



FCC TEST REPORT (15.407)

REPORT NO.: RF980618L05A-1

MODEL NO.: WNDR3700

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ISSUED: Feb. 23, 2010

APPLICANT: NETGEAR, INC.

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1. CERTIFICATION

PRODUCT: RangeMax Dual Band Wireless-N Gigabit Router

MODEL: WNDR3700

BRAND: NETGEAR

APPLICANT: NETGEAR, INC.

TEST SAMPLE: ENGINEERING SAMPLE

TESTED: Jul. 16 ~ Jul. 28, 2009 (original report)
Sep. 17, 2009 ~ Feb. 06, 2010 (new data)

STANDARDS: FCC Part 15, Subpart E (Section 15.407)
ANSI C63.4-2003

The above equipment (Model: WNDR3700) 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 : Andrea Hsia , **DATE** : Feb. 23, 2010
Andrea Hsia / Specialist

TECHNICAL ACCEPTANCE : Long Chen , **DATE** : Feb. 23, 2010
Responsible for RF Long Chen / Senior Engineer

APPROVED BY : Gary Chang , **DATE** : Feb. 23, 2010
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 -2.8dB at 0.181MHz.
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 -1.0dB at 5350.0, 10600.0 16650.0 & 16740.0MHz.
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	No antenna connector is used.

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	2.44dB
Radiated emissions	30MHz ~ 200MHz	3.69dB
	200MHz ~1000MHz	3.84dB
Radiated emissions	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	RangeMax Dual Band Wireless-N Gigabit Router
MODEL NO.	WNDR3700
FCC ID	PY308300092
POWER SUPPLY	12Vdc
MODULATION TYPE	64QAM, 16QAM, QPSK, BPSK for OFDM
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: up to 300.0Mbps
OPERATING FREQUENCY	5180 ~ 5240MHz, 5260 ~ 5320MHz & 5500 ~ 5700MHz
NUMBER OF CHANNEL	5180 ~ 5240MHz: 16 for 802.11a, 802.11n (20MHz) 6 for 802.11n (40MHz) 5260 ~ 5320MHz: 4 for 802.11a, 802.11n (20MHz) 2 for 802.11n (40MHz) 5500 ~ 5700MHz: 7 for 802.11a, 802.11n (20MHz) 3 for 802.11n (40MHz)
OUTPUT POWER	49.3mW for 5180 ~ 5240MHz: 185.8mW for 5260 ~ 5320MHz 167.2mW for 5500 ~ 5700MHz
ANTENNA TYPE	Refer to Note as below
ANTENNA CONNECTOR	NA
I/O PORTS	USB, RJ45
DATA CABLE	1.5m shielded RJ45 cable without core
ACCESSORY DEVICES	Adapter

NOTE:

1. This report is prepared for FCC class II permissive change. The differences compared with the original report are adding frequency band from 5.26 to 5.32GHz and 5.50 to 5.70GHz & re-layout the backboard. Therefore, we re-tested the radiated emission test below 1GHz, conducted emission test & 5GHz (5.26 to 5.32GHz and 5.50 to 5.70GHz) test items and combine with the original report.
2. The EUT is a RangeMax Dual Band Wireless-N Gigabit Router. The functions of EUT listed as below:

	TEST STANDARD	REFERENCE REPORT
WLAN 802.11b/g, 802.11n	FCC Part 15, Subpart C (Section 15.247)	RF980618L05A
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)	RF980618L05A-1
WLAN 802.11a, 802.11n (For DFS report) (5260~5320MHz & 5500~5700MHz)		RF980618L05A-2

3. 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)	√	√	√	√
802.11n (40MHz)	√	√	√	√

4. The EUT were powered by the following adapter:

ADAPTER 1	
BRAND:	NETGEAR
MODEL:	P030WF120B
P/N:	332-10100-01
INPUT:	100-240Vac, 1.0A, 50/60Hz
OUTPUT:	12Vdc, 2.5A
POWER LINE:	DC 1.8m non-shielded cable without core

ADAPTER 2	
BRAND:	NETGEAR
MODEL:	MU30-5120250-A1
P/N:	332-10100-01
INPUT:	100-240Vac, 0.8A, 50/60Hz
OUTPUT:	12Vdc, 2.5A
POWER LINE:	DC 1.8m non-shielded cable without core

5. The EUT incorporates a MIMO function. Physically, the EUT provides two completed transmitters and two receivers.

MODULATION MODE	TX FUNCTION
802.11b	2TX
802.11g	2TX
802.11a	2TX
802.11n (20MHz)	2TX
802.11n (40MHz)	2TX

6. The following antennas are used in this EUT.

Antenna Item	Type	Gain (dBi)
2.4GHz		
1	Printed	2.8
2	Printed	1.5
3	Printed	1.2
4	Printed	2.2
5.0GHz		
5	Printed	3.7
6	Printed	3.8
7	Printed	3.8
8	Printed	3.9

7. Antenna pair for transmission is defined by client

2.4GHz		
Antenna Pair	Antenna item	Antenna item
1	4	2
2	4	1
3	3	2
4	3	1
5.0GHz		
Antenna Pair	Antenna item	Antenna item
5	6	5
6	6	7
7	8	5
8	8	7

**After pretesting of radiated power and emission, Antenna pair 2 is worst case of 2.4GHz and Antenna pair 8 is worst case of 5GHz.

8. The above EUT information was 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

Operated in 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

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

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
38	5190 MHz	54	5270 MHz
46	5230 MHz	62	5310 MHz

Operated in 5500 ~ 5700MHz

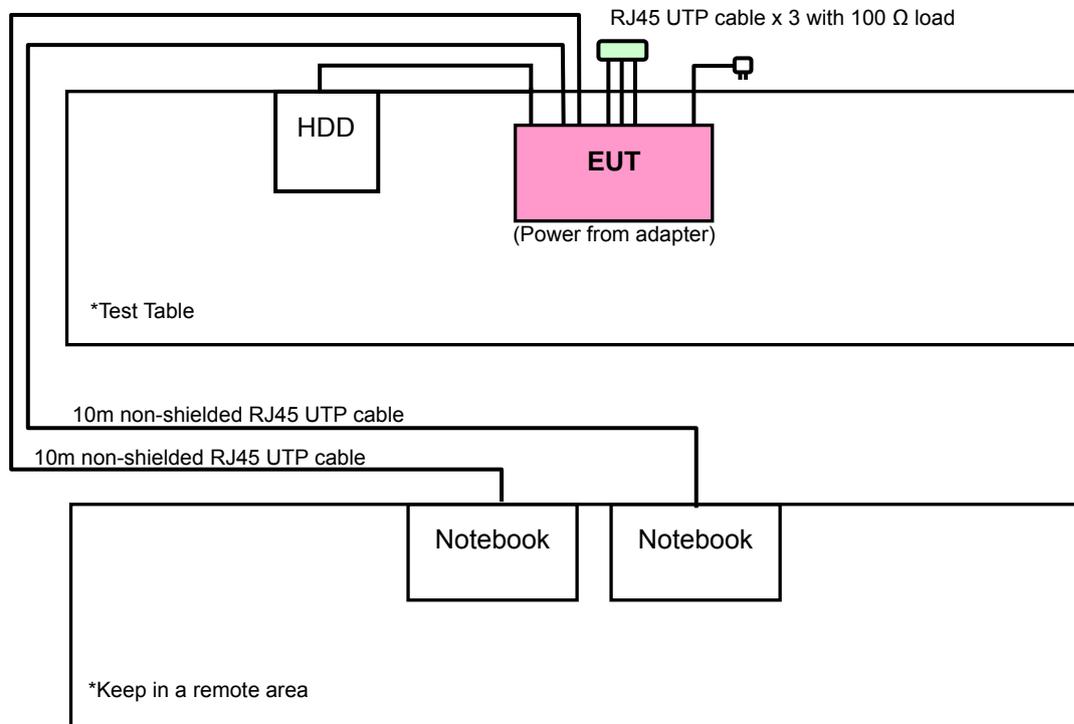
7 channels are provided for 802.11a, 802.11n (20MHz):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
100	5500 MHz	116	5580 MHz
104	5520 MHz	136	5680 MHz
108	5540 MHz	140	5700 MHz
112	5560 MHz		

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

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
102	5510 MHz	110	5550 MHz

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	
A	-	√	√	-	Power from AC Adapter 1
B	√	√	√	√	Power from AC Adapter 2

Where **RE \geq 1G**: Radiated Emission above 1GHz **RE<1G**: Radiated Emission below 1GHz
PLC: Power Line Conducted Emission **APCM**: Antenna Port Conducted Measurement
NOTE: "-" means no effect.

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.

EUT CONFIGURE MODE	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)	AXIS
B	802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	BPSK	6.0	Z
B	802.11n (20MHz)		36 to 48	36, 40, 48	OFDM	BPSK	7.2	Z
B	802.11n (40MHz)		38 to 46	38, 46	OFDM	BPSK	15.0	Z
B	802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	BPSK	6.0	Z
B	802.11n (20MHz)		52 to 64	52, 60, 64	OFDM	BPSK	7.2	Z
B	802.11n (40MHz)		54 to 62	54, 62	OFDM	BPSK	15.0	Z
B	802.11a	5500-5700	100 to 140	100, 116, 136, 140	OFDM	BPSK	6.0	Z
B	802.11n (20MHz)		100 to 140	100, 116, 136, 140	OFDM	BPSK	7.2	Z
B	802.11n (40MHz)		102 to 110	102, 110	OFDM	BPSK	15.0	Z

RADIATED EMISSION TEST (BELOW 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.

EUT CONFIGURE MODE	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)	AXIS
A, B	802.11n (20MHz)	5180-5240	36 to 48	36	OFDM	BPSK	7.2	Z
A, B	802.11a	5260-5320	52 to 64	52	OFDM	BPSK	6.0	Z
A, B	802.11a	5500-5700	100 to 140	100	OFDM	BPSK	6.0	Z



POWER LINE CONDUCTED EMISSION TEST:

- 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.

EUT CONFIGURE MODE	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A, B	802.11n (20MHz)	5180-5240	36 to 48	36	OFDM	BPSK	7.2
A, B	802.11a	5260-5320	52 to 64	52	OFDM	BPSK	6.0
A, B	802.11a	5500-5700	100 to 140	100	OFDM	BPSK	6

BANDEDGE MEASUREMENT:

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

EUT CONFIGURE MODE	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
B	802.11a	5180-5240	36 to 48	36, 48	OFDM	BPSK	6.0
B	802.11n (20MHz)		36 to 48	36, 48	OFDM	BPSK	7.2
B	802.11n (40MHz)		38 to 46	38, 46	OFDM	BPSK	15.0
B	802.11a	5260-5320	52 to 64	52, 64	OFDM	BPSK	6.0
B	802.11n (20MHz)		52 to 64	52, 64	OFDM	BPSK	7.2
B	802.11n (40MHz)		54 to 62	54, 62	OFDM	BPSK	15.0
B	802.11a	5500-5700	100 to 140	100, 140	OFDM	BPSK	6.0
B	802.11n (20MHz)		100 to 140	100, 140	OFDM	BPSK	7.2
B	802.11n (40MHz)		102 to 110	102, 110	OFDM	BPSK	15.0

ANTENNA PORT CONDUCTED MEASUREMENT:

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

EUT CONFIGURE MODE	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)	AXIS
B	802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	BPSK	6.0	Z
B	802.11n (20MHz)		36 to 48	36, 40, 48	OFDM	BPSK	7.2	Z
B	802.11n (40MHz)		38 to 46	38, 46	OFDM	BPSK	15.0	Z
B	802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	BPSK	6.0	Z
B	802.11n (20MHz)		52 to 64	52, 60, 64	OFDM	BPSK	7.2	Z
B	802.11n (40MHz)		54 to 62	54, 62	OFDM	BPSK	15.0	Z
B	802.11a	5500-5700	100 to 140	100, 116, 136, 140	OFDM	BPSK	6.0	Z
B	802.11n (20MHz)		100 to 140	100, 116, 136, 140	OFDM	BPSK	7.2	Z
B	802.11n (40MHz)		102 to 134	102, 110	OFDM	BPSK	15.0	Z

TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER (SYSTEM)	TESTED BY
RE \geq 1G	25deg. C, 65%RH, 988 hPa	120Vac, 60Hz	Mark Liao
	25deg. C, 65%RH, 999 hPa	120Vac, 60Hz	Kevin Liang
	25deg. C, 65%RH, 999 hPa	120Vac, 60Hz	Sun Lin
RE $<$ 1G	22deg. C, 74%RH, 999 hPa	120Vac, 60Hz	Whisky Chang
	21deg. C, 71%RH, 999 hPa		Ariel Lin
PLC	25deg. C, 65%RH, 988 hPa	120Vac, 60Hz	Mark Liao, Lori Chiu
APCM	25deg. C, 65%RH, 999 hPa	120Vac, 60Hz	Mark Liao, Sun Lin

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

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 together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	EXTERNAL HARD DISK	DELL	RD1000	HK-0XM763-72953-77P-000F	NA
2	NOTEBOOK	DELL	PP05L	12130898320	E2K24CLNS
3	NOTEBOOK	DELL	PP05L	25191592336	E2K24CLNS

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	2 m shielded cable, terminated with USB connector, with core.
2	10m non-shielded RJ45 UTP cable
3	10m non-shielded RJ45 UTP cable

NOTE: 1. All power cords of the above support units are non shielded (1.8m).
 2. Item 2 ~ 3 acted as communication partners to transfer data.

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

Above 1GHz Test:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Test Receiver ROHDE & SCHWARZ	ESI7	838496/016	Dec. 29, 2009	Dec. 28, 2010
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100041	May 13, 2009	May 12, 2010
BILOG Antenna SCHWARZBECK	VULB9168	9168-155	Apr. 29, 2009	Apr. 28, 2010
HORN Antenna SCHWARZBECK	BBHA 9120D	9120D-209	Jul. 01, 2009	Jun. 30, 2010
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170242	Dec. 25, 2009	Dec. 24, 2010
Preamplifier Agilent	8449B	3008A01961	Nov. 04, 2009	Nov. 03, 2010
Preamplifier Agilent	8447D	2944A10738	Nov. 04, 2009	Nov. 03, 2010
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	274041/4	Aug. 28, 2009	Aug. 27, 2010
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	283397/4	Aug. 28, 2009	Aug. 27, 2010
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. 27, 2009	Aug. 26, 2010

- 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.



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Below 1GHz Test:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Test Receiver ROHDE & SCHWARZ	ESIB7	100186	Dec. 11, 2009	Dec. 10, 2010
Test Receiver ROHDE & SCHWARZ	ESIB7	100187	Sep. 18, 2009	Sep. 17, 2010
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100076	May 26, 2009	May 25, 2010
BILOG Antenna SCHWARZBECK	VULB9168	9168-148	Apr. 28, 2009	Apr. 27, 2010
BILOG Antenna SCHWARZBECK	VULB9168	9168-149	Apr. 28, 2009	Apr. 27, 2010
Preamplifier Agilent	8447D	2944A10636	Dec. 10, 2009	Dec. 09, 2010
Preamplifier Agilent	8447D	2944A10637	Dec. 10, 2009	Dec. 09, 2010
RF signal cable Woken	8D-FB	Cable-Hych1-01	Oct. 24, 2009	Oct. 23, 2010
RF signal cable Woken	8D-FB	Cable-Hych1-02	Oct. 24, 2009	Oct. 23, 2010
Software ADT	ADT_Radiated_ V 7.7.03.6	NA	NA	NA
Antenna Tower(V)	MFA-440	9707	NA	NA
Antenna Tower(H)	MFA-440	970705	NA	NA
Turn Table	DS430	50303	NA	NA
Controller	MF7802	074	NA	NA
Controller	MF7802	08093	NA	NA
RF signal cable EAST COST Microwave	HP 160S-29	NA	Feb. 17, 2009	Feb. 16, 2010

- 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 1.
 3. The FCC Site Registration No. is 477732.
 4. The IC Site Registration No. is IC 7450F-1.
 5. The VCCI Site Registration No. is R-1893.

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 & 10 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.

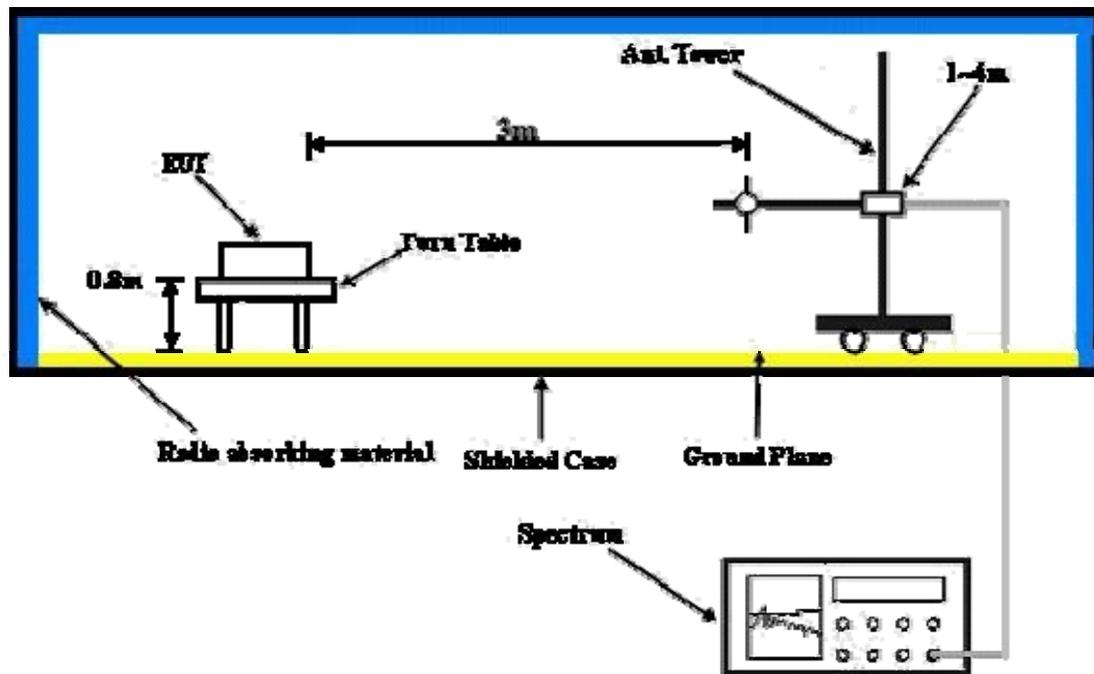
NOTE:

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

- a. Placed the EUT on the testing table.
- b. Prepared notebook system outside of testing area to act as a communication partners.
- c. The communication partner connected with EUT via a RJ45 UTP cable and run a test program (provided by manufacturer) to enable EUT under transmission condition continuously at specific channel frequency.
- d. The communication partner sent data to EUT by command "PING".

4.1.8 TEST RESULTS

802.11a

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 36	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH 1020 hPa	TESTED BY	Sun Lin

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	1133.00	43.1 PK	74.0	-30.9	1.52 H	318	14.75	28.33
2	1133.00	35.1 AV	54.0	-18.9	1.52 H	318	6.77	28.33
3	5150.00	60.1 PK	74.0	-13.9	1.04 H	333	20.94	39.14
4	5150.00	41.8 AV	54.0	-12.2	1.04 H	333	2.62	39.14
5	*5180.00	107.1 PK			1.04 H	335	67.93	39.18
6	*5180.00	97.1 AV			1.04 H	335	57.87	39.18
7	#10360.00	60.8 PK	68.3	-7.5	1.27 H	98	11.23	49.61
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	1133.00	50.3 PK	74.0	-23.7	1.42 V	262	22.00	28.33
2	1133.00	43.8 AV	54.0	-10.2	1.42 V	262	15.46	28.33
3	5150.00	63.5 PK	74.0	-10.5	1.04 V	196	24.35	39.14
4	5150.00	45.1 AV	54.0	-8.9	1.04 V	196	5.99	39.14
5	*5180.00	110.9 PK			1.04 V	189	71.67	39.18
6	*5180.00	100.7 AV			1.04 V	189	61.47	39.18
7	#10360.00	62.5 PK	68.3	-5.8	1.00 V	47	12.89	49.61

- 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.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 40	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH 1020 hPa	TESTED BY	Sun Lin

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	1133.00	43.0 PK	74.0	-31.0	1.50 H	322	14.68	28.33
2	1133.00	35.0 AV	54.0	-19.0	1.50 H	322	6.70	28.33
3	*5200.00	107.1 PK			1.03 H	30	67.90	39.20
4	*5200.00	97.1 AV			1.03 H	30	57.89	39.20
5	#10400.00	60.1 PK	68.3	-8.2	1.31 H	103	10.41	49.71
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	1133.00	50.4 PK	74.0	-23.6	1.45 V	265	22.03	28.33
2	1133.00	43.8 AV	54.0	-10.2	1.45 V	265	15.50	28.33
3	*5200.00	110.7 PK			1.02 V	192	71.51	39.20
4	*5200.00	100.4 AV			1.02 V	192	61.17	39.20
5	#10400.00	62.4 PK	68.3	-5.9	1.16 V	69	12.68	49.71

- 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 (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH 1020 hPa	TESTED BY	Sun Lin

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	1133.00	43.1 PK	74.0	-30.9	1.54 H	332	14.74	28.33
2	1133.00	35.0 AV	54.0	-19.0	1.54 H	332	6.69	28.33
3	*5240.00	107.4 PK			1.51 H	69	68.14	39.25
4	*5240.00	97.5 AV			1.51 H	69	58.24	39.25
5	5350.00	54.0 PK	74.0	-20.0	1.49 H	66	14.63	39.40
6	5350.00	41.1 AV	54.0	-13.0	1.49 H	66	1.65	39.40
7	#10480.00	61.3 PK	68.3	-7.0	1.51 H	152	11.41	49.93
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	1133.00	50.5 PK	74.0	-23.6	1.40 V	261	22.12	28.33
2	1133.00	43.8 AV	54.0	-10.2	1.40 V	261	15.50	28.33
3	*5240.00	110.8 PK			1.01 V	197	71.52	39.25
4	*5240.00	100.6 AV			1.01 V	197	61.31	39.25
5	5350.00	56.1 PK	74.0	-17.9	1.10 V	169	16.73	39.40
6	5350.00	43.3 AV	54.0	-10.7	1.10 V	169	3.88	39.40
7	#10480.00	63.1 PK	68.3	-5.2	1.22 V	59	13.13	49.93

- 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 (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH 1020 hPa	TESTED BY	Sun Lin

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	57.9 PK	74.0	-16.1	1.06 H	210	18.73	39.14
2	5150.00	45.7 AV	54.0	-8.3	1.06 H	210	6.60	39.14
3	*5260.00	112.0 PK			1.02 H	215	72.75	39.28
4	*5260.00	100.2 AV			1.02 H	215	60.87	39.28
5	#10520.00	63.1 PK	68.3	-5.2	1.20 H	299	13.06	50.02
6	15780.00	68.8 PK	74.0	-5.2	1.25 H	56	18.12	50.66
7	15780.00	50.6 AV	54.0	-3.5	1.25 H	56	-0.11	50.66
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	60.1 PK	74.0	-13.9	1.06 V	5	21.00	39.14
2	5150.00	48.0 AV	54.0	-6.0	1.06 V	5	8.86	39.14
3	*5260.00	115.0 PK			1.00 V	18	75.67	39.28
4	*5260.00	103.0 AV			1.00 V	18	63.73	39.28
5	#10520.00	66.1 PK	68.3	-2.2	1.51 V	271	16.11	50.02
6	15780.00	62.9 PK	74.0	-11.2	1.38 V	315	12.20	50.66
7	15780.00	48.9 AV	54.0	-5.1	1.38 V	315	-1.74	50.66

- 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 (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH 1020 hPa	TESTED BY	Sun Lin

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	112.6 PK			1.11 H	214	73.25	39.33
2	*5300.00	101.0 AV			1.11 H	214	61.70	39.33
3	10600.00	63.1 PK	74.0	-10.9	1.04 H	299	12.94	50.19
4	10600.00	49.6 AV	54.0	-4.4	1.04 H	299	-0.59	50.19
5	15900.00	65.0 PK	74.0	-9.1	1.25 H	108	14.44	50.51
6	15900.00	50.4 AV	54.0	-3.6	1.25 H	108	-0.15	50.51
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	115.3 PK			1.11 V	30	75.96	39.33
2	*5300.00	102.8 AV			1.11 V	30	63.48	39.33
3	10600.00	66.5 PK	74.0	-7.5	1.44 V	251	16.33	50.19
4	10600.00	53.0 AV	54.0	-1.0	1.44 V	251	2.80	50.19
5	15900.00	66.3 PK	74.0	-7.7	1.41 V	114	15.81	50.51
6	15900.00	49.6 AV	54.0	-4.4	1.41 V	114	-0.92	50.51

- 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 (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH 1020 hPa	TESTED BY	Sun Lin

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	111.4 PK			1.11 H	213	72.01	39.36
2	*5320.00	99.6 AV			1.11 H	213	60.25	39.36
3	5350.00	69.3 PK	74.0	-4.7	1.00 H	275	29.88	39.40
4	5350.00	49.9 AV	54.0	-4.1	1.00 H	275	10.48	39.40
5	10640.00	61.3 PK	74.0	-12.7	1.00 H	222	11.05	50.27
6	10640.00	47.2 AV	54.0	-6.8	1.00 H	222	-3.12	50.27
7	15960.00	64.1 PK	74.0	-9.9	1.21 H	214	13.59	50.48
8	15960.00	49.0 AV	54.0	-5.0	1.21 H	214	-1.46	50.48
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	113.9 PK			1.11 V	20	74.55	39.36
2	*5320.00	102.0 AV			1.11 V	20	62.63	39.36
3	5350.00	72.8 PK	74.0	-1.2	1.00 V	9	33.40	39.40
4	5350.00	52.9 AV	54.0	-1.1	1.00 V	9	13.48	39.40
5	10640.00	65.0 PK	74.0	-9.0	1.00 V	256	14.74	50.27
6	10640.00	52.0 AV	54.0	-2.0	1.00 V	256	1.72	50.27
7	15960.00	63.9 PK	74.0	-10.1	1.27 V	57	13.40	50.48
8	15960.00	49.4 AV	54.0	-4.7	1.27 V	57	-1.13	50.48

- 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 (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH 1020 hPa	TESTED BY	Sun Lin

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	56.3 PK	74.0	-17.7	1.00 H	79	16.76	39.53
2	5460.00	38.1 AV	54.0	-15.9	1.00 H	79	-1.41	39.53
3	#5470.00	65.7 PK	68.3	-2.6	1.00 H	79	26.14	39.54
4	*5500.00	108.3 PK			1.00 H	231	68.69	39.58
5	*5500.00	95.8 AV			1.00 H	231	56.20	39.58
6	11000.00	58.2 PK	74.0	-15.8	1.43 H	196	7.14	51.06
7	11000.00	47.6 AV	54.0	-6.4	1.43 H	196	-3.47	51.06
8	#16500.00	64.9 PK	68.3	-3.4	1.00 H	288	12.83	52.07
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	5460.00	59.7 PK	74.0	-14.4	1.38 V	2	20.12	39.53
2	5460.00	40.2 AV	54.0	-13.8	1.38 V	2	0.67	39.53
3	#5470.00	65.9 PK	68.3	-2.5	1.38 V	2	26.31	39.54
4	*5500.00	110.1 PK			1.06 V	57	70.55	39.58
5	*5500.00	98.3 AV			1.06 V	57	58.75	39.58
6	11000.00	59.0 PK	74.0	-15.0	1.00 V	306	7.97	51.06
7	11000.00	46.6 AV	54.0	-7.4	1.00 V	306	-4.46	51.06
8	#16500.00	67.2 PK	68.3	-1.1	1.17 V	61	15.14	52.07

- 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).
 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 (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH 1020 hPa	TESTED BY	Sun Lin

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	*5580.00	108.0 PK			1.00 H	283	68.29	39.74
2	*5580.00	95.7 AV			1.00 H	283	55.93	39.74
3	11600.00	59.3 PK	74.0	-14.7	1.16 H	271	8.34	50.98
4	11600.00	48.7 AV	54.0	-5.3	1.16 H	271	-2.24	50.98
5	#16740.00	67.3 PK	68.3	-1.0	1.16 H	55	14.06	53.22
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	*5580.00	110.4 PK			1.00 V	311	70.64	39.74
2	*5580.00	98.3 AV			1.00 V	311	58.51	39.74
3	11160.00	62.7 PK	74.0	-11.3	1.05 V	271	11.62	51.07
4	11160.00	49.3 AV	54.0	-4.7	1.05 V	271	-1.75	51.07
5	#16740.00	67.0 PK	68.3	-1.3	1.00 V	82	13.76	53.22

- 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 136	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH 1020 hPa	TESTED BY	Sun Lin

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	*5680.00	108.4 PK			1.00 H	259	68.45	39.94
2	*5680.00	95.5 AV			1.00 H	259	55.51	39.94
3	11360.00	59.1 PK	74.0	-14.9	1.13 H	318	8.02	51.11
4	11360.00	47.5 AV	54.0	-6.5	1.13 H	318	-3.57	51.11
5	#17040.00	66.0 PK	68.3	-2.3	1.20 H	74	11.40	54.58
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	*5680.00	110.1 PK			1.00 V	283	70.15	39.94
2	*5680.00	97.9 AV			1.00 V	283	57.93	39.94
3	11360.00	60.7 PK	74.0	-13.3	1.29 V	245	9.61	51.11
4	11360.00	49.2 AV	54.0	-4.8	1.29 V	245	-1.95	51.11
5	#17040.00	66.4 PK	68.3	-1.9	1.00 V	166	11.81	54.58

- 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 (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH 1020 hPa	TESTED BY	Sun Lin

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	108.6 PK			1.00 H	270	68.59	39.98
2	*5700.00	95.6 AV			1.00 H	270	55.65	39.98
3	#5725.00	66.9 PK	68.3	-1.4	1.00 H	275	26.90	40.03
4	11400.00	58.9 PK	74.0	-15.2	1.25 H	333	7.73	51.12
5	11400.00	47.3 AV	54.0	-6.7	1.25 H	333	-3.85	51.12
6	#17100.00	65.3 PK	68.3	-3.0	1.23 H	60	10.49	54.82
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	*5700.00	110.3 PK			1.00 V	298	70.27	39.98
2	*5700.00	98.0 AV			1.00 V	298	58.05	39.98
3	#5725.00	65.9 PK	68.3	-2.4	1.09 V	301	25.88	40.03
4	11400.00	60.4 PK	74.0	-13.6	1.34 V	251	9.27	51.12
5	11400.00	48.9 AV	54.0	-5.1	1.34 V	251	-2.18	51.12
6	#17100.00	66.3 PK	68.3	-2.0	1.02 V	158	11.45	54.82

- 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).
 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 (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH 1020 hPa	TESTED BY	Sun Lin

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	1133.00	43.0 PK	74.0	-31.0	1.46 H	310	14.68	28.33
2	1133.00	35.1 AV	54.0	-18.9	1.46 H	310	6.74	28.33
3	5150.00	63.6 PK	74.0	-10.4	1.04 H	330	24.43	39.14
4	5150.00	43.3 AV	54.0	-10.7	1.04 H	330	4.15	39.14
5	*5180.00	107.8 PK			1.03 H	35	68.60	39.18
6	*5180.00	97.4 AV			1.03 H	35	58.22	39.18
7	#10360.00	61.7 PK	68.3	-6.6	1.09 H	277	12.10	49.61
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	1133.00	50.3 PK	74.0	-23.7	1.35 V	254	21.94	28.33
2	1133.00	43.6 AV	54.0	-10.4	1.35 V	254	15.31	28.33
3	5150.00	67.1 PK	74.0	-7.0	1.04 V	189	27.91	39.14
4	5150.00	46.4 AV	54.0	-7.6	1.04 V	189	7.28	39.14
5	*5180.00	110.5 PK			1.03 V	188	71.35	39.18
6	*5180.00	100.6 AV			1.03 V	188	61.39	39.18
7	#10360.00	63.5 PK	68.3	-4.8	1.03 V	105	13.93	49.61

- 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 (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH 1020 hPa	TESTED BY	Sun Lin

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	*5200.00	107.3 PK			1.03 H	337	68.05	39.20
2	*5200.00	98.0 AV			1.03 H	337	58.78	39.20
3	#10400.00	61.4 PK	68.3	-6.9	1.12 H	3	11.67	49.71
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	*5200.00	110.9 PK			1.14 V	188	71.72	39.20
2	*5200.00	100.1 AV			1.14 V	188	60.93	39.20
3	#10400.00	62.5 PK	68.3	-5.8	1.20 V	98	12.75	49.71

- 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 (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH 1020 hPa	TESTED BY	Sun Lin

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	*5240.00	103.0 PK			1.03 H	336	63.78	39.25
2	*5240.00	97.2 AV			1.03 H	336	57.96	39.25
3	5350.00	55.4 PK	74.0	-18.6	1.03 H	336	16.03	39.40
4	5350.00	42.4 AV	54.0	-11.6	1.03 H	336	2.99	39.40
5	#10480.00	62.4 PK	68.3	-5.9	1.04 H	86	12.45	49.93
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	*5240.00	110.3 PK			1.13 V	186	71.09	39.25
2	*5240.00	100.2 AV			1.13 V	186	60.96	39.25
3	5350.00	55.7 PK	74.0	-18.3	1.12 V	186	16.34	39.40
4	5350.00	42.7 AV	54.0	-11.4	1.12 V	186	3.25	39.40
5	#10480.00	63.1 PK	68.3	-5.2	1.02 V	78	13.18	49.93

- 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 52	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH 1020 hPa	TESTED BY	Sun Lin

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	57.5 PK	74.0	-16.5	1.14 H	208	18.36	39.14
2	5150.00	44.2 AV	54.0	-9.8	1.14 H	208	5.03	39.14
3	*5260.00	111.1 PK			1.34 H	217	71.82	39.28
4	*5260.00	99.5 AV			1.34 H	217	60.20	39.28
5	#10520.00	62.6 PK	68.3	-5.7	1.21 H	299	12.58	50.02
6	15780.00	64.3 PK	74.0	-9.7	1.24 H	260	13.65	50.66
7	15780.00	48.6 AV	54.0	-5.4	1.24 H	260	-2.07	50.66
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	60.4 PK	74.0	-13.6	1.12 V	8	21.27	39.14
2	5150.00	46.5 AV	54.0	-7.5	1.12 V	8	7.35	39.14
3	*5260.00	114.4 PK			1.00 V	2	75.15	39.28
4	*5260.00	101.5 AV			1.00 V	2	62.17	39.28
5	#10520.00	67.2 PK	68.3	-1.1	1.45 V	252	17.19	50.02
6	15780.00	64.5 PK	74.0	-9.5	1.28 V	18	13.88	50.66
7	15780.00	48.9 AV	54.0	-5.1	1.28 V	18	-1.77	50.66

- 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 (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH 1020 hPa	TESTED BY	Sun Lin

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	112.1 PK			1.00 H	212	72.78	39.33
2	*5300.00	99.4 AV			1.00 H	212	60.04	39.33
3	10600.00	62.1 PK	74.0	-11.9	1.20 H	300	11.95	50.19
4	10600.00	48.5 AV	54.0	-5.5	1.20 H	300	-1.71	50.19
5	15900.00	66.4 PK	74.0	-7.6	1.20 H	323	15.92	50.51
6	15900.00	50.6 AV	54.0	-3.4	1.20 H	323	0.09	50.51
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	114.9 PK			1.00 V	6	75.53	39.33
2	*5300.00	102.1 AV			1.00 V	6	62.79	39.33
3	10600.00	65.9 PK	74.0	-8.1	1.00 V	257	15.75	50.19
4	10600.00	52.7 AV	54.0	-1.4	1.00 V	257	2.46	50.19
5	15900.00	65.0 PK	74.0	-9.0	1.16 V	113	14.53	50.51
6	15900.00	49.7 AV	54.0	-4.3	1.16 V	113	-0.84	50.51

- 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 (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH 1020 hPa	TESTED BY	Sun Lin

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	110.5 PK			1.07 H	239	71.16	39.36
2	*5320.00	98.2 AV			1.07 H	239	58.87	39.36
3	5350.00	69.6 PK	74.0	-4.4	1.00 H	147	30.23	39.40
4	5350.00	49.1 AV	54.0	-4.9	1.00 H	147	9.71	39.40
5	10640.00	61.9 PK	74.0	-12.2	1.01 H	220	11.58	50.27
6	10640.00	47.7 AV	54.0	-6.3	1.01 H	220	-2.59	50.27
7	15960.00	64.4 PK	74.0	-9.6	1.17 H	223	13.89	50.48
8	15960.00	49.3 AV	54.0	-4.7	1.17 H	223	-1.16	50.48
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	114.0 PK			1.00 V	18	74.62	39.36
2	*5320.00	100.0 AV			1.00 V	18	60.59	39.36
3	5350.00	72.9 PK	74.0	-1.1	1.07 V	10	33.54	39.40
4	5350.00	53.0 AV	54.0	-1.0	1.07 V	10	13.60	39.40
5	10640.00	67.0 PK	74.0	-7.0	1.00 V	257	16.73	50.27
6	10640.00	52.5 AV	54.0	-1.5	1.00 V	257	2.20	50.27
7	15960.00	64.6 PK	74.0	-9.4	1.30 V	51	14.10	50.48
8	15960.00	50.2 AV	54.0	-3.8	1.30 V	51	-0.31	50.48

- 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 (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH 1020 hPa	TESTED BY	Sun Lin

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	56.8 PK	74.0	-17.2	1.01 H	65	17.27	39.53
2	5460.00	38.2 AV	54.0	-15.8	1.01 H	65	-1.36	39.53
3	#5470.00	66.1 PK	68.3	-2.2	1.01 H	65	26.55	39.54
4	*5500.00	108.5 PK			1.02 H	270	68.95	39.58
5	*5500.00	95.9 AV			1.02 H	270	56.32	39.58
6	11000.00	58.2 PK	74.0	-15.9	1.53 H	177	7.09	51.06
7	11000.00	47.3 AV	54.0	-6.7	1.53 H	177	-3.73	51.06
8	#16500.00	65.1 PK	68.3	-3.2	1.00 H	271	13.05	52.07
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	5460.00	59.2 PK	74.0	-14.8	1.27 V	8	19.64	39.53
2	5460.00	40.1 AV	54.0	-13.9	1.27 V	8	0.54	39.53
3	#5470.00	66.2 PK	68.3	-2.1	1.27 V	8	26.63	39.54
4	*5500.00	110.3 PK			1.06 V	32	70.74	39.58
5	*5500.00	98.3 AV			1.06 V	32	58.69	39.58
6	11000.00	59.7 PK	74.0	-14.3	1.05 V	311	8.63	51.06
7	11000.00	46.2 AV	54.0	-7.8	1.05 V	311	-4.85	51.06
8	#16500.00	67.1 PK	68.3	-1.2	1.18 V	158	15.02	52.07

- 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).
 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 (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH 1020 hPa	TESTED BY	Sun Lin

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	*5580.00	108.0 PK			1.00 H	278	68.30	39.74
2	*5580.00	96.5 AV			1.00 H	278	56.75	39.74
3	11160.00	59.4 PK	74.0	-14.6	1.26 H	235	8.30	51.07
4	11160.00	49.5 AV	54.0	-4.5	1.26 H	235	-1.59	51.07
5	#16740.00	67.2 PK	68.3	-1.1	1.07 H	81	13.94	53.22
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	*5580.00	110.4 PK			1.11 V	304	70.69	39.74
2	*5580.00	98.2 AV			1.11 V	304	58.47	39.74
3	11160.00	62.7 PK	74.0	-11.3	1.00 V	241	11.64	51.07
4	11160.00	49.5 AV	54.0	-4.5	1.00 V	241	-1.54	51.07
5	#16740.00	66.8 PK	68.3	-1.5	1.18 V	66	13.59	53.22

- 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.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 136	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH 1020 hPa	TESTED BY	Sun Lin

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	*5680.00	108.1 PK			1.00 H	272	68.13	39.94
2	*5680.00	95.8 AV			1.00 H	272	55.88	39.94
3	11360.00	58.3 PK	74.0	-15.7	1.22 H	276	7.21	51.11
4	11360.00	48.3 AV	54.0	-5.8	1.22 H	276	-2.86	51.11
5	#17040.00	65.6 PK	68.3	-2.7	1.17 H	108	11.03	54.58
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	*5680.00	110.1 PK			1.00 V	299	70.18	39.94
2	*5680.00	98.0 AV			1.00 V	299	58.01	39.94
3	11360.00	61.4 PK	74.0	-12.6	1.25 V	218	10.30	51.11
4	11360.00	49.9 AV	54.0	-4.1	1.25 V	218	-1.19	51.11
5	#17040.00	65.9 PK	68.3	-2.4	1.04 V	183	11.36	54.58

- 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.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 140	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH 1020 hPa	TESTED BY	Sun Lin

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	108.2 PK			1.00 H	288	68.25	39.98
2	*5700.00	96.0 AV			1.00 H	288	55.99	39.98
3	#5725.00	67.1 PK	68.3	-1.2	1.01 H	277	27.09	40.03
4	11400.00	58.1 PK	74.0	-15.9	1.27 H	293	6.97	51.12
5	11400.00	48.0 AV	54.0	-6.0	1.27 H	293	-3.09	51.12
6	#17100.00	65.3 PK	68.3	-3.0	1.25 H	100	10.46	54.82
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	*5700.00	110.4 PK			1.00 V	307	70.37	39.98
2	*5700.00	98.2 AV			1.00 V	307	58.20	39.98
3	#5725.00	66.7 PK	68.3	-1.6	1.08 V	327	26.69	40.03
4	11400.00	61.2 PK	74.0	-12.8	1.21 V	237	10.11	51.12
5	11400.00	49.8 AV	54.0	-4.2	1.21 V	237	-1.34	51.12
6	#17100.00	65.8 PK	68.3	-2.5	1.07 V	177	10.97	54.82

- 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).
 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 (40MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 38	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH 1020 hPa	TESTED BY	Sun Lin

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	70.7 PK	74.0	-3.3	1.02 H	339	31.53	39.14
2	5150.00	46.7 AV	54.0	-7.3	1.02 H	339	7.53	39.14
3	*5190.00	105.8 PK			1.02 H	339	66.60	39.19
4	*5190.00	93.4 AV			1.02 H	339	54.21	39.19
5	#10380.00	59.1 PK	68.3	-9.2	1.14 H	23	9.41	49.66

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	73.0 PK	74.0	-1.1	1.13 V	186	33.81	39.14
2	5150.00	49.7 AV	54.0	-4.3	1.13 V	186	10.52	39.14
3	*5190.00	109.8 PK			1.13 V	186	70.64	39.19
4	*5190.00	95.5 AV			1.13 V	186	56.30	39.19
5	#10380.00	60.6 PK	68.3	-7.7	1.00 V	138	10.93	49.66

- 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 46	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH 1020 hPa	TESTED BY	Sun Lin

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	*5230.00	105.2 PK			1.02 H	332	65.98	39.24
2	*5230.00	93.1 AV			1.02 H	332	53.85	39.24
3	5350.00	55.4 PK	74.0	-18.6	1.02 H	302	15.98	39.40
4	5350.00	42.3 AV	54.0	-11.7	1.02 H	302	2.86	39.40
5	#10460.00	59.9 PK	68.3	-8.4	1.18 H	165	10.05	49.87
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	*5230.00	109.3 PK			1.12 V	185	70.02	39.24
2	*5230.00	95.2 AV			1.12 V	185	55.99	39.24
3	5350.00	57.0 PK	74.0	-17.0	1.12 V	185	17.58	39.40
4	5350.00	43.2 AV	54.0	-10.8	1.12 V	185	3.79	39.40
5	#10460.00	60.9 PK	68.3	-7.4	1.04 V	117	11.04	49.87

- 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 54	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH 1020 hPa	TESTED BY	Sun Lin

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	57.5 PK	74.0	-16.5	1.00 H	149	18.32	39.14
2	5150.00	44.2 AV	54.0	-9.8	1.00 H	149	5.04	39.14
3	*5270.00	108.5 PK			1.00 H	149	69.23	39.29
4	*5270.00	95.1 AV			1.00 H	149	55.81	39.29
5	#10540.00	61.9 PK	68.3	-6.4	1.00 H	302	11.84	50.06
6	15810.00	64.4 PK	74.0	-9.6	1.01 H	224	13.73	50.64
7	15810.00	48.6 AV	54.0	-5.4	1.01 H	224	-2.04	50.64
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	60.3 PK	74.0	-13.7	1.00 V	359	21.20	39.14
2	5150.00	46.5 AV	54.0	-7.5	1.00 V	359	7.38	39.14
3	*5270.00	110.6 PK			1.00 V	359	71.30	39.29
4	*5270.00	97.6 AV			1.00 V	359	58.28	39.29
5	#10540.00	63.2 PK	68.3	-5.1	1.04 V	220	13.09	50.06
6	15810.00	64.7 PK	74.0	-9.4	1.32 V	274	14.01	50.64
7	15810.00	48.9 AV	54.0	-5.1	1.32 V	274	-1.72	50.64

- 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 62	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH 1020 hPa	TESTED BY	Sun Lin

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	*5310.00	103.9 PK			1.00 H	151	64.56	39.34
2	*5310.00	90.1 AV			1.00 H	151	50.78	39.34
3	5350.00	69.5 PK	74.0	-4.5	1.00 H	151	30.08	39.40
4	5350.00	51.0 AV	54.0	-3.0	1.00 H	151	11.57	39.40
5	10620.00	58.3 PK	74.0	-15.7	1.46 H	304	8.07	50.23
6	10620.00	46.5 AV	54.0	-7.5	1.46 H	304	-3.69	50.23
7	15930.00	62.5 PK	74.0	-11.5	1.15 H	114	11.99	50.50
8	15930.00	50.0 AV	54.0	-4.0	1.15 H	114	-0.50	50.50
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	*5310.00	105.5 PK			1.19 V	3	66.11	39.34
2	*5310.00	92.8 AV			1.19 V	3	53.42	39.34
3	5350.00	68.2 PK	74.0	-5.8	1.19 V	8	28.83	39.40
4	5350.00	53.0 AV	54.0	-1.0	1.19 V	8	13.60	39.40
5	10620.00	60.0 PK	74.0	-14.0	1.00 V	286	9.74	50.23
6	10620.00	48.3 AV	54.0	-5.7	1.00 V	286	-1.95	50.23
7	15930.00	62.5 PK	74.0	-11.5	1.20 V	294	12.04	50.50
8	15930.00	50.1 AV	54.0	-3.9	1.20 V	294	-0.40	50.50

- 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 102	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH 1020 hPa	TESTED BY	Sun Lin

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	59.4 PK	74.0	-14.6	1.01 H	155	19.84	39.53
2	5460.00	40.6 AV	54.0	-13.5	1.01 H	155	1.02	39.53
3	#5470.00	64.2 PK	68.3	-4.1	1.01 H	156	24.69	39.54
4	*5510.00	101.0 PK			1.01 H	155	61.41	39.60
5	*5510.00	88.4 AV			1.01 H	155	48.83	39.60
6	11020.00	59.3 PK	74.0	-14.7	1.42 H	351	8.25	51.06
7	11020.00	47.0 AV	54.0	-7.0	1.42 H	351	-4.06	51.06
8	#16530.00	64.7 PK	68.3	-3.6	1.10 H	159	12.45	52.21
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	61.4 PK	74.0	-12.6	1.06 V	20	21.90	39.53
2	5460.00	42.6 AV	54.0	-11.4	1.06 V	20	3.06	39.53
3	#5470.00	66.6 PK	68.3	-1.7	1.06 V	20	27.03	39.54
4	*5510.00	103.8 PK			1.06 V	20	64.20	39.60
5	*5510.00	90.4 AV			1.06 V	20	50.78	39.60
6	11020.00	59.5 PK	74.0	-14.5	1.01 V	60	8.47	51.06
7	11020.00	47.0 AV	54.0	-7.0	1.01 V	60	-4.02	51.06
8	#16530.00	64.7 PK	68.3	-3.6	1.32 V	286	12.51	52.21

- 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 110	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH 1020 hPa	TESTED BY	Sun Lin

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	*5550.00	107.2 PK			1.00 H	133	67.56	39.68
2	*5550.00	94.2 AV			1.00 H	133	54.53	39.68
3	#5725.00	48.3 PK	68.3	-20.0	1.03 H	52	8.23	40.04
4	11000.00	60.5 PK	74.0	-13.5	1.05 H	195	9.46	51.06
5	11000.00	48.2 AV	54.0	-5.8	1.05 H	195	-2.85	51.06
6	#16650.00	67.3 PK	68.3	-1.0	1.26 H	67	14.49	52.79
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	*5550.00	109.3 PK			1.05 V	42	69.64	39.68
2	*5550.00	96.4 AV			1.05 V	42	56.68	39.68
3	#5725.00	49.2 PK	68.3	-19.2	1.09 V	35	9.11	40.04
4	11000.00	60.0 PK	74.0	-14.0	1.18 V	34	8.96	51.06
5	11000.00	48.9 AV	54.0	-5.1	1.18 V	34	-2.17	51.06
6	#16650.00	66.3 PK	68.3	-2.0	1.33 V	142	13.48	52.79

- 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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FOR FREQUENCY 5180MHz ~ 5240MHz

BELOW 1GHz WORST-CASE DATA : 802.11n (20MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 36	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	22deg. C, 74%RH 1020 hPa	TEST MODE	A
TESTED BY	Whisky Chang		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	133.03	32.0 QP	43.5	-11.5	2.50 H	325	19.20	12.82
2	374.07	38.9 QP	46.0	-7.1	1.00 H	61	22.17	16.75
3	500.42	41.0 QP	46.0	-5.0	1.50 H	149	21.37	19.62
4	533.47	40.3 QP	46.0	-5.7	1.50 H	136	19.85	20.44
5	667.60	39.0 QP	46.0	-7.0	1.00 H	176	16.07	22.94
6	751.18	42.9 QP	46.0	-3.1	1.00 H	95	18.63	24.28
7	1000.00	42.6 QP	54.0	-11.4	1.50 H	158	15.61	27.02

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	47.49	37.7 QP	40.0	-2.3	1.00 V	104	23.52	14.22
2	57.58	33.5 QP	40.0	-6.5	1.00 V	83	20.34	13.14
3	72.77	37.7 QP	40.0	-2.3	1.00 V	162	26.69	11.01
4	426.55	42.3 QP	46.0	-3.7	3.00 V	89	24.15	18.17
5	467.37	43.0 QP	46.0	-3.0	1.00 V	63	23.94	19.06
6	599.99	43.7 QP	46.0	-2.3	1.00 V	132	21.58	22.10
7	667.60	43.8 QP	46.0	-2.2	1.00 V	319	20.85	22.95
8	751.18	41.5 QP	46.0	-4.5	1.00 V	12	17.08	24.46

- 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 36	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	21deg. C, 71%RH 1020 hPa	TESTED BY	Ariel Lin
TEST MODE	B		

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	125.25	33.4 QP	43.5	-10.1	2.50 H	155	21.02	12.36
2	249.66	36.0 QP	46.0	-10.0	1.00 H	303	23.07	12.97
3	500.42	40.2 QP	46.0	-5.9	1.50 H	117	20.53	19.62
4	667.60	38.8 QP	46.0	-7.2	1.00 H	154	15.90	22.94
5	750.00	42.4 QP	46.0	-3.6	1.00 H	135	18.12	24.26
6	867.82	39.6 QP	46.0	-6.4	1.00 H	109	13.68	25.95
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	49.56	37.4 QP	40.0	-2.6	1.00 V	213	23.62	13.79
2	73.08	33.9 QP	40.0	-6.1	1.00 V	89	23.00	10.93
3	467.37	40.9 QP	46.0	-5.1	1.00 V	71	21.80	19.06
4	500.42	43.4 QP	46.0	-2.6	1.00 V	110	23.54	19.87
5	533.33	43.2 QP	46.0	-2.8	1.00 V	142	22.54	20.62
6	599.97	43.5 QP	46.0	-2.5	1.00 V	140	21.42	22.10
7	667.60	41.6 QP	46.0	-4.4	1.00 V	78	18.65	22.95

- 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.



FOR FREQUENCY 5260MHz ~ 5320MHz

802.11a

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 52	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	22deg. C, 74%RH 1020 hPa	TEST MODE	A
TESTED BY	Whisky Chang		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	199.12	31.7 QP	43.5	-11.8	1.00 H	287	20.70	10.99
2	374.07	43.1 QP	46.0	-2.9	1.00 H	83	26.37	16.75
3	399.34	38.6 QP	46.0	-7.4	2.00 H	146	21.16	17.48
4	500.42	40.3 QP	46.0	-5.7	1.50 H	123	20.64	19.62
5	751.18	42.7 QP	46.0	-3.3	1.00 H	138	18.38	24.28
6	875.59	41.9 QP	46.0	-4.1	2.00 H	161	15.85	26.04
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	49.30	35.2 QP	40.0	-4.8	1.00 V	159	21.32	13.85
2	57.39	34.7 QP	40.0	-5.3	1.00 V	212	21.53	13.15
3	73.33	35.4 QP	40.0	-4.7	1.00 V	170	24.49	10.86
4	467.37	41.3 QP	46.0	-4.7	1.50 V	59	22.24	19.06
5	500.42	41.8 QP	46.0	-4.2	1.00 V	117	21.93	19.87
6	533.32	43.7 QP	46.0	-2.3	1.00 V	79	23.10	20.62
7	599.99	43.6 QP	46.0	-2.4	1.00 V	119	21.48	22.10
8	666.66	42.2 QP	46.0	-3.8	1.00 V	2	19.26	22.94

- 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 52	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	21deg. C, 71%RH 1020 hPa	TEST MODE	B
TESTED BY	Ariel Lin		

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	199.12	33.8 QP	43.5	-9.7	1.50 H	150	22.85	10.99
2	374.07	39.9 QP	46.0	-6.1	1.00 H	8	23.12	16.75
3	500.42	38.3 QP	46.0	-7.7	1.50 H	106	18.67	19.62
4	624.83	39.1 QP	46.0	-6.9	1.00 H	126	16.76	22.37
5	751.18	42.2 QP	46.0	-3.8	1.00 H	312	17.90	24.28
6	875.01	43.8 QP	46.0	-2.2	1.00 H	206	17.73	26.03
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	49.30	37.3 QP	40.0	-2.8	1.00 V	243	23.41	13.85
2	70.82	36.5 QP	40.0	-3.5	1.50 V	37	24.94	11.55
3	467.37	43.5 QP	46.0	-2.5	1.00 V	78	24.42	19.06
4	500.42	42.3 QP	46.0	-3.7	1.00 V	120	22.43	19.87
5	533.32	43.7 QP	46.0	-2.3	1.00 V	139	23.12	20.62
6	599.98	43.4 QP	46.0	-2.6	1.00 V	145	21.33	22.10
7	667.60	43.6 QP	46.0	-2.5	1.00 V	24	20.60	22.95
8	875.59	41.3 QP	46.0	-4.8	1.00 V	158	14.84	26.41

- 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.

FOR FREQUENCY 5500MHz ~ 5700MHz

802.11a

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 100	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	22deg. C, 74%RH 1020 hPa	TEST MODE	A
TESTED BY	Whisky Chang		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	199.12	31.6 QP	43.5	-11.9	1.50 H	332	20.60	10.99
2	374.07	41.1 QP	46.0	-4.9	1.00 H	85	24.33	16.75
3	399.34	39.4 QP	46.0	-6.6	2.00 H	152	21.95	17.48
4	500.42	39.5 QP	46.0	-6.6	1.50 H	146	19.83	19.62
5	599.56	39.6 QP	46.0	-6.4	1.50 H	147	17.57	22.05
6	751.18	41.9 QP	46.0	-4.1	1.00 H	131	17.64	24.28
7	875.59	40.8 QP	46.0	-5.2	1.00 H	109	14.78	26.04
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	49.10	35.8 QP	40.0	-4.2	1.00 V	50	21.90	13.89
2	57.31	34.8 QP	40.0	-5.2	1.00 V	192	21.68	13.16
3	73.38	34.9 QP	40.0	-5.1	1.00 V	142	24.10	10.84
4	374.07	40.3 QP	46.0	-5.7	1.50 V	125	23.43	16.91
5	466.66	42.6 QP	46.0	-3.4	1.00 V	89	23.55	19.04
6	533.47	42.9 QP	46.0	-3.1	2.00 V	271	22.25	20.62
7	600.00	43.7 QP	46.0	-2.3	1.00 V	187	21.60	22.10
8	666.66	43.3 QP	46.0	-2.7	1.00 V	351	20.35	22.94

- 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.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 100	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	21deg. C, 71%RH 1020 hPa	TEST MODE	B
TESTED BY	Ariel Lin		

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	199.12	34.4 QP	43.5	-9.1	1.00 H	340	23.42	10.99
2	374.07	39.3 QP	46.0	-6.7	1.00 H	69	22.52	16.75
3	599.56	38.0 QP	46.0	-8.0	1.50 H	79	15.91	22.05
4	624.83	39.2 QP	46.0	-6.8	1.00 H	132	16.86	22.37
5	751.18	43.2 QP	46.0	-2.8	1.00 H	315	18.96	24.28
6	875.01	43.8 QP	46.0	-2.2	1.00 H	208	17.73	26.03
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	49.62	37.5 QP	40.0	-2.5	1.00 V	222	23.72	13.78
2	72.88	34.0 QP	40.0	-6.0	1.00 V	282	22.99	10.98
3	467.37	43.1 QP	46.0	-2.9	1.00 V	150	24.01	19.06
4	500.42	41.0 QP	46.0	-5.0	1.00 V	122	21.15	19.87
5	533.33	43.6 QP	46.0	-2.4	1.00 V	139	22.95	20.62
6	599.56	40.9 QP	46.0	-5.1	1.50 V	271	18.82	22.09
7	667.60	42.2 QP	46.0	-3.8	1.00 V	317	19.28	22.95
8	875.59	41.1 QP	46.0	-4.9	1.00 V	135	14.70	26.41

- 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	100288	Sep. 24, 2009	Sep. 23, 2010
RF signal cable Woken	5D-FB	Cable-HYCO2-01	Dec. 31, 2009	Dec. 30, 2010
LISN ROHDE & SCHWARZ	ESH2-Z5	100100	Aug. 24, 2009	Aug. 23, 2010
LISN ROHDE & SCHWARZ	ESH3-Z5	100311	Jul. 29, 2009	Jul. 28, 2010
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.

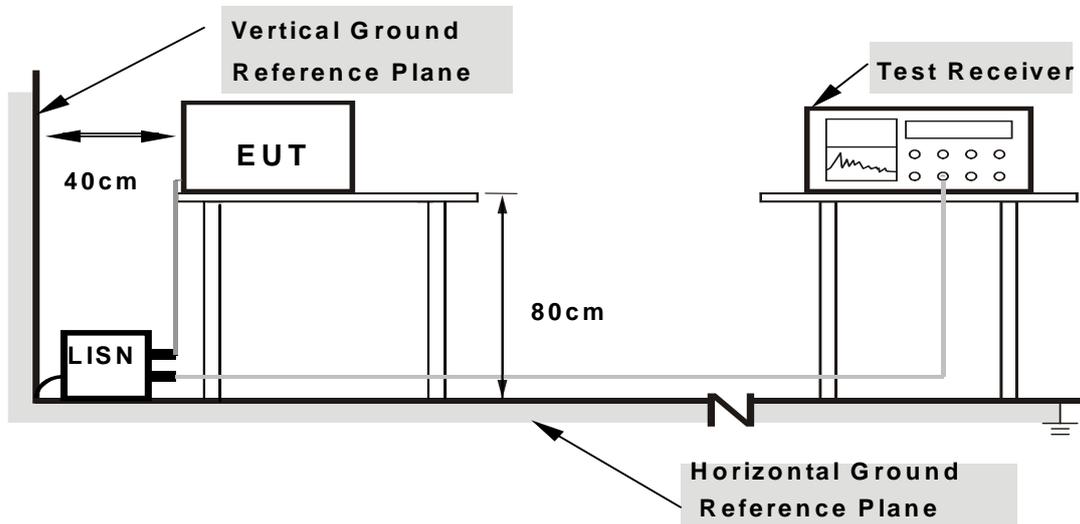
4.2.3 TEST PROCEDURES

- 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.

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

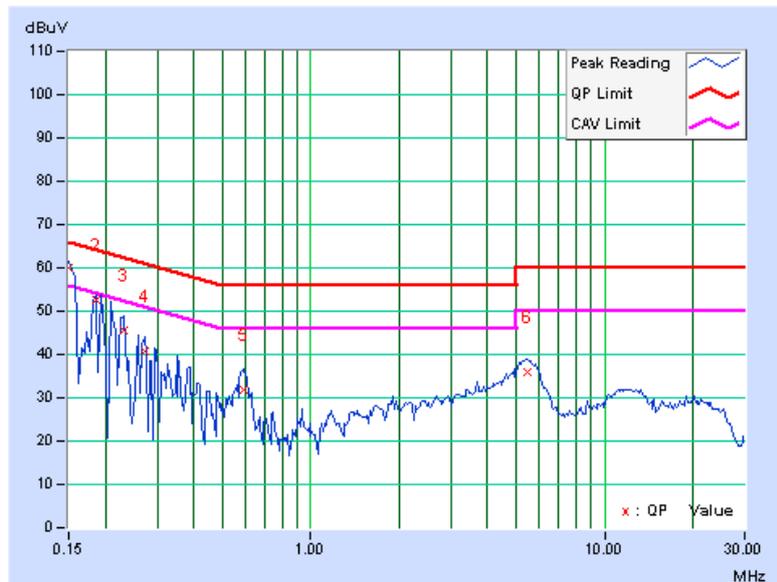
CONDUCTED WORST-CASE DATA : FOR FREQUENCY 5180MHz ~ 5240MHz

802.11n (20MHz)

PHASE	Line 1	6dB BANDWIDTH	9kHz
TEST MODE	A		

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	0.150	0.16	59.72	48.51	59.88	48.67	66.00	56.00	-6.12	-7.33
2	0.185	0.16	52.28	-	52.44	-	64.25	54.25	-11.81	-
3	0.232	0.16	45.44	-	45.60	-	62.38	52.38	-16.77	-
4	0.271	0.17	40.73	-	40.90	-	61.08	51.08	-20.19	-
5	0.591	0.20	31.55	-	31.75	-	56.00	46.00	-24.25	-
6	5.488	0.35	35.49	-	35.84	-	60.00	50.00	-24.16	-

- 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.



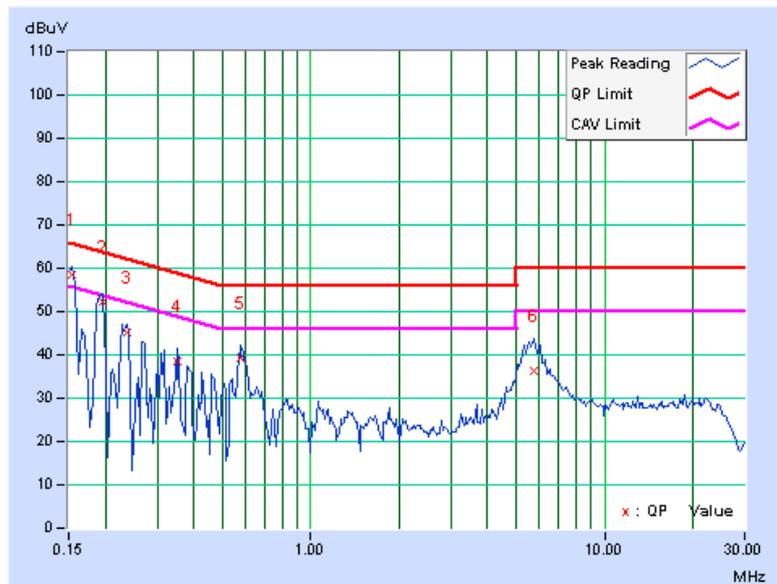


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PHASE	Line 2	6dB BANDWIDTH	9kHz
TEST MODE	A		

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	0.154	0.13	58.53	47.75	58.66	47.88	65.79	55.79	-7.13	-7.91
2	0.197	0.13	51.91	-	52.04	-	63.74	53.74	-11.70	-
3	0.236	0.14	45.14	-	45.28	-	62.24	52.24	-16.96	-
4	0.349	0.15	38.21	-	38.36	-	58.98	48.98	-20.62	-
5	0.580	0.18	39.13	-	39.31	-	56.00	46.00	-16.69	-
6	5.770	0.38	35.92	-	36.30	-	60.00	50.00	-23.70	-

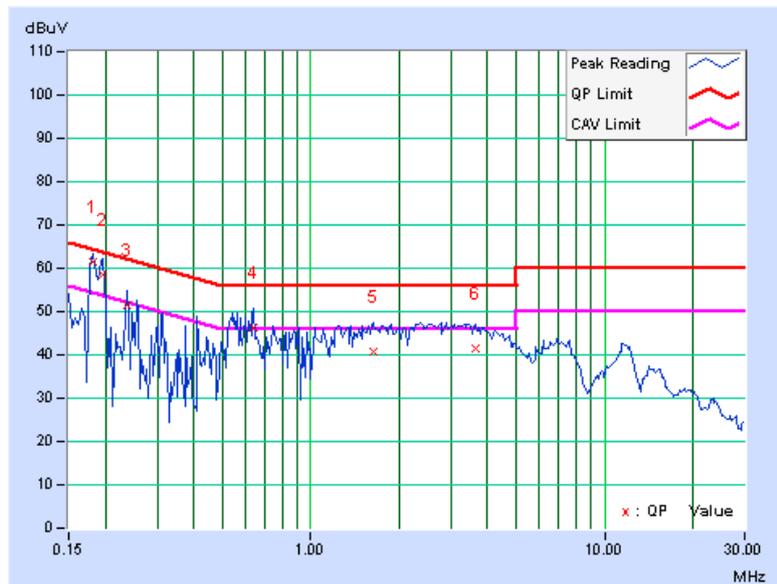
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value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



PHASE	Line 1	6dB BANDWIDTH	9kHz
TEST MODE	B		

No	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
	[MHz]	Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
		(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.181	0.16	61.47	46.98	61.63	47.14	64.43	54.43	-2.80	-7.29
2	0.197	0.16	58.48	39.85	58.64	40.01	63.74	53.74	-5.10	-13.73
3	0.236	0.16	51.47	-	51.63	-	62.24	52.24	-10.60	-
4	0.638	0.20	46.23	29.79	46.43	29.99	56.00	46.00	-9.57	-16.01
5	1.633	0.28	40.53	-	40.81	-	56.00	46.00	-15.19	-
6	3.617	0.34	41.01	-	41.35	-	56.00	46.00	-14.65	-

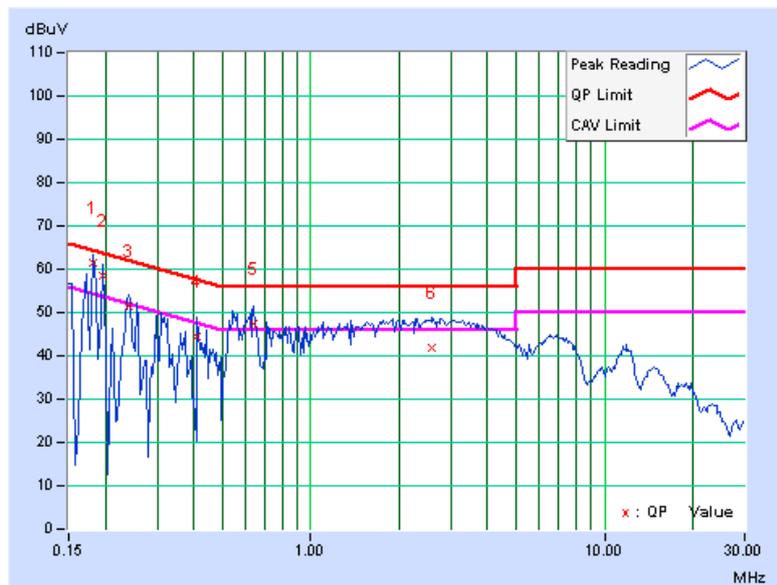
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value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



PHASE	Line 2	6dB BANDWIDTH	9kHz
TEST MODE	B		

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	0.181	0.13	61.35	47.42	61.48	47.55	64.43	54.43	-2.95	-6.88
2	0.197	0.13	58.40	40.26	58.53	40.39	63.74	53.74	-5.21	-13.35
3	0.240	0.14	51.37	-	51.51	-	62.10	52.10	-10.60	-
4	0.412	0.16	44.15	-	44.31	-	57.61	47.61	-13.30	-
5	0.638	0.18	47.05	30.89	47.23	31.07	56.00	46.00	-8.77	-14.93
6	2.594	0.32	41.71	-	42.03	-	56.00	46.00	-13.97	-

- 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.





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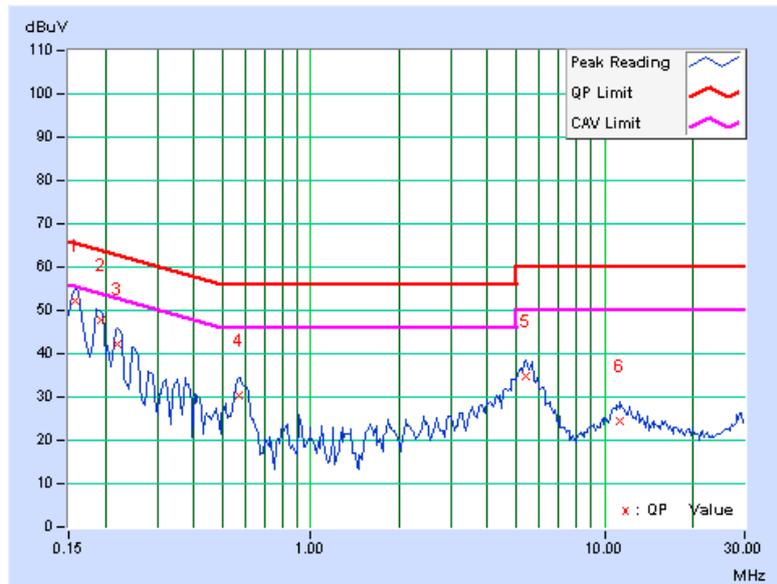
FOR FREQUENCY 5260MHz ~ 5320MHz

802.11a

PHASE	Line 1	6dB BANDWIDTH	9kHz
TEST MODE	A		

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	0.158	0.13	52.00	-	52.13	-	65.58	55.58	-13.45	-
2	0.192	0.13	47.76	-	47.89	-	63.94	53.94	-16.05	-
3	0.220	0.13	42.12	-	42.25	-	62.81	52.81	-20.56	-
4	0.568	0.15	30.32	-	30.47	-	56.00	46.00	-25.53	-
5	5.375	0.31	34.32	-	34.63	-	60.00	50.00	-25.37	-
6	11.266	0.46	23.80	-	24.26	-	60.00	50.00	-35.74	-

- 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.



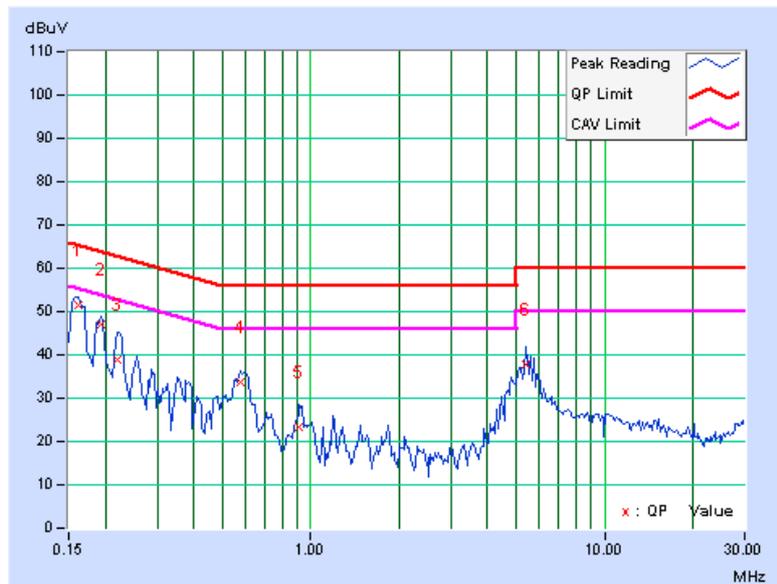


A D T

PHASE	Line 2	6dB BANDWIDTH	9kHz
TEST MODE	A		

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	0.162	0.13	51.47	-	51.60	-	65.38	55.38	-13.78	-
2	0.193	0.13	46.85	-	46.98	-	63.91	53.91	-16.93	-
3	0.220	0.13	38.75	-	38.88	-	62.81	52.81	-23.93	-
4	0.580	0.16	33.61	-	33.77	-	56.00	46.00	-22.23	-
5	0.912	0.17	23.18	-	23.35	-	56.00	46.00	-32.65	-
6	5.418	0.35	37.50	-	37.85	-	60.00	50.00	-22.15	-

- 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.



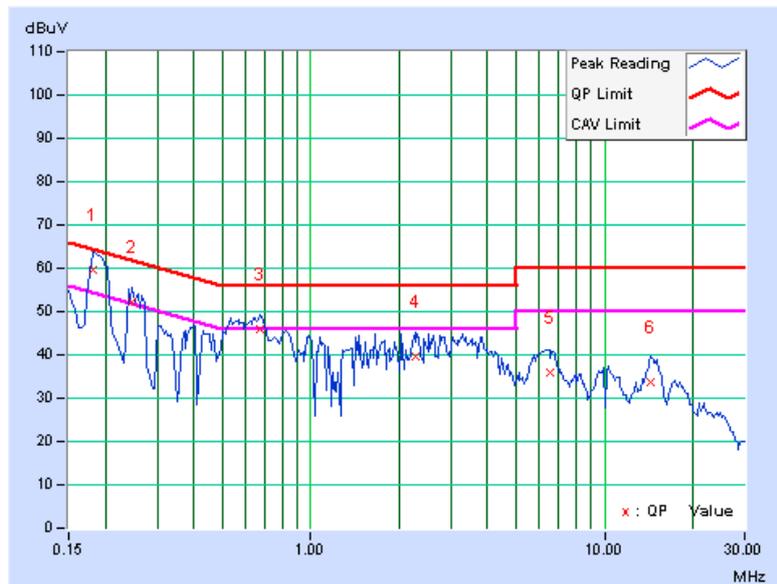


A D T

PHASE	Line 1	6dB BANDWIDTH	9kHz
TEST MODE	B		

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	0.181	0.13	59.40	42.50	59.53	42.63	64.43	54.43	-4.90	-11.80
2	0.248	0.13	52.14	38.60	52.27	38.73	61.84	51.84	-9.56	-13.10
3	0.673	0.15	45.80	-	45.95	-	56.00	46.00	-10.05	-
4	2.266	0.20	39.60	-	39.80	-	56.00	46.00	-16.20	-
5	6.512	0.34	35.52	-	35.86	-	60.00	50.00	-24.14	-
6	14.344	0.54	33.18	-	33.72	-	60.00	50.00	-26.28	-

- 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.



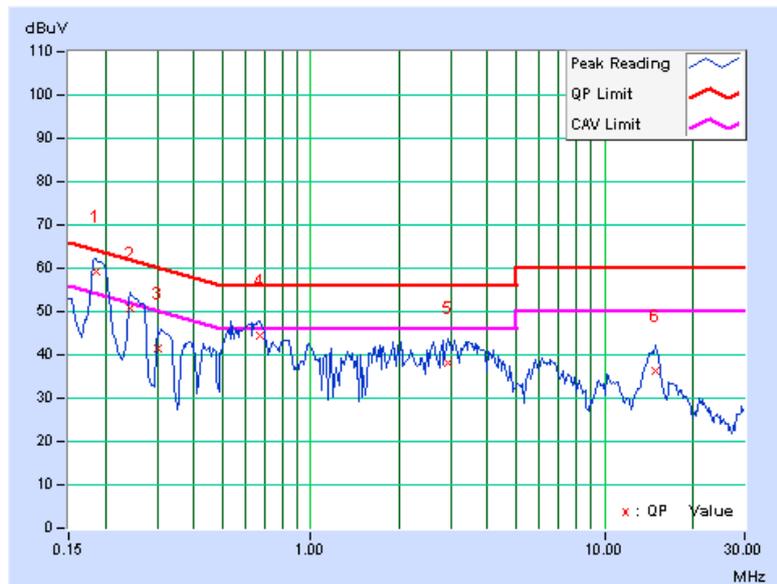


A D T

PHASE	Line 2	6dB BANDWIDTH	9kHz
TEST MODE	B		

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	0.185	0.13	59.17	46.29	59.30	46.42	64.25	54.25	-4.95	-7.83
2	0.244	0.13	50.66	-	50.79	-	61.97	51.97	-11.17	-
3	0.302	0.14	41.23	-	41.37	-	60.18	50.18	-18.81	-
4	0.673	0.16	44.15	-	44.31	-	56.00	46.00	-11.69	-
5	2.922	0.25	37.98	-	38.23	-	56.00	46.00	-17.77	-
6	14.988	0.66	35.58	-	36.24	-	60.00	50.00	-23.76	-

- 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.





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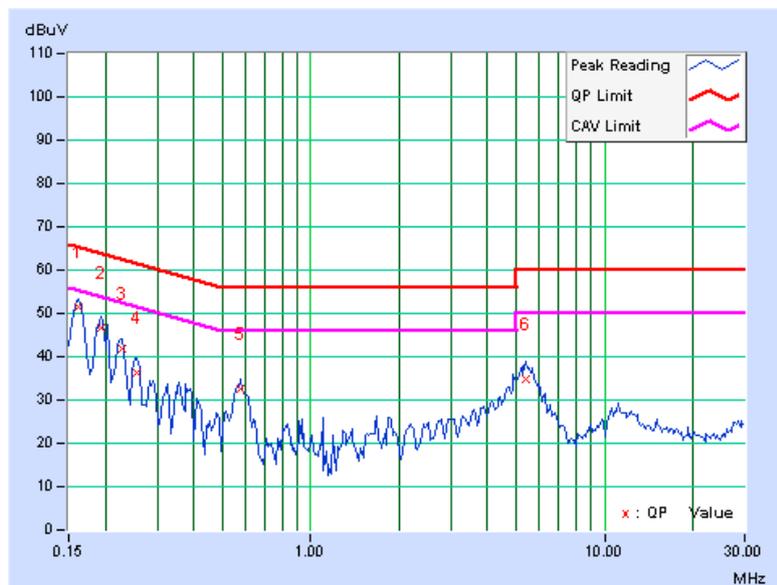
FOR FREQUENCY 5500MHz ~ 5700MHz

802.11a

PHASE	Line 1	6dB BANDWIDTH	9kHz
TEST MODE	A		

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	0.162	0.13	51.21	-	51.34	-	65.38	55.38	-14.04	-
2	0.193	0.13	46.67	-	46.80	-	63.91	53.91	-17.11	-
3	0.228	0.13	41.58	-	41.71	-	62.52	52.52	-20.81	-
4	0.255	0.13	36.31	-	36.44	-	61.58	51.58	-25.13	-
5	0.580	0.15	32.36	-	32.51	-	56.00	46.00	-23.49	-
6	5.414	0.32	34.61	-	34.93	-	60.00	50.00	-25.07	-

- 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.



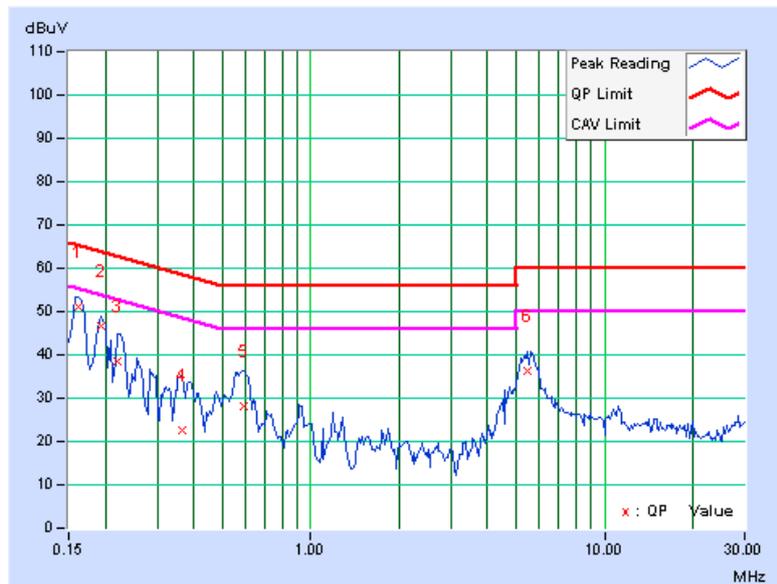


A D T

PHASE	Line 2	6dB BANDWIDTH	9kHz
TEST MODE	A		

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	0.162	0.13	51.13	-	51.26	-	65.38	55.38	-14.12	-
2	0.193	0.13	46.61	-	46.74	-	63.91	53.91	-17.17	-
3	0.220	0.13	38.31	-	38.44	-	62.81	52.81	-24.37	-
4	0.365	0.15	22.45	-	22.60	-	58.62	48.62	-36.02	-
5	0.591	0.16	27.98	-	28.14	-	56.00	46.00	-27.86	-
6	5.441	0.35	36.13	-	36.48	-	60.00	50.00	-23.52	-

- 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.



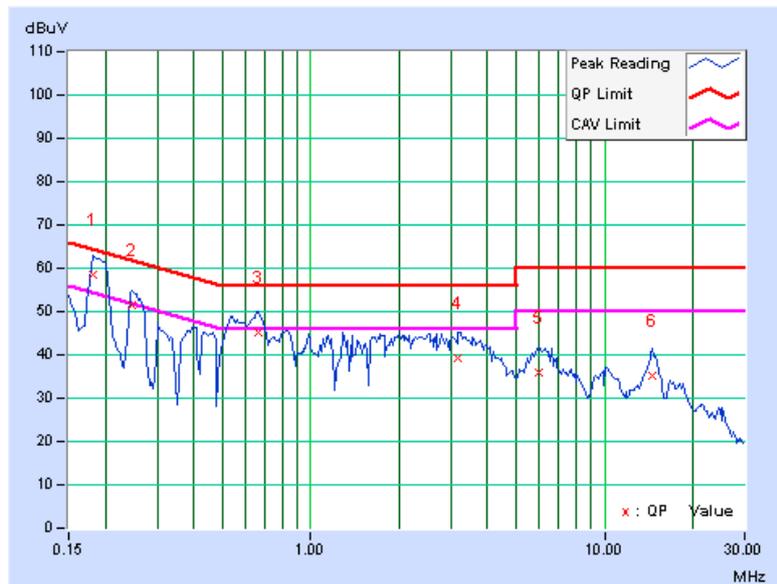


A D T

PHASE	Line 1	6dB BANDWIDTH	9kHz
TEST MODE	B		

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	0.181	0.13	58.40	41.77	58.53	41.90	64.43	54.43	-5.90	-12.53
2	0.248	0.13	51.20	-	51.33	-	61.84	51.84	-10.50	-
3	0.666	0.15	44.95	-	45.10	-	56.00	46.00	-10.90	-
4	3.164	0.24	39.00	-	39.24	-	56.00	46.00	-16.76	-
5	5.977	0.33	35.49	-	35.82	-	60.00	50.00	-24.18	-
6	14.547	0.54	34.61	-	35.15	-	60.00	50.00	-24.85	-

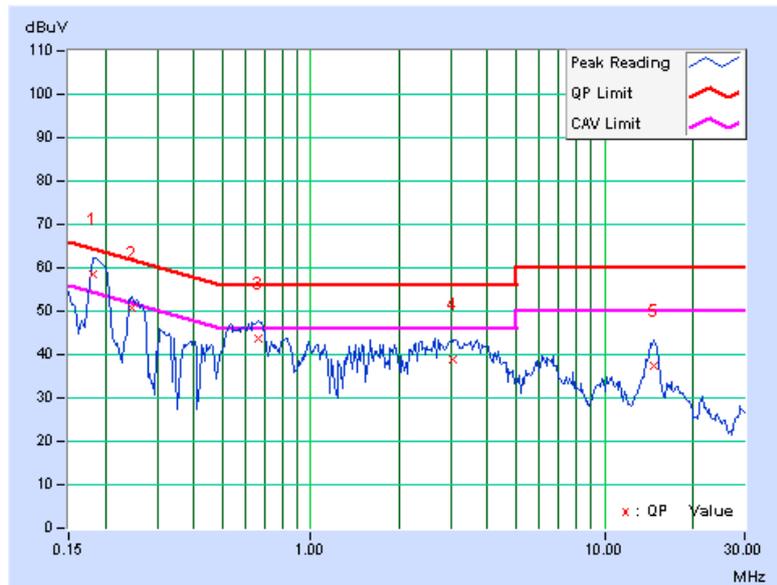
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value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



PHASE	Line 2	6dB BANDWIDTH	9kHz
TEST MODE	B		

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	0.181	0.13	58.32	41.30	58.45	41.43	64.43	54.43	-5.98	-13.00
2	0.248	0.13	50.48	-	50.61	-	61.84	51.84	-11.22	-
3	0.666	0.16	43.43	-	43.59	-	56.00	46.00	-12.41	-
4	3.035	0.25	38.46	-	38.71	-	56.00	46.00	-17.29	-
5	14.695	0.65	36.72	-	37.37	-	60.00	50.00	-22.63	-

- 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 PEAK TRANSMIT POWER MEASUREMENT

4.3.1 LIMITS OF PEAK TRANSMIT POWER MEASUREMENT

FREQUENCY BAND	LIMIT
5.15 ~ 5.25GHz	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

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	CALIBRATED UNTIL
R&S SPECTRUM ANALYZER	FSP40	100040	Jul. 07, 2009	Jul. 06, 2010

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

- a. The transmitter output was connected to the spectrum analyzer.
- b. Set span to encompass the entire emission bandwidth of the signal.
- c. Set RBW to 1MHz, VBW to 3MHz.
- d. Using the spectrum analyzer's channel power measurement function to measure the output power.

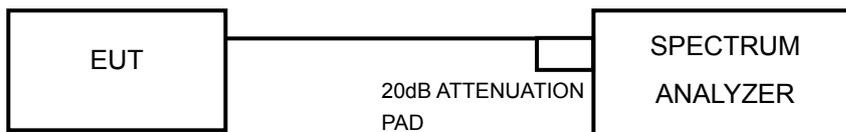
NOTE: The test is performed in accordance with FCC Public Notice: APPENDIX A Guidelines for Assessing Unlicensed National Information Infrastructure (U-NII) Devices – Part 15, Subpart E, August 2002.

The transmitter output operates continuously therefore Method # 1 is used.

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 specific channel frequencies individually.



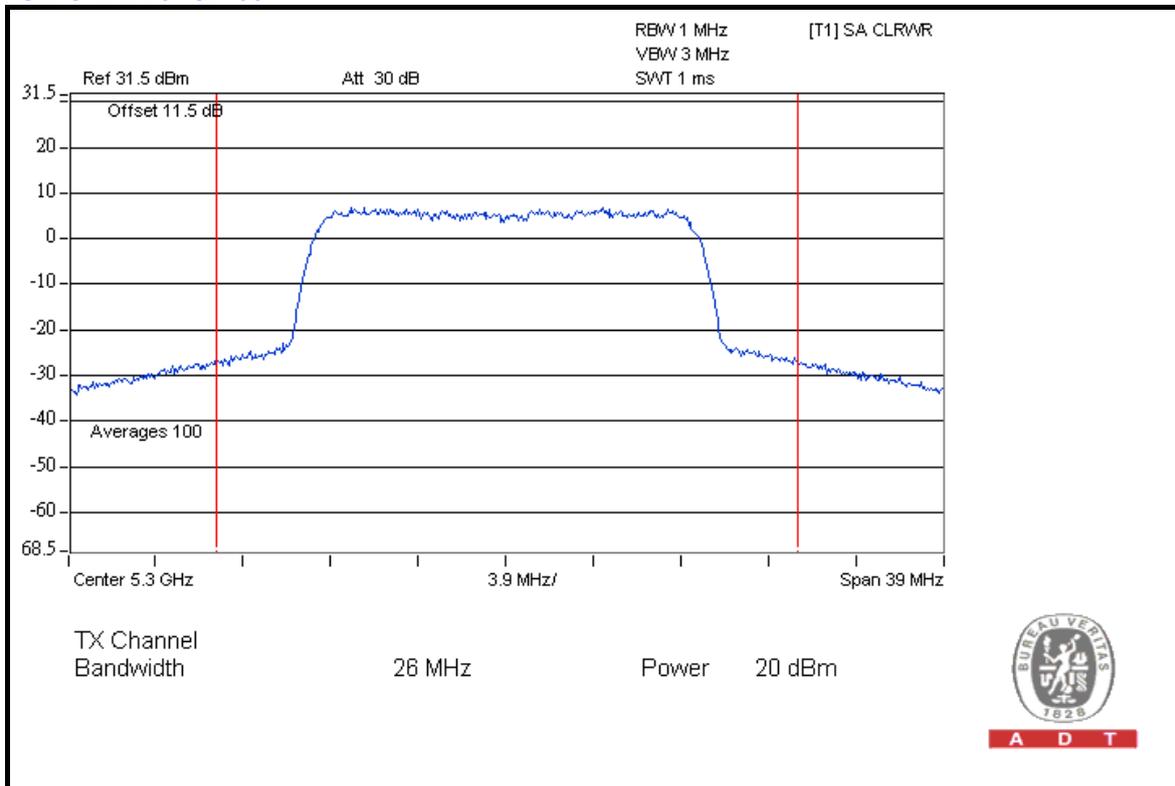
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4.3.7 TEST RESULTS

PEAK POWER OUTPUT: 802.11a

CHAN.	CHAN. FREQ. (MHz)	PEAK POWER OUTPUT (dBm)		TOTAL PEAK POWER (mW)	TOTAL PEAK POWER (dBm)	PEAK POWER LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
36	5180	13.8	13.8	48.3	16.8	17	PASS
40	5200	13.6	14.1	48.2	16.8	17	PASS
48	5240	13.1	14.1	45.7	16.6	17	PASS
52	5260	19.7	19.7	185.8	22.7	24	PASS
60	5300	20.0	19.3	184.5	22.7	24	PASS
64	5320	19.8	19.5	185.5	22.7	24	PASS
100	5500	17.8	17.7	119.1	20.8	24	PASS
116	5580	16.7	16.7	93.0	19.7	24	PASS
136	5680	16.0	16.1	80.5	19.1	24	PASS
140	5700	16.5	16.1	85.7	19.3	24	PASS

FOR CHAIN 0: CH 60



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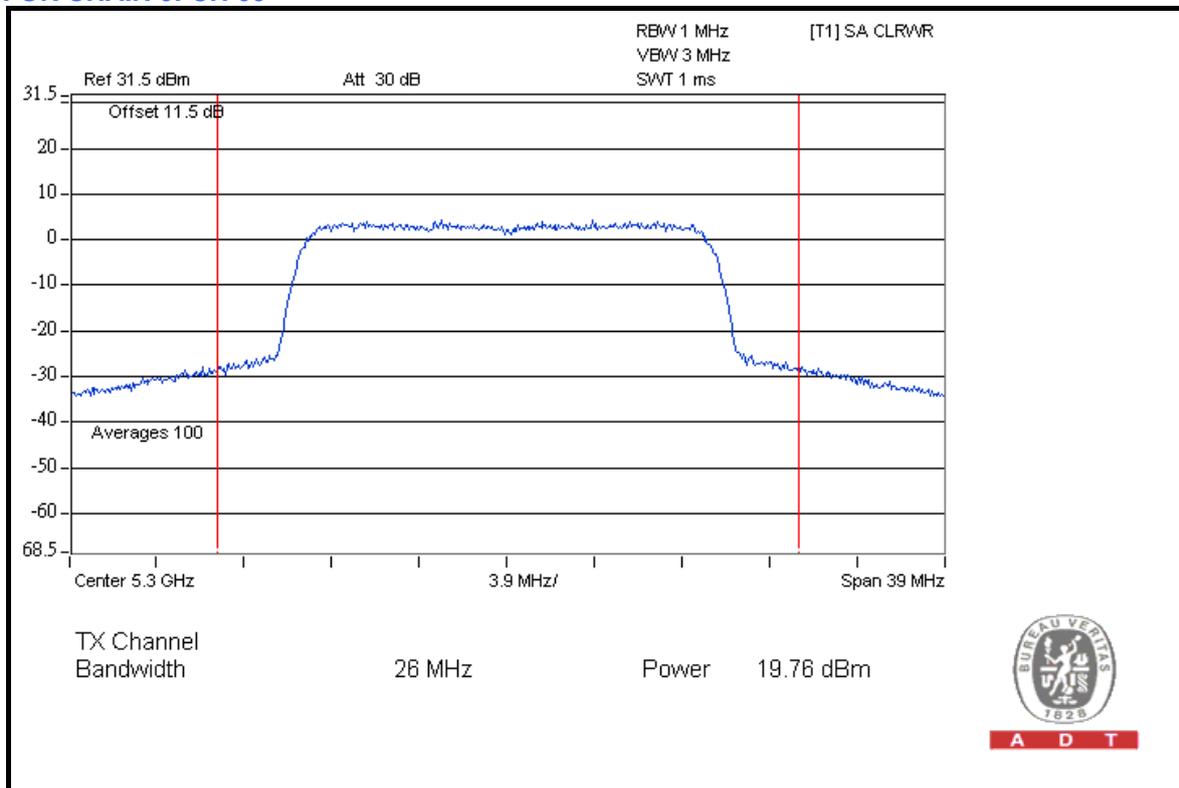


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802.11n (20MHz)

CHAN.	CHAN. FREQ. (MHz)	PEAK POWER OUTPUT (dBm)		TOTAL PEAK POWER (mW)	TOTAL PEAK POWER (dBm)	PEAK POWER LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
36	5180	13.9	13.9	49.3	16.9	17	PASS
40	5200	13.5	14.0	47.8	16.8	17	PASS
48	5240	13.1	14.1	46.0	16.6	17	PASS
52	5260	19.7	19.6	183.3	22.7	24	PASS
60	5300	19.8	19.5	182.7	22.6	24	PASS
64	5320	18.4	19.2	153.1	21.9	24	PASS
100	5500	17.7	17.6	116.2	20.7	24	PASS
116	5580	16.2	16.3	84.0	19.2	24	PASS
136	5680	16.0	16.2	81.7	19.1	24	PASS
140	5700	16.8	16.4	91.7	19.6	24	PASS

FOR CHAIN 0: CH 60



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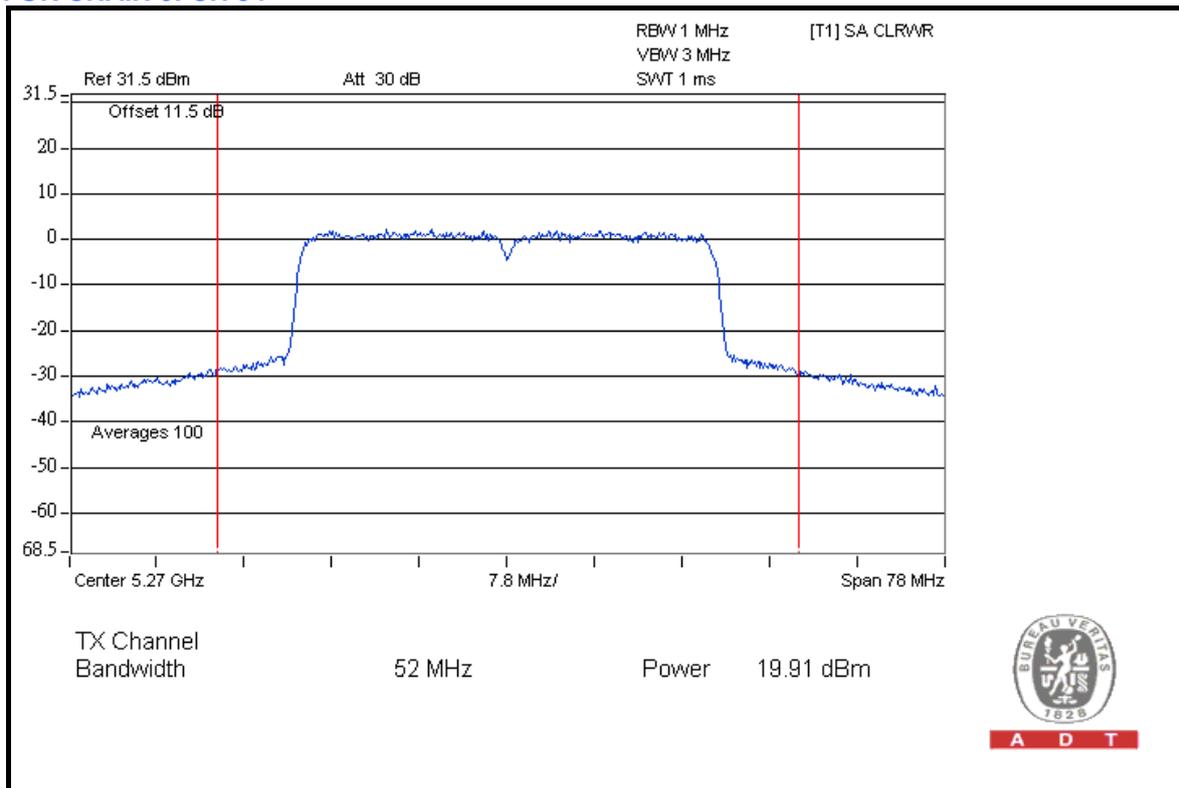


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802.11n (40MHz)

CHAN.	CHAN. FREQ. (MHz)	PEAK POWER OUTPUT (dBm)		TOTAL PEAK POWER (mW)	TOTAL PEAK POWER (dBm)	PEAK POWER LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
38	5190	13.8	13.8	48.3	16.8	17	PASS
46	5230	13.5	14.0	47.9	16.8	17	PASS
54	5270	19.9	19.4	184.5	22.7	24	PASS
62	5310	15.5	14.6	64.9	18.1	24	PASS
102	5510	13.4	13.2	42.9	16.3	24	PASS
110	5550	19.3	19.1	167.2	22.2	24	PASS

FOR CHAIN 0: CH 54



A D T

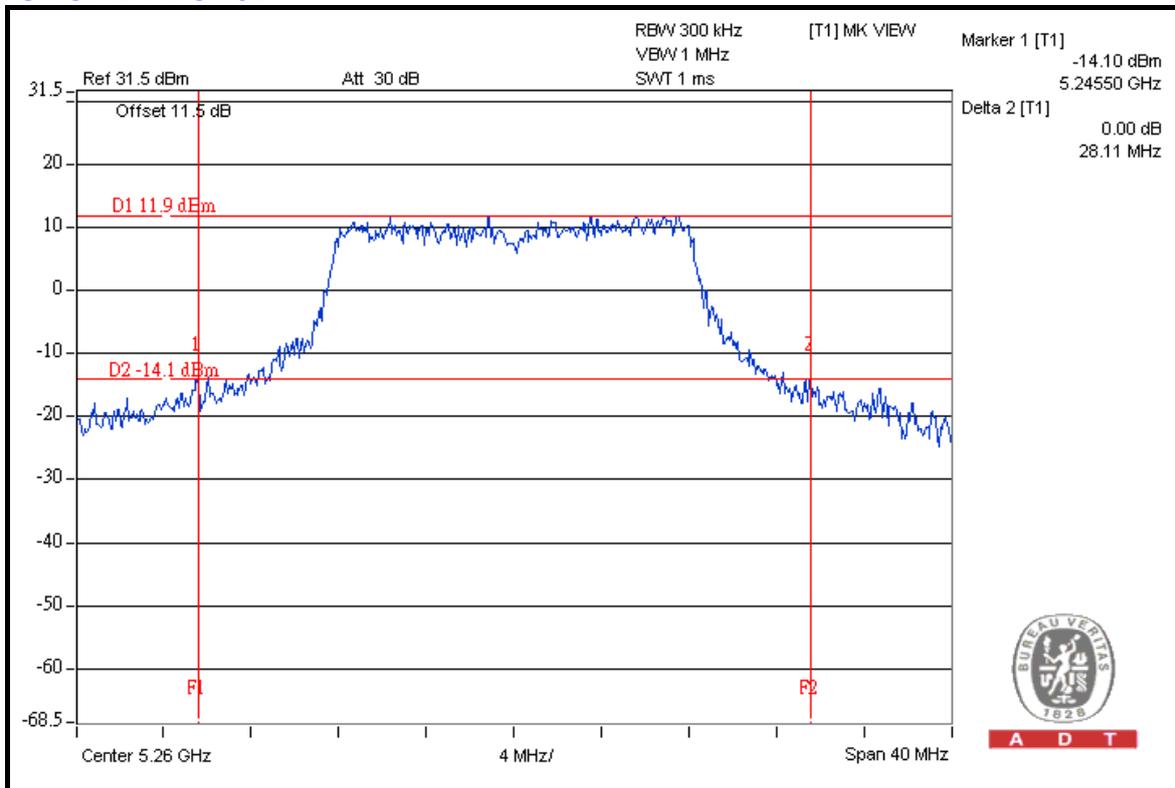


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26dB OCCUPIED BANDWIDTH: 802.11a

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc OCCUPIED BANDWIDTH (MHz)		PASS / FAIL
		CHAIN 0	CHAIN 1	
36	5180	23.18	25.29	PASS
40	5200	23.73	25.89	PASS
48	5240	23.54	25.94	PASS
52	5260	24.25	28.11	PASS
60	5300	25.64	27.38	PASS
64	5320	25.41	26.42	PASS
100	5500	24.38	23.96	PASS
116	5580	24.91	24.84	PASS
136	5680	23.40	24.58	PASS
140	5700	24.78	24.04	PASS

FOR CHAIN 1: CH 52



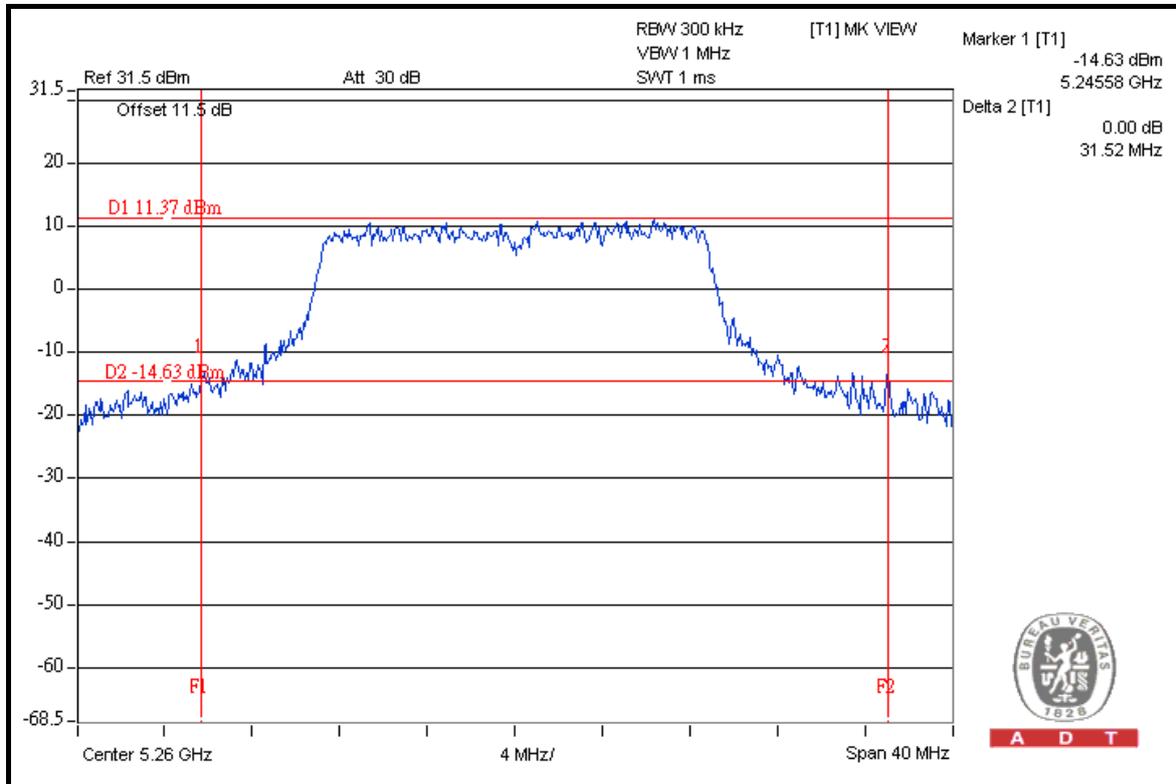


A D T

802.11n (20MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc OCCUPIED BANDWIDTH (MHz)		PASS / FAIL
		CHAIN 0	CHAIN 1	
36	5180	25.34	25.96	PASS
40	5200	25.33	24.14	PASS
48	5240	25.01	26.02	PASS
52	5260	25.18	31.52	PASS
60	5300	25.04	28.05	PASS
64	5320	25.80	26.50	PASS
100	5500	24.75	24.96	PASS
116	5580	25.40	25.10	PASS
136	5680	25.44	25.36	PASS
140	5700	25.75	25.57	PASS

FOR CHAIN 1: CH 52



A D T

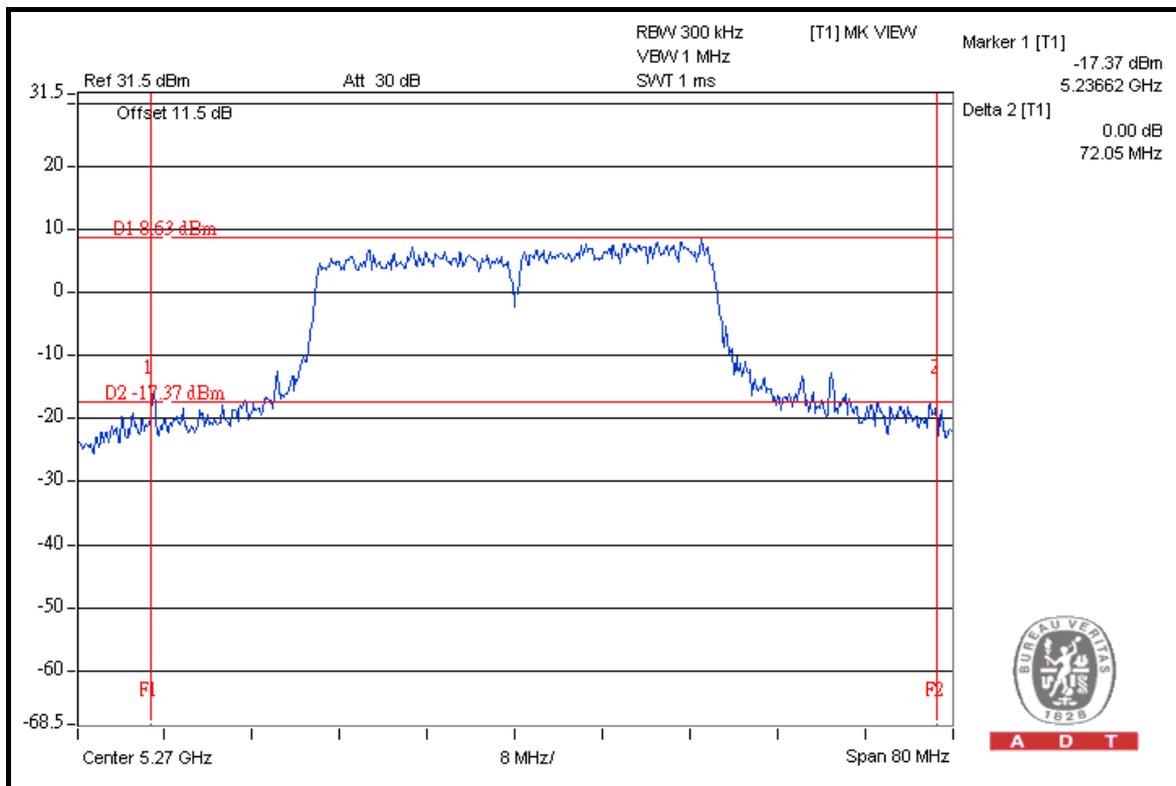


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802.11n (40MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc OCCUPIED BANDWIDTH (MHz)		PASS / FAIL
		CHAIN 0	CHAIN 1	
38	5190	47.94	46.56	PASS
46	5230	47.46	47.13	PASS
54	5270	51.96	72.05	PASS
62	5310	47.70	45.10	PASS
102	5510	47.92	45.44	PASS
110	5550	57.03	58.23	PASS

FOR CHAIN 1: CH 54



4.4 PEAK POWER EXCURSION MEASUREMENT

4.4.1 LIMITS OF PEAK POWER EXCURSION MEASUREMENT

FREQUENCY BAND	LIMIT
5.15 ~ 5.25GHz	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	CALIBRATED UNTIL
R&S SPECTRUM ANALYZER	FSP40	100040	Jul. 07, 2009	Jul. 06, 2010

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

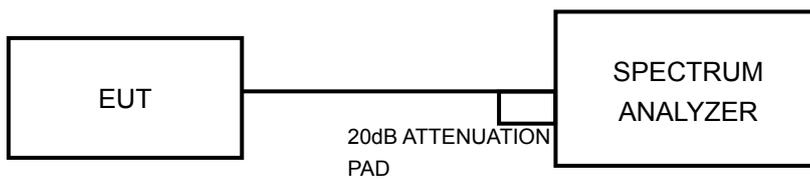
4.4.3 TEST PROCEDURE

- 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

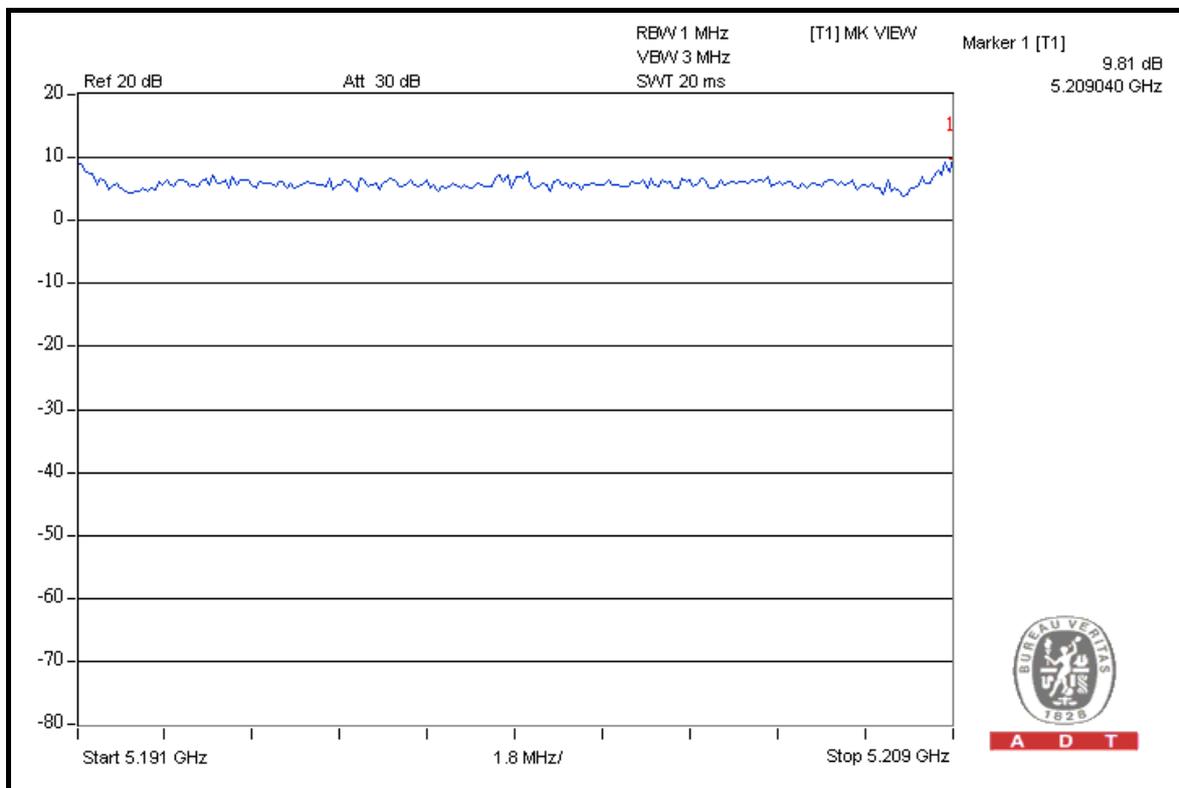
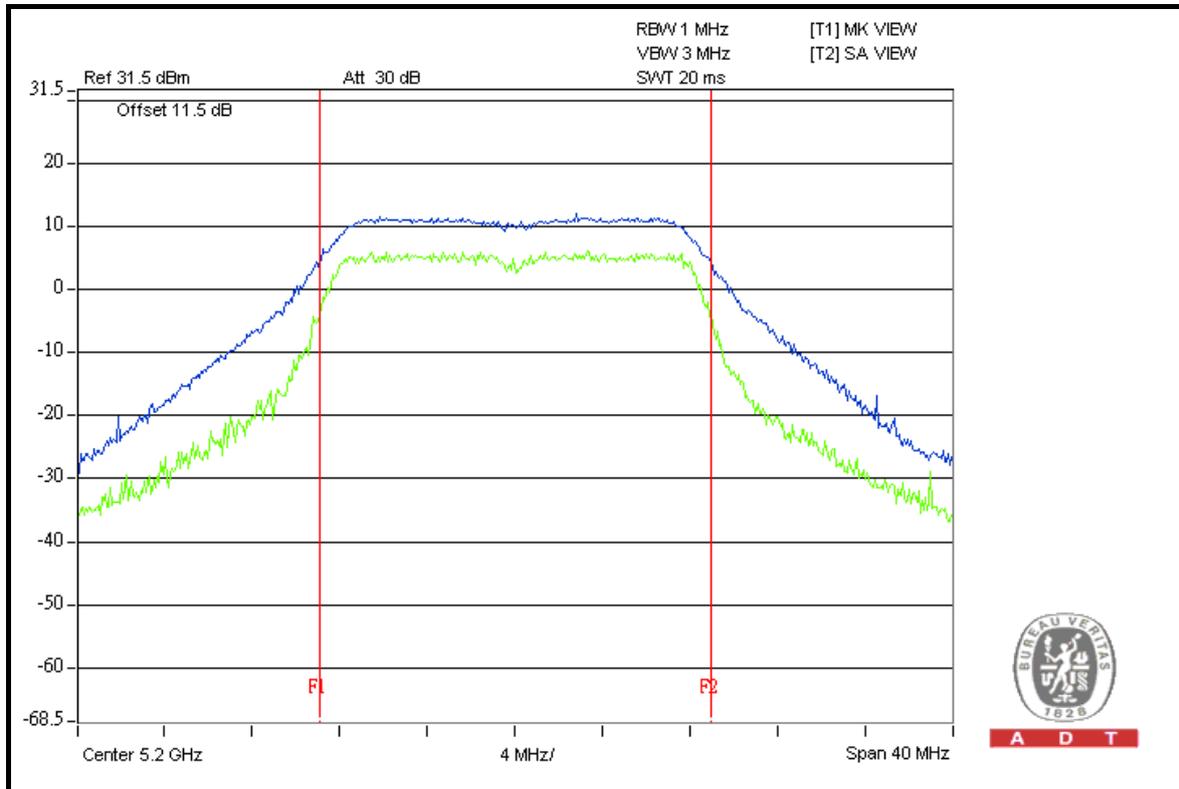
802.11a

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER EXCURSION (dB)		PEAK TO AVERAGE EXCURSION LIMIT (dB)	PASS/FAIL
		CHAIN 0	CHAIN 1		
36	5180	8.53	8.02	13	PASS
40	5200	8.73	9.81	13	PASS
48	5240	8.89	9.22	13	PASS
52	5260	9.68	8.95	13	PASS
60	5300	8.60	8.30	13	PASS
64	5320	9.01	8.31	13	PASS
100	5500	9.21	8.32	13	PASS
116	5580	8.48	9.51	13	PASS
136	5680	8.58	9.57	13	PASS
140	5700	8.47	9.55	13	PASS



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FOR CHAIN 1: CH 40





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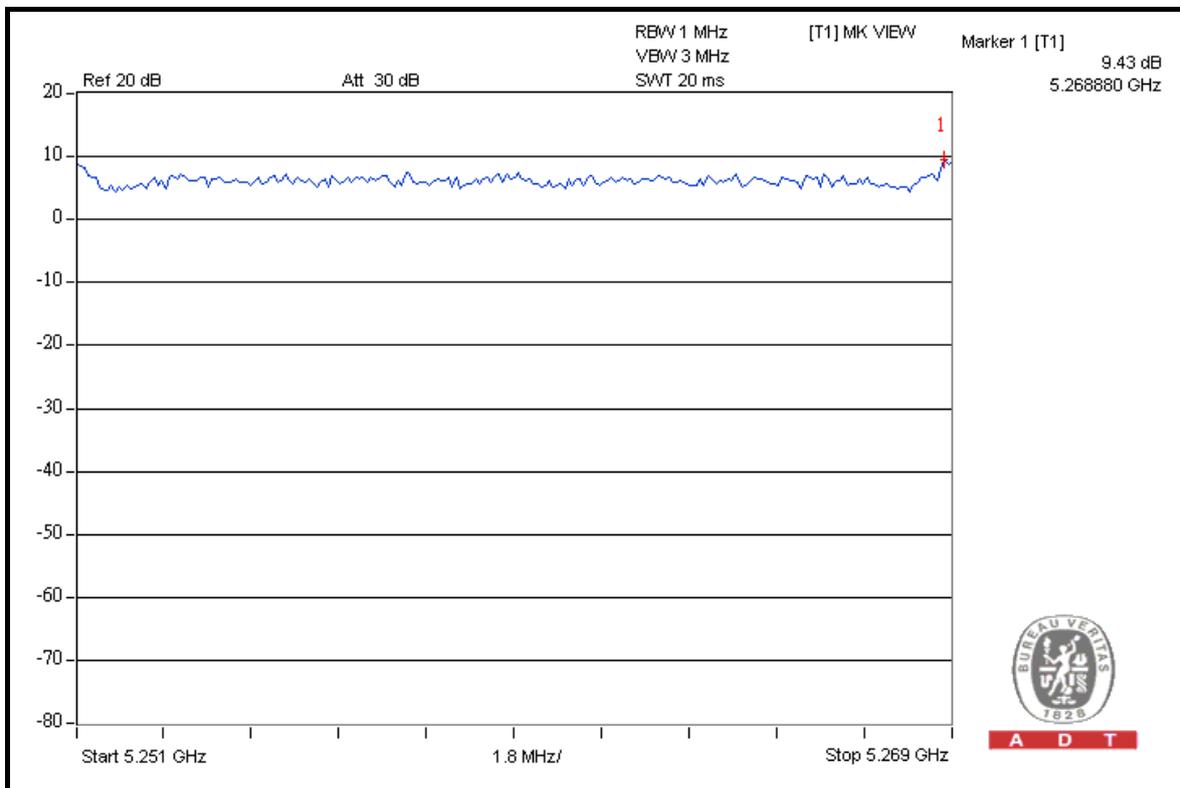
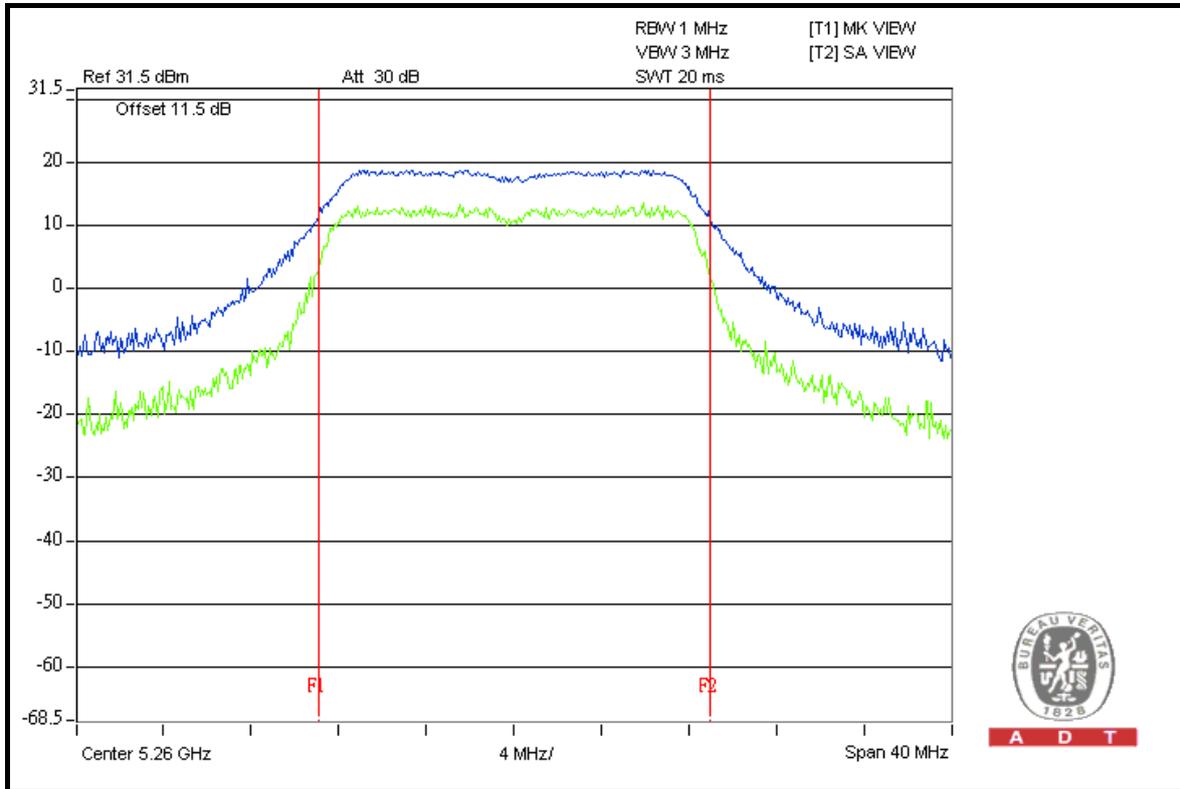
802.11n (20MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER EXCURSION (dB)		PEAK to AVERAGE EXCURSION LIMIT (dB)	PASS/FAIL
		CHAIN 0	CHAIN 1		
36	5180	7.85	8.12	13	PASS
40	5200	7.26	7.40	13	PASS
48	5240	8.44	8.10	13	PASS
52	5260	9.43	8.42	13	PASS
60	5300	9.23	8.91	13	PASS
64	5320	8.66	8.96	13	PASS
100	5500	9.09	8.51	13	PASS
116	5580	7.35	7.76	13	PASS
136	5680	7.65	8.08	13	PASS
140	5700	9.16	8.36	13	PASS



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FOR CHAIN 0: CH 52





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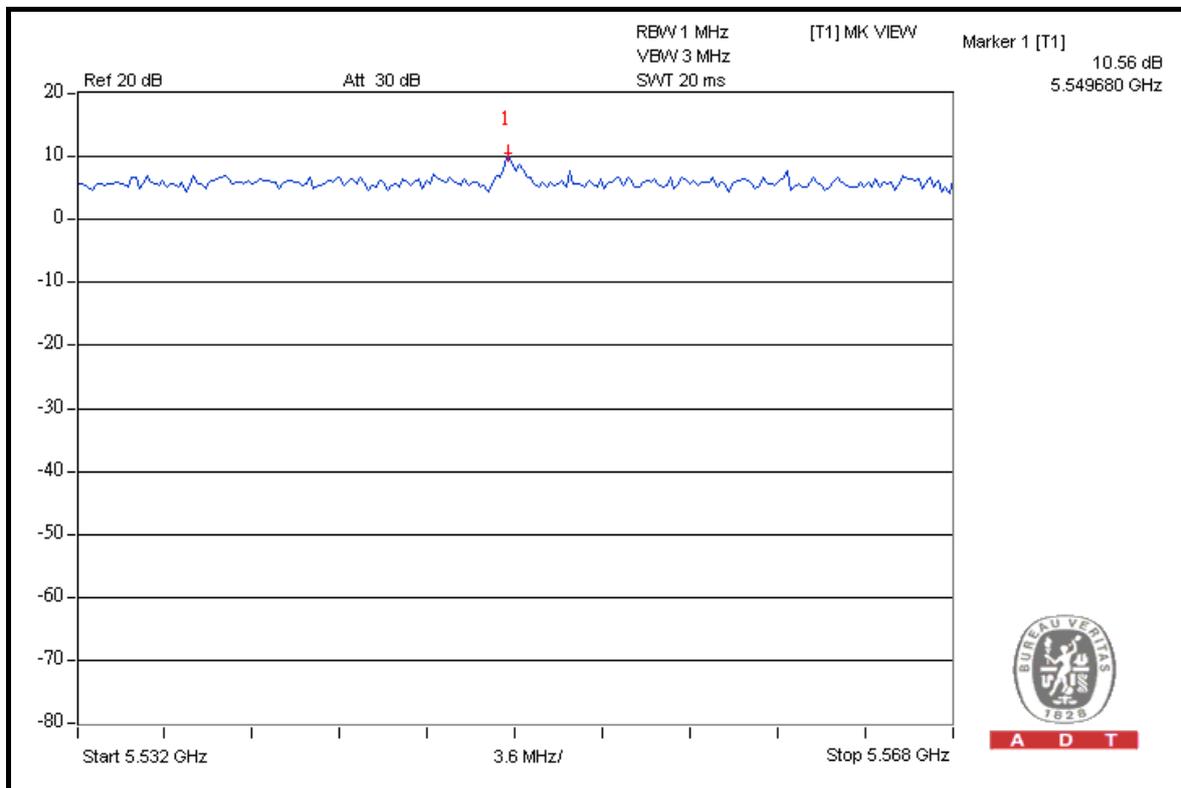
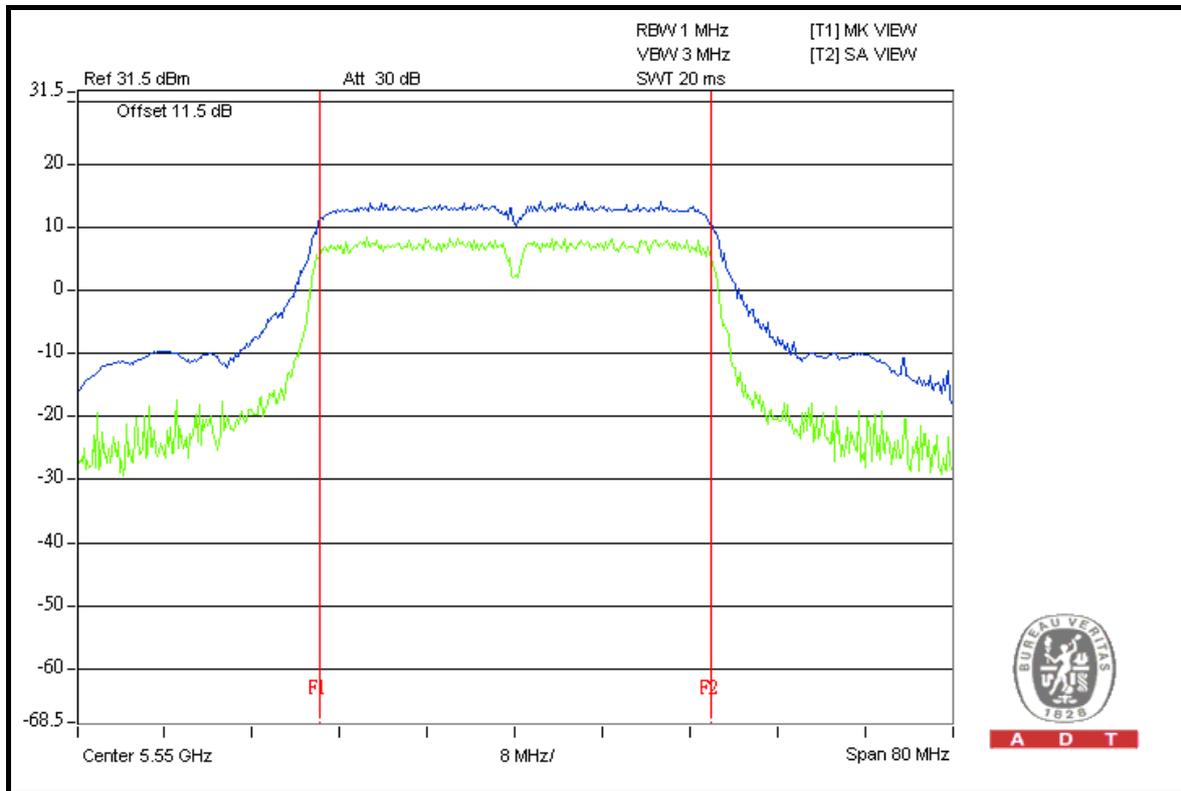
802.11n (40MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER EXCURSION (dB)		PEAK to AVERAGE EXCURSION LIMIT (dB)	PASS/FAIL
		CHAIN 0	CHAIN 1		
38	5190	8.07	8.20	13	PASS
46	5230	8.93	9.22	13	PASS
54	5270	10.42	9.65	13	PASS
62	5310	8.39	9.94	13	PASS
102	5510	10.21	8.96	13	PASS
110	5550	9.71	10.56	13	PASS



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FOR CHAIN 1: CH 110



4.5 PEAK POWER SPECTRAL DENSITY MEASUREMENT

4.5.1 LIMITS OF PEAK POWER SPECTRAL DENSITY MEASUREMENT

FREQUENCY BAND	LIMIT
5.15 ~ 5.25GHz	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	CALIBRATED UNTIL
R&S SPECTRUM ANALYZER	FSP40	100040	Jul. 07, 2009	Jul. 06, 2010

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

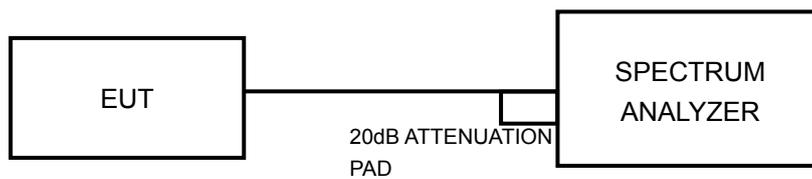
4.5.3 TEST PROCEDURES

- 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 4.4.6.



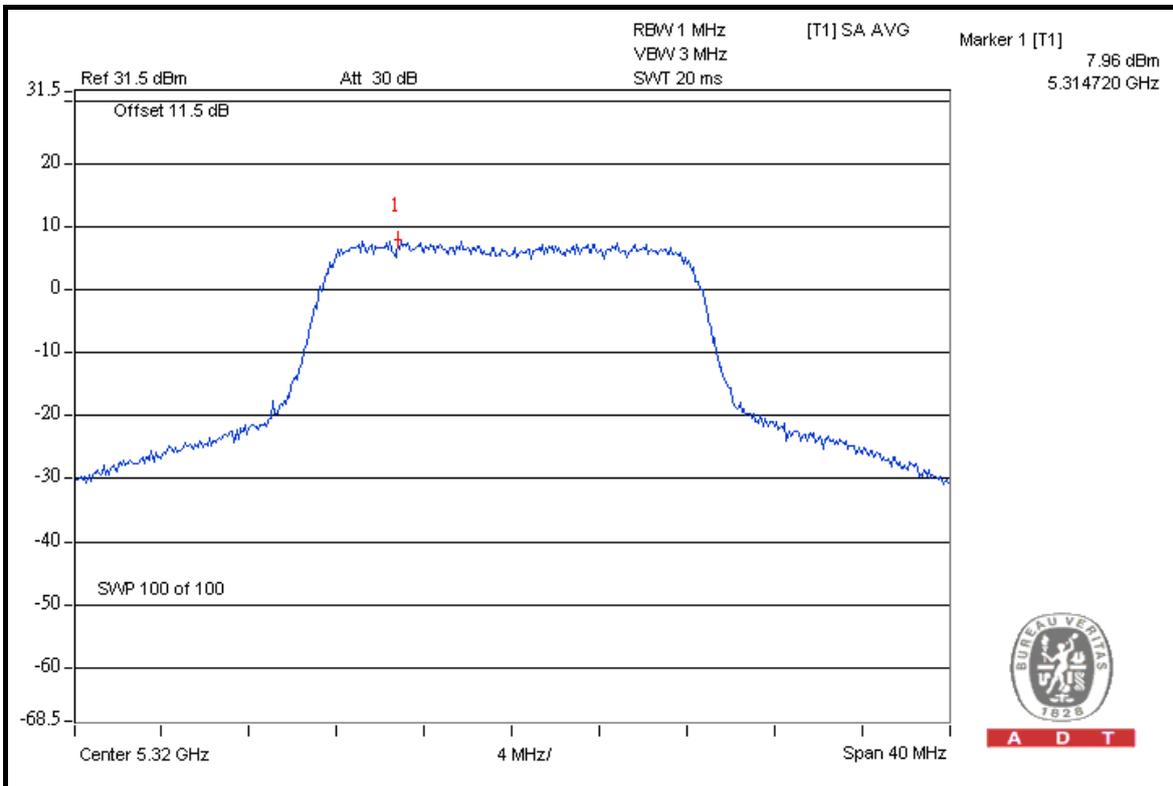
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4.5.7 TEST RESULTS

802.11a

CHAN.	CHAN. FREQ. (MHz)	RF POWER LEVEL IN 1MHz BW (dBm)		TOTAL POWER DENSITY (dBm)	MAX. LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1			
36	5180	0.9	0.6	3.8	4	PASS
40	5200	0.7	0.8	3.8	4	PASS
48	5240	0.2	0.9	3.6	4	PASS
52	5260	7.6	7.9	10.8	11	PASS
60	5300	8.0	7.4	10.7	11	PASS
64	5320	7.9	8.0	10.9	11	PASS
100	5500	5.9	6.1	9.0	11	PASS
116	5580	4.3	4.4	7.3	11	PASS
136	5680	3.9	3.7	6.8	11	PASS
140	5700	4.2	4.1	7.2	11	PASS

FOR CHAIN 1: CH 64



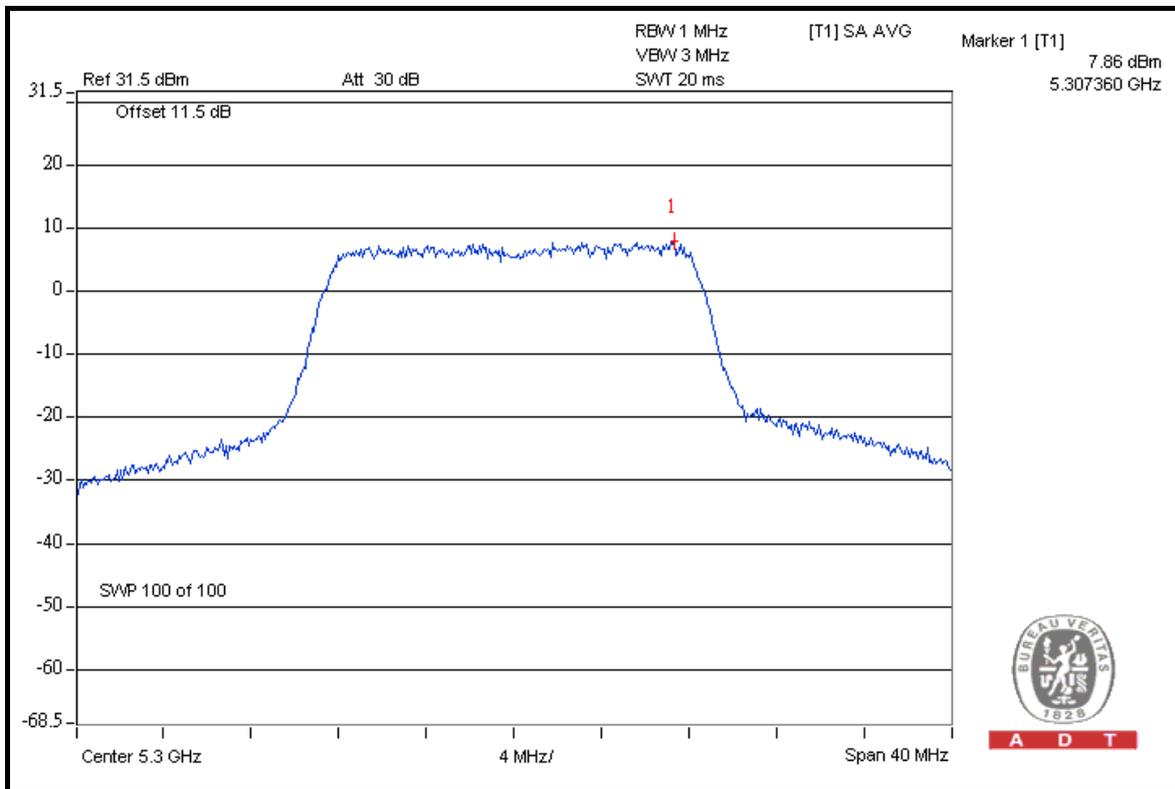


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802.11n (20MHz)

CHAN.	CHAN. FREQ. (MHz)	RF POWER LEVEL IN 1MHz BW (dBm)		TOTAL POWER DENSITY (dBm)	MAX. LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1			
36	5180	1.0	0.5	3.8	4	PASS
40	5200	0.7	0.8	3.7	4	PASS
48	5240	0.4	0.7	3.6	4	PASS
52	5260	7.6	7.8	10.7	11	PASS
60	5300	7.6	7.9	10.8	11	PASS
64	5320	6.1	7.4	9.8	11	PASS
100	5500	5.8	5.7	8.8	11	PASS
116	5580	4.1	4.1	7.1	11	PASS
136	5680	3.7	3.7	6.7	11	PASS
140	5700	5.0	4.9	7.9	11	PASS

FOR CHAIN 1: CH 60



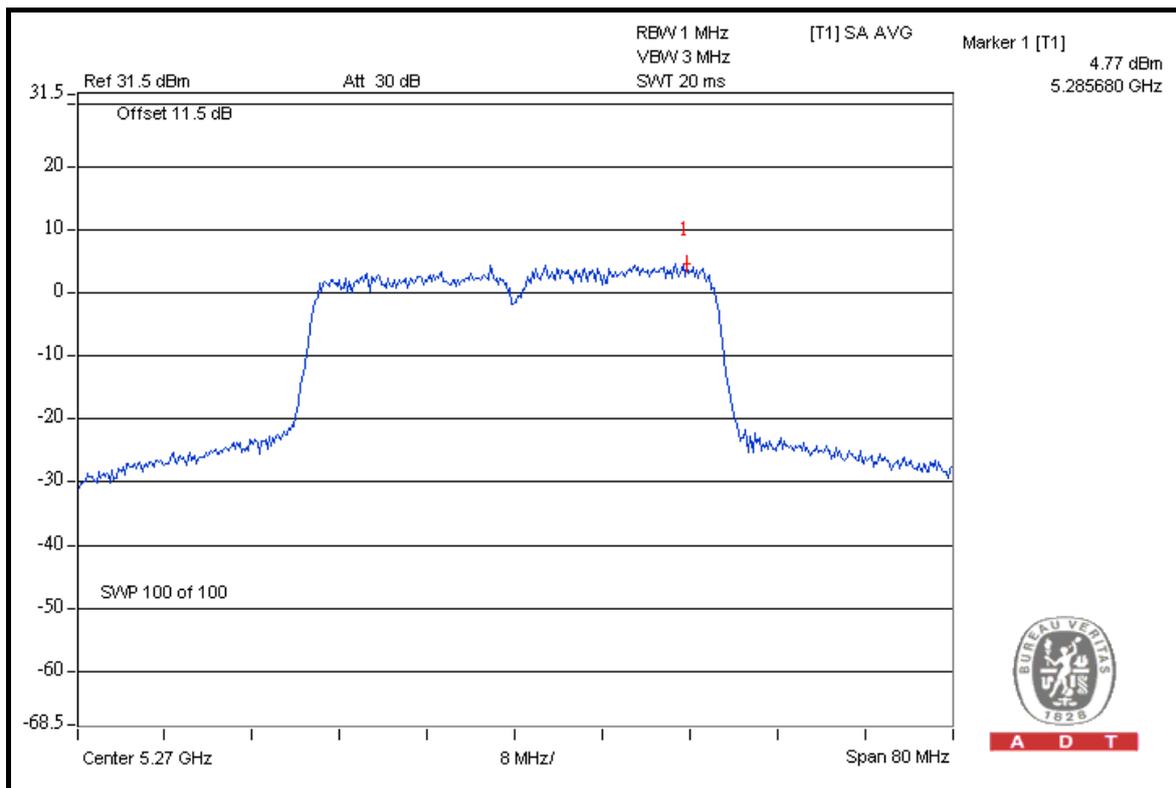


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802.11n (40MHz)

CHAN.	CHAN. FREQ. (MHz)	RF POWER LEVEL IN 1MHz BW (dBm)		TOTAL POWER DENSITY (dBm)	MAX. LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1			
38	5190	-1.4	-1.7	1.5	4	PASS
46	5230	-1.6	-1.7	1.4	4	PASS
54	5270	4.6	4.8	7.7	11	PASS
62	5310	0.4	-0.1	3.2	11	PASS
102	5510	-1.9	-1.2	1.5	11	PASS
110	5550	3.9	3.9	6.9	11	PASS

FOR CHAIN 1: CH 54



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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	CALIBRATED UNTIL
R&S SPECTRUM ANALYZER	FSP40	100040	Jul. 07, 2009	Jul. 06, 2010
WIT STANDARD TEMPERATURE AND HUMIDITY CHAMBER	TH-4S-C	W981030	Jun. 24, 2009	Jun. 23, 2010

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

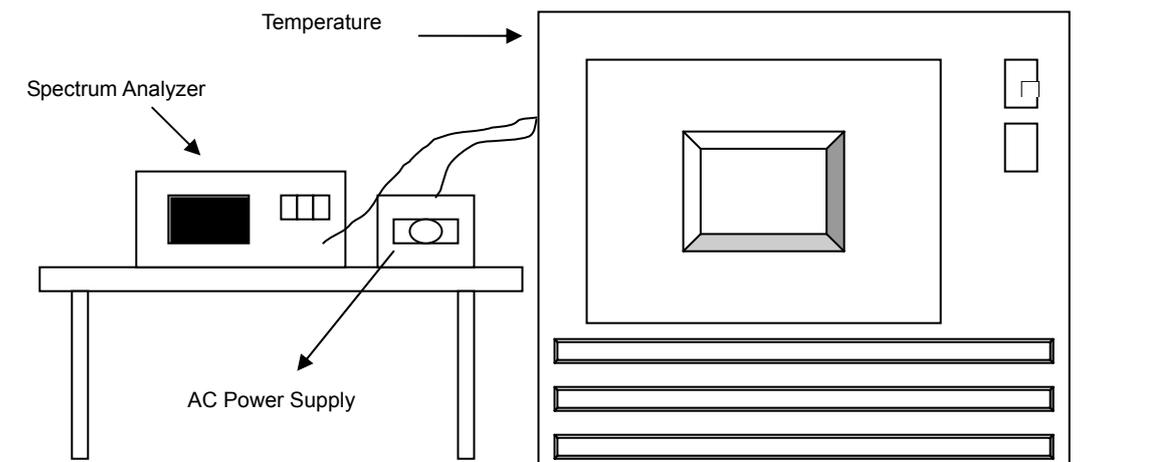
4.6.3 TEST PROCEDURE

- 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: 5200MHz									
TEMP. (°C)	POWER SUPPLY (Vac)	0 MINUTE		2 MINUTE		5 MINUTE		10 MINUTE	
		Measured Frequency	Frequency Drift	Measured Frequency	Frequency Drift	Measured Frequency	Frequency Drift	Measured Frequency	Frequency Drift
		(MHz)	ppm	(MHz)	ppm	(MHz)	ppm	(MHz)	ppm
50	110.0	5199.996578	-0.658	5199.996892	-0.598	5199.996625	-0.649	5199.996766	-0.622
40	110.0	5199.996829	-0.610	5199.997122	-0.553	5199.996999	-0.577	5199.996846	-0.607
30	110.0	5199.996665	-0.641	5199.996957	-0.585	5199.996586	-0.657	5199.996842	-0.607
20	110.0	5199.997105	-0.557	5199.997397	-0.501	5199.997403	-0.499	5199.997253	-0.528
10	110.0	5199.996061	-0.757	5199.996102	-0.750	5199.996555	-0.662	5199.996169	-0.737
0	110.0	5199.996828	-0.610	5199.997062	-0.565	5199.996918	-0.593	5199.997315	-0.516
-10	110.0	5199.996482	-0.677	5199.996658	-0.643	5199.996848	-0.606	5199.996746	-0.626
-20	110.0	5199.997082	-0.561	5199.997442	-0.492	5199.997120	-0.554	5199.997355	-0.509
-30	110.0	5199.996647	-0.645	5199.996460	-0.681	5199.996456	-0.682	5199.996719	-0.631

FREQUENCY STABILITY VERSUS VOLTAGE									
OPERATING FREQUENCY: 5200MHz									
TEMP. (°C)	POWER SUPPLY (Vac)	0 MINUTE		2 MINUTE		5 MINUTE		10 MINUTE	
		Measured Frequency	Frequency Drift	Measured Frequency	Frequency Drift	Measured Frequency	Frequency Drift	Measured Frequency	Frequency Drift
		(MHz)	ppm	(MHz)	ppm	(MHz)	ppm	(MHz)	ppm
20	93.5	5199.996578	-0.658	5199.996743	-0.626	5199.996674	-0.640	5199.997066	-0.564
	110.0	5199.997105	-0.557	5199.997397	-0.501	5199.997403	-0.499	5199.997253	-0.528
	126.5	5199.996665	-0.641	5199.996946	-0.587	5199.997091	-0.559	5199.997094	-0.559



FREQUENCY STABILITY VERSUS TEMP.									
OPERATING FREQUENCY: 5320MHz									
TEMP. (°C)	POWER SUPPLY (Vac)	0 MINUTE		2 MINUTE		5 MINUTE		10 MINUTE	
		Measured Frequency	Frequency Drift						
		(MHz)	ppm	(MHz)	ppm	(MHz)	ppm	(MHz)	ppm
50	110.0	5319.996882	-0.586	5319.996731	-0.614	5319.996766	-0.608	5319.997110	-0.543
40	110.0	5319.996883	-0.586	5319.996573	-0.644	5319.996835	-0.595	5319.997036	-0.557
30	110.0	5319.996565	-0.646	5319.996956	-0.572	5319.996790	-0.603	5319.996765	-0.608
20	110.0	5319.996985	-0.567	5319.997494	-0.471	5319.997436	-0.482	5319.997061	-0.552
10	110.0	5319.996137	-0.726	5319.996248	-0.705	5319.995756	-0.798	5319.995922	-0.767
0	110.0	5319.996574	-0.644	5319.997070	-0.551	5319.996732	-0.614	5319.997253	-0.516
-10	110.0	5319.996529	-0.652	5319.996591	-0.641	5319.996487	-0.660	5319.996581	-0.643
-20	110.0	5319.997704	-0.432	5319.997186	-0.529	5319.997541	-0.462	5319.997360	-0.496
-30	110.0	5319.996882	-0.586	5319.996587	-0.642	5319.996894	-0.584	5319.996736	-0.614

FREQUENCY STABILITY VERSUS VOLTAGE									
OPERATING FREQUENCY: 5320MHz									
TEMP. (°C)	POWER SUPPLY (Vac)	0 MINUTE		2 MINUTE		5 MINUTE		10 MINUTE	
		Measured Frequency	Frequency Drift						
		(MHz)	ppm	(MHz)	ppm	(MHz)	ppm	(MHz)	ppm
20	93.5	5319.997269	-0.513	5319.997555	-0.460	5319.997425	-0.484	5319.997546	-0.461
	110.0	5319.996985	-0.567	5319.997494	-0.471	5319.997436	-0.482	5319.997061	-0.552
	126.5	5319.996935	-0.576	5319.996757	-0.610	5319.997253	-0.516	5319.996963	-0.571

4.7 BAND EDGES MEASUREMENT

4.7.1 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Test Receiver ROHDE & SCHWARZ	ESI7	838496/016	Dec. 29, 2009	Dec. 28, 2010
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100041	May 13, 2009	May 12, 2010
BILOG Antenna SCHWARZBECK	VULB9168	9168-155	Apr. 29, 2009	Apr. 28, 2010
HORN Antenna SCHWARZBECK	BBHA 9120D	9120D-209	Jul. 01, 2009	Jun. 30, 2010
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170242	Dec. 25, 2009	Dec. 24, 2010
Preamplifier Agilent	8449B	3008A01961	Nov. 04, 2009	Nov. 03, 2010
Preamplifier Agilent	8447D	2944A10738	Nov. 04, 2009	Nov. 03, 2010
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	274041/4	Aug. 28, 2009	Aug. 27, 2010
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	283397/4	Aug. 28, 2009	Aug. 27, 2010
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. 27, 2009	Aug. 26, 2010

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

- 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. 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.

NOTE: The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 10Hz for Average detection (AV) at frequency above 1GHz

4.7.3 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 5.25GHz 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 5180-5240MHz 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)	110.9	47.73	63.17	74.00
5180.00 (AV)	100.7	51.05	49.65	54.00

RESTRICT BAND (5350 ~ 5460 MHz)

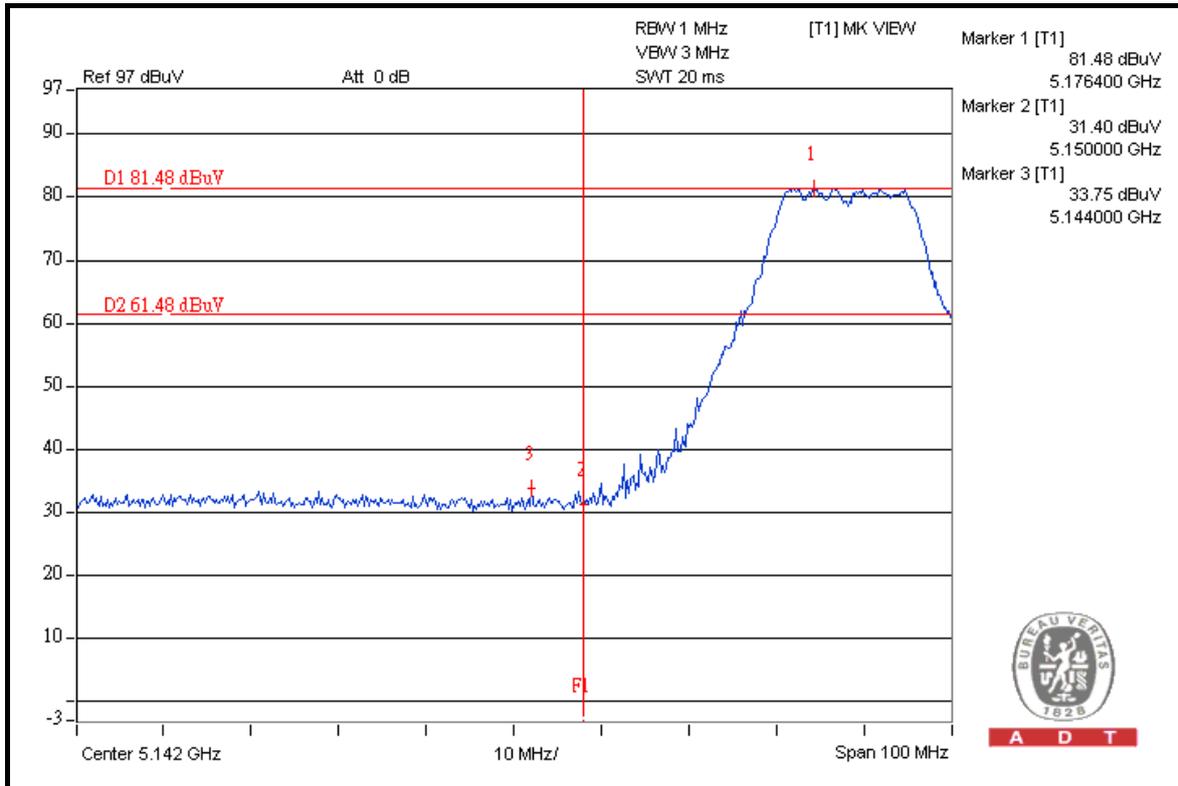
FREQUENCY (MHz)	FUNDAMENTAL EMISSION (dBuV/m)	DELTA (dB)	MAXIMUM FIELD STRENGTH IN RESTRICT BAND (dBuV/m)	LIMIT (dBuV/m)
5240.00 (PK)	110.8	48.78	62.02	74.00
5240.00 (AV)	100.6	50.35	50.25	54.00

NOTE:

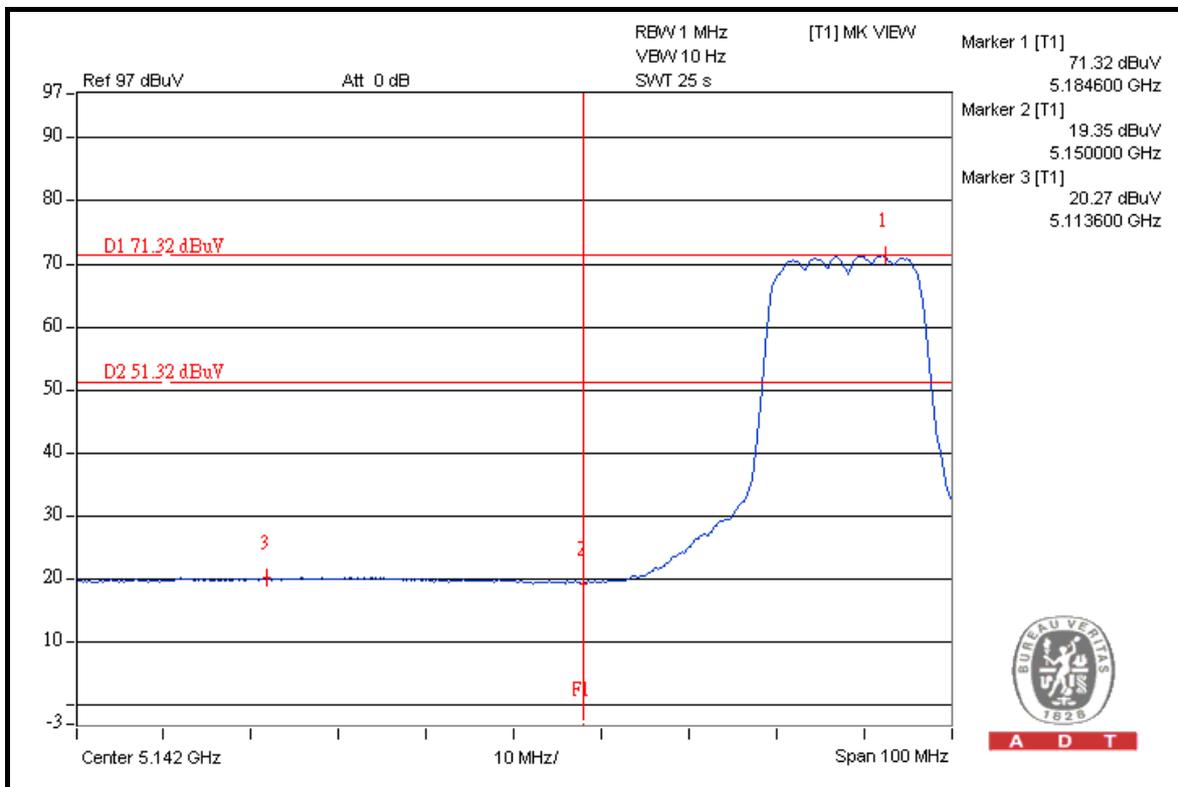
- Delta = Amplitude between the peak of the fundamental and the peak of the band edge emission. Please check following 3 pages.
- Maximum field strength in restrict band = Fundamental emission – Delta.



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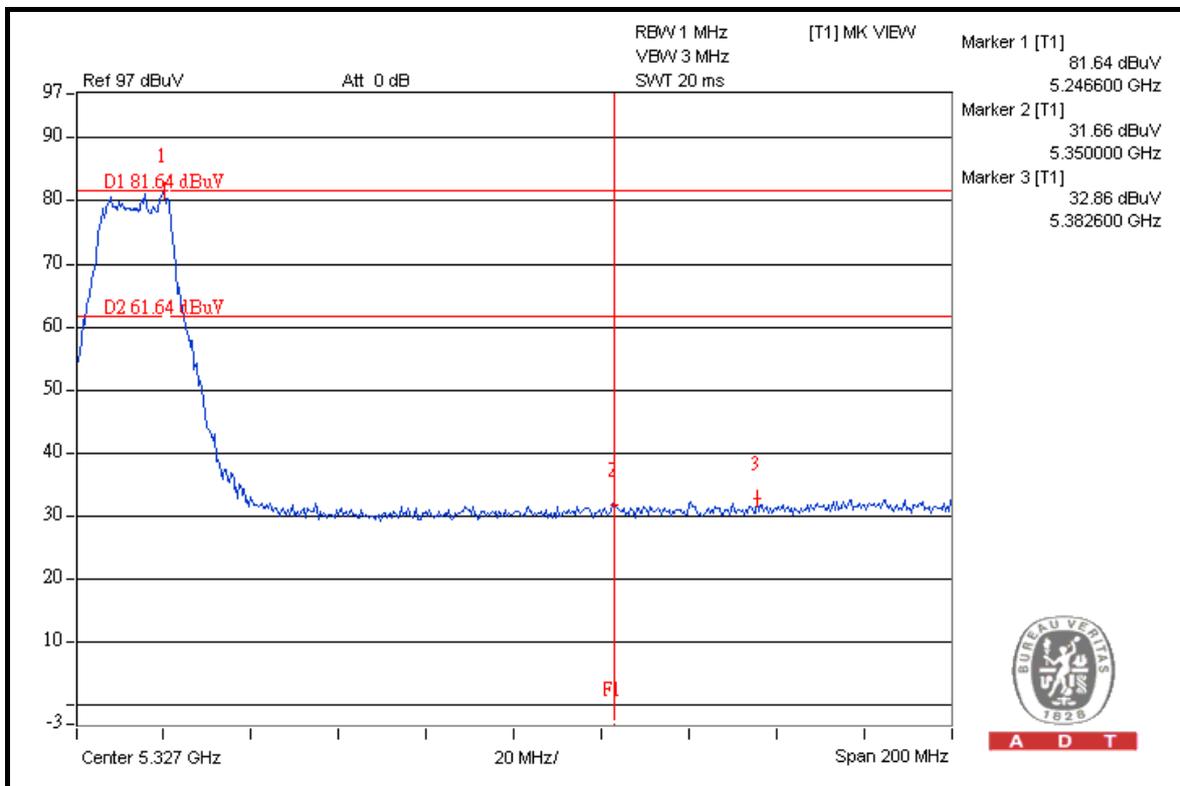
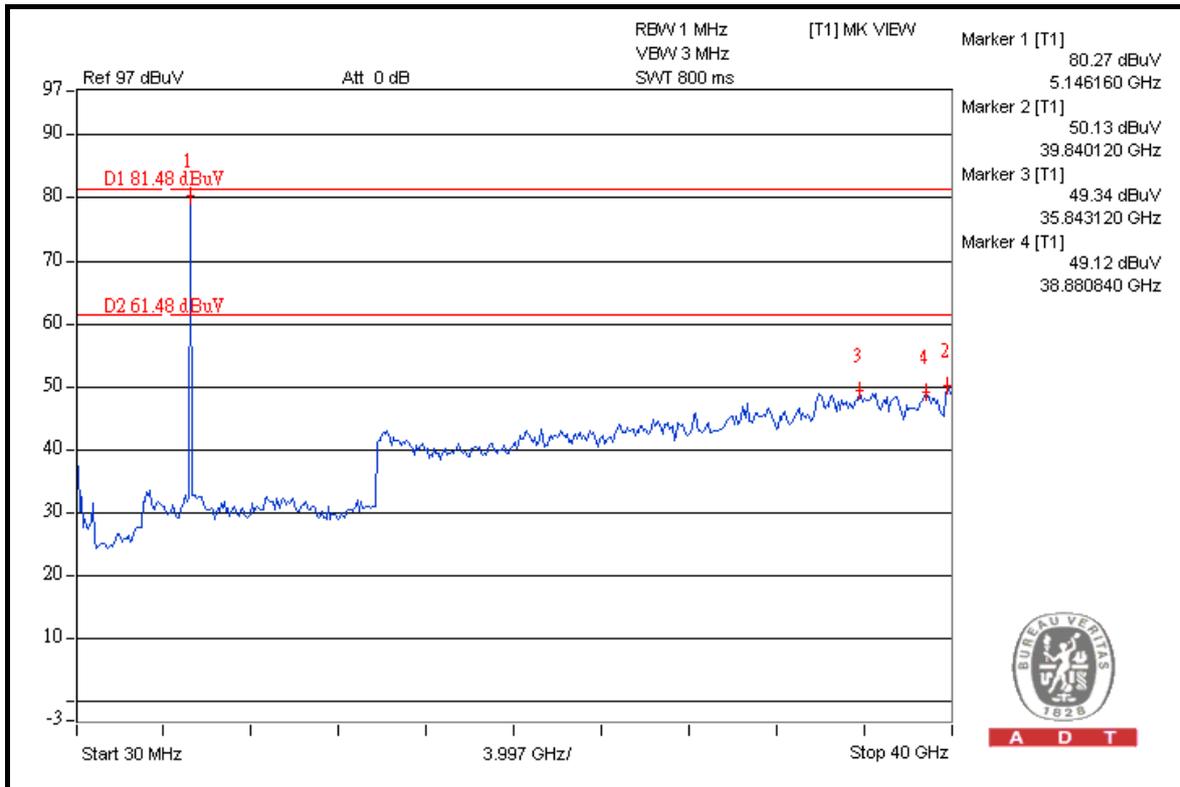
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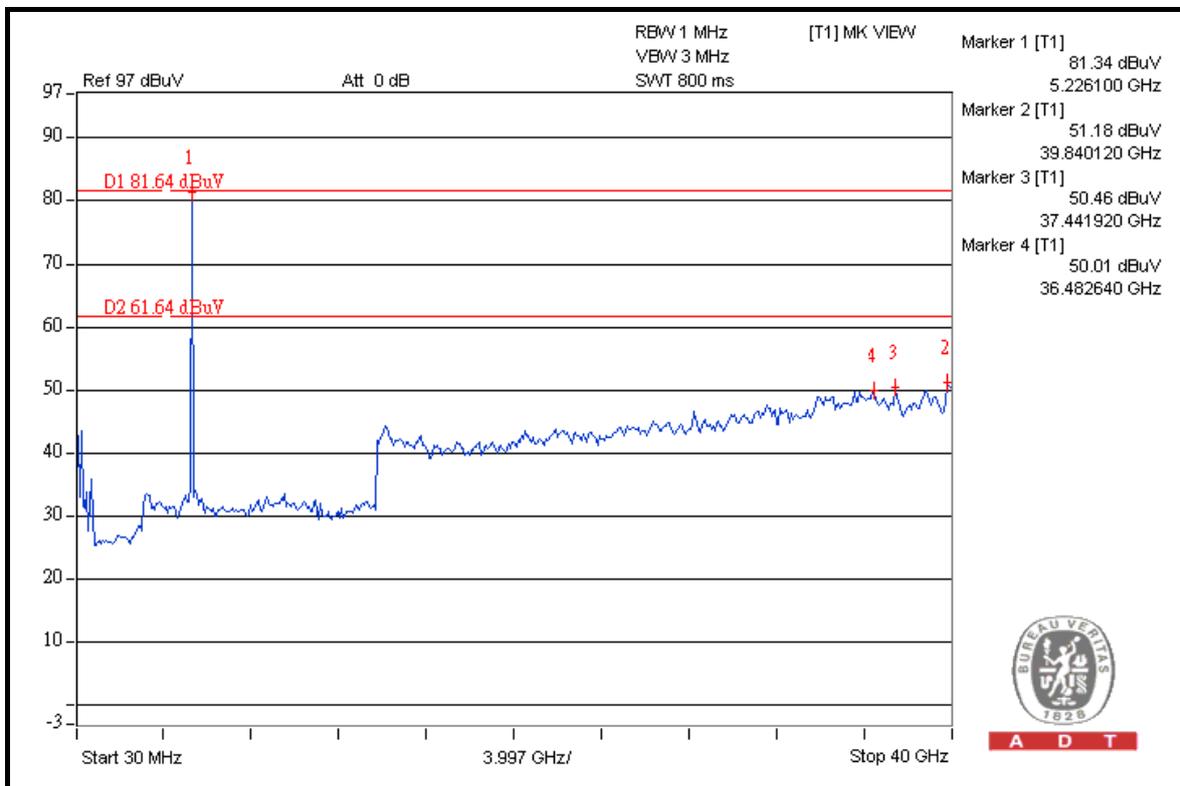
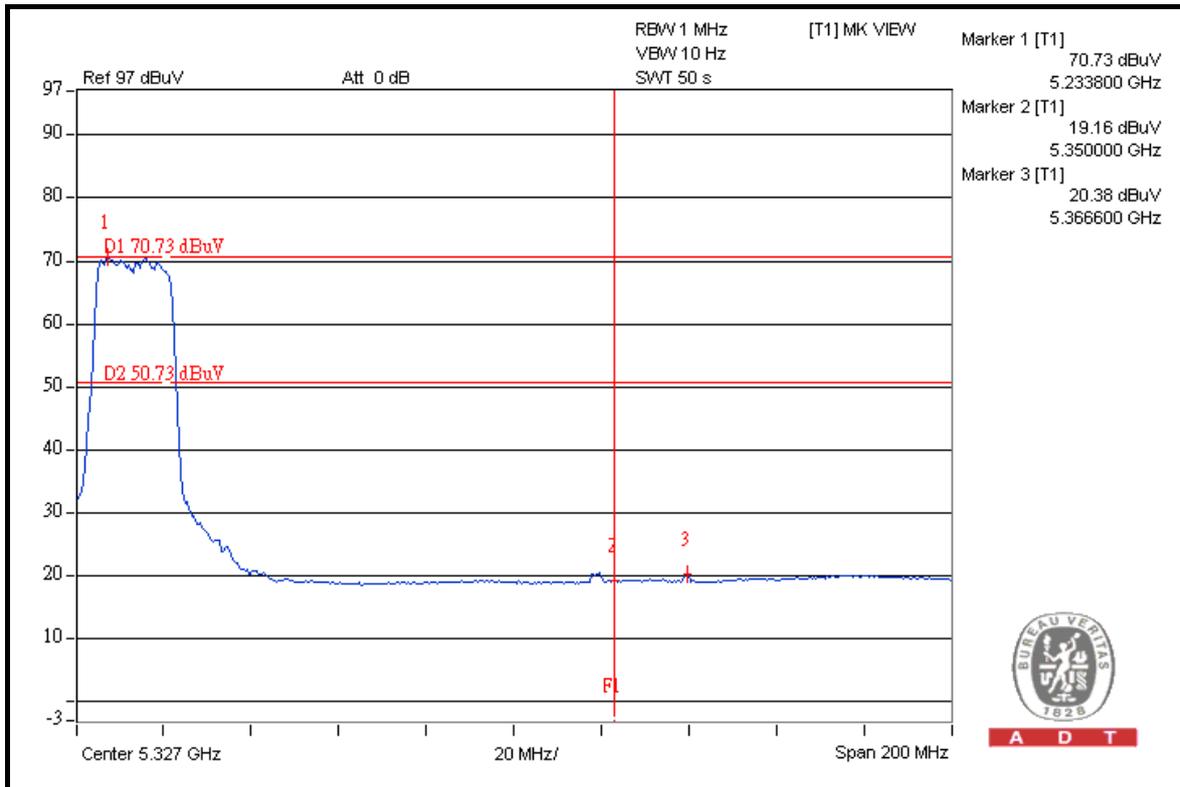


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FOR 5260-5320MHz BAND:

RESTRICT BAND (4500 ~ 5150 MHz)

FREQUENCY (MHz)	FUNDAMENTAL EMISSION (dBuV/m)	DELTA (dB)	MAXIMUM FIELD STRENGTH IN RESTRICT BAND (dBuV/m)	LIMIT (dBuV/m)
5260.00 (PK)	115.0	51.77	63.23	74.00
5260.00 (AV)	103.0	54.66	48.34	54.00

RESTRICT BAND (5350 ~ 5460 MHz)

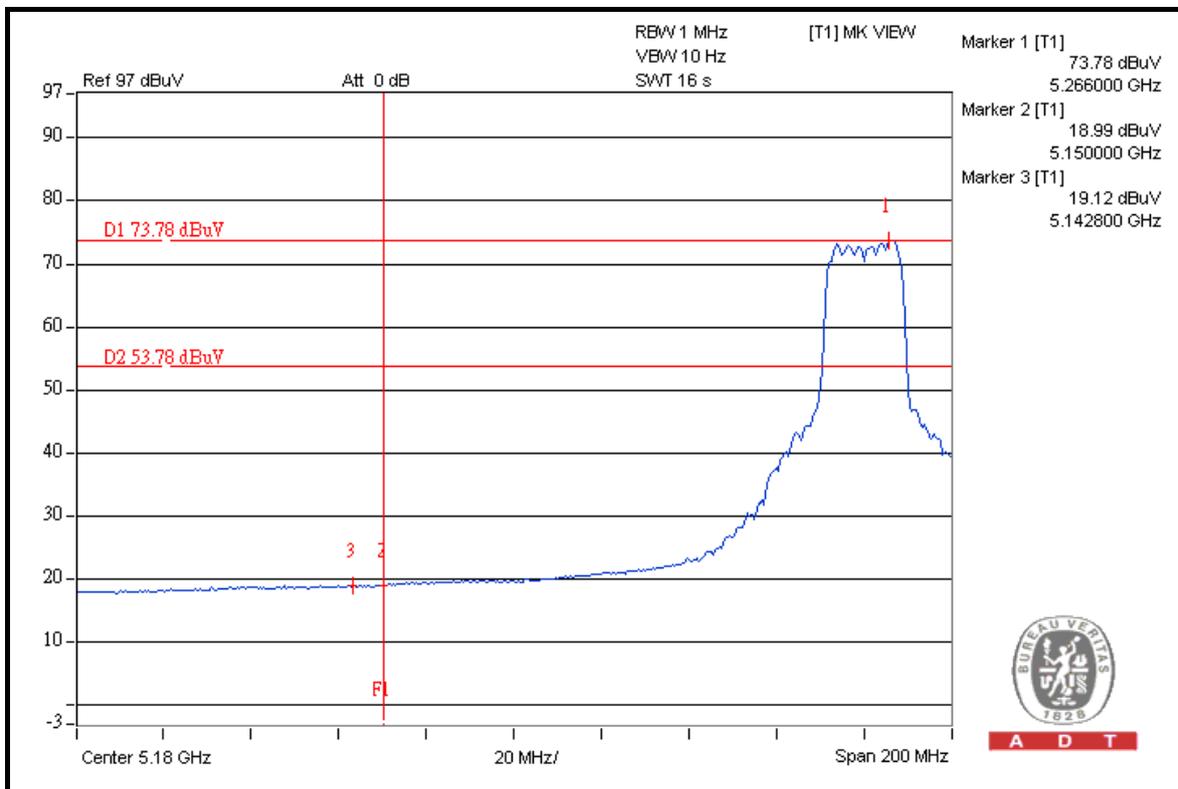
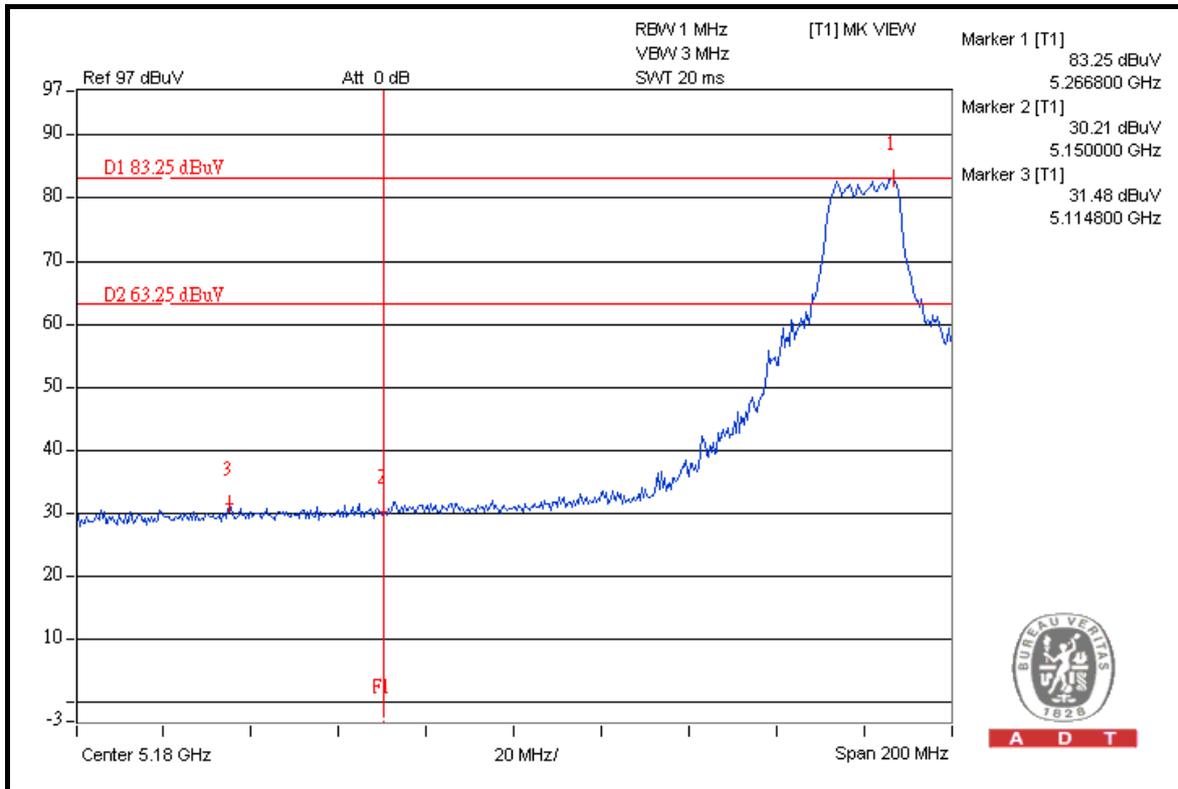
FREQUENCY (MHz)	FUNDAMENTAL EMISSION (dBuV/m)	DELTA (dB)	MAXIMUM FIELD STRENGTH IN RESTRICT BAND (dBuV/m)	LIMIT (dBuV/m)
5320.00 (PK)	113.9	42.50	71.40	74.00
5320.00 (AV)	102.0	50.04	51.96	54.00

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.

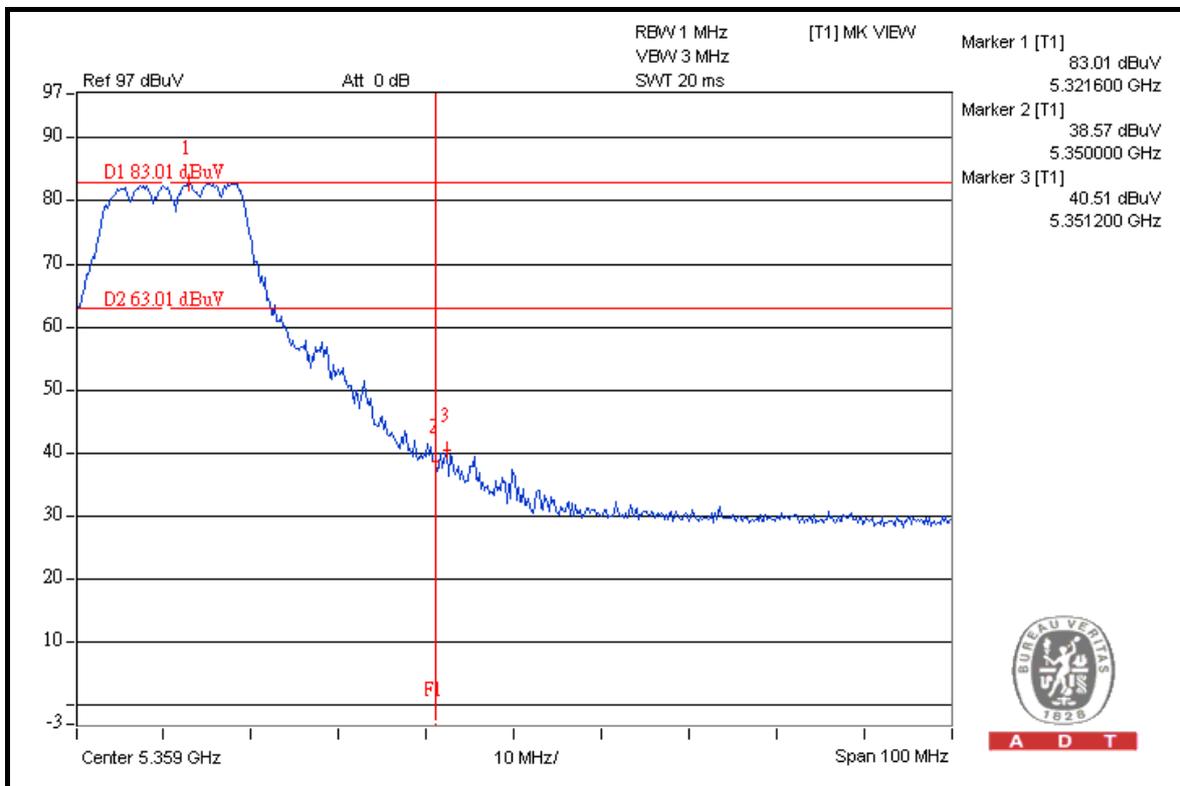
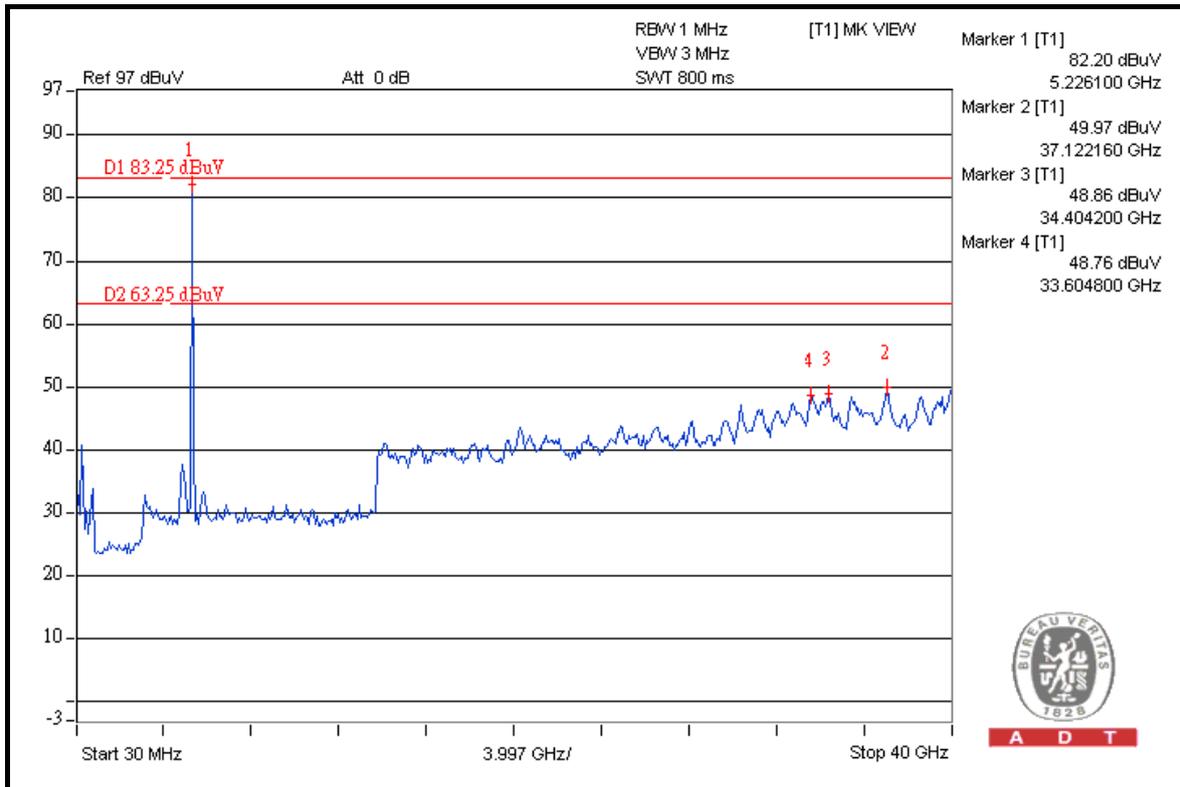


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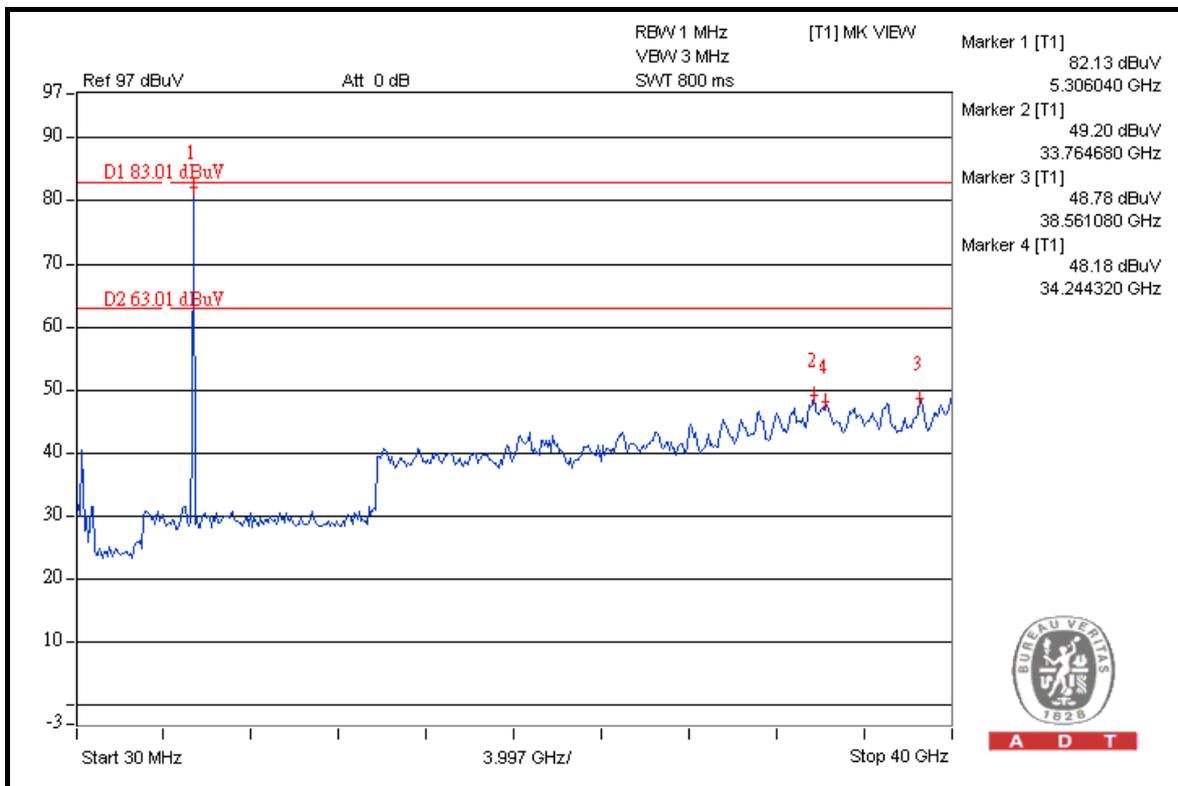
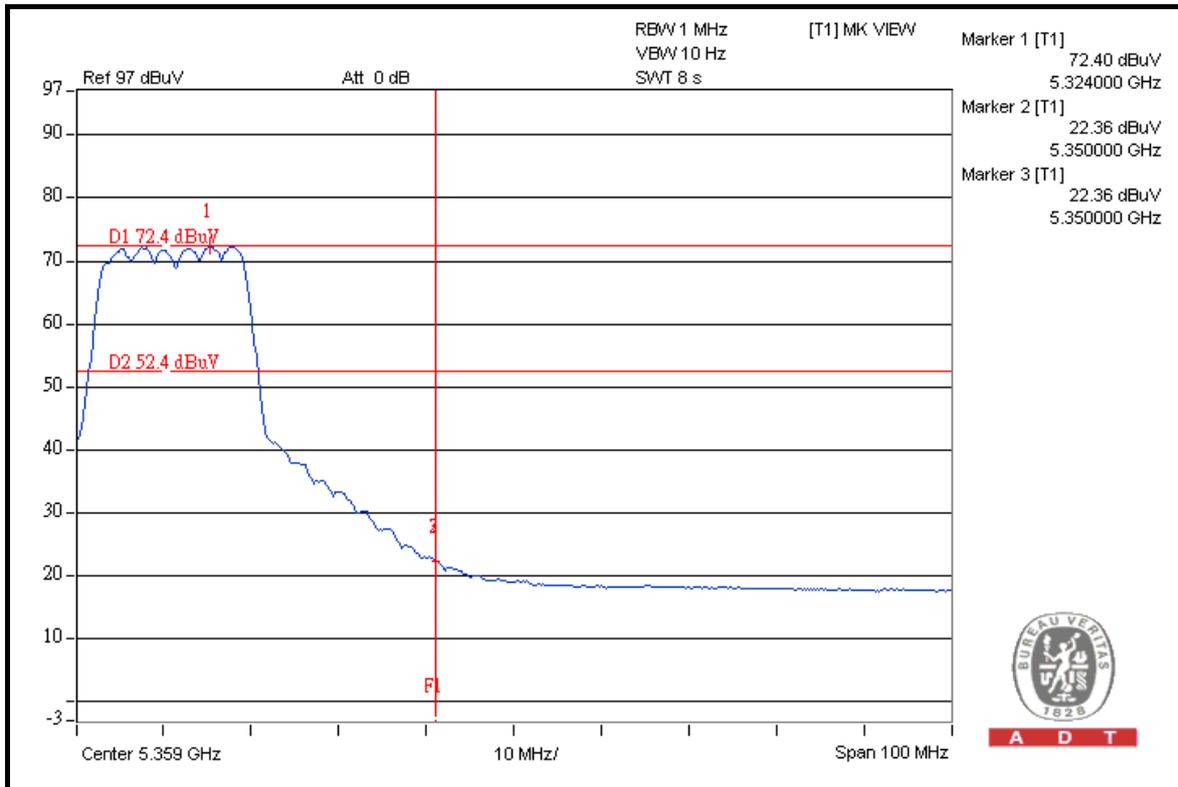


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FOR 5500-5700MHz BAND:

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)	110.1	47.36	62.74	74.00
5500.00 (AV)	98.3	49.98	48.32	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)	110.1	45.07	65.03	68.30

5700MHz

ABOVE 5725 MHz

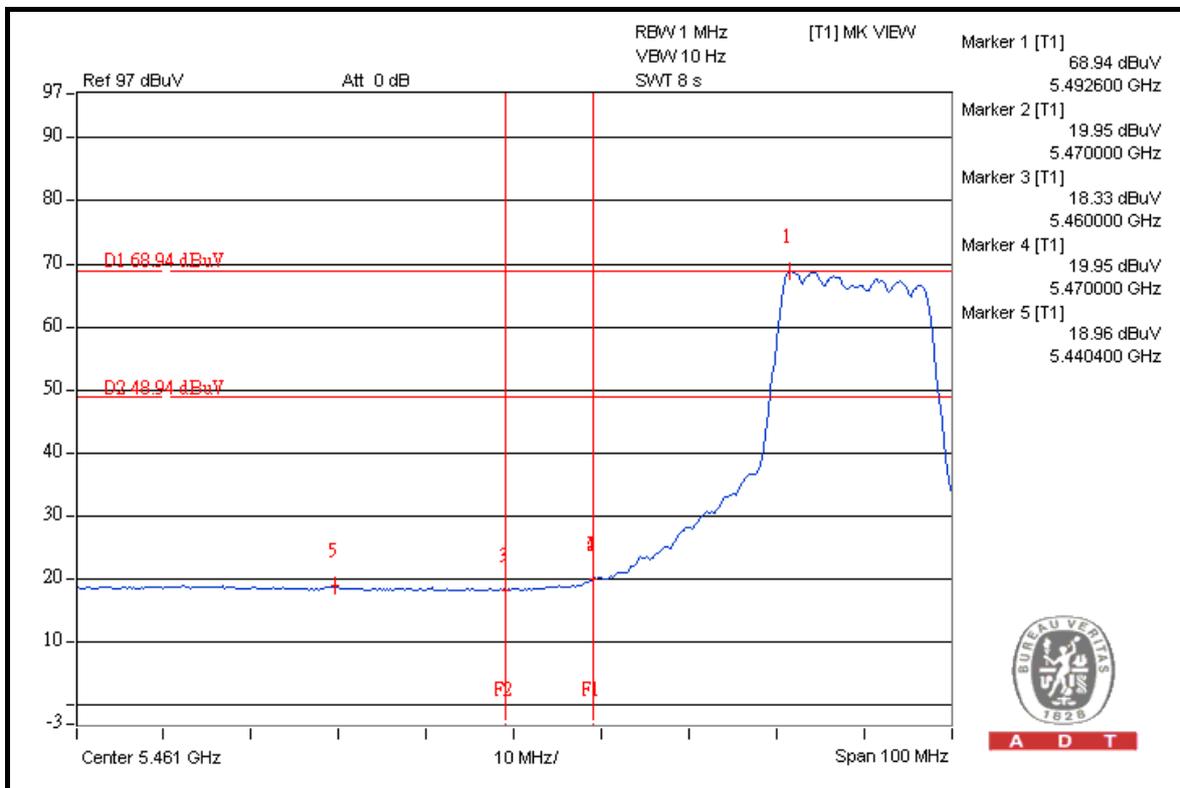
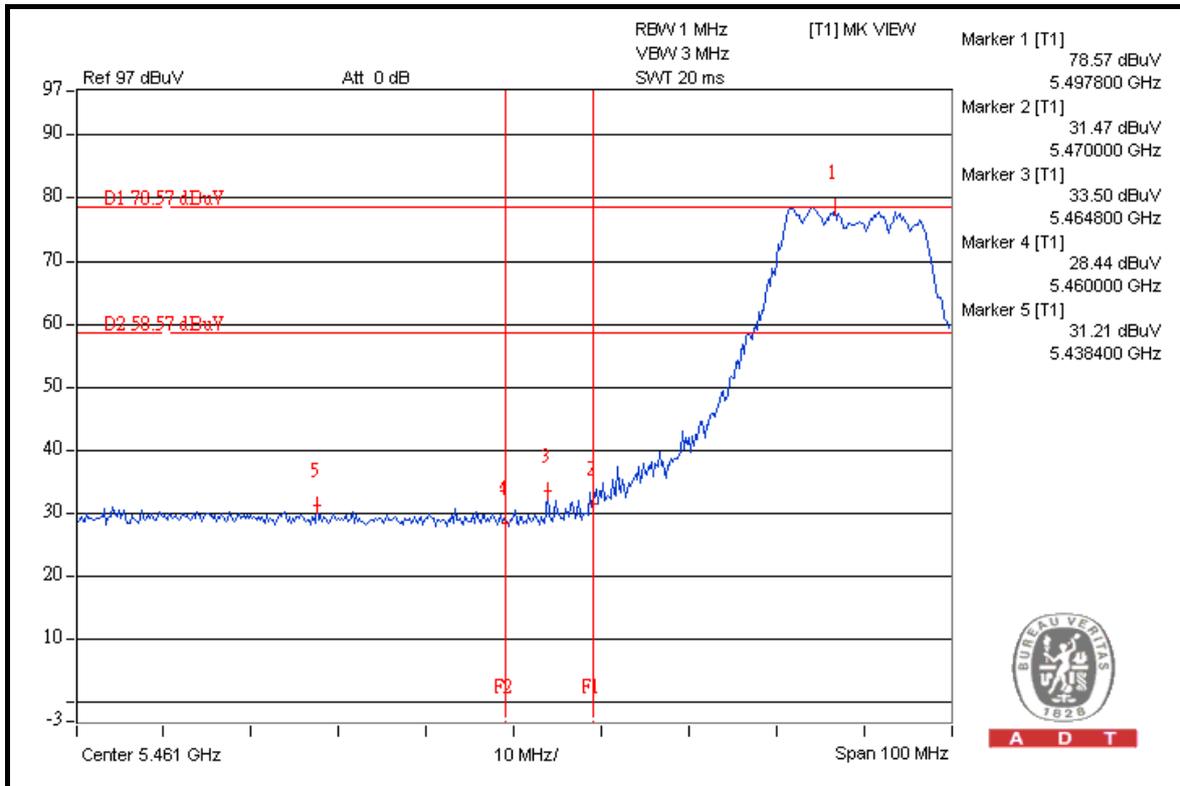
FREQUENCY (MHz)	FUNDAMENTAL EMISSION (dBuV/m)	DELTA (dB)	MAXIMUM FIELD STRENGTH (dBuV/m)	LIMIT (dBuV/m)
5700.00 (PK)	110.3	44.26	66.04	68.30

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.

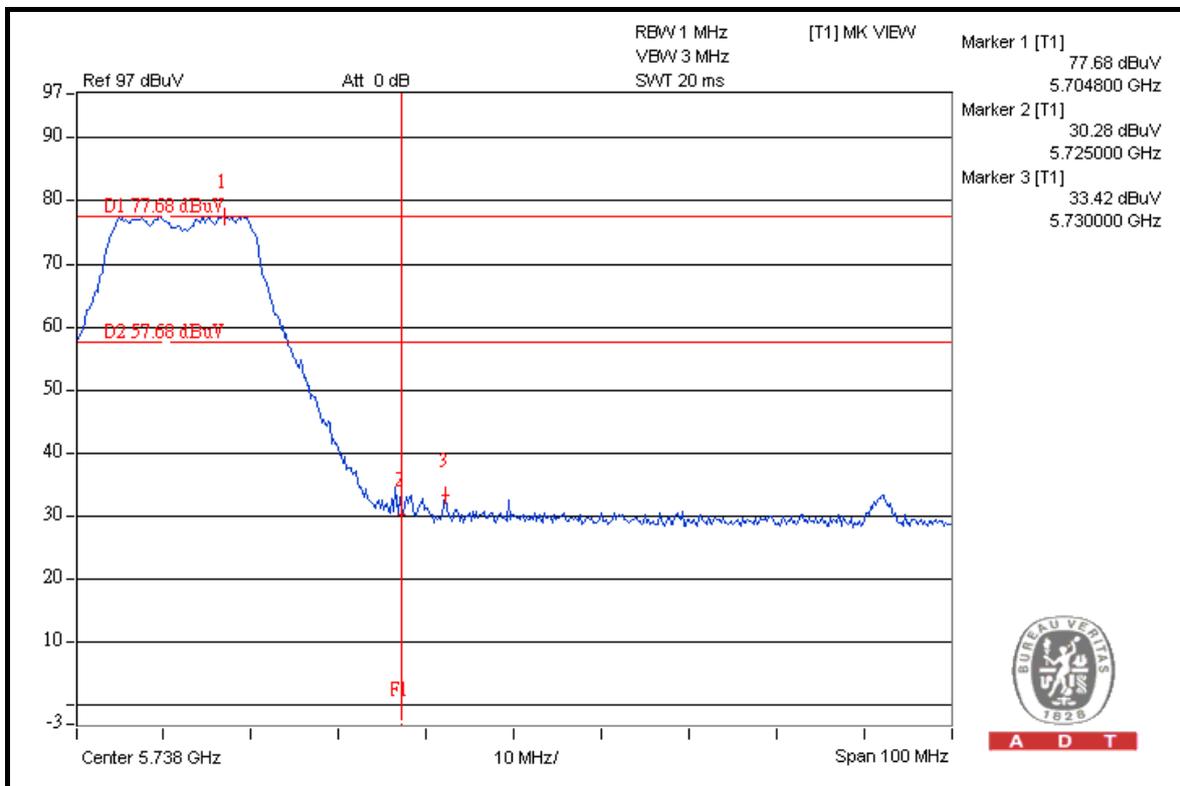
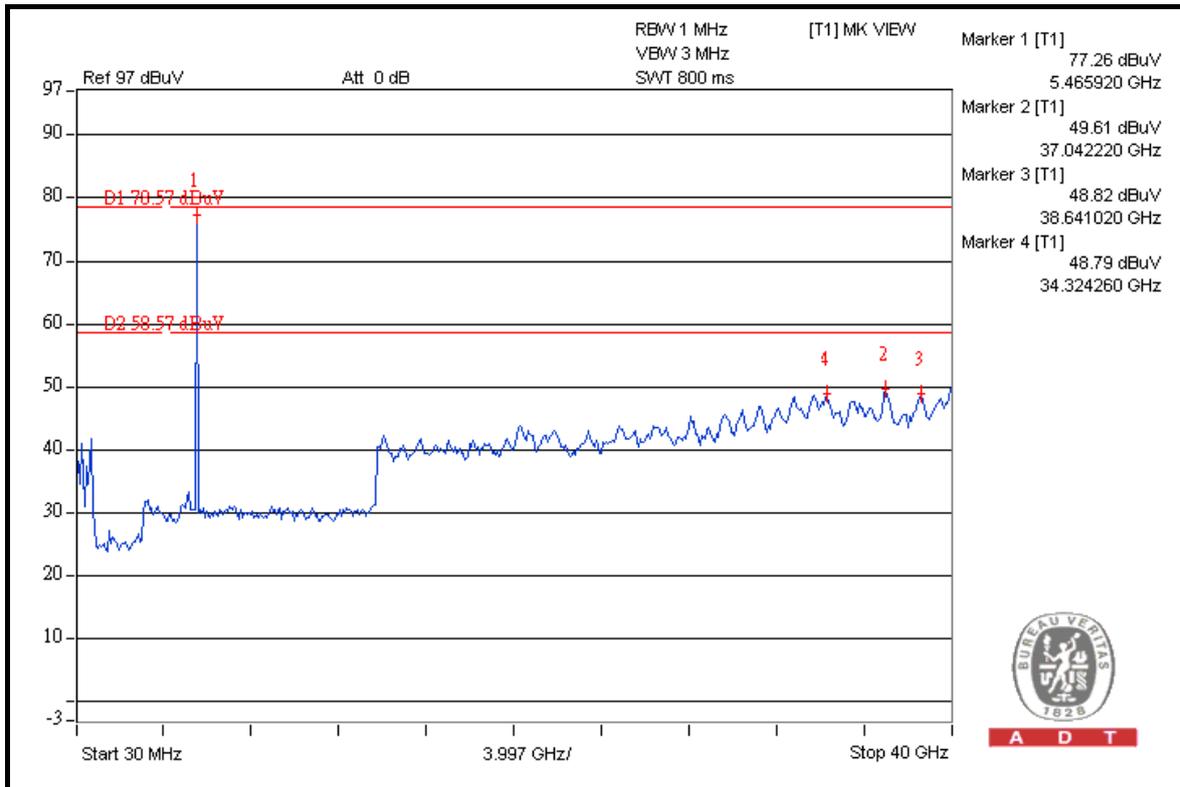


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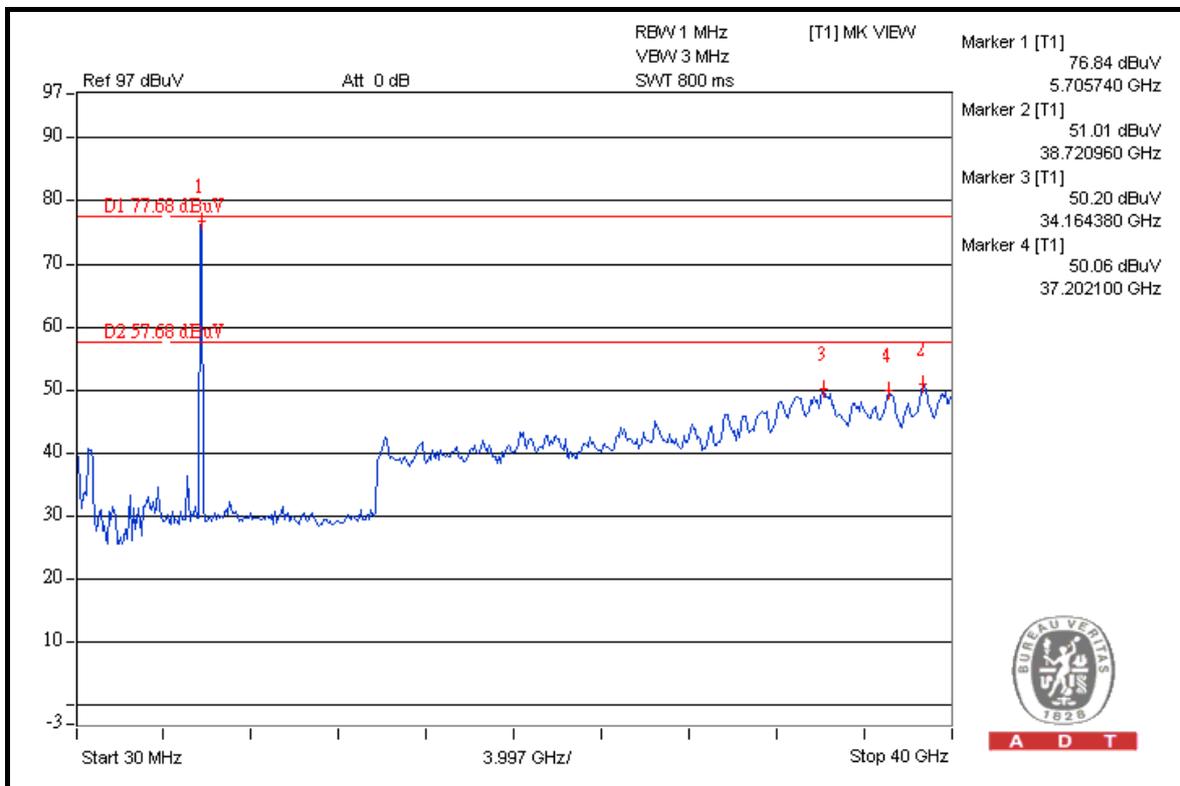
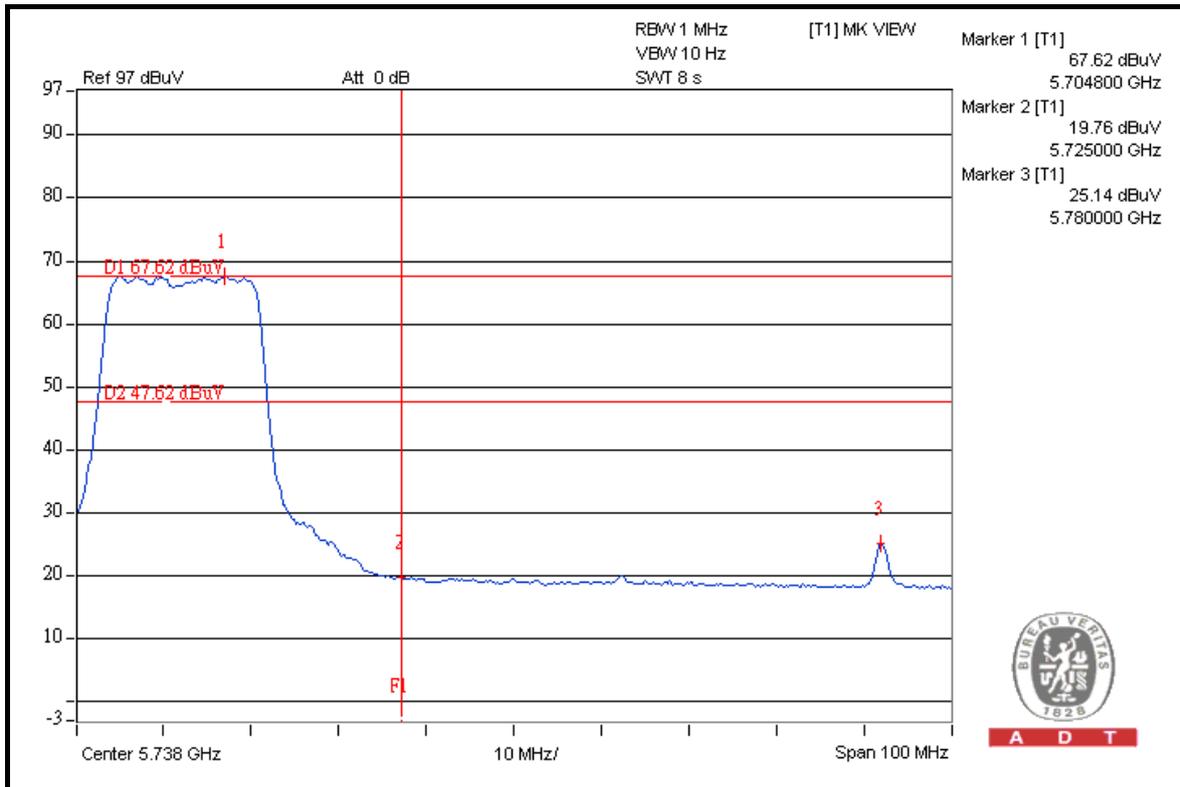


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802.11n (20MHz)

FOR 5180-5240MHz 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)	110.5	48.91	61.59	74.00
5180.00 (AV)	100.6	50.37	50.23	54.00

RESTRICT BAND (5350 ~ 5460 MHz)

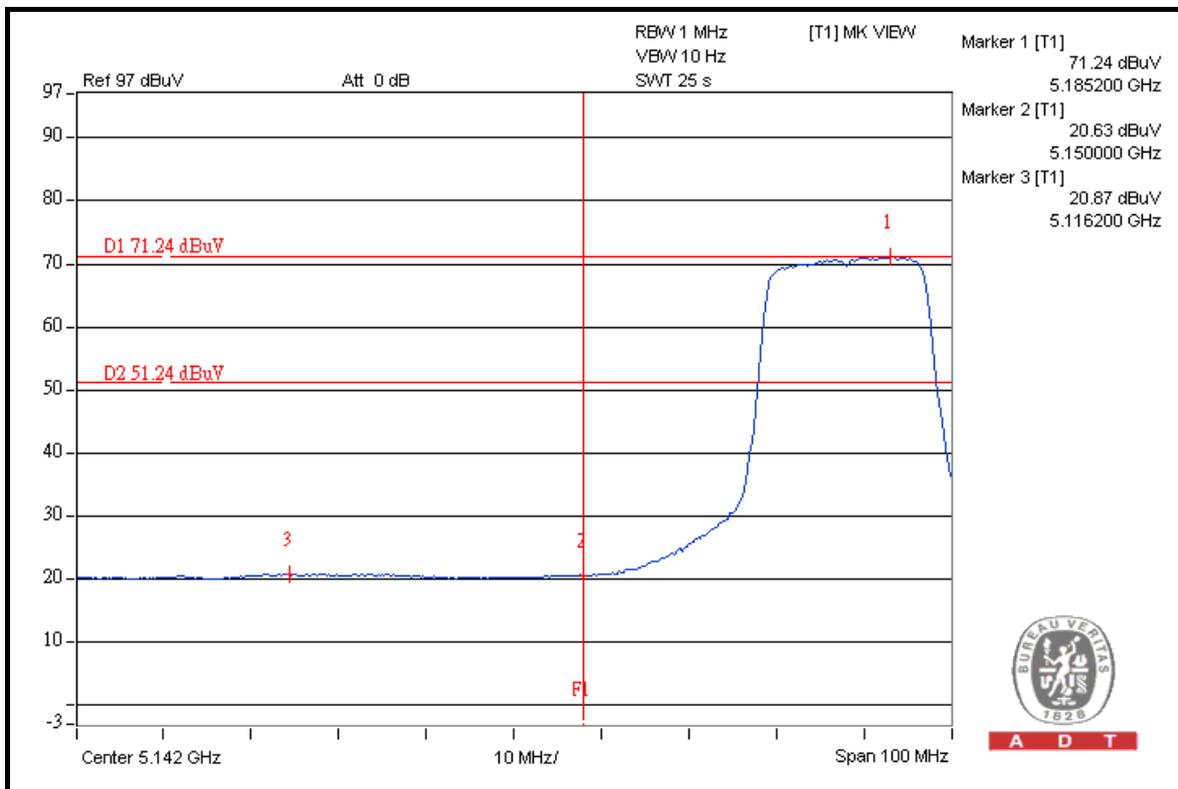
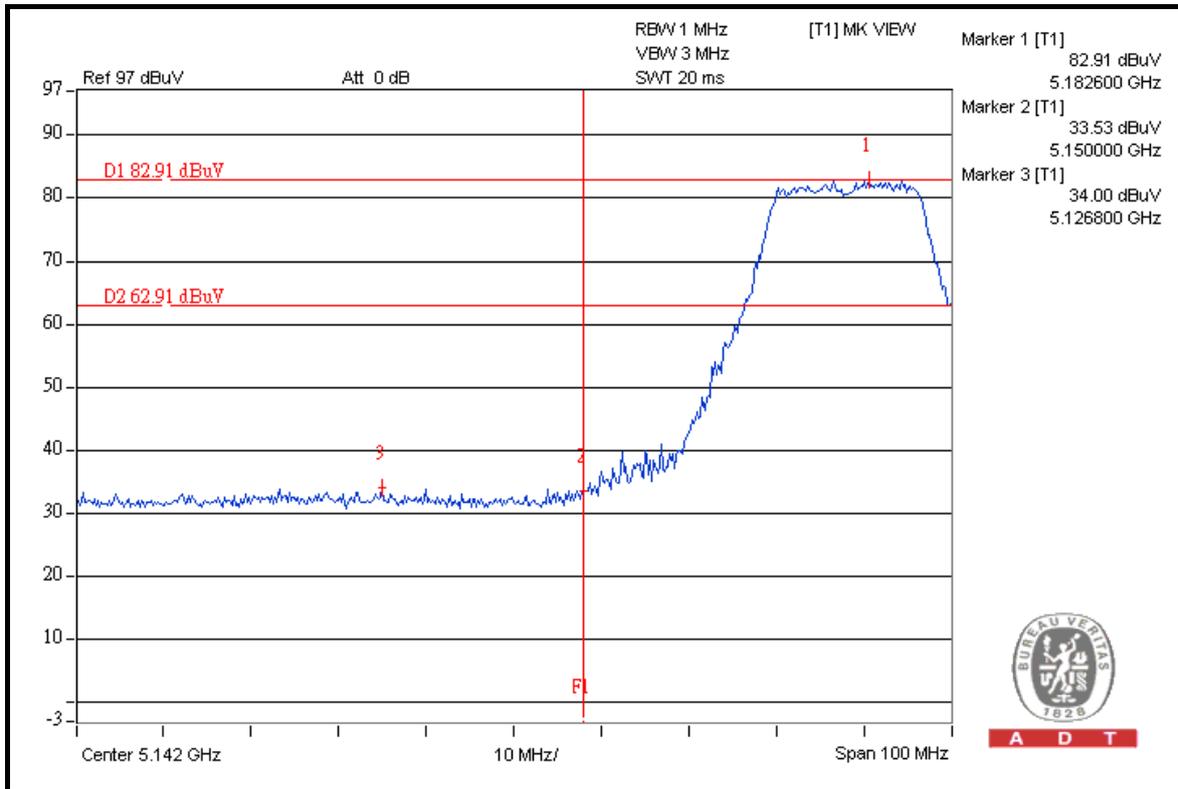
FREQUENCY (MHz)	FUNDAMENTAL EMISSION (dBuV/m)	DELTA (dB)	MAXIMUM FIELD STRENGTH IN RESTRICT BAND (dBuV/m)	LIMIT (dBuV/m)
5240.00 (PK)	110.3	48.59	61.71	74.00
5240.00 (AV)	100.2	49.11	51.09	54.00

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.

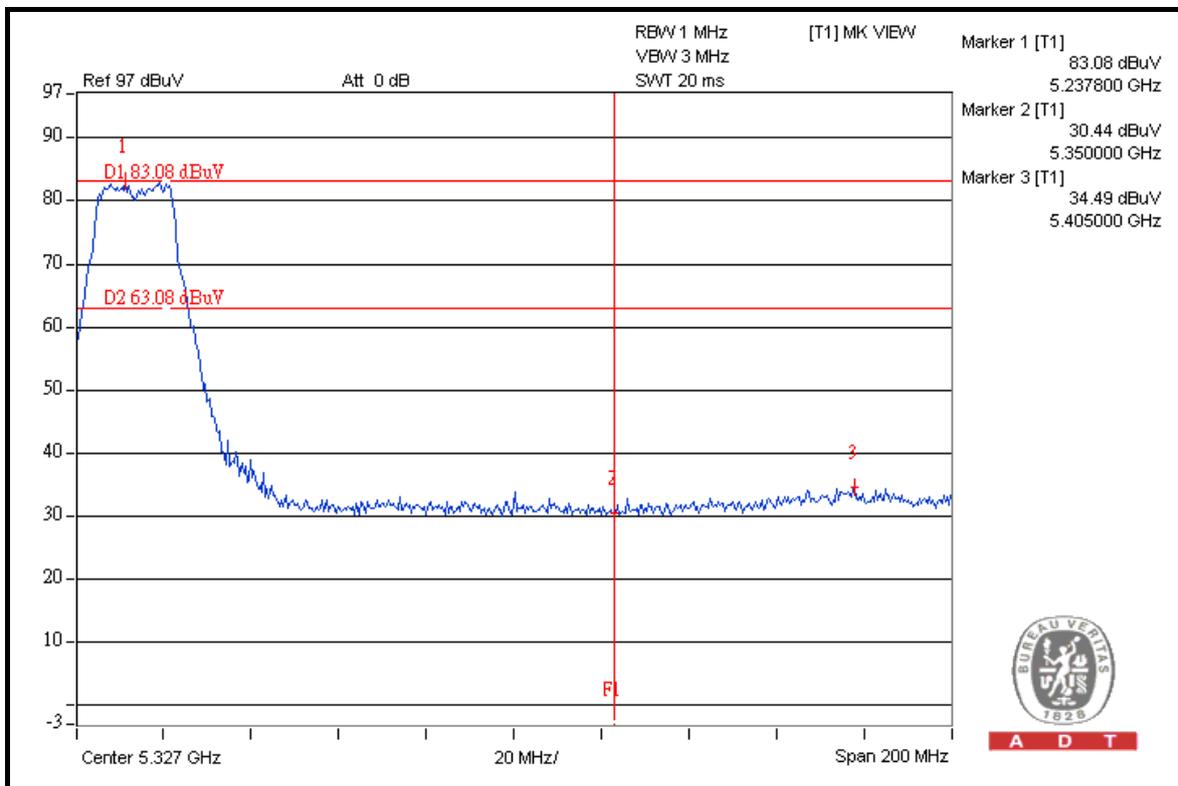
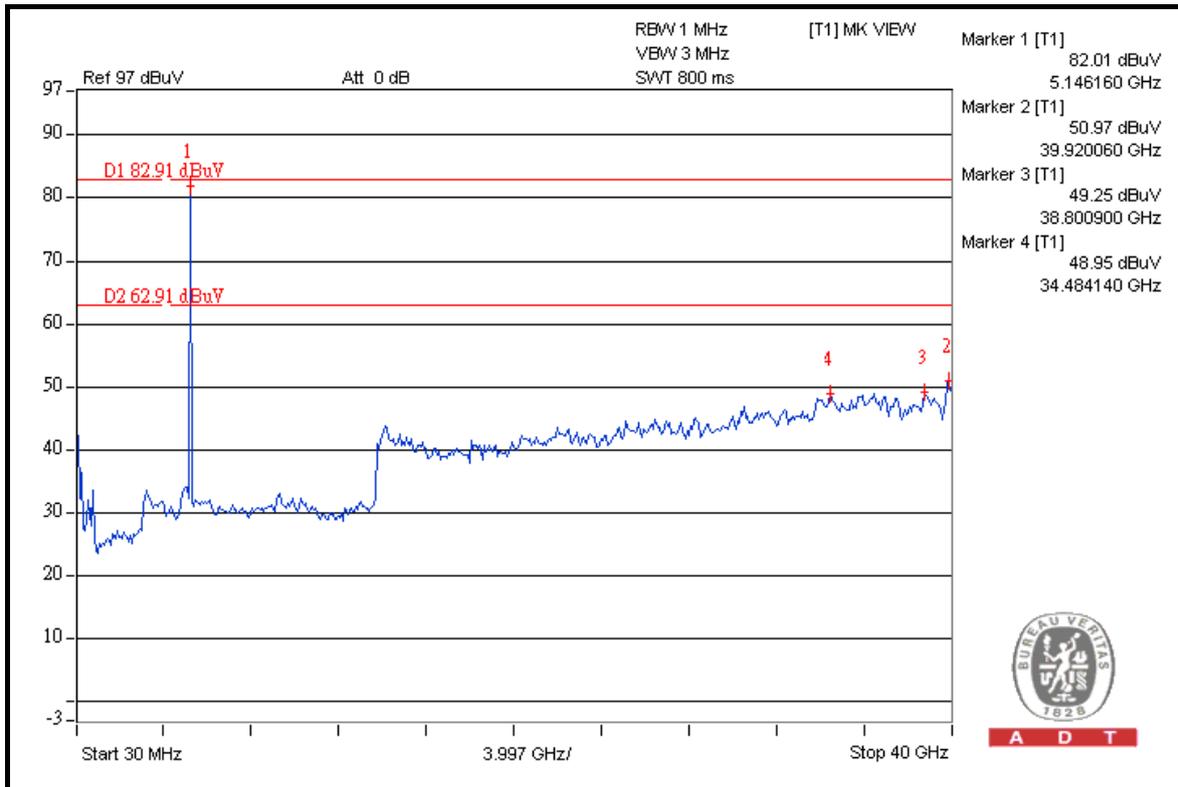


A D T



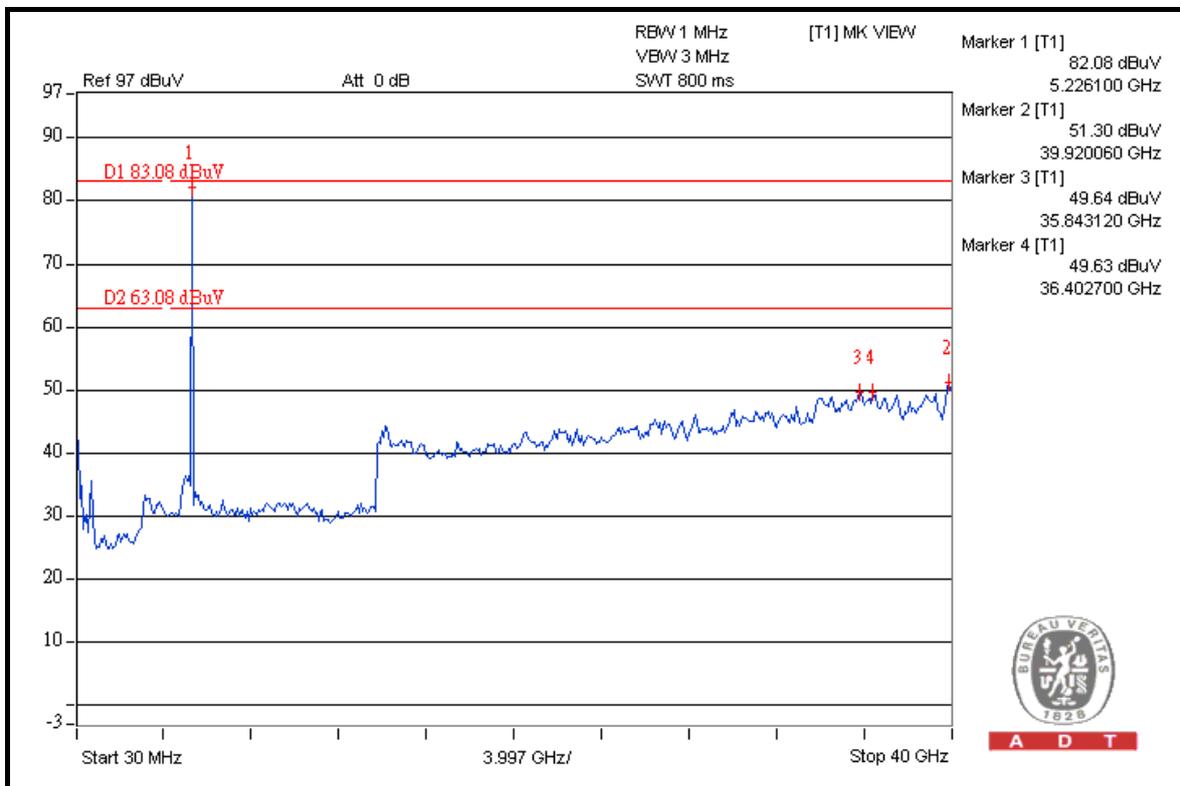
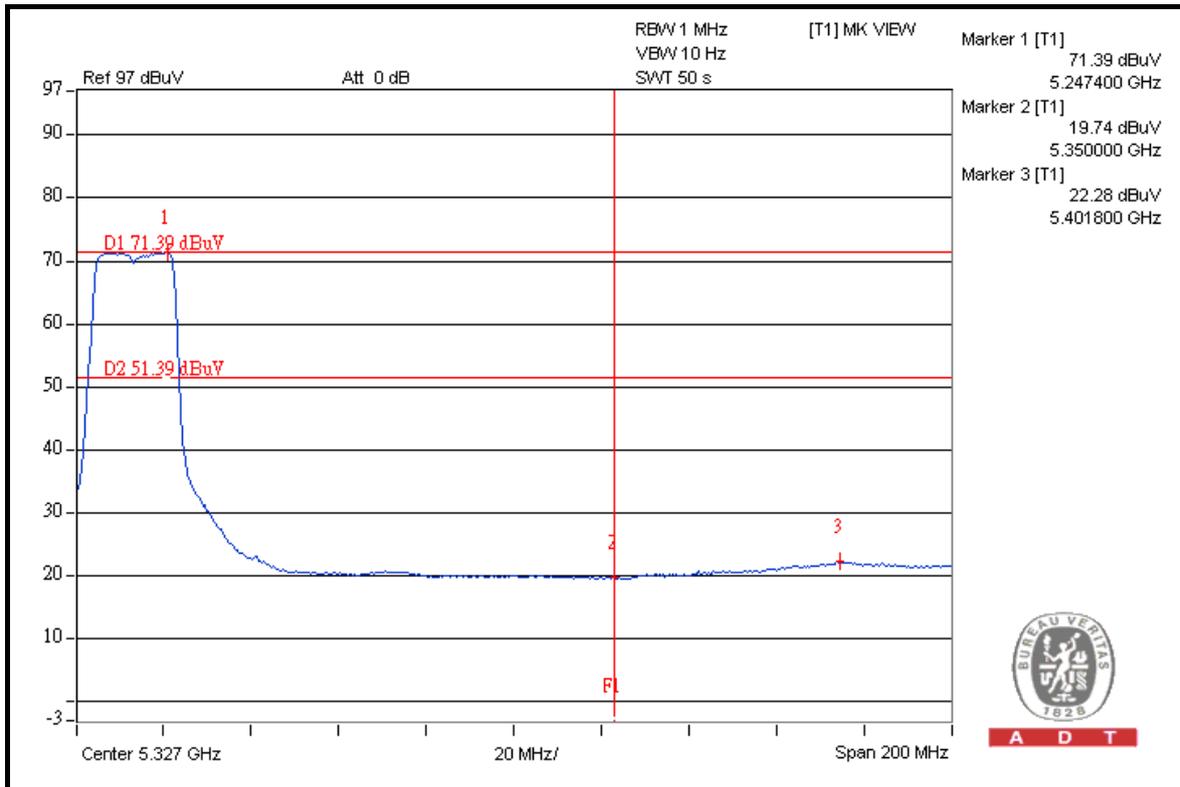


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FOR 5260-5320MHz BAND:

RESTRICT BAND (4500 ~ 5150 MHz)

FREQUENCY (MHz)	FUNDAMENTAL EMISSION (dBuV/m)	DELTA (dB)	MAXIMUM FIELD STRENGTH IN RESTRICT BAND (dBuV/m)	LIMIT (dBuV/m)
5260.00 (PK)	114.4	48.04	66.36	74.00
5260.00 (AV)	101.5	49.68	51.82	54.00

RESTRICT BAND (5350 ~ 5460 MHz)

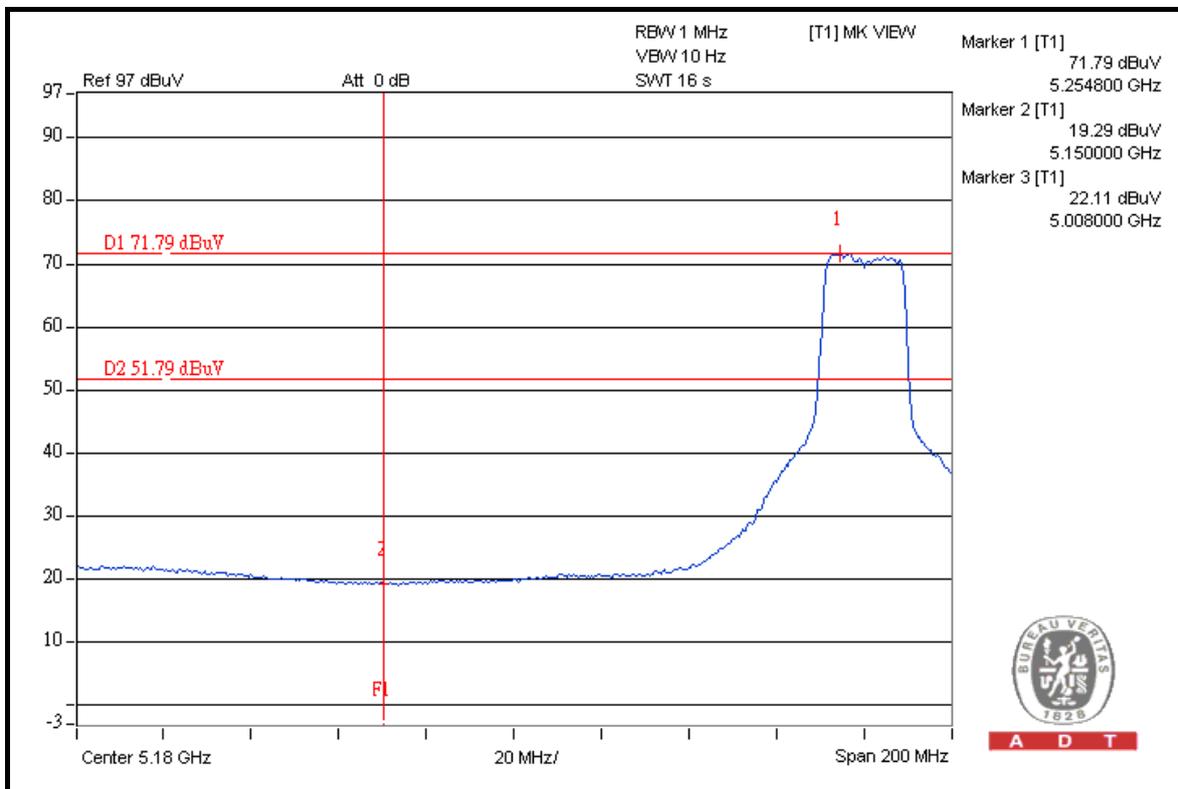
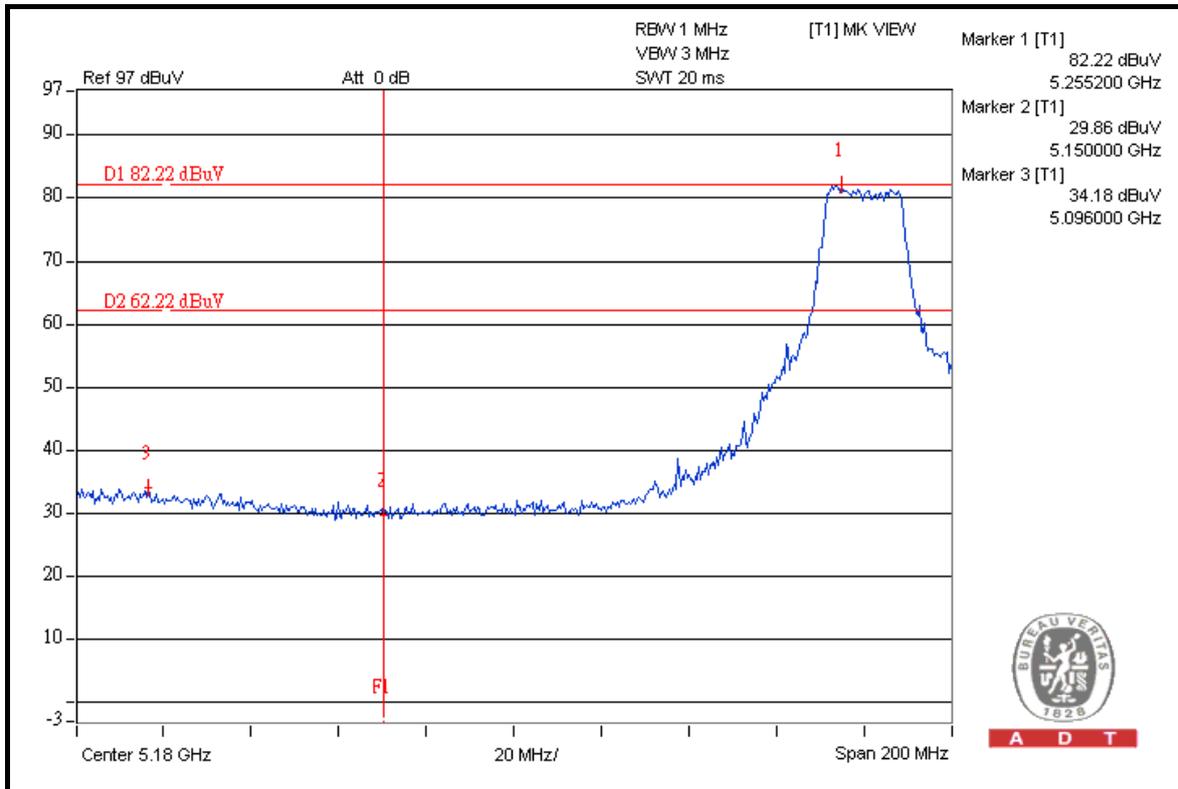
FREQUENCY (MHz)	FUNDAMENTAL EMISSION (dBuV/m)	DELTA (dB)	MAXIMUM FIELD STRENGTH IN RESTRICT BAND (dBuV/m)	LIMIT (dBuV/m)
5320.00 (PK)	114.0	41.04	72.96	74.00
5320.00 (AV)	100.0	47.36	52.64	54.00

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.

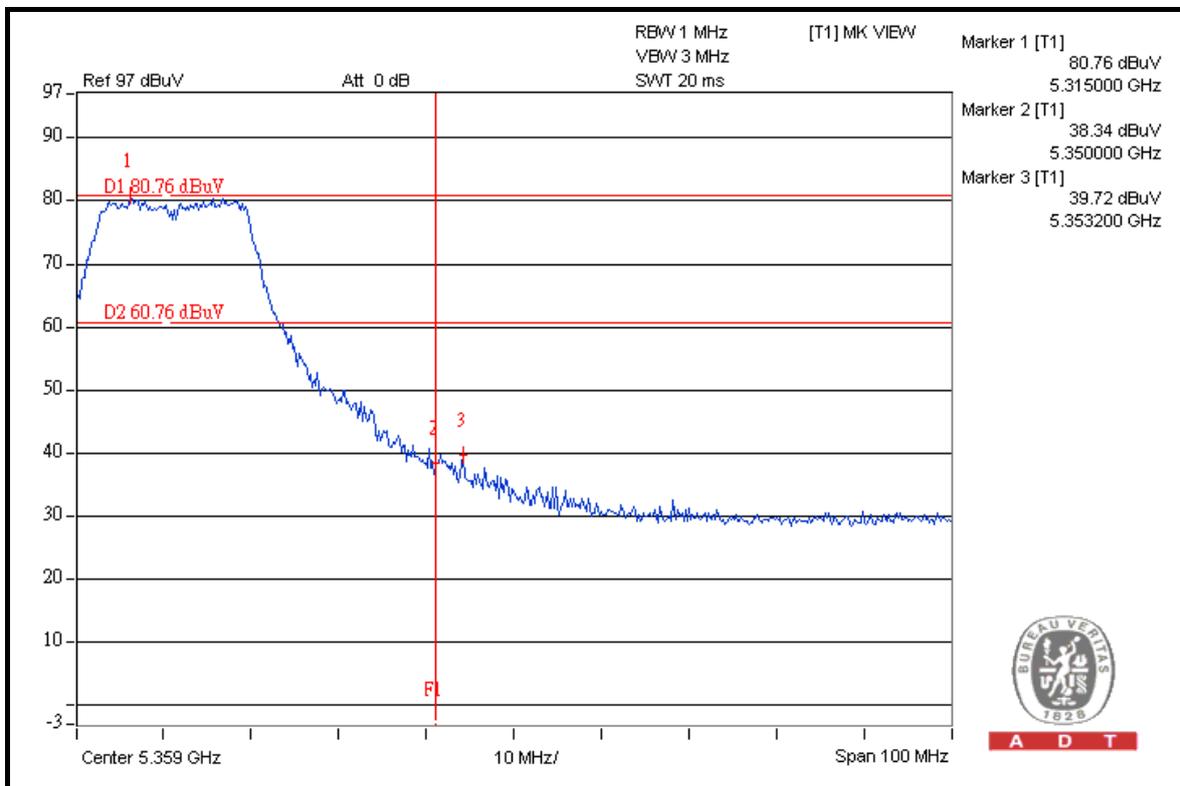
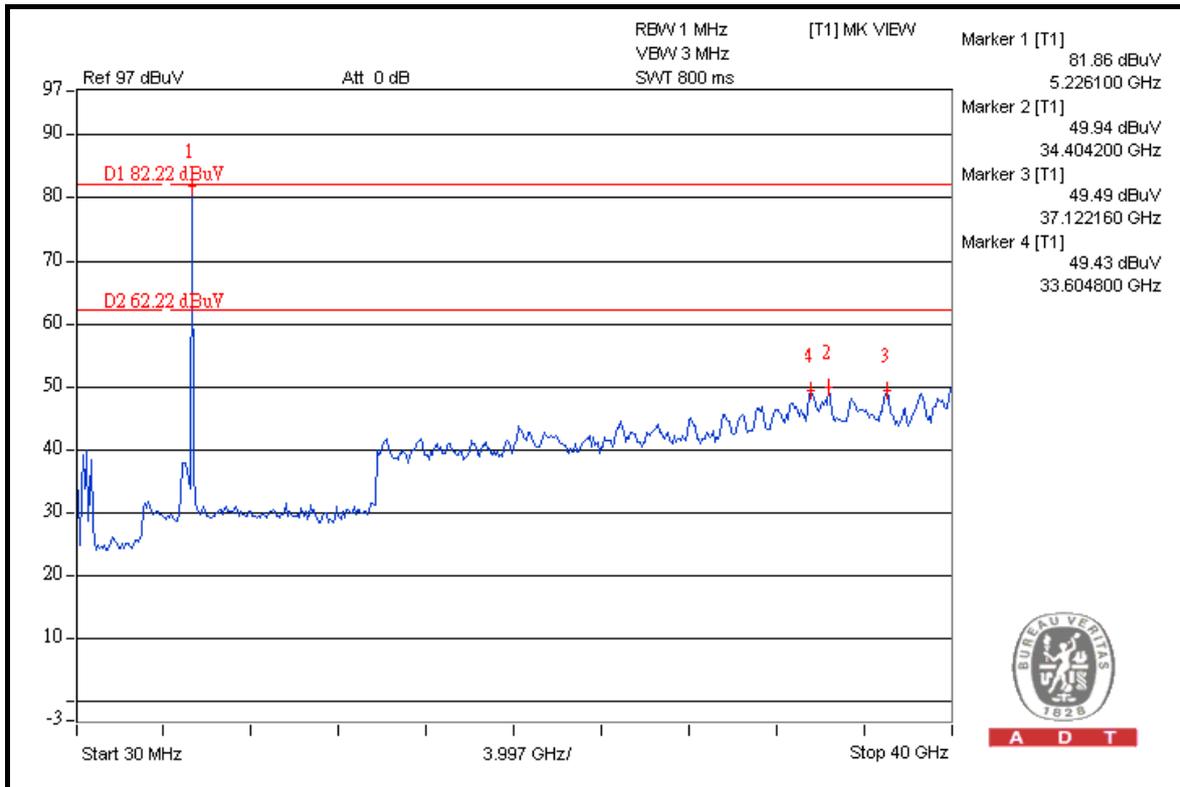


A D T



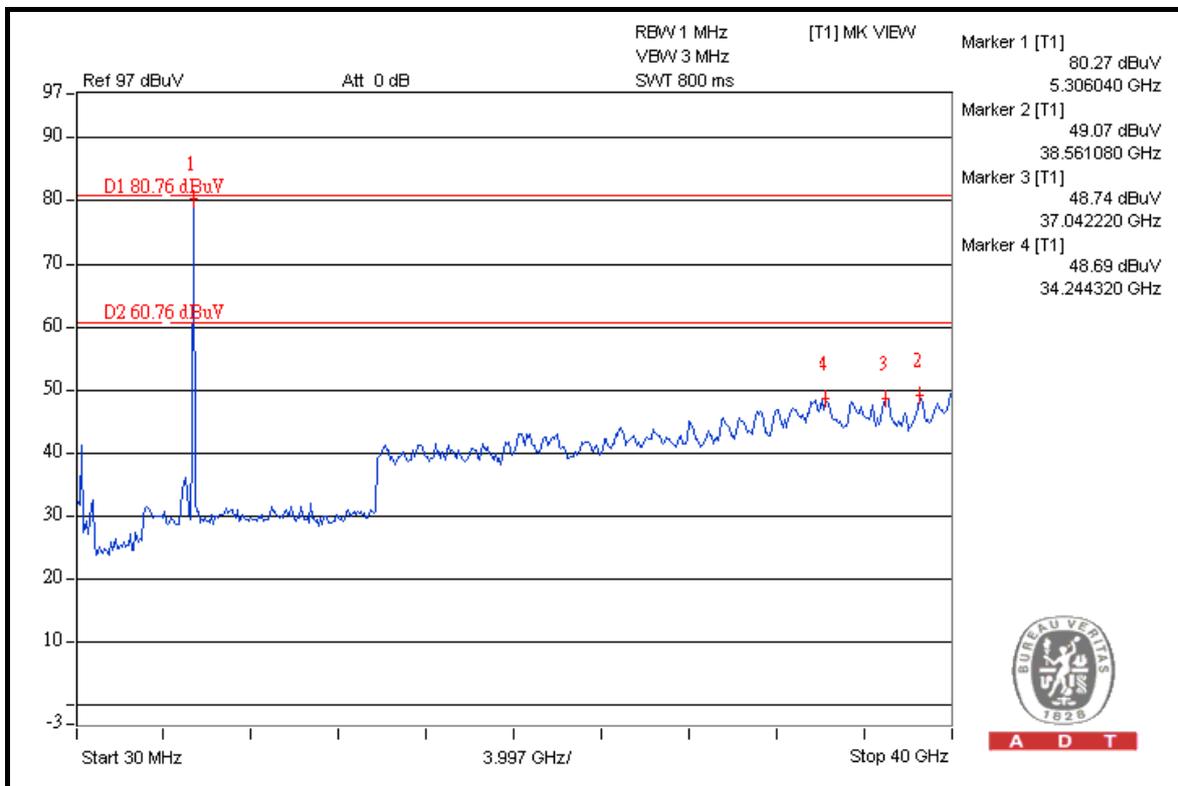
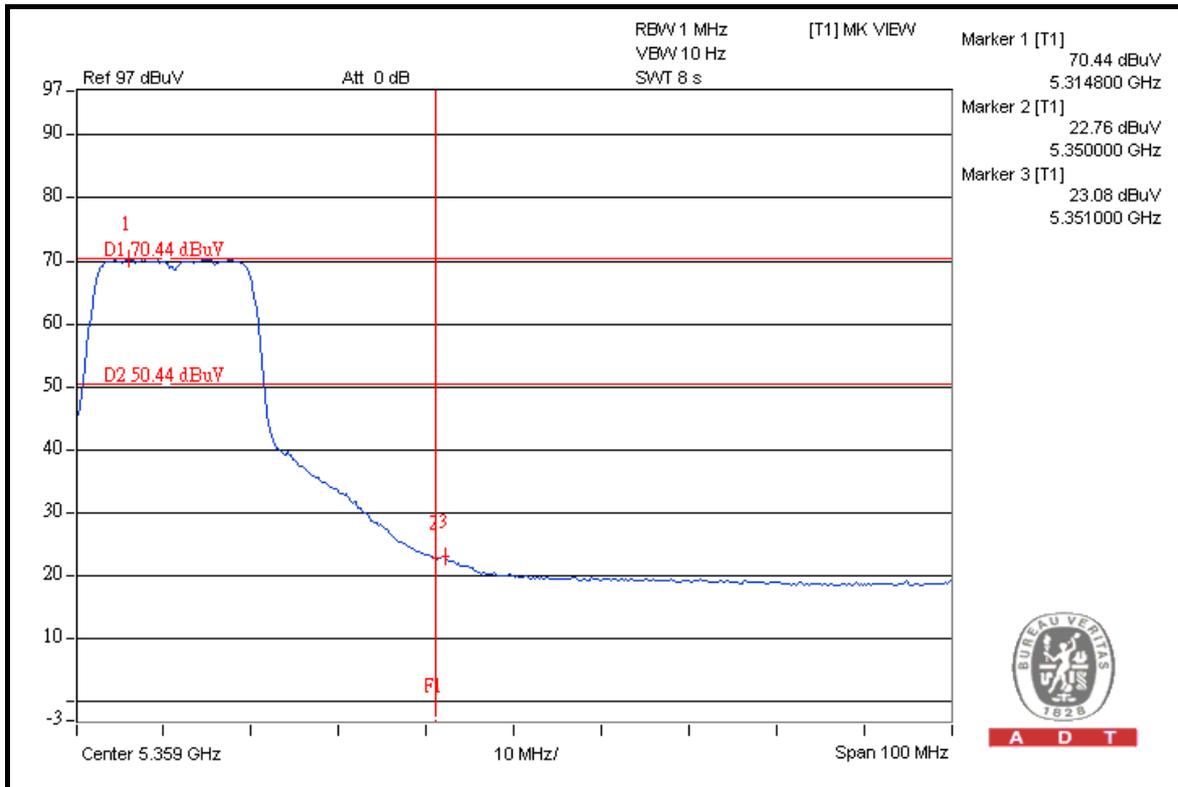


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FOR 5500-5700MHz BAND:

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)	110.3	48.40	61.90	74.00
5500.00 (AV)	98.3	49.55	48.75	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)	110.3	43.86	66.44	68.30

5700MHz

ABOVE 5725 MHz

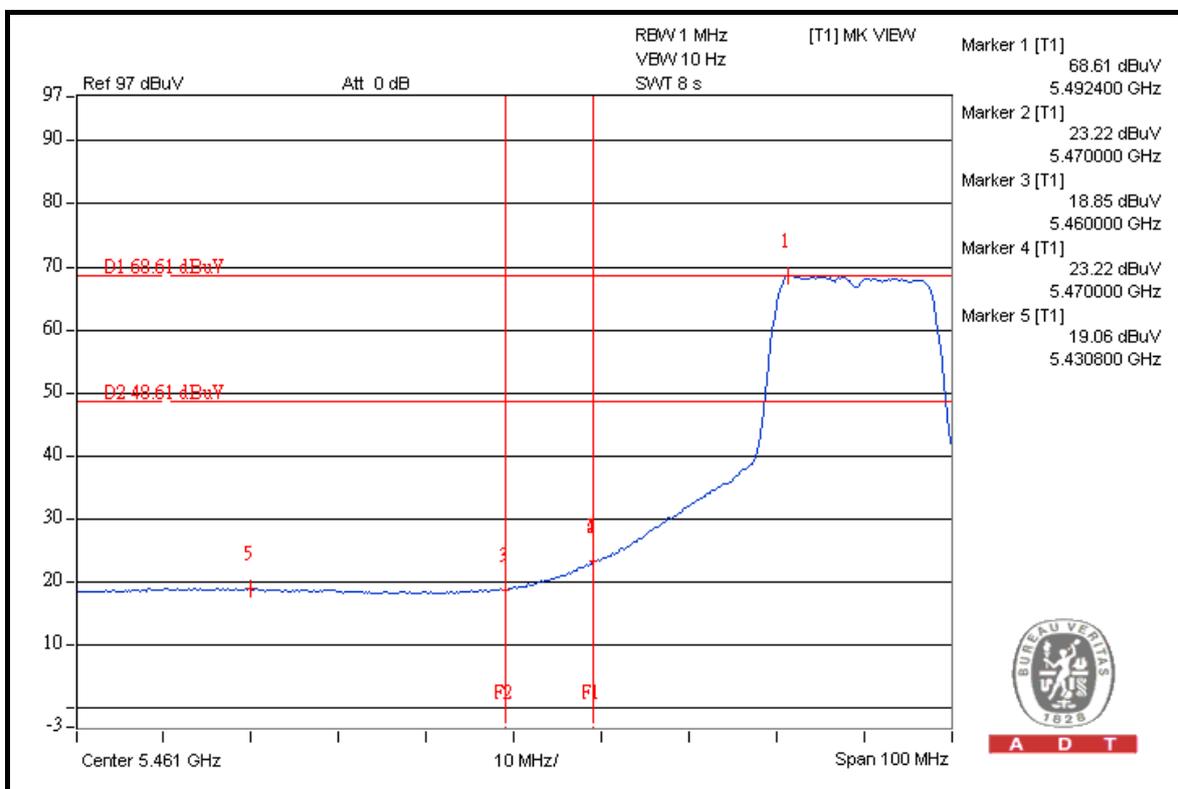
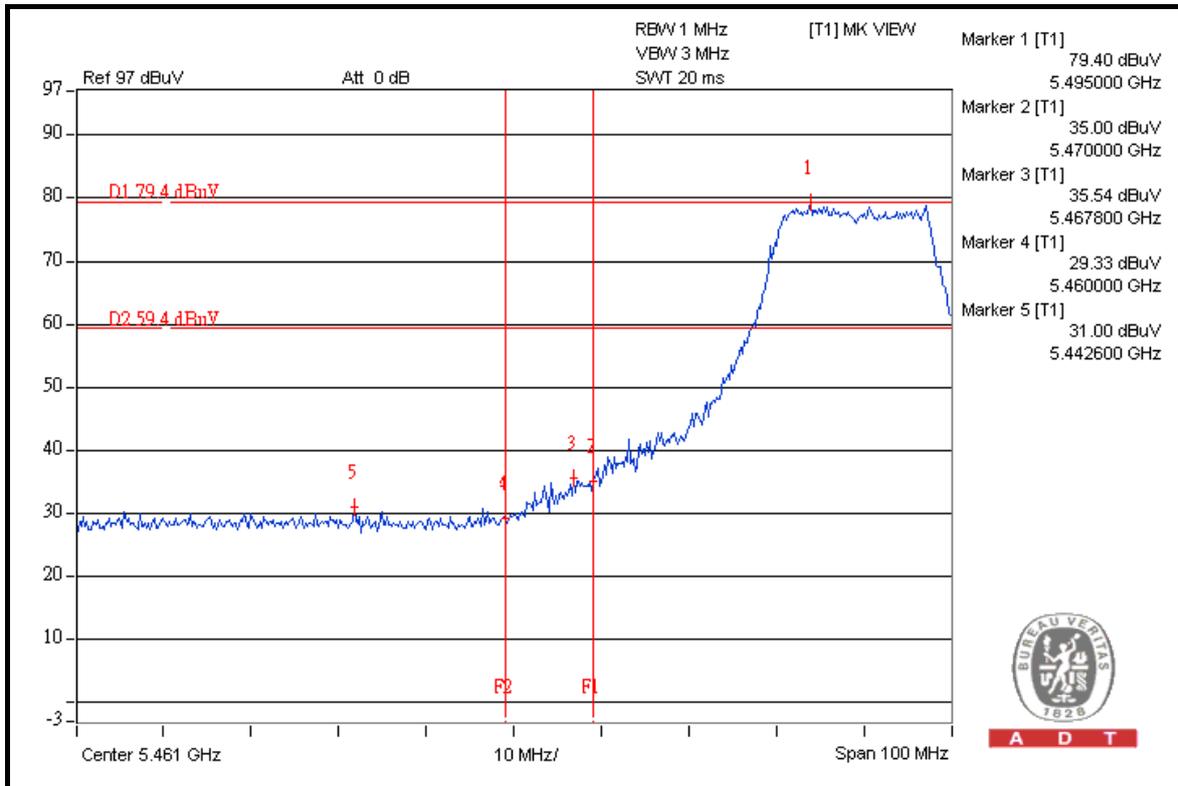
FREQUENCY (MHz)	FUNDAMENTAL EMISSION (dBuV/m)	DELTA (dB)	MAXIMUM FIELD STRENGTH (dBuV/m)	LIMIT (dBuV/m)
5700.00 (PK)	110.4	43.13	67.27	68.30

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.

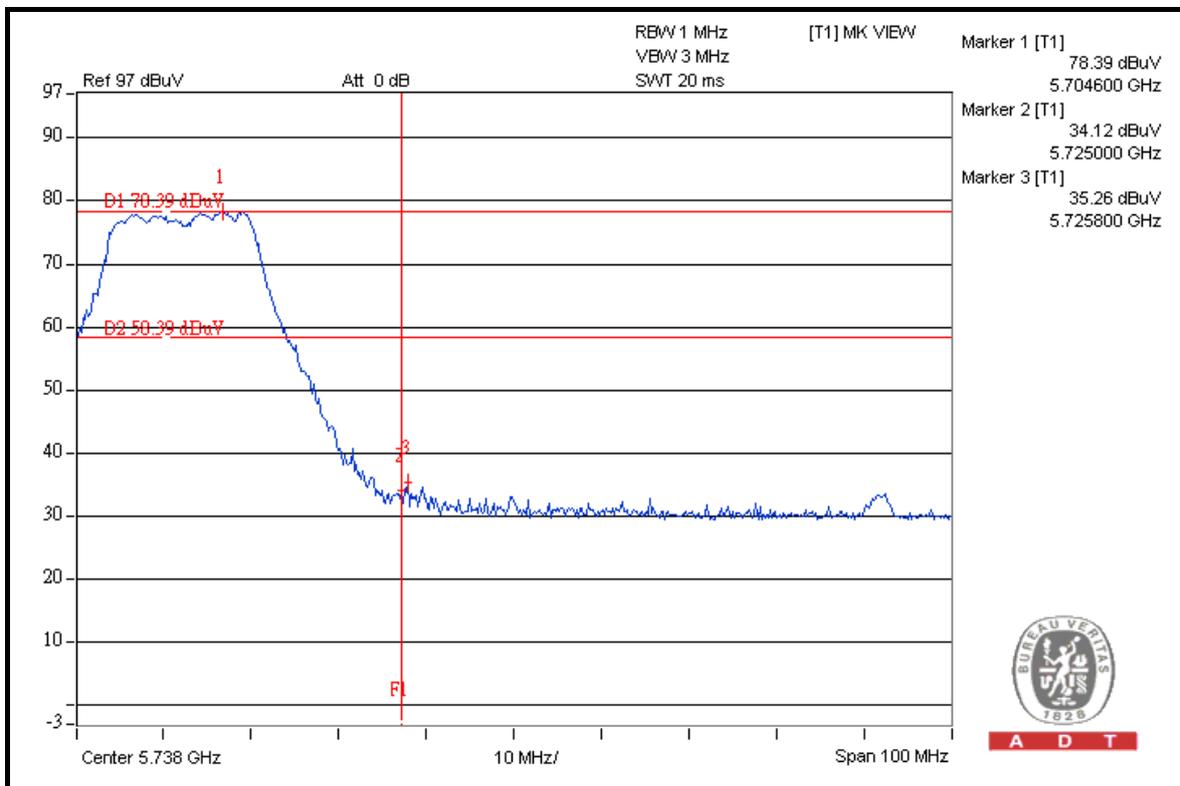
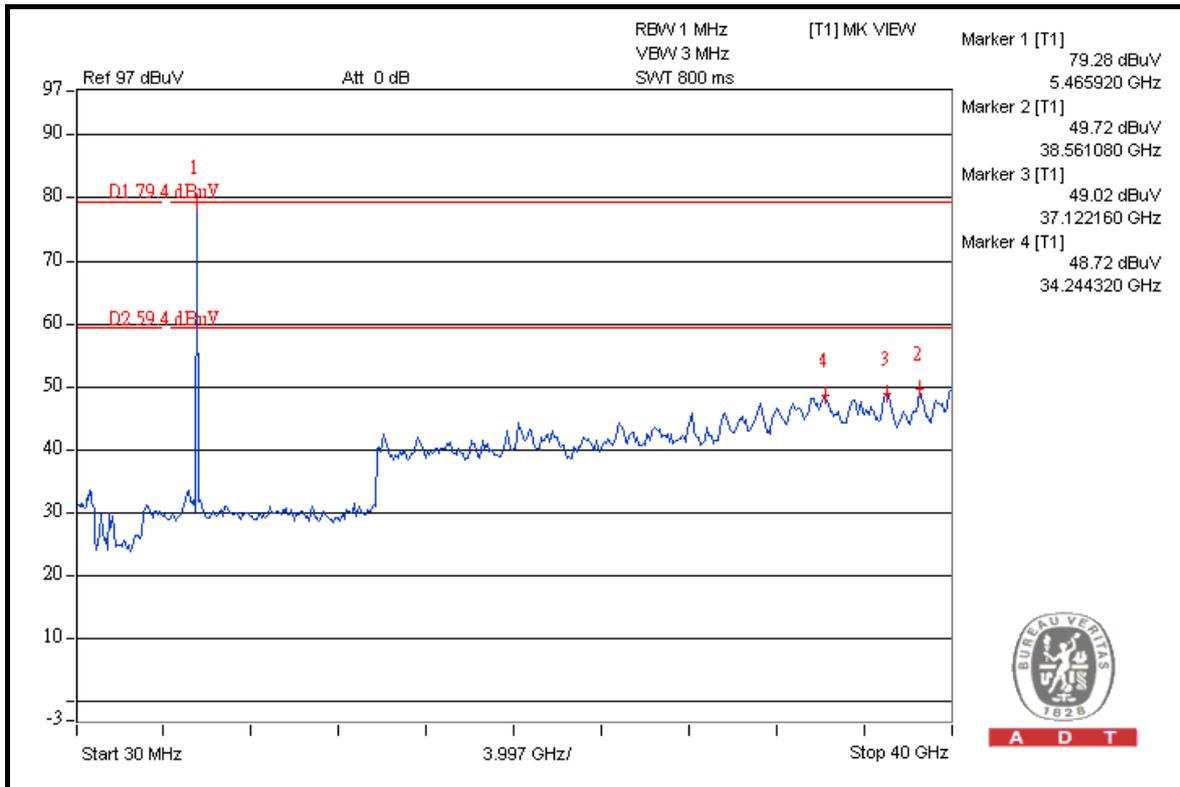


A D T



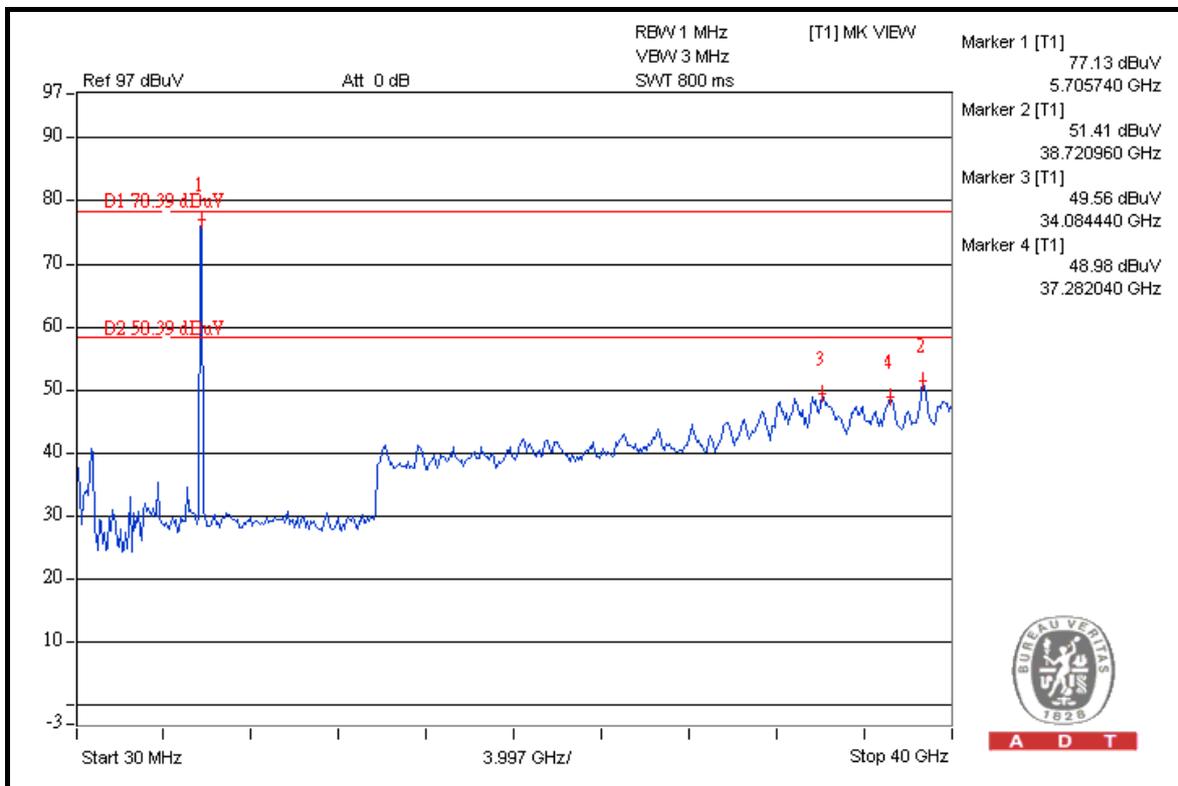
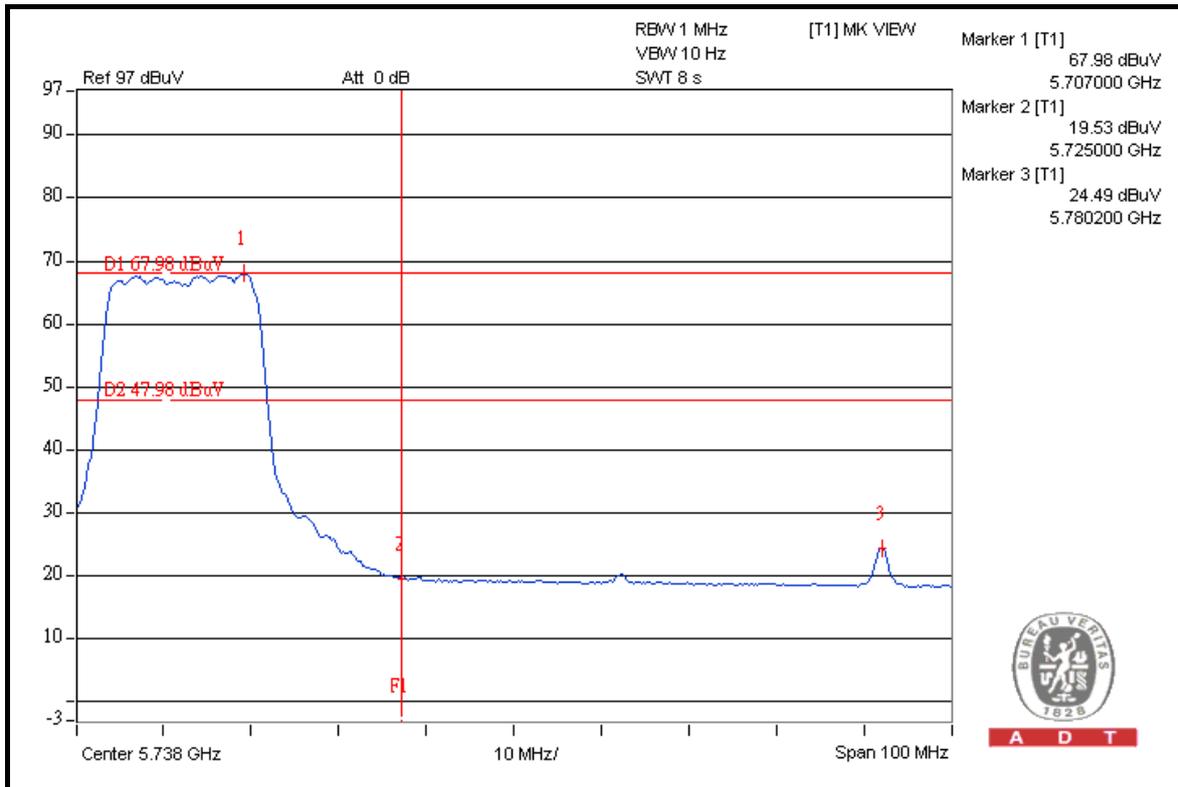


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802.11n (40MHz)

FOR 5180-5240MHz 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)
5190.00 (PK)	109.8	42.32	67.48	74.00
5190.00 (AV)	95.5	45.62	49.88	54.00

RESTRICT BAND (5350 ~ 5460 MHz)

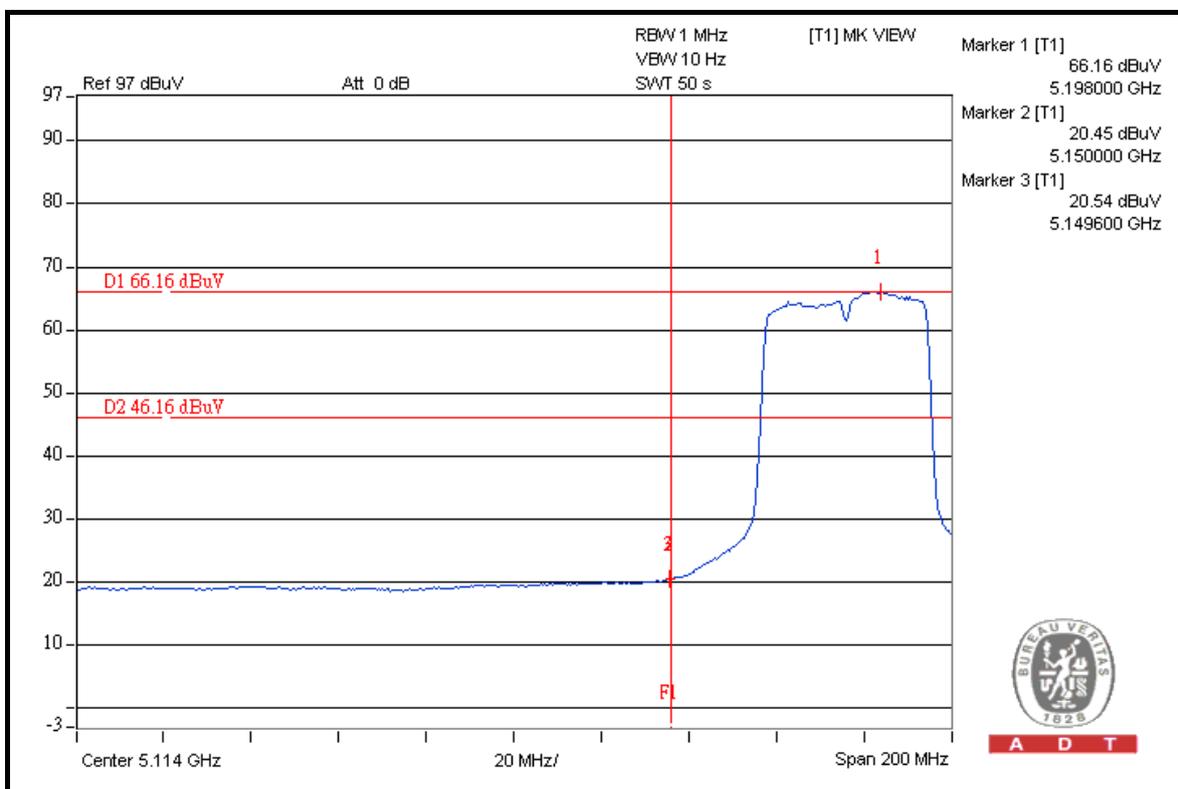
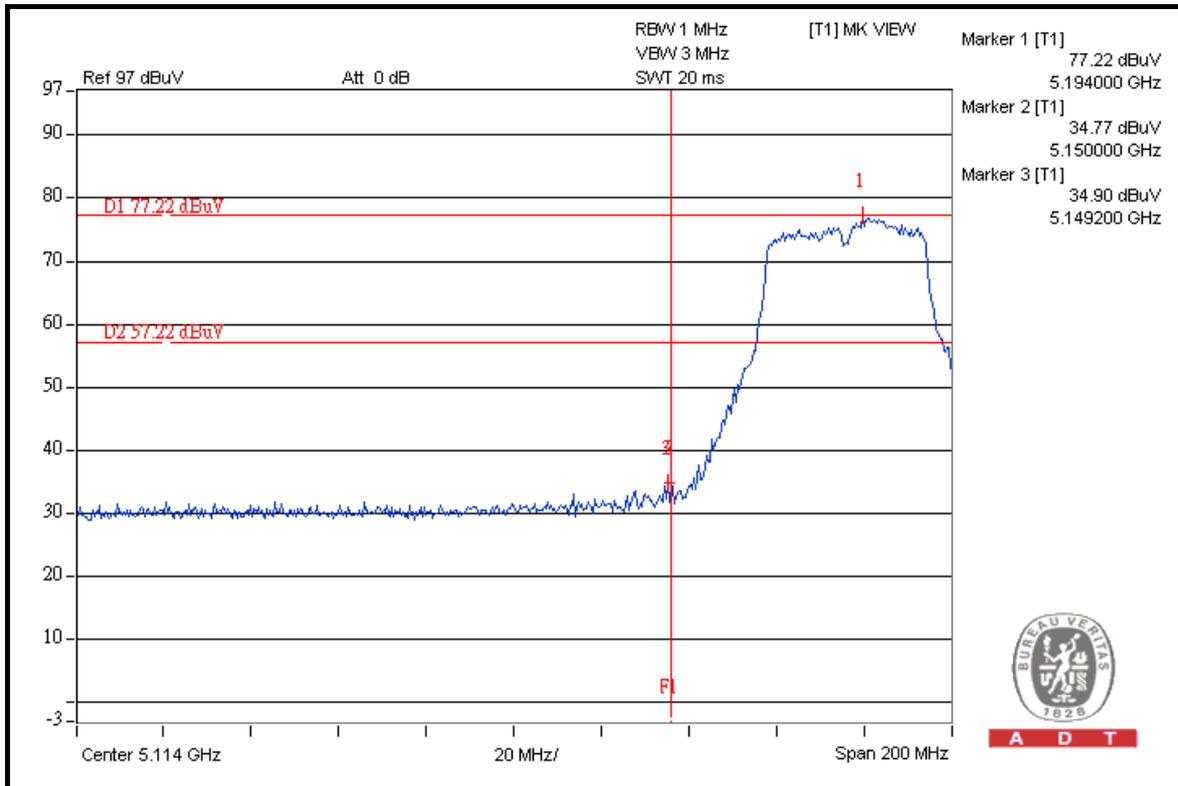
FREQUENCY (MHz)	FUNDAMENTAL EMISSION (dBuV/m)	DELTA (dB)	MAXIMUM FIELD STRENGTH IN RESTRICT BAND (dBuV/m)	LIMIT (dBuV/m)
5230.00 (PK)	109.3	44.10	65.20	74.00
5230.00 (AV)	95.2	45.25	49.95	54.00

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.

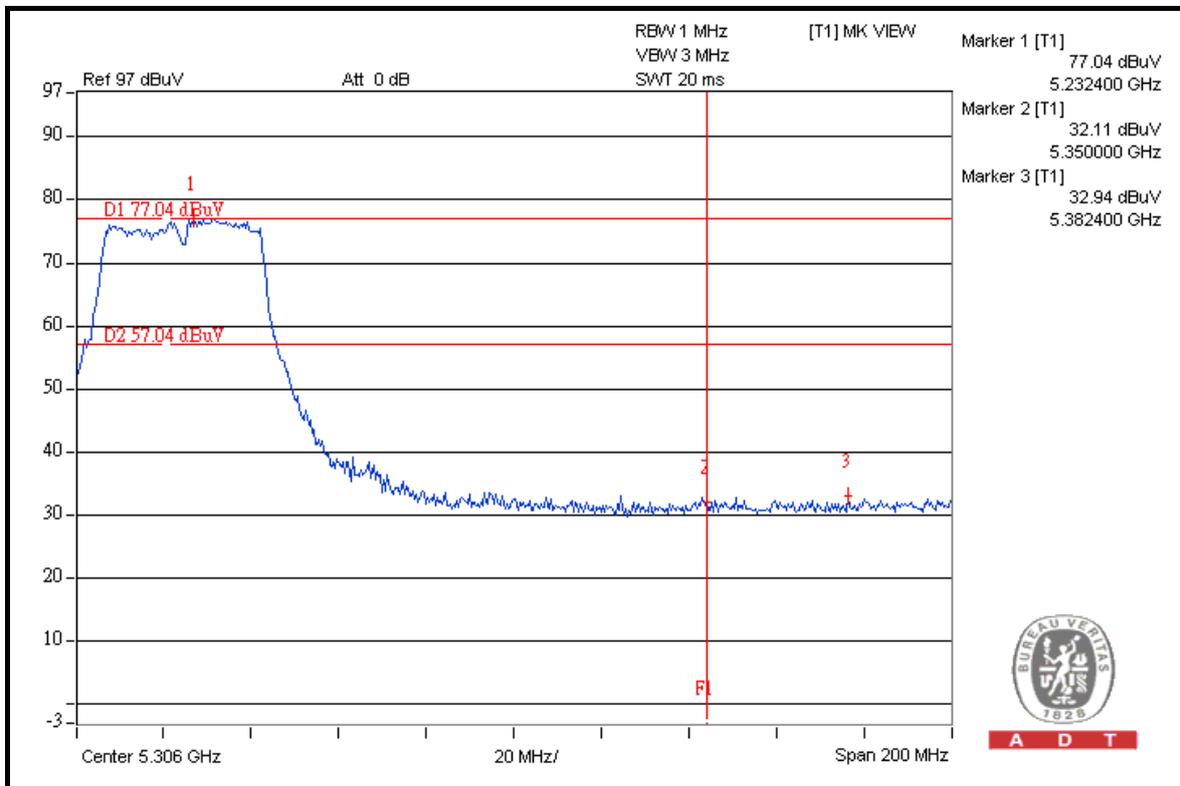
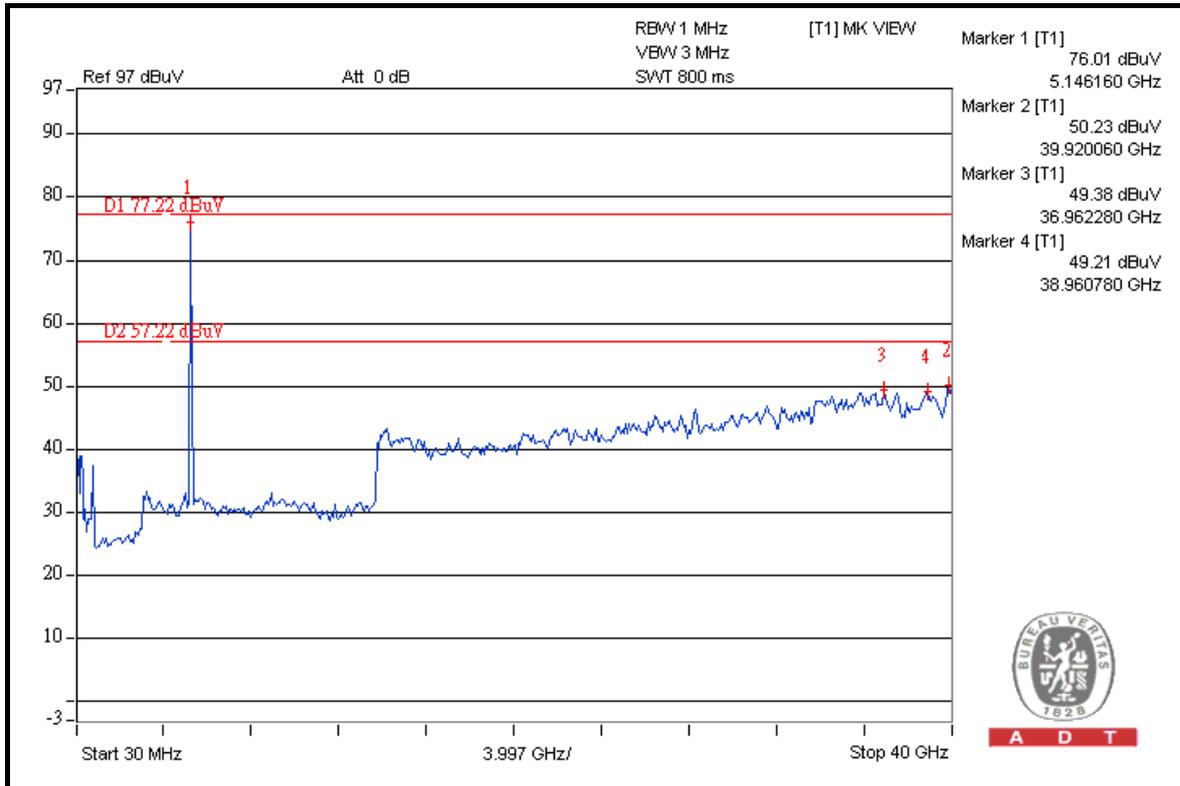


A D T



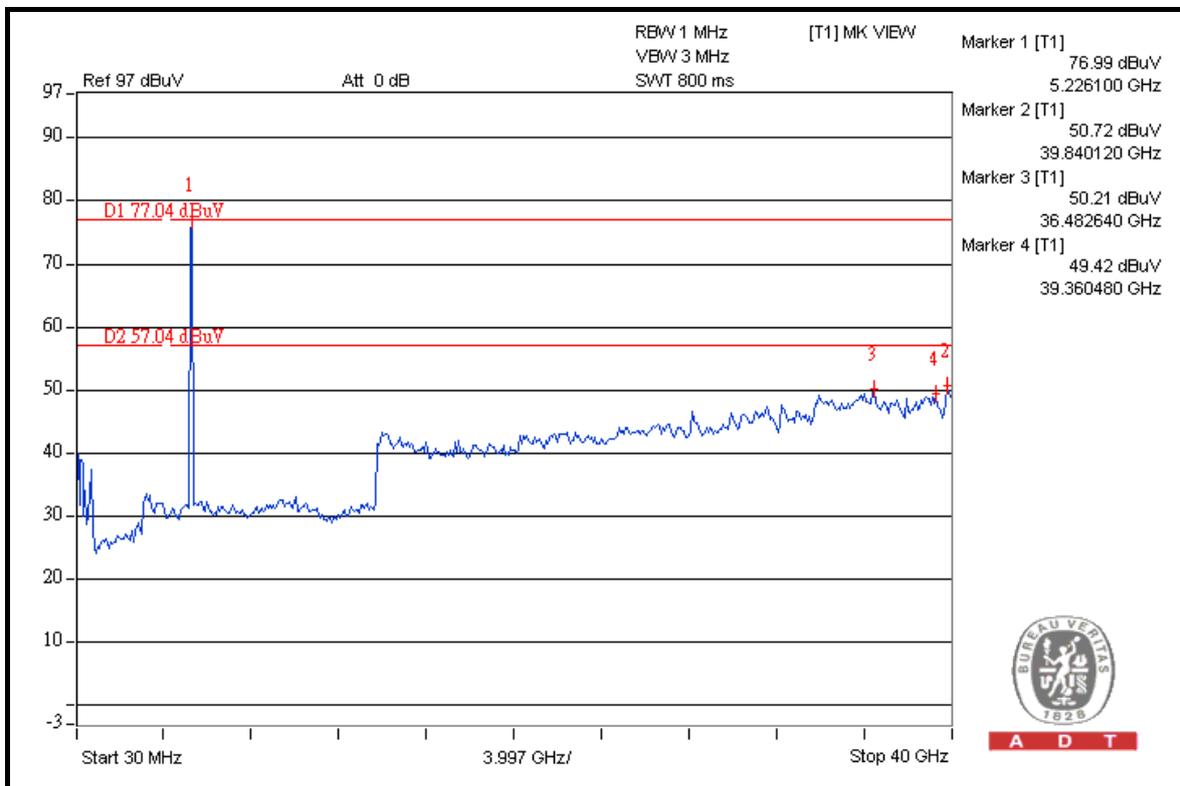
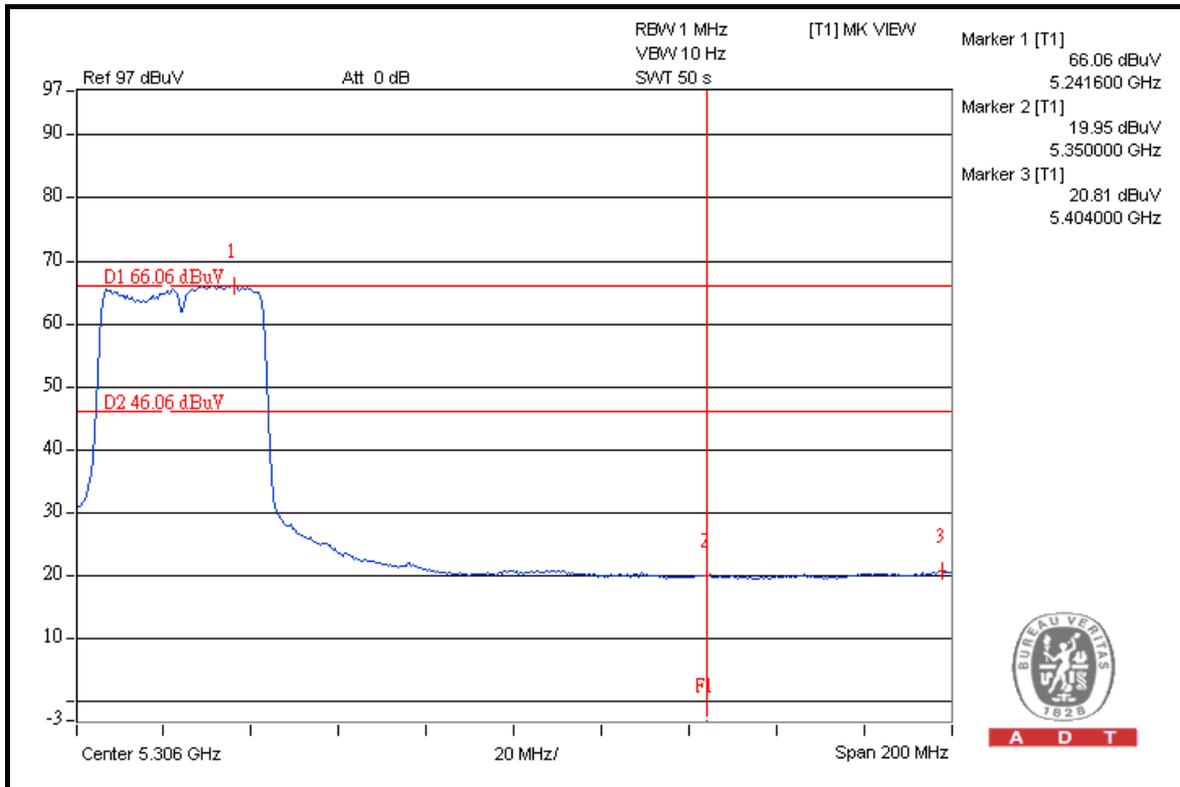


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FOR 5260-5320MHz BAND:

RESTRICT BAND (4500 ~ 5150 MHz)

FREQUENCY (MHz)	FUNDAMENTAL EMISSION (dBuV/m)	DELTA (dB)	MAXIMUM FIELD STRENGTH IN RESTRICT BAND (dBuV/m)	LIMIT (dBuV/m)
5270.00 (PK)	110.6	47.27	63.33	74.00
5270.00 (AV)	97.6	46.57	51.03	54.00

RESTRICT BAND (5350 ~ 5460 MHz)

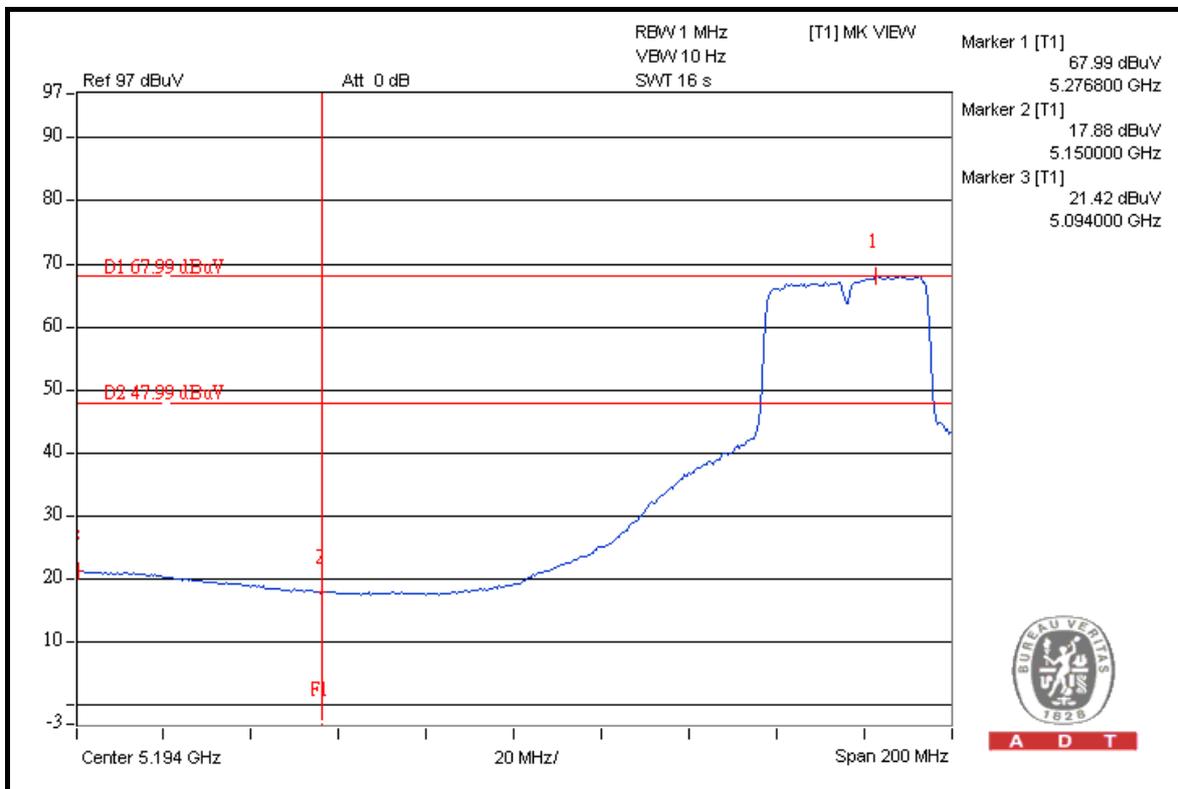
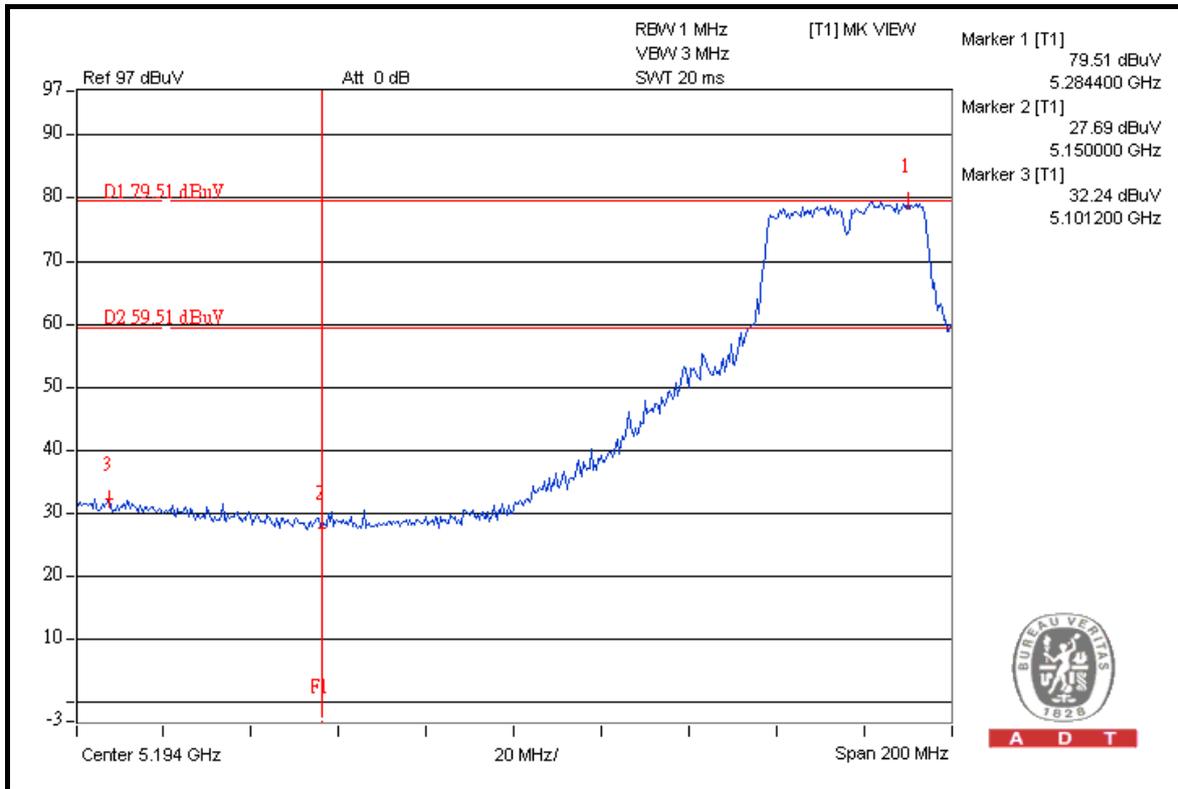
FREQUENCY (MHz)	FUNDAMENTAL EMISSION (dBuV/m)	DELTA (dB)	MAXIMUM FIELD STRENGTH IN RESTRICT BAND (dBuV/m)	LIMIT (dBuV/m)
5310.00 (PK)	105.5	35.81	69.69	74.00
5310.00 (AV)	92.8	39.95	52.85	54.00

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.

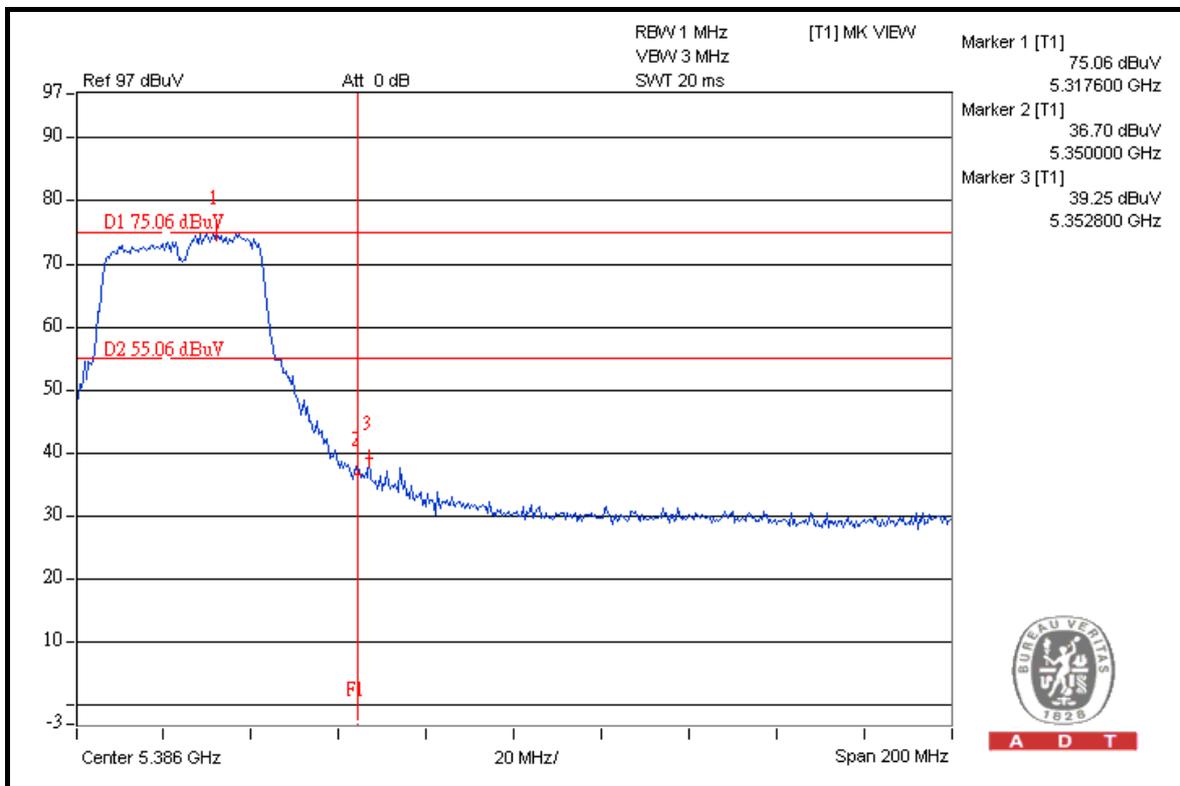
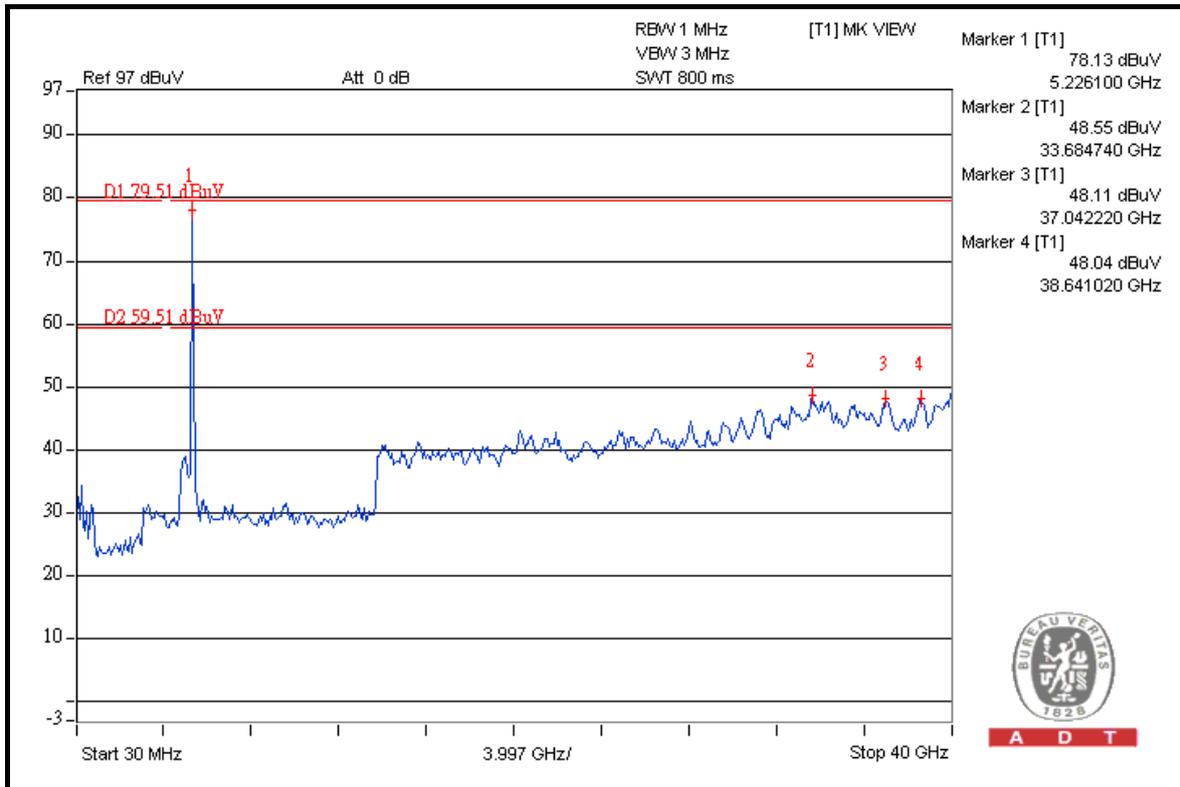


A D T



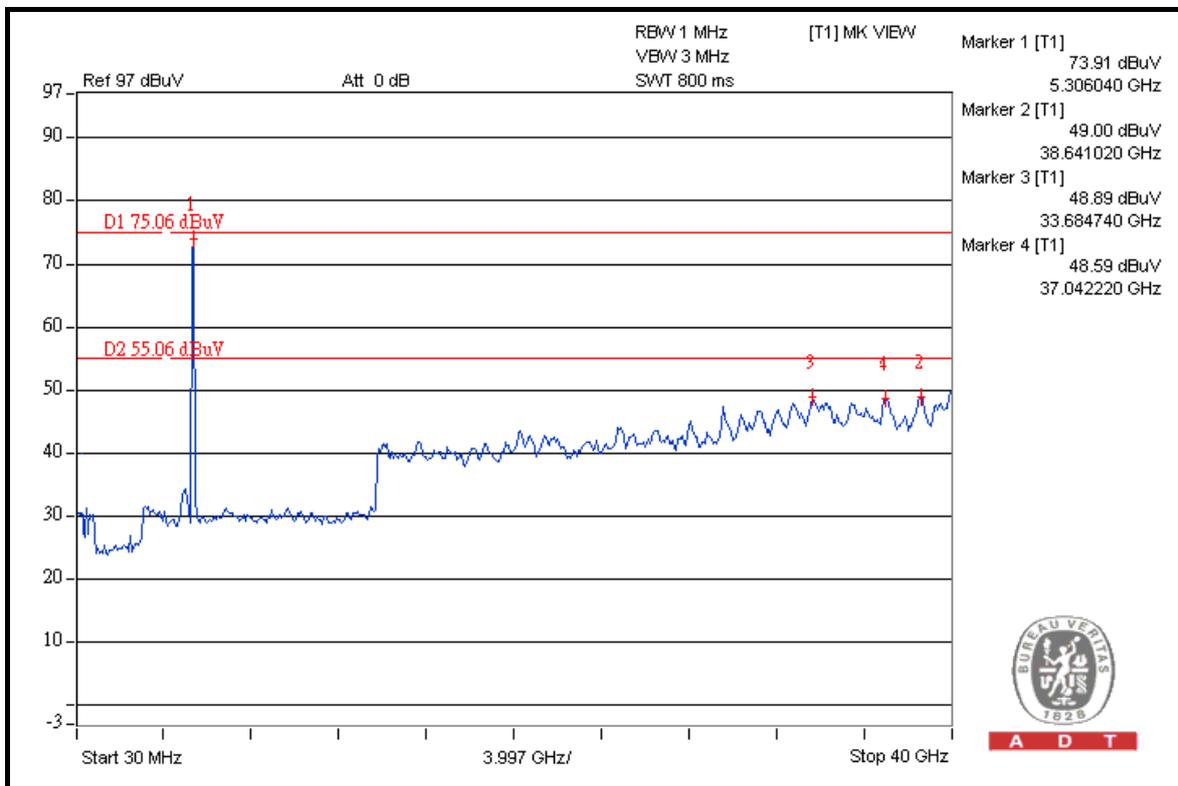
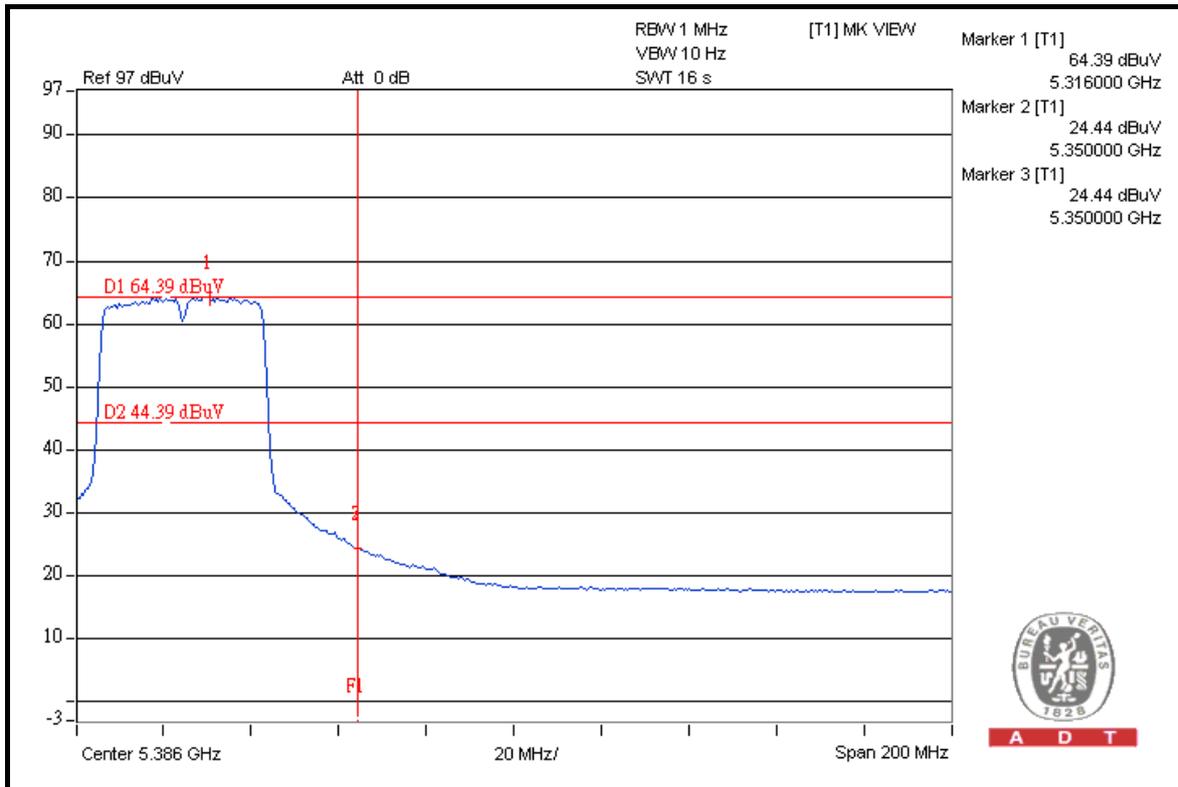


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FOR 5500-5700MHz BAND:

5510MHz

RESTRICT BAND (5350 ~ 5460 MHz)

FREQUENCY (MHz)	FUNDAMENTAL EMISSION (dBuV/m)	DELTA (dB)	MAXIMUM FIELD STRENGTH IN RESTRICT BAND (dBuV/m)	LIMIT (dBuV/m)
5510.00 (PK)	103.8	39.30	64.50	74.00
5510.00 (AV)	90.4	38.65	51.75	54.00

FREQUENCY BAND (5460 ~ 5470 MHz)

FREQUENCY (MHz)	FUNDAMENTAL EMISSION (dBuV/m)	DELTA (dB)	MAXIMUM FIELD STRENGTH (dBuV/m)	LIMIT (dBuV/m)
5510.00 (PK)	103.8	37.38	66.42	68.30

5700MHz

ABOVE 5725 MHz

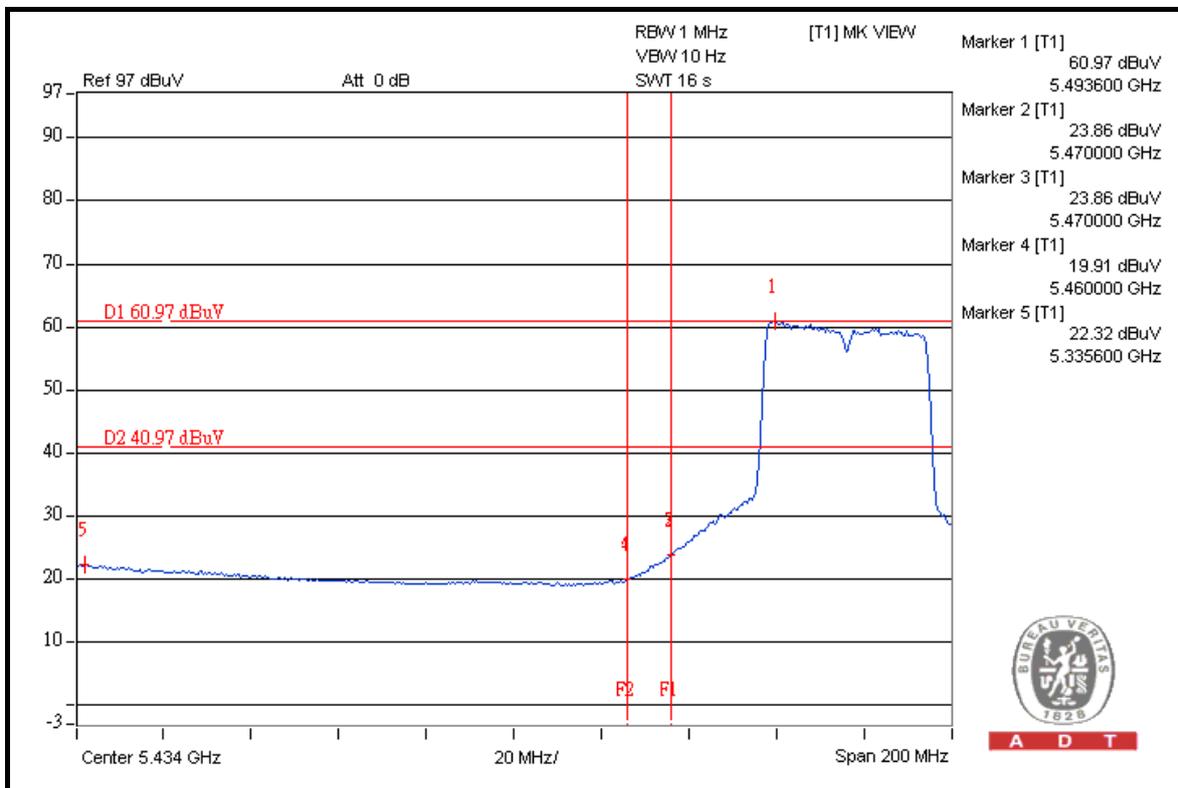
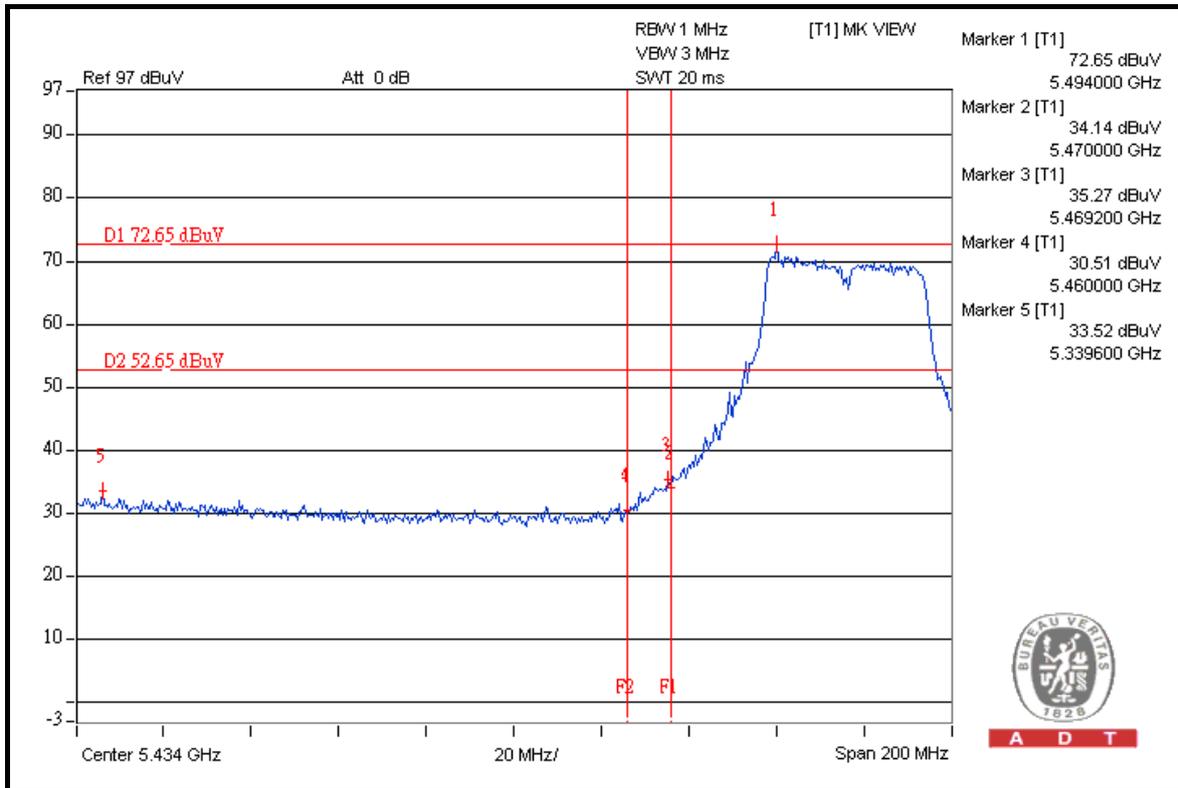
FREQUENCY (MHz)	FUNDAMENTAL EMISSION (dBuV/m)	DELTA (dB)	MAXIMUM FIELD STRENGTH (dBuV/m)	LIMIT (dBuV/m)
5670.00 (PK)	109.3	42.41	66.89	68.30

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.

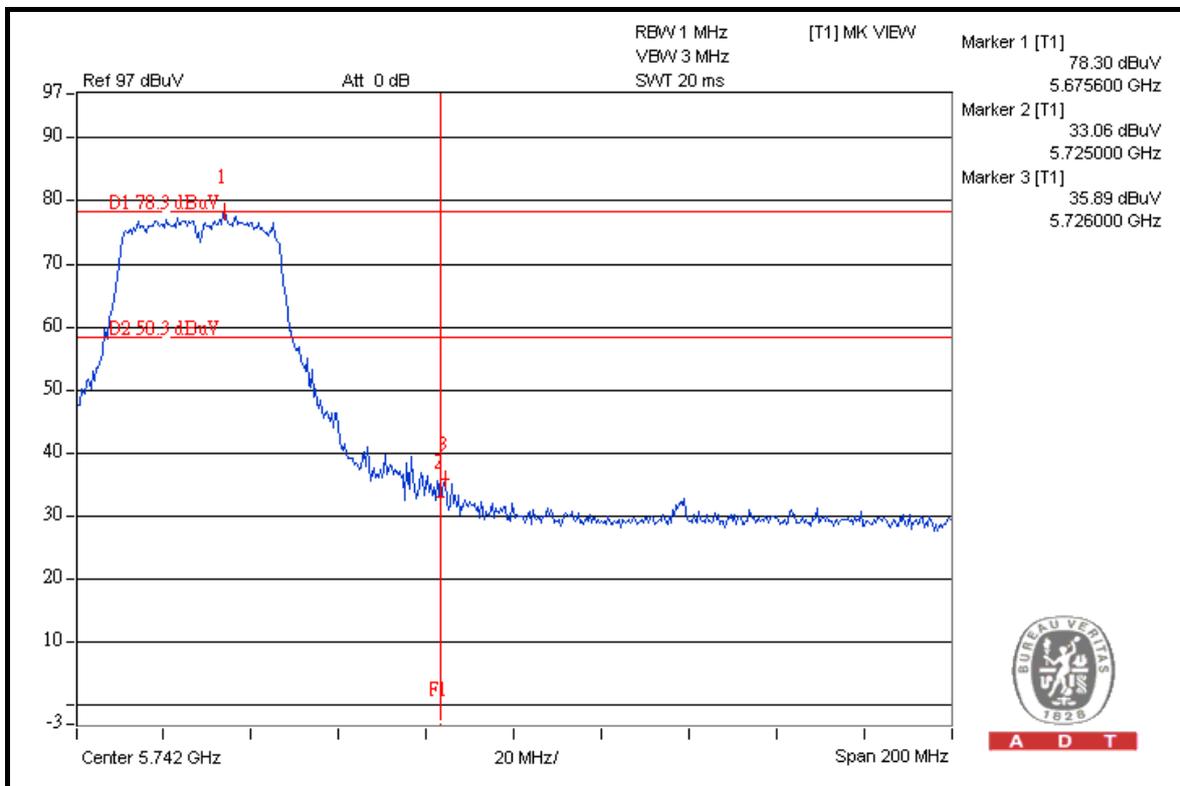
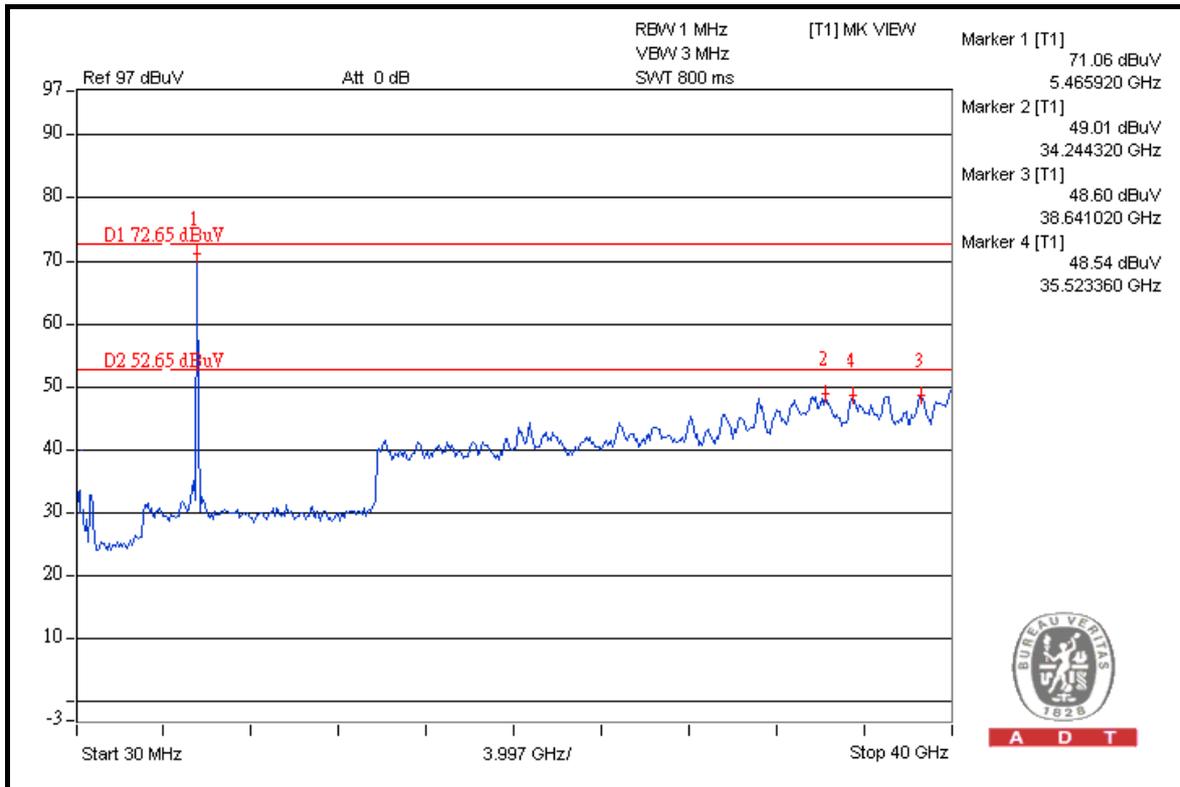


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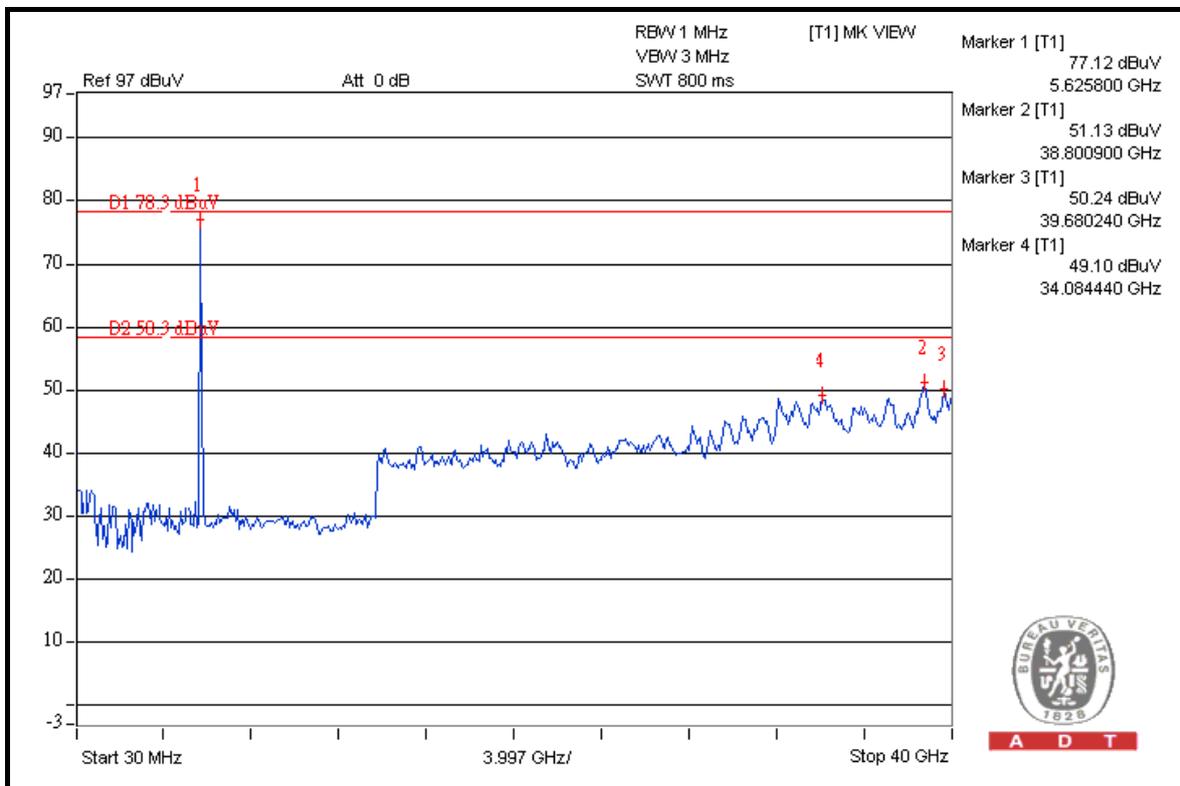
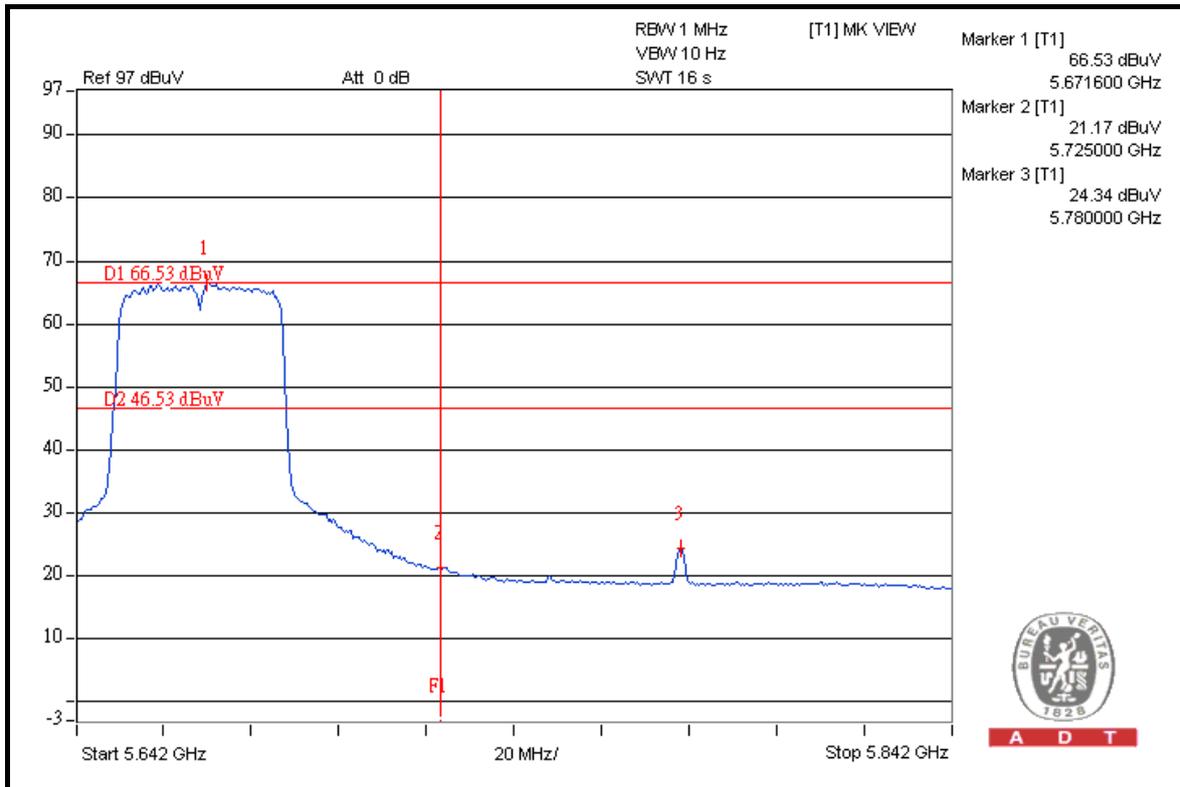


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5. PHOTOGRAPHS OF THE TEST CONFIGURATION

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---