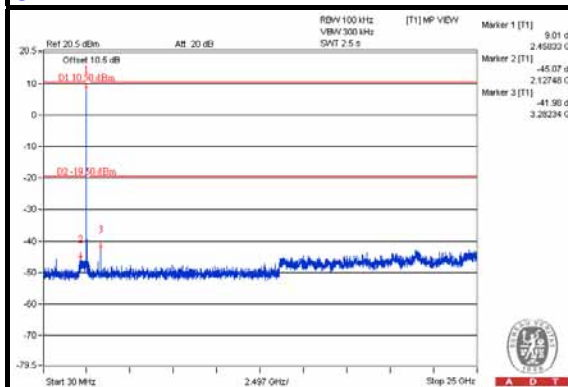
CH 1



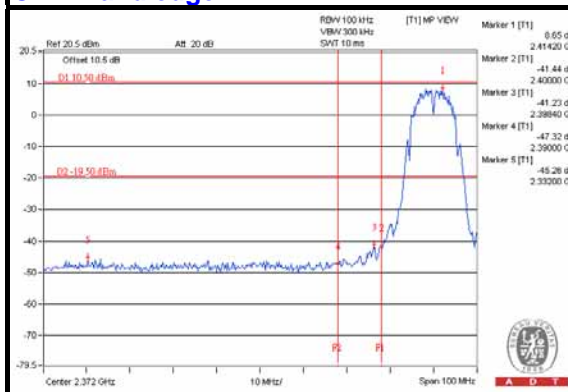
CH 6



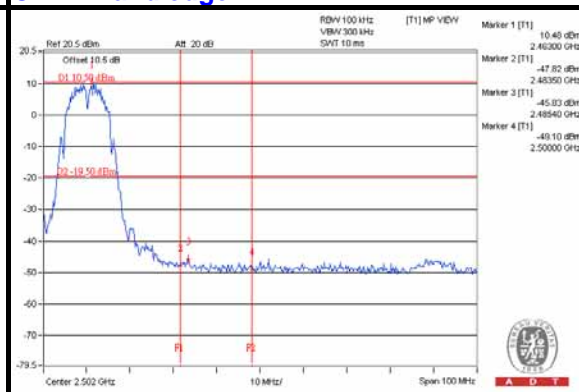
CH 11



CH 1 Band edge

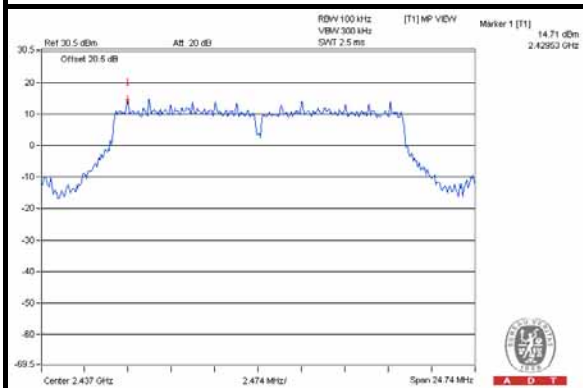


CH 11 Band edge

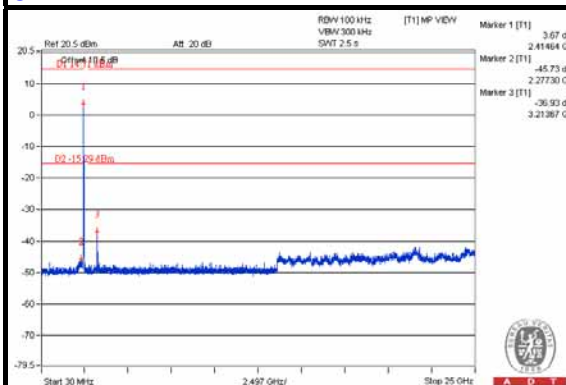


802.11g

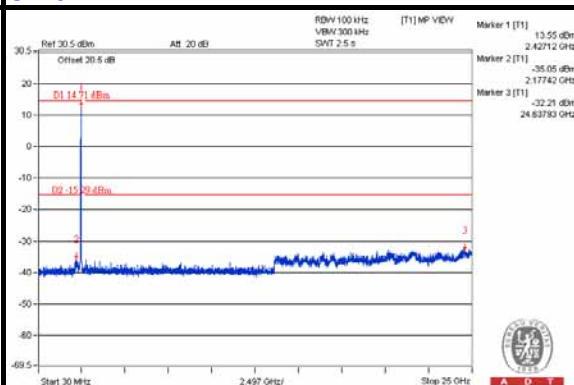
Maximum REF



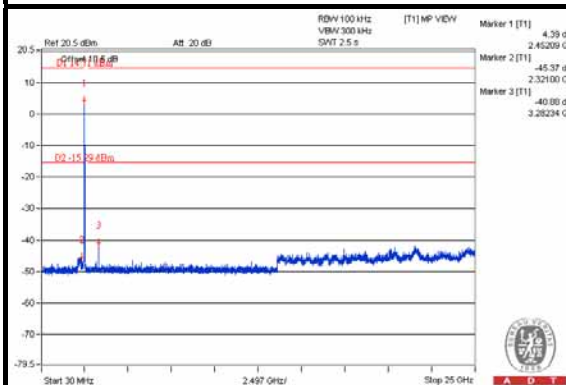
CH 1



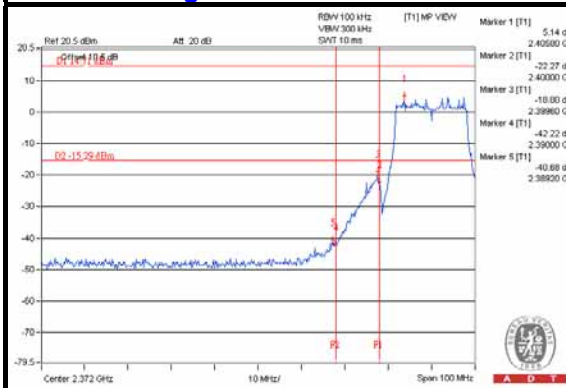
CH 6



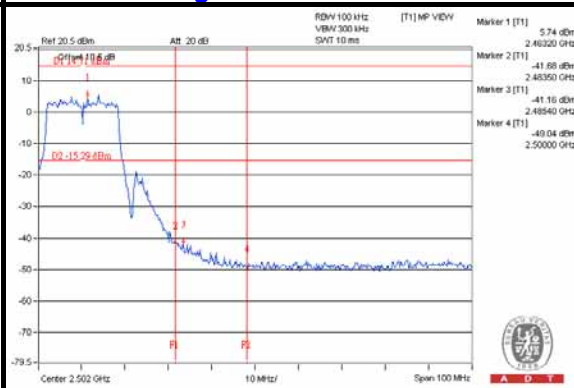
CH 11



CH 1 Band edge

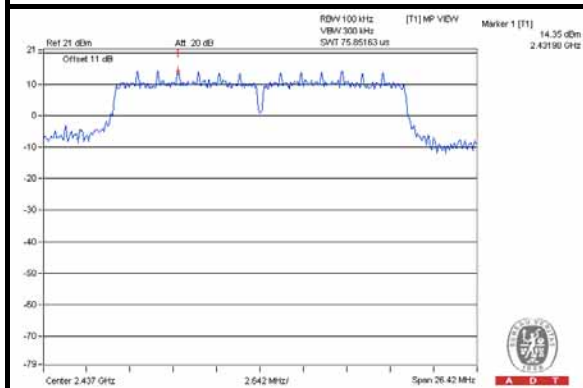


CH 11 Band edge

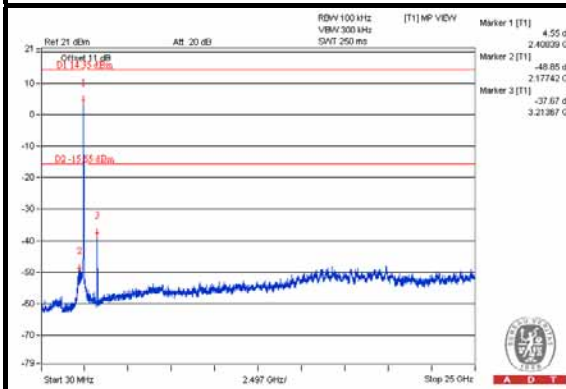


802.11n (HT20)

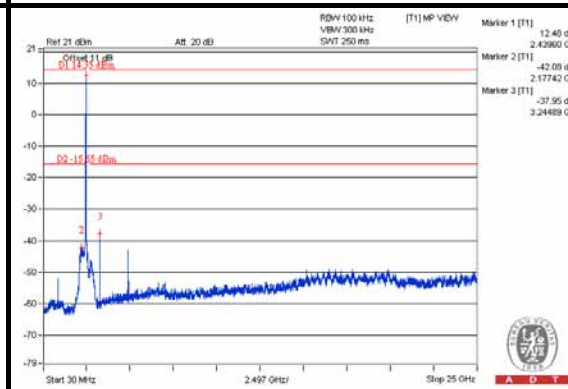
Maximum REF



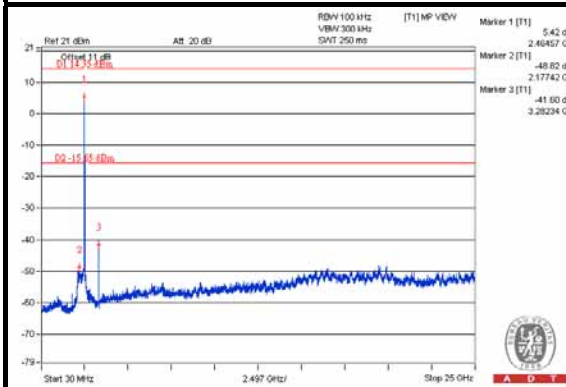
CH 1



CH 6



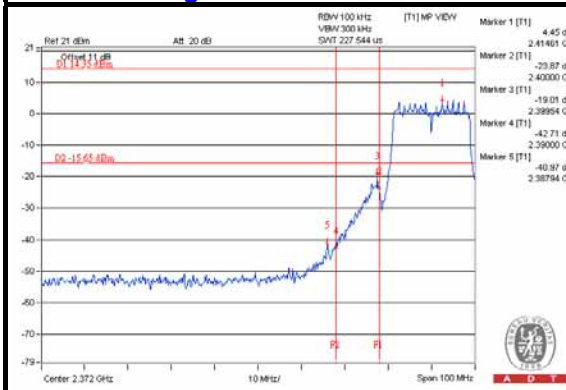
CH 11



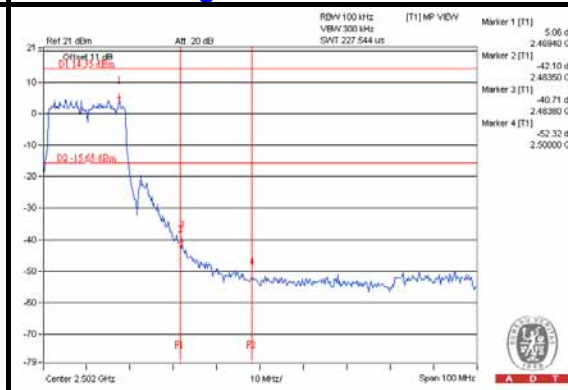
CH 11 Band edge



CH 1 Band edge

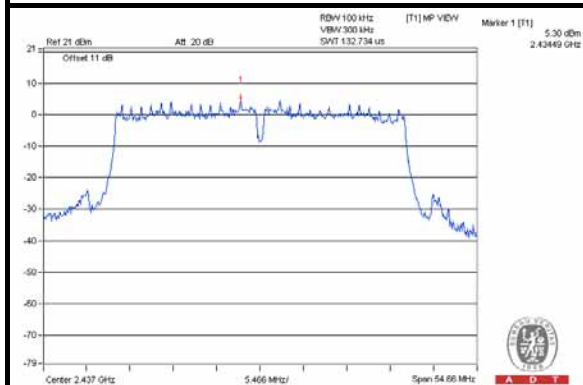


CH 11 Band edge

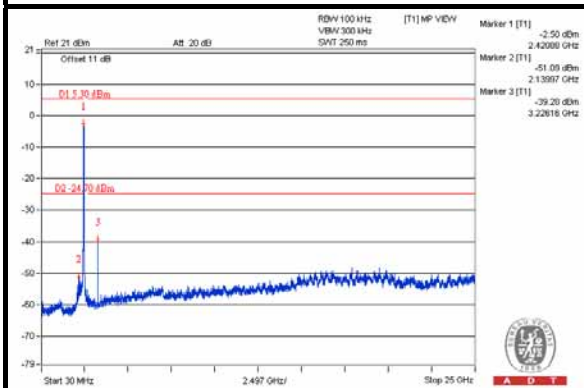


802.11n (HT40)

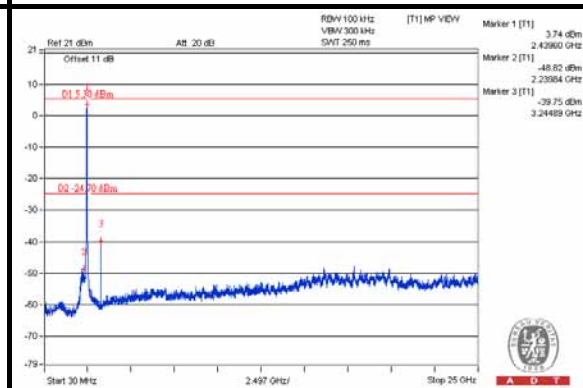
Maximum REF



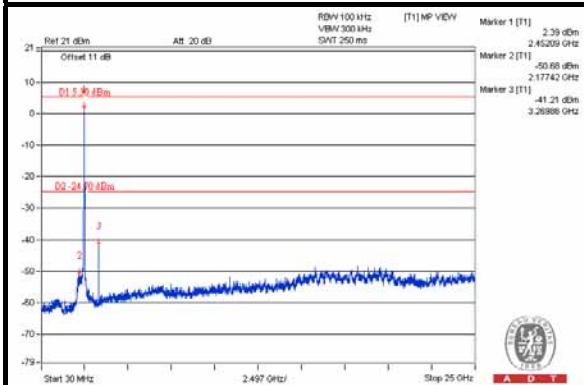
CH 3



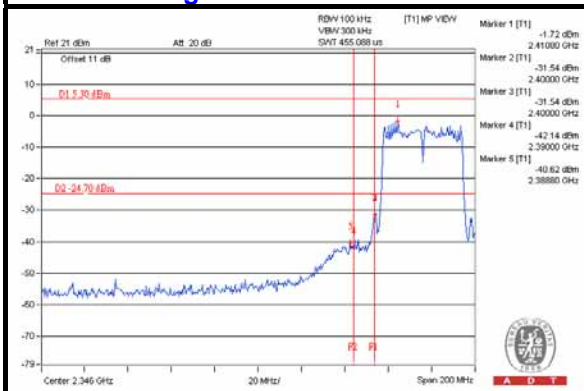
CH 6



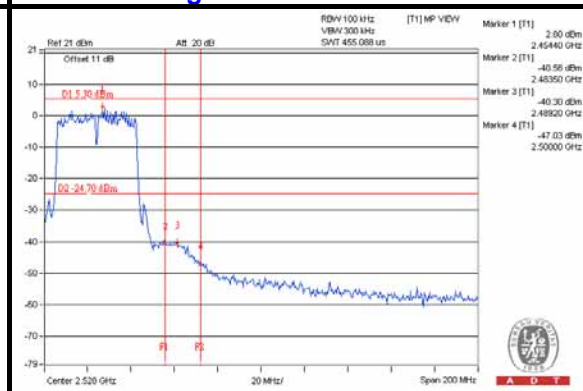
CH 9



CH 3 Band edge



CH 9 Band edge





A D T

5. PHOTOGRAPHS OF THE TEST CONFIGURATION

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



A D T

6. INFORMATION ON THE TESTING LABORATORIES

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

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

Linko EMC/RF Lab:

Tel: 886-2-26052180

Fax: 886-2-26052943

Hsin Chu EMC/RF/Telecom Lab:

Tel: 886-3-6668565

Fax: 886-3-6668323

Hwa Ya EMC/RF/Safety Lab:

Tel: 886-3-3183232

Fax: 886-3-3270892

Email: service.adt@tw.bureauveritas.com

Web Site: www.bureauveritas-adt.com

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



A D T

7. APPENDIX A - MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB

No modifications were made to the EUT by the lab during the test.

--- END ---