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FCC TEST REPORT (15.407)

REPORT NO.: RF110111C23-1

MODEL NO.: RDJ21WW

FCC ID: L6ARDJ20WW

RECEIVED: Jan. 12, 2011

TESTED: Jan. 19 ~ Feb. 08, 2011

ISSUED: Feb. 10, 2011

APPLICANT: Research In Motion Limited

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

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TABLE OF CONTENTS

RELEASE CONTROL RECORD.....	4
1. CERTIFICATION.....	5
2. SUMMARY OF TEST RESULTS	6
2.1 MEASUREMENT UNCERTAINTY.....	6
3. GENERAL INFORMATION.....	7
3.1 GENERAL DESCRIPTION OF EUT	7
3.2 DESCRIPTION OF TEST MODES	9
3.2.1 CONFIGURATION OF SYSTEM UNDER TEST	9
3.2.2 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL	10
3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS	12
3.4 DESCRIPTION OF SUPPORT UNITS	12
4. TEST TYPES AND RESULTS	13
4.1 RADIATED EMISSION MEASUREMENT	13
4.1.1 LIMITS OF RADIATED EMISSION MEASUREMENT.....	13
4.1.2 LIMITS OF UNWANTED EMISSION OUT OF THE RESTRICTED BANDS	13
4.1.3 TEST INSTRUMENTS.....	14
4.1.4 TEST PROCEDURES	15
4.1.5 DEVIATION FROM TEST STANDARD.....	15
4.1.6 TEST SETUP.....	16
4.1.7 EUT OPERATING CONDITION.....	16
4.1.8 TEST RESULTS	17
4.2 CONDUCTED EMISSION MEASUREMENT	39
4.2.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT.....	39
4.2.2 TEST INSTRUMENTS.....	39
4.2.3 TEST PROCEDURES	40
4.2.4 DEVIATION FROM TEST STANDARD.....	40
4.2.5 TEST SETUP.....	41
4.2.6 EUT OPERATING CONDITIONS	41
4.2.7 TEST RESULTS	42
4.3 MAXIMUM CONDUCTED OUTPUT POWER MEASUREMENT	46
4.3.1 LIMITS OF MAXIMUM CONDUCTED OUTPUT POWER MEASUREMENT.....	46
4.3.2 TEST INSTRUMENTS.....	46
4.3.3 TEST PROCEDURE.....	47
4.3.4 DEVIATION FROM TEST STANDARD.....	47
4.3.5 TEST SETUP.....	47
4.3.6 EUT OPERATING CONDITIONS	47



A D T

4.3.7	TEST RESULTS	48
4.4	PEAK POWER EXCURSION MEASUREMENT	51
4.4.1	LIMITS OF PEAK POWER EXCURSION MEASUREMENT	51
4.4.2	TEST INSTRUMENTS.....	51
4.4.3	TEST PROCEDURE.....	51
4.4.4	DEVIATION FROM TEST STANDARD.....	52
4.4.5	TEST SETUP	52
4.4.6	EUT OPERATING CONDITIONS	52
4.4.7	TEST RESULTS	53
4.5	PEAK POWER SPECTRAL DENSITY MEASUREMENT	57
4.5.1	LIMITS OF PEAK POWER SPECTRAL DENSITY MEASUREMENT	57
4.5.2	TEST INSTRUMENTS.....	57
4.5.3	TEST PROCEDURES	57
4.5.4	DEVIATION FROM TEST STANDARD.....	58
4.5.5	TEST SETUP	58
4.5.6	EUT OPERATING CONDITIONS	58
4.5.7	TEST RESULTS	59
4.6	FREQUENCY STABILITY.....	61
4.6.1	LIMITS OF FREQUENCY STABILITY MEASUREMENT	61
4.6.2	TEST INSTRUMENTS.....	61
4.6.3	TEST PROCEDURE.....	61
4.6.4	DEVIATION FROM TEST STANDARD.....	62
4.6.5	TEST SETUP	62
4.6.6	EUT OPERATING CONDITION.....	62
4.6.7	TEST RESULTS	63
4.7	BAND EDGES MEASUREMENT	64
4.7.1	TEST INSTRUMENTS.....	64
4.7.2	TEST PROCEDURE.....	64
4.7.3	EUT OPERATING CONDITION.....	64
4.7.4	TEST RESULTS	65
5.	PHOTOGRAPHS OF THE TEST CONFIGURATION.....	81
6.	INFORMATION ON THE TESTING LABORATORIES	82
7.	APPENDIX A - MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB.....	83



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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
Original release	N/A	Feb. 10, 2011



1. CERTIFICATION

PRODUCT: Tablet Device

MODEL: RDJ21WW

BRAND: RIM

APPLICANT: Research In Motion Limited

TEST SAMPLE: ENGINEERING SAMPLE

TESTED: Jan. 19 ~ Feb. 08, 2011

STANDARDS: **FCC Part 15, Subpart E (Section 15.407)**

ANSI C63.4-2003

ANSI C63.10-2009

The above equipment (Model: RDJ21WW) 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 : *Joanna* , DATE : Feb. 10, 2011
 Joanna Wang / Senior Specialist

APPROVED BY : *Gary Chang* , DATE : Feb. 10, 2011
 Gary Chang / Assistant Manager

2. SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC PART 15, SUBPART E (SECTION 15.407)			
STANDARD SECTION	TEST TYPE AND LIMIT	RESULT	REMARK
15.407(b)(5)	AC Power Conducted Emission	PASS	Meet the requirement of limit. Minimum passing margin is -14.20dB at 0.478MHz.
15.407(b)(1/2/3) (b)(5)	Electric Field Strength Spurious Emissions, 30MHz ~ 40000MHz	PASS	Meet the requirement of limit. Minimum passing margin is -7.7dB at 399.31MHz.
15.407(a)(1/2/3)	Peak Transmit Power	PASS	Meet the requirement of limit.
15.407(a)(6)	Peak Power Excursion	PASS	Meet the requirement of limit.
15.407(a)(1/2/3)	Peak Power Spectral Density	PASS	Meet the requirement of limit.
15.407(g)	Frequency Stability	PASS	Meet the requirement of limit.
15.203	Antenna Requirement	PASS	Antenna connector is I-pex not a standard connector.

2.1 MEASUREMENT UNCERTAINTY

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

MEASUREMENT	FREQUENCY	UNCERTAINTY
Conducted emissions	150kHz~30MHz	2.44 dB
Radiated emissions	30MHz ~ 200MHz	3.19dB
	200MHz ~1000MHz	3.21dB
	1GHz ~ 18GHz	2.26dB
	18GHz ~ 40GHz	1.94dB

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

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

EUT	Tablet Device
MODEL NO.	RDJ21WW
FCC ID	L6ARDJ20WW
POWER SUPPLY	5Vdc (adapter) 3.7Vdc (battery)
MODULATION TYPE	64QAM, 16QAM, QPSK, BPSK
MODULATION TECHNOLOGY	OFDM
TRANSFER RATE	802.11a: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0Mbps 802.11n (20MHz): up to 72.0Mbps
OPERATING FREQUENCY	5180 ~ 5320MHz & 5500 ~ 5700MHz
NUMBER OF CHANNEL	5180 ~ 5320MHz: 8 5500 ~ 5700MHz: 11
OUTPUT POWER	42.7mW for 5180 ~ 5240MHz 47.9mW for 5260 ~ 5320MHz 49.0mW for 5500 ~ 5700MHz
ANTENNA TYPE	PIFA antenna with -0.3dBi gain for 5180 ~ 5320MHz PIFA antenna with 0.9dBi gain for 5500 ~ 5700MHz
ANTENNA CONNECTOR	I-pex
I/O PORTS	Refer to users' manual
DATA CABLE	0.3m non-shielded USB cable without core 1.0m non-shielded USB cable without core 1.2m non-shielded USB cable without core 1.5m non-shielded USB cable without core
ACCESSORY DEVICES	Adapter, battery

NOTE:

- The EUT is a Tablet Device. The test data are separated into following test reports.

	TEST STANDARD	REFERENCE REPORT
WLAN 802.11b/g, 802.11n	FCC Part 15, Subpart C (Section 15.247)	RF110111C23
WLAN 802.11a, 802.11n (5745~5825 MHz)		
WLAN 802.11a, 802.11n (5180~5320MHz & 5500 ~5700MHz)	FCC Part 15, Subpart E (Section 15.407)	RF110111C23-1
Bluetooth	FCC Part 15, Subpart C (Section 15.247)	RF110111C23-2
WLAN 802.11a, 802.11n (For DFS report) (5250~5350MHz & 5470~5725MHz)	FCC Part 15, Subpart E (Section 15.407)	RF110111C23-3

2. The frequency bands used in this EUT are listed as follows:

Frequency Band (MHz)	2412~2462	5180~5320	5500~5700	5745~5825
802.11b	√	-	-	-
802.11g	√	-	-	-
802.11a	-	√	√	√
802.11n (20MHz)	√	√	√	√

3. The EUT provides one completed transmitter and one receiver.

MODULATION MODE	TX FUNCTION
802.11b	1TX
802.11g	1TX
802.11a	1TX
802.11n (20MHz)	1TX

4. The EUT was powered by the following adapters and battery:

ADAPTER 1	
BRAND	Phihong(BlackBerry)
MODEL	PSAC10R-050QT
INPUT POWER	100-240Vac, 50-60Hz, 0.3A
OUTPUT POWER	5Vdc, 2A
POWER LINE	DC: 2m non-shielded cable without core

ADAPTER 2	
BRAND	Tamura(BlackBerry)
MODEL	RQT050180
INPUT POWER	100-240Vac, 50/60Hz, 0.4A
OUTPUT POWER	5Vdc, 1.8A
POWER LINE	DC: 2m non-shielded cable without core

ADAPTER 3	
BRAND	Phihong(BlackBerry)
MODEL	PSM09A-050RIM
INPUT POWER	100-240Vac, 50/60Hz, 0.3A
OUTPUT POWER	5Vdc, 1.8A
POWER LINE	DC: 2m non-shielded cable without core

ADAPTER 4	
BRAND	PI Electronics
MODEL	AD8213HF
INPUT POWER	100-240Vac, 50/60Hz, 0.3A
OUTPUT POWER	5Vdc, 1.8A
POWER LINE	DC: 2m non-shielded cable without core

* The above adapters had been pre-tested and adapter 1 was found and chose to be the worst case for final test.

BATTERY	
RATING	3.7Vdc, 5400mAh

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

3.2 DESCRIPTION OF TEST MODES

FOR 5180 ~ 5320MHz

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

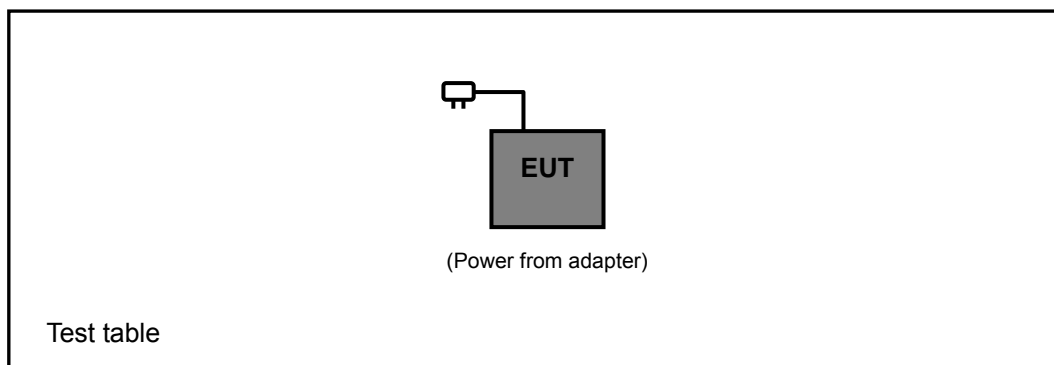
CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
36	5180 MHz	52	5260 MHz
40	5200 MHz	56	5280 MHz
44	5220 MHz	60	5300 MHz
48	5240 MHz	64	5320 MHz

FOR 5500 ~ 5700MHz

11 channels are provided to this EUT.

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
100	5500MHz	124	5620MHz
104	5520MHz	128	5640MHz
108	5540MHz	132	5660MHz
112	5560MHz	136	5680MHz
116	5580MHz	140	5700MHz
120	5600MHz		

3.2.1 CONFIGURATION OF SYSTEM UNDER TEST



3.2.2 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	RE \geq 1G	RE<1G	PLC	APCM	
-	√	√	√	√	-

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

RADIATED EMISSION TEST (ABOVE 1GHz):

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

MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)	AXIS
802.11a	5180-5320	36 to 64	36, 40, 48, 52, 60, 64	OFDM	BPSK	6.0	Y
802.11n (20MHz)		36 to 64	36, 40, 48, 52, 60, 64	OFDM	BPSK	6.5	Y
802.11a	5500-5700	100 to 140	100, 116, 132, 140	OFDM	BPSK	6.0	Y
802.11n (20MHz)		100 to 140	100, 116, 132, 140	OFDM	BPSK	6.5	Y

RADIATED EMISSION TEST (BELOW 1GHz):

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

MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)	AXIS
802.11a	5180-5320	36 to 64	60	OFDM	BPSK	6.0	Y
802.11a	5500-5700	100 to 140	116	OFDM	BPSK	6.0	Y

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.

MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11a	5180-5320	36 to 64	60	OFDM	BPSK	6.0
802.11a	5500-5700	100 to 140	116	OFDM	BPSK	6.0

BANDEDGE MEASUREMENT:

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

MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11a	5180-5320	36 to 64	36, 48, 52, 64	OFDM	BPSK	6.0
802.11n (20MHz)		36 to 64	36, 48, 52, 64	OFDM	BPSK	6.5
802.11a	5500-5700	100 to 140	100, 140	OFDM	BPSK	6.0
802.11n (20MHz)		100 to 140	100, 140	OFDM	BPSK	6.5

ANTENNA PORT CONDUCTED MEASUREMENT:

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

MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11a	5180-5320	36 to 64	36, 40, 48, 52, 60, 64	OFDM	BPSK	6.0
802.11n (20MHz)		36 to 64	36, 40, 48, 52, 60, 64	OFDM	BPSK	6.5
802.11a	5500-5700	100 to 140	100, 116, 132, 140	OFDM	BPSK	6.0
802.11n (20MHz)		100 to 140	100, 116, 132, 140	OFDM	BPSK	6.5

TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE≥1G	24deg. C, 64%RH, 1015 hPa	120Vac, 60Hz	Match Tsui
RE<1G	24deg. C, 64%RH, 1019 hPa	120Vac, 60Hz	Match Tsui
PLC	22deg. C, 64%RH, 1021 hPa	120Vac, 60Hz	David Huang
APCM	22deg. C, 65%RH, 1009 hPa	120Vac, 60Hz	David Huang

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 E (15.407)

ANSI C63.4-2003

ANSI C63.10-2009

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

NOTE: The EUT is also considered as a kind of computer peripheral, because the connection to computer is necessary for typical use. It has been verified to comply with the requirements of FCC Part 15, Subpart B, Class B (DoC). The test report has been issued separately.

3.4 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit.

4. TEST TYPES AND RESULTS

4.1 RADIATED EMISSION MEASUREMENT

4.1.1 LIMITS OF RADIATED EMISSION MEASUREMENT

Emissions radiated outside of the specified bands, shall be according to the general radiated limits in 15.209 as following:

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. As shown in 15.35(b), for frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.

4.1.2 LIMITS OF UNWANTED EMISSION OUT OF THE RESTRICTED BANDS

FREQUENCIES (MHz)	EIRP LIMIT (dBm)	EQUIVALENT FIELD STRENGTH AT 3m (dBµV/m) *NOTE 3
	PK	PK
5150 ~ 5350	-27	68.3
5470 ~ 5725	-27	68.3

NOTE: The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength:

$$E = \frac{1000000\sqrt{30P}}{3} \mu\text{V/m, where P is the eirp (Watts).}$$

4.1.3 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Test Receiver ROHDE & SCHWARZ	ESI7	838496/016	Dec. 27, 2010	Dec. 26, 2011
Spectrum Analyzer ROHDE & SCHWARZ	FSU43	100115	Aug. 02, 2010	Aug. 01, 2011
BILOG Antenna SCHWARZBECK	VULB9168	9168-155	Apr. 28, 2010	Apr. 27, 2011
HORN Antenna SCHWARZBECK	BBHA 9120D	9120D-408	Jan. 06, 2011	Jan. 05, 2012
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170243	Dec. 27, 2010	Dec. 26, 2011
Preamplifier Agilent	8449B	3008A01961	Nov. 02, 2010	Nov. 01, 2011
Preamplifier Agilent	8447D	2944A10738	Nov. 02, 2010	Nov. 01, 2011
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	274041/4	Aug. 21, 2010	Aug. 20, 2011
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	283397/4	Aug. 21, 2010	Aug. 20, 2011
Software ADT.	ADT_Radiated_ V7.6.15.9.2	NA	NA	NA
Antenna Tower inn-co GmbH	MA 4000	010303	NA	NA
Antenna Tower Controller inn-co GmbH	CO2000	019303	NA	NA
Turn Table ADT.	TT100.	TT93021704	NA	NA
Turn Table Controller ADT.	SC100.	SC93021704	NA	NA
26GHz ~ 40GHz Amplifier	EM26400	07026401	Aug. 25, 2010	Aug. 24, 2011

- NOTE:**
1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
 2. The test was performed in HwaYa Chamber 4.
 3. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
 4. The FCC Site Registration No. is 988962.
 5. The IC Site Registration No. is IC7450F-4.

4.1.4 TEST PROCEDURES

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The antenna is a broadband antenna, and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

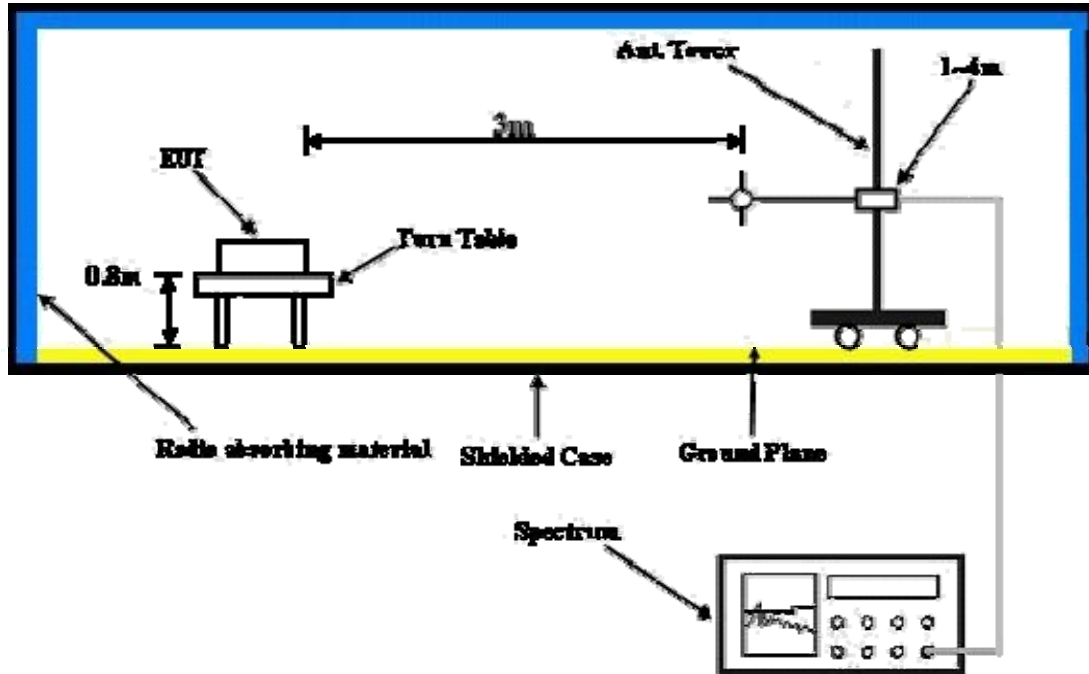
NOTE:

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

4.1.5 DEVIATION FROM TEST STANDARD

No deviation.

4.1.6 TEST SETUP



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

4.1.7 EUT OPERATING CONDITION

- Placed the EUT on the testing table.
- Set the EUT under transmitting condition continuously at specific channel frequency.

4.1.8 TEST RESULTS

802.11a

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 36	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 1015 hPa	TESTED BY	Match Tsui

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	5150.00	51.2 PK	74.0	-22.8	1.06 H	2	13.40	37.80
2	5150.00	35.8 AV	54.0	-18.2	1.06 H	2	-2.00	37.80
3	*5180.00	100.7 PK			1.17 H	27	62.90	37.80
4	*5180.00	90.0 AV			1.17 H	12	52.20	37.80
5	#10360.00	58.7 PK	68.3	-9.6	1.00 H	360	10.00	48.70
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	46.3 PK	74.0	-27.7	1.08 V	108	8.50	37.80
2	5150.00	33.4 AV	54.0	-20.6	1.08 V	108	-4.40	37.80
3	*5180.00	99.0 PK			1.01 V	311	61.20	37.80
4	*5180.00	88.1 AV			1.01 V	311	50.30	37.80
5	#10360.00	57.3 PK	68.3	-11.0	1.00 V	0	8.60	48.70

- REMARKS:**
1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
 2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
 3. The other emission levels were very low against the limit.
 4. Margin value = Emission level – Limit value.
 5. “ * “: Fundamental frequency.
 6. “#“: The radiated frequency is out the restricted band.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 40	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 1015 hPa	TESTED BY	Match Tsui

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	5150.00	45.9 PK	74.0	-28.1	1.14 H	120	8.10	37.80
2	5150.00	34.2 AV	54.0	-19.8	1.14 H	120	-3.60	37.80
3	*5200.00	100.6 PK			1.14 H	120	62.80	37.80
4	*5200.00	90.6 AV			1.14 H	120	52.80	37.80
5	#10400.00	58.9 PK	68.3	-9.4	1.10 H	333	10.10	48.80
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	45.5 PK	74.0	-28.5	1.11 V	120	7.70	37.80
2	5150.00	33.7 AV	54.0	-20.3	1.11 V	120	-4.10	37.80
3	*5200.00	89.9 PK			1.11 V	120	52.10	37.80
4	*5200.00	88.3 AV			1.11 V	120	50.50	37.80
5	#10400.00	58.8 PK	68.3	-9.5	1.04 V	360	10.00	48.80

- REMARKS:**
1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
 2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
 3. The other emission levels were very low against the limit.
 4. Margin value = Emission level – Limit value.
 5. “ * “: Fundamental frequency.
 6. “#“: The radiated frequency is out the restricted band.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 48	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 1015 hPa	TESTED BY	Match Tsui

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	5150.00	45.8 PK	74.0	-28.2	1.12 H	127	8.00	37.80
2	5150.00	33.9 AV	54.0	-20.1	1.12 H	127	-3.90	37.80
3	*5240.00	101.1 PK			1.12 H	127	63.20	37.90
4	*5240.00	90.2 AV			1.12 H	127	52.30	37.90
5	#10480.00	59.2 PK	68.3	-9.1	1.00 H	360	10.10	49.10
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	45.5 PK	74.0	-28.5	1.24 V	100	7.70	37.80
2	5150.00	33.6 AV	54.0	-20.4	1.24 V	100	-4.20	37.80
3	*5240.00	99.3 PK			1.24 V	100	61.40	37.90
4	*5240.00	88.5 AV			1.24 V	100	50.60	37.90
5	#10480.00	58.9 PK	68.3	-9.4	1.01 V	30	9.80	49.10

- REMARKS:**
1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
 2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
 3. The other emission levels were very low against the limit.
 4. Margin value = Emission level – Limit value.
 5. “*”: Fundamental frequency.
 6. “#”: The radiated frequency is out the restricted band.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 52	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 1015 hPa	TESTED BY	Match Tsui

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	*5260.00	101.3 PK			1.05 H	119	63.40	37.90
2	*5260.00	90.6 AV			1.05 H	119	52.70	37.90
3	5350.00	46.9 PK	74.0	-27.1	1.05 H	119	8.90	38.00
4	5350.00	32.5 AV	54.0	-21.5	1.05 H	119	-5.50	38.00
5	#10520.00	59.3 PK	68.3	-9.0	1.01 H	350	10.10	49.20
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5260.00	99.6 PK			1.11 V	112	61.70	37.90
2	*5260.00	88.6 AV			1.11 V	112	50.70	37.90
3	5350.00	46.6 PK	74.0	-27.4	1.11 V	112	8.60	38.00
4	5350.00	32.2 AV	54.0	-21.8	1.11 V	112	-5.80	38.00
5	#10520.00	59.1 PK	68.3	-9.2	1.04 V	360	9.90	49.20

REMARKS: 1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).

2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).

3. The other emission levels were very low against the limit.

4. Margin value = Emission level – Limit value.

5. “ * “: Fundamental frequency.

6. “#“: The radiated frequency is out the restricted band.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 60	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 1015 hPa	TESTED BY	Match Tsui

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	*5300.00	101.6 PK			1.04 H	110	63.70	37.90
2	*5300.00	90.8 AV			1.04 H	110	52.90	37.90
3	5350.00	47.2 PK	74.0	-26.8	1.04 H	110	9.20	38.00
4	5350.00	32.8 AV	54.0	-21.2	1.04 H	110	-5.20	38.00
5	10600.00	59.6 PK	74.0	-14.4	1.04 H	0	10.30	49.30
6	10600.00	45.7 AV	54.0	-8.3	1.04 H	0	-3.60	49.30
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	*5300.00	99.9 PK			1.11 V	100	62.00	37.90
2	*5300.00	88.7 AV			1.11 V	100	50.80	37.90
3	5350.00	46.8 PK	74.0	-27.2	1.11 V	100	8.80	38.00
4	5350.00	32.5 AV	54.0	-21.5	1.11 V	100	-5.50	38.00
5	10600.00	59.1 PK	74.0	-14.9	1.00 V	10	9.80	49.30
6	10600.00	45.3 AV	54.0	-8.7	1.00 V	10	-4.00	49.30

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



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 64	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 1015 hPa	TESTED BY	Match Tsui

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	*5320.00	101.7 PK			1.03 H	117	63.70	38.00
2	*5320.00	90.7 AV			1.03 H	117	52.70	38.00
3	5350.00	47.9 PK	74.0	-26.1	1.12 H	245	9.90	38.00
4	5350.00	34.0 AV	54.0	-20.0	1.12 H	245	-4.00	38.00
5	10640.00	59.7 PK	74.0	-14.3	1.12 H	360	10.20	49.50
6	10640.00	45.7 AV	54.0	-8.3	1.12 H	360	-3.80	49.50
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	*5320.00	100.0 PK			1.17 V	95	62.00	38.00
2	*5320.00	89.0 AV			1.17 V	95	51.00	38.00
3	5350.00	46.6 PK	74.0	-27.4	1.26 V	103	8.60	38.00
4	5350.00	33.4 AV	54.0	-20.6	1.26 V	103	-4.60	38.00
5	10640.00	59.4 PK	74.0	-14.6	1.26 V	360	9.90	49.50
6	10640.00	45.4 AV	54.0	-8.6	1.26 V	360	-4.10	49.50

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 100	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 1015 hPa	TESTED BY	Match Tsui

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	5460.00	48.9 PK	74.0	-25.1	1.06 H	260	10.80	38.10
2	5460.00	35.1 AV	54.0	-18.9	1.06 H	260	-3.00	38.10
3	#5470.00	47.6 PK	68.3	-20.7	1.07 H	253	9.40	38.20
4	*5500.00	104.9 PK			1.02 H	252	66.70	38.20
5	*5500.00	94.5 AV			1.02 H	252	56.30	38.20
6	11000.00	58.7 PK	74.0	-15.3	1.00 H	360	8.40	50.30
7	11000.00	45.0 AV	54.0	-9.0	1.00 H	360	-5.30	50.30

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	5460.00	47.2 PK	74.0	-26.8	1.18 V	68	9.10	38.10
2	5460.00	33.8 AV	54.0	-20.2	1.18 V	68	-4.30	38.10
3	#5470.00	48.3 PK	68.3	-20.0	1.01 V	68	10.10	38.20
4	*5500.00	103.6 PK			1.00 V	25	65.40	38.20
5	*5500.00	93.4 AV			1.00 V	25	55.20	38.20
6	11000.00	58.1 PK	74.0	-15.9	1.07 V	360	7.80	50.30
7	11000.00	45.2 AV	54.0	-8.8	1.07 V	360	-5.10	50.30

- REMARKS:**
1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
 2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
 3. The other emission levels were very low against the limit.
 4. Margin value = Emission level – Limit value.
 5. “ * “: Fundamental frequency.
 6. “#”: The radiated frequency is out the restricted band.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 116	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 1015 hPa	TESTED BY	Match Tsui

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	5460.00	47.7 PK	74.0	-26.3	1.10 H	249	9.60	38.10
2	5460.00	35.1 AV	54.0	-18.9	1.10 H	249	-3.00	38.10
3	*5580.00	105.1 PK			1.10 H	249	66.80	38.30
4	*5580.00	95.1 AV			1.10 H	249	56.80	38.30
5	11160.00	58.7 PK	74.0	-15.3	1.01 H	360	8.50	50.20
6	11160.00	45.1 AV	54.0	-8.9	1.01 H	360	-5.10	50.20
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	47.6 PK	74.0	-26.4	1.18 V	299	9.50	38.10
2	5460.00	33.9 AV	54.0	-20.1	1.18 V	299	-4.20	38.10
3	*5580.00	104.0 PK			1.18 V	299	65.70	38.30
4	*5580.00	94.9 AV			1.18 V	299	56.60	38.30
5	11160.00	58.5 PK	74.0	-15.5	1.00 V	360	8.30	50.20
6	11160.00	44.9 AV	54.0	-9.1	1.00 V	360	-5.30	50.20

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



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 132	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 1015 hPa	TESTED BY	Match Tsui

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	*5660.00	105.8 PK			1.00 H	274	67.30	38.50
2	*5660.00	95.7 AV			1.00 H	274	57.20	38.50
3	#5725.00	51.0 PK	68.3	-17.3	1.00 H	274	12.30	38.70
4	11320.00	58.7 PK	74.0	-15.3	1.01 H	330	8.40	50.30
5	11320.00	45.3 AV	54.0	-8.7	1.01 H	330	-5.00	50.30
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	*5660.00	104.4 PK			1.19 V	290	65.90	38.50
2	*5660.00	95.2 AV			1.19 V	290	56.70	38.50
3	#5725.00	49.4 PK	68.3	-18.9	1.19 V	290	10.70	38.70
4	11320.00	58.6 PK	74.0	-15.4	1.01 V	10	8.30	50.30
5	11320.00	45.0 AV	54.0	-9.0	1.01 V	10	-5.30	50.30

- REMARKS:**
1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
 2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
 3. The other emission levels were very low against the limit.
 4. Margin value = Emission level – Limit value.
 5. “ * “: Fundamental frequency.
 6. “#”: The radiated frequency is out the restricted band.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 140	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 1015 hPa	TESTED BY	Match Tsui

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	*5700.00	106.0 PK			1.03 H	260	67.40	38.60
2	*5700.00	95.9 AV			1.03 H	260	57.30	38.60
3	#5725.00	55.7 PK	68.3	-12.6	1.12 H	243	17.00	38.70
4	11400.00	59.0 PK	74.0	-15.0	1.12 H	360	8.80	50.20
5	11400.00	45.2 AV	54.0	-8.8	1.12 H	360	-5.00	50.20
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	104.6 PK			1.20 V	301	66.00	38.60
2	*5700.00	95.6 AV			1.20 V	301	57.00	38.60
3	#5725.00	51.3 PK	68.3	-17.0	1.00 V	301	12.60	38.70
4	11400.00	58.5 PK	74.0	-15.5	1.00 V	0	8.30	50.20
5	11400.00	45.0 AV	54.0	-9.0	1.00 V	0	-5.20	50.20

- REMARKS:**
1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
 2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
 3. The other emission levels were very low against the limit.
 4. Margin value = Emission level – Limit value.
 5. “ * “: Fundamental frequency.
 6. “#”:The radiated frequency is out the restricted band.



802.11n (20MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 36	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 1015 hPa	TESTED BY	Match Tsui

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	5150.00	49.3 PK	74.0	-24.7	1.09 H	118	11.50	37.80
2	5150.00	35.8 AV	54.0	-18.2	1.09 H	118	-2.00	37.80
3	*5180.00	100.5 PK			1.09 H	124	62.70	37.80
4	*5180.00	90.0 AV			1.09 H	124	52.20	37.80
5	#10360.00	58.2 PK	68.3	-10.1	1.10 H	150	9.50	48.70
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	46.0 PK	74.0	-28.0	1.05 V	115	8.20	37.80
2	5150.00	34.9 AV	54.0	-19.1	1.05 V	115	-2.90	37.80
3	*5180.00	98.8 PK			1.29 V	105	61.00	37.80
4	*5180.00	87.8 AV			1.29 V	105	50.00	37.80
5	#10360.00	58.1 PK	68.3	-10.2	1.00 V	30	9.40	48.70

- REMARKS:**
1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
 2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
 3. The other emission levels were very low against the limit.
 4. Margin value = Emission level – Limit value.
 5. “ * “: Fundamental frequency.
 6. “#”: The radiated frequency is out the restricted band.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 40	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 1015 hPa	TESTED BY	Match Tsui

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	5150.00	46.8 PK	74.0	-27.2	1.10 H	120	9.00	37.80
2	5150.00	33.6 AV	54.0	-20.4	1.10 H	120	-4.20	37.80
3	*5200.00	100.7 PK			1.10 H	120	62.90	37.80
4	*5200.00	90.1 AV			1.10 H	120	52.30	37.80
5	#10400.00	58.5 PK	68.3	-9.8	1.01 H	0	9.70	48.80
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	45.5 PK	74.0	-28.5	1.03 V	111	7.70	37.80
2	5150.00	32.3 AV	54.0	-21.7	1.03 V	111	-5.50	37.80
3	*5200.00	98.9 PK			1.03 V	111	61.10	37.80
4	*5200.00	87.7 AV			1.03 V	111	49.90	37.80
5	#10400.00	58.2 PK	68.3	-10.1	1.03 V	360	9.40	48.80

- REMARKS:**
1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
 2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
 3. The other emission levels were very low against the limit.
 4. Margin value = Emission level – Limit value.
 5. “ * “: Fundamental frequency.
 6. “#“: The radiated frequency is out the restricted band.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 48	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 1015 hPa	TESTED BY	Match Tsui

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	5150.00	45.9 PK	74.0	-28.1	1.10 H	123	8.10	37.80
2	5150.00	32.7 AV	54.0	-21.3	1.10 H	123	-5.10	37.80
3	*5240.00	100.9 PK			1.10 H	123	63.00	37.90
4	*5240.00	90.5 AV			1.10 H	123	52.60	37.90
5	#10480.00	58.7 PK	68.3	-9.6	1.00 H	360	9.60	49.10
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	45.5 PK	74.0	-28.5	1.03 V	115	7.70	37.80
2	5150.00	32.5 AV	54.0	-21.5	1.03 V	115	-5.30	37.80
3	*5240.00	99.0 PK			1.03 V	115	61.10	37.90
4	*5240.00	88.0 AV			1.03 V	115	50.10	37.90
5	#10480.00	58.4 PK	68.3	-9.9	1.00 V	10	9.30	49.10

- REMARKS:**
1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
 2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
 3. The other emission levels were very low against the limit.
 4. Margin value = Emission level – Limit value.
 5. “*”: Fundamental frequency.
 6. “#”: The radiated frequency is out the restricted band.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 52	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 1015 hPa	TESTED BY	Match Tsui

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	*5260.00	101.1 PK			1.01 H	266	63.20	37.90
2	*5260.00	90.6 AV			1.01 H	266	52.70	37.90
3	5350.00	46.3 PK	74.0	-27.7	1.01 H	266	8.30	38.00
4	5350.00	33.4 AV	54.0	-20.6	1.01 H	266	-4.60	38.00
5	#10520.00	58.8 PK	68.3	-9.5	1.00 H	10	9.60	49.20
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5260.00	99.4 PK			1.11 V	100	61.50	37.90
2	*5260.00	88.3 AV			1.11 V	100	50.40	37.90
3	5350.00	46.0 PK	74.0	-28.0	1.11 V	100	8.00	38.00
4	5350.00	33.0 AV	54.0	-21.0	1.11 V	100	-5.00	38.00
5	#10520.00	58.5 PK	68.3	-9.8	1.00 V	330	9.30	49.20

- REMARKS:**
1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
 2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
 3. The other emission levels were very low against the limit.
 4. Margin value = Emission level – Limit value.
 5. “ * “: Fundamental frequency.
 6. “ # “: The radiated frequency is out the restricted band.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 60	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 1015 hPa	TESTED BY	Match Tsui

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	*5300.00	101.7 PK			1.01 H	274	63.80	37.90
2	*5300.00	90.7 AV			1.01 H	274	52.80	37.90
3	5350.00	47.4 PK	74.0	-26.6	1.01 H	274	9.40	38.00
4	5350.00	34.5 AV	54.0	-19.5	1.01 H	274	-3.50	38.00
5	10600.00	59.1 PK	74.0	-14.9	1.04 H	300	9.80	49.30
6	10600.00	45.3 AV	54.0	-8.7	1.04 H	300	-4.00	49.30
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	*5300.00	99.3 PK			1.14 V	101	61.40	37.90
2	*5300.00	88.5 AV			1.14 V	101	50.60	37.90
3	5350.00	47.1 PK	74.0	-26.9	1.14 V	101	9.10	38.00
4	5350.00	34.0 AV	54.0	-20.0	1.14 V	101	-4.00	38.00
5	10600.00	58.9 PK	74.0	-15.1	1.01 V	100	9.60	49.30
6	10600.00	45.1 AV	54.0	-8.9	1.01 V	100	-4.20	49.30

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



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 64	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 1015 hPa	TESTED BY	Match Tsui

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	*5320.00	101.9 PK			1.00 H	264	63.90	38.00
2	*5320.00	90.7 AV			1.00 H	264	52.70	38.00
3	5350.00	48.4 PK	74.0	-25.6	1.04 H	242	10.40	38.00
4	5350.00	34.8 AV	54.0	-19.2	1.04 H	242	-3.20	38.00
5	10640.00	59.3 PK	74.0	-14.7	1.04 H	0	9.80	49.50
6	10640.00	45.4 AV	54.0	-8.6	1.04 H	0	-4.10	49.50
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	*5320.00	99.7 PK			1.16 V	100	61.70	38.00
2	*5320.00	88.6 AV			1.16 V	100	50.60	38.00
3	5350.00	48.1 PK	74.0	-25.9	1.02 V	109	10.10	38.00
4	5350.00	34.5 AV	54.0	-19.5	1.02 V	109	-3.50	38.00
5	10640.00	58.9 PK	74.0	-15.1	1.04 V	300	9.40	49.50
6	10640.00	45.1 AV	54.0	-8.9	1.04 V	300	-4.40	49.50

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



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 100	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 1015 hPa	TESTED BY	Match Tsui

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	5460.00	47.7 PK	74.0	-26.3	1.17 H	260	9.60	38.10
2	5460.00	35.7 AV	54.0	-18.3	1.17 H	260	-2.40	38.10
3	#5470.00	49.4 PK	68.3	-18.9	1.17 H	260	11.20	38.20
4	*5500.00	104.5 PK			1.16 H	261	66.30	38.20
5	*5500.00	94.2 AV			1.16 H	261	56.00	38.20
6	11000.00	59.1 PK	74.0	-14.9	1.01 H	360	8.80	50.30
7	11000.00	45.8 AV	54.0	-8.2	1.01 H	360	-4.50	50.30
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	5460.00	47.9 PK	74.0	-26.1	1.22 V	144	9.80	38.10
2	5460.00	34.7 AV	54.0	-19.3	1.22 V	144	-3.40	38.10
3	#5470.00	48.7 PK	68.3	-19.6	1.45 V	88	10.50	38.20
4	*5500.00	102.4 PK			1.22 V	110	64.20	38.20
5	*5500.00	92.3 AV			1.22 V	110	54.10	38.20
6	11000.00	58.9 PK	74.0	-15.1	1.00 V	10	8.60	50.30
7	11000.00	45.6 AV	54.0	-8.4	1.00 V	10	-4.70	50.30

- REMARKS:**
1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
 2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
 3. The other emission levels were very low against the limit.
 4. Margin value = Emission level – Limit value.
 5. “ * “: Fundamental frequency.
 6. “#”:The radiated frequency is out the restricted band.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 116	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 1015 hPa	TESTED BY	Match Tsui

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	5460.00	46.9 PK	74.0	-27.1	1.18 H	269	8.80	38.10
2	5460.00	34.7 AV	54.0	-19.3	1.18 H	269	-3.40	38.10
3	*5580.00	104.9 PK			1.18 H	269	66.60	38.30
4	*5580.00	94.7 AV			1.18 H	269	56.40	38.30
5	11160.00	59.2 PK	74.0	-14.8	1.01 H	10	9.00	50.20
6	11160.00	45.8 AV	54.0	-8.2	1.01 H	10	-4.40	50.20
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	46.7 PK	74.0	-27.3	1.21 V	107	8.60	38.10
2	5460.00	34.6 AV	54.0	-19.4	1.21 V	107	-3.50	38.10
3	*5580.00	103.1 PK			1.21 V	107	64.80	38.30
4	*5580.00	93.1 AV			1.21 V	107	54.80	38.30
5	11160.00	58.8 PK	74.0	-15.2	1.00 V	360	8.60	50.20
6	11160.00	45.6 AV	54.0	-8.4	1.00 V	360	-4.60	50.20

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



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 132	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 1015 hPa	TESTED BY	Match Tsui

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	*5660.00	105.5 PK			1.00 H	237	67.00	38.50
2	*5660.00	95.3 AV			1.00 H	237	56.80	38.50
3	#5725.00	51.7 PK	68.3	-16.6	1.00 H	237	13.00	38.70
4	11320.00	59.6 PK	74.0	-14.4	1.00 H	360	9.30	50.30
5	11320.00	46.2 AV	54.0	-7.8	1.00 H	360	-4.10	50.30
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	*5660.00	103.9 PK			1.17 V	249	65.40	38.50
2	*5660.00	93.7 AV			1.17 V	249	55.20	38.50
3	#5725.00	52.1 PK	68.3	-16.2	1.17 V	249	13.40	38.70
4	11320.00	59.0 PK	74.0	-15.0	1.07 V	330	8.70	50.30
5	11320.00	45.4 AV	54.0	-8.6	1.07 V	330	-4.90	50.30

- REMARKS:**
1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
 2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
 3. The other emission levels were very low against the limit.
 4. Margin value = Emission level – Limit value.
 5. “ * “: Fundamental frequency.
 6. “#”: The radiated frequency is out the restricted band.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 140	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 1015 hPa	TESTED BY	Match Tsui

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	*5700.00	105.9 PK			1.01 H	244	67.30	38.60
2	*5700.00	95.9 AV			1.01 H	244	57.30	38.60
3	#5725.00	52.6 PK	68.3	-15.7	1.07 H	248	13.90	38.70
4	11400.00	59.2 PK	74.0	-14.8	1.07 H	10	9.00	50.20
5	11400.00	45.9 AV	54.0	-8.1	1.07 H	10	-4.30	50.20
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	104.2 PK			1.20 V	253	65.60	38.60
2	*5700.00	94.5 AV			1.20 V	253	55.90	38.60
3	#5725.00	50.2 PK	68.3	-18.1	1.35 V	251	11.50	38.70
4	11400.00	58.9 PK	74.0	-15.1	1.21 V	350	8.70	50.20
5	11400.00	45.6 AV	54.0	-8.4	1.21 V	350	-4.60	50.20

- REMARKS:**
1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
 2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
 3. The other emission levels were very low against the limit.
 4. Margin value = Emission level – Limit value.
 5. “ * “: Fundamental frequency.
 6. “#”:The radiated frequency is out the restricted band.

BELOW 1GHz WORST-CASE DATA : 802.11a

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 60	FREQUENCY RANGE	Below 1000MHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 1019 hPa	TESTED BY	Match Tsui

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	199.05	35.1 QP	43.5	-8.4	1.25 H	223	22.90	12.20
2	230.16	33.8 QP	46.0	-12.2	1.00 H	256	20.80	13.00
3	374.04	35.2 QP	46.0	-10.8	1.00 H	208	17.40	17.80
4	399.31	37.5 QP	46.0	-8.5	2.00 H	334	18.90	18.60
5	638.46	33.6 QP	46.0	-12.4	1.25 H	337	9.40	24.20
6	718.18	35.6 QP	46.0	-10.4	1.25 H	10	10.10	25.50

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	66.84	27.5 QP	40.0	-12.5	1.00 V	10	14.40	13.10
2	374.04	35.6 QP	46.0	-10.4	1.00 V	244	17.80	17.80
3	399.31	38.0 QP	46.0	-8.0	1.50 V	331	19.40	18.60
4	558.75	34.1 QP	46.0	-11.9	1.00 V	280	11.30	22.80
5	718.18	33.4 QP	46.0	-12.6	2.00 V	205	7.90	25.50
6	900.94	32.1 QP	46.0	-13.9	1.50 V	289	3.40	28.70
7	926.22	32.5 QP	46.0	-13.5	1.50 V	268	3.60	28.90

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



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 116	FREQUENCY RANGE	Below 1000MHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 1019 hPa	TESTED BY	Match Tsui

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	171.83	29.8 QP	43.5	-13.7	1.00 H	265	15.70	14.10
2	199.05	32.7 QP	43.5	-10.8	1.00 H	265	20.50	12.20
3	232.11	33.9 QP	46.0	-12.1	1.00 H	250	20.90	13.00
4	300.16	36.4 QP	46.0	-9.6	1.00 H	286	21.10	15.30
5	374.04	34.1 QP	46.0	-11.9	1.00 H	211	16.30	17.80
6	399.31	38.0 QP	46.0	-8.0	1.00 H	304	19.40	18.60
7	718.18	35.5 QP	46.0	-10.5	1.25 H	7	10.00	25.50
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	66.84	26.3 QP	40.0	-13.7	1.25 V	193	13.20	13.10
2	109.62	29.0 QP	43.5	-14.5	1.25 V	220	17.10	11.90
3	374.04	36.0 QP	46.0	-10.0	1.25 V	229	18.20	17.80
4	399.31	38.3 QP	46.0	-7.7	1.50 V	319	19.70	18.60
5	479.03	31.7 QP	46.0	-14.3	1.00 V	7	10.90	20.80
6	558.75	34.5 QP	46.0	-11.5	1.00 V	274	11.70	22.80
7	718.18	32.8 QP	46.0	-13.2	2.00 V	205	7.30	25.50

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

4.2 CONDUCTED EMISSION MEASUREMENT

4.2.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

FREQUENCY 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 0.50MHz.
 3. All emanations from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

4.2.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Test Receiver ROHDE & SCHWARZ	ESCS30	100289	Nov. 23, 2010	Nov. 22, 2011
RF signal cable Woken	5D-FB	Cable-HYCO2-01	Dec. 30, 2010	Dec. 29, 2011
LISN ROHDE & SCHWARZ	ESH2-Z5	100100	Jan. 06, 2011	Jan. 05, 2012
LISN ROHDE & SCHWARZ	ESH3-Z5	100311	Jul. 08, 2010	Jul. 07, 2011
V-LISN SCHWARZBECK	NNBL 8226-2	8226-142	Jul. 12, 2010	Jul. 11, 2011
LISN ROHDE & SCHWARZ	ENV216	100072	Jun. 11, 2010	Jun. 10, 2011
Software ADT	ADT_Cond_ V7.3.7	NA	NA	NA

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

4.2.3 TEST PROCEDURES

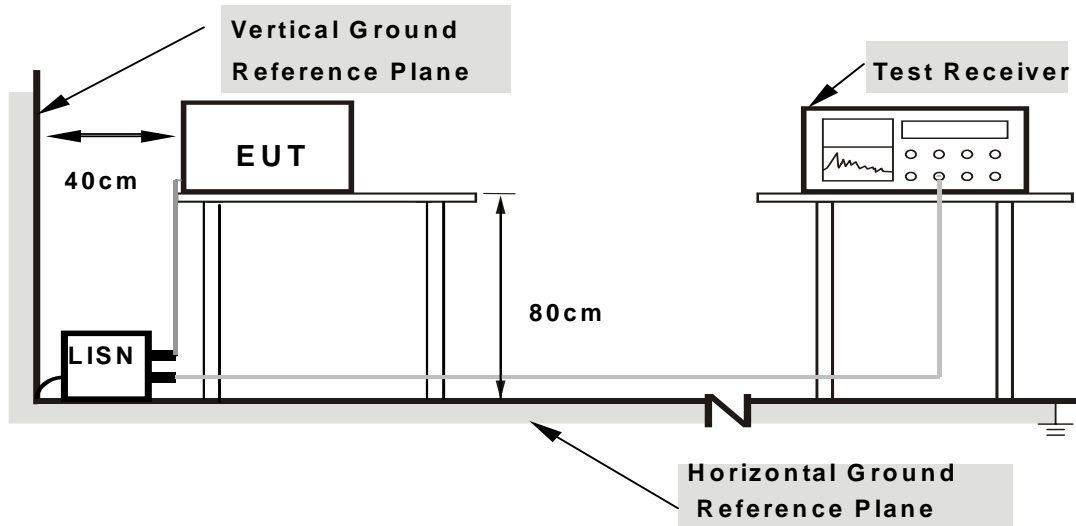
- a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling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

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

4.2.4 DEVIATION FROM TEST STANDARD

No deviation.

4.2.5 TEST SETUP



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

2. Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

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

4.2.6 EUT OPERATING CONDITIONS

Same as 4.1.6.

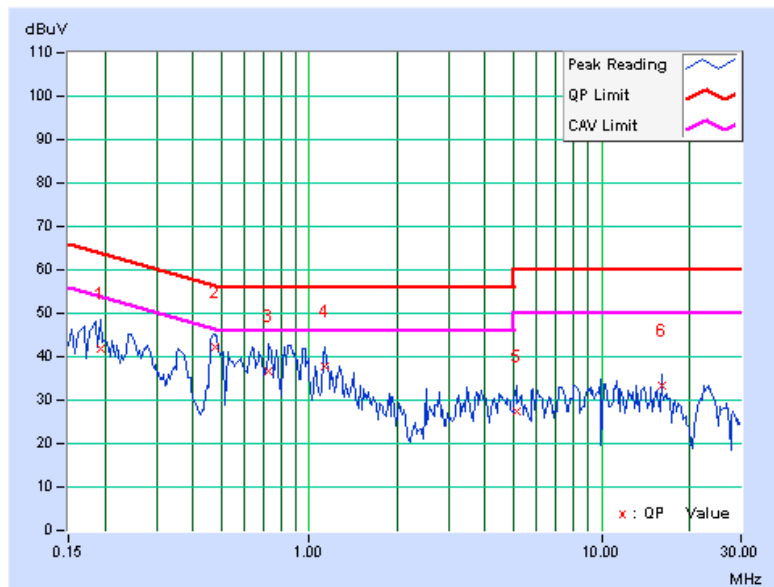
4.2.7 TEST RESULTS

CONDUCTED WORST-CASE DATA : 802.11a

6dB BANDWIDTH	9kHz	PHASE	Line 1
CHANNEL	Channel 60		

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.193	0.15	41.85	-	42.00	-	63.91	53.91	-21.91	-
2	0.474	0.17	41.92	-	42.09	-	56.44	46.44	-14.35	-
3	0.728	0.18	36.45	-	36.63	-	56.00	46.00	-19.37	-
4	1.133	0.19	37.49	-	37.68	-	56.00	46.00	-18.32	-
5	5.109	0.36	26.91	-	27.27	-	60.00	50.00	-32.73	-
6	16.051	0.93	32.46	-	33.39	-	60.00	50.00	-26.61	-

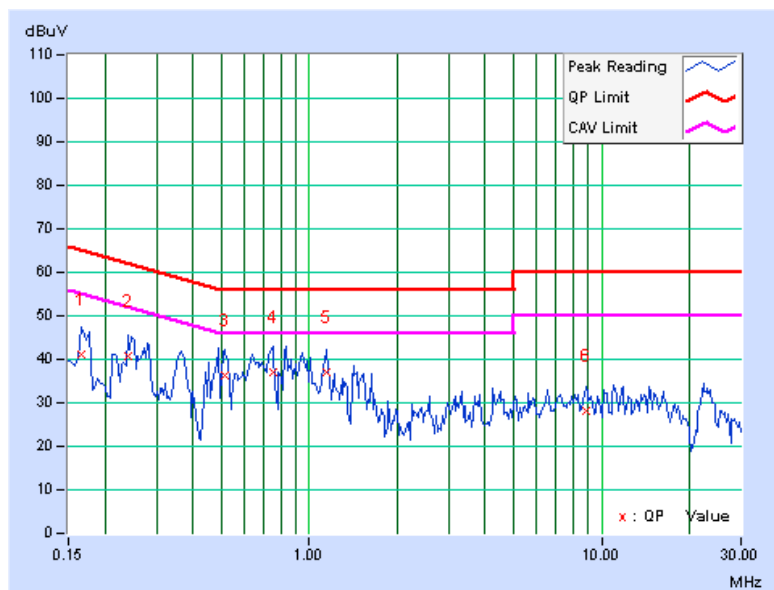
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value = Emission level - Limit value
 5. Correction factor = Insertion loss + Cable loss
 6. Emission Level = Correction Factor + Reading Value.



6dB BANDWIDTH	9kHz	PHASE	Line 2
CHANNEL	Channel 60		

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.166	0.16	40.82	-	40.98	-	65.18	55.18	-24.20	-
2	0.240	0.17	40.41	-	40.58	-	62.10	52.10	-21.52	-
3	0.513	0.19	36.25	-	36.44	-	56.00	46.00	-19.56	-
4	0.752	0.20	37.01	-	37.21	-	56.00	46.00	-18.79	-
5	1.145	0.21	36.88	-	37.09	-	56.00	46.00	-18.91	-
6	8.813	0.46	27.51	-	27.97	-	60.00	50.00	-32.03	-

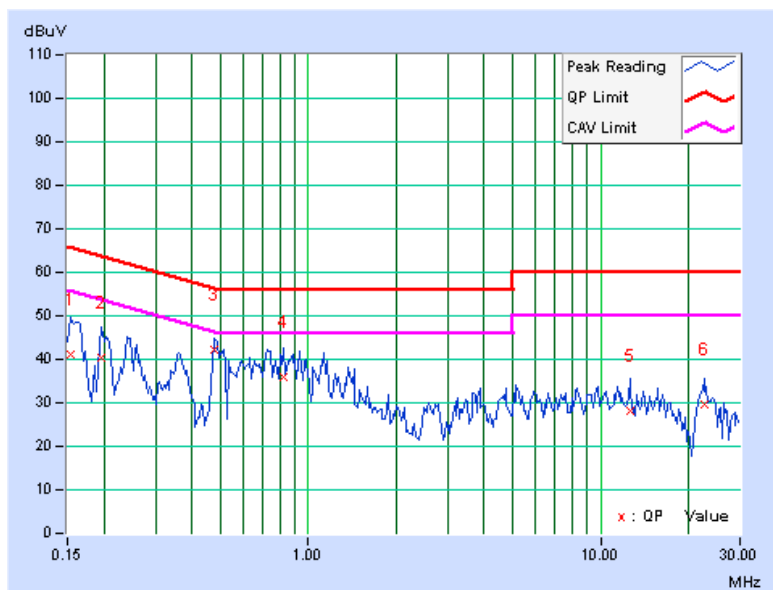
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value = Emission level - Limit value
 5. Correction factor = Insertion loss + Cable loss
 6. Emission Level = Correction Factor + Reading Value.



6dB BANDWIDTH	9kHz	PHASE	Line 1
CHANNEL	Channel 116		

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.154	0.15	41.08	-	41.23	-	65.79	55.79	-24.56	-
2	0.197	0.15	40.33	-	40.48	-	63.74	53.74	-23.26	-
3	0.478	0.17	42.00	-	42.17	-	56.37	46.37	-14.20	-
4	0.822	0.18	35.83	-	36.01	-	56.00	46.00	-19.99	-
5	12.656	0.72	27.29	-	28.01	-	60.00	50.00	-31.99	-
6	22.637	1.19	28.27	-	29.46	-	60.00	50.00	-30.54	-

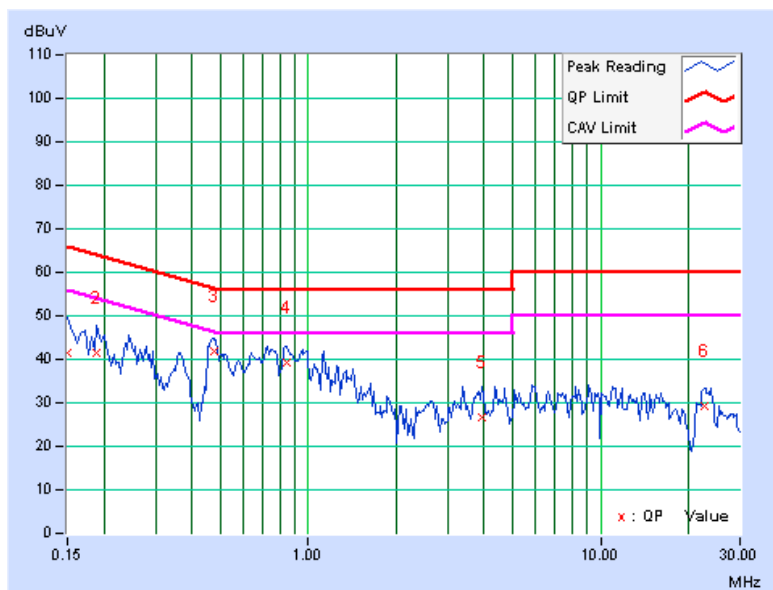
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value = Emission level - Limit value
 5. Correction factor = Insertion loss + Cable loss
 6. Emission Level = Correction Factor + Reading Value.



6dB BANDWIDTH	9kHz	PHASE	Line 2
CHANNEL	Channel 116		

No	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
	[MHz]	Factor (dB)	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.150	0.16	41.48	-	41.64	-	66.00	56.00	-24.36	-
2	0.189	0.17	41.41	-	41.58	-	64.08	54.08	-22.50	-
3	0.474	0.19	41.84	-	42.03	-	56.44	46.44	-14.41	-
4	0.841	0.20	39.00	-	39.20	-	56.00	46.00	-16.80	-
5	3.926	0.32	26.43	-	26.75	-	56.00	46.00	-29.25	-
6	22.613	0.98	28.39	-	29.37	-	60.00	50.00	-30.63	-

- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value = Emission level - Limit value
 5. Correction factor = Insertion loss + Cable loss
 6. Emission Level = Correction Factor + Reading Value.



4.3 MAXIMUM CONDUCTED OUTPUT POWER MEASUREMENT

4.3.1 LIMITS OF MAXIMUM CONDUCTED OUTPUT POWER MEASUREMENT

FREQUENCY BAND	LIMIT
5.150 ~ 5.250GHz	The lesser of 50mW (17dBm) or 4dBm + 10logB
5.250 ~ 5.350GHz	The lesser of 250mW (24dBm) or 11dBm + 10logB
5.470 ~ 5.725GHz	The lesser of 250mW (24dBm) or 11dBm + 10logB

NOTE: Where B is the 26dB emission bandwidth in MHz.

4.3.2 TEST INSTRUMENTS

FOR POWER OUTPUT MEASUREMENT

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
High Speed Peak Power Meter	ML2495A	0842014	Apr. 21, 2010	Apr. 20, 2011
Power Sensor	MA2411B	0738404	Apr. 21, 2010	Apr. 20, 2011

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. Measurement Bandwidth of ML2495A is 65MHz greater than 26dB bandwidth of emission.

FOR 26dB OCCUPIED BANDWIDTH

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
SPECTRUM ANALYZER R&S	FSP40	100039	Jan. 11, 2011	Jan. 10, 2012

NOTE: The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

4.3.3 TEST PROCEDURE

FOR POWER OUTPUT MEASUREMENT

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

FOR 26dB OCCUPIED BANDWIDTH

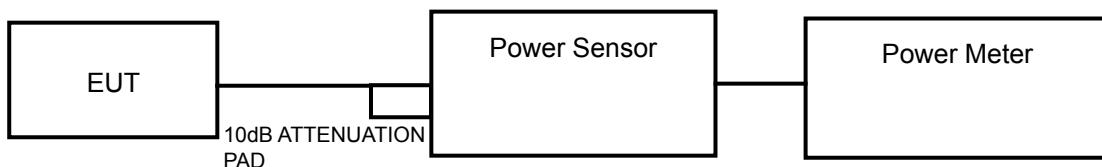
The transmitter output was connected to the spectrum analyzer through an attenuator. The bandwidth of the fundamental frequency was measured by spectrum analyzer with 300kHz RBW and 1MHz VBW. The 26dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 26dB.

4.3.4 DEVIATION FROM TEST STANDARD

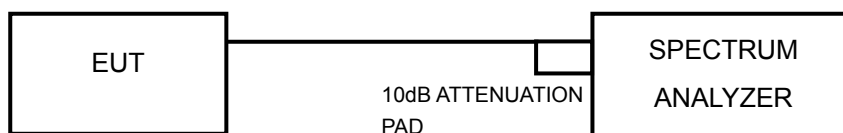
No deviation.

4.3.5 TEST SETUP

FOR POWER OUTPUT MEASUREMENT



FOR 26dB OCCUPIED BANDWIDTH



4.3.6 EUT OPERATING CONDITIONS

The software provided by client to enable the EUT under transmission condition continuously at specific channel frequencies individually.



4.3.7 TEST RESULTS

POWER OUTPUT: 802.11a

CHANNEL	CHANNEL FREQUENCY (MHz)	OUTPUT POWER (mW)	OUTPUT POWER (dBm)	POWER LIMIT (dBm)	PASS / FAIL
36	5180	41.7	16.2	17	PASS
40	5200	42.7	16.3	17	PASS
48	5240	41.7	16.2	17	PASS
52	5260	46.8	16.7	24	PASS
60	5300	47.9	16.8	24	PASS
64	5320	45.7	16.6	24	PASS
100	5500	45.7	16.6	24	PASS
116	5580	49.0	16.9	24	PASS
132	5660	45.7	16.6	24	PASS
140	5700	45.7	16.6	24	PASS

802.11n (20MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	OUTPUT POWER (mW)	OUTPUT POWER (dBm)	POWER LIMIT (dBm)	PASS / FAIL
36	5180	40.7	16.1	17	PASS
40	5200	41.7	16.2	17	PASS
48	5240	40.7	16.1	17	PASS
52	5260	43.7	16.4	24	PASS
60	5300	45.7	16.6	24	PASS
64	5320	44.7	16.5	24	PASS
100	5500	44.7	16.5	24	PASS
116	5580	46.8	16.7	24	PASS
132	5660	43.7	16.4	24	PASS
140	5700	44.7	16.5	24	PASS

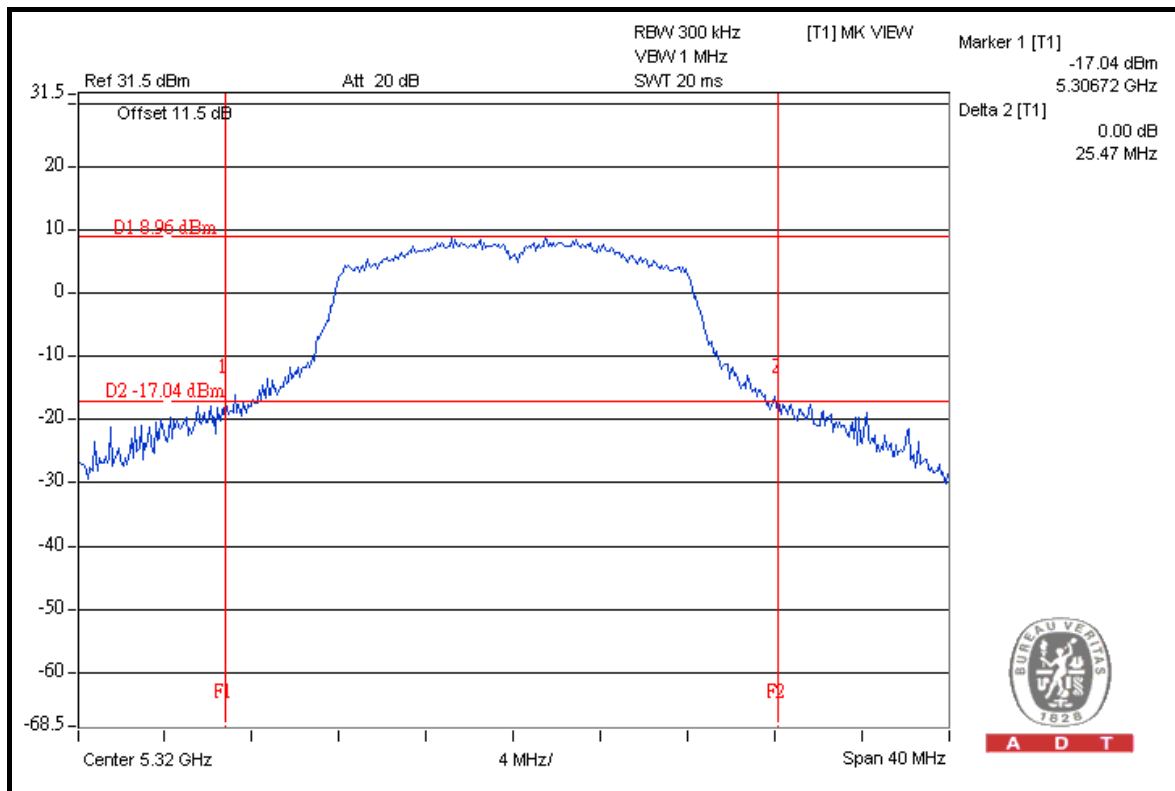


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26dB OCCUPIED BANDWIDTH: 802.11a

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc OCCUPIED BANDWIDTH (MHz)	PASS / FAIL
36	5180	23.58	PASS
40	5200	23.24	PASS
48	5240	24.35	PASS
52	5260	24.78	PASS
60	5300	24.98	PASS
64	5320	25.47	PASS
100	5500	23.12	PASS
116	5580	24.20	PASS
132	5660	25.31	PASS
140	5700	25.18	PASS

CH 64



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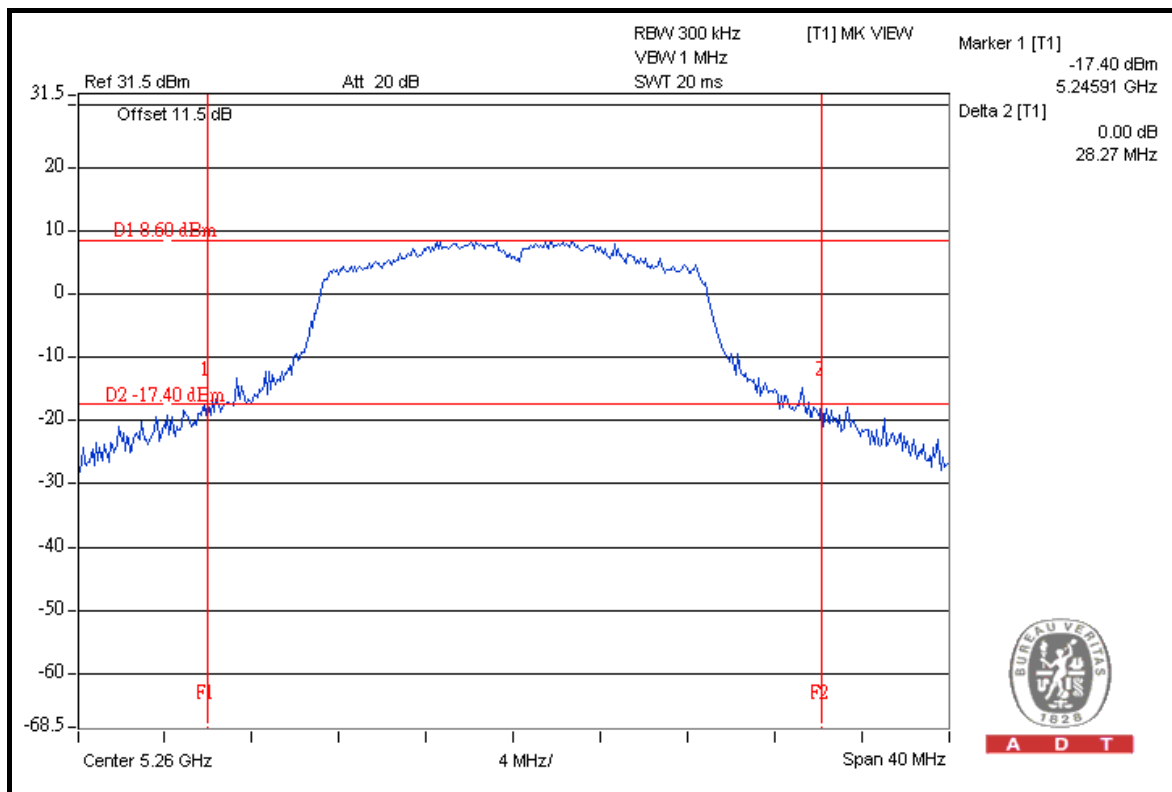


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802.11n (20MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc OCCUPIED BANDWIDTH (MHz)	PASS / FAIL
36	5180	24.52	PASS
40	5200	24.40	PASS
48	5240	26.35	PASS
52	5260	28.27	PASS
60	5300	27.07	PASS
64	5320	26.92	PASS
100	5500	24.57	PASS
116	5580	25.70	PASS
132	5660	26.45	PASS
140	5700	26.43	PASS

CH 52



4.4 PEAK POWER EXCURSION MEASUREMENT

4.4.1 LIMITS OF PEAK POWER EXCURSION MEASUREMENT

FREQUENCY BAND	LIMIT
5.150 ~ 5.250GHz	13dB
5.250 ~ 5.350GHz	13dB
5.470 ~ 5.725GHz	13dB

4.4.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
SPECTRUM ANALYZER R&S	FSP40	100039	Jan. 11, 2011	Jan. 10, 2012

NOTE: The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

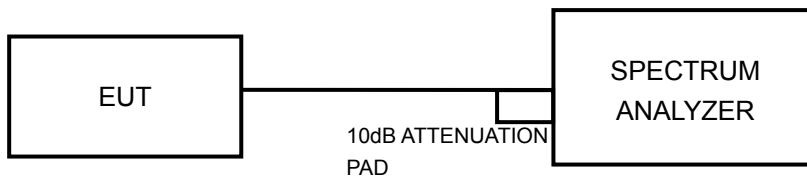
4.4.3 TEST PROCEDURE

- a. The transmitter output was connected to the spectrum analyzer.
- b. Set the spectrum bandwidth span to view the entire spectrum.
- c. Using peak detector and Max-hold function for Trace 1 (RB = 1MHz, VB = 3MHz) and 2 (RB = 1MHz, VB = 300kHz).
- d. The differences between Trace1 and Trace 2 in any 1MHz band at f1 to f2 range were recorded and showed to another trace.

4.4.4 DEVIATION FROM TEST STANDARD

No deviation.

4.4.5 TEST SETUP



4.4.6 EUT OPERATING CONDITIONS

The software provided by client to enable the EUT under transmission condition continuously at specific channel frequencies individually.



4.4.7 TEST RESULTS

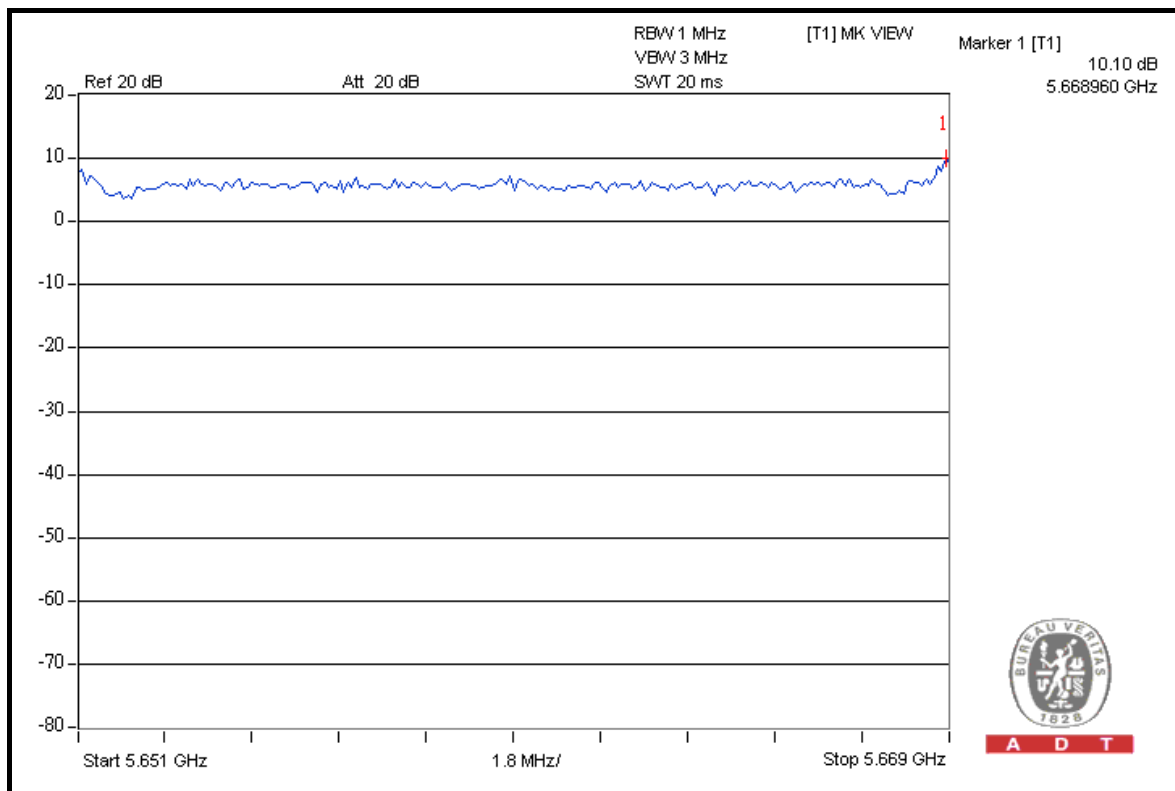
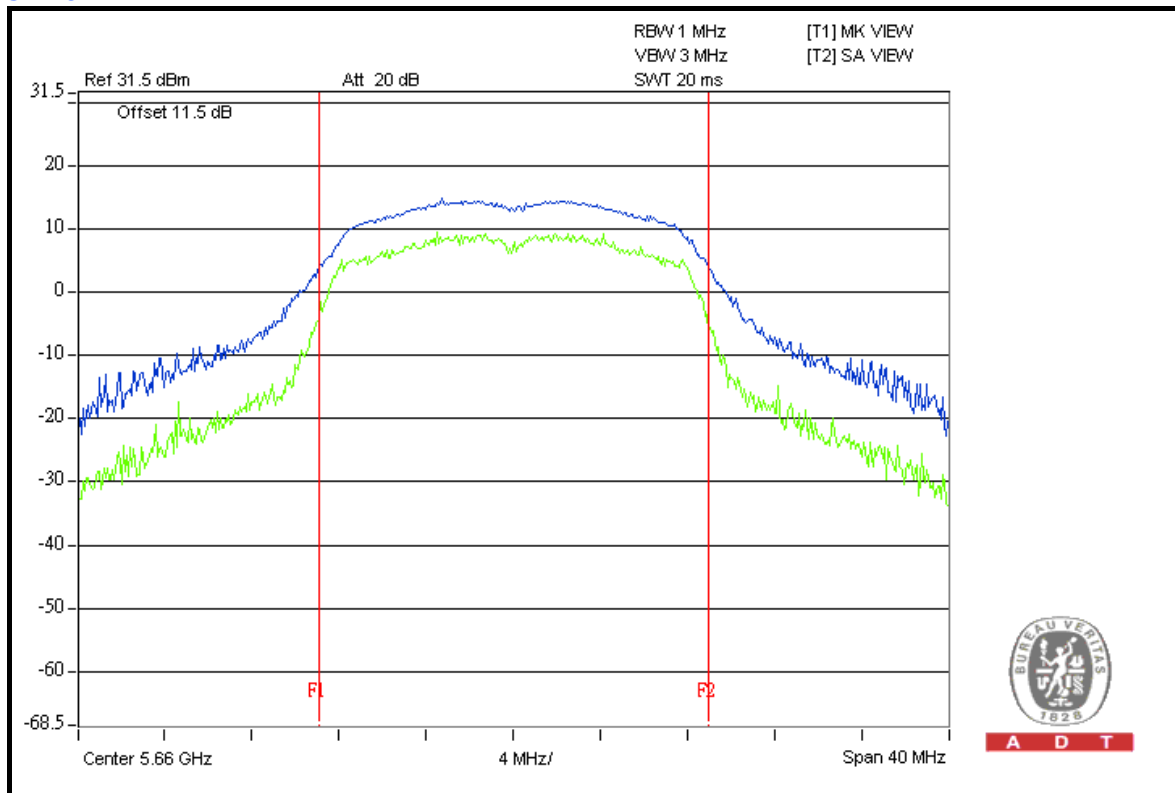
802.11a

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER EXCURSION (dB)	PEAK TO AVERAGE EXCURSION LIMIT (dB)	PASS/FAIL
36	5180	8.30	13	PASS
40	5200	9.64	13	PASS
48	5240	9.93	13	PASS
52	5260	9.16	13	PASS
60	5300	8.86	13	PASS
64	5320	9.27	13	PASS
100	5500	9.18	13	PASS
116	5580	7.67	13	PASS
132	5660	10.10	13	PASS
140	5700	9.79	13	PASS



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CH 132





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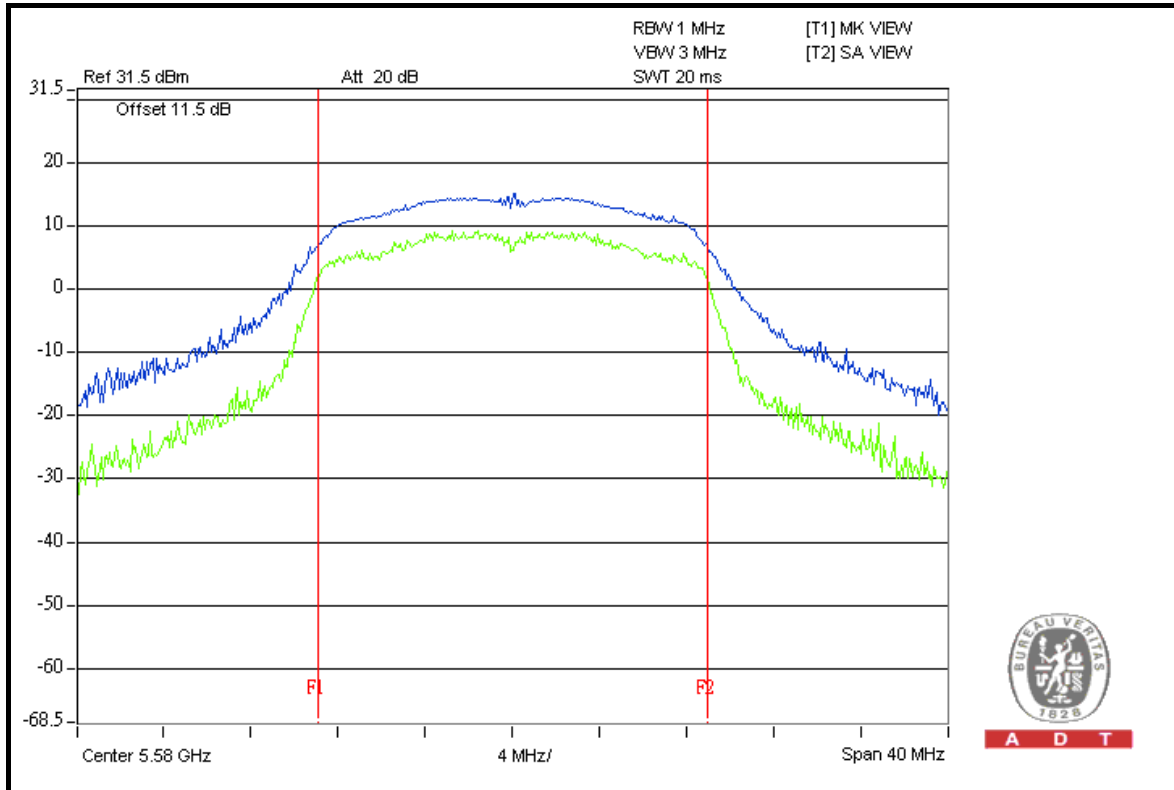
802.11n (20MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER EXCURSION (dB)	PEAK TO AVERAGE EXCURSION LIMIT (dB)	PASS/FAIL
36	5180	7.67	13	PASS
40	5200	7.73	13	PASS
48	5240	8.17	13	PASS
52	5260	8.84	13	PASS
60	5300	8.70	13	PASS
64	5320	8.69	13	PASS
100	5500	7.91	13	PASS
116	5580	9.06	13	PASS
132	5660	7.93	13	PASS
140	5700	7.86	13	PASS

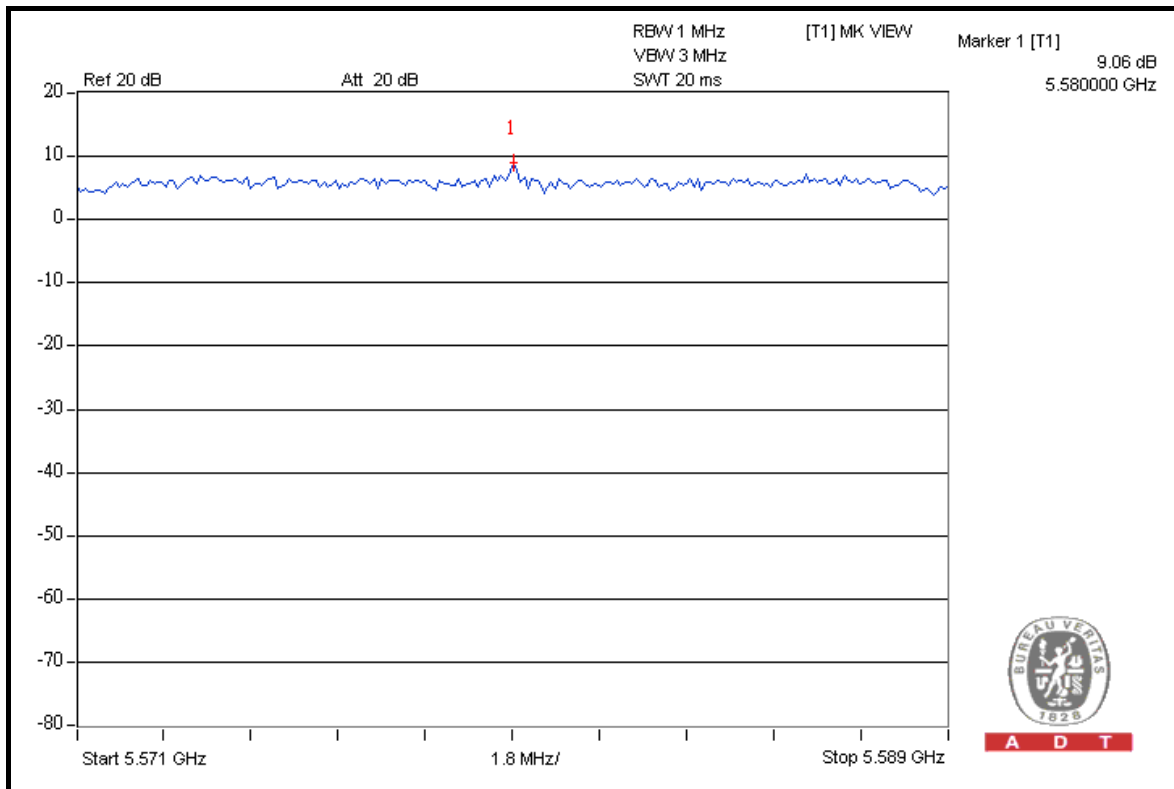


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CH 116



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4.5 PEAK POWER SPECTRAL DENSITY MEASUREMENT

4.5.1 LIMITS OF PEAK POWER SPECTRAL DENSITY MEASUREMENT

FREQUENCY BAND	LIMIT
5.150 ~ 5.250GHz	4dBm
5.250 ~ 5.350GHz	11dBm
5.470 ~ 5.725GHz	11dBm

4.5.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
SPECTRUM ANALYZER R&S	FSP40	100039	Jan. 11, 2011	Jan. 10, 2012

NOTE: The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

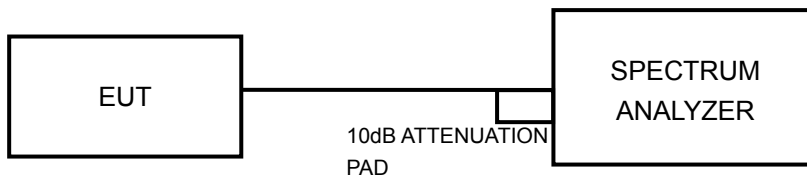
4.5.3 TEST PROCEDURES

- a. The transmitter output was connected to the spectrum analyzer.
- b. Set RBW = 1MHz, VBW = 3MHz. The PPSD is the highest level found across the emission in any 1MHz band.

4.5.4 DEVIATION FROM TEST STANDARD

No deviation.

4.5.5 TEST SETUP



4.5.6 EUT OPERATING CONDITIONS

Same as 5.3.6.



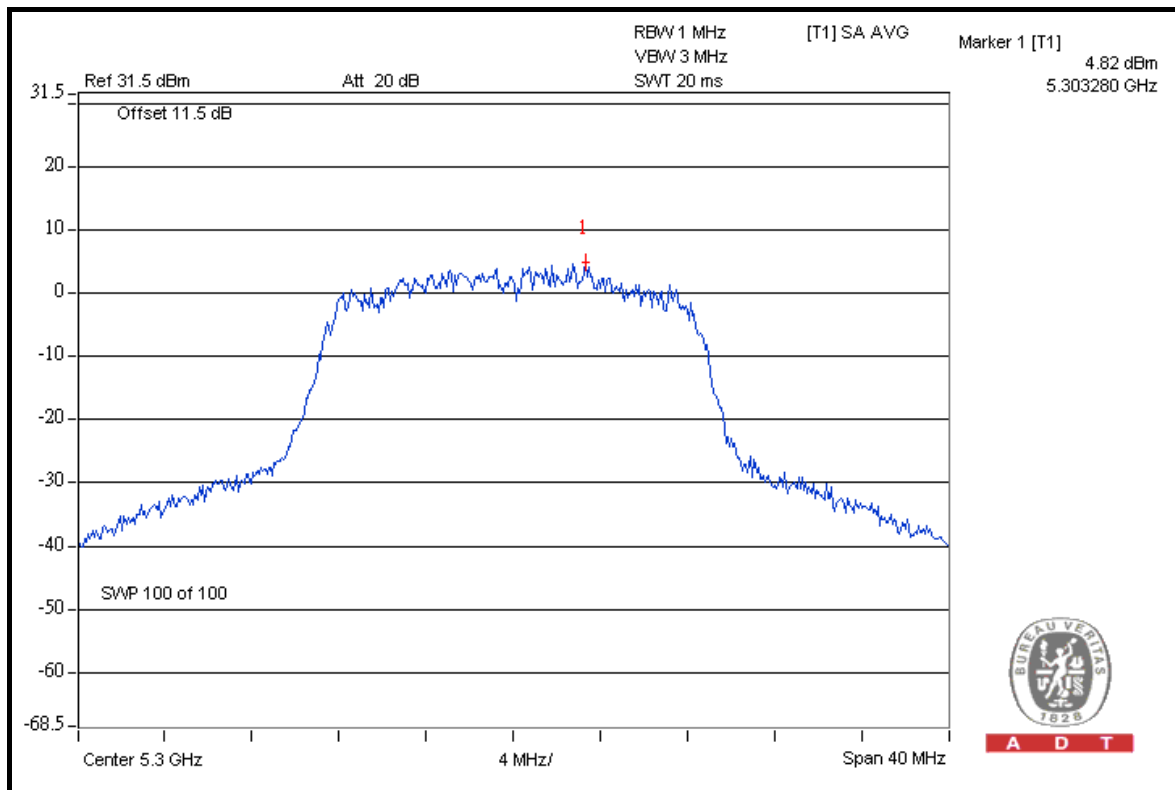
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4.5.7 TEST RESULTS

802.11a

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 1MHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS / FAIL
36	5180	3.87	4	PASS
40	5200	3.73	4	PASS
48	5240	3.75	4	PASS
52	5260	4.79	11	PASS
60	5300	4.82	11	PASS
64	5320	4.32	11	PASS
100	5500	4.67	11	PASS
116	5580	4.65	11	PASS
132	5660	4.65	11	PASS
140	5700	4.37	11	PASS

CH 60



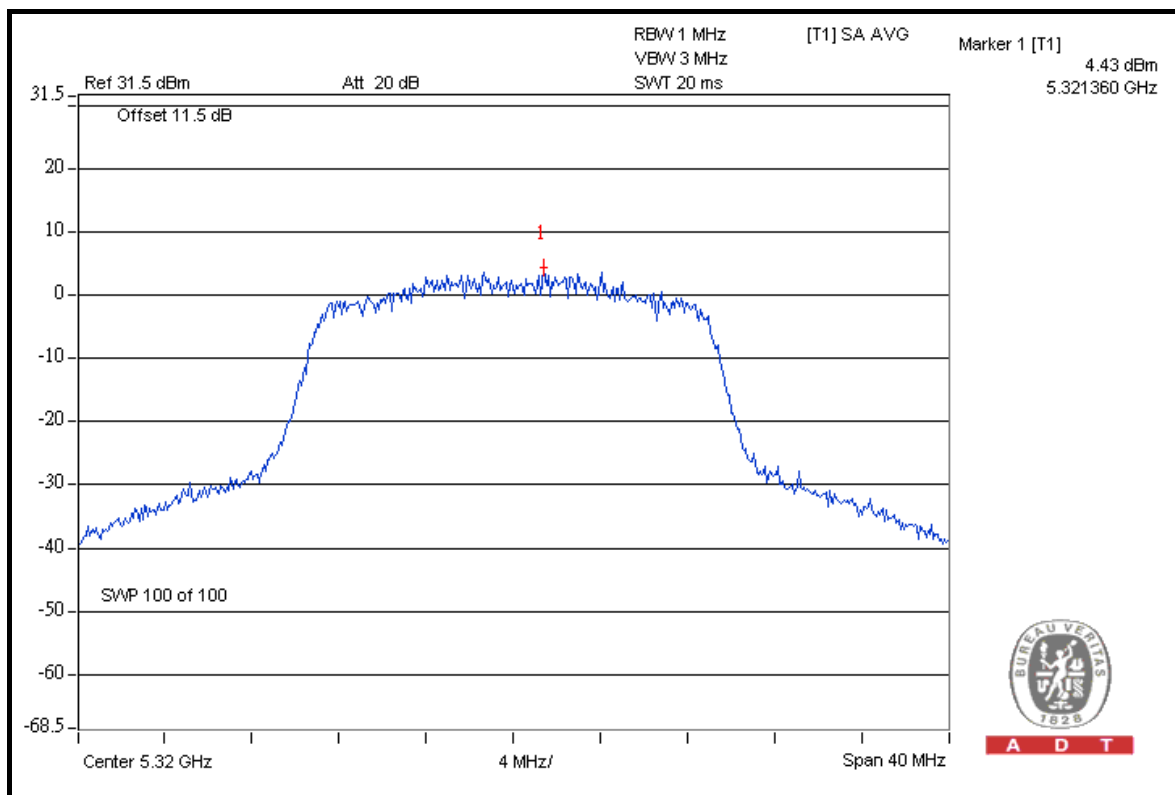


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802.11n (20MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 1MHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS / FAIL
36	5180	3.71	4	PASS
40	5200	3.64	4	PASS
48	5240	3.85	4	PASS
52	5260	4.31	11	PASS
60	5300	4.19	11	PASS
64	5320	4.43	11	PASS
100	5500	3.97	11	PASS
116	5580	4.30	11	PASS
132	5660	3.90	11	PASS
140	5700	3.99	11	PASS

CH 64



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4.6 FREQUENCY STABILITY

4.6.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT

The frequency tolerance of the carrier signal shall be maintained within the band of operation frequency over a temperature variation of –30 degrees to 50 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C.

4.6.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
SPECTRUM ANALYZER R&S	FSP40	100039	Jan. 11, 2011	Jan. 10, 2012
WIT STANDARD TEMPERATURE AND HUMIDITY CHAMBER	TH-4S-C	W981030	Jun. 28, 2010	Jun. 27, 2011

NOTE: The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

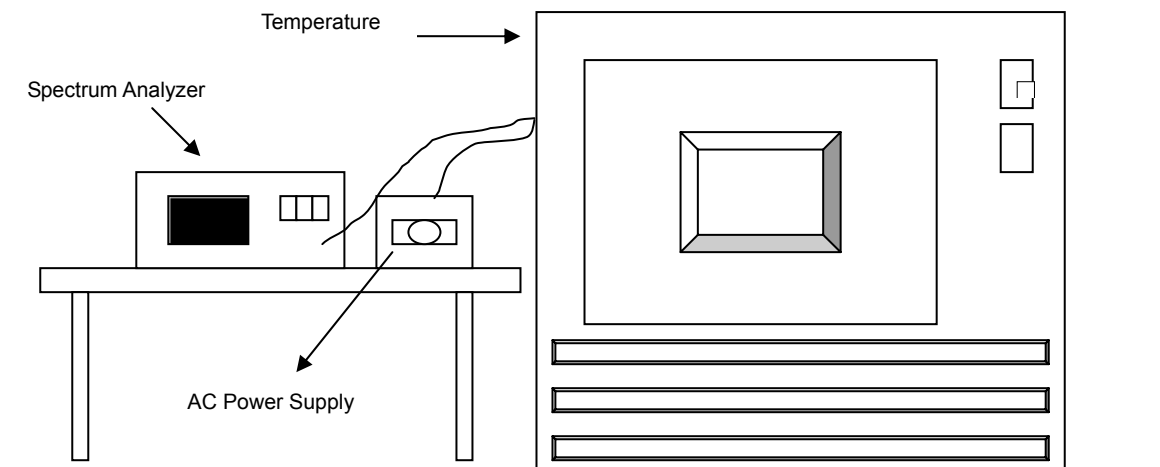
4.6.3 TEST PROCEDURE

- a. The EUT was placed inside the environmental test chamber and powered by nominal DC voltage.
- b. Turn the EUT on and couple its output to a spectrum analyzer.
- c. Turn the EUT off and set the chamber to the highest temperature specified.
- d. Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize, turn the EUT on and measure the operating frequency after 2, 5, and 10 minutes.
- e. Repeat step 2 and 3 with the temperature chamber set to the lowest temperature.
- f. The test chamber was allowed to stabilize at +20 degree C for a minimum of 30 minutes. The supply voltage was then adjusted on the EUT from 85% to 115% and the frequency record.

4.6.4 DEVIATION FROM TEST STANDARD

No deviation.

4.6.5 TEST SETUP



4.6.6 EUT OPERATING CONDITION

Same as Item 4.1.6.

4.6.7 TEST RESULTS

FREQUENCY STABILITY VERSUS TEMP.									
OPERATING FREQUENCY: 5320MHz									
TEMP. (°C)	POWER SUPPLY (Vdc)	0 MINUTE		2 MINUTE		5 MINUTE		10 MINUTE	
		Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)
50	3.7	5319.988183	-2.221	5319.988151	-2.227	5319.988179	-2.222	5319.988225	-2.213
40	3.7	5319.988743	-2.116	5319.988797	-2.106	5319.988364	-2.187	5319.988490	-2.164
30	3.7	5319.989952	-1.889	5319.989957	-1.888	5319.989725	-1.931	5319.990267	-1.830
20	3.7	5319.990955	-1.700	5319.990991	-1.693	5319.991093	-1.674	5319.991443	-1.608
10	3.7	5319.992419	-1.425	5319.992848	-1.344	5319.992140	-1.477	5319.992614	-1.388
0	3.7	5319.991107	-1.672	5319.991049	-1.683	5319.991379	-1.620	5319.990788	-1.732
-10	3.7	5319.989353	-2.001	5319.989595	-1.956	5319.989211	-2.028	5319.989784	-1.920
-20	3.7	5319.988963	-2.075	5319.989112	-2.047	5319.989110	-2.047	5319.988717	-2.121
-30	3.7	5319.988094	-2.238	5319.988082	-2.240	5319.987761	-2.301	5319.988144	-2.229

FREQUENCY STABILITY VERSUS VOLTAGE									
OPERATING FREQUENCY: 5320MHz									
TEMP. (°C)	POWER SUPPLY (Vdc)	0 MINUTE		2 MINUTE		5 MINUTE		10 MINUTE	
		Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)
20	3.145	5319.990888	-1.713	5319.991338	-1.628	5319.991277	-1.640	5319.990850	-1.720
	3.700	5319.990955	-1.700	5319.990991	-1.693	5319.991093	-1.674	5319.991443	-1.608
	4.255	5319.991295	-1.636	5319.991047	-1.683	5319.991560	-1.586	5319.991872	-1.528

4.7 BAND EDGES MEASUREMENT

4.7.1 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
SPECTRUM ANALYZER R&S	FSP40	100039	Jan. 11, 2011	Jan. 10, 2012

NOTE: The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

4.7.2 TEST PROCEDURE

The transmitter output was connected to the spectrum analyzer via a low loss cable. Set both RBW and VBW of spectrum analyzer to 1MHz and 3MHz with suitable frequency span including 100MHz bandwidth from band edge. The band edges was measured and recorded.

4.7.3 EUT OPERATING CONDITION

The software provided by client to enable the EUT under transmission condition continuously at specific channel frequencies individually.

4.7.4 TEST RESULTS

For signals in the restricted bands above and below the 5.15 to 5.32GHz, 5.50 to 5.70GHz allocated band a measurement was made of the amplitude of the spurious emissions with respect to the intentional signals. The relative amplitude, in dBc, was applied to the average and peak field strength of the intentional signal made on the OATS to calculate the field strength of the unintentional signals.

The spectrum plots (Peak RBW = 1MHz, VBW = 3MHz) are attached on the following pages.

802.11a

FOR 5180-5320MHz BAND:

RESTRICT BAND (4500 ~ 5150 MHz)

FREQUENCY (MHz)	FUNDAMENTAL EMISSION (dBuV/m)	DELTA (dB)	MAXIMUM FIELD STRENGTH IN RESTRICT BAND (dBuV/m)	LIMIT (dBuV/m)
5180.00 (PK)	100.70	42.41	58.29	74.00
5180.00 (AV)	90.00	53.19	36.81	54.00

RESTRICT BAND (5350 ~ 5460 MHz)

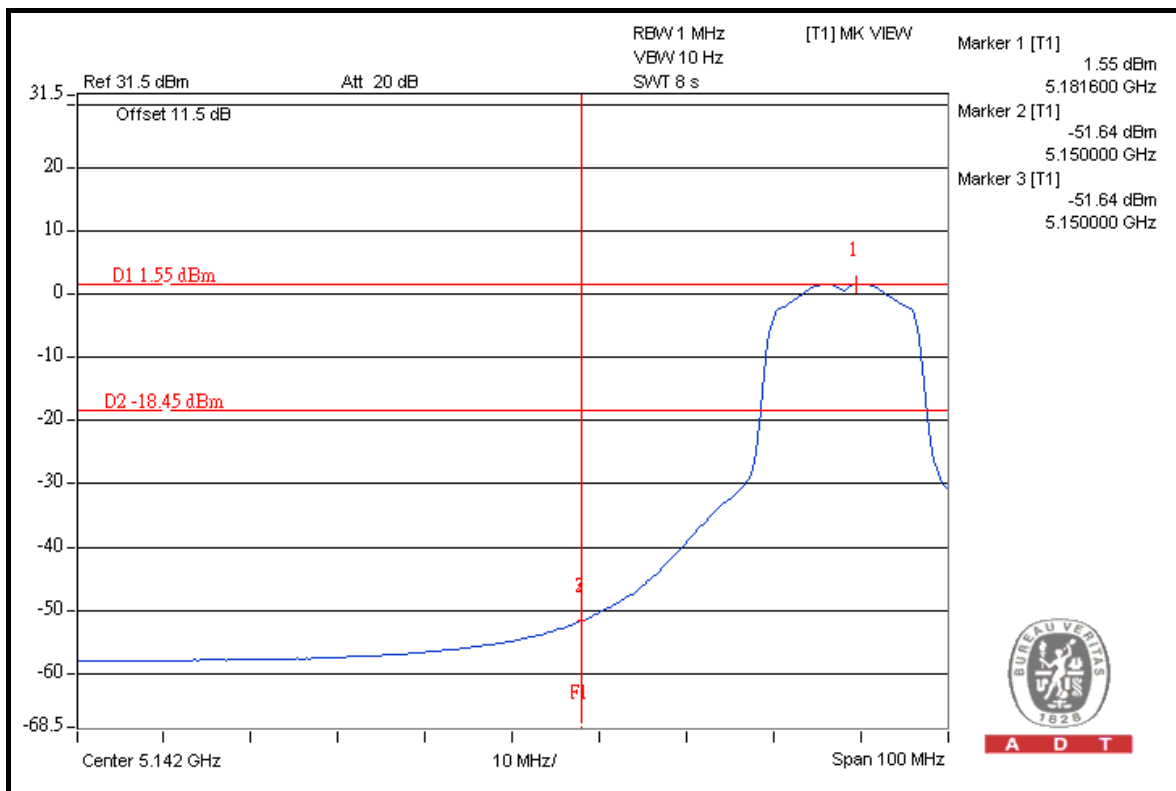
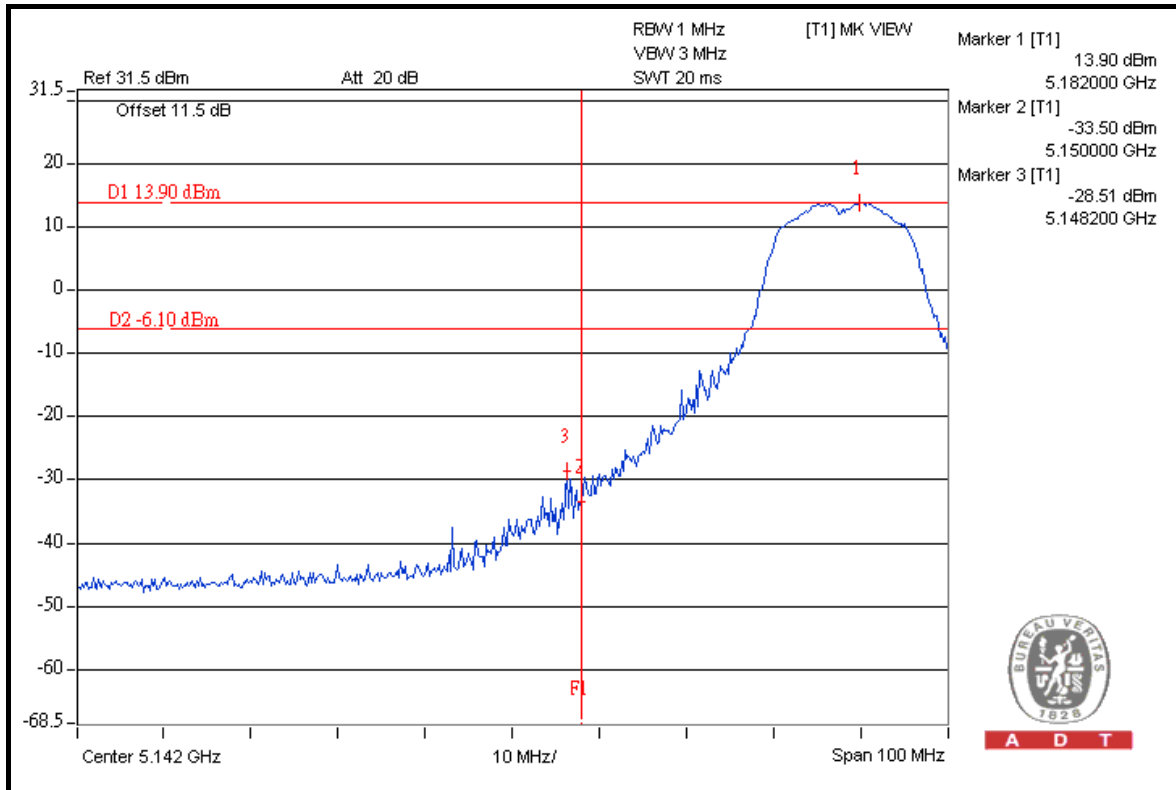
FREQUENCY (MHz)	FUNDAMENTAL EMISSION (dBuV/m)	DELTA (dB)	MAXIMUM FIELD STRENGTH IN RESTRICT BAND (dBuV/m)	LIMIT (dBuV/m)
5320.00 (PK)	101.70	45.68	56.02	74.00
5320.00 (AV)	90.70	52.69	38.01	54.00

NOTE:

- Delta = Amplitude between the peak of the fundamental and the peak of the band edge emission. Please check following 3 pages.
- Maximum field strength in restrict band = Fundamental emission – Delta.

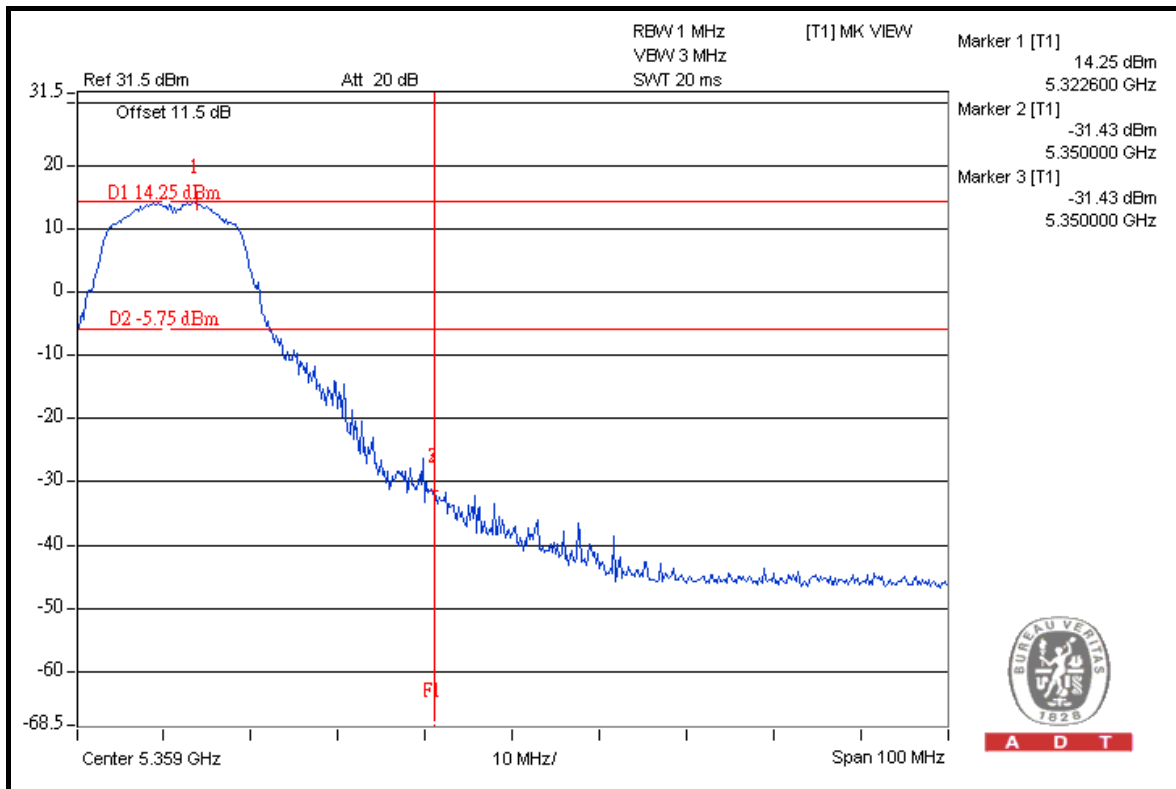
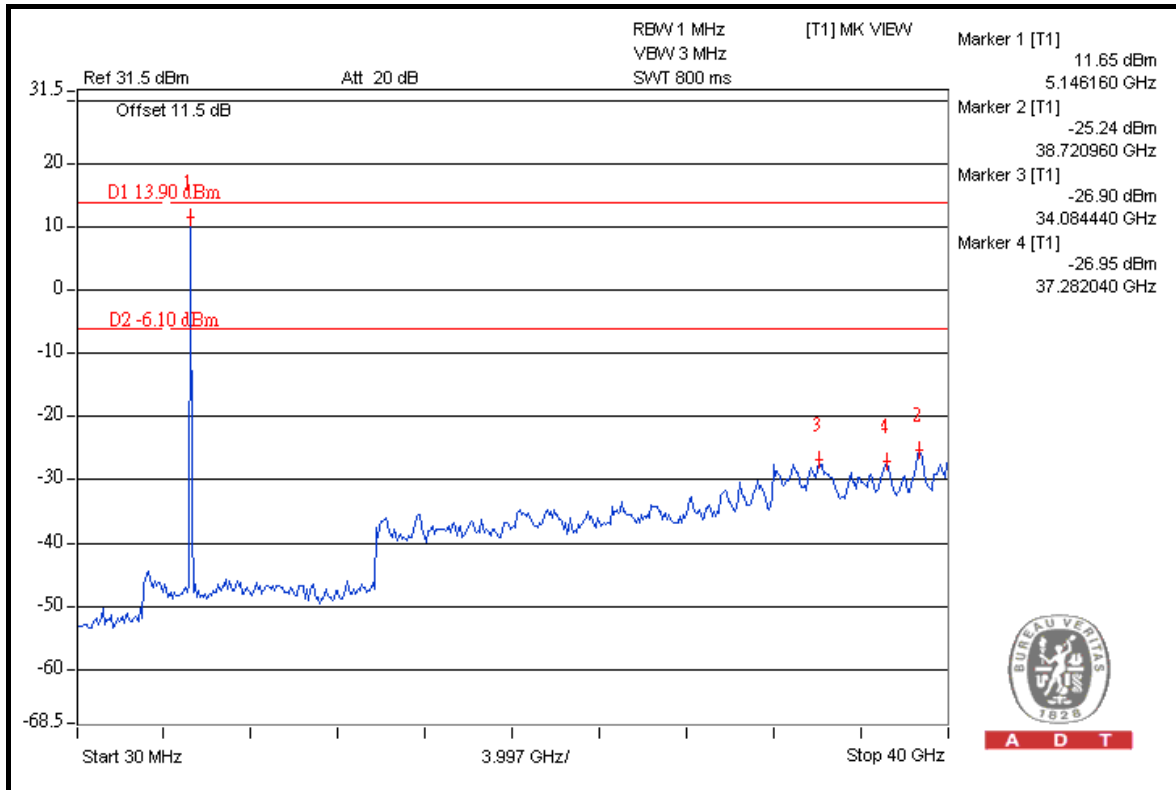


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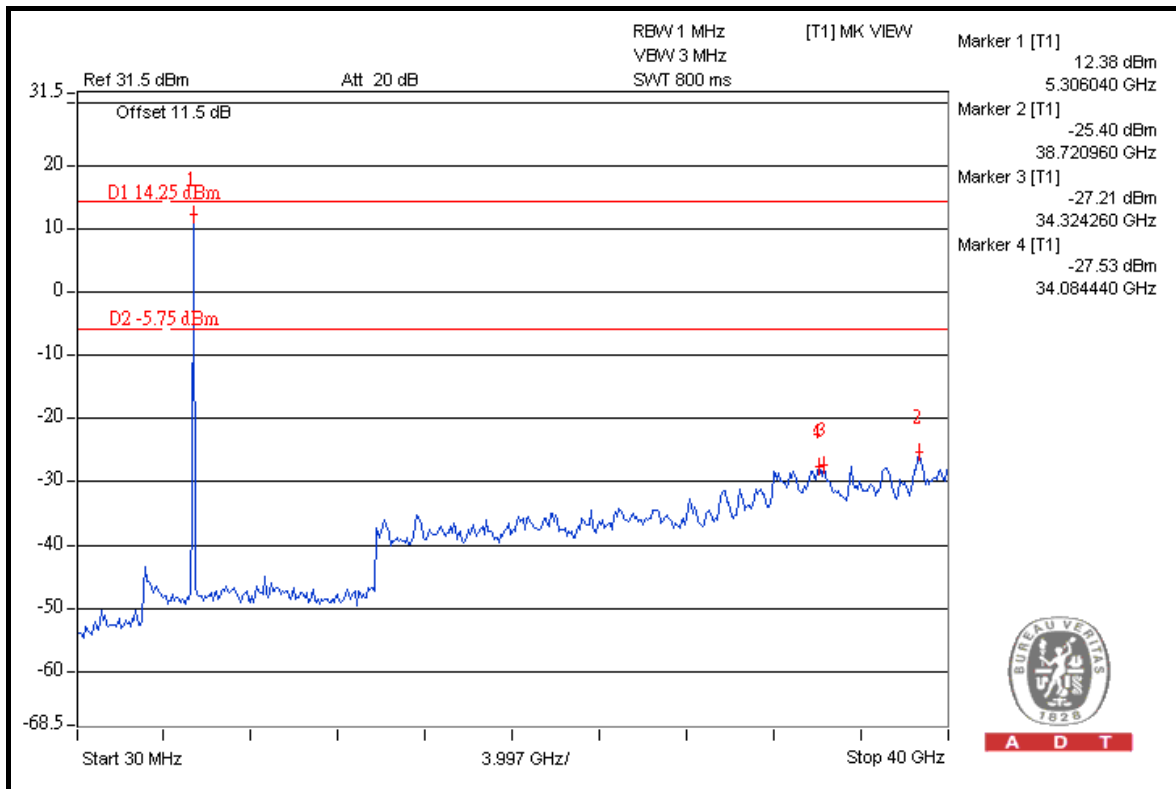
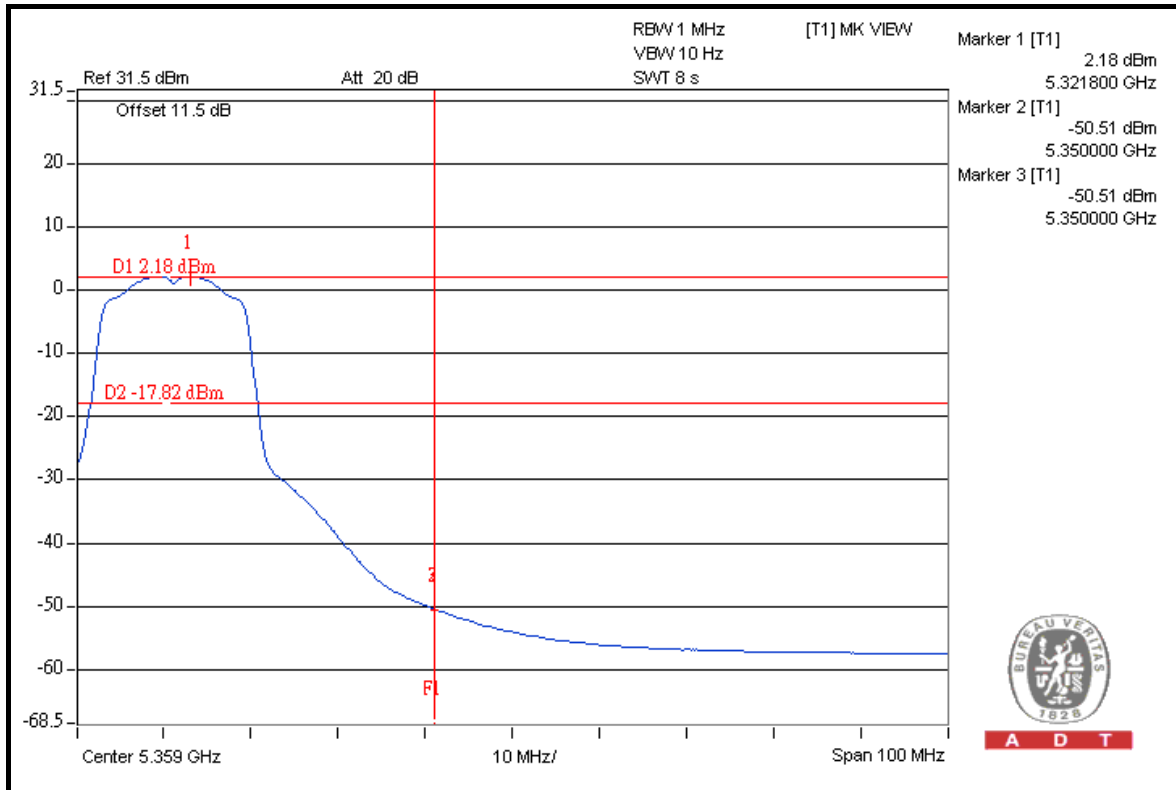


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FOR 5500-5700MHz BAND:

5500MHz

RESTRICT BAND (5350 ~ 5460 MHz)

FREQUENCY (MHz)	FUNDAMENTAL EMISSION (dBuV/m)	DELTA (dB)	MAXIMUM FIELD STRENGTH IN RESTRICT BAND (dBuV/m)	LIMIT (dBuV/m)
5500.00 (PK)	104.90	54.05	50.85	74.00
5500.00 (AV)	94.50	56.76	37.74	54.00

FREQUENCY BAND (5460 ~ 5470 MHz)

FREQUENCY (MHz)	FUNDAMENTAL EMISSION (dBuV/m)	DELTA (dB)	MAXIMUM FIELD STRENGTH (dBuV/m)	LIMIT (dBuV/m)
5500.00 (PK)	104.90	45.79	59.11	68.30

5700MHz

ABOVE 5725 MHz

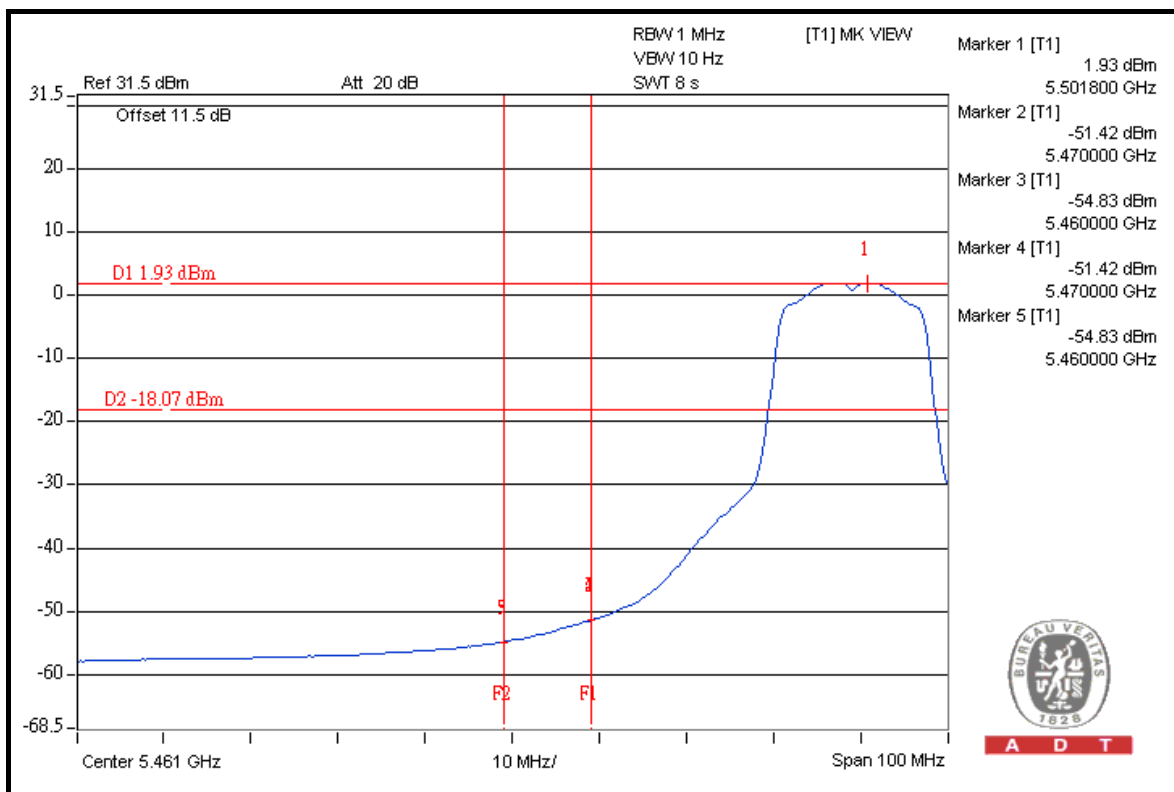
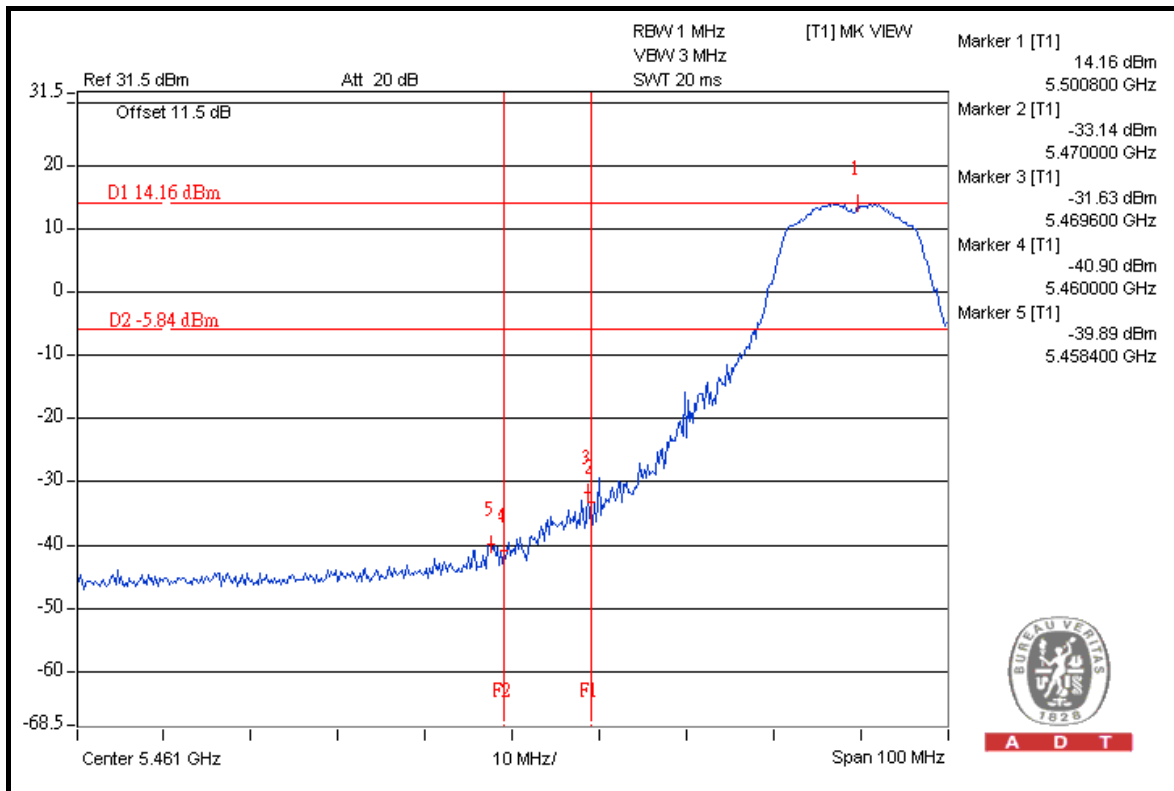
FREQUENCY (MHz)	FUNDAMENTAL EMISSION (dBuV/m)	DELTA (dB)	MAXIMUM FIELD STRENGTH (dBuV/m)	LIMIT (dBuV/m)
5700.00 (PK)	106.00	41.43	64.57	68.30

NOTE:

1. Delta = Amplitude between the peak of the fundamental and the peak of the band edge emission. Please check following 3 pages.
2. Maximum field strength in restrict band = Fundamental emission – Delta.

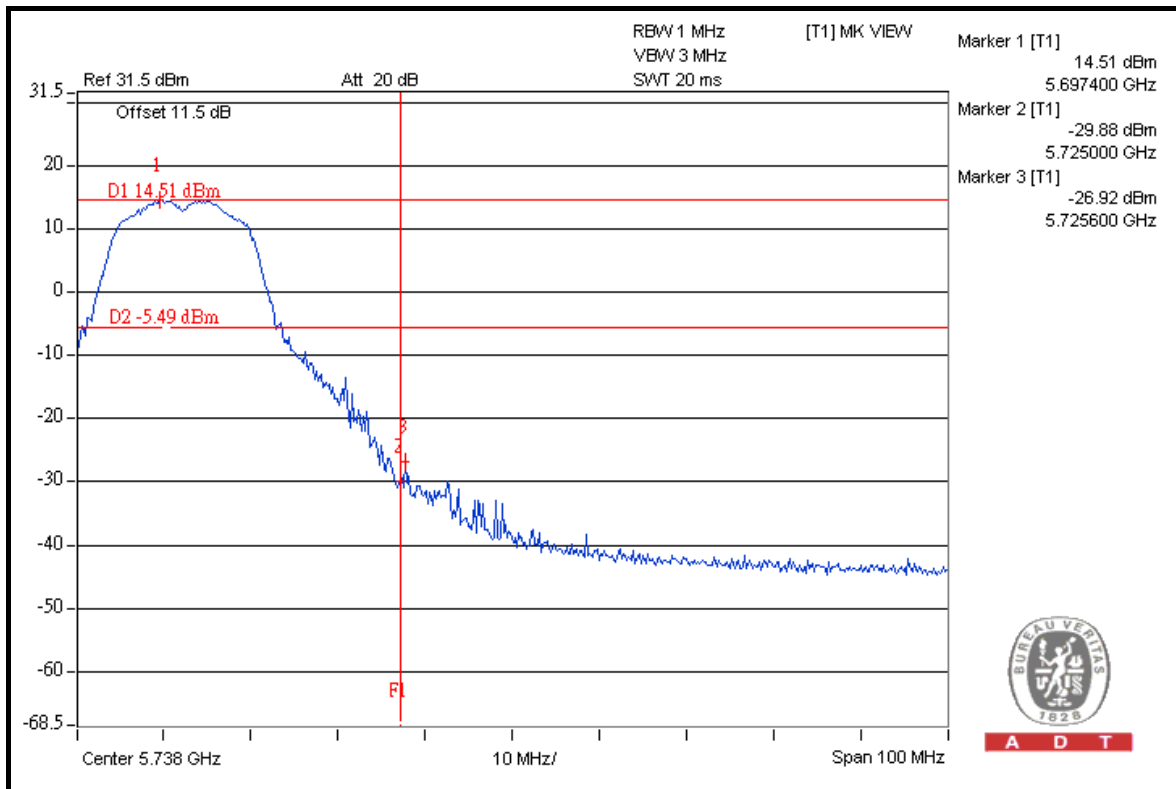
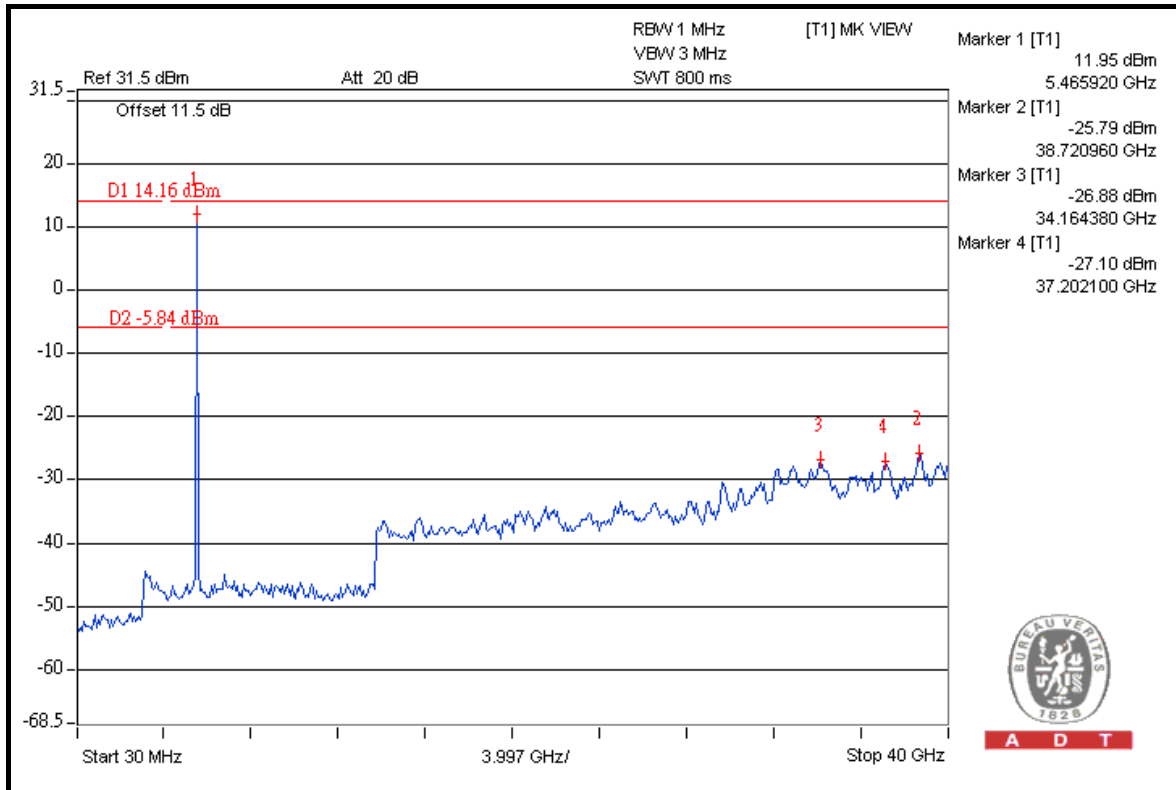


A D T



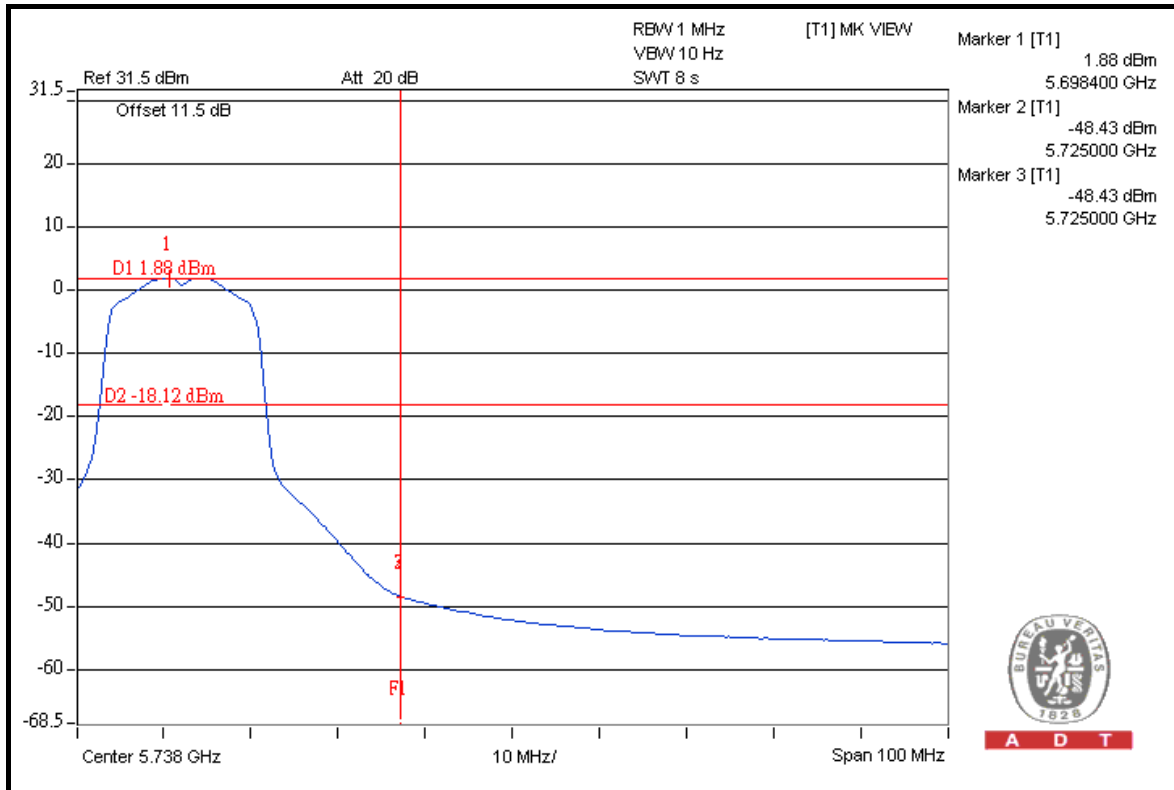


A D T

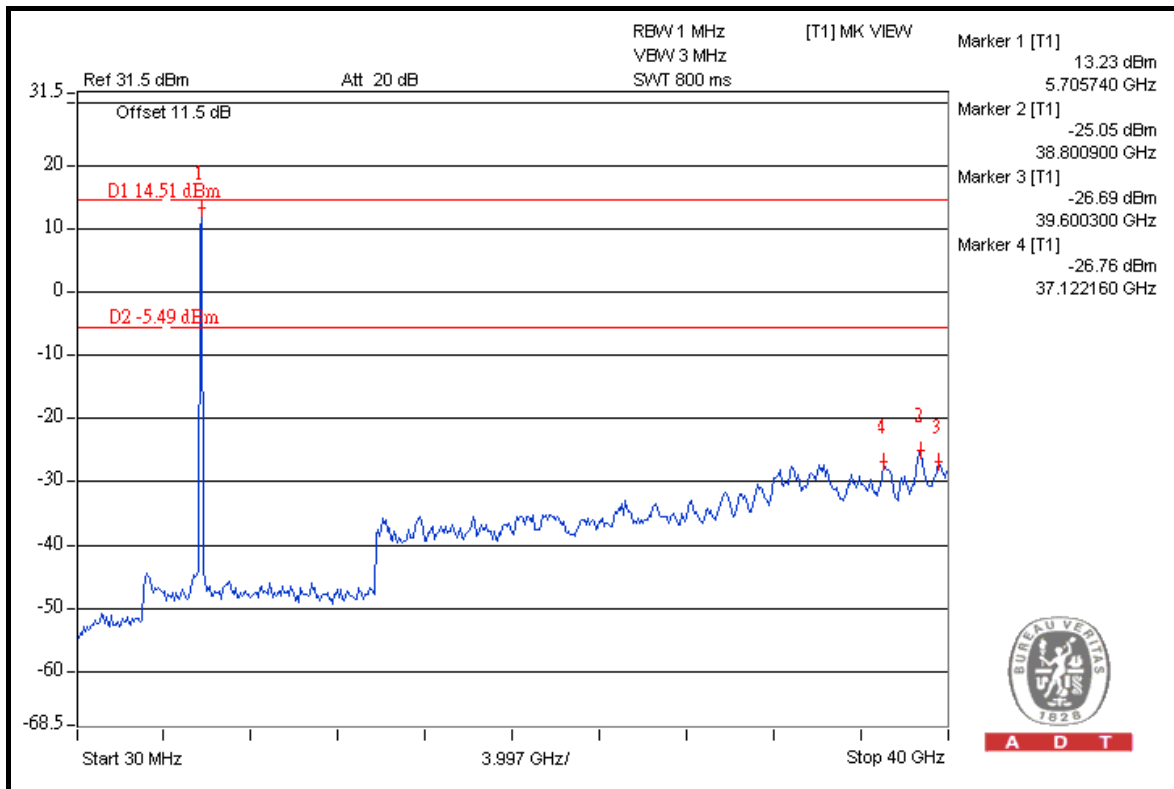




A D T



A D T



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802.11n (20MHz)

FOR 5180-5320MHz BAND:

RESTRICT BAND (4500 ~ 5150 MHz)

FREQUENCY (MHz)	FUNDAMENTAL EMISSION (dBuV/m)	DELTA (dB)	MAXIMUM FIELD STRENGTH IN RESTRICT BAND (dBuV/m)	LIMIT (dBuV/m)
5180.00 (PK)	100.50	41.80	58.70	74.00
5180.00 (AV)	90.00	52.29	37.71	54.00

RESTRICT BAND (5350 ~ 5460 MHz)

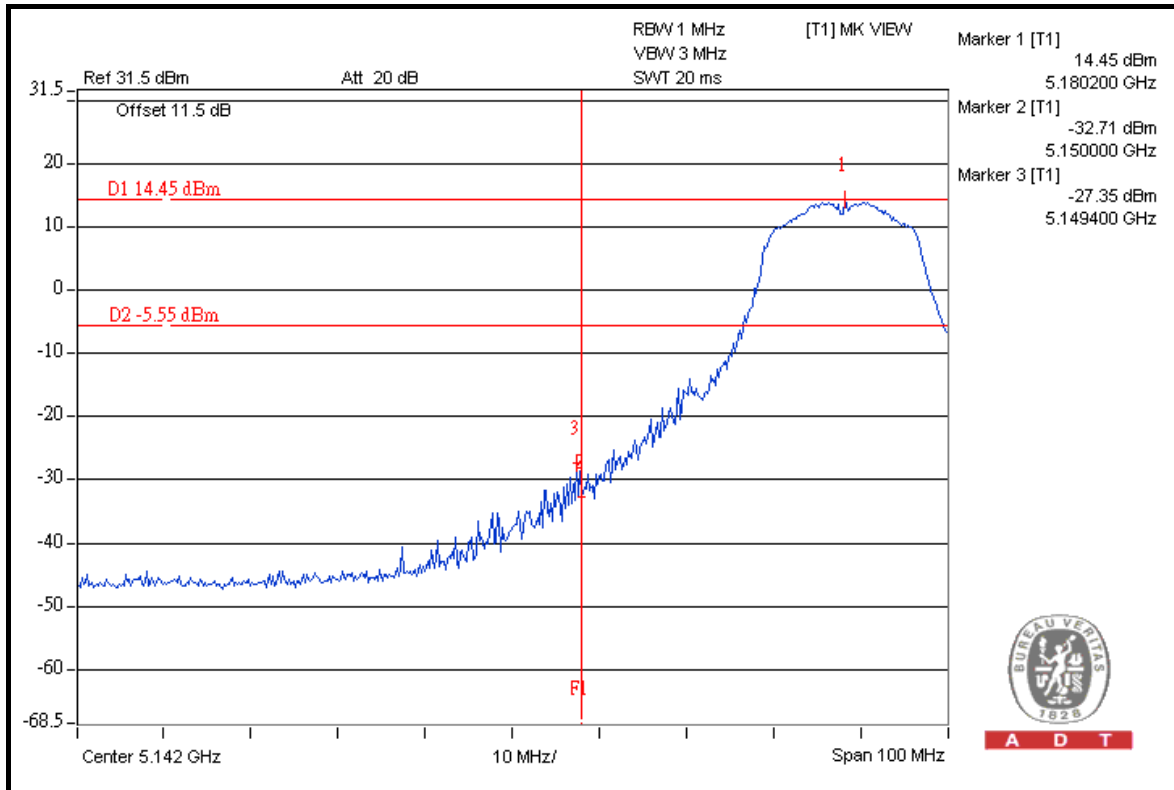
FREQUENCY (MHz)	FUNDAMENTAL EMISSION (dBuV/m)	DELTA (dB)	MAXIMUM FIELD STRENGTH IN RESTRICT BAND (dBuV/m)	LIMIT (dBuV/m)
5320.00 (PK)	101.90	41.23	60.67	74.00
5320.00 (AV)	90.70	51.00	39.70	54.00

NOTE:

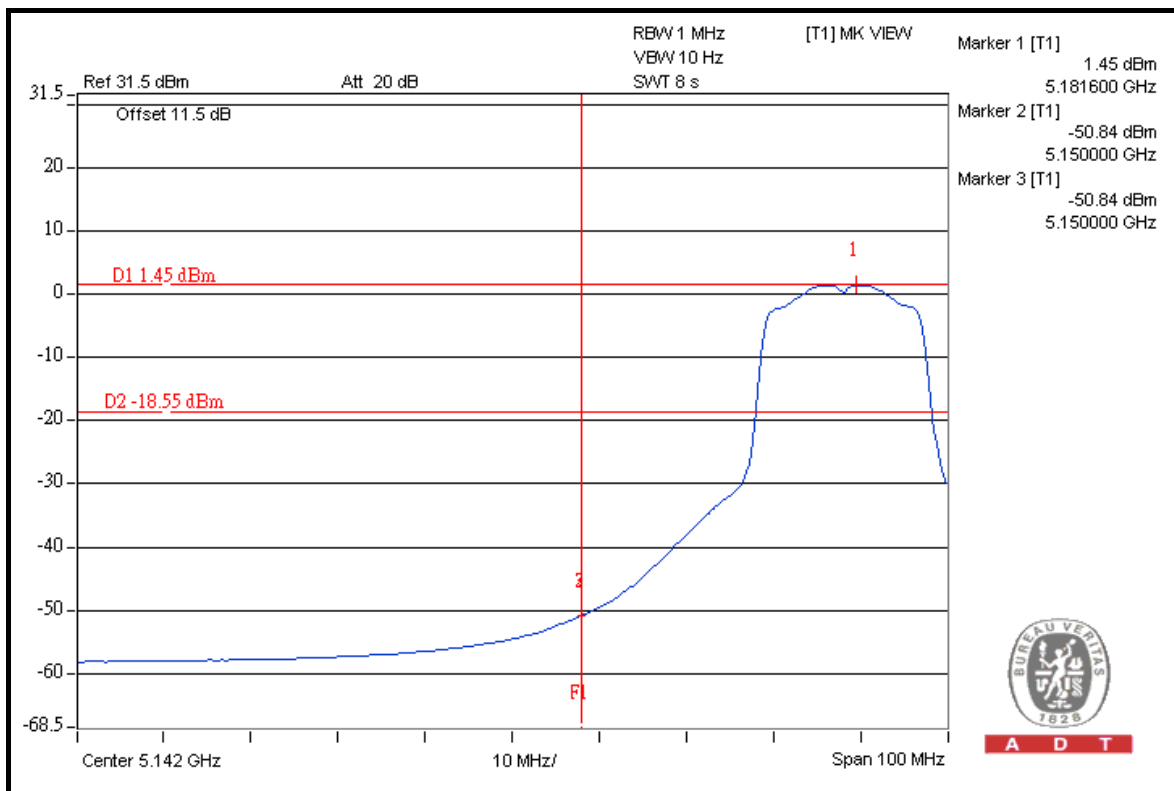
1. Delta = Amplitude between the peak of the fundamental and the peak of the band edge emission. Please check following 3 pages.
2. Maximum field strength in restrict band = Fundamental emission – Delta.



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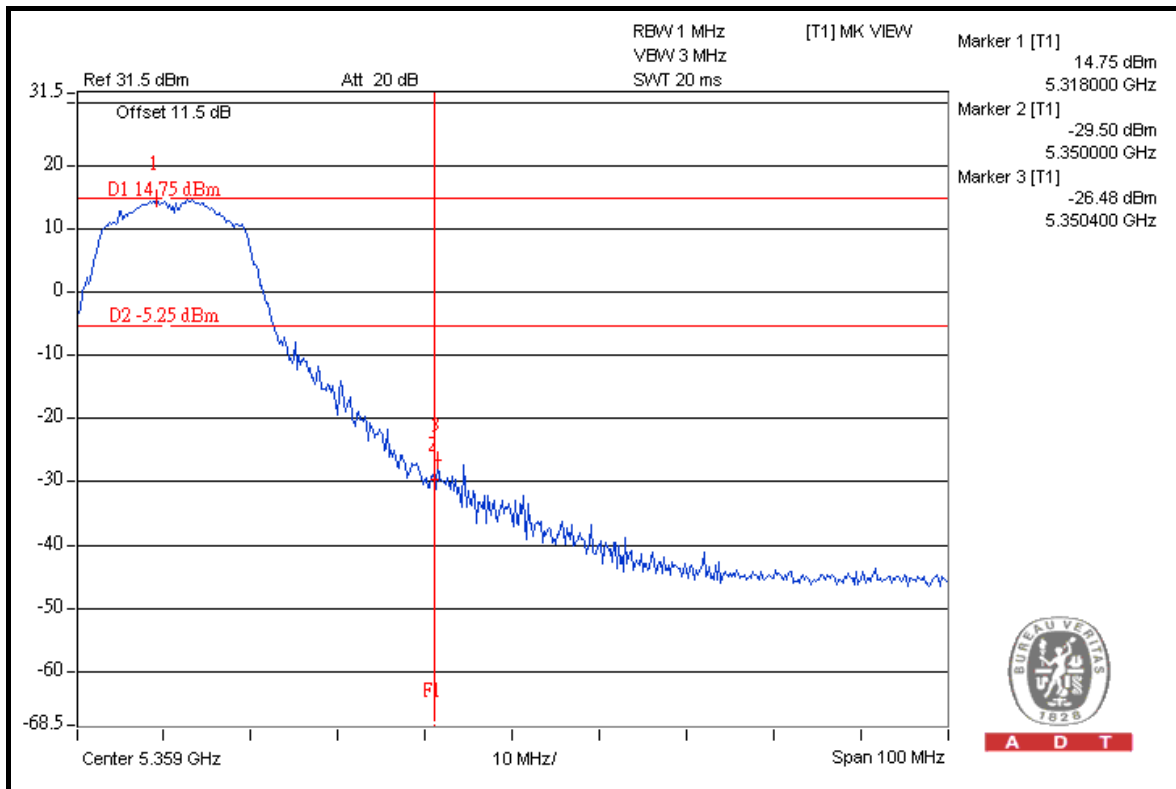
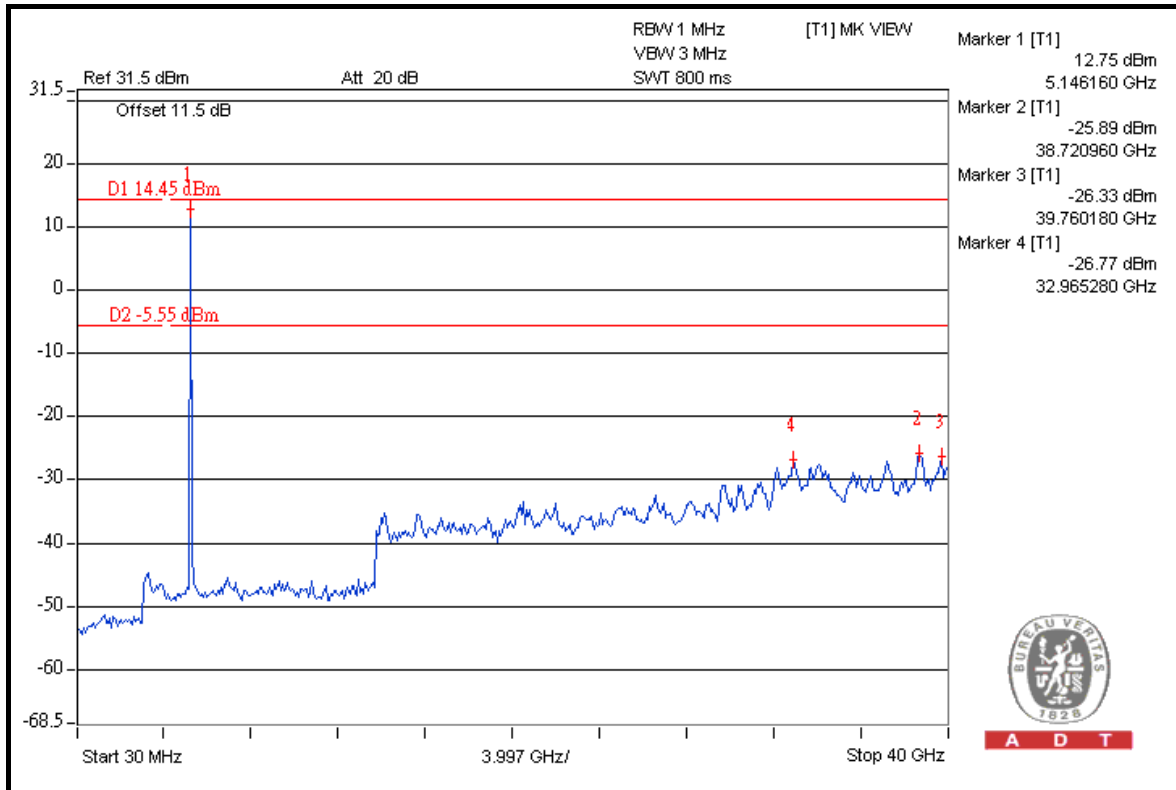
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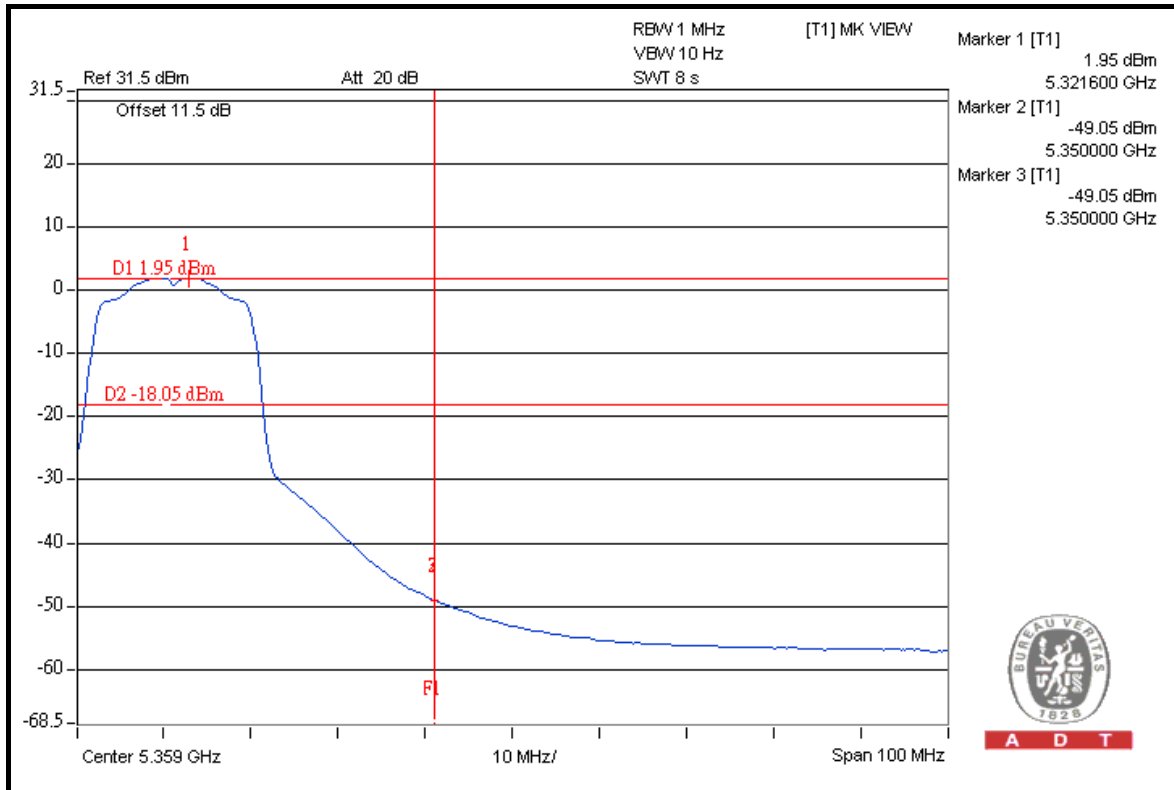


A D T

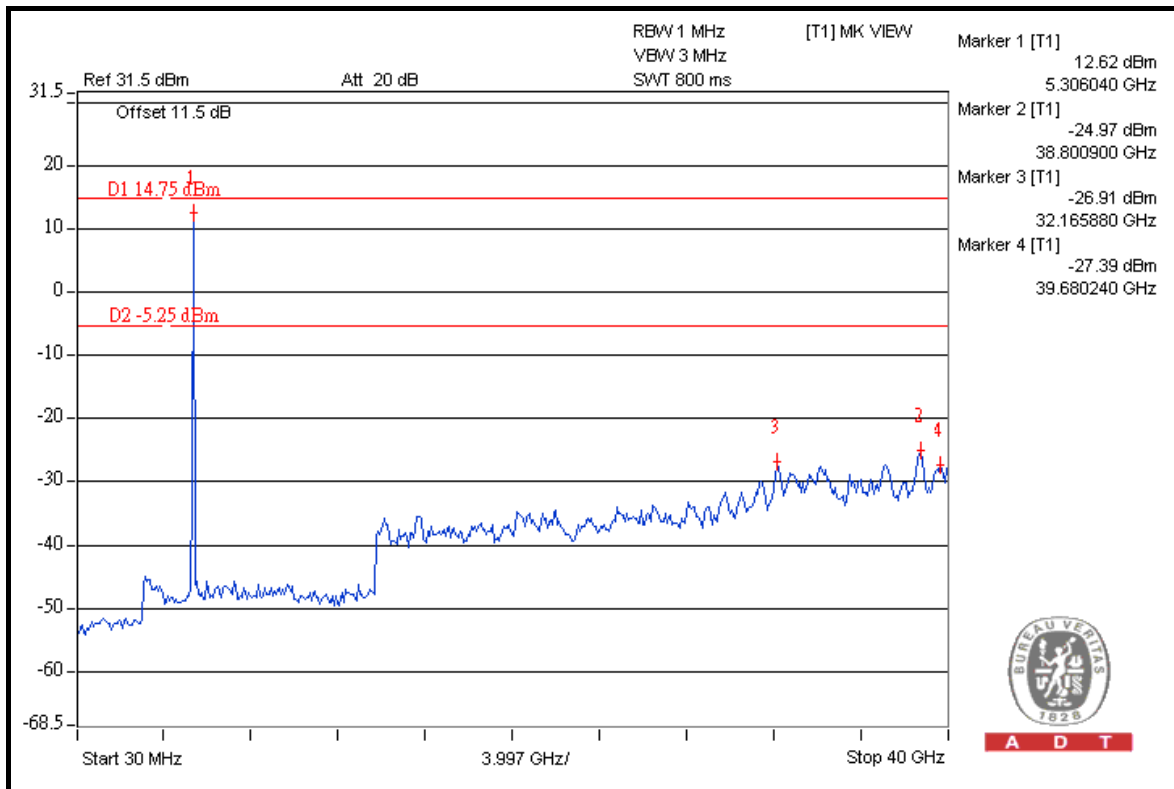




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FOR 5500-5700MHz BAND:

5500MHz

RESTRICT BAND (5350 ~ 5460 MHz)

FREQUENCY (MHz)	FUNDAMENTAL EMISSION (dBuV/m)	DELTA (dB)	MAXIMUM FIELD STRENGTH IN RESTRICT BAND (dBuV/m)	LIMIT (dBuV/m)
5500.00 (PK)	104.50	49.72	54.78	74.00
5500.00 (AV)	94.20	56.39	37.81	54.00

FREQUENCY BAND (5460 ~ 5470 MHz)

FREQUENCY (MHz)	FUNDAMENTAL EMISSION (dBuV/m)	DELTA (dB)	MAXIMUM FIELD STRENGTH (dBuV/m)	LIMIT (dBuV/m)
5500.00 (PK)	104.50	42.47	62.03	68.30

5700MHz

ABOVE 5725 MHz

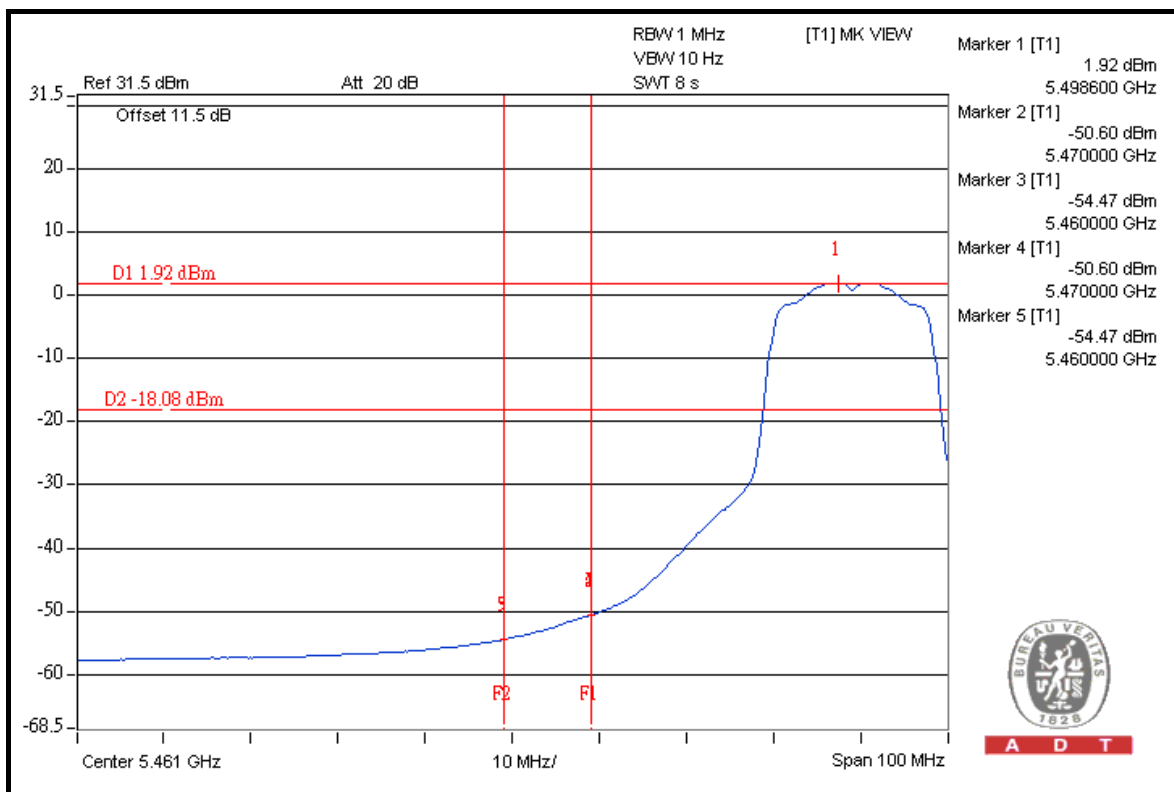
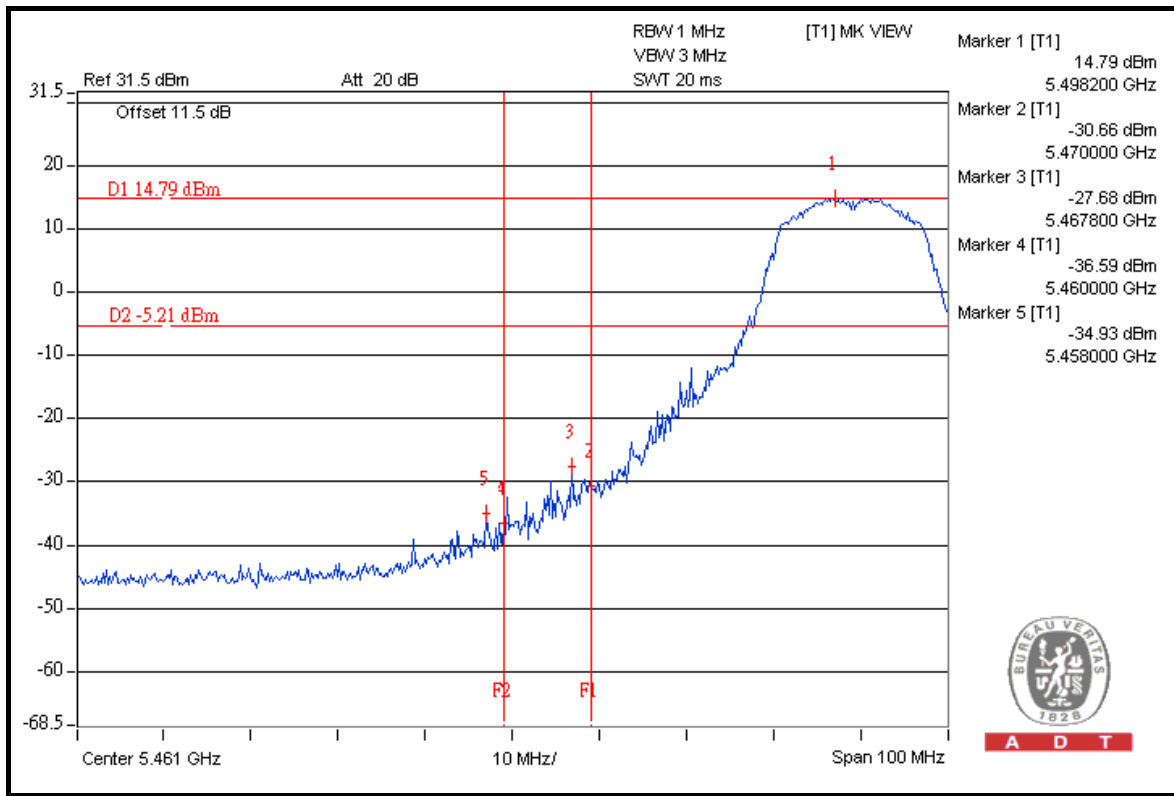
FREQUENCY (MHz)	FUNDAMENTAL EMISSION (dBuV/m)	DELTA (dB)	MAXIMUM FIELD STRENGTH (dBuV/m)	LIMIT (dBuV/m)
5700.00 (PK)	105.90	41.34	64.56	68.30

NOTE:

1. Delta = Amplitude between the peak of the fundamental and the peak of the band edge emission. Please check following 3 pages.
2. Maximum field strength in restrict band = Fundamental emission – Delta.

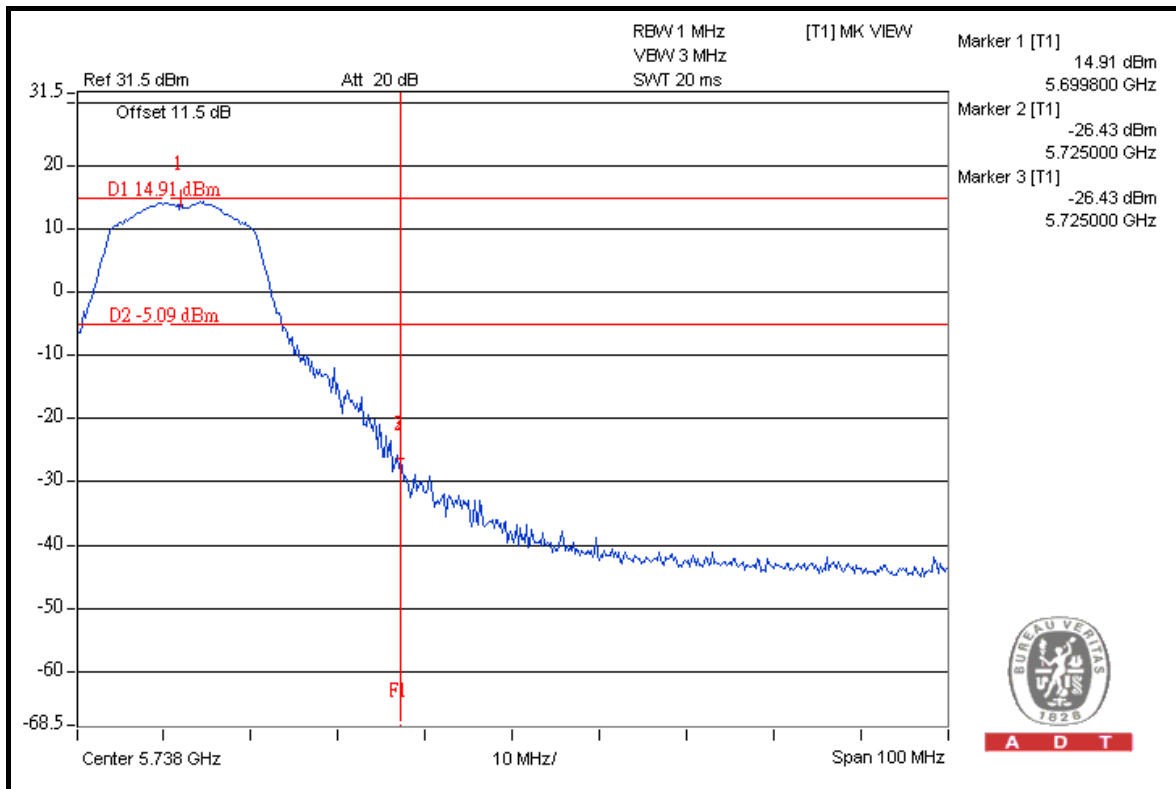
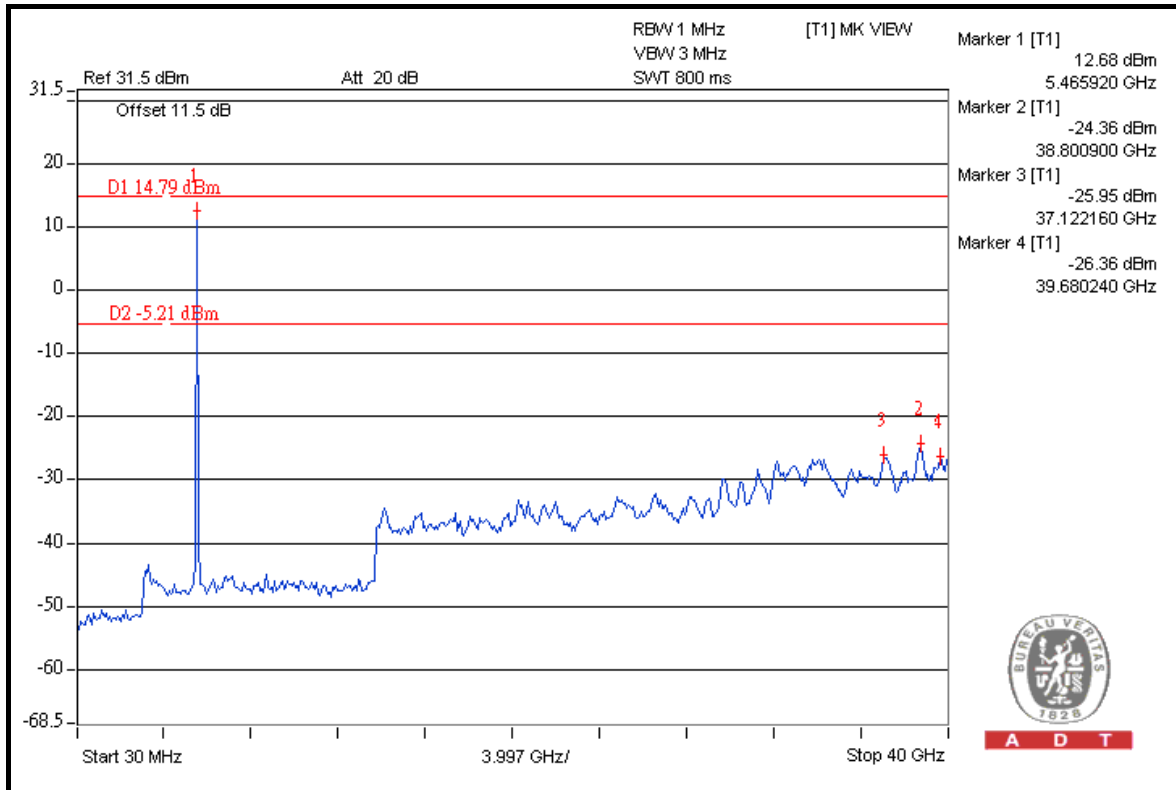


A D T



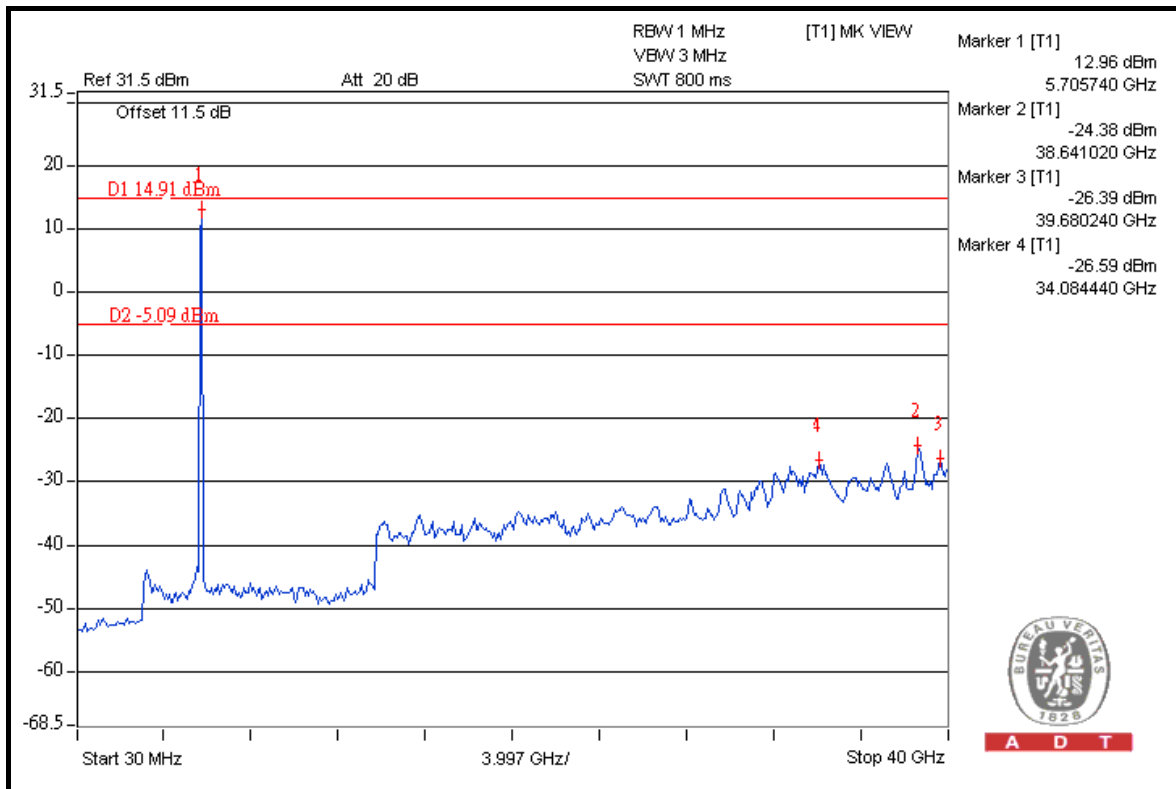
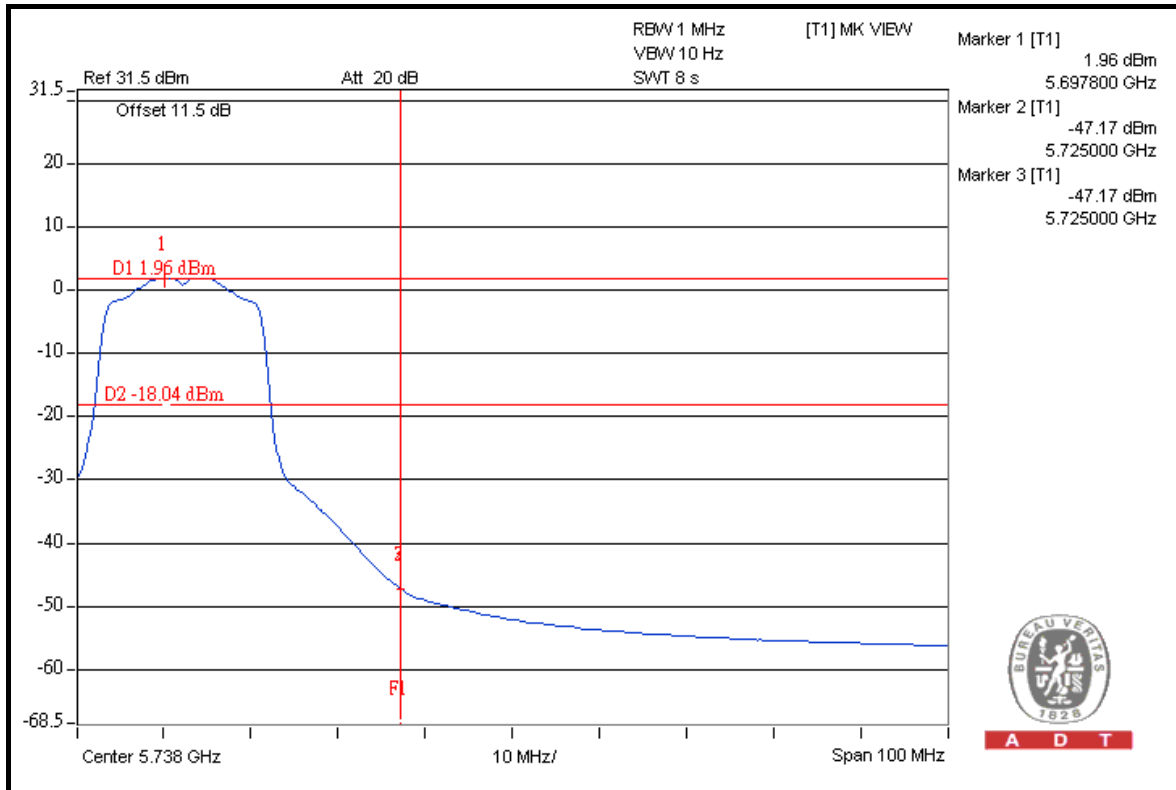


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5. PHOTOGRAPHS OF THE TEST CONFIGURATION

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



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.

Copies of accreditation certificates of our laboratories obtained from approval agencies can be downloaded from our web site:

www.adt.com.tw/index.5.phtml. If you have any comments, please feel free to contact us at the following:

Linko EMC/RF Lab:

Tel: 886-2-26052180

Fax: 886-2-26051924

Hsin Chu EMC/RF Lab:

Tel: 886-3-5935343

Fax: 886-3-5935342

Hwa Ya EMC/RF/Safety Telecom Lab:

Tel: 886-3-3183232

Fax: 886-3-3185050

Web Site: www.adt.com.tw

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

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

No any modifications are made to the EUT by the lab during the test.

---END---