

FCC TEST REPORT (15.407)

REPORT NO.: RF991224C08A

MODEL NO.: APL23-081

FCC ID: QWU-081

RECEIVED: Dec. 24, 2010

TESTED: Dec. 29, 2010 ~ Jan. 20, 2011

ISSUED: Apr. 28, 2011

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
Original release	N/A	Apr. 28, 2011

1. CERTIFICATION

PRODUCT: Access Point 802.11 a/b/g/n

MODEL: APL23-081

BRAND: SonicWALL

APPLICANT: SonicWALL, Inc.

TEST SAMPLE: ENGINEERING SAMPLE

TESTED: Dec. 29, 2010 ~ Jan. 20 ~ 2011

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

ANSI C63.4-2003

ANSI C63.10-2009

The above equipment (Model: APL23-081) 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: Apr. 28, 2011
Andrea Hsia / Specialist

APPROVED BY : Gary Chang , DATE: Apr. 28, 2011
Gary Chang / Assistant Manager

2. SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC PART 15, SUBPART E (SECTION 15.407)			
STANDARD SECTION	TEST TYPE AND LIMIT	RESULT	REMARK
15.407(b)(5)	AC Power Conducted Emission	PASS	Meet the requirement of limit. Minimum passing margin is -1.23dB at 9.277MHz.
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 7440.00MHz & 17040.00MHz.
15.407(a)(1/2/3)	Peak Transmit Power	PASS	Meet the requirement of limit.
15.407(a)(6)	Peak Power Excursion	PASS	Meet the requirement of limit.
15.407(a)(1/2/3)	Peak Power Spectral Density	PASS	Meet the requirement of limit.
15.407(g)	Frequency Stability	PASS	Meet the requirement of limit.
15.203	Antenna Requirement	PASS	Antenna connector is R-SMA not a standard connector.

2.1 MEASUREMENT UNCERTAINTY

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

MEASUREMENT	FREQUENCY	UNCERTAINTY
Conducted emissions	9kHz~30MHz	2.44 dB
Radiated emissions	30MHz ~ 200MHz	3.34 dB
	200MHz ~1000MHz	3.35 dB
	1GHz ~ 18GHz	2.26 dB
	18GHz ~ 40GHz	1.94 dB

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

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

EUT	Access Point 802.11 a/b/g/n
MODEL NO.	APL23-081
FCC ID	QWU-081
NOMINAL VOLTAGE	12Vdc (Adapter) 48Vdc (PoE)
MODULATION TYPE	64QAM, 16QAM, QPSK, BPSK
MODULATION TECHNOLOGY	OFDM
TRANSFER RATE	802.11a: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0Mbps 802.11n: up to 300.0Mbps
OPERATING FREQUENCY	5260 ~ 5320MHz & 5500 ~ 5700MHz
NUMBER OF CHANNEL	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	133.9mW for 5260 ~ 5320MHz 44.6mW for 5500 ~ 5700MHz
ANTENNA TYPE	Refer to Note as below
ANTENNA CONNECTER	Refer to Note as below
DATA CABLE	NA
I/O PORTS	RJ45, RS232
ACCESSORY DEVICES	Adapter

NOTE:

1. This report is issued as a supplementary report of BV ADT report no.: RF991224C08-1. This report is prepared for FCC class II permissive change. The difference compared with the original report is adding frequency band from 5.26 to 5.32GHz and 5.50 to 5.70GHz by software.
2. The EUT is an Access Point 802.11 a/b/g/n. The test data are separated into following test reports.

	TEST STANDARD	REFERENCE REPORT
WLAN 802.11a, 802.11n (5260~5320MHz & 5500~5700MHz)	FCC Part 15, Subpart E (Section 15.407)	RF991224C08A
WLAN 802.11a, 802.11n (For DFS report) (5260~5320MHz & 5500~5700MHz)	FCC Part 15, Subpart E (Section 15.407)	RF991224C08A-1

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

Frequency Band (MHz)	5260~5320	5500~5700
802.11a	√	√
802.11n (20MHz)	√	√
802.11n (40MHz)	√	√

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

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

5. The EUT uses following adapter. & POE

BRAND	SINO-AMERICAN
MODEL	SAL124A-1220V-6
INPUT POWER	100-240Vac, 50-60Hz, 0.8A
OUTPUT POWER	12Vdc, 1.66A
POEWR LINE	DC:1.8 m non-shielded cable with one core AC:1.8 m non-shielded cable without core

POE	
BRAND	SonicWall
MODEL	PD-6083G300
INPUT	100-250Vac, 50/60Hz, 0.5A
OUTPUT	48Vdc, 0.35A

**POE is only for option accessory.

6. The antenna used in this EUT is listed as below table:

TYPE	MASTER WAVE MODEL NO.	ANTENNA CONNECTOR	GAIN (dBi)
Dipole	98620URSX000	R-SMA	4.0dBi

7. The EUT has disabled the 5600-5650MHz band by S/W to avoid 5600-5650MHz.
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

FOR 5260 ~ 5320MHz

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

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
52	5260 MHz	60	5300 MHz
56	5280 MHz	64	5320 MHz

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

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
54	5270 MHz	62	5310 MHz

FOR 5500 ~ 5700MHz

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

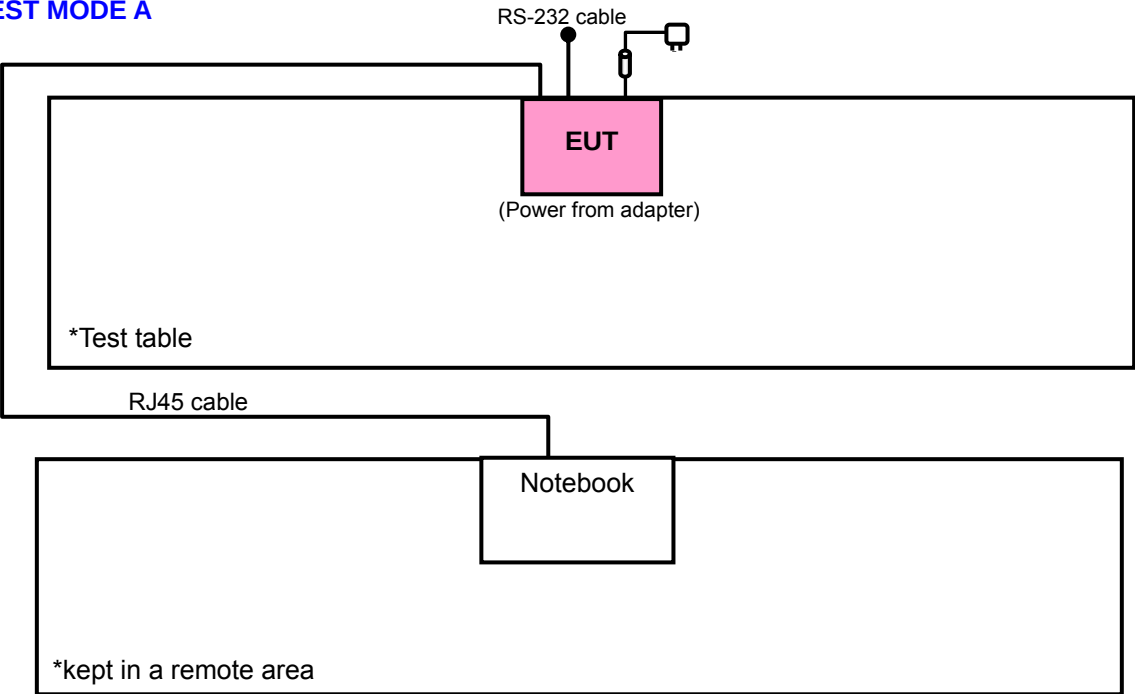
CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
100	5500 MHz	116	5580 MHz
104	5520 MHz	136	5680 MHz
108	5540 MHz	140	5700 MHz
112	5560 MHz		

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

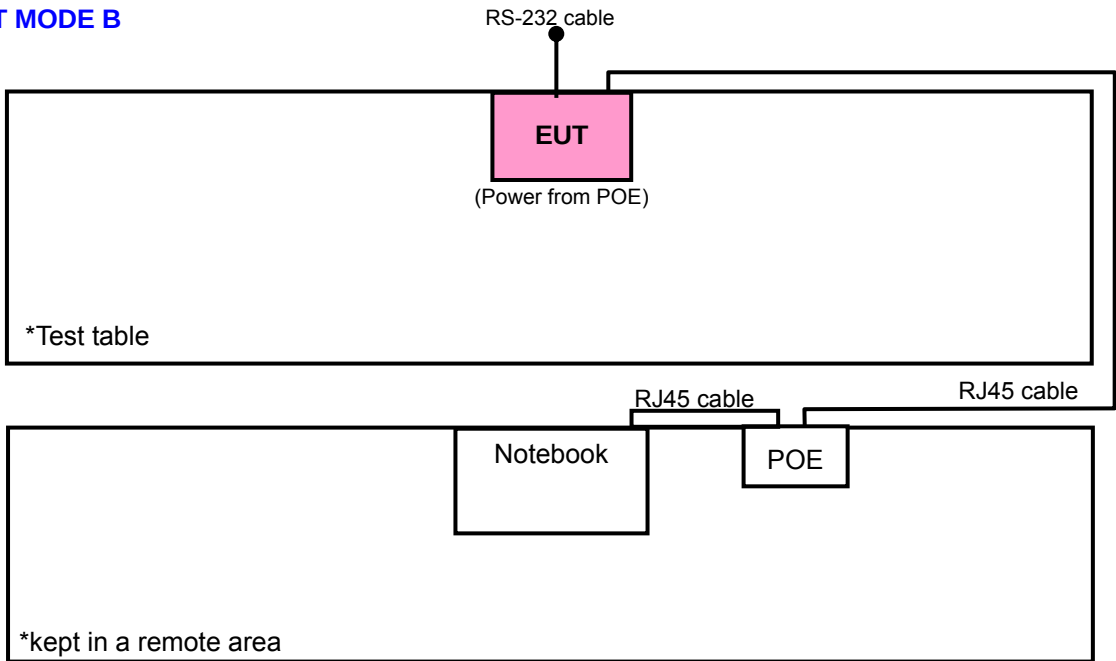
CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
102	5510 MHz	134	5670 MHz
110	5550 MHz		

3.2.1 CONFIGURATION OF SYSTEM UNDER TEST

TEST MODE A



TEST MODE B



3.2.2 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	RE≥1G	RE<1G	PLC	APCM	
A	√	√	√	√	Power from adapter
B	-	√	√	-	Power from POE

Where **RE≥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 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	802.11a	5260-5320	36 to 64	52, 60, 64	OFDM	BPSK	6.0
	802.11n (20MHz)		36 to 64	52, 60, 64	OFDM	BPSK	7.2
	802.11n (40MHz)		38 to 62	54, 62	OFDM	BPSK	15.0
	802.11a	5500-5700	100 to 140	100, 116, 136, 140	OFDM	BPSK	6.0
	802.11n (20MHz)		100 to 140	100, 116, 136, 140	OFDM	BPSK	7.2
	802.11n (40MHz)		102 to 134	102, 110, 134	OFDM	BPSK	15.0

RADIATED EMISSION TEST (BELOW 1GHz):

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

EUT CONFIGURE MODE	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A & B	802.11n (40MHz)	5260-5320	38 to 62	54	OFDM	BPSK	15.0
A & B	802.11a	5500-5700	100 to 140	116	OFDM	BPSK	6.0

POWER LINE CONDUCTED EMISSION TEST:

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

EUT CONFIGURE MODE	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A & B	802.11n (40MHz)	5260-5320	38 to 62	54	OFDM	BPSK	15.0
A & B	802.11a	5500-5700	100 to 140	116	OFDM	BPSK	6.0

BANDEDGE MEASUREMENT:

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

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

TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER (SYSTEM)	TESTED BY
RE $\geq$ 1G	23deg. C, 60%RH, 1012 hPa	120Vac, 60Hz	Match Tsui
RE<1G	21deg. C, 60%RH, 1010 hPa	120Vac, 60Hz	Match Tsui
PLC	20deg. C, 60%RH, 1014 hPa	120Vac, 60Hz	Match Tsui
APCM	21deg. C, 60%RH, 1008 hPa	120Vac, 60Hz	Match Tsui

3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS

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

FCC Part 15, Subpart E (15.407)

ANSI C63.4-2003

ANSI C63.10-2009

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

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

3.4 DESCRIPTION OF SUPPORT UNITS

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

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	NOTEBOOK	DELL	D600	CN-0D2125-48643-4CC-5381	QDS-BRCM1005-D

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	10 m RJ45 UTP cable

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

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 (dBuV/m) *NOTE 3
	PK	PK
5150 ~ 5350	-27	68.3
5470 ~ 5725	-27	68.3

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

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

4.1.3 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Test Receiver ROHDE & SCHWARZ	ESIB7	100033	Jul. 29, 2010	Jul. 28, 2011
Spectrum Analyzer Agilent	E4446A	MY48250266	Aug. 11, 2010	Aug. 10, 2011
BILOG Antenna SCHWARZBECK	VULB9168	9168-160	Apr. 27, 2010	Apr. 26, 2011
HORN Antenna SCHWARZBECK	9120D	9120D-405	Feb. 03, 2010	Feb. 02, 2011
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170243	Dec. 27, 2010	Dec. 26, 2011
Preamplifier Agilent	8447D	2944A10633	Nov. 02, 2010	Nov. 01, 2011
Preamplifier Agilent	8449B	3008A01964	Nov. 02, 2010	Nov. 01, 2011
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	238141/4	May 14, 2010	May 13, 2011
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	12738/6	May 14, 2010	May 13, 2011
Software ADT.	ADT_Radiated_ V7.6.15.9.2	NA	NA	NA
Antenna Tower inn-co GmbH	MA 4000	013303	NA	NA
Antenna Tower Controller inn-co GmbH	CO2000	017303	NA	NA
Turn Table ADT.	TT100.	TT93021703	NA	NA
Turn Table Controller ADT.	SC100.	SC93021703	NA	NA
26GHz ~ 40GHz Amplifier	EM26400	07026401	Aug. 25, 2010	Aug. 24, 2011

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

4.1.4 TEST PROCEDURES

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

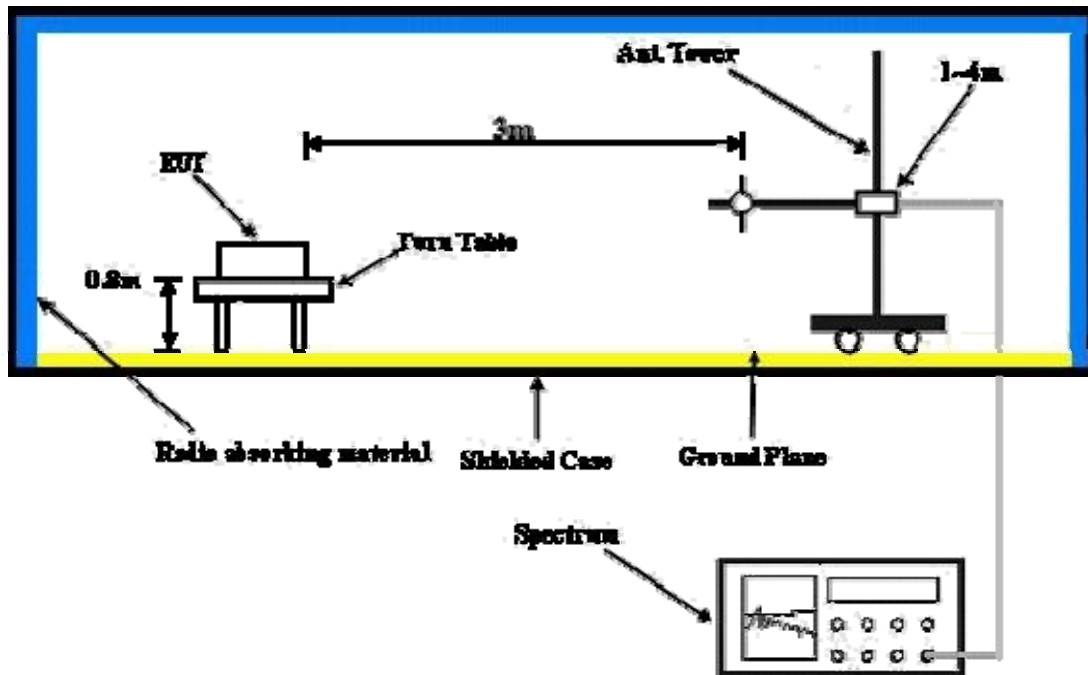
NOTE:

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

4.1.5 DEVIATION FROM TEST STANDARD

No deviation.

4.1.6 TEST SETUP



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

4.1.7 EUT OPERATING CONDITION

- Placed the EUT on the testing table.
- Prepared notebook systems to act as communication partners and placed them outside of testing area.
- The communication partners connected with EUT via a RJ45 cable and run a test program (provided by manufacturer) to enable EUT under transmission condition continuously at specific channel frequency.
- The necessary accessories enable the EUT in full functions.

4.1.8 TEST RESULTS

802.11a

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	21deg. C, 60%RH 1012 hPa	TESTED BY	Match Tsui

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	44.7 PK	74.0	-29.3	1.33 H	58	7.60	37.10
2	5150.00	31.9 AV	54.0	-22.1	1.33 H	58	-5.20	37.10
3	*5260.00	102.4 PK			1.33 H	58	65.10	37.30
4	*5260.00	92.6 AV			1.33 H	58	55.30	37.30
5	#10520.00	63.0 PK	68.3	-5.3	1.28 H	97	15.20	47.80
6	15780.00	58.8 PK	74.0	-15.2	1.20 H	239	11.20	47.60
7	15780.00	46.6 AV	54.0	-7.4	1.20 H	239	-1.00	47.60
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	47.4 PK	74.0	-26.6	1.05 V	316	10.30	37.10
2	5150.00	34.7 AV	54.0	-19.3	1.05 V	316	-2.40	37.10
3	*5260.00	112.5 PK			1.04 V	318	75.20	37.30
4	*5260.00	102.7 AV			1.04 V	318	65.40	37.30
5	#10520.00	63.2 PK	68.3	-5.1	1.44 V	29	15.40	47.80
6	15780.00	66.0 PK	74.0	-8.0	1.41 V	320	18.40	47.60
7	15780.00	52.9 AV	54.0	-1.1	1.41 V	320	5.30	47.60

- REMARKS:**
1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
 2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
 3. The other emission levels were very low against the limit.
 4. Margin value = Emission level – Limit value.
 5. “ * ”: Fundamental frequency.
 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	21deg. C, 60%RH 1012 hPa	TESTED BY	Match Tsui

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	103.2 PK			1.28 H	148	65.80	37.40
2	*5300.00	93.4 AV			1.28 H	148	56.00	37.40
3	10600.00	62.8 PK	74.0	-11.2	1.14 H	95	14.80	48.00
4	10600.00	49.7 AV	54.0	-4.3	1.14 H	95	1.70	48.00
5	15900.00	59.4 PK	74.0	-14.6	1.35 H	318	12.20	47.20
6	15900.00	47.3 AV	54.0	-6.7	1.35 H	318	0.10	47.20
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	113.2 PK			1.02 V	317	75.80	37.40
2	*5300.00	103.6 AV			1.02 V	317	66.20	37.40
3	10600.00	65.3 PK	74.0	-8.7	1.48 V	31	17.30	48.00
4	10600.00	52.3 AV	54.0	-1.7	1.48 V	31	4.30	48.00
5	15900.00	66.3 PK	74.0	-7.7	1.40 V	321	19.10	47.20
6	15900.00	52.8 AV	54.0	-1.2	1.40 V	321	5.60	47.20

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



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 64	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	21deg. C, 60%RH 1012 hPa	TESTED BY	Match Tsui

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	101.6 PK			1.31 H	257	64.20	37.40
2	*5320.00	91.9 AV			1.31 H	257	54.50	37.40
3	5350.00	57.7 PK	74.0	-16.3	1.00 H	278	20.30	37.40
4	5350.00	41.4 AV	54.0	-12.6	1.00 H	278	4.00	37.40
5	10640.00	61.8 PK	74.0	-12.2	1.26 H	97	13.70	48.10
6	10640.00	48.7 AV	54.0	-5.3	1.26 H	97	0.60	48.10
7	15960.00	58.2 PK	74.0	-15.8	1.21 H	360	11.10	47.10
8	15960.00	46.0 AV	54.0	-8.0	1.21 H	360	-1.10	47.10
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	111.7 PK			1.04 V	321	74.30	37.40
2	*5320.00	101.8 AV			1.04 V	321	64.40	37.40
3	5350.00	71.7 PK	74.0	-2.3	1.01 V	323	34.30	37.40
4	5350.00	51.6 AV	54.0	-2.4	1.01 V	323	14.20	37.40
5	10640.00	65.4 PK	74.0	-8.6	1.33 V	325	17.30	48.10
6	10640.00	51.6 AV	54.0	-2.4	1.33 V	325	3.50	48.10
7	15960.00	65.6 PK	74.0	-8.4	1.44 V	322	18.50	47.10
8	15960.00	52.2 AV	54.0	-1.8	1.44 V	322	5.10	47.10

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

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	21deg. C, 60%RH 1012 hPa	TESTED BY	Match Tsui

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	52.0 PK	74.0	-22.0	1.15 H	137	14.40	37.60
2	5460.00	36.0 AV	54.0	-18.0	1.15 H	137	-1.60	37.60
3	#5470.00	58.4 PK	68.3	-9.9	1.15 H	137	20.80	37.60
4	*5500.00	99.4 PK			1.33 H	138	61.80	37.60
5	*5500.00	89.8 AV			1.33 H	138	52.20	37.60
6	7333.00	53.2 PK	74.0	-20.8	1.05 H	153	10.60	42.60
7	7333.00	43.3 AV	54.0	-10.7	1.05 H	153	0.70	42.60
8	11000.00	63.0 PK	74.0	-11.0	1.26 H	87	14.50	48.50
9	11000.00	50.4 AV	54.0	-3.6	1.26 H	87	1.90	48.50
10	#16500.00	58.6 PK	68.3	-9.7	1.06 H	252	9.90	48.70
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	61.9 PK	74.0	-12.1	1.18 V	298	24.30	37.60
2	5460.00	43.2 AV	54.0	-10.8	1.18 V	298	5.60	37.60
3	#5470.00	66.8 PK	68.3	-1.5	1.07 V	310	29.20	37.60
4	*5500.00	109.3 PK			1.42 V	226	71.70	37.60
5	*5500.00	100.0 AV			1.42 V	226	62.40	37.60
6	7333.00	56.8 PK	74.0	-17.2	1.99 V	329	14.20	42.60
7	7333.00	52.8 AV	54.0	-1.2	1.99 V	329	10.20	42.60
8	11000.00	64.9 PK	74.0	-9.1	1.47 V	328	16.40	48.50
9	11000.00	52.9 AV	54.0	-1.1	1.47 V	328	4.40	48.50
10	#16500.00	59.7 PK	68.3	-8.6	1.12 V	21	11.00	48.70

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



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 116	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	21deg. C, 60%RH 1012 hPa	TESTED BY	Match Tsui

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	100.7 PK			1.42 H	137	62.90	37.80
2	*5580.00	90.6 AV			1.42 H	137	52.80	37.80
3	7440.00	53.8 PK	74.0	-20.2	1.08 H	35	11.10	42.70
4	7440.00	43.5 AV	54.0	-10.5	1.08 H	35	0.80	42.70
5	11160.00	65.1 PK	74.0	-8.9	1.41 H	85	16.70	48.40
6	11160.00	51.9 AV	54.0	-2.1	1.41 H	85	3.50	48.40
7	#16740.00	59.4 PK	68.3	-8.9	1.16 H	0	10.20	49.20
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	110.8 PK			1.30 V	126	73.00	37.80
2	*5580.00	101.8 AV			1.30 V	126	64.00	37.80
3	7440.00	57.5 PK	74.0	-16.5	1.84 V	330	14.80	42.70
4	7440.00	53.0 AV	54.0	-1.0	1.84 V	330	10.30	42.70
5	11160.00	67.4 PK	74.0	-6.6	1.47 V	324	19.00	48.40
6	11160.00	52.8 AV	54.0	-1.2	1.47 V	324	4.40	48.40
7	#16740.00	64.2 PK	68.3	-4.1	1.06 V	125	15.00	49.20

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

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	21deg. C, 60%RH 1012 hPa	TESTED BY	Match Tsui

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5680.00	100.1 PK			1.52 H	321	62.10	38.00
2	*5680.00	90.0 AV			1.52 H	321	52.00	38.00
3	7573.00	53.5 PK	74.0	-20.5	1.06 H	277	10.50	43.00
4	7573.00	43.2 AV	54.0	-10.8	1.06 H	277	0.20	43.00
5	11360.00	60.6 PK	74.0	-13.4	1.34 H	90	12.20	48.40
6	11360.00	46.7 AV	54.0	-7.3	1.34 H	90	-1.70	48.40
7	#17040.00	67.0 PK	68.3	-1.3	1.35 H	293	16.50	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	*5680.00	110.2 PK			1.17 V	186	72.20	38.00
2	*5680.00	101.1 AV			1.17 V	186	63.10	38.00
3	7573.00	56.8 PK	74.0	-17.2	2.05 V	333	13.80	43.00
4	7573.00	52.2 AV	54.0	-1.8	2.05 V	333	9.20	43.00
5	11360.00	65.2 PK	74.0	-8.8	1.73 V	323	16.80	48.40
6	11360.00	51.6 AV	54.0	-2.4	1.73 V	323	3.20	48.40
7	#17040.00	67.3 PK	68.3	-1.0	1.11 V	289	16.80	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.
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	21deg. C, 60%RH 1012 hPa	TESTED BY	Match Tsui

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	100.7 PK			1.28 H	307	62.60	38.10
2	*5700.00	90.5 AV			1.28 H	307	52.40	38.10
3	#5725.00	51.8 PK	68.3	-16.5	1.14 H	311	13.70	38.10
4	7600.00	52.9 PK	74.0	-21.1	1.02 H	63	9.90	43.00
5	7600.00	43.1 AV	54.0	-10.9	1.02 H	63	0.10	43.00
6	11400.00	58.3 PK	74.0	-15.7	1.61 H	121	9.90	48.40
7	11400.00	45.2 AV	54.0	-8.8	1.61 H	121	-3.20	48.40
8	#17100.00	65.8 PK	68.3	-2.5	1.34 H	214	15.20	50.60
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	109.7 PK			1.28 V	192	71.60	38.10
2	*5700.00	100.6 AV			1.28 V	192	62.50	38.10
3	#5725.00	66.8 PK	68.3	-1.5	1.29 V	216	28.70	38.10
4	7600.00	56.2 PK	74.0	-17.8	1.93 V	323	13.20	43.00
5	7600.00	52.8 AV	54.0	-1.2	1.93 V	323	9.80	43.00
6	11400.00	60.8 PK	74.0	-13.2	1.72 V	342	12.40	48.40
7	11400.00	48.0 AV	54.0	-6.0	1.72 V	342	-0.40	48.40
8	#17100.00	65.7 PK	68.3	-2.6	1.06 V	38	15.10	50.60

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

802.11n (20MHz)

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	21deg. C, 60%RH 1012 hPa	TESTED BY	Match Tsui

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	46.6 PK	74.0	-27.4	1.01 H	163	9.50	37.10
2	5150.00	33.9 AV	54.0	-20.1	1.01 H	163	-3.20	37.10
3	*5260.00	102.5 PK			1.01 H	160	65.20	37.30
4	*5260.00	92.4 AV			1.01 H	160	55.10	37.30
5	#10520.00	59.8 PK	68.3	-8.5	1.54 H	94	12.00	47.80
6	15780.00	62.2 PK	74.0	-11.8	1.80 H	322	14.60	47.60
7	15780.00	49.5 AV	54.0	-4.5	1.80 H	322	1.90	47.60
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	48.6 PK	74.0	-25.4	1.16 V	83	11.50	37.10
2	5150.00	36.7 AV	54.0	-17.3	1.16 V	83	-0.40	37.10
3	*5260.00	112.3 PK			1.15 V	52	75.00	37.30
4	*5260.00	102.4 AV			1.15 V	52	65.10	37.30
5	#10520.00	62.2 PK	68.3	-6.1	1.59 V	34	14.40	47.80
6	15780.00	65.7 PK	74.0	-8.3	1.43 V	322	18.10	47.60
7	15780.00	52.3 AV	54.0	-1.7	1.43 V	322	4.70	47.60

- REMARKS:**
1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
 2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
 3. The other emission levels were very low against the limit.
 4. Margin value = Emission level – Limit value.
 5. “ * ”: Fundamental frequency.
 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	21deg. C, 60%RH 1012 hPa	TESTED BY	Match Tsui

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	102.8 PK			1.00 H	178	65.40	37.40
2	*5300.00	92.7 AV			1.00 H	178	55.30	37.40
3	10600.00	59.5 PK	74.0	-14.5	1.33 H	77	11.50	48.00
4	10600.00	48.4 AV	54.0	-5.6	1.33 H	77	0.40	48.00
5	15900.00	61.8 PK	74.0	-12.2	1.58 H	293	14.60	47.20
6	15900.00	49.8 AV	54.0	-4.2	1.58 H	293	2.60	47.20
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	113.6 PK			1.08 V	63	76.20	37.40
2	*5300.00	103.9 AV			1.08 V	63	66.50	37.40
3	10600.00	64.6 PK	74.0	-9.4	1.48 V	328	16.60	48.00
4	10600.00	52.5 AV	54.0	-1.5	1.48 V	328	4.50	48.00
5	15900.00	65.6 PK	74.0	-8.4	1.18 V	125	18.40	47.20
6	15900.00	52.1 AV	54.0	-1.9	1.18 V	125	4.90	47.20

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



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 64	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	21deg. C, 60%RH 1012 hPa	TESTED BY	Match Tsui

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	102.2 PK			1.00 H	296	64.80	37.40
2	*5320.00	92.4 AV			1.00 H	296	55.00	37.40
3	5350.00	57.0 PK	74.0	-17.0	1.08 H	304	19.60	37.40
4	5350.00	40.3 AV	54.0	-13.7	1.08 H	304	2.90	37.40
5	10640.00	60.1 PK	74.0	-13.9	1.33 H	100	12.00	48.10
6	10640.00	48.9 AV	54.0	-5.1	1.33 H	100	0.80	48.10
7	15960.00	62.4 PK	74.0	-11.6	1.48 H	311	15.30	47.10
8	15960.00	50.2 AV	54.0	-3.8	1.48 H	311	3.10	47.10
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	112.0 PK			1.15 V	324	74.60	37.40
2	*5320.00	102.2 AV			1.15 V	324	64.80	37.40
3	5350.00	66.4 PK	74.0	-7.6	1.00 V	327	29.00	37.40
4	5350.00	49.0 AV	54.0	-5.0	1.00 V	327	11.60	37.40
5	10640.00	64.7 PK	74.0	-9.3	1.40 V	331	16.60	48.10
6	10640.00	52.5 AV	54.0	-1.5	1.40 V	331	4.40	48.10
7	15960.00	65.7 PK	74.0	-8.3	1.63 V	327	18.60	47.10
8	15960.00	52.5 AV	54.0	-1.5	1.63 V	327	5.40	47.10

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



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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	21deg. C, 60%RH 1012 hPa	TESTED BY	Match Tsui

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	49.3 PK	74.0	-24.7	1.39 H	54	11.70	37.60
2	5460.00	34.3 AV	54.0	-19.7	1.39 H	54	-3.30	37.60
3	#5470.00	54.2 PK	68.3	-14.1	1.39 H	54	16.60	37.60
4	*5500.00	99.8 PK			1.38 H	55	62.20	37.60
5	*5500.00	89.4 AV			1.38 H	55	51.80	37.60
6	7333.00	53.4 PK	74.0	-20.6	1.08 H	68	10.80	42.60
7	7333.00	43.8 AV	54.0	-10.2	1.08 H	68	1.20	42.60
8	11000.00	64.3 PK	74.0	-9.7	1.54 H	92	15.80	48.50
9	11000.00	50.7 AV	54.0	-3.3	1.54 H	92	2.20	48.50
10	#16500.00	59.0 PK	68.3	-9.3	1.07 H	0	10.30	48.70
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	63.1 PK	74.0	-10.9	1.18 V	202	25.50	37.60
2	5460.00	45.2 AV	54.0	-8.8	1.18 V	202	7.60	37.60
3	#5470.00	67.2 PK	68.3	-1.1	1.18 V	202	29.60	37.60
4	*5500.00	110.4 PK			1.07 V	199	72.80	37.60
5	*5500.00	100.7 AV			1.07 V	199	63.10	37.60
6	7333.00	55.9 PK	74.0	-18.1	1.82 V	331	13.30	42.60
7	7333.00	52.8 AV	54.0	-1.2	1.82 V	331	10.20	42.60
8	11000.00	63.0 PK	74.0	-11.0	1.17 V	115	14.50	48.50
9	11000.00	51.2 AV	54.0	-2.8	1.17 V	115	2.70	48.50
10	#16500.00	58.6 PK	68.3	-9.7	1.02 V	209	9.90	48.70

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

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	21deg. C, 60%RH 1012 hPa	TESTED BY	Match Tsui

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	100.1 PK			1.39 H	144	62.30	37.80
2	*5580.00	89.8 AV			1.39 H	144	52.00	37.80
3	7440.00	53.2 PK	74.0	-20.8	1.08 H	299	10.50	42.70
4	7440.00	43.7 AV	54.0	-10.3	1.08 H	299	1.00	42.70
5	11160.00	64.8 PK	74.0	-9.2	1.39 H	100	16.40	48.40
6	11160.00	51.3 AV	54.0	-2.7	1.39 H	100	2.90	48.40
7	#16740.00	59.0 PK	68.3	-9.3	1.10 H	360	9.80	49.20
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	110.8 PK			1.24 V	123	73.00	37.80
2	*5580.00	100.0 AV			1.24 V	123	62.20	37.80
3	7440.00	56.3 PK	74.0	-17.7	1.77 V	322	13.60	42.70
4	7440.00	52.8 AV	54.0	-1.2	1.77 V	322	10.10	42.70
5	11160.00	67.1 PK	74.0	-6.9	1.42 V	311	18.70	48.40
6	11160.00	52.2 AV	54.0	-1.8	1.42 V	311	3.80	48.40
7	#16740.00	63.8 PK	68.3	-4.5	1.04 V	133	14.60	49.20

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



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 136	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	21deg. C, 60%RH 1012 hPa	TESTED BY	Match Tsui

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5680.00	100.4 PK			1.47 H	300	62.40	38.00
2	*5680.00	90.2 AV			1.47 H	300	52.20	38.00
3	7573.00	53.2 PK	74.0	-20.8	1.06 H	157	10.20	43.00
4	7573.00	43.7 AV	54.0	-10.3	1.06 H	157	0.70	43.00
5	11360.00	61.1 PK	74.0	-12.9	1.29 H	100	12.70	48.40
6	11360.00	46.2 AV	54.0	-7.8	1.29 H	100	-2.20	48.40
7	#17040.00	66.8 PK	68.3	-1.5	1.35 H	307	16.30	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	*5680.00	110.2 PK			1.14 V	210	72.20	38.00
2	*5680.00	100.3 AV			1.14 V	210	62.30	38.00
3	7573.00	56.8 PK	74.0	-17.2	1.89 V	335	13.80	43.00
4	7573.00	52.8 AV	54.0	-1.2	1.89 V	335	9.80	43.00
5	11360.00	65.9 PK	74.0	-8.1	1.69 V	300	17.50	48.40
6	11360.00	52.0 AV	54.0	-2.0	1.69 V	300	3.60	48.40
7	#17040.00	67.1 PK	68.3	-1.2	1.10 V	300	16.60	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.
 6. “ # “: The radiated frequency is out the restricted band.

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	21deg. C, 60%RH 1012 hPa	TESTED BY	Match Tsui

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	99.0 PK			1.31 H	311	60.90	38.10
2	*5700.00	89.3 AV			1.31 H	311	51.20	38.10
3	#5725.00	52.1 PK	68.3	-16.2	1.14 H	300	14.00	38.10
4	7600.00	53.2 PK	74.0	-20.8	1.09 H	52	10.20	43.00
5	7600.00	43.3 AV	54.0	-10.7	1.09 H	52	0.30	43.00
6	11400.00	57.7 PK	74.0	-16.3	1.54 H	190	9.30	48.40
7	11400.00	44.9 AV	54.0	-9.1	1.54 H	190	-3.50	48.40
8	#17100.00	65.2 PK	68.3	-3.1	1.23 H	211	14.60	50.60
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	109.7 PK			1.04 V	205	71.60	38.10
2	*5700.00	99.9 AV			1.04 V	205	61.80	38.10
3	#5725.00	67.1 PK	68.3	-1.2	1.29 V	235	29.00	38.10
4	7600.00	56.2 PK	74.0	-17.8	1.85 V	315	13.20	43.00
5	7600.00	52.7 AV	54.0	-1.3	1.85 V	315	9.70	43.00
6	11400.00	59.4 PK	74.0	-14.6	1.69 V	300	11.00	48.40
7	11400.00	47.5 AV	54.0	-6.5	1.69 V	300	-0.90	48.40
8	#17100.00	65.2 PK	68.3	-3.1	1.10 V	40	14.60	50.60

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

802.11n (40MHz)

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	21deg. C, 60%RH 1012 hPa	TESTED BY	Match Tsui

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	54.5 PK	74.0	-19.5	1.30 H	175	17.40	37.10
2	5150.00	39.8 AV	54.0	-14.2	1.30 H	175	2.70	37.10
3	*5270.00	101.2 PK			1.04 H	176	63.90	37.30
4	*5270.00	91.1 AV			1.04 H	176	53.80	37.30
5	#10540.00	58.4 PK	68.3	-9.9	1.30 H	0	10.50	47.90
6	15810.00	59.9 PK	74.0	-14.1	1.44 H	322	12.40	47.50
7	15810.00	47.9 AV	54.0	-6.1	1.44 H	322	0.40	47.50
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	5150.00	65.2 PK	74.0	-8.8	1.25 V	163	28.10	37.10
2	5150.00	50.3 AV	54.0	-3.7	1.25 V	163	13.20	37.10
3	*5270.00	111.3 PK			1.24 V	172	74.00	37.30
4	*5270.00	101.2 AV			1.24 V	172	63.90	37.30
5	#10540.00	65.0 PK	68.3	-3.3	1.44 V	331	17.10	47.90
6	15810.00	64.7 PK	74.0	-9.3	1.46 V	323	17.20	47.50
7	15810.00	52.2 AV	54.0	-1.8	1.46 V	323	4.70	47.50

- 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.
 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	21deg. C, 60%RH 1012 hPa	TESTED BY	Match Tsui

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5310.00	95.5 PK			1.33 H	262	58.10	37.40
2	*5310.00	85.2 AV			1.33 H	262	47.80	37.40
3	5350.00	60.7 PK	74.0	-13.3	1.32 H	262	23.30	37.40
4	5350.00	42.6 AV	54.0	-11.4	1.32 H	262	5.20	37.40
5	10620.00	56.1 PK	74.0	-17.9	1.00 H	200	8.00	48.10
6	10620.00	43.6 AV	54.0	-10.4	1.00 H	200	-4.50	48.10
7	15930.00	56.0 PK	74.0	-18.0	1.06 H	360	8.90	47.10
8	15930.00	43.7 AV	54.0	-10.3	1.06 H	360	-3.40	47.10
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5310.00	105.2 PK			1.02 V	324	67.80	37.40
2	*5310.00	95.0 AV			1.02 V	324	57.60	37.40
3	5350.00	72.0 PK	74.0	-2.0	1.02 V	321	34.60	37.40
4	5350.00	52.7 AV	54.0	-1.3	1.02 V	321	15.30	37.40
5	10620.00	62.5 PK	74.0	-11.5	1.58 V	331	14.40	48.10
6	10620.00	49.8 AV	54.0	-4.2	1.58 V	331	1.70	48.10
7	15930.00	62.0 PK	74.0	-12.0	1.49 V	326	14.90	47.10
8	15930.00	49.7 AV	54.0	-4.3	1.49 V	326	2.60	47.10

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

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	21deg. C, 60%RH 1012 hPa	TESTED BY	Match Tsui

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	53.5 PK	74.0	-20.5	1.67 H	87	15.90	37.60
2	5460.00	35.7 AV	54.0	-18.3	1.67 H	87	-1.90	37.60
3	#5470.00	57.7 PK	68.3	-10.6	1.67 H	87	20.10	37.60
4	*5510.00	92.3 PK			1.28 H	105	54.70	37.60
5	*5510.00	82.5 AV			1.28 H	105	44.90	37.60
6	7346.00	53.5 PK	74.0	-20.5	1.15 H	226	10.90	42.60
7	7346.00	43.7 AV	54.0	-10.3	1.15 H	226	1.10	42.60
8	11020.00	65.8 PK	74.0	-8.2	1.41 H	95	17.30	48.50
9	11020.00	51.9 AV	54.0	-2.1	1.41 H	95	3.40	48.50
10	#16530.00	62.3 PK	68.3	-6.0	1.53 H	253	13.50	48.80
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	62.7 PK	74.0	-11.3	1.21 V	25	25.10	37.60
2	5460.00	41.6 AV	54.0	-12.4	1.21 V	25	4.00	37.60
3	#5470.00	67.2 PK	68.3	-1.1	1.21 V	25	29.60	37.60
4	*5510.00	102.5 PK			1.20 V	22	64.90	37.60
5	*5510.00	92.1 AV			1.20 V	22	54.50	37.60
6	7346.00	56.0 PK	74.0	-18.0	1.85 V	332	13.40	42.60
7	7346.00	52.6 AV	54.0	-1.4	1.85 V	332	10.00	42.60
8	11020.00	64.4 PK	74.0	-9.6	1.41 V	121	15.90	48.50
9	11020.00	51.0 AV	54.0	-3.0	1.41 V	121	2.50	48.50
10	#16530.00	64.0 PK	68.3	-4.3	1.16 V	32	15.20	48.80

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 110	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	21deg. C, 60%RH 1012 hPa	TESTED BY	Match Tsui

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5550.00	93.3 PK			2.12 H	82	55.60	37.70
2	*5550.00	83.5 AV			2.12 H	82	45.80	37.70
3	7400.00	53.6 PK	74.0	-20.4	1.57 H	325	11.00	42.60
4	7400.00	45.2 AV	54.0	-8.8	1.57 H	325	2.60	42.60
5	11100.00	58.7 PK	74.0	-15.3	1.02 H	223	10.20	48.50
6	11100.00	47.3 AV	54.0	-6.7	1.02 H	223	-1.20	48.50
7	#16650.00	58.1 PK	68.3	-10.2	1.27 H	253	9.00	49.10
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5550.00	103.4 PK			1.03 V	128	65.70	37.70
2	*5550.00	93.3 AV			1.03 V	128	55.60	37.70
3	7400.00	57.5 PK	74.0	-16.5	2.04 V	0	14.90	42.60
4	7400.00	52.8 AV	54.0	-1.2	2.04 V	0	10.20	42.60
5	11100.00	66.7 PK	74.0	-7.3	1.44 V	118	18.20	48.50
6	11100.00	52.0 AV	54.0	-2.0	1.44 V	118	3.50	48.50
7	#16650.00	65.2 PK	68.3	-3.1	1.12 V	165	16.10	49.10

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



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 134	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	21deg. C, 60%RH 1012 hPa	TESTED BY	Match Tsui

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5670.00	95.1 PK			1.86 H	102	57.10	38.00
2	*5670.00	85.2 AV			1.86 H	102	47.20	38.00
3	#5725.00	55.9 PK	68.3	-12.4	1.36 H	311	17.80	38.10
4	7560.00	52.3 PK	74.0	-21.7	1.43 H	299	9.40	42.90
7	7560.00	43.7 AV	54.0	-10.3	1.08 H	185	0.80	42.90
8	11340.00	57.2 PK	74.0	-16.8	1.07 H	222	8.70	48.50
9	11340.00	46.8 AV	54.0	-7.2	1.07 H	222	-1.70	48.50
10	#17010.00	57.2 PK	68.3	-11.1	1.12 H	232	6.80	50.40
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5670.00	105.2 PK			1.18 V	123	67.20	38.00
2	*5670.00	95.2 AV			1.18 V	123	57.20	38.00
3	#5725.00	67.0 PK	68.3	-1.3	1.17 V	125	28.90	38.10
4	7560.00	54.9 PK	74.0	-19.1	2.10 V	351	12.00	42.90
5	7560.00	52.9 AV	54.0	-1.1	2.10 V	351	10.00	42.90
6	11340.00	60.3 PK	74.0	-13.7	1.47 V	120	11.80	48.50
7	11340.00	48.0 AV	54.0	-6.0	1.47 V	120	-0.50	48.50
8	#17010.00	64.0 PK	68.3	-4.3	1.20 V	164	13.60	50.40

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

BELOW 1GHz WORST-CASE DATA : 802.11n (40MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 54	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	21deg. C, 60%RH 1010 hPa	TEST MODE	A
TESTED BY	Match Tsui		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	101.84	35.6 QP	43.5	-7.9	2.00 H	274	25.10	10.50
2	249.60	39.0 QP	46.0	-7.0	1.00 H	76	26.00	13.00
3	307.93	33.5 QP	46.0	-12.5	1.00 H	130	18.30	15.20
4	395.43	32.1 QP	46.0	-13.9	1.25 H	142	14.80	17.30
5	626.80	36.0 QP	46.0	-10.0	1.25 H	142	13.10	22.90
6	745.40	34.8 QP	46.0	-11.2	1.00 H	355	10.10	24.70
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	37.37	36.9 QP	40.0	-3.1	1.00 V	159	23.50	13.40
2	333.21	36.8 QP	46.0	-9.2	1.25 V	178	21.00	15.80
3	500.42	34.1 QP	46.0	-11.9	1.00 V	355	13.80	20.30
4	626.80	34.4 QP	46.0	-11.6	2.00 V	193	11.50	22.90
5	745.40	34.0 QP	46.0	-12.0	1.50 V	61	9.30	24.70
6	877.61	37.6 QP	46.0	-8.4	1.25 V	223	11.00	26.60

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 54	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	21deg. C, 60%RH 1010 hPa	TEST MODE	B
TESTED BY	Match Tsui		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	101.84	36.5 QP	43.5	-7.0	2.00 H	295	26.00	10.50
2	249.60	35.5 QP	46.0	-10.5	1.00 H	106	22.50	13.00
3	311.82	36.1 QP	46.0	-9.9	1.00 H	70	20.80	15.30
4	395.43	33.0 QP	46.0	-13.0	1.00 H	253	15.70	17.30
5	626.80	35.4 QP	46.0	-10.6	1.25 H	145	12.50	22.90
6	877.61	37.1 QP	46.0	-8.9	1.00 H	148	10.50	26.60
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	34.69	38.3 QP	40.0	-1.7	1.13 V	69	25.90	12.40
2	90.17	36.2 QP	43.5	-7.3	1.00 V	220	27.60	8.60
3	335.15	34.5 QP	46.0	-11.5	1.50 V	208	18.70	15.80
4	500.42	34.3 QP	46.0	-11.7	1.00 V	7	14.00	20.30
5	745.40	33.9 QP	46.0	-12.1	1.50 V	61	9.20	24.70
6	877.61	36.7 QP	46.0	-9.3	1.25 V	220	10.10	26.60

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

802.11a

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 116	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	21deg. C, 60%RH 1010 hPa	TEST MODE	A
TESTED BY	Match Tsui		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	199.05	35.3 QP	43.5	-8.2	2.00 H	283	24.80	10.50
2	249.60	40.1 QP	46.0	-5.9	1.25 H	35	27.10	13.00
3	335.15	39.1 QP	46.0	-6.9	1.50 H	277	23.30	15.80
4	401.26	35.2 QP	46.0	-10.8	1.00 H	286	17.70	17.50
5	626.80	38.5 QP	46.0	-7.5	1.25 H	189	15.60	22.90
6	745.40	37.5 QP	46.0	-8.5	1.25 H	352	12.80	24.70
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	37.53	37.0 QP	40.0	-3.0	1.02 V	28	23.60	13.40
2	66.84	35.1 QP	40.0	-4.9	1.25 V	250	22.70	12.40
3	337.10	35.9 QP	46.0	-10.1	1.25 V	157	20.00	15.90
4	500.42	34.5 QP	46.0	-11.5	1.00 V	208	14.20	20.30
5	745.40	34.5 QP	46.0	-11.5	1.50 V	61	9.80	24.70
6	877.61	37.0 QP	46.0	-9.0	1.50 V	184	10.40	26.60

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 116	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	21deg. C, 60%RH 1010 hPa	TEST MODE	B
TESTED BY	Match Tsui		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	101.84	34.2 QP	43.5	-9.3	1.25 H	268	23.70	10.50
2	249.60	38.4 QP	46.0	-7.6	1.25 H	85	25.40	13.00
3	309.88	39.0 QP	46.0	-7.0	1.00 H	277	23.80	15.20
4	626.80	38.2 QP	46.0	-7.8	1.25 H	10	15.30	22.90
5	745.40	37.6 QP	46.0	-8.4	1.25 H	331	12.90	24.70
6	877.61	37.4 QP	46.0	-8.6	1.25 H	139	10.80	26.60
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	35.89	38.2 QP	40.0	-1.8	1.02 V	329	25.40	12.80
2	335.15	38.1 QP	46.0	-7.9	1.25 V	199	22.30	15.80
3	405.15	37.5 QP	46.0	-8.5	1.25 V	106	19.90	17.60
4	500.42	38.1 QP	46.0	-7.9	1.00 V	4	17.80	20.30
5	745.40	38.0 QP	46.0	-8.0	1.50 V	64	13.30	24.70
6	792.06	36.3 QP	46.0	-9.7	1.25 V	82	11.10	25.20

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

4.2 CONDUCTED EMISSION MEASUREMENT

4.2.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

FREQUENCY OF EMISSION (MHz)	CONDUCTED LIMIT (dB μ V)	
	Quasi-peak	Average
0.15 ~ 0.5	66 to 56	56 to 46
0.5 ~ 5	56	46
5 ~ 30	60	50

- NOTE:** 1. The lower limit shall apply at the transition frequencies.
2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.
3. All emanations from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

4.2.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Test Receiver ROHDE & SCHWARZ	ESCS30	100289	Nov. 23, 2010	Nov. 22, 2011
RF signal cable Woken	5D-FB	Cable-HYCO2-01	Dec. 30, 2010	Dec. 29, 2011
LISN ROHDE & SCHWARZ	ESH3-Z5	100312	Jun. 28, 2010	Jun. 27, 2011
LISN ROHDE & SCHWARZ	ESH3-Z5	100311	Jul. 08, 2010	Jul. 07, 2011
V-LISN SCHWARZBECK	NNBL 8226-2	8226-142	Jul. 12, 2010	Jul. 11, 2011
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.

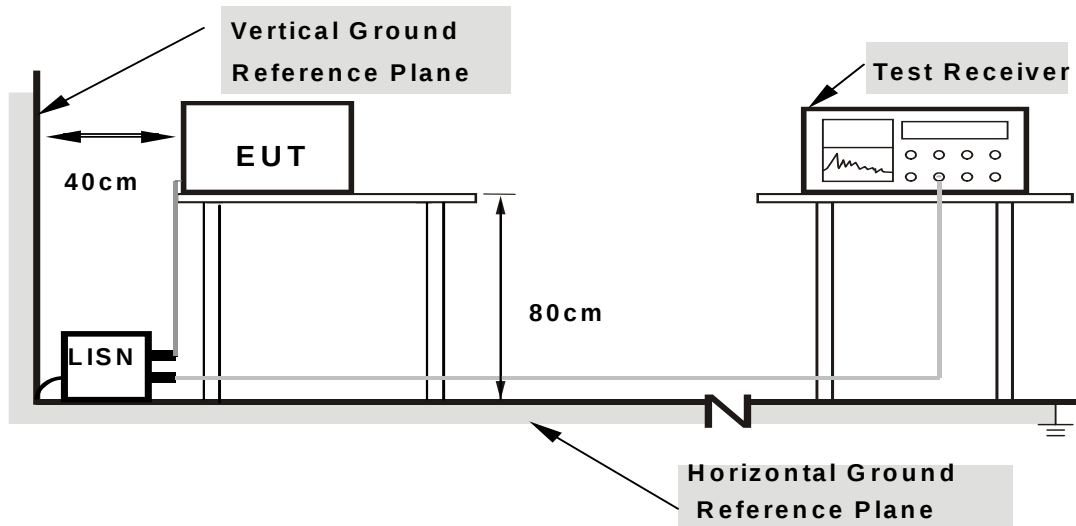
4.2.3 TEST PROCEDURES

- 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.

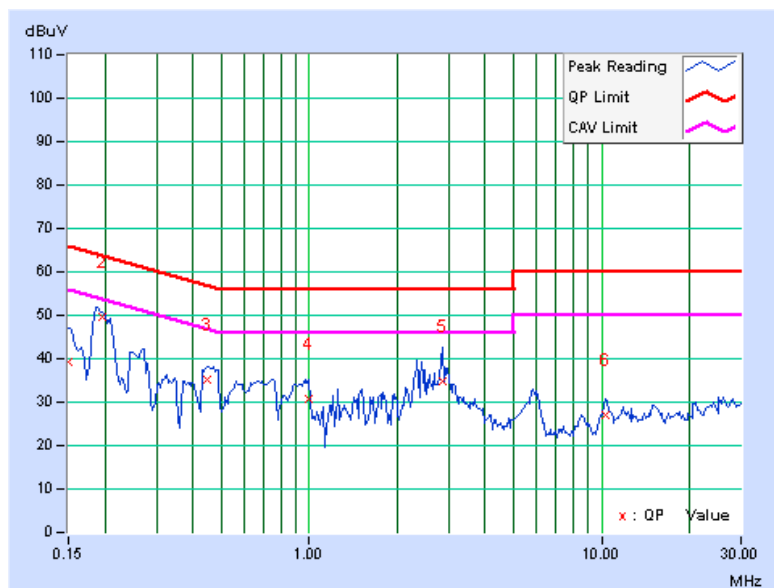
4.2.7 TEST RESULTS

CONDUCTED WORST-CASE DATA : 802.11n (40MHz)

CHANNEL	Channel 54	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	39.10	-	39.26	-	66.00	56.00	-26.74	-
2	0.197	0.16	49.30	-	49.46	-	63.74	53.74	-14.28	-
3	0.447	0.18	34.94	-	35.12	-	56.93	46.93	-21.81	-
4	0.998	0.23	30.64	-	30.87	-	56.00	46.00	-25.13	-
5	2.844	0.33	34.38	-	34.71	-	56.00	46.00	-21.29	-
6	10.359	0.36	26.64	-	27.00	-	60.00	50.00	-33.00	-

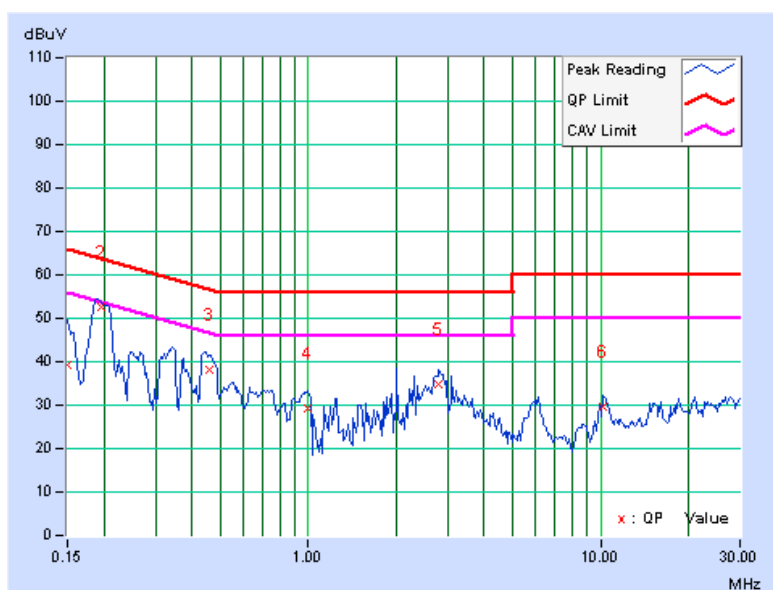
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value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



CHANNEL	Channel 54	PHASE	Line2
6dB BANDWIDTH	9kHz	TEST MODE	A

	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
No		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.150	0.12	39.22	-	39.34	-	66.00	56.00	-26.66	-
2	0.197	0.13	52.44	-	52.57	-	63.74	53.74	-11.18	-
3	0.459	0.17	37.88	-	38.05	-	56.72	46.72	-18.67	-
4	0.998	0.22	28.88	-	29.10	-	56.00	46.00	-26.90	-
5	2.805	0.32	34.40	-	34.72	-	56.00	46.00	-21.28	-
6	10.160	0.45	29.34	-	29.79	-	60.00	50.00	-30.21	-

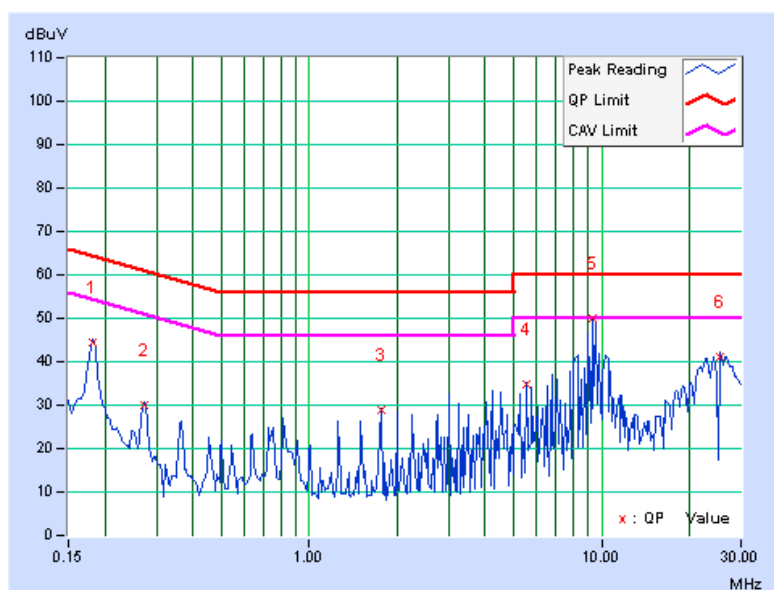
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value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



CHANNEL	Channel 54	PHASE	Line 1
6dB BANDWIDTH	9kHz	TEST MODE	B

	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
No		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.181	0.16	44.38	-	44.54	-	64.43	54.43	-19.89	-
2	0.271	0.17	29.74	-	29.91	-	61.08	51.08	-31.18	-
3	1.754	0.29	28.52	-	28.81	-	56.00	46.00	-27.19	-
4	5.516	0.35	34.62	-	34.97	-	60.00	50.00	-25.03	-
5	9.277	0.35	49.54	-	49.89	-	60.00	50.00	-10.11	-
6	25.570	0.58	40.60	-	41.18	-	60.00	50.00	-18.82	-

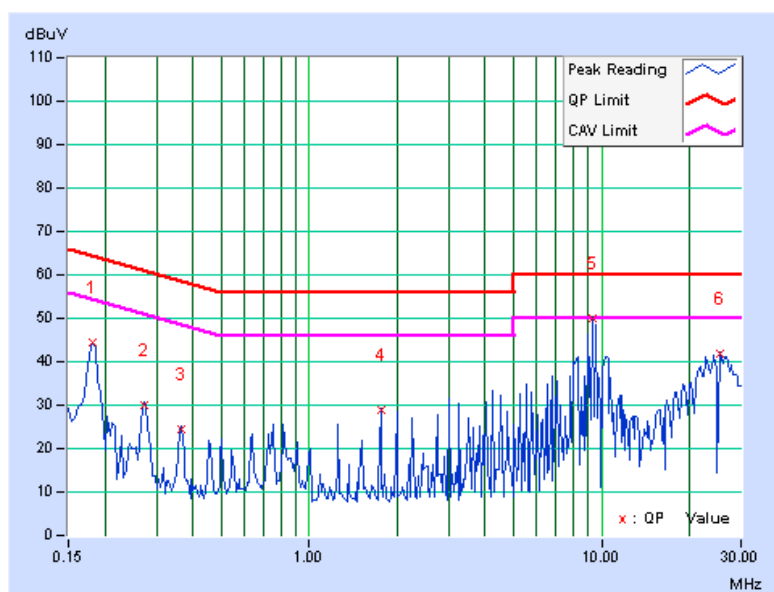
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value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



CHANNEL	Channel 54	PHASE	Line2
6dB BANDWIDTH	9kHz	TEST MODE	B

	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
No		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.181	0.13	44.22	-	44.35	-	64.43	54.43	-20.08	-
2	0.271	0.14	29.80	-	29.94	-	61.08	51.08	-31.14	-
3	0.365	0.15	24.42	-	24.57	-	58.62	48.62	-34.04	-
4	1.754	0.28	28.54	-	28.82	-	56.00	46.00	-27.18	-
5	9.277	0.43	49.52	-	49.95	-	60.00	50.00	-10.05	-
6	25.574	0.85	41.06	-	41.91	-	60.00	50.00	-18.09	-

- 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.

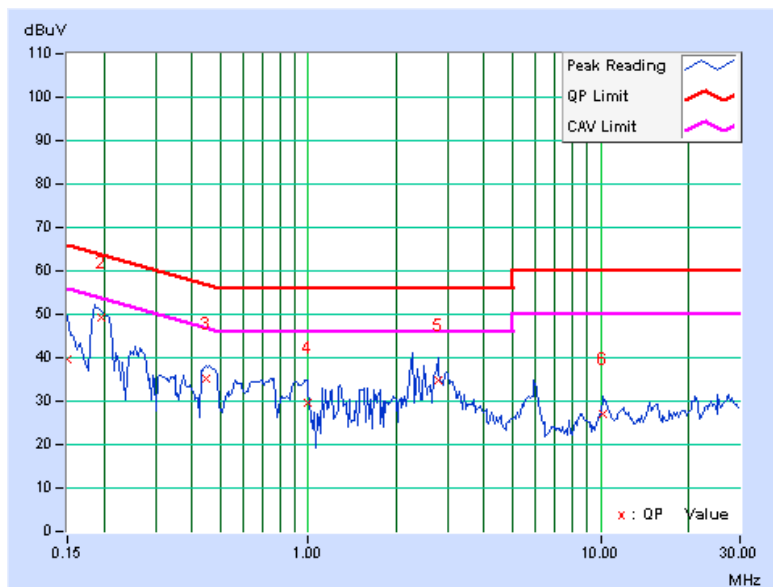


802.11a

CHANNEL	Channel 116	PHASE	Line 1
6dB BANDWIDTH	9kHz	TEST MODE	A

	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
No		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.150	0.16	39.30	-	39.46	-	66.00	56.00	-26.54	-
2	0.197	0.16	49.26	-	49.42	-	63.74	53.74	-14.32	-
3	0.447	0.18	34.96	-	35.14	-	56.93	46.93	-21.79	-
4	0.990	0.23	29.40	-	29.63	-	56.00	46.00	-26.37	-
5	2.781	0.33	34.40	-	34.73	-	56.00	46.00	-21.27	-
6	10.168	0.36	26.50	-	26.86	-	60.00	50.00	-33.14	-

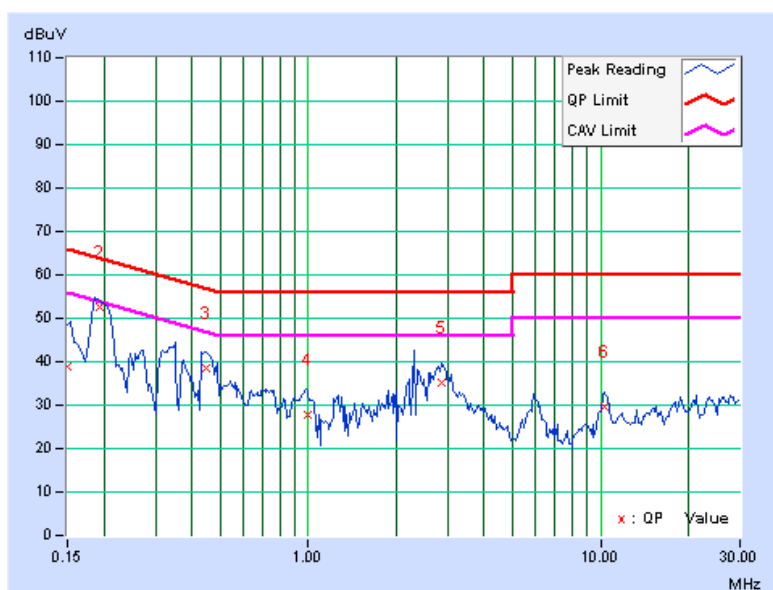
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value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



CHANNEL	Channel 116	PHASE	Line2
6dB BANDWIDTH	9kHz	TEST MODE	A

	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
No		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.150	0.12	38.90	-	39.02	-	66.00	56.00	-26.98	-
2	0.193	0.13	52.60	-	52.73	-	63.91	53.91	-11.18	-
3	0.447	0.16	38.42	-	38.58	-	56.93	46.93	-18.35	-
4	0.990	0.22	27.62	-	27.84	-	56.00	46.00	-28.16	-
5	2.863	0.33	34.72	-	35.05	-	56.00	46.00	-20.95	-
6	10.289	0.45	29.14	-	29.59	-	60.00	50.00	-30.41	-

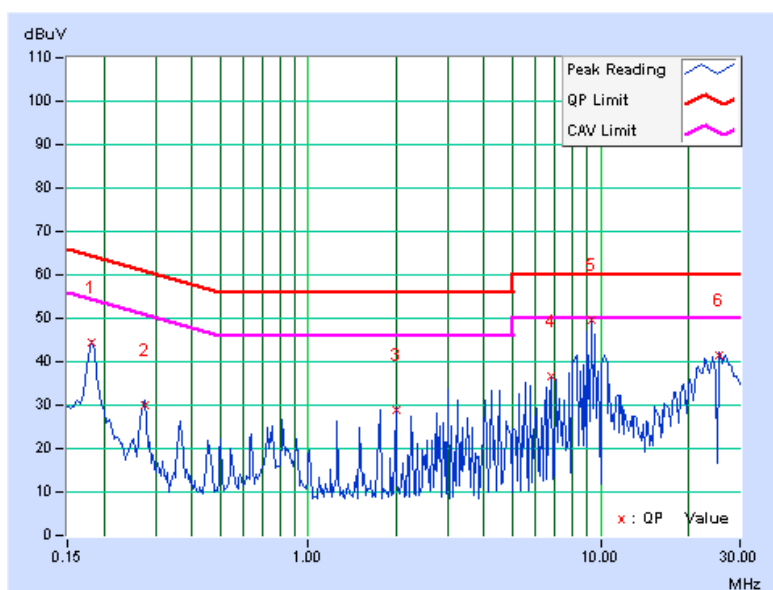
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value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



CHANNEL	Channel 116	PHASE	Line 1
6dB BANDWIDTH	9kHz	TEST MODE	B

	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
No		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.181	0.16	44.18	-	44.34	-	64.43	54.43	-20.09	-
2	0.275	0.17	29.70	-	29.87	-	60.97	50.97	-31.10	-
3	2.004	0.31	28.56	-	28.87	-	56.00	46.00	-27.13	-
4	6.770	0.35	36.16	-	36.51	-	60.00	50.00	-23.49	-
5	9.277	0.35	49.36	-	49.71	-	60.00	50.00	-10.29	-
6	25.574	0.58	41.04	-	41.62	-	60.00	50.00	-18.38	-

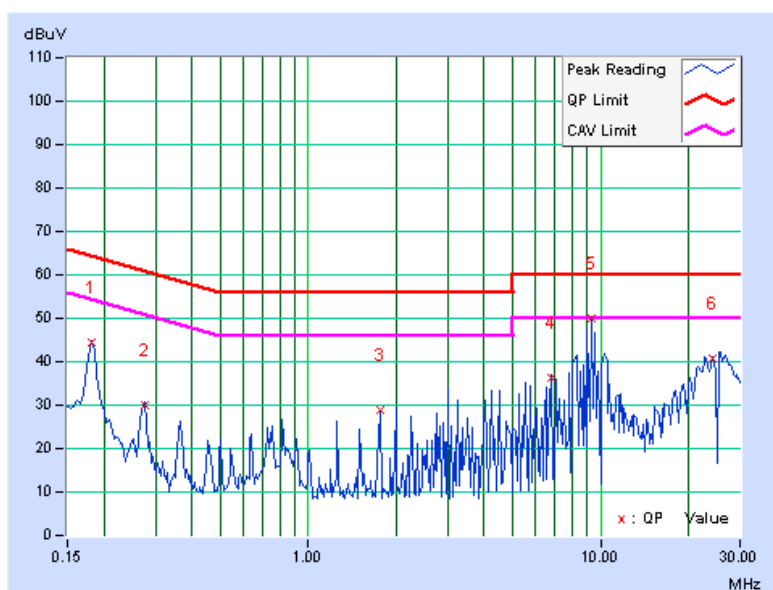
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value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



CHANNEL	Channel 116	PHASE	Line2
6dB BANDWIDTH	9kHz	TEST MODE	B

	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
No		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.181	0.13	44.16	-	44.29	-	64.43	54.43	-20.14	-
2	0.275	0.14	29.70	-	29.84	-	60.97	50.97	-31.12	-
3	1.754	0.28	28.52	-	28.80	-	56.00	46.00	-27.20	-
4	6.770	0.40	36.02	-	36.42	-	60.00	50.00	-23.58	-
5	9.277	0.43	49.64	48.34	50.07	48.77	60.00	50.00	-9.93	-1.23
6	24.070	0.87	39.94	-	40.81	-	60.00	50.00	-19.19	-

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



4.3 MAXIMUM CONDUCTED OUTPUT POWER MEASUREMENT

4.3.1 LIMITS OF MAXIMUM CONDUCTED OUTPUT POWER MEASUREMENT

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

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

4.3.2 TEST INSTRUMENTS

FOR POWER OUTPUT MEASUREMENT

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

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. Measurement Bandwidth of ML2495A is 65MHz greater than 26dB bandwidth of emission.

FOR 26dB OCCUPIED BANDWIDTH

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
SPECTRUM ANALYZER R&S	FSP40	100039	Jul. 09, 2010	Jul. 08, 2011

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

4.3.3 TEST PROCEDURE

FOR POWER OUTPUT MEASUREMENT

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

FOR 26dB OCCUPIED BANDWIDTH

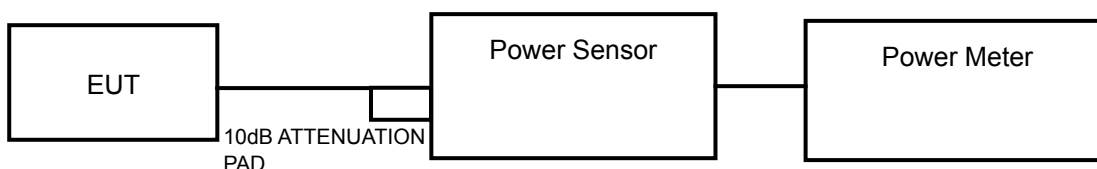
The transmitter output was connected to the spectrum analyzer through an attenuator. The bandwidth of the fundamental frequency was measured by spectrum analyzer with 300kHz RBW and 1MHz VBW. The 26dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 26dB.

4.3.4 DEVIATION FROM TEST STANDARD

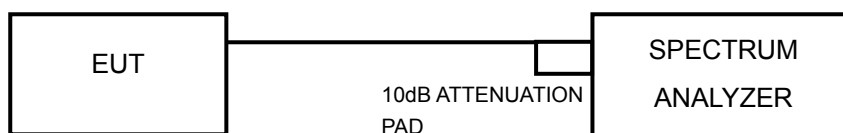
No deviation.

4.3.5 TEST SETUP

FOR POWER OUTPUT MEASUREMENT



FOR 26dB OCCUPIED BANDWIDTH



4.3.6 EUT OPERATING CONDITIONS

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

4.3.7 TEST RESULTS

POWER OUTPUT: 802.11a

CHAN.	CHAN. FREQ. (MHz)	POWER OUTPUT (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	POWER LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
52	5260	16.3	15.2	75.8	18.8	22.99	PASS
60	5300	17.4	15.9	93.9	19.7	22.99	PASS
64	5320	15.5	14.3	62.4	18.0	22.99	PASS
100	5500	12.6	11.7	33.0	15.2	22.99	PASS
116	5580	14.0	12.9	44.6	16.5	22.99	PASS
136	5680	13.3	12.5	39.2	15.9	22.99	PASS
140	5700	12.4	11.7	32.2	15.1	22.99	PASS

**Directional gain = $4.0\text{dBi} + 10\log(2) = 7.01\text{dBi} > 6\text{dBi}$, conducted power limit is reduced from 24dBm down to $24 - (7.01 - 6) = 22.99\text{dBm}$

802.11n (20MHz)

CHAN.	CHAN. FREQ. (MHz)	POWER OUTPUT (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	POWER LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
52	5260	16.2	15.1	74.1	18.7	24	PASS
60	5300	16.3	15.7	79.8	19.0	24	PASS
64	5320	15.1	14.0	57.5	17.6	24	PASS
100	5500	13.4	13.2	42.8	16.3	24	PASS
116	5580	13.6	12.2	39.5	16.0	24	PASS
136	5680	13.3	12.3	38.4	15.8	24	PASS
140	5700	12.1	11.8	31.4	15.0	24	PASS

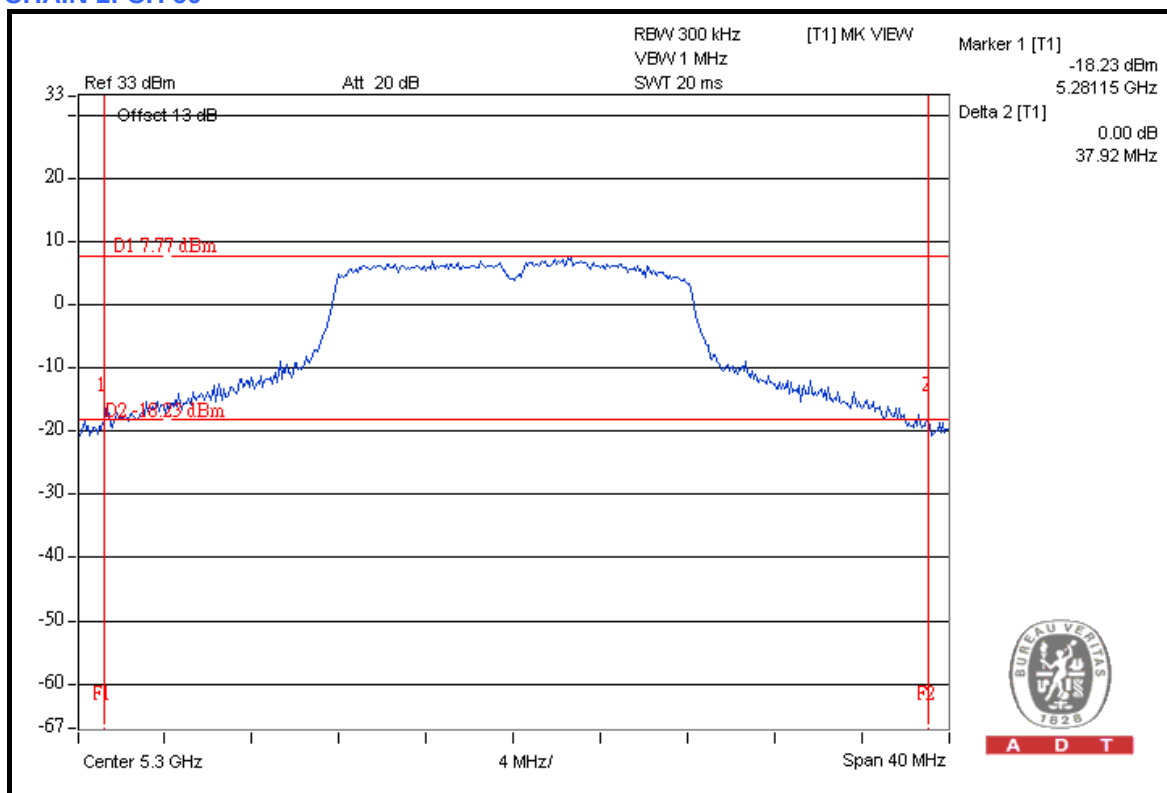
802.11n (40MHz)

CHAN.	CHAN. FREQ. (MHz)	POWER OUTPUT (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	POWER LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
54	5270	18.5	18.0	133.9	21.3	24	PASS
62	5310	12.5	11.7	32.6	15.1	24	PASS
102	5510	9.7	8.9	17.1	12.3	24	PASS
110	5550	11.3	9.2	21.8	13.4	24	PASS
134	5670	13.3	12.3	38.4	15.8	24	PASS

26dB OCCUPIED BANDWIDTH: 802.11a

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc OCCUPIED BANDWIDTH (MHz)		PASS / FAIL
		CHAIN 0	CHAIN 1	
52	5260	24.81	36.90	PASS
60	5300	29.66	37.92	PASS
64	5320	25.37	33.98	PASS
100	5500	25.42	22.88	PASS
116	5580	33.92	23.61	PASS
136	5680	31.38	24.08	PASS
140	5700	25.08	24.09	PASS

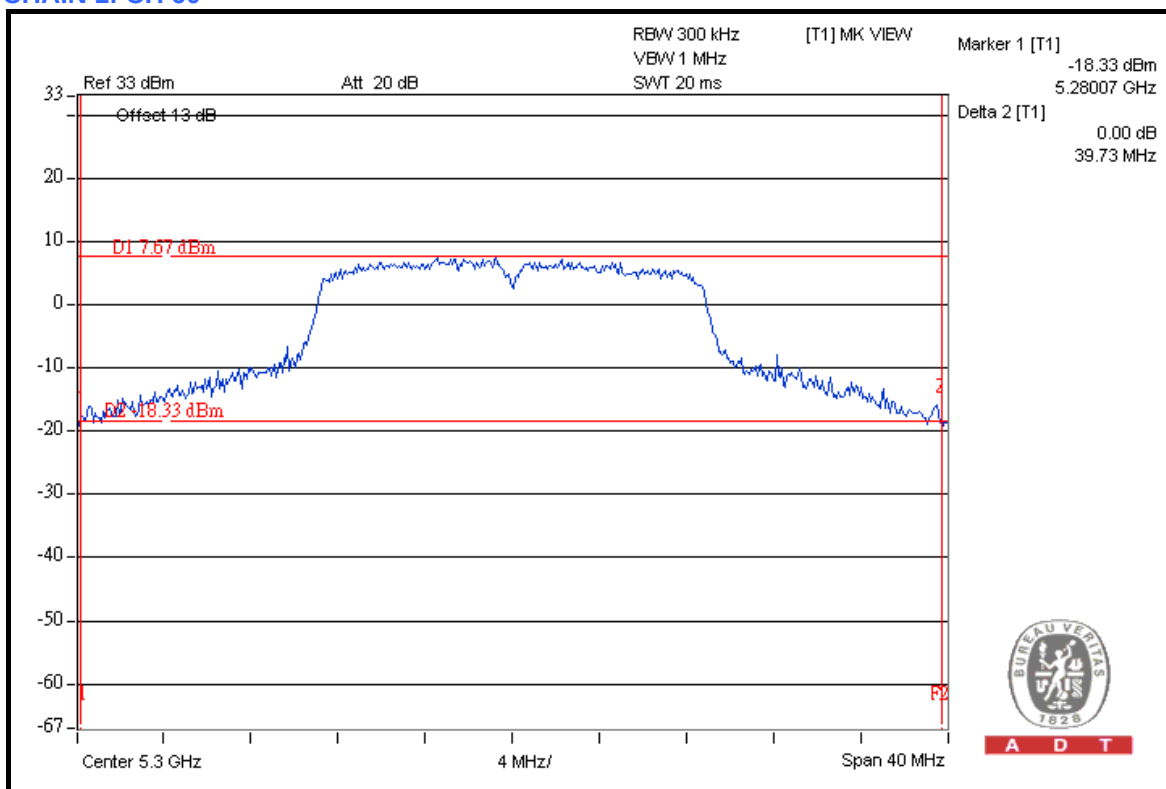
CHAIN 1: CH 60



802.11n (20MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc OCCUPIED BANDWIDTH (MHz)		PASS / FAIL
		CHAIN 0	CHAIN 1	
52	5260	25.80	38.94	PASS
60	5300	26.78	39.73	PASS
64	5320	25.52	37.89	PASS
100	5500	31.96	24.89	PASS
116	5580	31.09	24.72	PASS
136	5680	26.05	25.80	PASS
140	5700	24.66	25.50	PASS

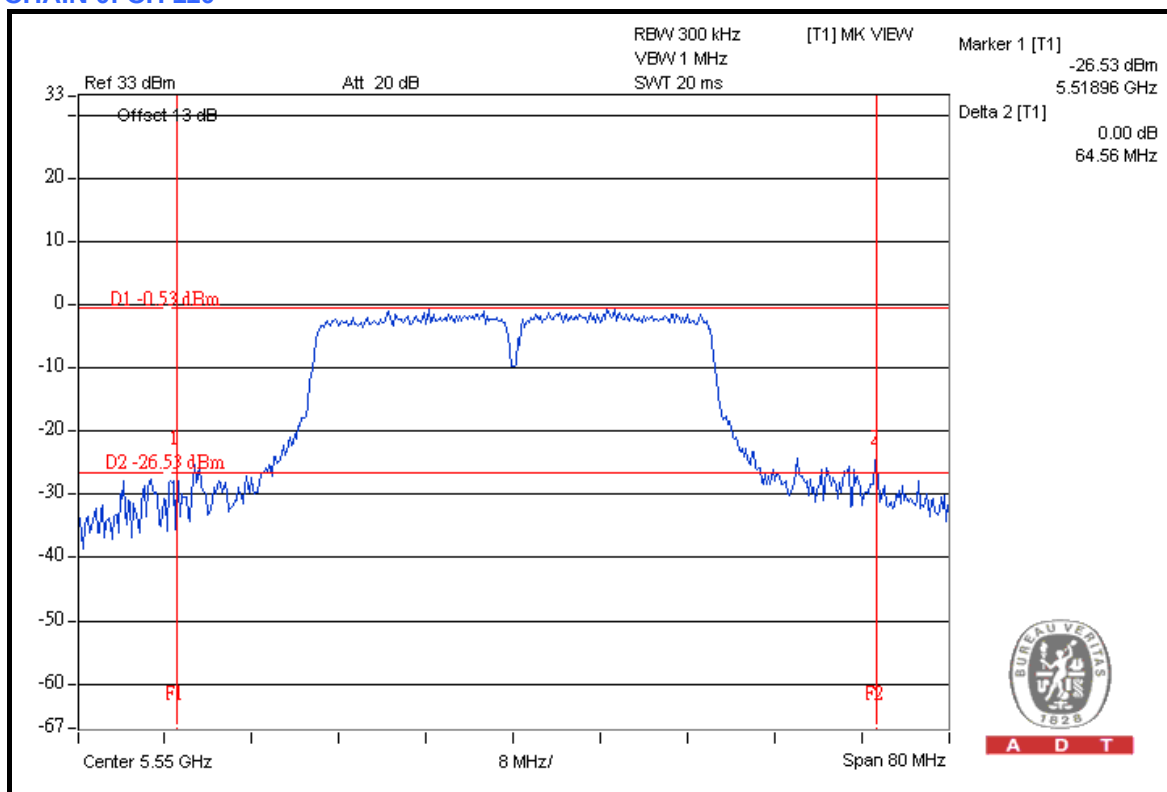
CHAIN 1: CH 60



802.11n (40MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc OCCUPIED BANDWIDTH (MHz)		PASS / FAIL
		CHAIN 0	CHAIN 1	
54	5270	49.23	48.48	PASS
62	5310	45.81	62.43	PASS
102	5510	56.66	45.47	PASS
110	5550	64.56	45.70	PASS
134	5670	62.25	52.65	PASS

CHAIN 0: CH 110



4.4 PEAK POWER EXCURSION MEASUREMENT

4.4.1 LIMITS OF PEAK POWER EXCURSION MEASUREMENT

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

4.4.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
SPECTRUM ANALYZER R&S	FSP40	100039	Jul. 09, 2010	Jul. 08, 2011

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

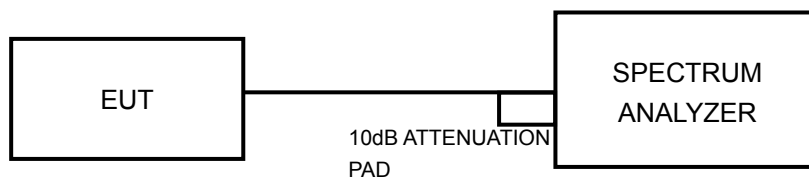
4.4.3 TEST PROCEDURE

- The transmitter output was connected to the spectrum analyzer.
- Set the spectrum bandwidth span to view the entire spectrum.
- Using peak detector and Max-hold function for Trace 1 (RB = 1MHz, VB = 3MHz) and 2 (RB = 1MHz, VB = 300kHz).
- 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

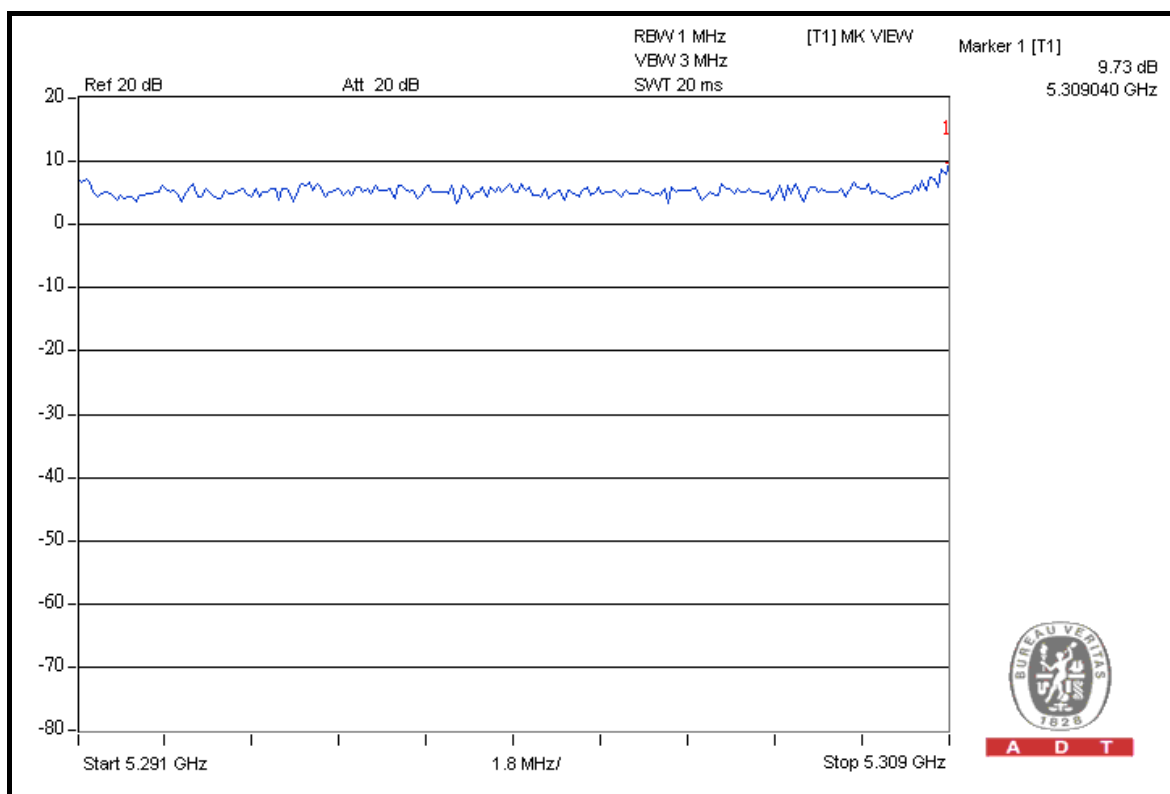
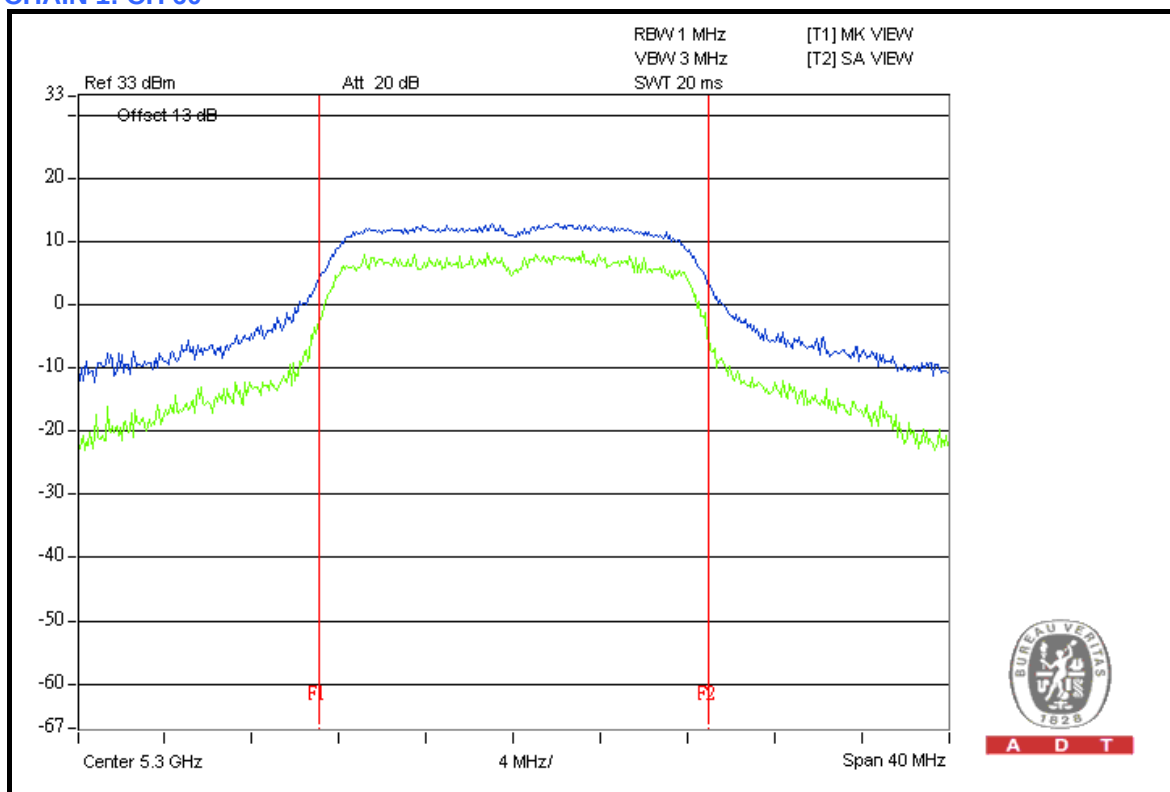
802.11a

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER EXCURSION (dB)		PEAK to AVERAGE EXCURSION LIMIT (dB)	PASS/FAIL
		CHAIN 0	CHAIN 1		
52	5260	8.28	9.06	13	PASS
60	5300	8.59	9.73	13	PASS
64	5320	8.12	8.97	13	PASS
100	5500	8.45	8.14	13	PASS
116	5580	9.28	8.08	13	PASS
136	5680	7.67	9.22	13	PASS
140	5700	8.71	8.39	13	PASS



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CHAIN 1: CH 60





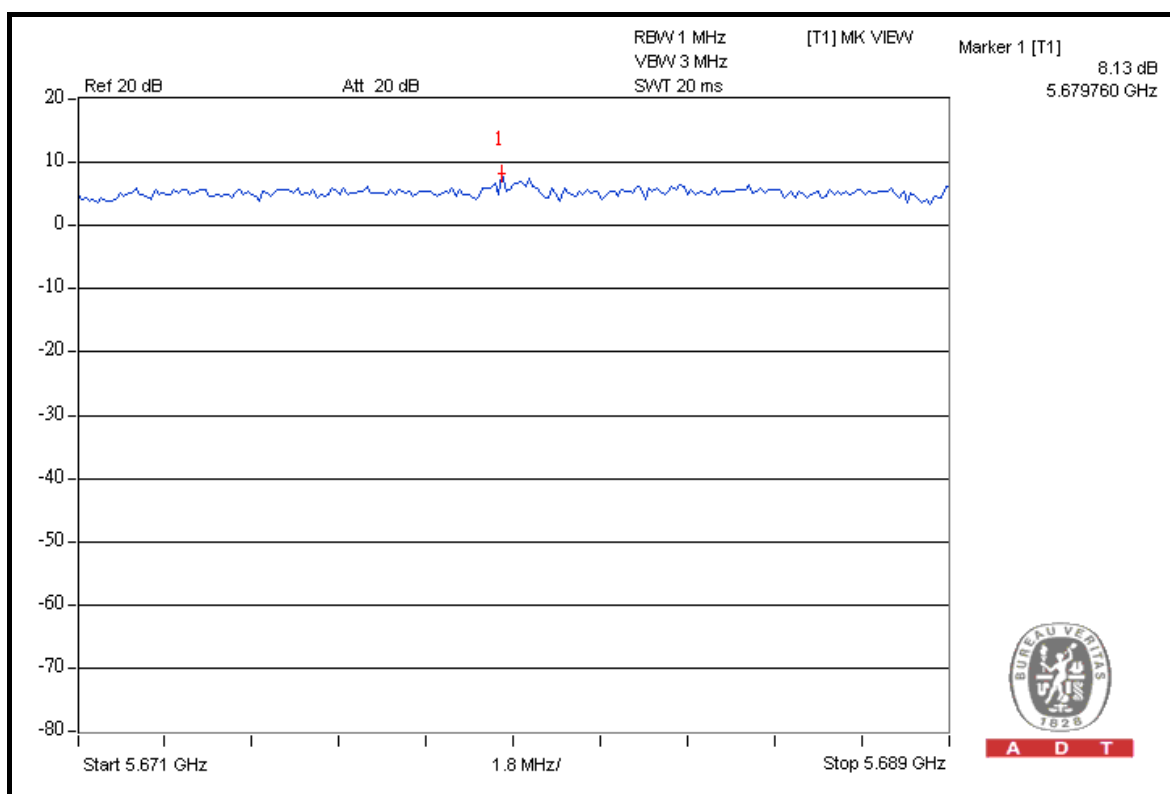
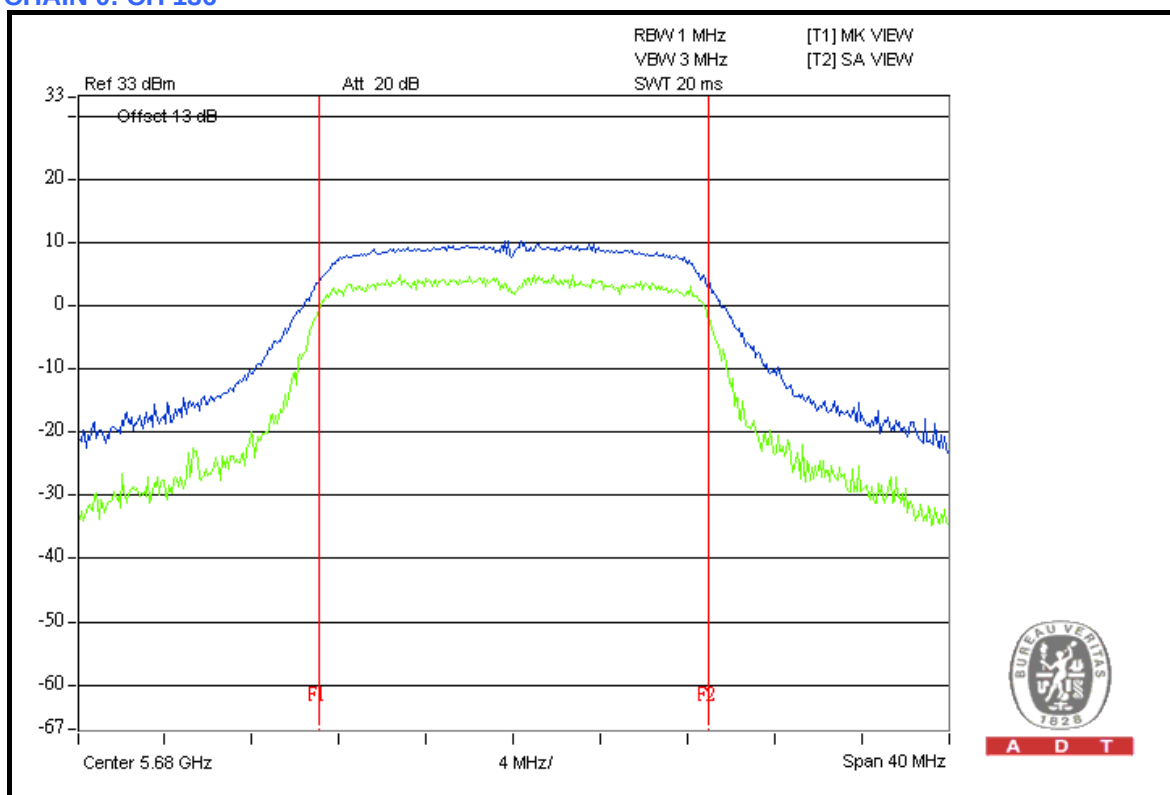
802.11n (20MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER EXCURSION (dB)		PEAK to AVERAGE EXCURSION LIMIT (dB)	PASS/FAIL
		CHAIN 0	CHAIN 1		
52	5260	6.98	6.50	13	PASS
60	5300	8.04	6.74	13	PASS
64	5320	7.05	6.42	13	PASS
100	5500	7.79	6.67	13	PASS
116	5580	7.43	7.04	13	PASS
136	5680	8.13	7.02	13	PASS
140	5700	7.55	7.27	13	PASS



A D T

CHAIN 0: CH 136

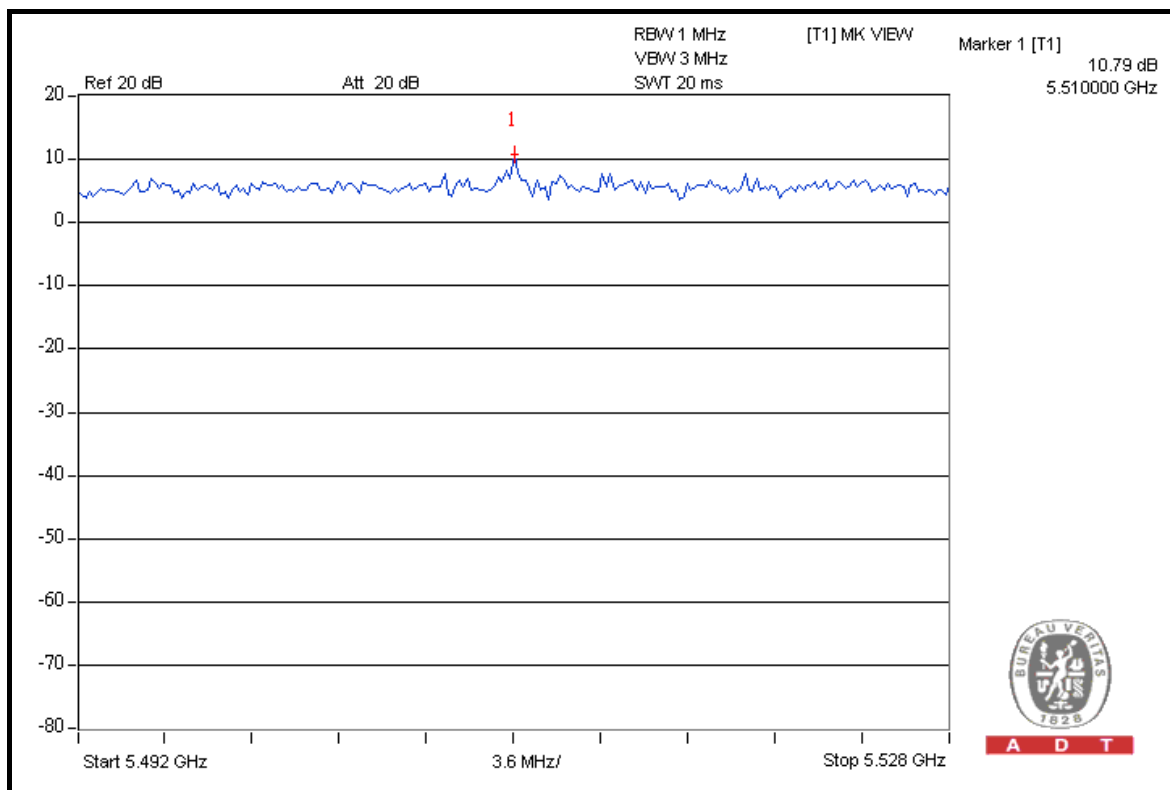
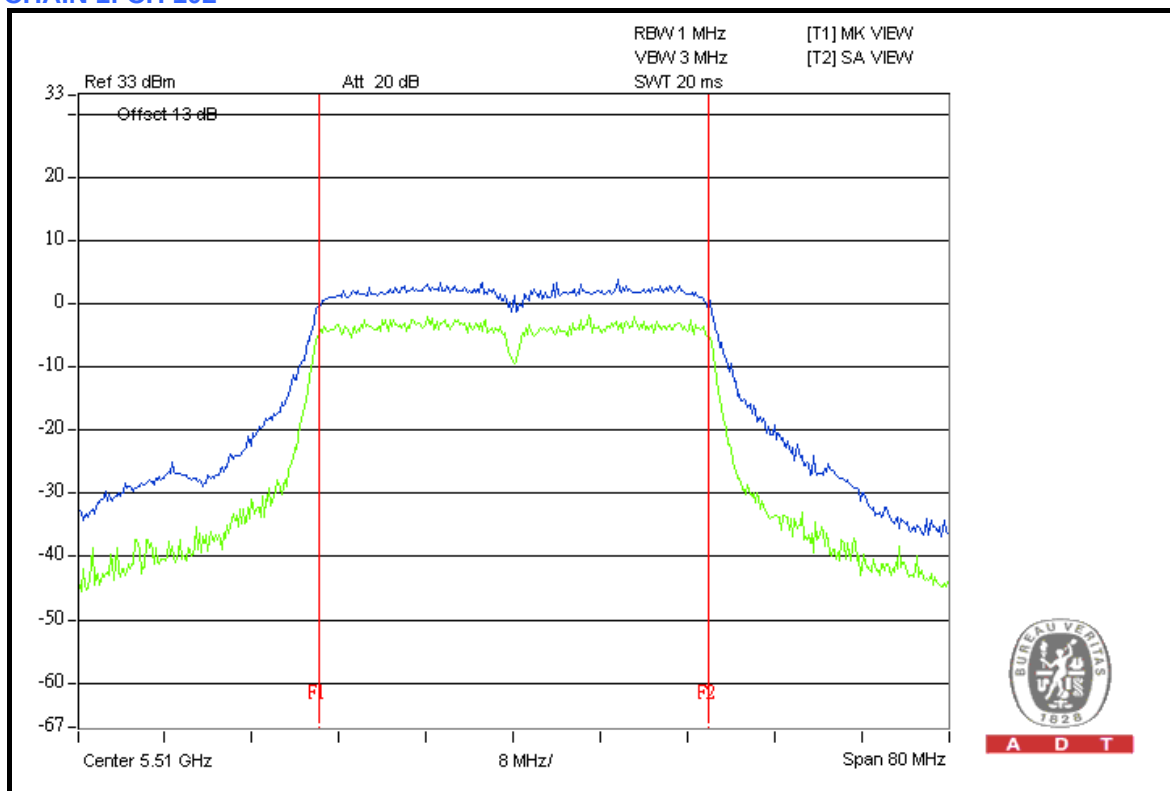




802.11n (40MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER EXCURSION (dB)		PEAK to AVERAGE EXCURSION LIMIT (dB)	PASS/FAIL
		CHAIN 0	CHAIN 1		
54	5270	8.33	9.13	13	PASS
62	5310	9.03	8.48	13	PASS
102	5510	8.63	10.79	13	PASS
110	5550	8.72	9.73	13	PASS
134	5670	8.33	10.22	13	PASS

CHAIN 1: CH 102



4.5 PEAK POWER SPECTRAL DENSITY MEASUREMENT

4.5.1 LIMITS OF PEAK POWER SPECTRAL DENSITY MEASUREMENT

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

4.5.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
SPECTRUM ANALYZER R&S	FSP40	100039	Jul. 09, 2010	Jul. 08, 2011

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

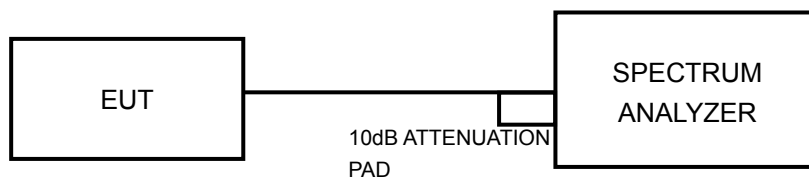
4.5.3 TEST PROCEDURES

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

4.5.4 DEVIATION FROM TEST STANDARD

No deviation.

4.5.5 TEST SETUP



4.5.6 EUT OPERATING CONDITIONS

Same as 5.3.6.

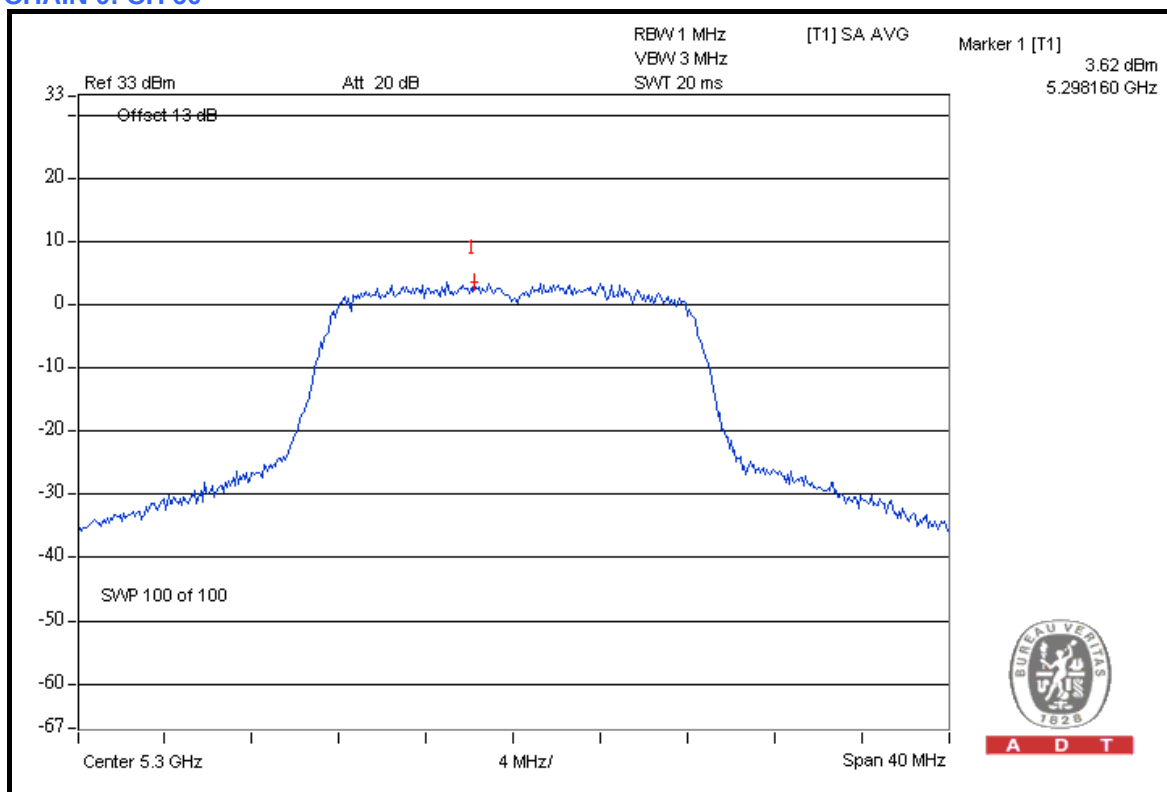
4.5.7 TEST RESULTS

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			
52	5260	2.4	1.6	5.0	9.99	PASS
60	5300	3.6	2.2	6.0	9.99	PASS
64	5320	1.8	0.9	4.4	9.99	PASS
100	5500	-1.1	-2.0	1.5	9.99	PASS
116	5580	0.3	-0.5	2.9	9.99	PASS
136	5680	-0.4	-1.3	2.2	9.99	PASS
140	5700	-1.8	-2.3	1.0	9.99	PASS

**Directional gain = $4.0\text{dBi} + 10\log(2) = 7.01\text{dBi} > 6\text{dBi}$, Power Density limit is reduced from 11dBm down to $11-(7.01-6)=9.99\text{dBm}$

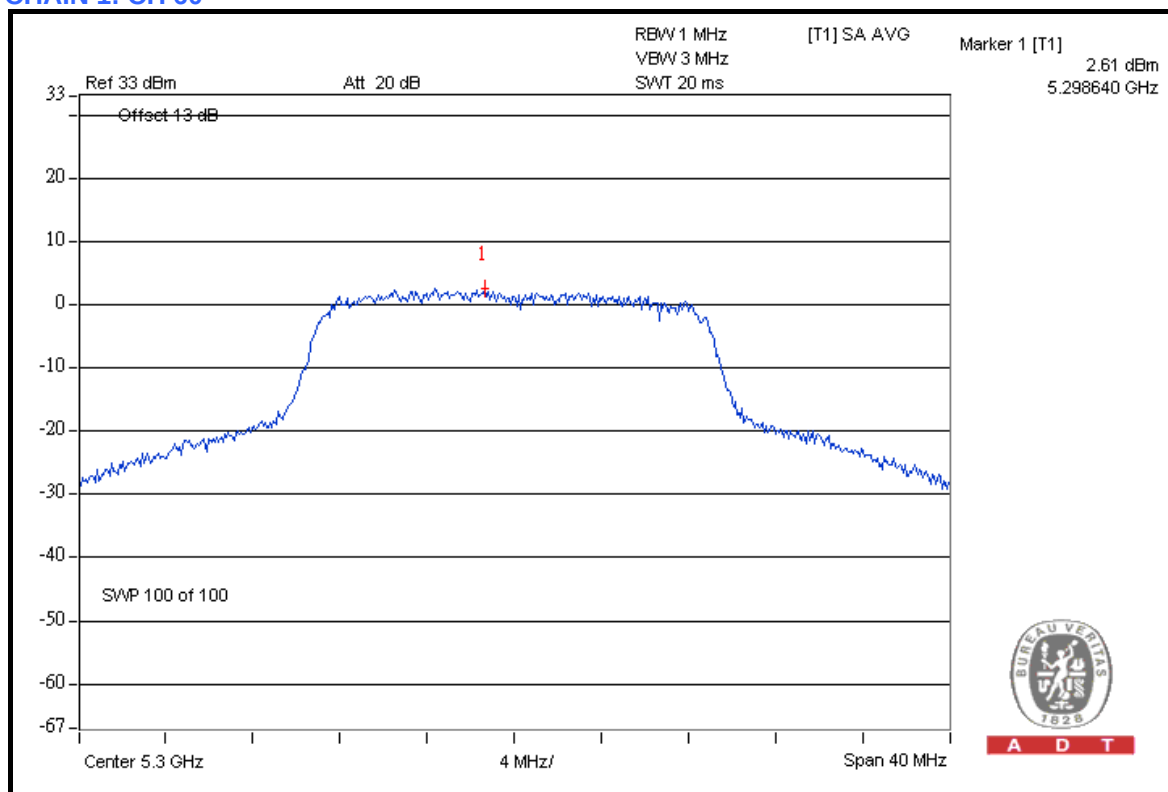
CHAIN 0: CH 60



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			
52	5260	2.5	2.2	5.4	11	PASS
60	5300	2.5	2.6	5.6	11	PASS
64	5320	1.3	0.9	4.1	11	PASS
100	5500	-0.3	0.1	2.9	11	PASS
116	5580	-0.1	-0.8	2.6	11	PASS
136	5680	-0.4	-0.5	2.6	11	PASS
140	5700	-1.6	-2.2	1.1	11	PASS

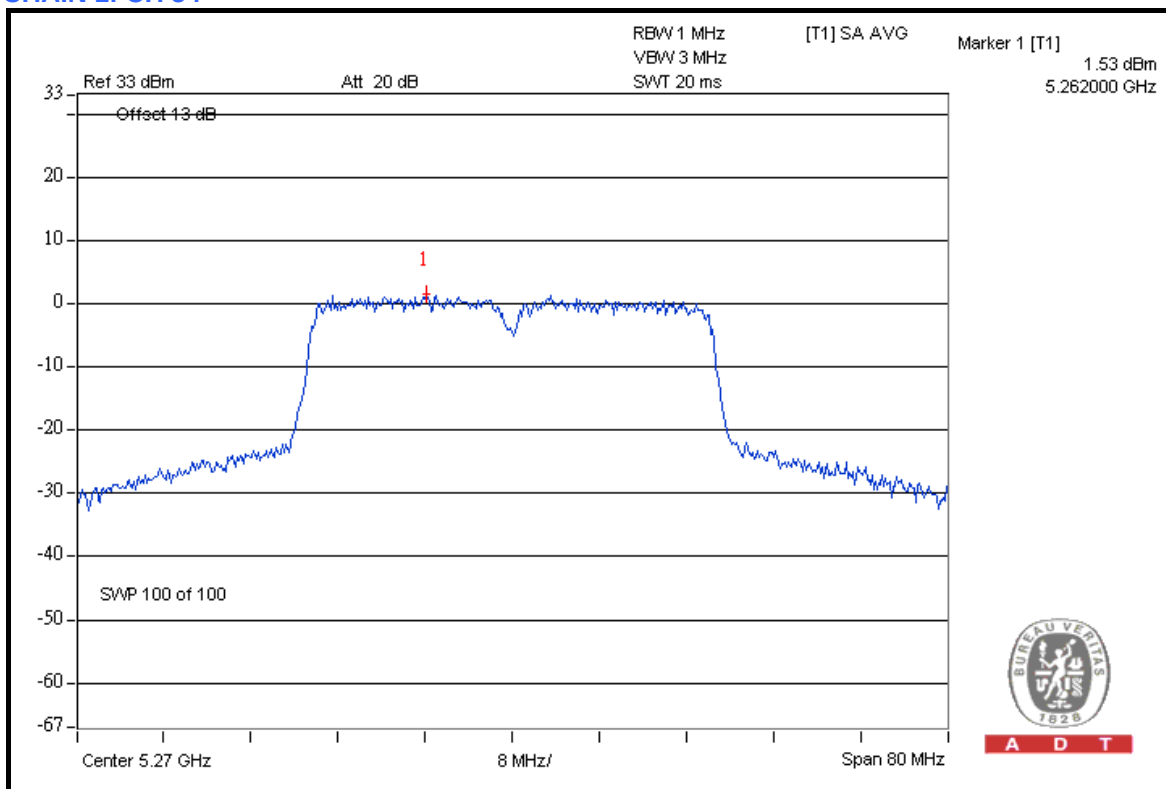
CHAIN 1: CH 60



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			
54	5270	1.5	0.9	4.2	11	PASS
62	5310	-4.5	-5.2	-1.8	11	PASS
102	5510	-7.4	-8.0	-4.7	11	PASS
110	5550	-5.9	-7.8	-3.7	11	PASS
134	5670	-3.5	-4.8	-1.1	11	PASS

CHAIN 1: CH 54



4.6 FREQUENCY STABILITY

4.6.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT

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

4.6.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
SPECTRUM ANALYZER R&S	FSP40	100039	Jul. 09, 2010	Jul. 08, 2011
WIT STANDARD TEMPERATURE AND HUMIDITY CHAMBER	TH-4S-C	W981030	Jun. 28, 2010	Jun. 27, 2011

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

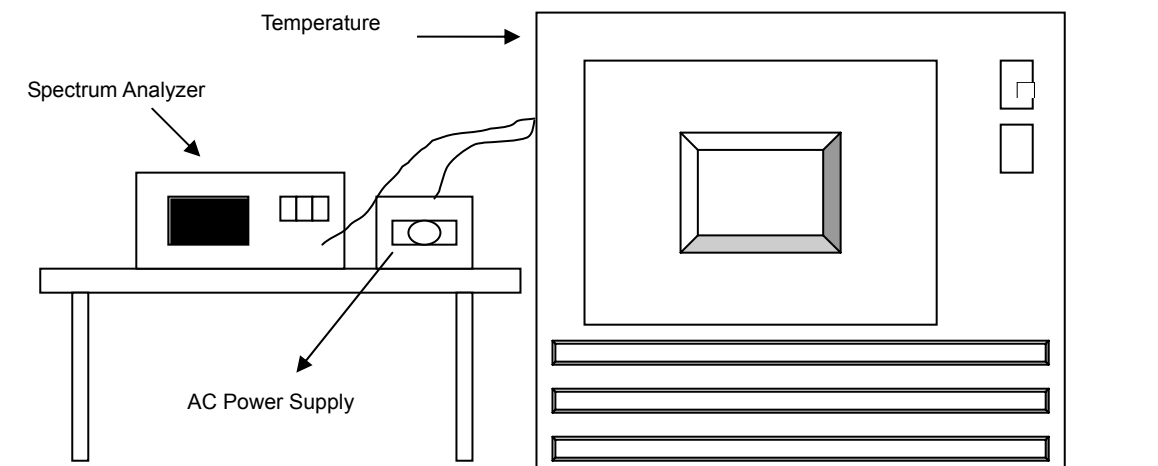
4.6.3 TEST PROCEDURE

- The EUT was placed inside the environmental test chamber and powered by nominal DC voltage.
- Turn the EUT on and couple its output to a spectrum analyzer.
- Turn the EUT off and set the chamber to the highest temperature specified.
- 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.
- Repeat step 2 and 3 with the temperature chamber set to the lowest temperature.
- The test chamber was allowed to stabilize at +20 degree C for a minimum of 30 minutes. The supply voltage was then adjusted on the EUT from 85% to 115% and the frequency record.

4.6.4 DEVIATION FROM TEST STANDARD

No deviation.

4.6.5 TEST SETUP



4.6.6 EUT OPERATING CONDITION

Same as Item 4.1.6.

4.6.7 TEST RESULTS

FREQUENCY STABILITY VERSUS TEMP.									
OPERATING FREQUENCY: 5320MHz									
TEMP. (°C)	POWER SUPPLY (Vac)	0 MINUTE		2 MINUTE		5 MINUTE		10 MINUTE	
		Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)
55	110.0	5320.008459	1.590	5320.007901	1.485	5320.008262	1.553	5320.008751	1.645
50	110.0	5320.005654	1.063	5320.005288	0.994	5320.005328	1.002	5320.005464	1.027
40	110.0	5320.004220	0.793	5320.004191	0.788	5320.004086	0.768	5320.004096	0.770
30	110.0	5320.004149	0.780	5320.004086	0.768	5320.004396	0.826	5320.003863	0.726
20	110.0	5320.003217	0.605	5320.003337	0.627	5320.003297	0.620	5320.003537	0.665
10	110.0	5320.003313	0.623	5320.003586	0.674	5320.003110	0.585	5320.003228	0.607
0	110.0	5320.003127	0.588	5320.003121	0.587	5320.003095	0.582	5320.003038	0.571
-10	110.0	5320.003851	0.724	5320.003960	0.744	5320.003572	0.671	5320.004032	0.758
-20	110.0	5320.006663	1.252	5320.006969	1.310	5320.006633	1.247	5320.007217	1.357

FREQUENCY STABILITY VERSUS VOLTAGE									
OPERATING FREQUENCY: 5320MHz									
TEMP. (°C)	POWER SUPPLY (Vac)	0 MINUTE		2 MINUTE		5 MINUTE		10 MINUTE	
		Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)
20	93.5	5320.003568	0.671	5320.003584	0.674	5320.003343	0.628	5320.003810	0.716
	110.0	5320.003217	0.605	5320.003337	0.627	5320.003297	0.620	5320.003537	0.665
	126.5	5320.003771	0.709	5320.004283	0.805	5320.003782	0.711	5320.003936	0.740

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	ESIB7	100033	Jul. 29, 2010	Jul. 28, 2011
Spectrum Analyzer Agilent	E4446A	MY48250266	Aug. 11, 2010	Aug. 10, 2011
BILOG Antenna SCHWARZBECK	VULB9168	9168-160	Apr. 27, 2010	Apr. 26, 2011
HORN Antenna SCHWARZBECK	9120D	9120D-405	Feb. 03, 2010	Feb. 02, 2011
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170243	Dec. 27, 2010	Dec. 26, 2011
Preamplifier Agilent	8447D	2944A10633	Nov. 02, 2010	Nov. 01, 2011
Preamplifier Agilent	8449B	3008A01964	Nov. 02, 2010	Nov. 01, 2011
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	238141/4	May 14, 2010	May 13, 2011
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	12738/6	May 14, 2010	May 13, 2011
Software ADT.	ADT_Radiated_ V7.6.15.9.2	NA	NA	NA
Antenna Tower inn-co GmbH	MA 4000	013303	NA	NA
Antenna Tower Controller inn-co GmbH	CO2000	017303	NA	NA
Turn Table ADT.	TT100.	TT93021703	NA	NA
Turn Table Controller ADT.	SC100.	SC93021703	NA	NA
26GHz ~ 40GHz Amplifier	EM26400	07026401	Aug. 25, 2010	Aug. 24, 2011

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

4.7.2 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 5.32GHz, 5.50 to 5.70GHz allocated band a measurement was made of the amplitude of the spurious emissions with respect to the intentional signals. The relative amplitude, in dBc, was applied to the average and peak field strength of the intentional signal made on the OATS to calculate the field strength of the unintentional signals.

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

FOR 5260-5320MHz BAND: 802.11a

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)	112.5	56.14	56.36	74.00
5260.00 (AV)	102.7	57.33	45.37	54.00

RESTRICT BAND (5350 ~ 5460 MHz)

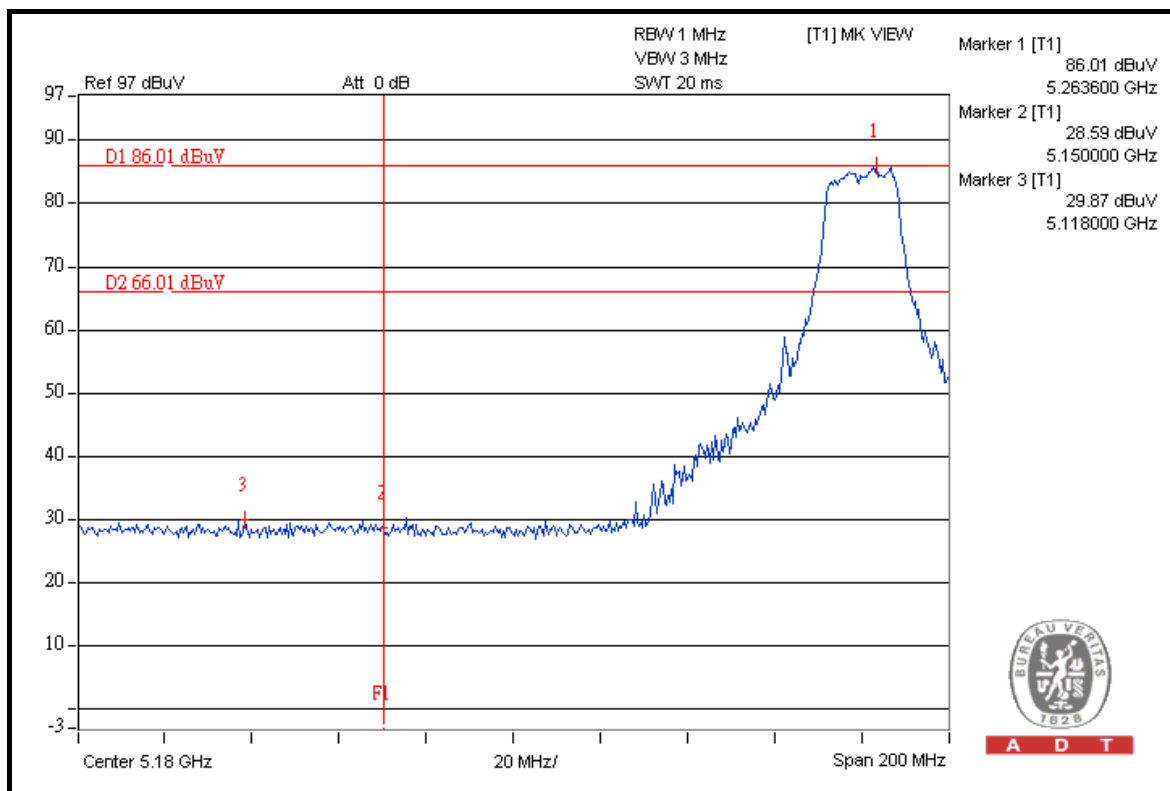
FREQUENCY (MHz)	FUNDAMENTAL EMISSION (dBuV/m)	DELTA (dB)	MAXIMUM FIELD STRENGTH IN RESTRICT BAND (dBuV/m)	LIMIT (dBuV/m)
5320.00 (PK)	111.7	40.93	70.77	74.00
5320.00 (AV)	101.8	50.20	51.60	54.00

NOTE:

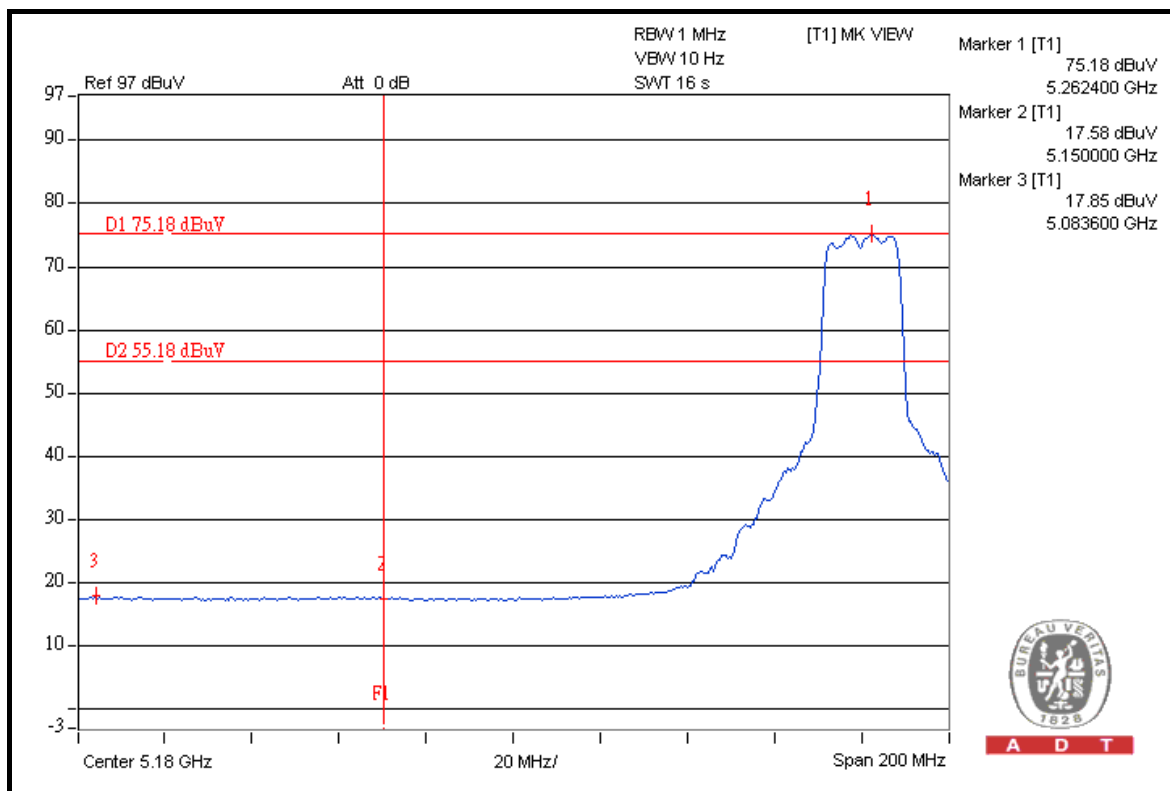
1. Delta = Amplitude between the peak of the fundamental and the peak of the band edge emission. Please check following 3 pages.
2. Maximum field strength in restrict band = Fundamental emission – Delta.



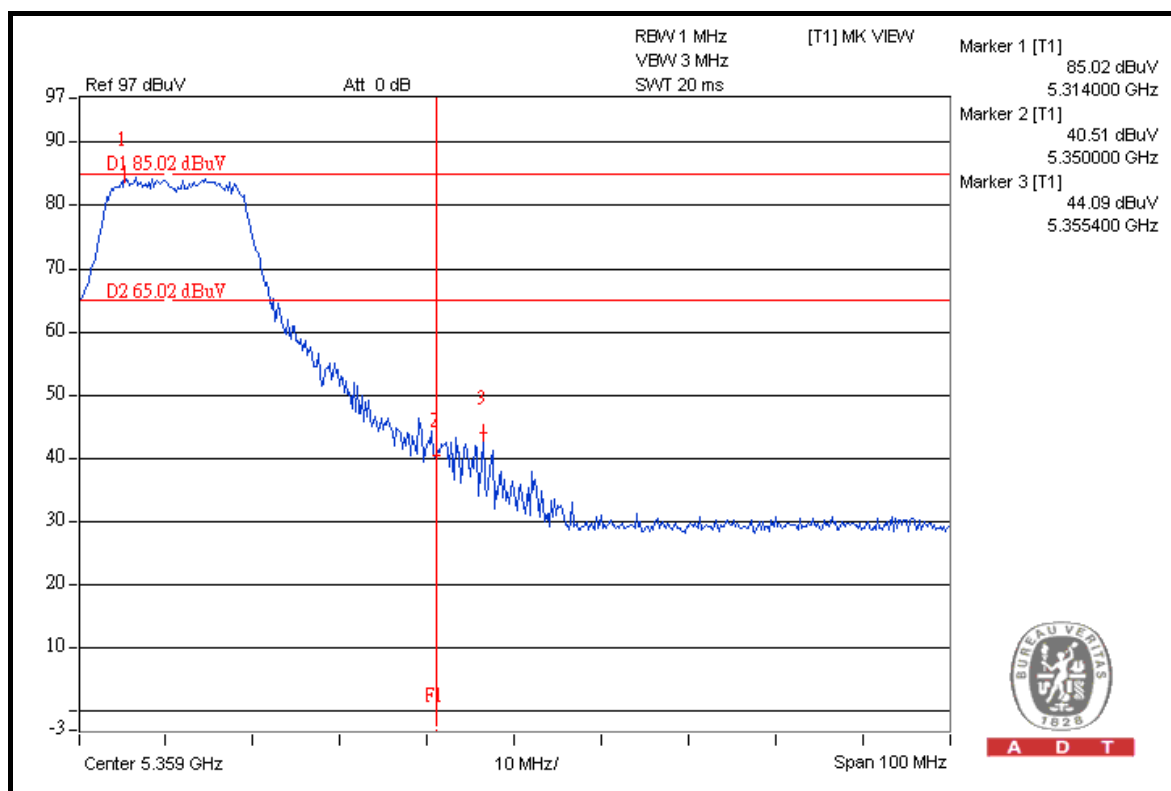
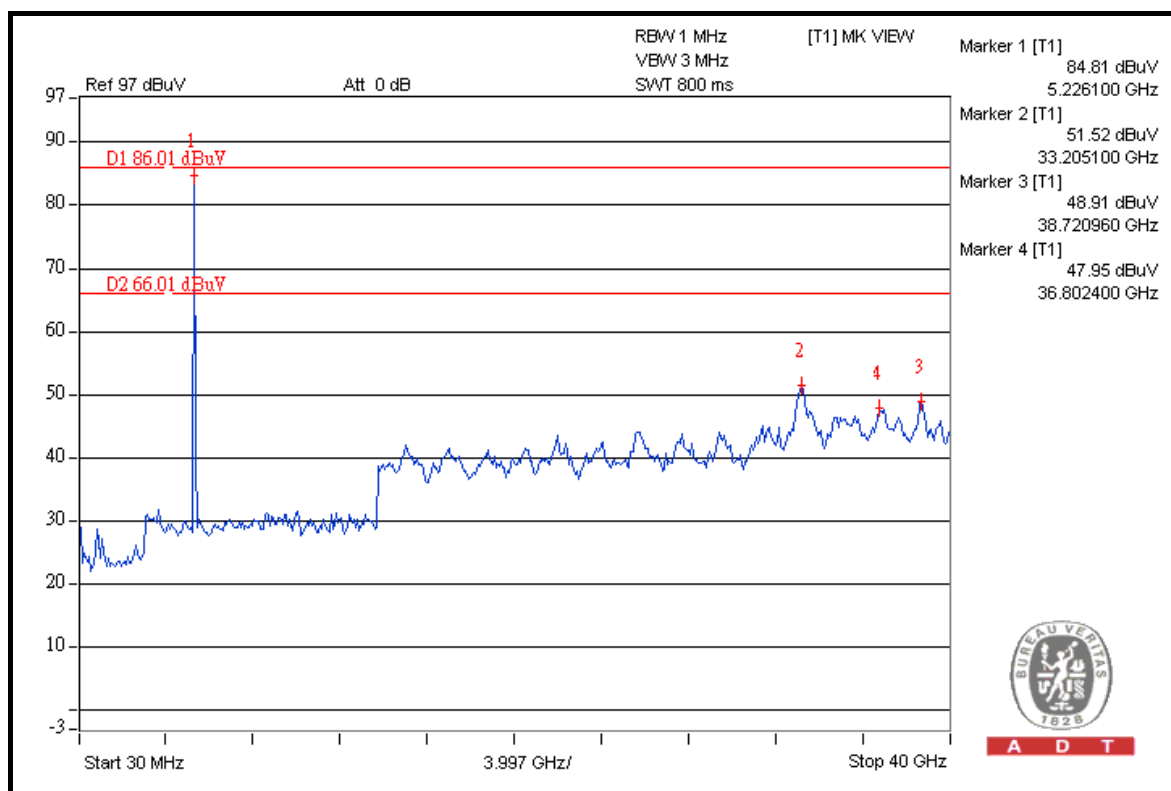
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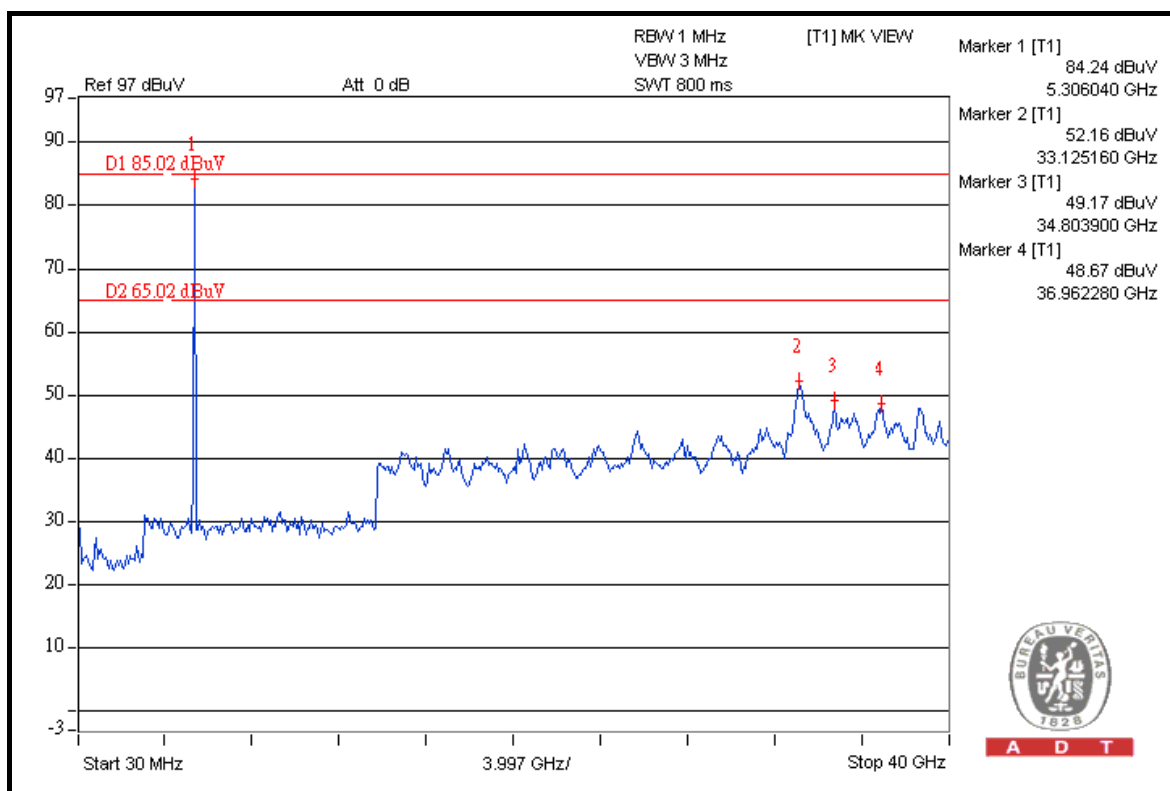
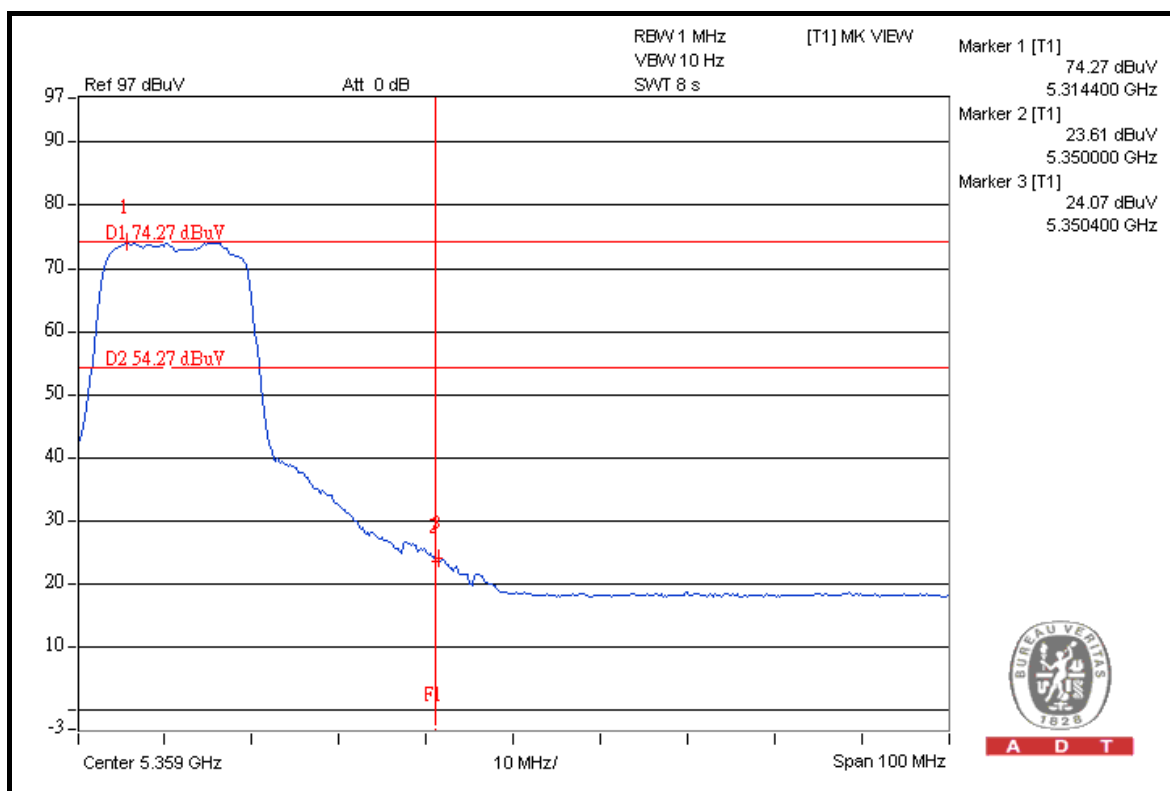


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FOR 5500-5700MHz BAND:

802.11a

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)	109.3	51.70	57.60	74.00
5500.00 (AV)	100.0	53.92	46.08	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)	109.3	46.14	63.16	68.30

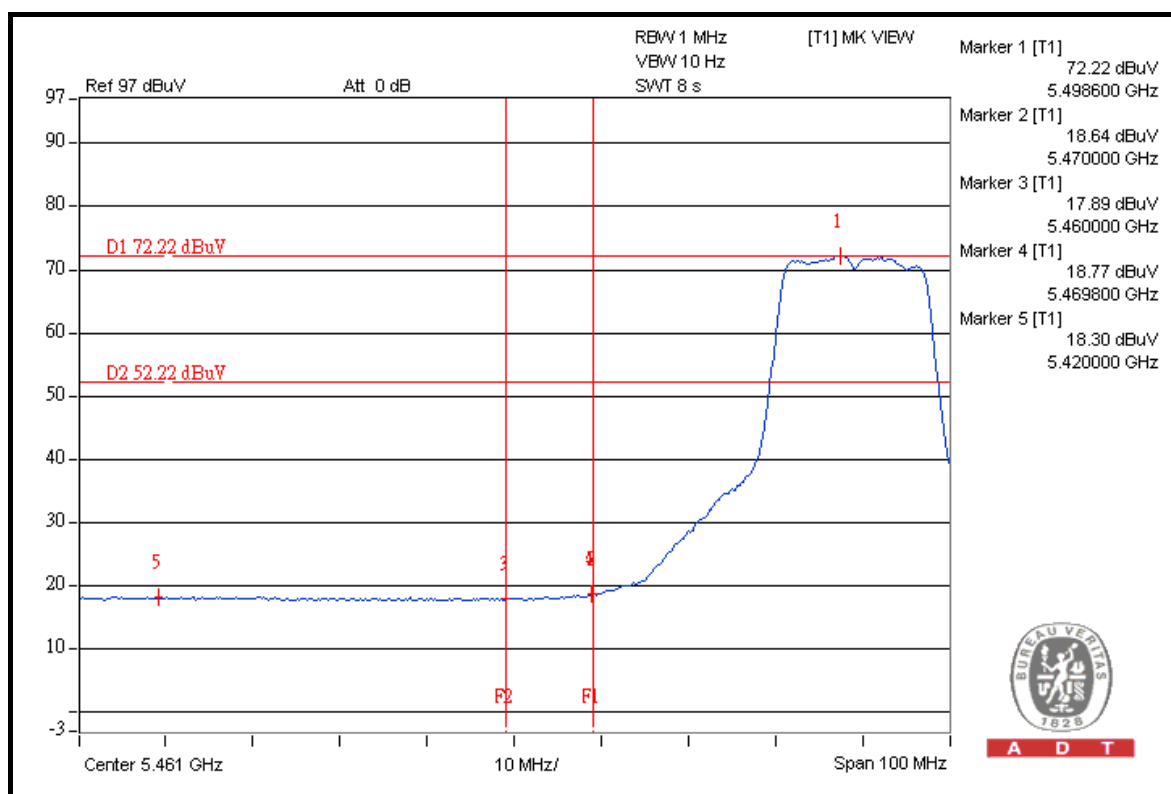
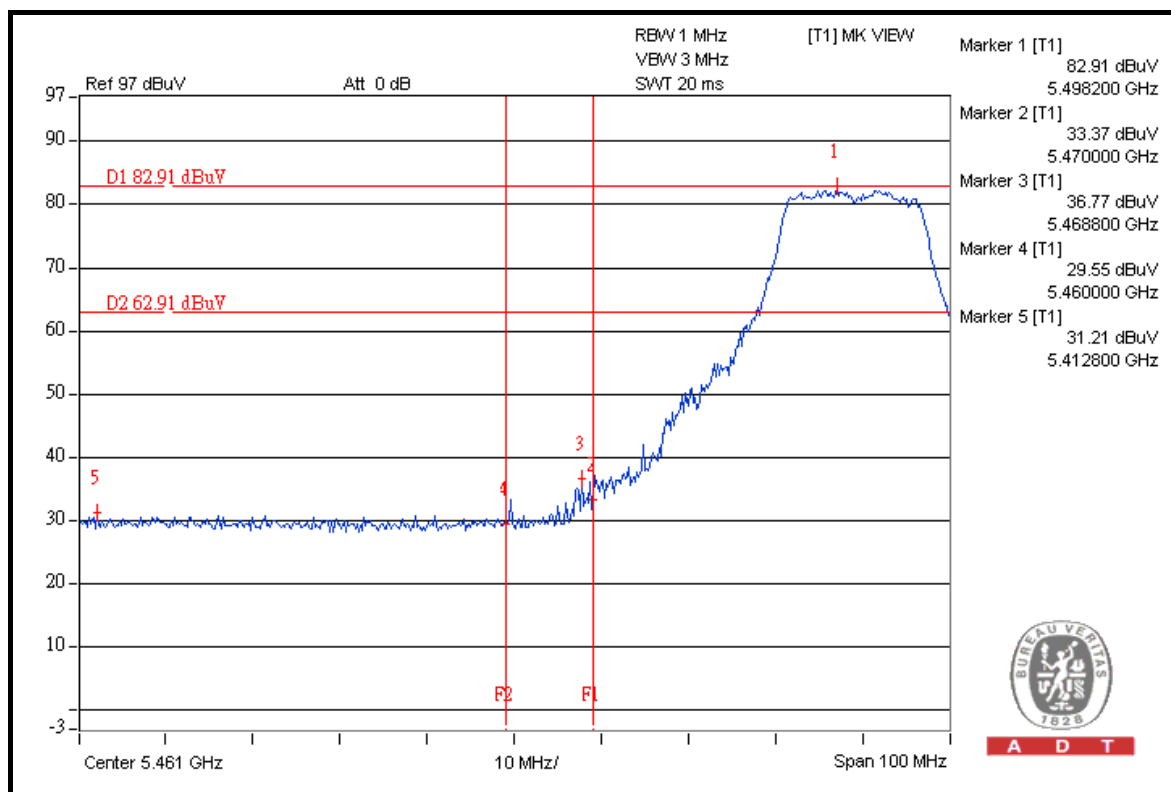
5700MHz

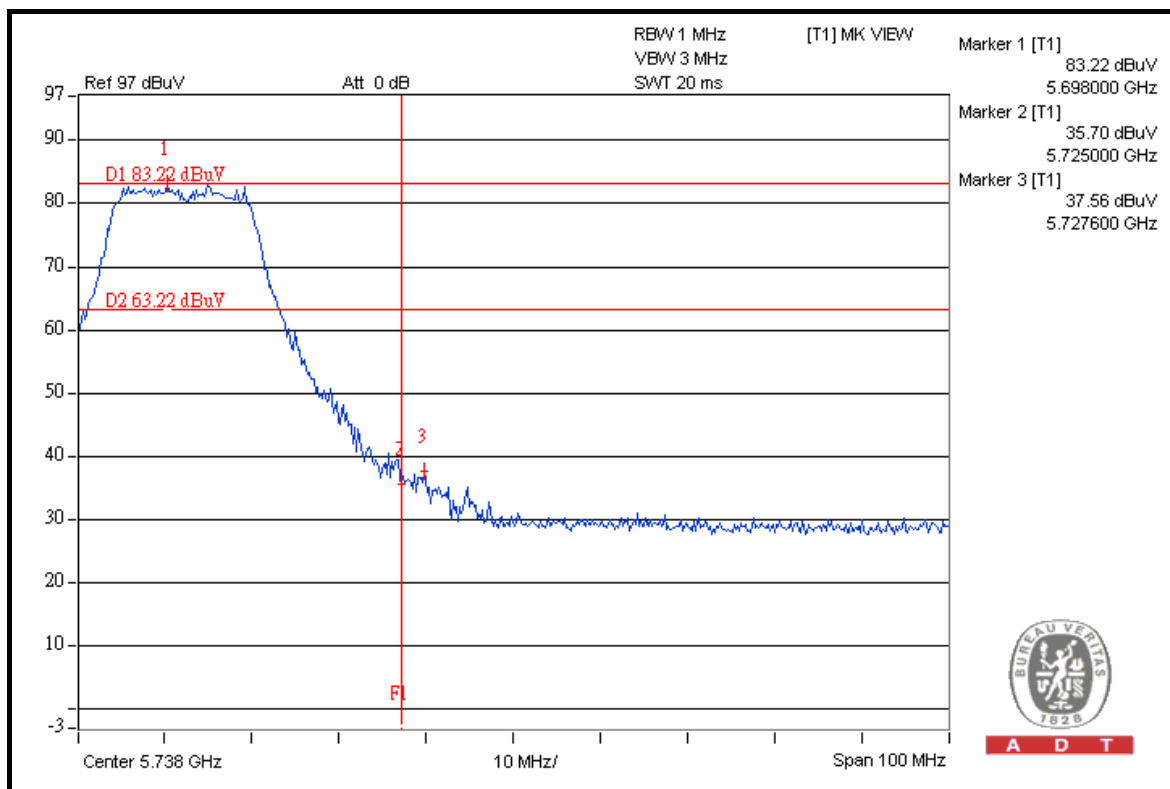
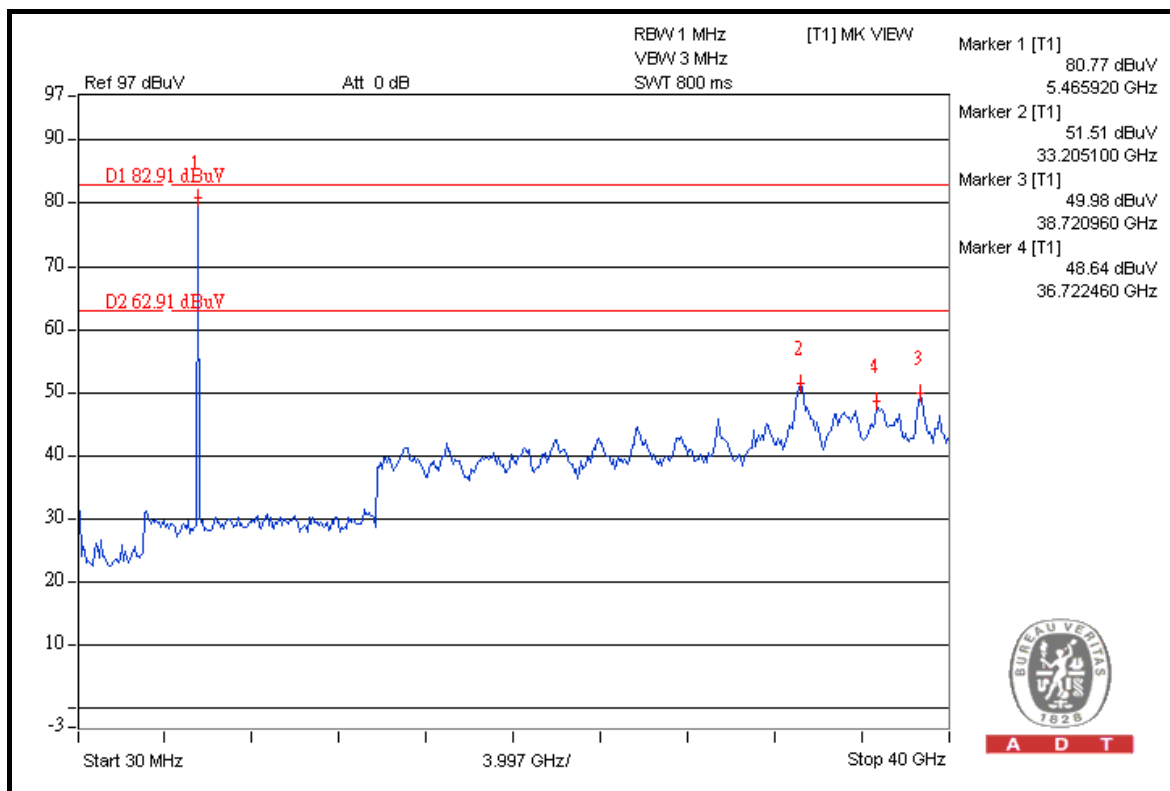
ABOVE 5725 MHz

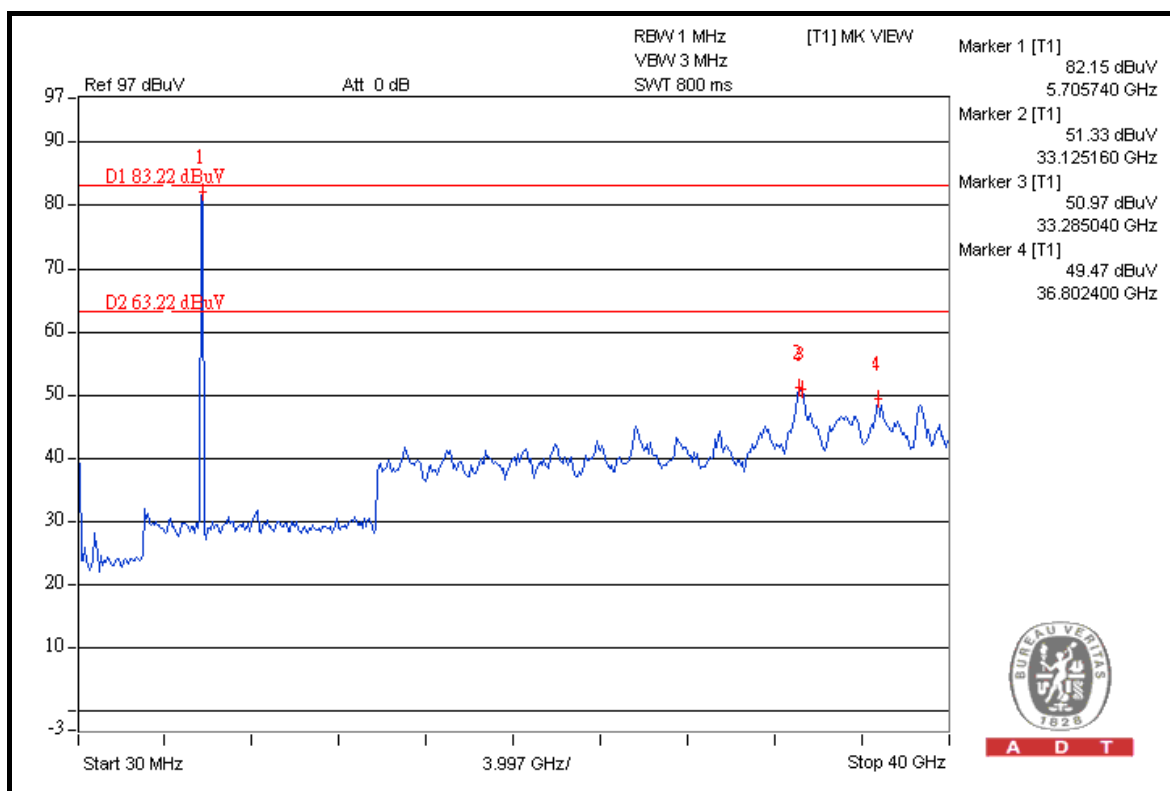
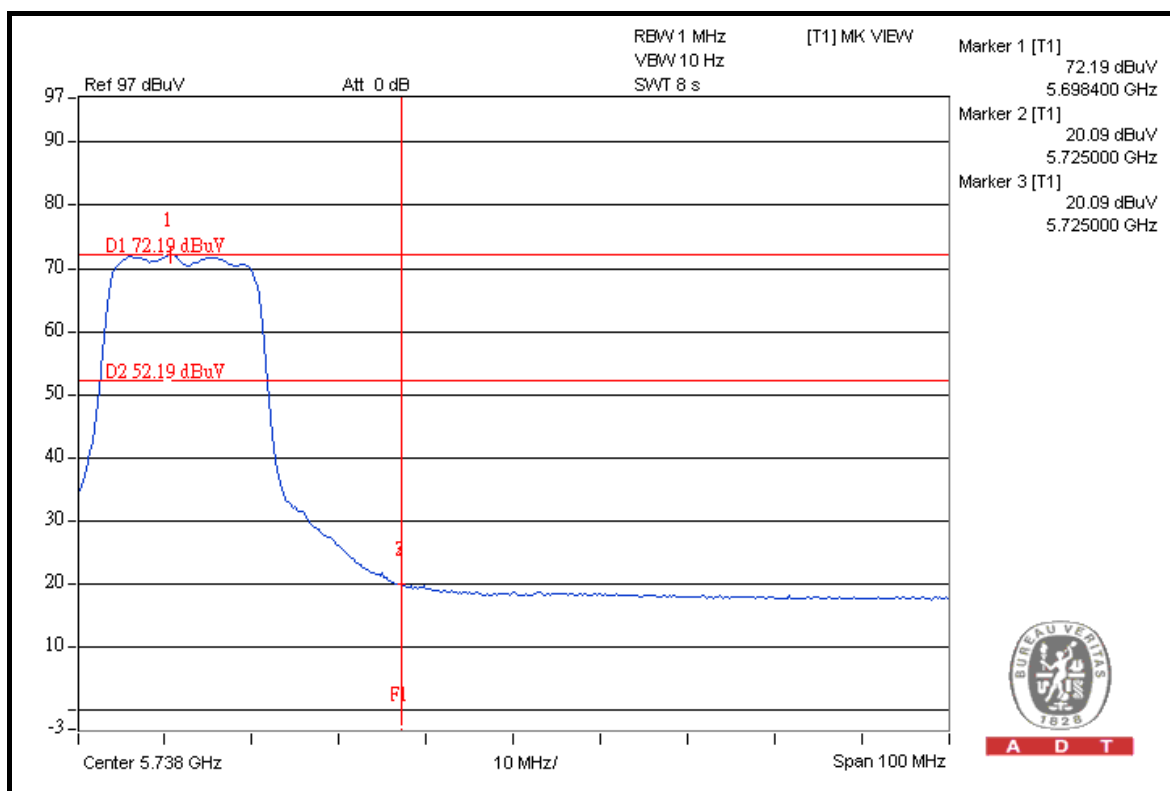
FREQUENCY (MHz)	FUNDAMENTAL EMISSION (dBuV/m)	DELTA (dB)	MAXIMUM FIELD STRENGTH (dBuV/m)	LIMIT (dBuV/m)
5700.00 (PK)	109.7	45.66	64.04	68.30

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.







FOR 5260-5320MHz BAND:

802.11n (20MHz)

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)	112.3	55.17	57.13	74.00
5260.00 (AV)	102.4	56.96	45.44	54.00

RESTRICT BAND (5350 ~ 5460 MHz)

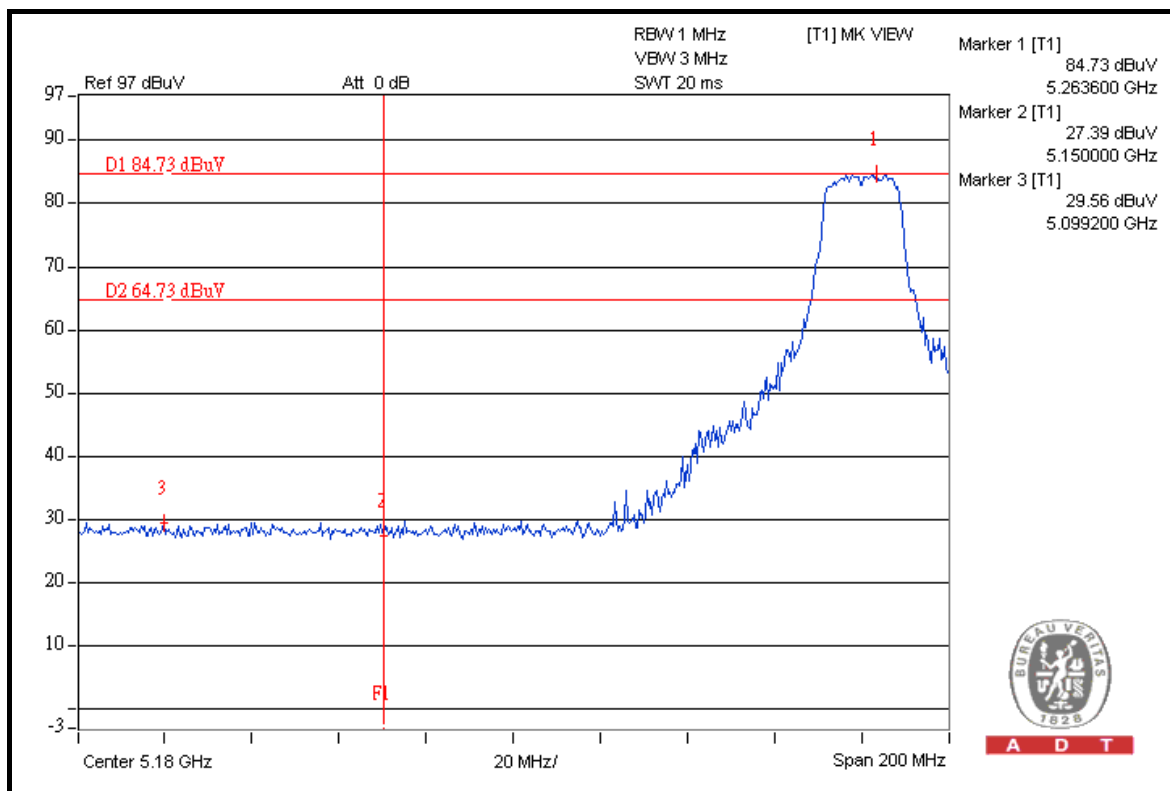
FREQUENCY (MHz)	FUNDAMENTAL EMISSION (dBuV/m)	DELTA (dB)	MAXIMUM FIELD STRENGTH IN RESTRICT BAND (dBuV/m)	LIMIT (dBuV/m)
5320.00 (PK)	112.0	44.19	67.81	74.00
5320.00 (AV)	102.2	53.00	49.20	54.00

NOTE:

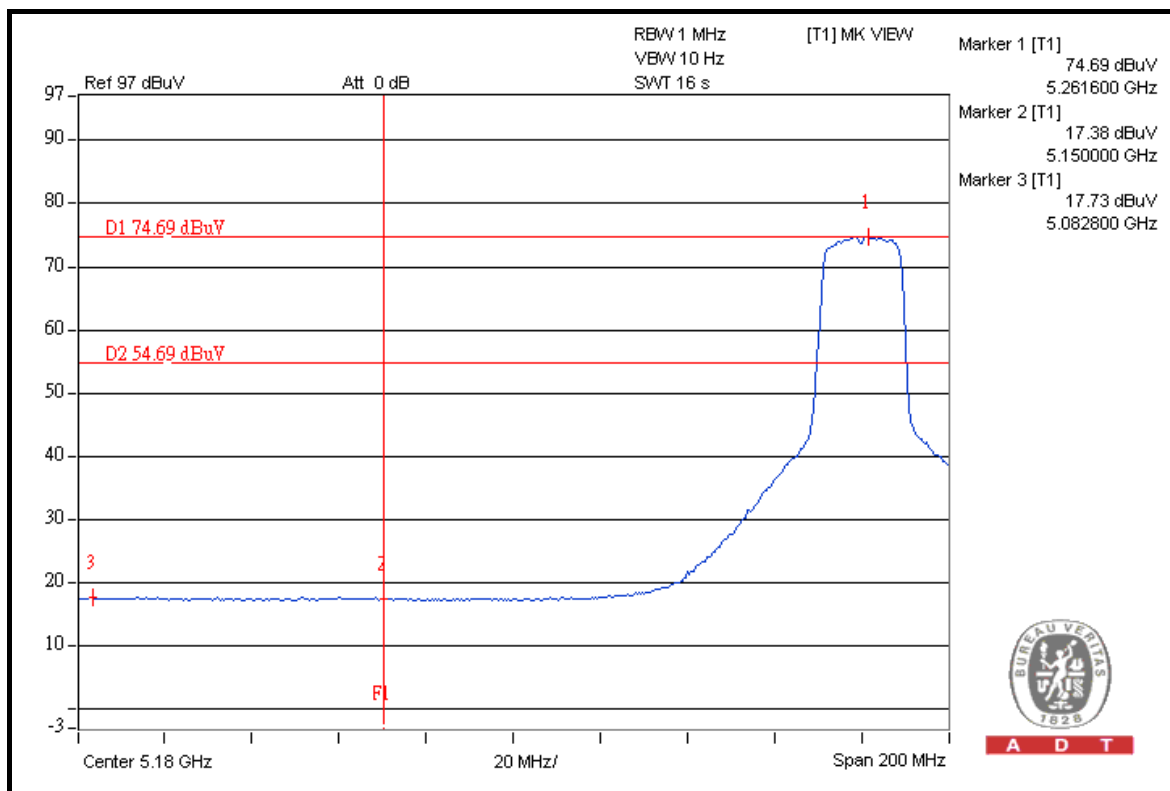
1. Delta = Amplitude between the peak of the fundamental and the peak of the band edge emission.
Please check following 3 pages.
2. Maximum field strength in restrict band = Fundamental emission – Delta.



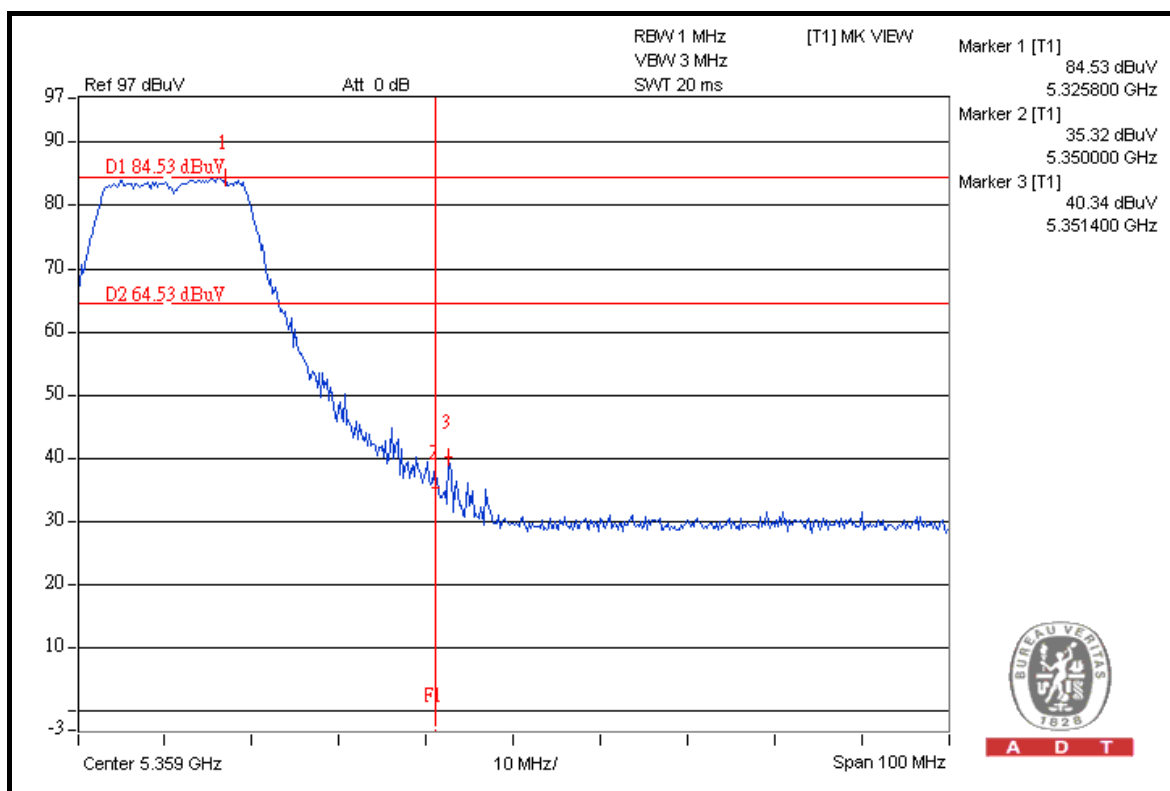
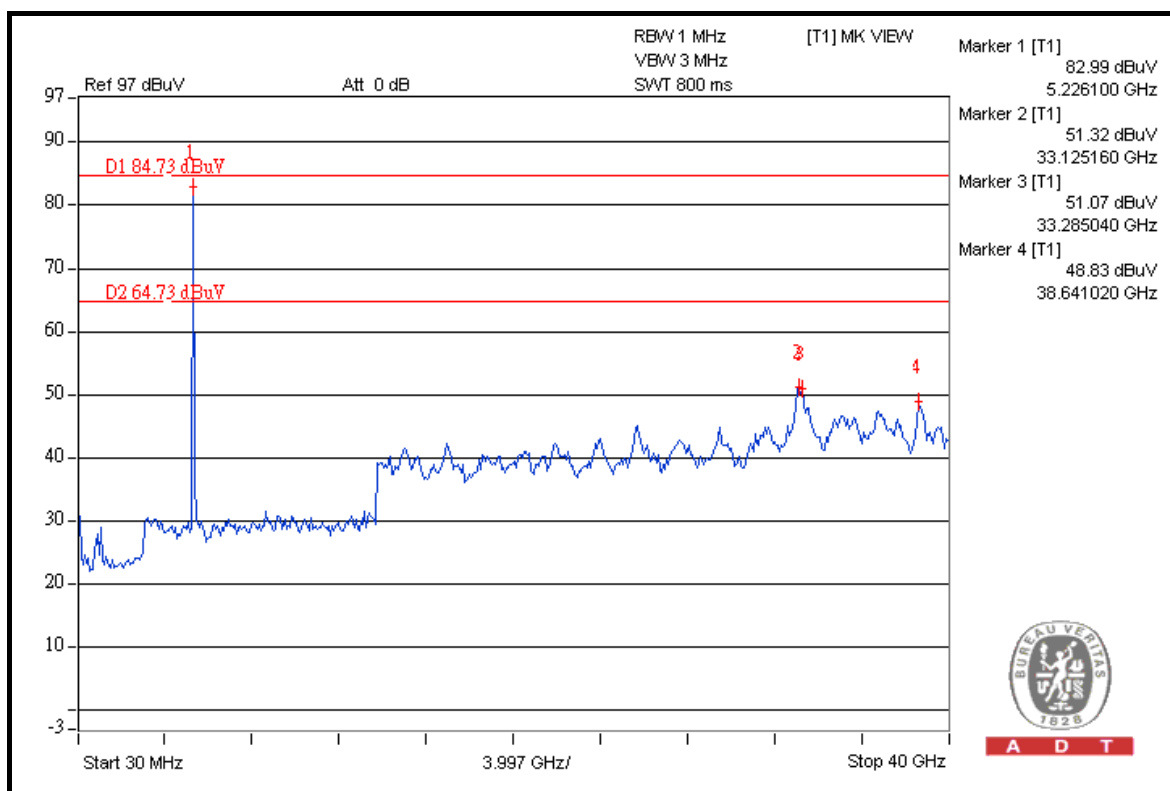
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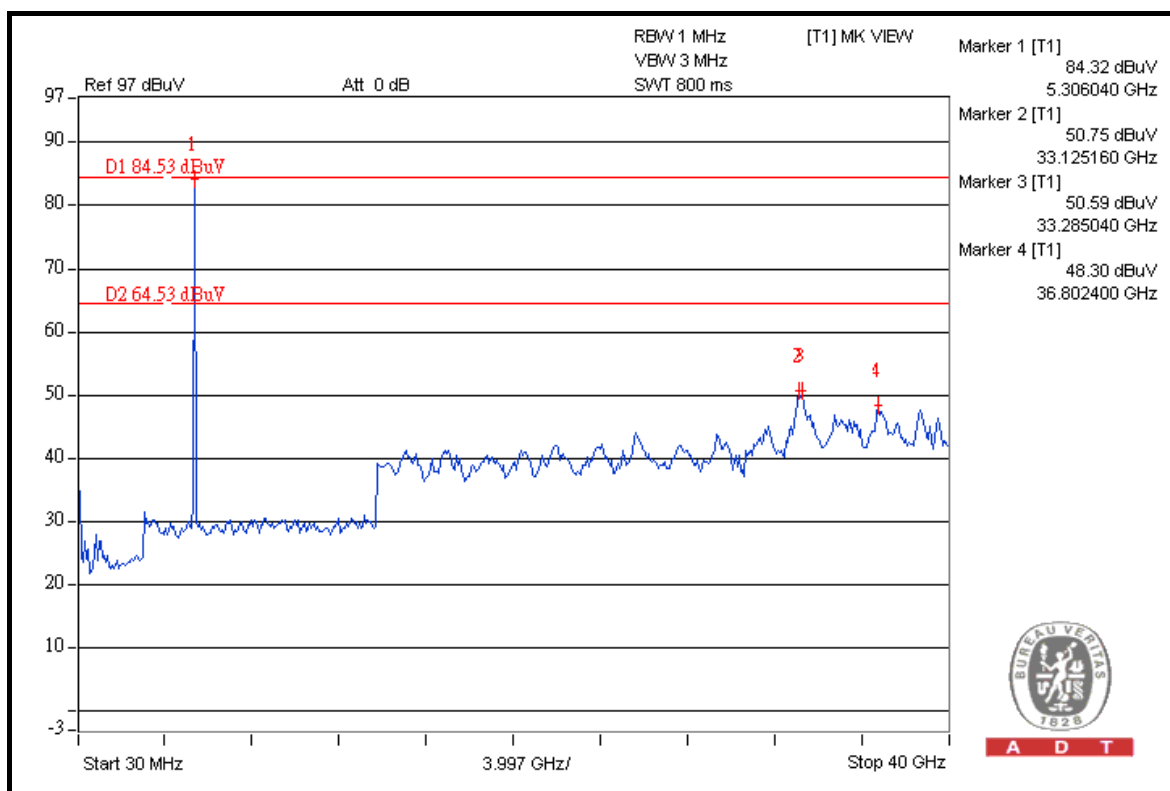
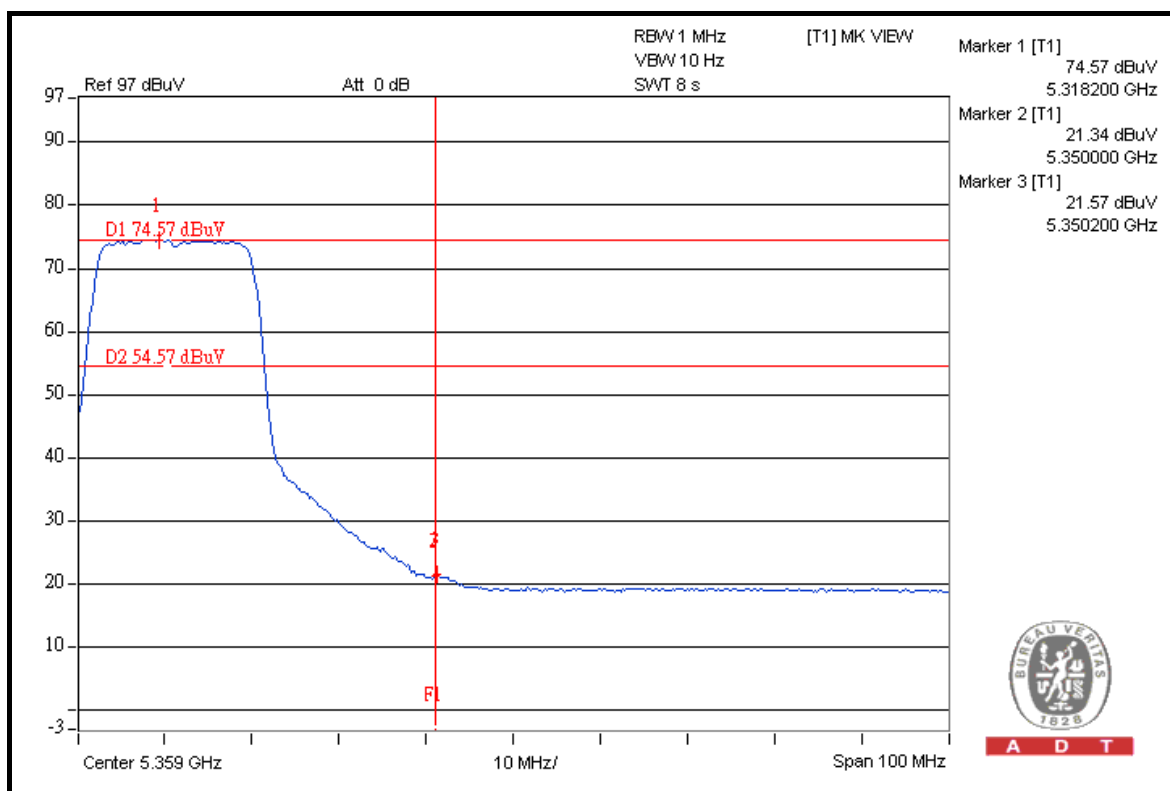


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FOR 5500-5700MHz BAND:

802.11n (20MHz)

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)	110.4	49.43	60.97	74.00
5500.00 (AV)	100.7	54.81	45.89	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)	110.4	43.41	66.99	68.30

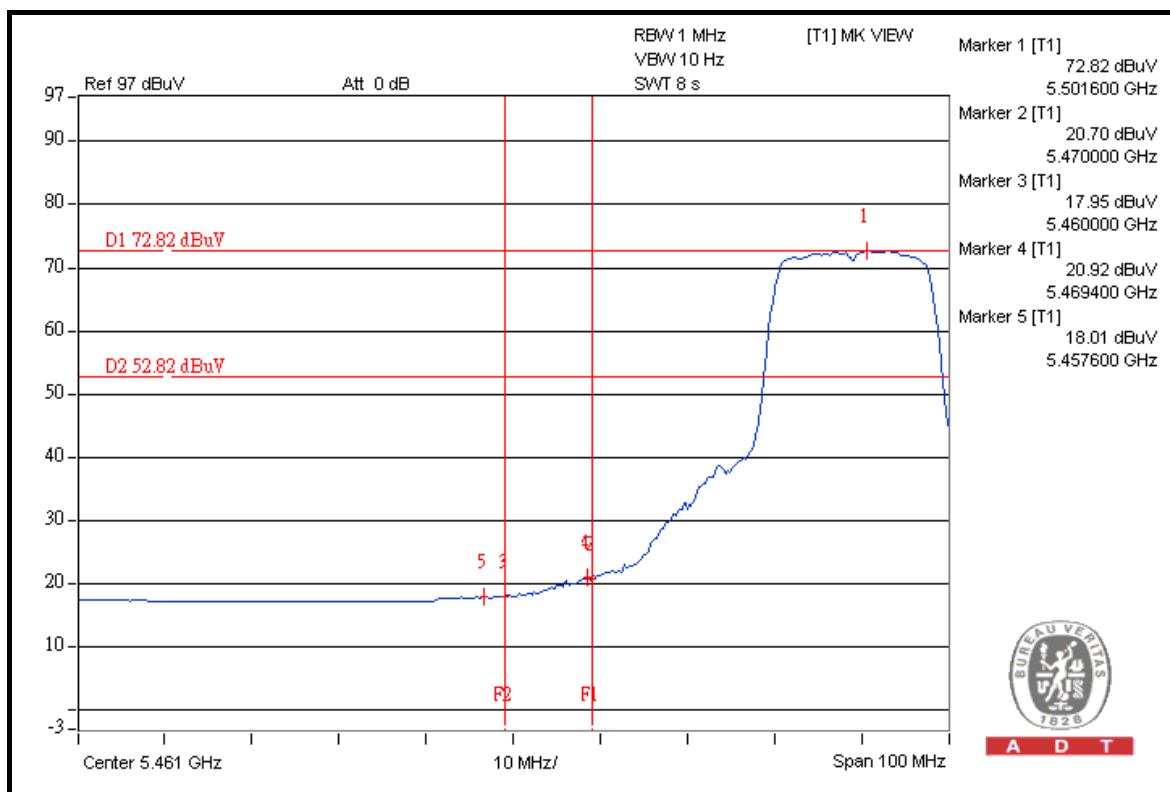
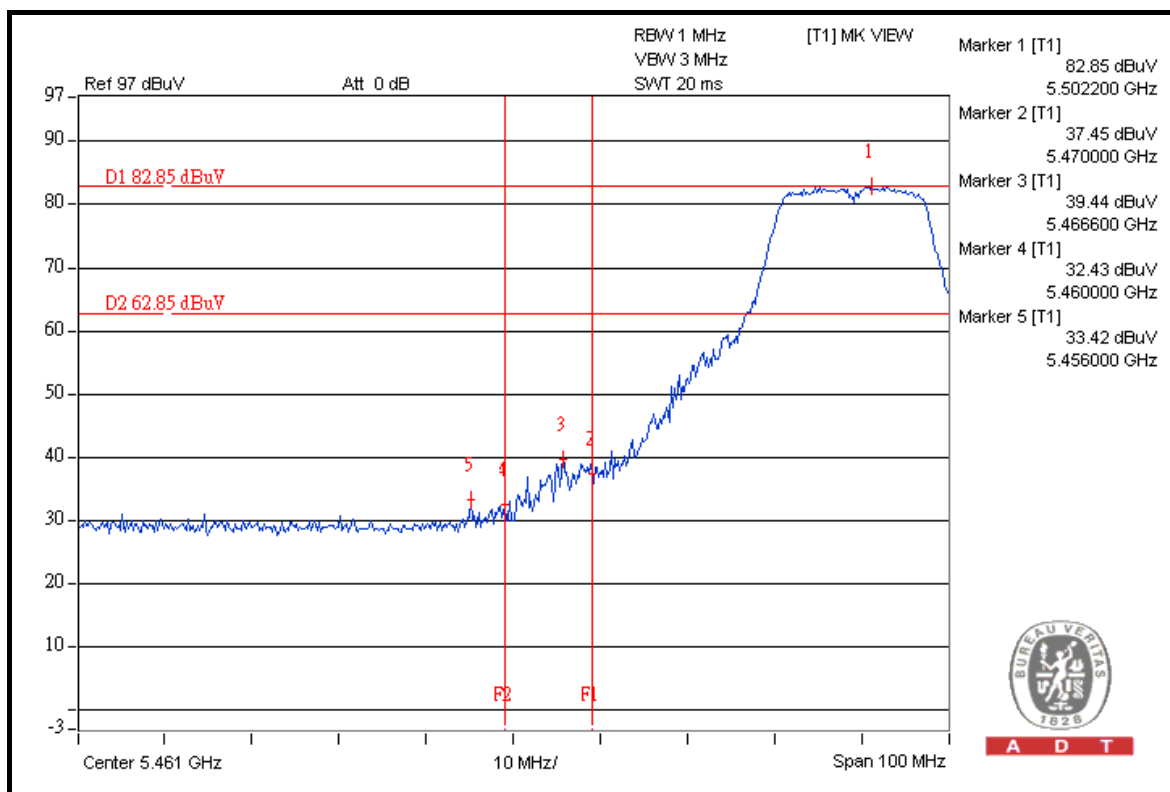
5700MHz

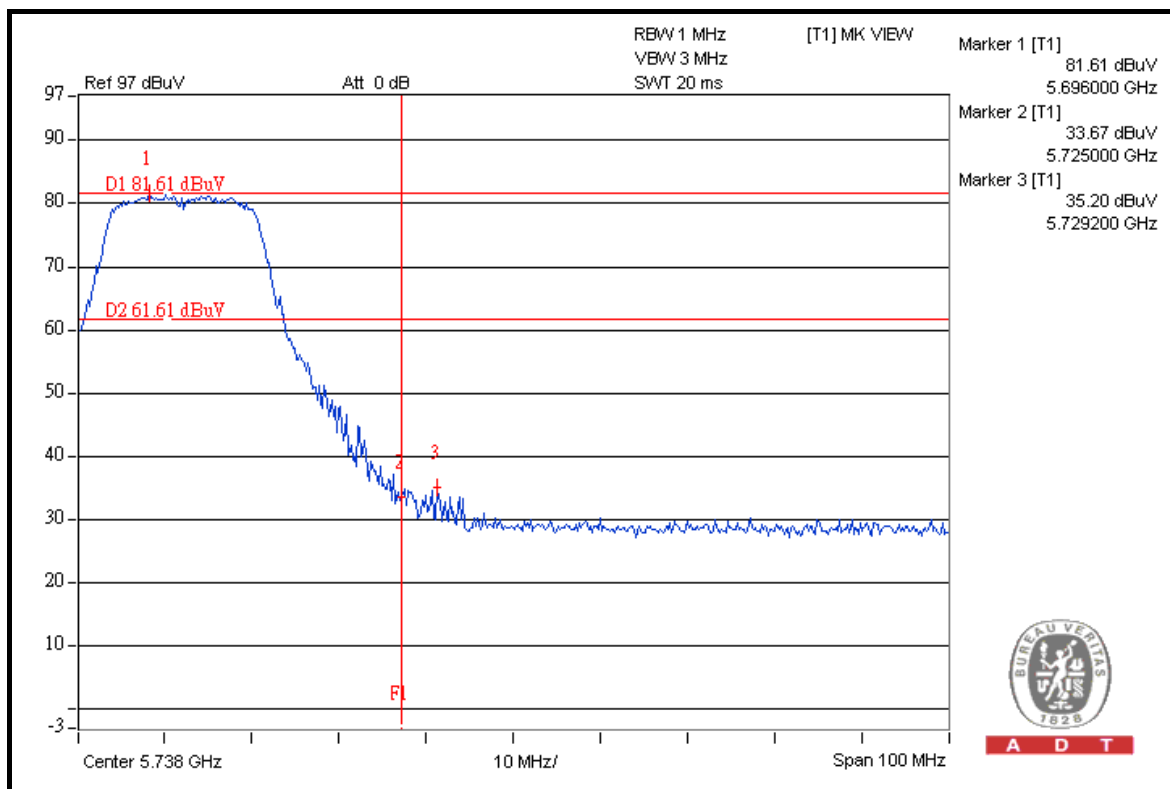
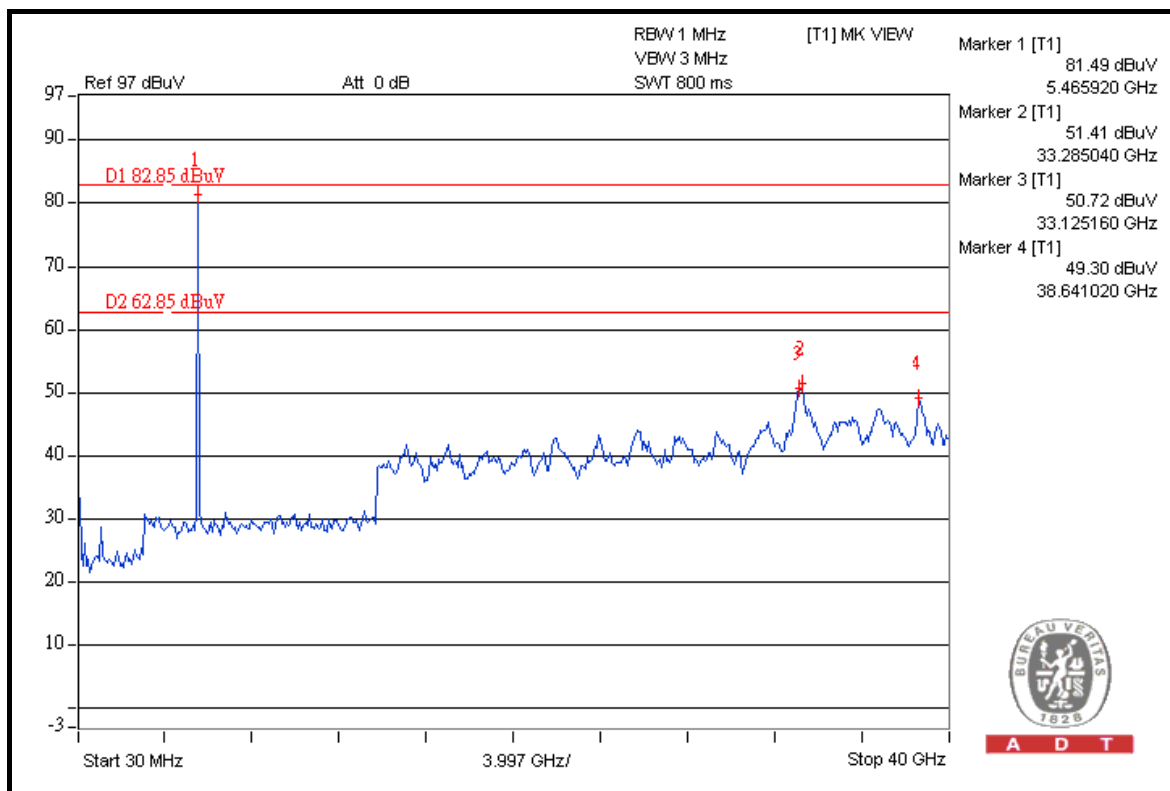
ABOVE 5725 MHz

FREQUENCY (MHz)	FUNDAMENTAL EMISSION (dBuV/m)	DELTA (dB)	MAXIMUM FIELD STRENGTH (dBuV/m)	LIMIT (dBuV/m)
5700.00 (PK)	109.7	46.41	63.29	68.30

NOTE:

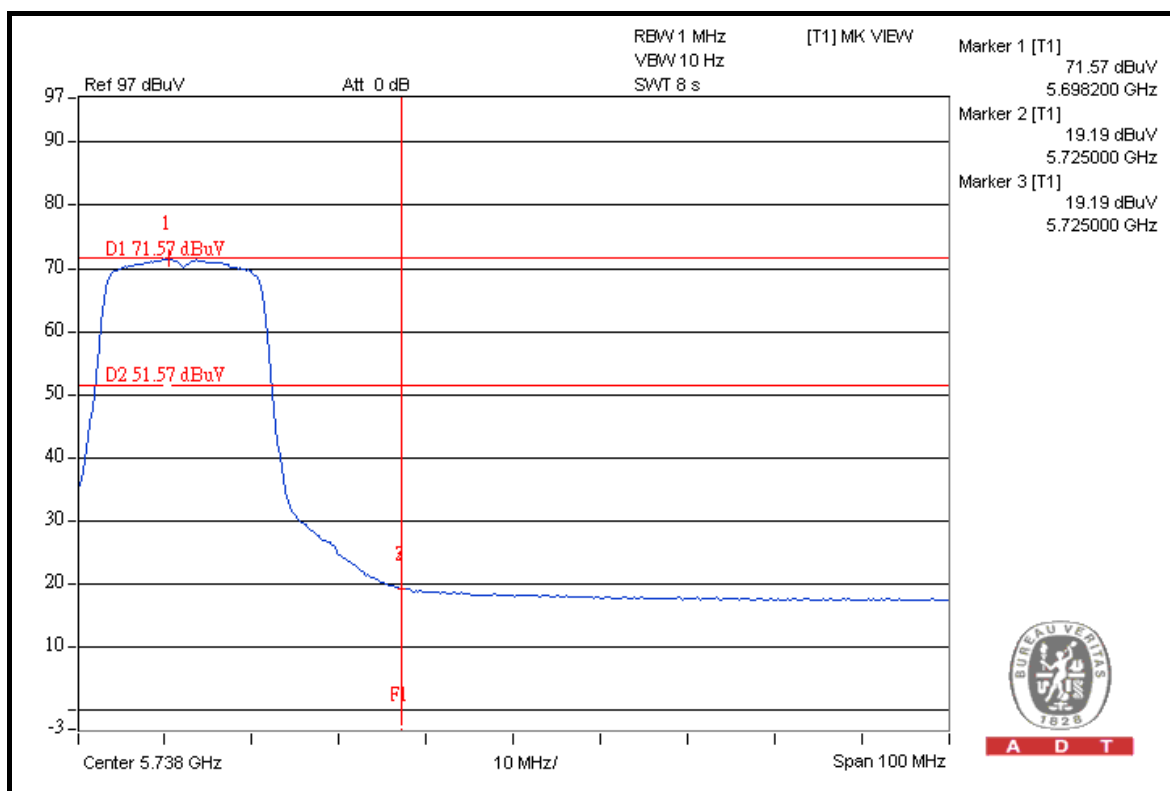
- Delta = Amplitude between the peak of the fundamental and the peak of the band edge emission. Please check following 3 pages.
- Maximum field strength in restrict band = Fundamental emission – Delta.



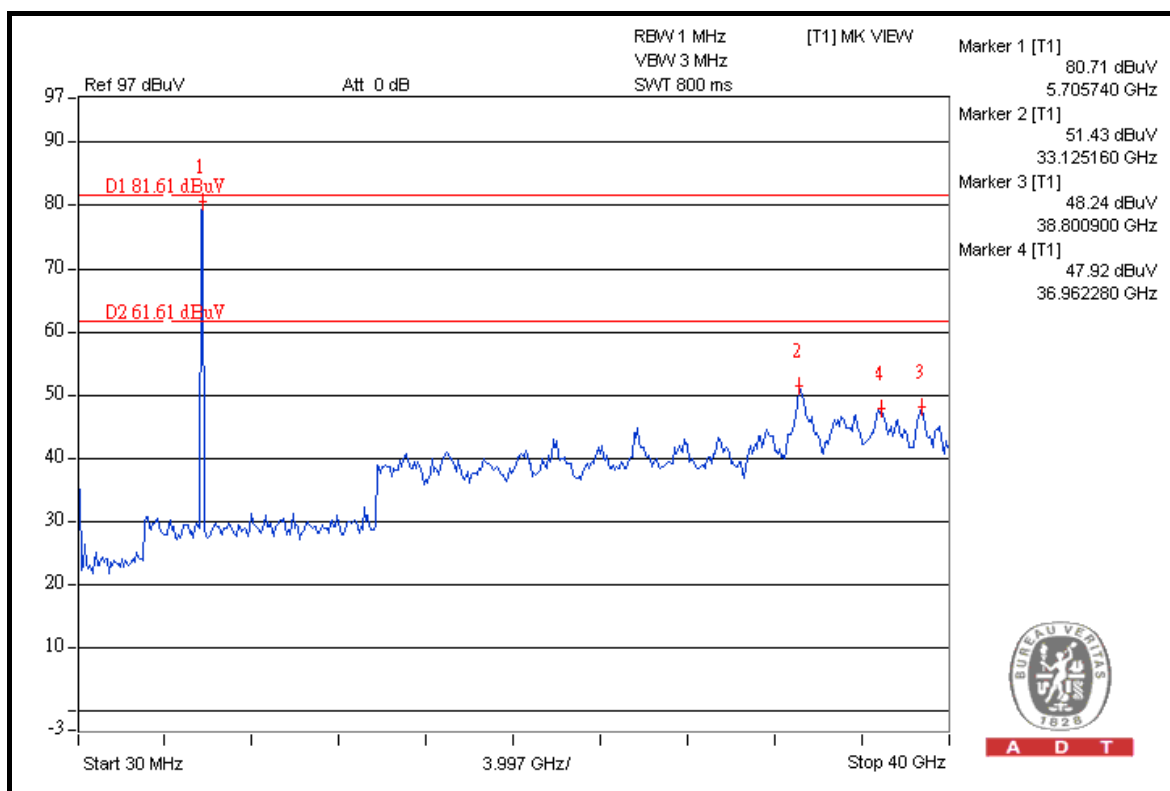




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FOR 5180-5320MHz BAND:

802.11n (40MHz)

RESTRICT BAND (4500 ~ 5150 MHz)

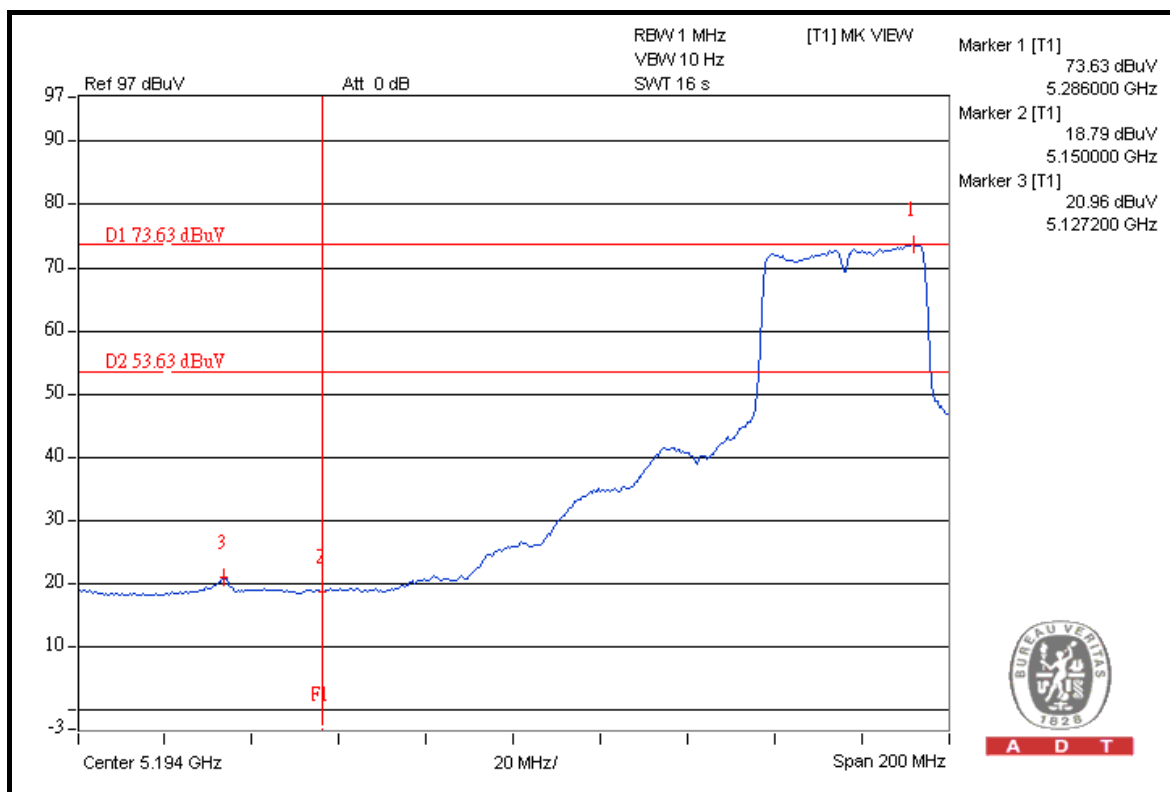
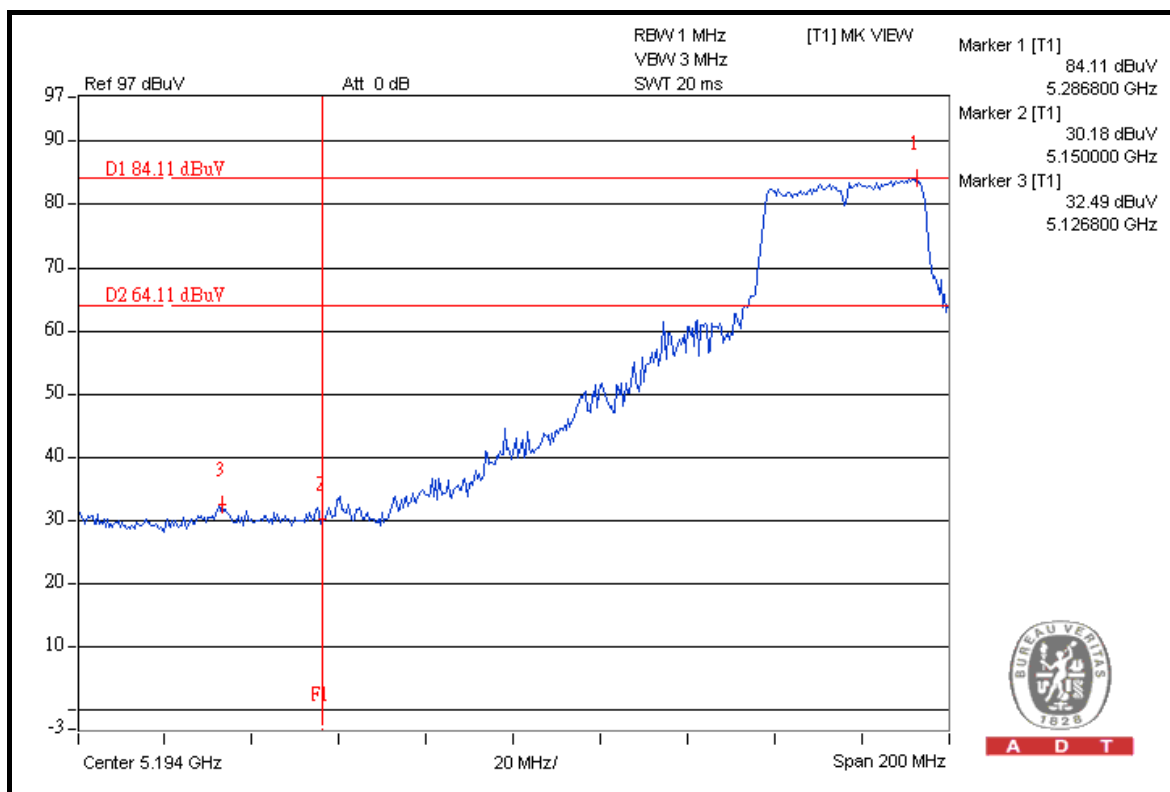
FREQUENCY (MHz)	FUNDAMENTAL EMISSION (dBuV/m)	DELTA (dB)	MAXIMUM FIELD STRENGTH IN RESTRICT BAND (dBuV/m)	LIMIT (dBuV/m)
5270.00 (PK)	111.3	51.62	59.68	74.00
5270.00 (AV)	101.2	52.67	48.53	54.00

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)	105.2	34.03	71.17	74.00
5310.00 (AV)	95.0	42.54	52.46	54.00

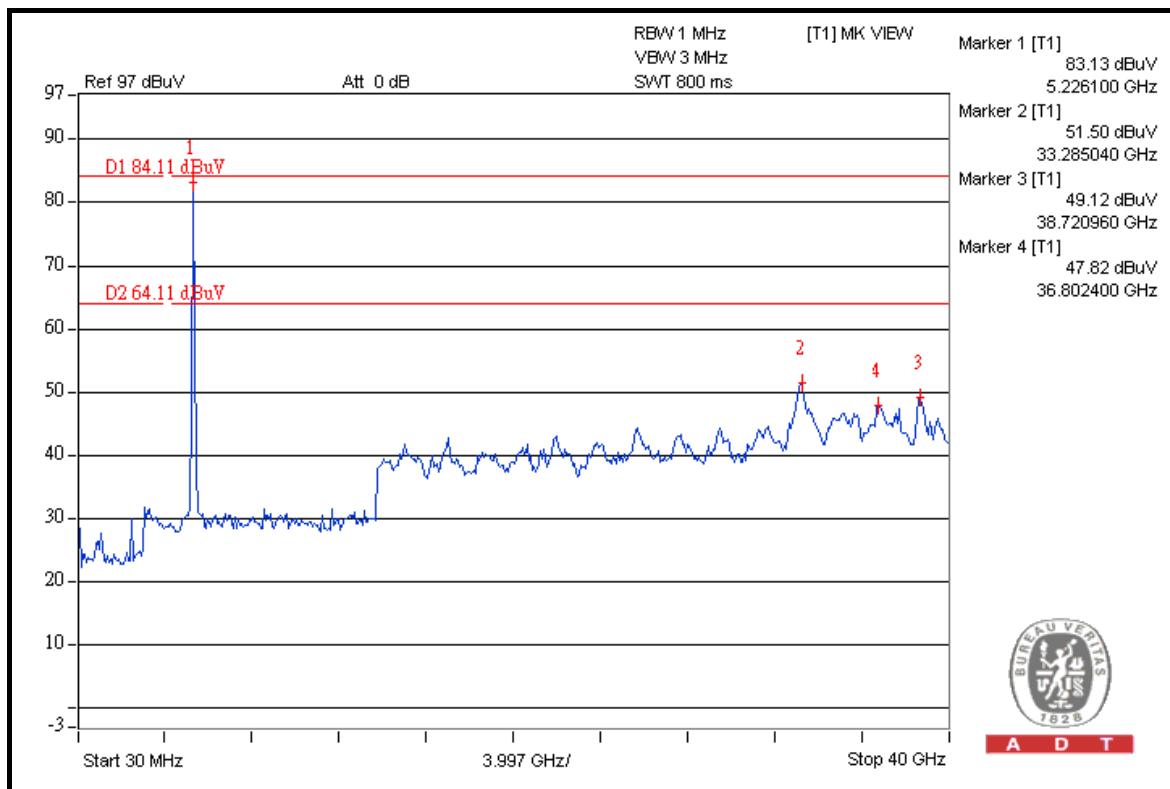
NOTE:

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

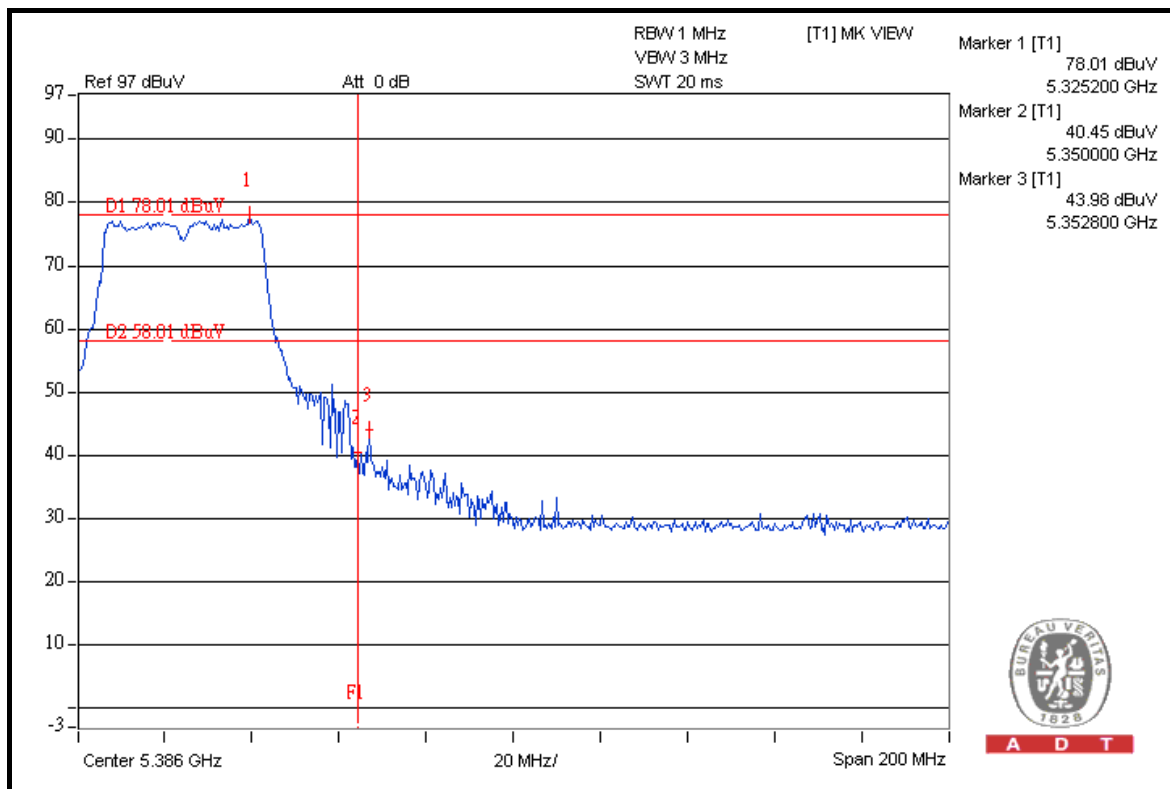




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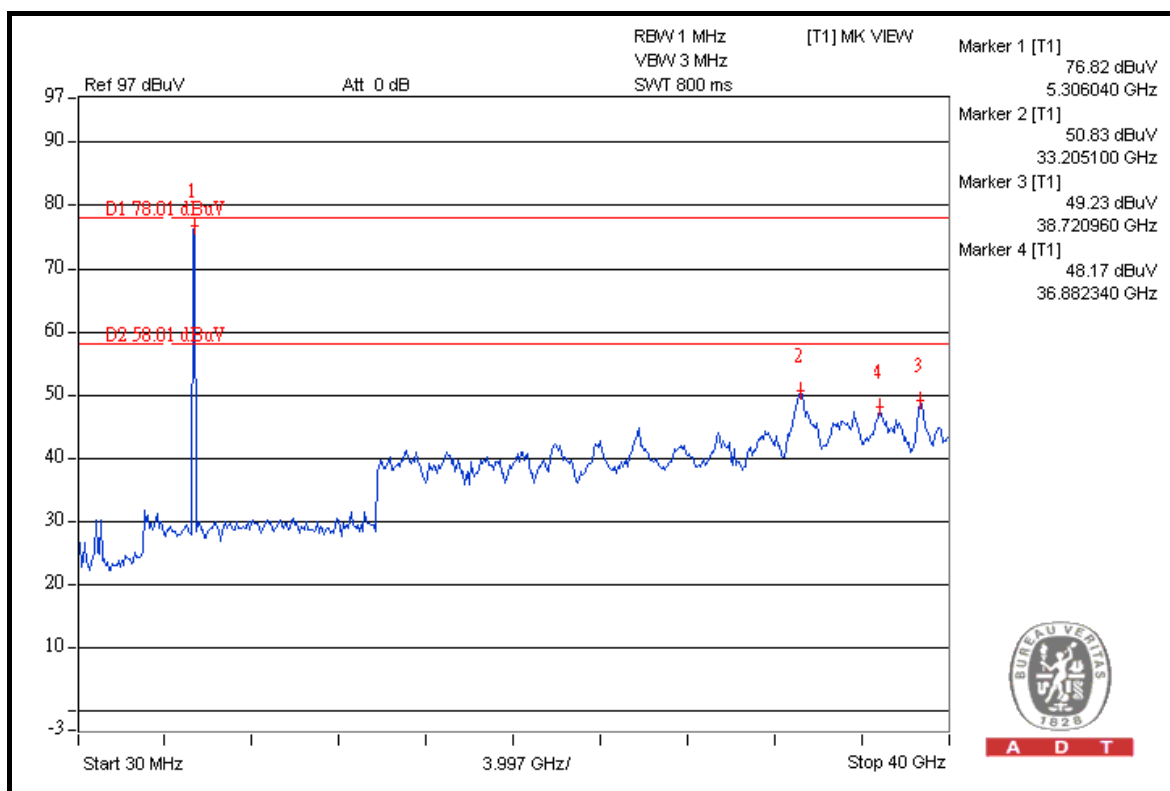
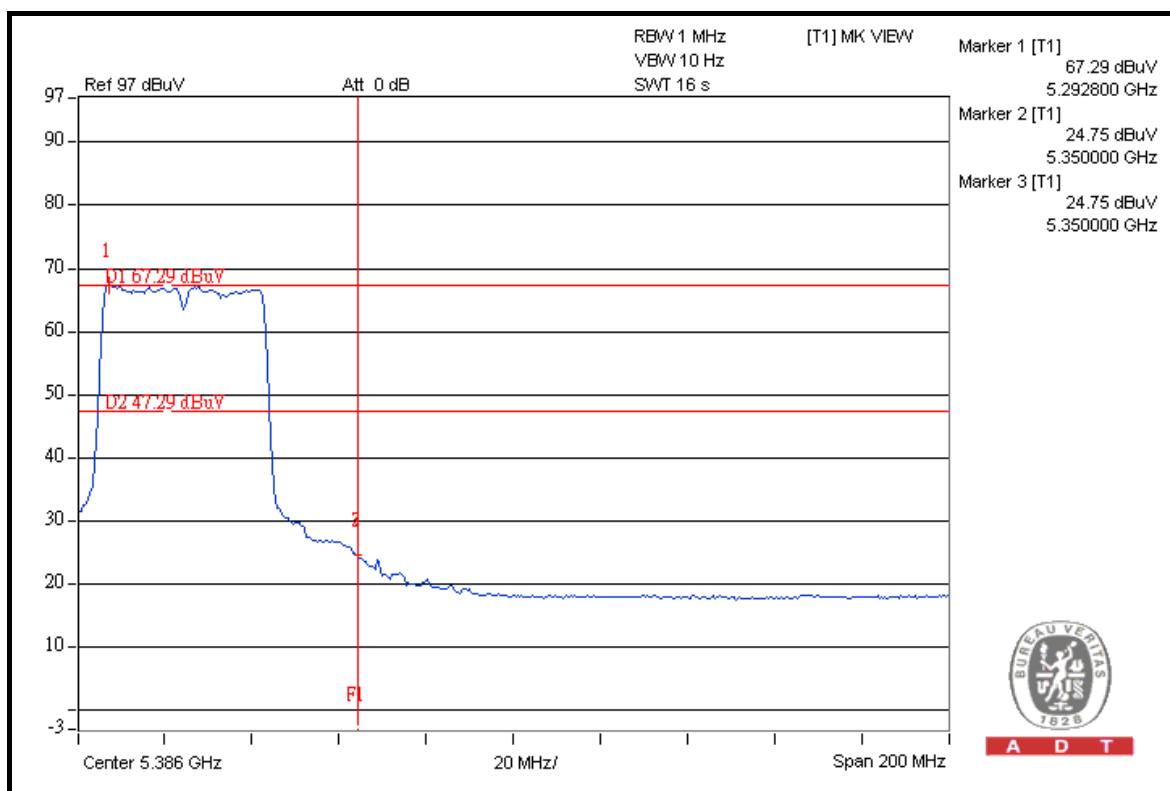
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FOR 5500-5700MHz BAND:

802.11n (40MHz)

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)	102.5	43.86	58.64	74.00
5510.00 (AV)	92.1	45.48	46.62	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)	102.5	36.98	65.52	68.30

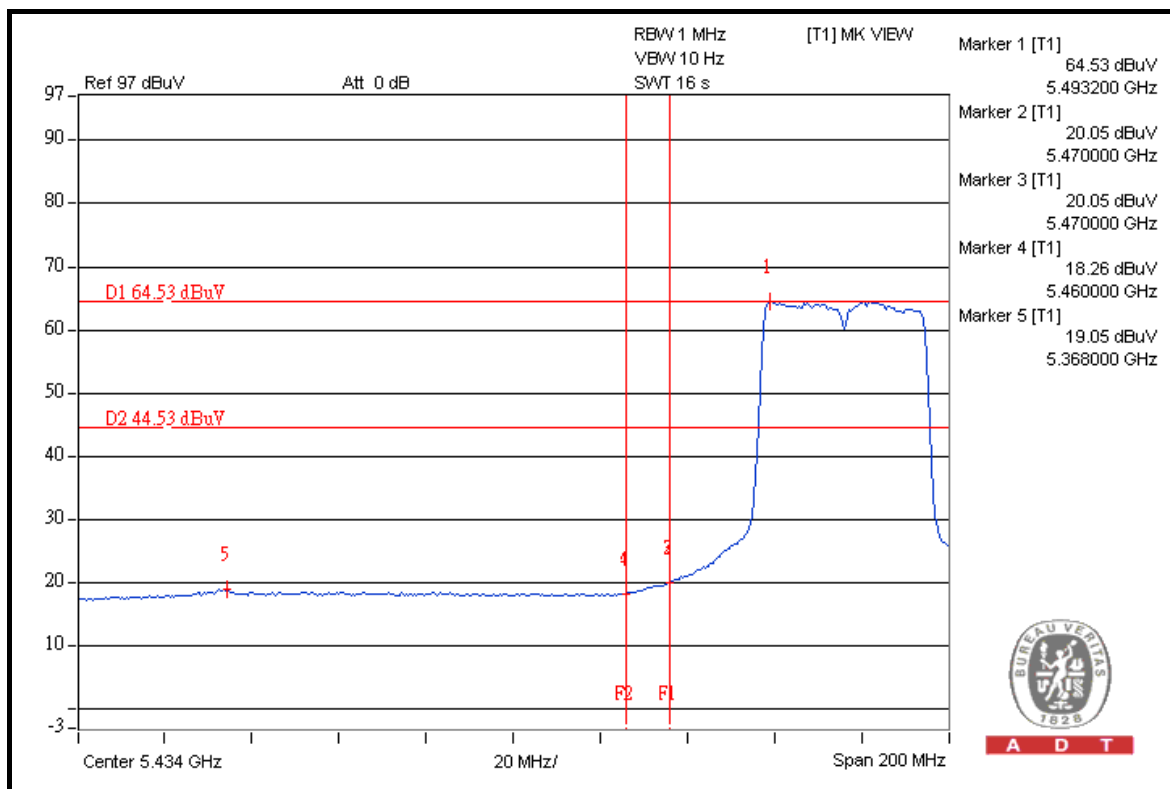
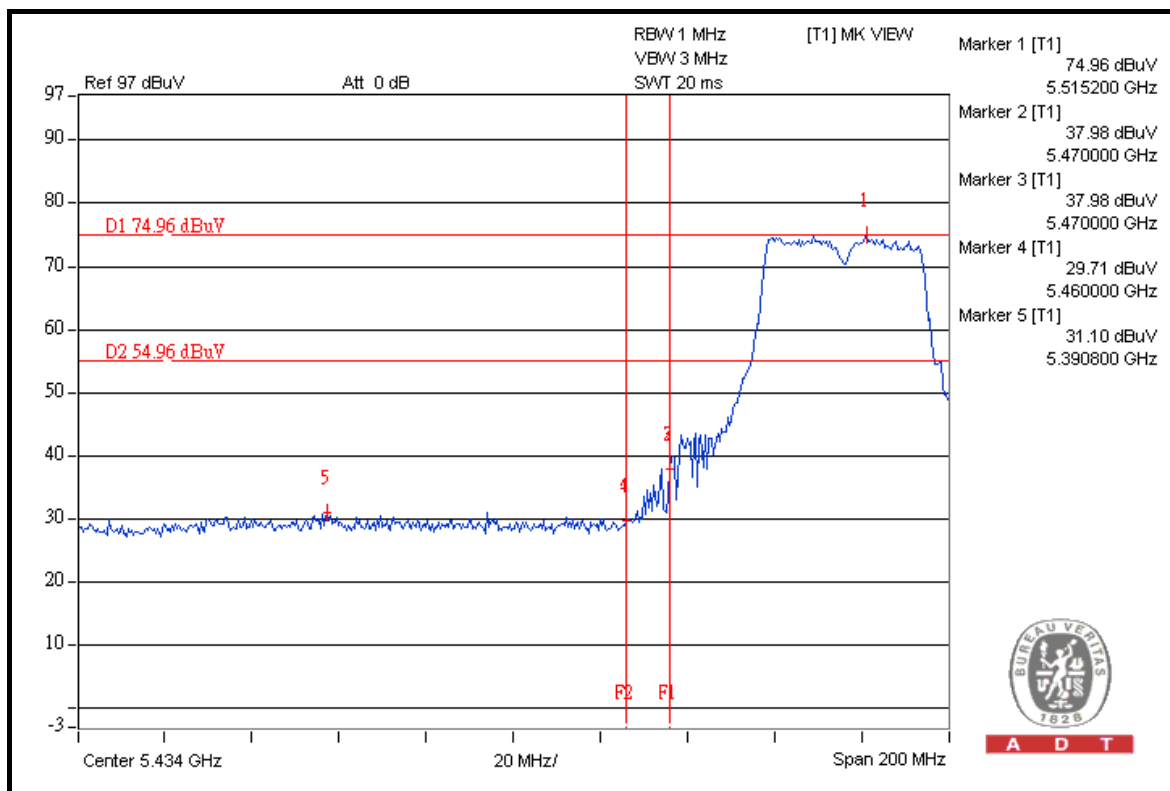
5670MHz

ABOVE 5725 MHz

FREQUENCY (MHz)	FUNDAMENTAL EMISSION (dBuV/m)	DELTA (dB)	MAXIMUM FIELD STRENGTH (dBuV/m)	LIMIT (dBuV/m)
5670.00 (PK)	105.2	43.83	61.37	68.30

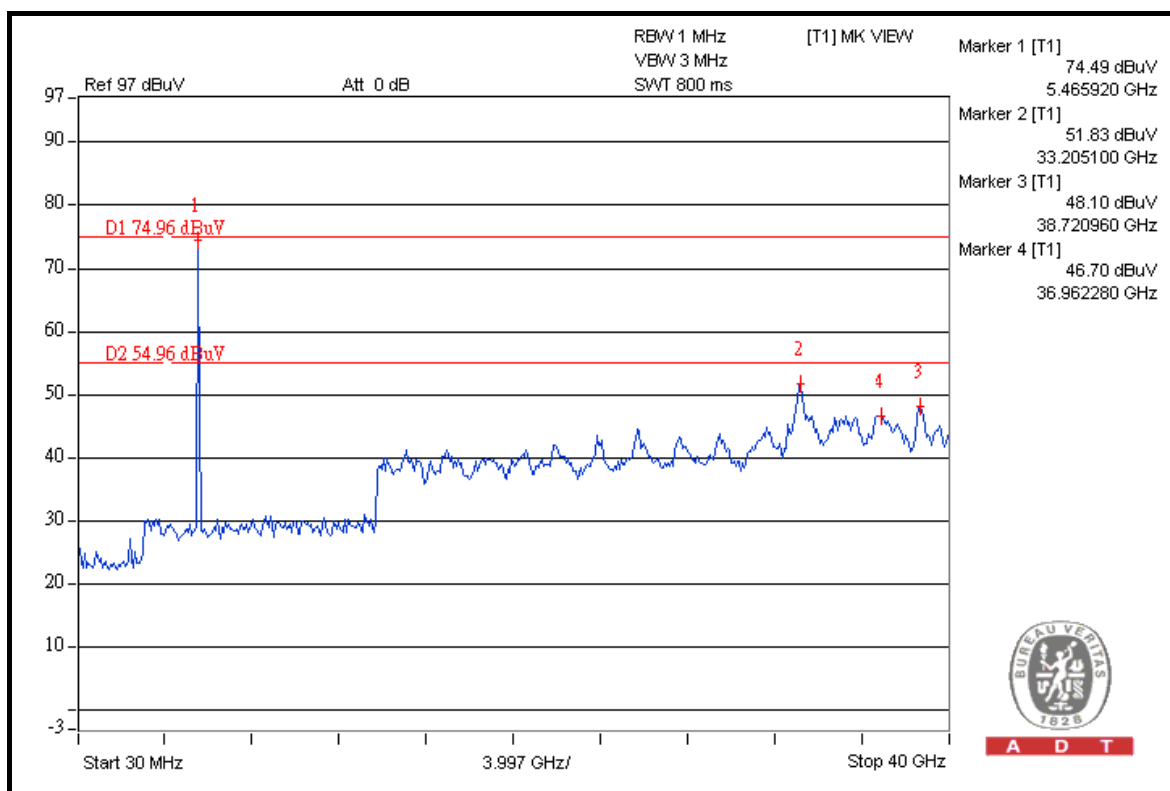
NOTE:

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.

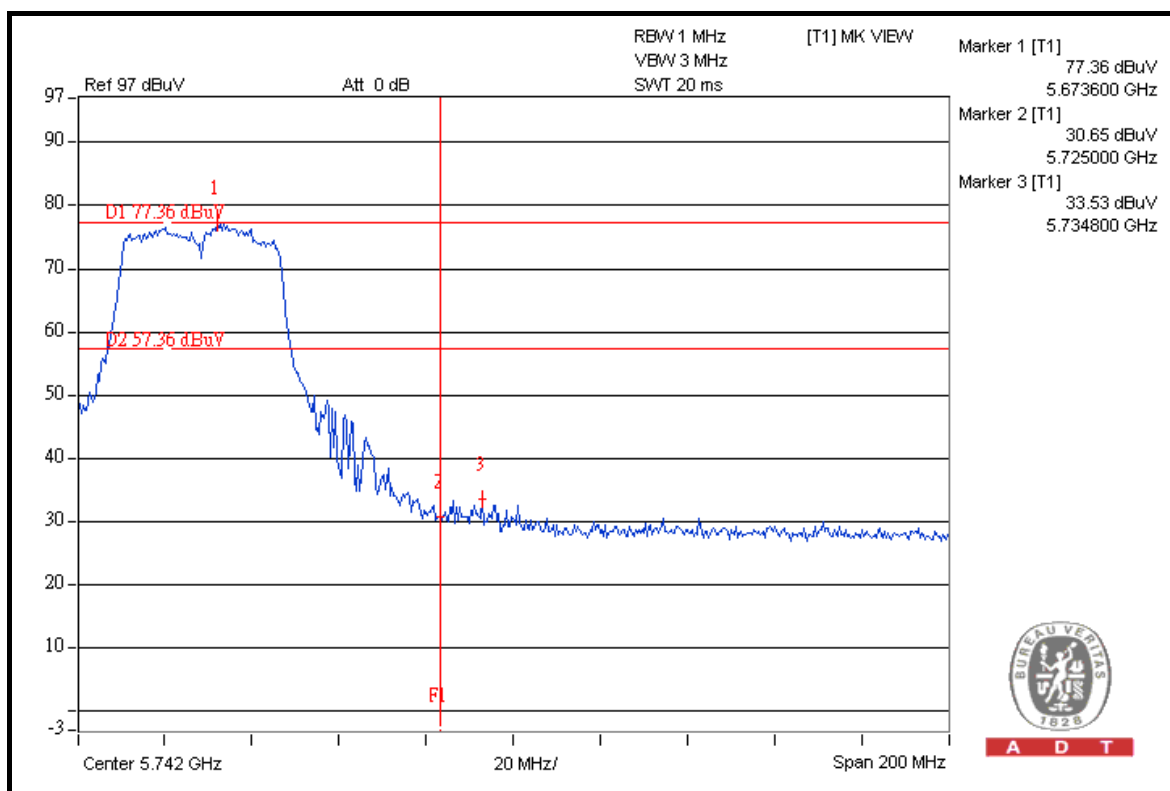




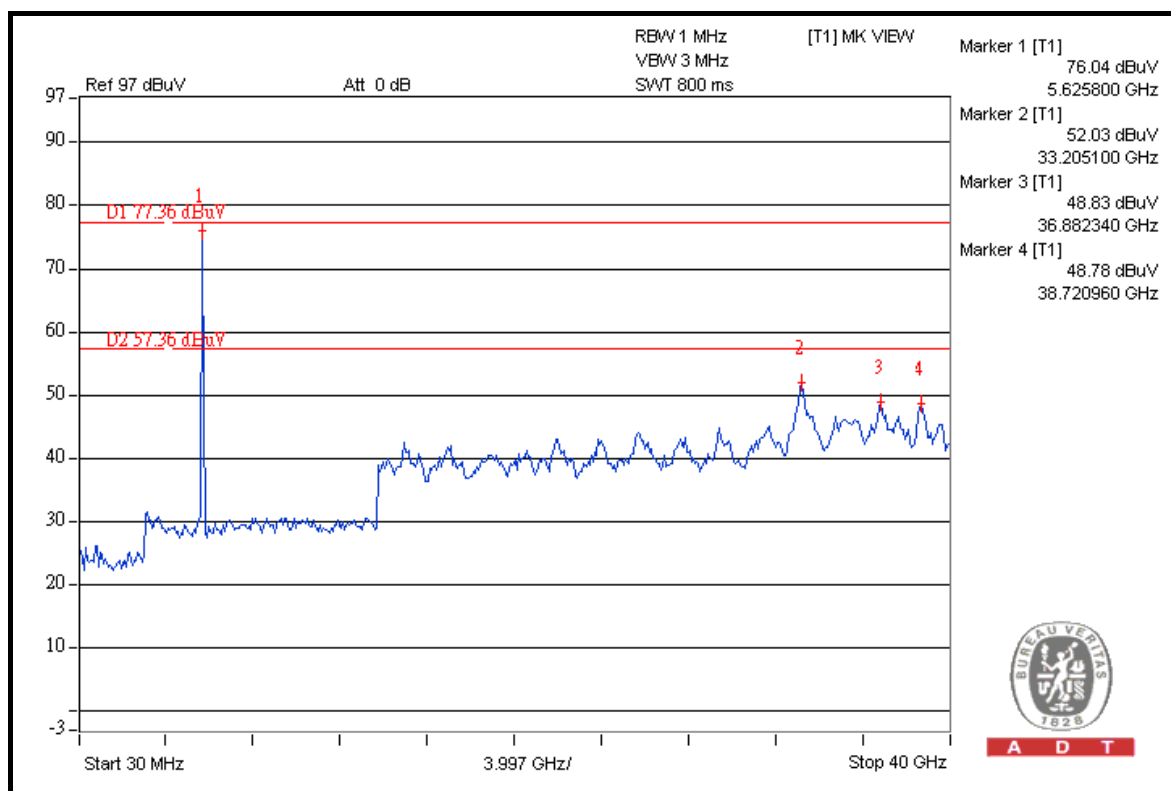
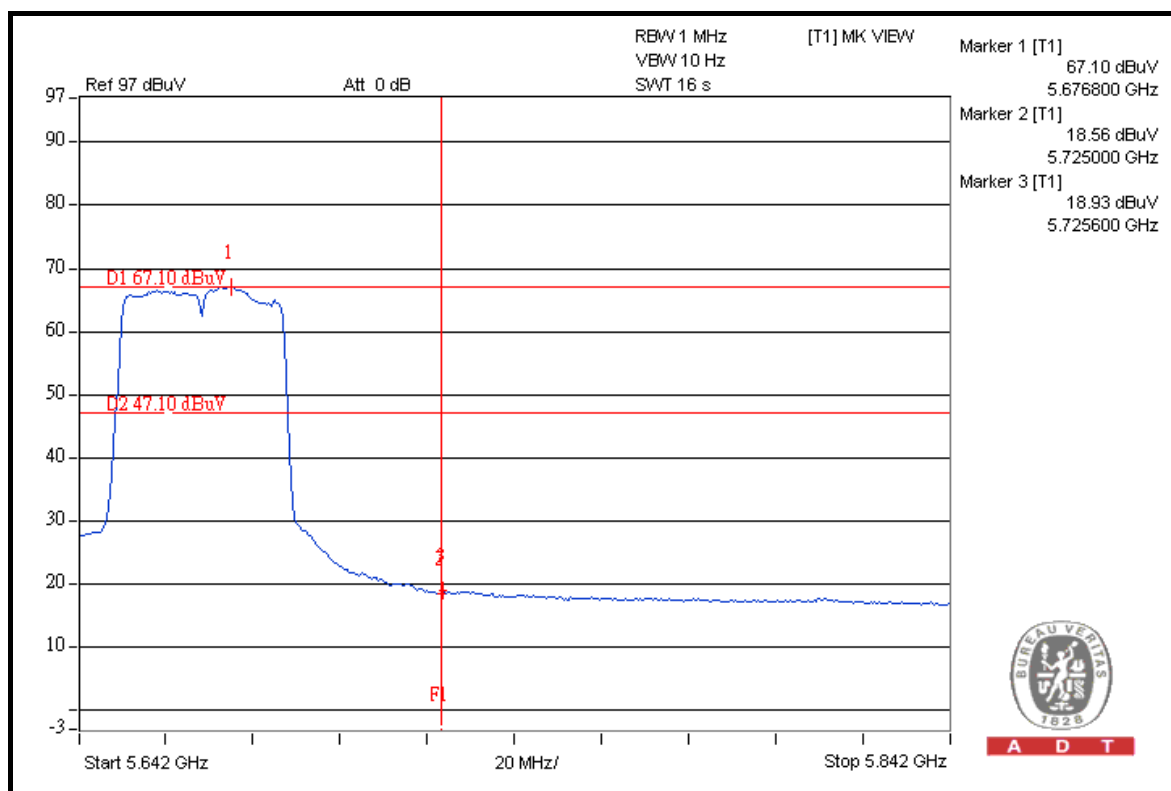
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5. PHOTOGRAPHS OF THE TEST CONFIGURATION

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---