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FCC TEST REPORT (PART 27)

REPORT NO.: RF991207D25D-5

MODEL NO.: PCG-41217L, PCG-4121CL

FCC ID: AK8PCG41217L

RECEIVED: Dec. 10, 2010

TESTED: Dec. 16 ~ Dec. 20, 2010

ISSUED: Dec. 22, 2010

APPLICANT: Sony Corporation

ADDRESS: 1-7-1 Konan Minato-Ku, Tokyo, 108-0075 Japan

ISSUED BY: Bureau Veritas Consumer Products Services (H.K.)
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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
Original release	N/A	Dec. 22, 2010



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1 CERTIFICATION

PRODUCT: Personal Computer

MODEL: PCG-41217L, PCG-4121CL

BRAND: SONY

APPLICANT: Sony Corporation

TEST SAMPLE: ENGINEERING SAMPLE

TESTED: Dec. 16 ~ Dec. 20, 2010

TEST STANDARDS: FCC Part 27, Subpart C & M

The above equipment (Model: PCG-41217L) 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 : Dec. 22, 2010
Andrea Hsia / Specialist

APPROVED BY : Gary Chang , DATE : Dec. 22, 2010
Gary Chang / Assistant Manager



2 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

STANDARD SECTION	TEST TYPE AND LIMIT	RESULT	REMARK
FCC Part 27 & Part 2			
2.1046 27.50(h)(2)	Maximum Peak Output Power Limit: max. 2 Watt.	PASS	Meet the requirement of limit. Minimum passing margin is 24.9dBm at 2498.5MHz.
2.1055 27.54	Frequency Stability Stay with the authorized bands of operation	PASS	Meet the requirement of limit.
2.1049 27.53(m)(6)	Emission Bandwidth	PASS	Meet the requirement of limit.
2.1051 27.53(m)(4)(6)	Band Edge Measurements	PASS	Meet the requirement of limit.
2.1051 27.53(m)(4)(6)	Conducted Spurious Emissions	PASS	Meet the requirement of limit.
2.1053 27.53(m)(4)(6)	Radiated Spurious Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -20.4dB at 8062.5MHz.

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	Personal Computer
MODEL NO.	PCG-41217L, PCG-4121CL
FCC ID	AK8PCG41217L
NOMINAL VOLTAGE	11.1Vdc (Li-Lon battery) 19.5Vdc (Adapter) 5Vdc (Adapter)
MODULATION TYPE	UL: QPSK1/2, QPSK 3/4, 16QAM1/2, 16QAM 3/4 DL: QPSK1/2, QPSK 3/4, 16QAM1/2, 16QAM 3/4, 64QAM1/2, 64QAM2/3, 64QAM3/4, 64QAM5/6
MODULATION TECHNOLOGY	OFDMA
DUPLEX METHOD	TDD
OPERATING RANGE	2498.5MHz ~ 2687.5MHz
CHANNEL BANDWIDTH	5MHz, 10MHz
MAX. EIRP POWER	24.9dBm
ANTENNA TYPE	Refer to note as below
OPERATION TEMPERATURE RANGE	-20°C ~ 55°C
I/O PORTS	Refer to user's manual
DATA CABLE	NA
ACCESSORY DEVICES	Adapter, Battery

NOTE:

- All models are electrically identical, which are identical to each other except for the Topcover less of ODD differences only, as the following:

BRAND	MODELNAME	TOPCOVER LESS OF ODD
SONY	PCG-41217L	Without
SONY	PCG-4121CL	With

**During the test, the model no.: PCG-41217L was the worst case and only its test data was recorded in this report.

- The case of EUT has two kinds of material: MG & CFRP. During the test, the MG material case was the worst case and only its test data was recorded in this report.
- The EUT is a Personal Computer. The test data are separated into following test reports.

	TEST STANDARD	REFERENCE REPORT
WLAN 802.11b/g, 802.11n	FCC Part 15, Subpart C (Section 15.247)	RF991207D25D-1
WLAN 802.11a, 802.11n (5745~5825 MHz)		
WLAN 802.11a, 802.11n (5250~5350MHz & 5470~5725MHz)	FCC Part 15, Subpart E (Section 15.407)	RF991207D25D
WLAN 802.11a, 802.11n (For DFS report) (5250~5350MHz & 5470~5725MHz)	FCC Part 15, Subpart E (Section 15.407)	RF991207D25D-3
BLUETOOTH	FCC Part 15, Subpart C (Section 15.247)	RF991207D25D-2
WIMAX	FCC Part 27, Subpart C & M	RF991207D25D-5



4. The following antennas are used in this EUT.

Type	Connector	Manufacture	Gain
PIFA	Hirose U.FL	ACON	1.54dBi

5. The EUT were powered by the following adapters:

Adapter 1 (2PIN)	
BRAND:	NJRC
MODEL:	VGP-AC19V31
INPUT:	100-240Vac, 50/60Hz, 1.5A
OUTPUT:	19.5Vdc, 4.7A
POWER LINE:	AC: 0.8m non-shielded cable without core DC: 1.8m non-shielded cable without core

Adapter 2 (3PIN)	
BRAND:	NJRC
MODEL:	VGP-AC19V32
INPUT:	100-240Vac, 50/60Hz, 1.5A
OUTPUT:	19.5Vdc, 4.7A
POWER LINE:	AC: 0.8m non-shielded cable without core DC: 1.8m non-shielded cable without core

Adapter 3 (3PIN)	
BRAND:	Liteon
MODEL:	VGP-AC19V36
INPUT:	100-240Vac, 50/60Hz, 1.5A
OUTPUT:	19.5Vdc, 4.7A
POWER LINE:	AC: 0.8m non-shielded cable without core DC: 1.8m non-shielded cable without core

Adapter 4 (3PIN)	
BRAND:	Delta
MODEL:	VGP-AC19V42
INPUT:	100-240Vac, 50/60Hz, 1.5A
OUTPUT:	19.5Vdc, 4.7A
POWER LINE:	AC: 0.8m non-shielded cable without core DC: 1.8m non-shielded cable without core

Adapter 5 (3PIN)	
BRAND:	Delta
MODEL:	VGP-AC19V51
INPUT:	100-240Vac, 50/60Hz, 1.5A
OUTPUT:	19.5Vdc, 4.7A 5Vdc, 1.5A 5Vdc, 1.5A
POWER LINE:	AC: 0.8m non-shielded cable without core DC: 1.8m non-shielded cable without core

6. The EUT had lithium battery listed as below:

LI-ION BATTERY	
BRAND:	Sony
MODEL:	VGP-BPS24
RATING:	11.1Vdc, 4400mAh

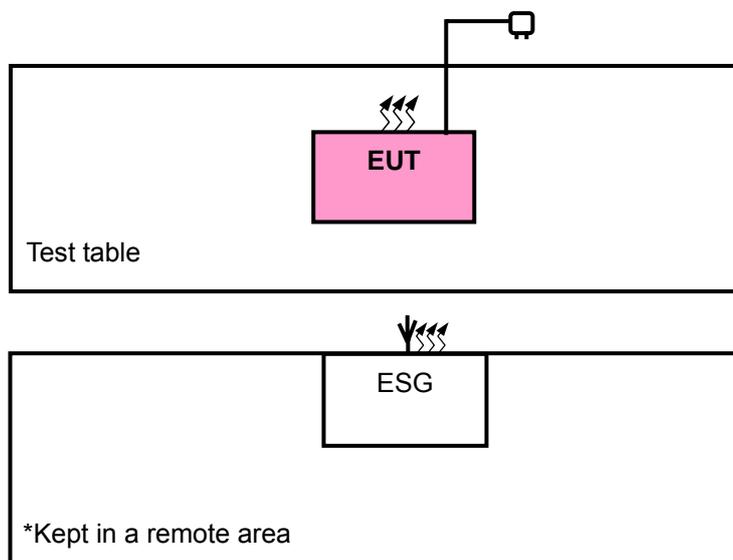
7. The above EUT information was declared by manufacturer and for more detailed features description please refers to the manufacturer's specifications or User's Manual.

3.2 DESCRIPTION OF TEST MODES

Three channels had been tested for each channel bandwidth.

CHANNEL BANDWIDTH: 5MHz	CHANNEL BANDWIDTH: 10MHz
Low channel (L): 2498.5MHz.	Low channel (L): 2501MHz.
Middle channel (M): 2593.0MHz.	Middle channel (M): 2593 MHz.
High channel (H): 2687.5MHz.	High channel (H): 2685 MHz.

3.2.1 CONFIGURATION OF SYSTEM UNDER TEST





3.2.2 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

EUT CONFIGURE MODE	APPLICABLE TO							DESCRIPTION
	OP	FS	EB	CE	CSE	RE<1G	RE≥1G	
-	√	√	√	√	√	√	√	-

Where **OP**: Output power **FS**: Frequency stability
EB: Emission bandwidth **CE**: Channel edge
CSE: Conducted spurious emissions **RE<1G**: Radiated emission below 1GHz
RE≥1G: Radiated emission above 1GHz

OUTPUT POWER MEASUREMENT:

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

TESTED CHANNEL	MODULATION TECHNOLOGY	CHANNEL BANDWIDTH	MODULATION TYPE	CODING RATE
L, M, H	OFDMA	5MHz	QPSK	1/2
L, M, H	OFDMA	10MHz	QPSK	1/2

FREQUENCY STABILITY MEASUREMENT:

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

TESTED CHANNEL	MODULATION TECHNOLOGY	CHANNEL BANDWIDTH	MODULATION TYPE	CODING RATE
L	OFDMA	5MHz	QPSK	1/2
L	OFDMA	10MHz	QPSK	1/2

EMISSION BANDWIDTH MEASUREMENT:

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

TESTED CHANNEL	MODULATION TECHNOLOGY	CHANNEL BANDWIDTH	MODULATION TYPE	CODING RATE
L, M, H	OFDMA	5MHz	QPSK	1/2
L, M, H	OFDMA	10MHz	QPSK	1/2



CHANNEL EDGE MEASUREMENT:

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

TESTED CHANNEL	MODULATION TECHNOLOGY	CHANNEL BANDWIDTH	MODULATION TYPE	CODING RATE
L, M, H	OFDMA	5MHz	QPSK	1/2
L, M, H	OFDMA	10MHz	QPSK	1/2

CONDUCTED SPURIOUS EMISSIONS MEASUREMENT:

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

TESTED CHANNEL	MODULATION TECHNOLOGY	CHANNEL BANDWIDTH	MODULATION TYPE	CODING RATE
L, M, H	OFDMA	5MHz	QPSK	1/2
L, M, H	OFDMA	10MHz	QPSK	1/2

RADIATED EMISSION MEASUREMENT (BELOW 1 GHz):

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

TESTED CHANNEL	MODULATION TECHNOLOGY	CHANNEL BANDWIDTH	MODULATION TYPE	CODING RATE
L	OFDMA	5MHz	QPSK	1/2
L	OFDMA	10MHz	QPSK	1/2

RADIATED EMISSION MEASUREMENT (ABOVE 1 GHz):

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

TESTED CHANNEL	MODULATION TECHNOLOGY	CHANNEL BANDWIDTH	MODULATION TYPE	CODING RATE
L, M, H	OFDMA	5MHz	QPSK	1/2
L, M, H	OFDMA	10MHz	QPSK	1/2



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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 47 CFR Part 2

FCC 47 CFR Part 27

ANSI/TIA/EIA-603-C-2004

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	SIGNAL GENERATOR	Agilent	E4438C	MY45092849	NA

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	NA
2	10m UTP RJ45 cable.

NOTE:

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



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4 TEST TYPES AND RESULTS

4.1 OUTPUT POWER MEASUREMENT

4.1.1 LIMITS OF OUTPUT POWER MEASUREMENT

The radiated peak output power shall be according to the specific rule Part 27.50(h)(2) that “User stations are limited to 2 watts” and 27.50(i) specific that “Peak transmit power must be measure over any interval of continuous transmission using instrumentation calibration in terms of rms-equivalent voltage.”

4.1.2 TEST INSTRUMENTS

CONDUCTED POWER MEASUREMENT:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
High Speed Peak Power Meter	ML2495A	0824011	Dec. 10, 2010	Aug. 01, 2011
Power Sensor	MA2411B	0738171	Dec. 10, 2010	Aug. 01, 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.



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EIRP POWER MEASUREMENT:

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 ROHDE & SCHWARZ	FSP40	100269	Dec. 31, 2009	Dec. 30, 2010
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. 25, 2009	Dec. 24, 2010
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

- 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 IC 7450F-3.



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4.1.3 TEST PROCEDURES

CONDUCTED POWER 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.

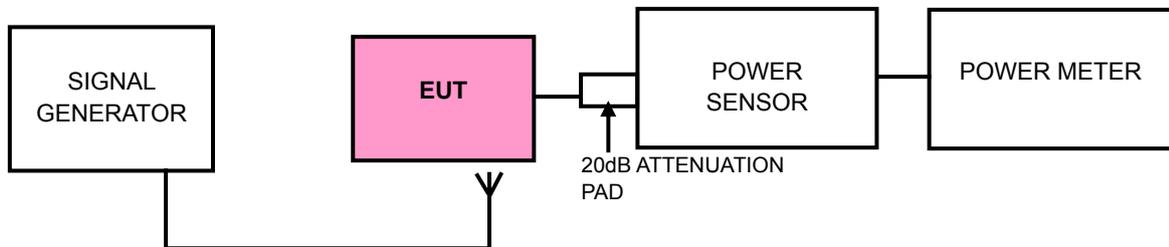
EIRP POWER MEASUREMENT:

- a. The power was measured with R&S Spectrum Analyzer. All measurements were done at 3 channels (low, middle and high operational frequency range.)
- b. The conducted peak output power used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer. The path loss included the splitter loss, cable loss and 20dB pad loss. The spectrum set RB/VB 3MHz, then read peak power value and record to the test. (All transmitted path loss shall be considered in the test report data.)
- c. Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8m height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power. The “Read Value” is the spectrum reading the maximum power value.
- d. The substitution horn antenna is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a TX cable. Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to “Read Value “ of step b. Record the power level of S.G
- e. $EIRP = \text{Output power level of S.G} - \text{TX cable loss} + \text{Antenna gain of substitution horn.}$

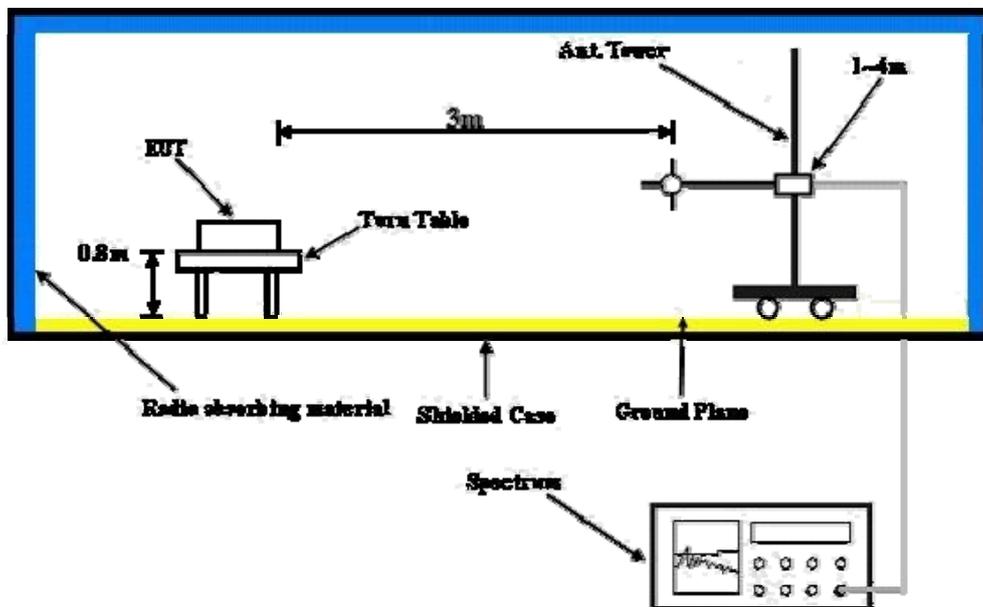
NOTE: The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 10MHz/10MHz.

4.1.4 TEST SETUP

CONDUCTED POWER MEASUREMENT:



EIRP POWER MEASUREMENT:



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

4.1.5 EUT OPERATING CONDITIONS

- a. Link up EUT with signal generator.
- b. The signal generator controlled EUT to export rated output power under transmission mode and specific channel frequency.



4.1.6 TEST RESULTS

CHANNEL BANDWIDTH: 5MHz

CONDUCTED POWER (RMS)					
CHANNEL	FREQUENCY (MHz)	C.F (dB)	POWER METER READING (dBm)	POWER (dBm)	POWER (W)
Low	2498.5	21.0	2.4	23.38	0.2178
Middle	2593.0	21.0	2.2	23.17	0.2075
High	2687.5	21.0	2.3	23.27	0.2123

NOTE: C.F = attenuator + cable loss

EIRP POWER (RMS)					
CHANNEL	FREQUENCY (MHz)	C.F (dB)	S.G. LEVEL (dBm)	TOTAL POWER (dBm)	TOTAL POWER (W)
Low	2498.5	8.3	16.6	24.9	0.3090
Middle	2593.0	8.5	15.5	24.0	0.2512
High	2687.5	8.5	14.3	22.8	0.1905

NOTE: C.F = Substitution antenna gain + cable loss



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CHANNEL BANDWIDTH: 10MHz

CONDUCTED POWER (RMS)					
CHANNEL	FREQUENCY (MHz)	C.F (dB)	POWER METER READING (dBm)	POWER (dBm)	POWER (W)
Low	2501	21.0	2.3	23.26	0.2118
Middle	2593	21.0	2.3	23.28	0.2128
High	2685	21.0	2.3	23.31	0.2143

NOTE: C.F = attenuator + cable loss

EIRP POWER (RMS)					
CHANNEL	FREQUENCY (MHz)	C.F (dB)	S.G. LEVEL (dBm)	TOTAL POWER (dBm)	TOTAL POWER (W)
Low	2501	8.3	15.1	23.4	0.2188
Middle	2593	8.5	14.1	22.6	0.1820
High	2685	8.5	13.8	22.3	0.1698

NOTE: C.F = Substitution antenna gain + cable loss



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4.2 FREQUENCY STABILITY MEASUREMENT

4.2.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT

According to the FCC part 2.1055 shall be tested the frequency stability. The rule is defined that "The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block." The test extreme voltage is according to the 2.1055(d)(1) Vary primary supply voltage from 85 to 115 percent of the nominal value for other than hand carried battery equipment and the extreme temperature rule is comply with specification of EUT $-30^{\circ}\text{C} \sim 55^{\circ}\text{C}$.

4.2.2 TEST INSTRUMENTS

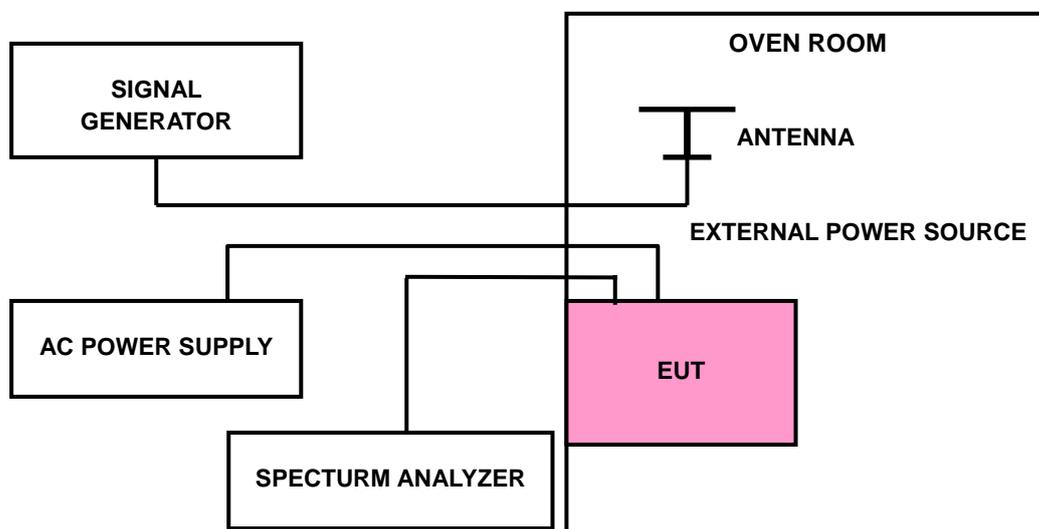
DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Spectrum Analyzer Agilent	E4446A	MY44360124	Feb. 05, 2010	Feb. 04, 2011
RF cable	SUCOFLEX 104	257029	Sep. 11, 2010	Sep. 10, 2011
WIT Standard Temperature & Humidity Chamber	MHU-225AU	920409	May 06, 2010	May 05, 2011

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

4.2.3 TEST PROCEDURE

- a. Power must be removed when changing from one temperature to another or one voltage to another voltage. Power warm up is at least 15 min and power applied should perform before recording frequency error.
- b. EUT is connected the external power supply to control the AC input power. The various Volts from the minimum 93.5 Volts to 126.5 Volts. Each step shall be record the frequency error rate.
- c. The temperature range step is 10 degrees in this test items. All temperature levels shall be hold the $\pm 0.5^{\circ}\text{C}$ during the measurement testing.
- d. The each temperature step shall be at least 0.5 hours, consider the EUT could be test under the stability condition.

4.2.4 TEST SETUP



4.2.5 EUT OPERATING CONDITIONS

Same as 4.1.5



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4.2.6 TEST RESULTS

CHANNEL BANDWIDTH	5MHz	MODE	Low
--------------------------	------	-------------	-----

AFC FREQUENCY ERROR VS. VOLTAGE			
VOLTAGE (Volts)	TEMP. (°C)	FREQUENCY (MHz)	FREQUENCY ERROR (ppm)
93.5	20	2498.501374	0.550
110.0	20	2498.501769	0.708
126.5	20	2498.501917	0.767

AFC FREQUENCY ERROR VS. TEMP.			
VOLTAGE (Volts)	TEMP. (°C)	FREQUENCY (MHz)	FREQUENCY ERROR (ppm)
110.0	55	2498.505506	2.204
110.0	50	2498.504631	1.854
110.0	40	2498.505033	2.014
110.0	30	2498.503756	1.503
110.0	20	2498.501769	0.708
110.0	10	2498.502308	0.924
110.0	0	2498.501350	0.540
110.0	-10	2498.502538	1.016
110.0	-20	2498.501886	0.755
110.0	-30	2498.500777	0.311



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CHANNEL BANDWIDTH	10MHz	MODE	Low channel
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AFC FREQUENCY ERROR VS. VOLTAGE			
VOLTAGE (Volts)	TEMP. (°C)	FREQUENCY (MHz)	FREQUENCY ERROR (ppm)
93.5	20	2685.001585	0.590
110.0	20	2685.001830	0.682
126.5	20	2685.001797	0.669

AFC FREQUENCY ERROR VS. TEMP.			
VOLTAGE (Volts)	TEMP. (°C)	FREQUENCY (MHz)	FREQUENCY ERROR (ppm)
110.0	55	2685.005364	1.998
110.0	50	2685.005091	1.896
110.0	40	2685.004996	1.861
110.0	30	2685.003913	1.457
110.0	20	2685.001830	0.682
110.0	10	2685.002275	0.847
110.0	0	2685.001411	0.526
110.0	-10	2685.002218	0.826
110.0	-20	2685.001830	0.682
110.0	-30	2685.000900	0.335

4.3 EMISSION BANDWIDTH MEASUREMENT

4.3.1 LIMITS OF EMISSION BANDWIDTH MEASUREMENT

According to FCC 27.53(m)(6) specified that emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26dB below the transmitter power.

4.3.2 TEST INSTRUMENTS

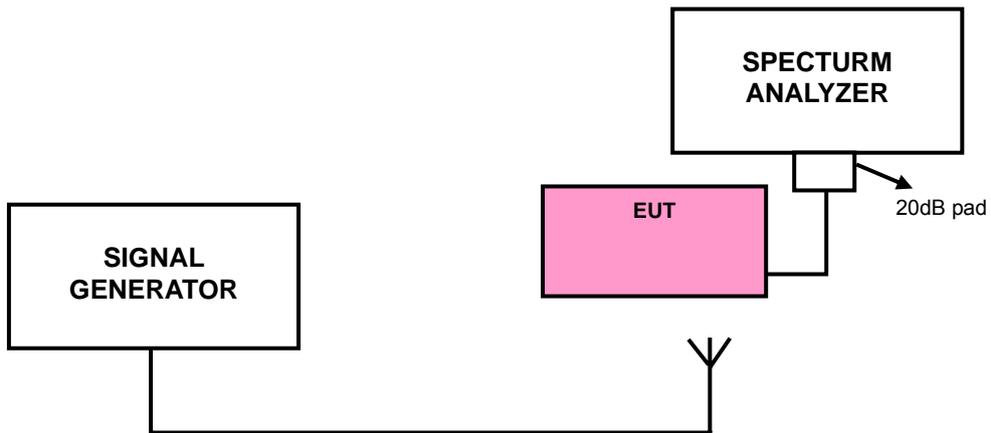
DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Spectrum Analyzer Agilent	E4446A	MY44360124	Feb. 05, 2010	Feb. 04, 2011
RF cable	SUCOFLEX 104	257029	Sep. 11, 2010	Sep. 10, 2011
WIT Standard Temperature & Humidity Chamber	MHU-225AU	920409	May 06, 2010	May 05, 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

The transmitter output was connected to the spectrum analyzer through an attenuator. The bandwidth of the fundamental frequency was measured by spectrum analyzer with RBW = 51kHz, VBW = 160kHz. The 26dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 26dB.

4.3.4 TEST SETUP



4.3.5 EUT OPERATING CONDITIONS

Same as 4.1.5



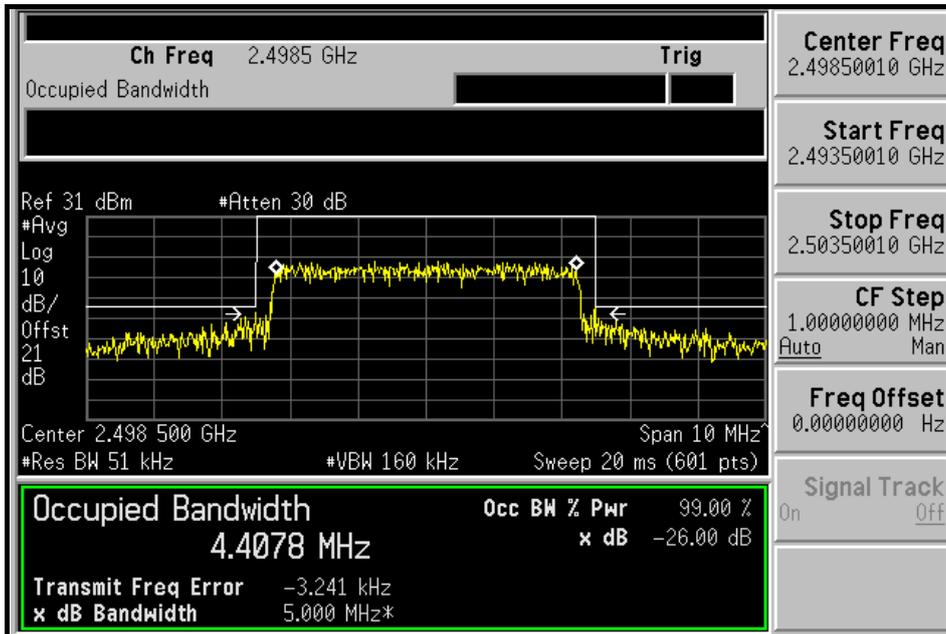
A D T

4.3.6 TEST RESULTS

CHANNEL BANDWIDTH: 5MHz

CHANNEL	-26dBc BANDWIDTH (MHz)
Low	5.000
Middle	5.000
High	5.000

LOW CHANNEL



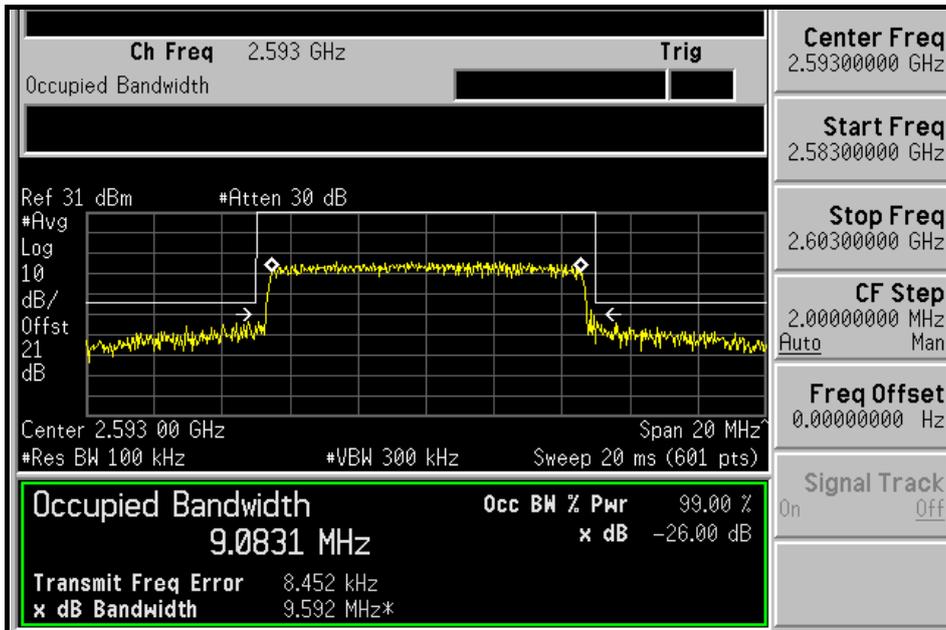


A D T

CHANNEL BANDWIDTH: 10MHz

CHANNEL	-26dBc BANDWIDTH (MHz)
Low	9.591
Middle	9.592
High	9.591

MIDDLE CHANNEL





4.4 CHANNEL EDGE MEASUREMENT

4.4.1 LIMITS OF CHANNEL EDGE MEASUREMENT

According to FCC 27.53(m)(4) specified that power of any emission outside of the channel edge must be attenuated below the transmitting power (P) by a factor shall be not less than $43 + 10 \log (P)$ dB at the channel edge, the limit of emission equal to -13dBm . And $55 + 10 \log (P)$ dB at 5.5 MHz from the channel edges, the limit of emission equal to -25dBm . In the 1MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

4.4.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Spectrum Analyzer Agilent	E4446A	MY44360124	Feb. 05, 2010	Feb. 04, 2011
RF cable	SUCOFLEX 104	257029	Sep. 11, 2010	Sep. 10, 2011
WIT Standard Temperature & Humidity Chamber	MHU-225AU	920409	May 06, 2010	May 05, 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. “*” = These equipments are used for the final measurement.

4.4.3 TEST SETUP

Same as Item 4.3.4



A D T

4.4.4 TEST PROCEDURES

- a. The EUT was set up for the rated peak power. The power was measured with Spectrum Analyzer. All measurements were done at 3 channels: low, middle and high operational frequency range.
- b. The center frequency of spectrum is the band edge frequency and span is 20MHz (Channel Bandwidth: 5MHz) / 30MHz (Channel Bandwidth: 10MHz). RBW of the spectrum is 51kHz (Channel Bandwidth: 5MHz) / 100kHz (Channel Bandwidth: 10MHz).
- c. Record the max trace plot into the test report.

4.4.5 EUT OPERATING CONDITION

Same as 4.1.5

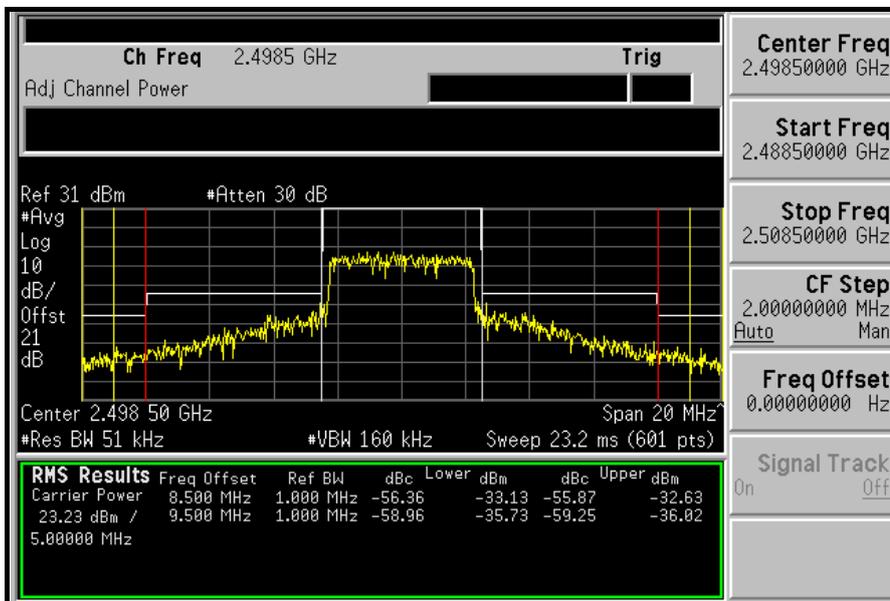
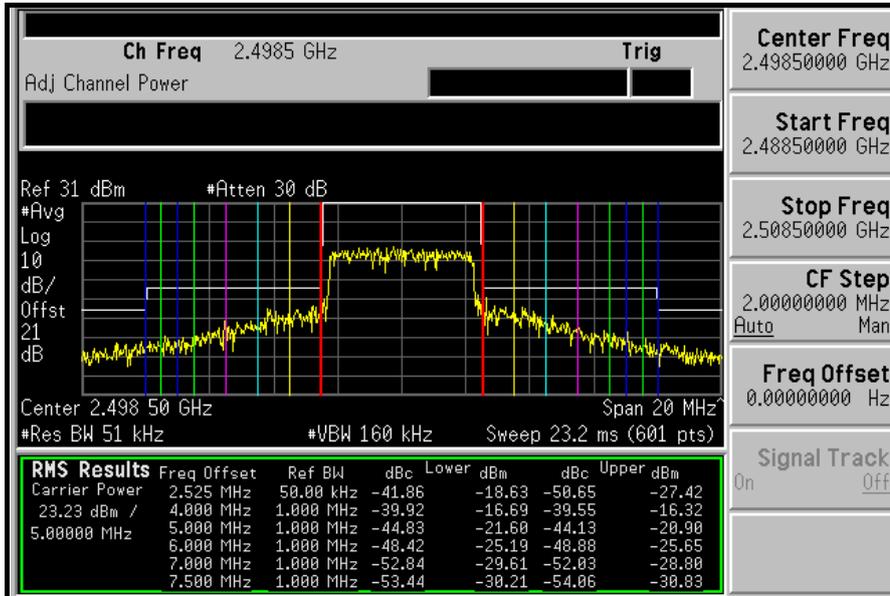


A D T

4.4.6 TEST RESULTS

CHANNEL BANDWIDTH: 5MHz

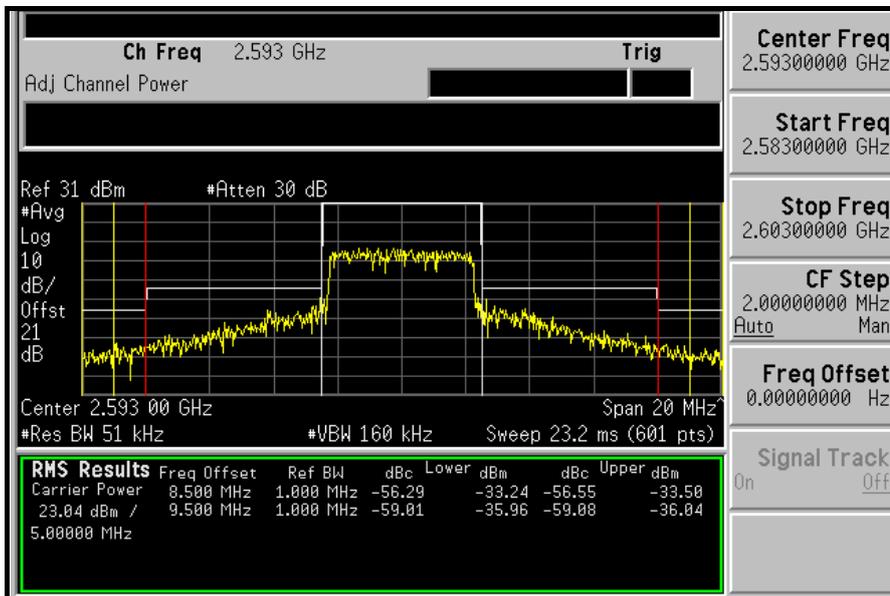
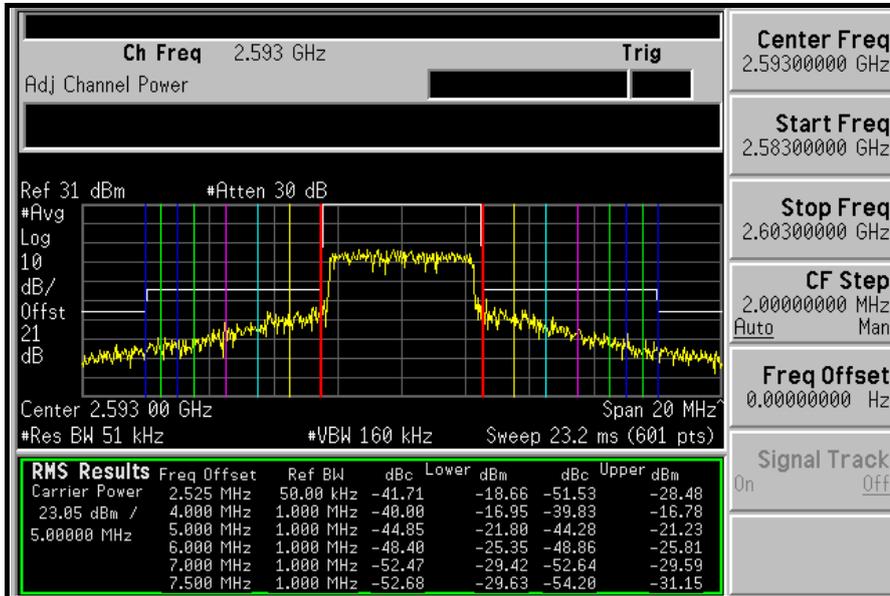
LOW CHANNEL





A D T

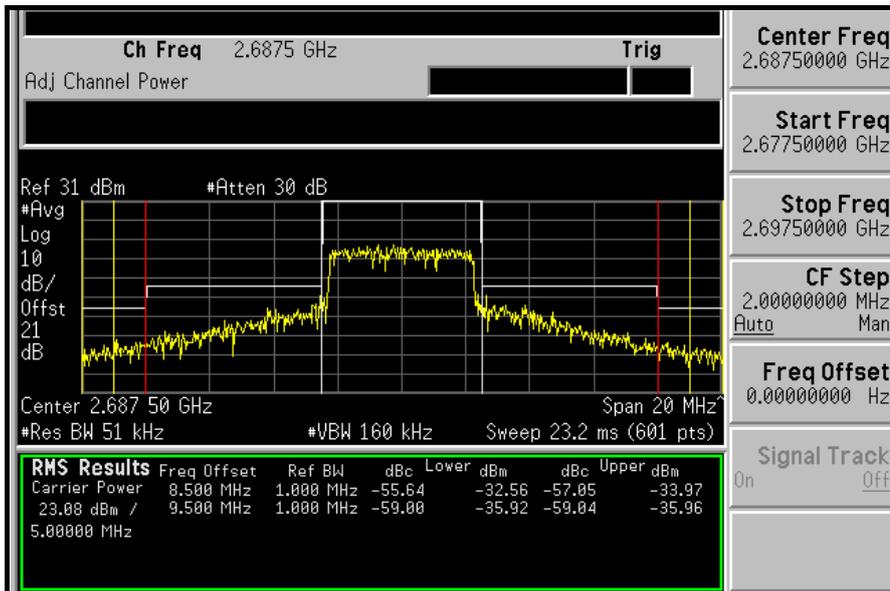
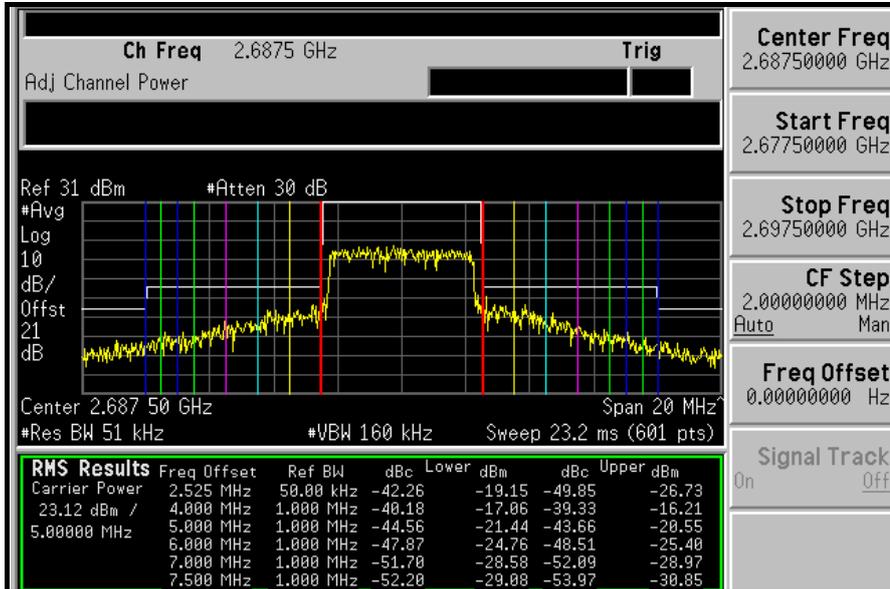
MIDDLE CHANNEL





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HIGH CHANNEL

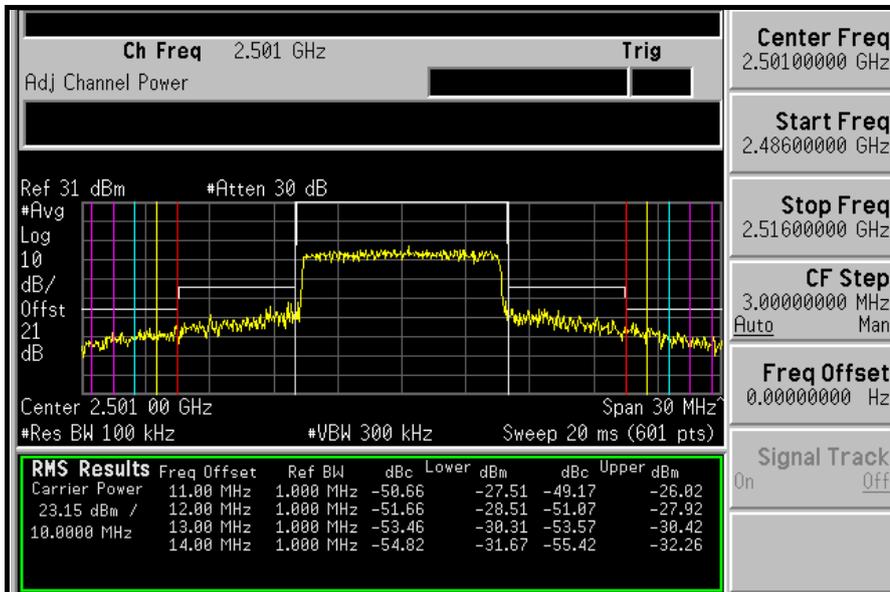
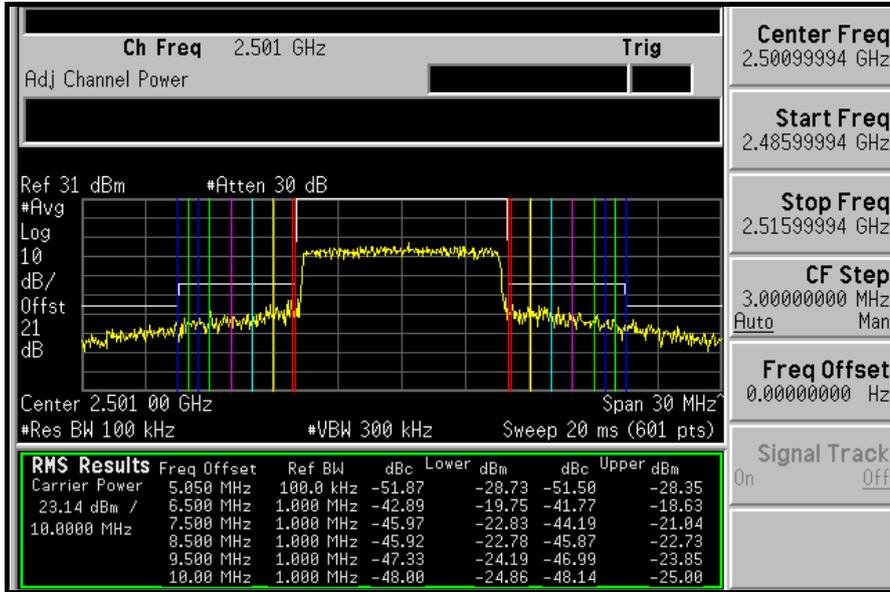




A D T

CHANNEL BANDWIDTH: 10MHz

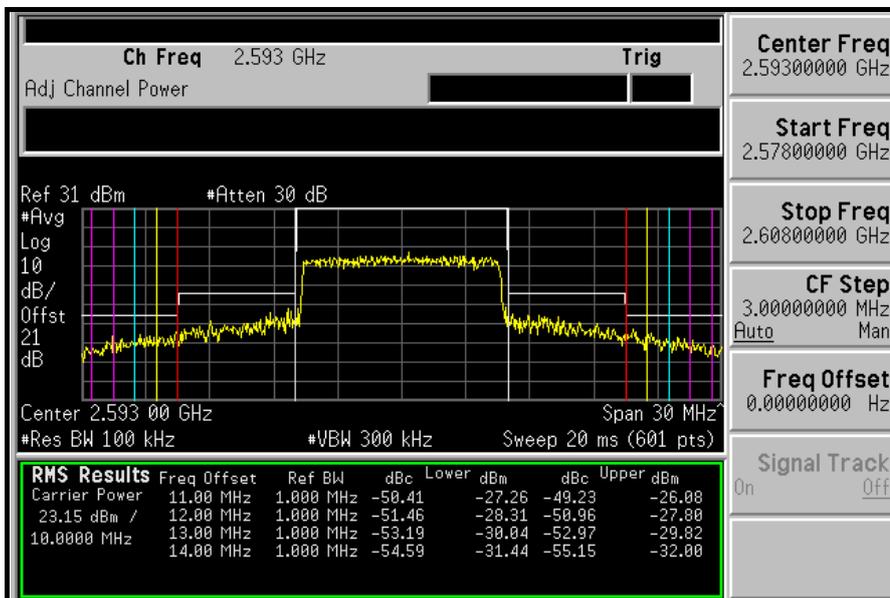
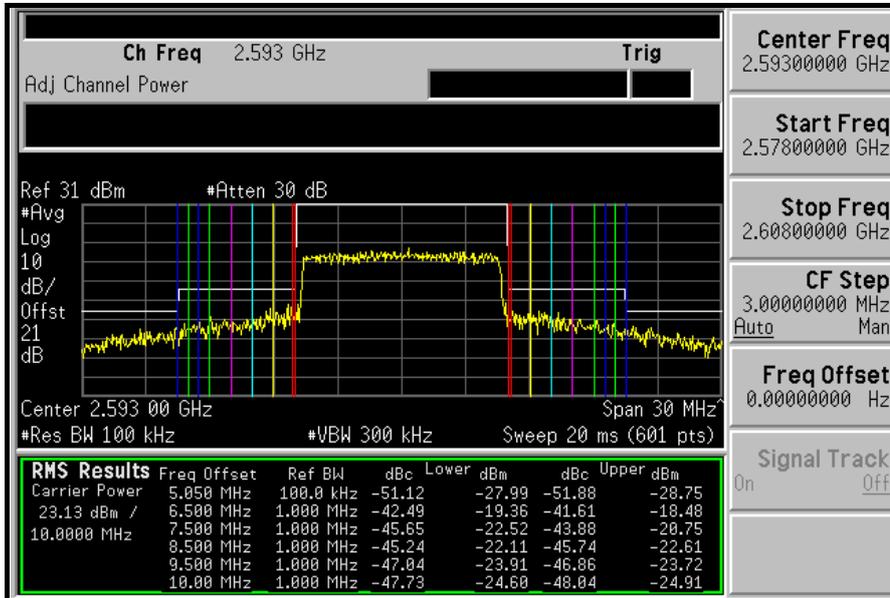
LOW CHANNEL





A D T

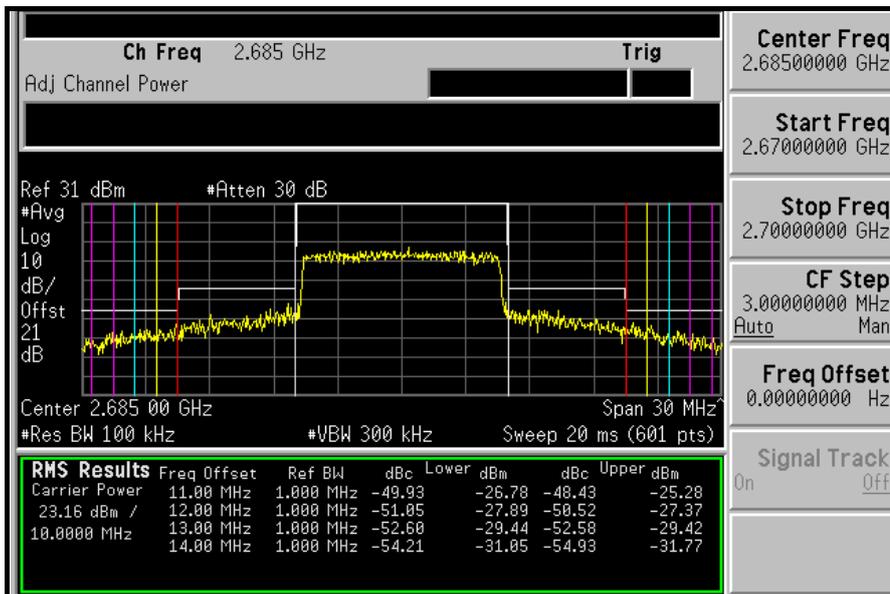
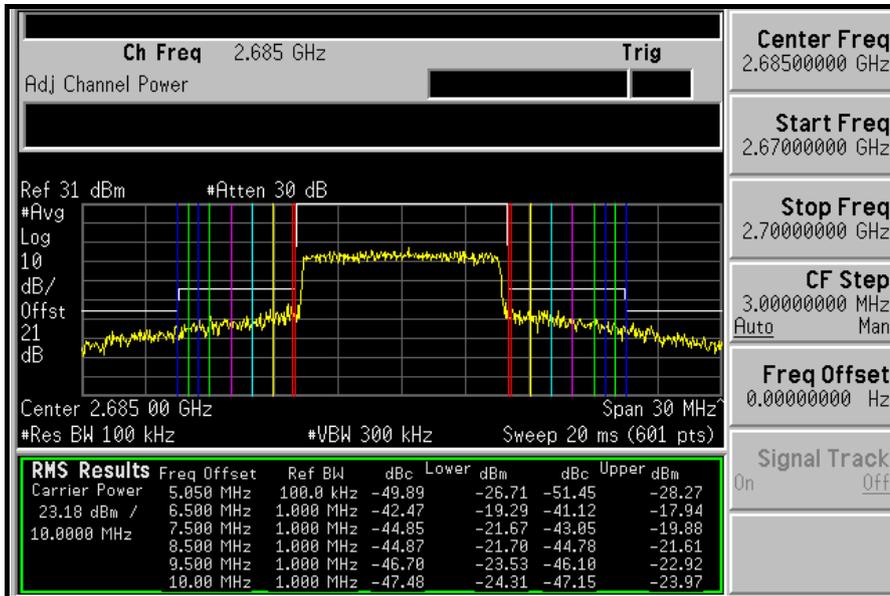
MIDDLE CHANNEL





A D T

HIGH CHANNEL





A D T

4.5 CONDUCTED SPURIOUS EMISSIONS

4.5.1 LIMITS OF CONDUCTED SPURIOUS EMISSIONS MEASUREMENT

In the FCC 27.53(m)(4), On any frequency outside a licensee's frequency block, the power of any emission shall be attenuated below the transmitter power (P) by at least $55 + 10 \log (P)$ dB. The limit of emission equal to -25 dBm.

4.5.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Spectrum Analyzer Agilent	E4446A	MY44360128	Feb. 23, 2010	Feb. 22, 2011
Wainwright Instruments High Pass Filter	WHK3.1/18G-10 SS	ZZ-010096	May. 25, 2010	Mar. 24, 2011
JFW 20dB attenuation	50HF-020-SMA	NA	NA	NA
RF cable	SUCOFLEX 104	257029	Sep. 11, 2010	Sep. 10, 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.



A D T

4.5.3 TEST PROCEDURE

- a. All measurements were done at 3 channels: low, middle and high operational frequency range.
- b. When the spectrum scanned from 30MHz to 27GHz, it shall be connected to the 20dB pad attenuated the carried frequency. The spectrum set $RB = 1\text{MHz}$, $VB = 3\text{MHz}$.

4.5.4 TEST SETUP

Same as 4.3.4

4.5.5 EUT OPERATING CONDITIONS

Same as 4.1.5

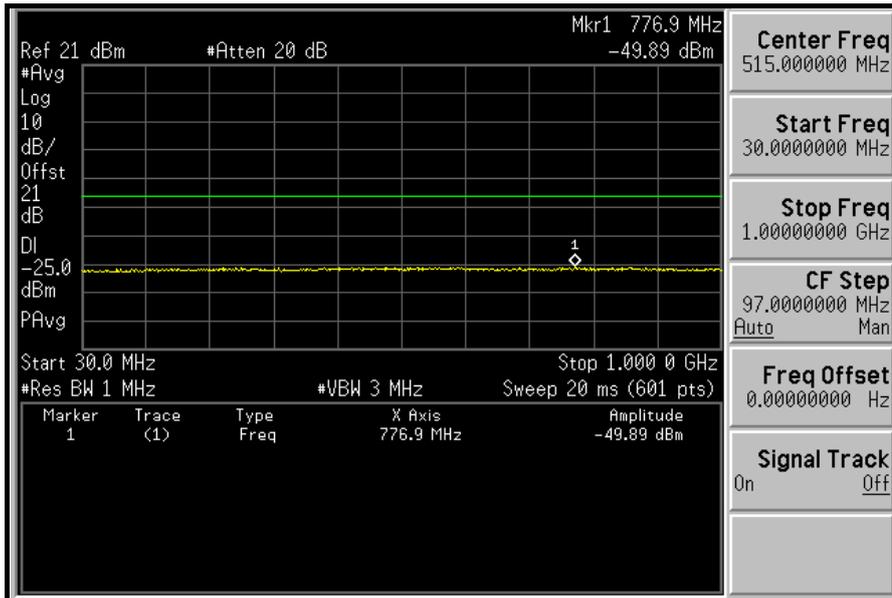


A D T

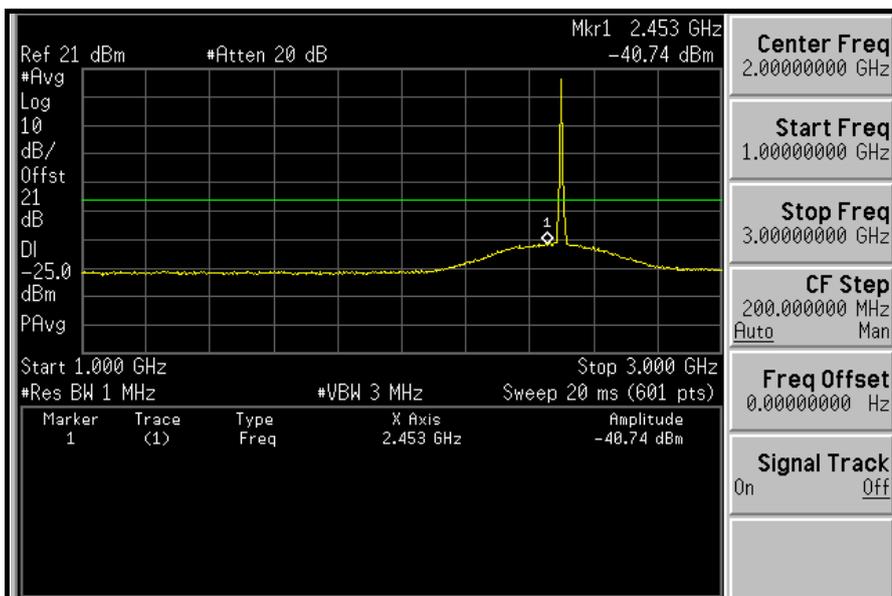
4.5.6 TEST RESULTS

CHANNEL BANDWIDTH: 5MHz

LOW CHANNEL: 30MHz ~ 1GHz:



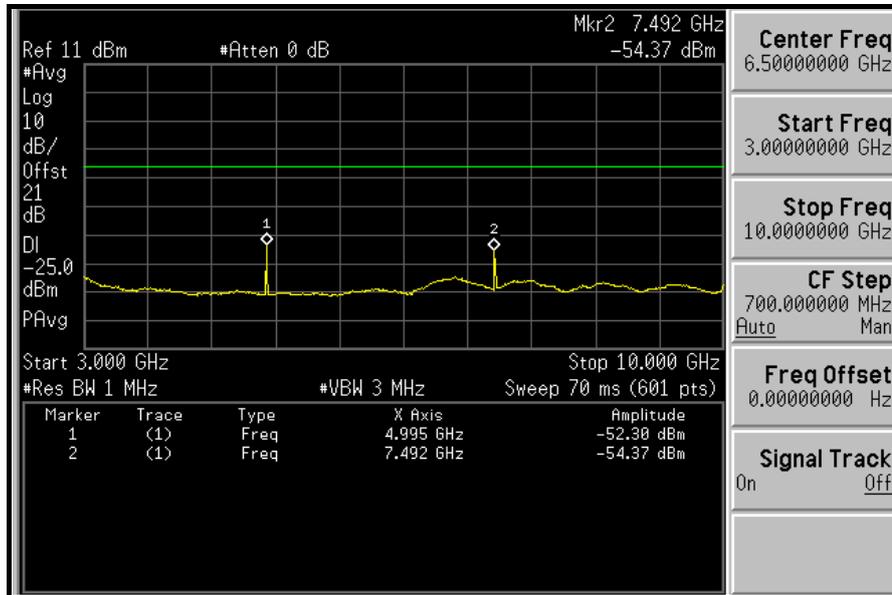
1GHz ~ 3GHz:



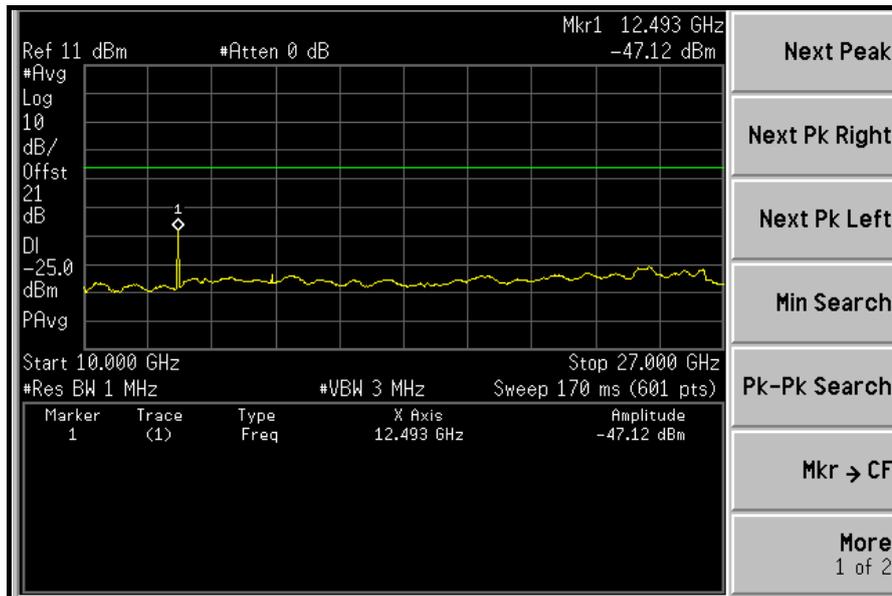


A D T

3GHz ~ 10GHz:



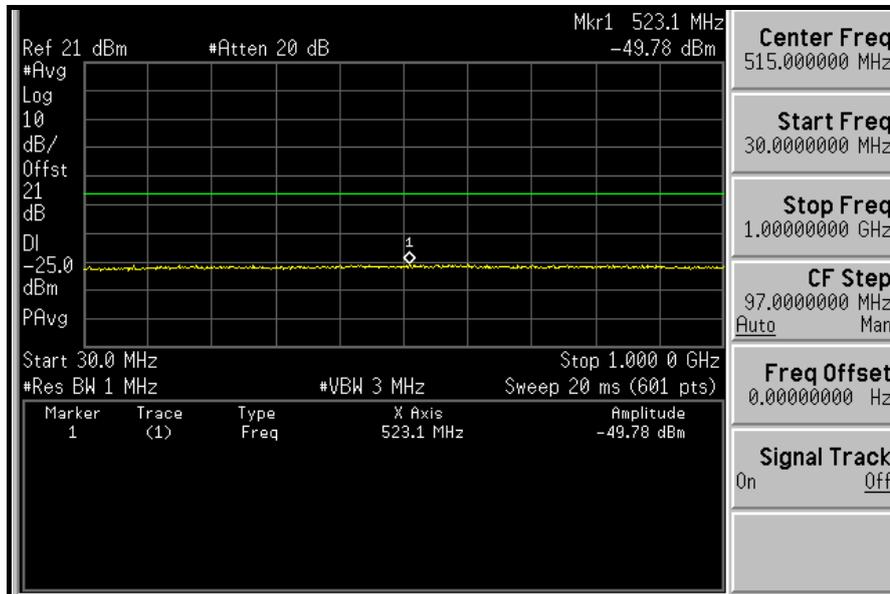
10GHz ~ 27GHz:



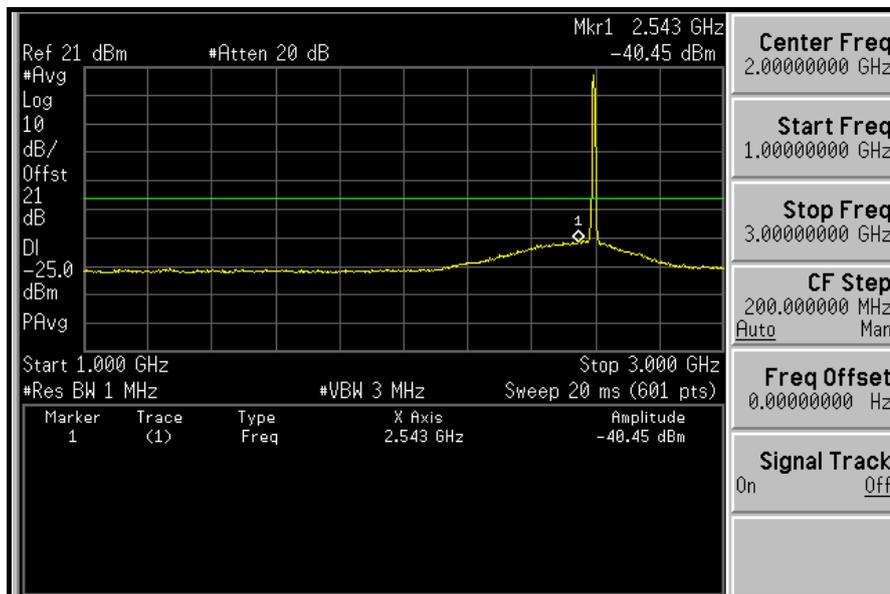


A D T

MIDDLE CHANNEL: 30MHz ~ 1GHz:



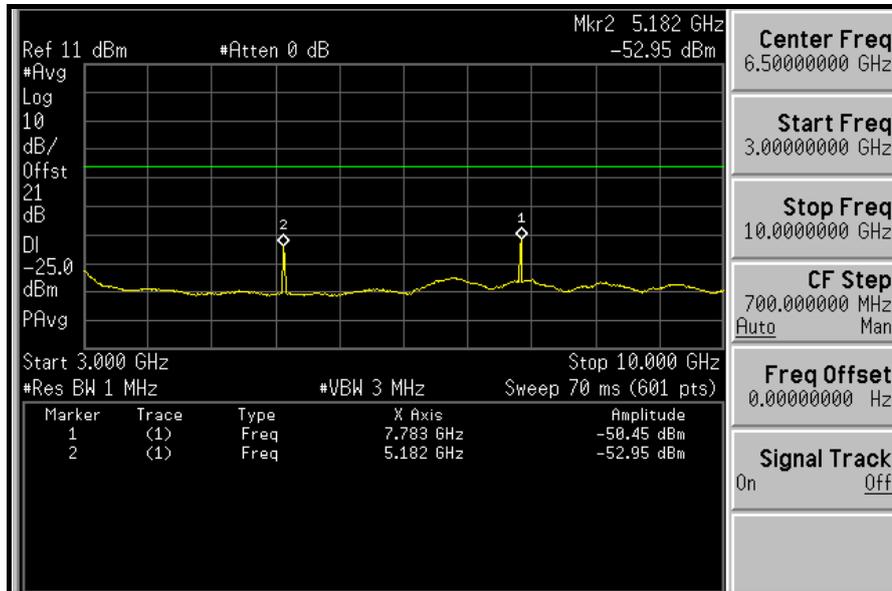
1GHz ~ 3GHz:



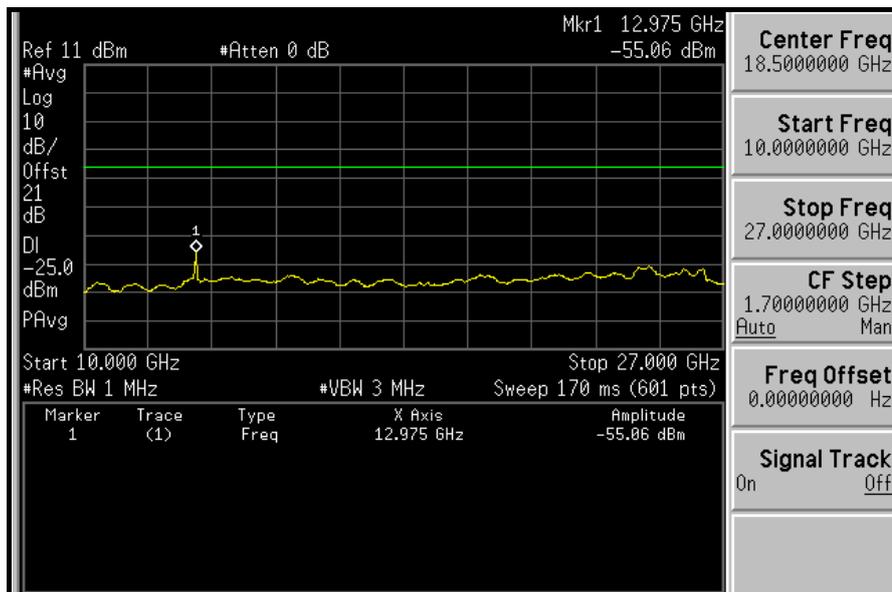


A D T

3GHz ~ 10GHz:



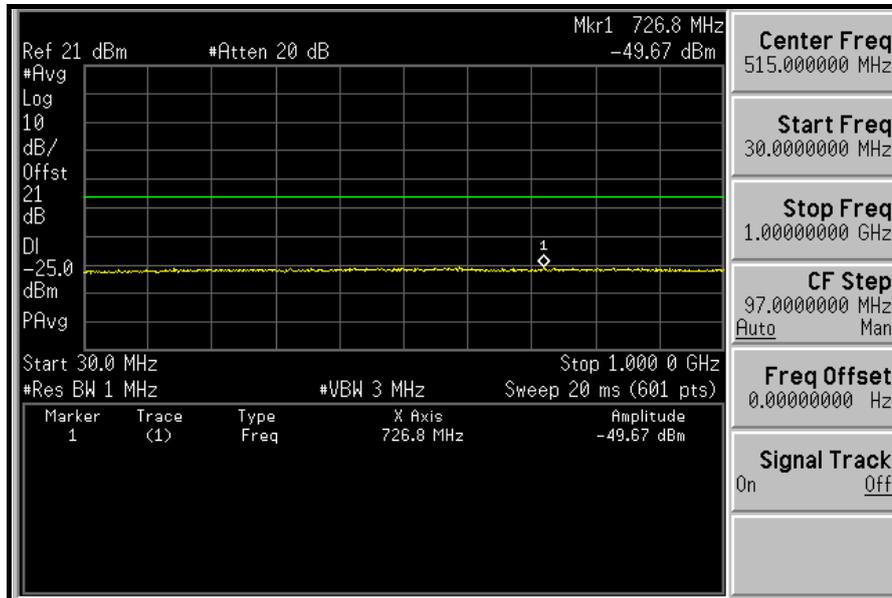
10GHz ~ 27GHz:



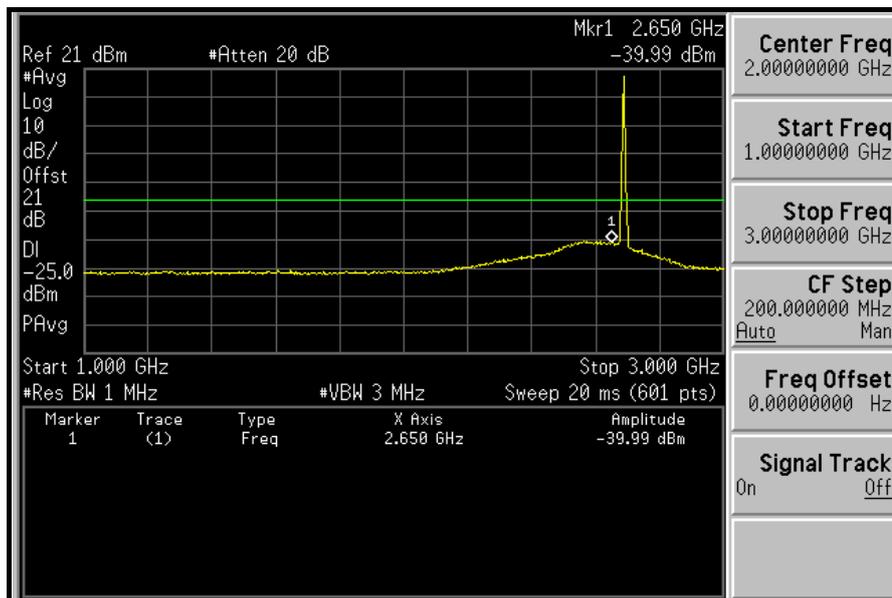


A D T

HIGH CHANNEL: 30MHz ~ 1GHz:



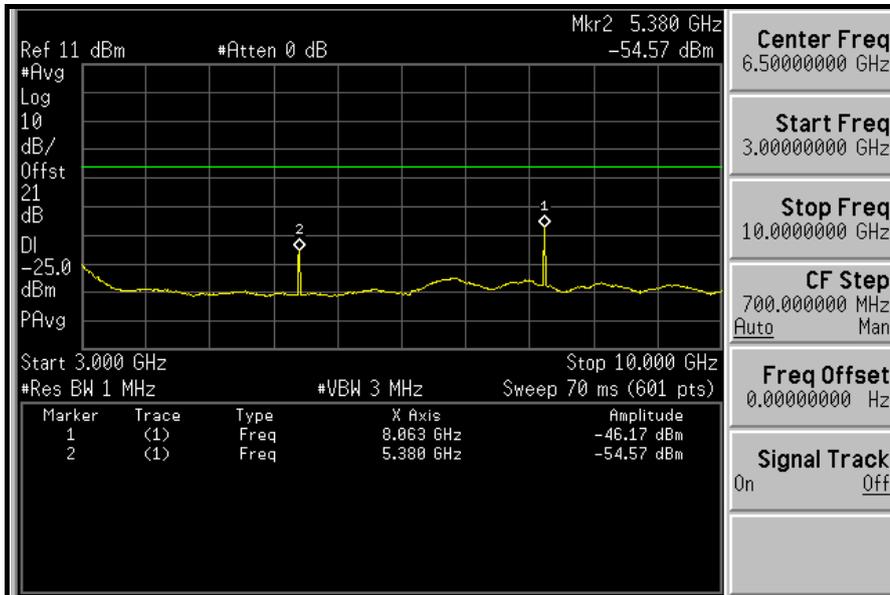
1GHz ~ 3GHz:



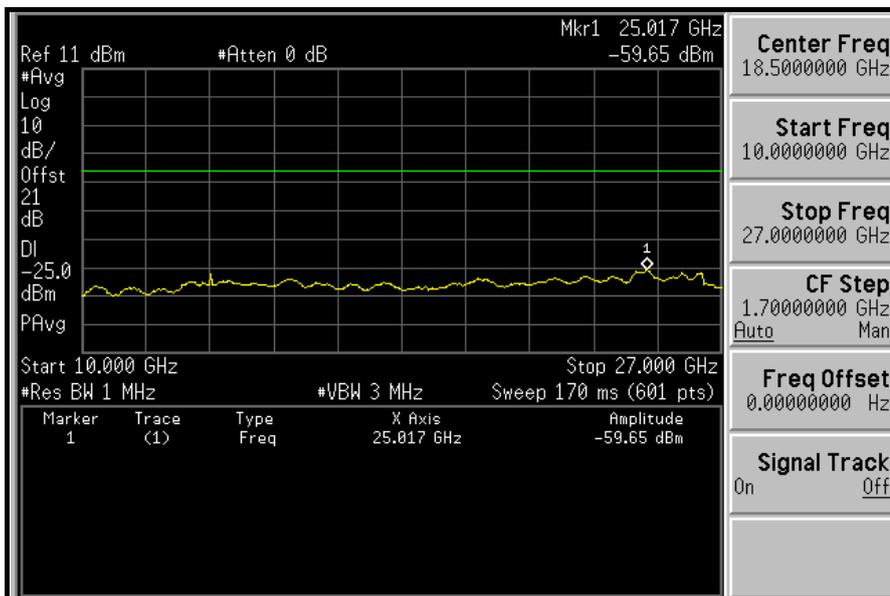


A D T

3GHz ~ 10GHz:



10GHz ~ 27GHz:

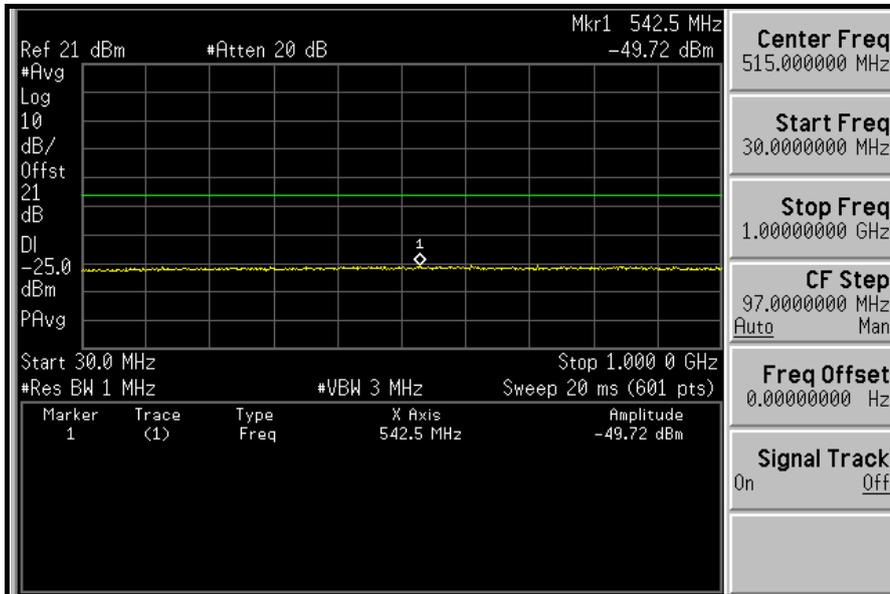




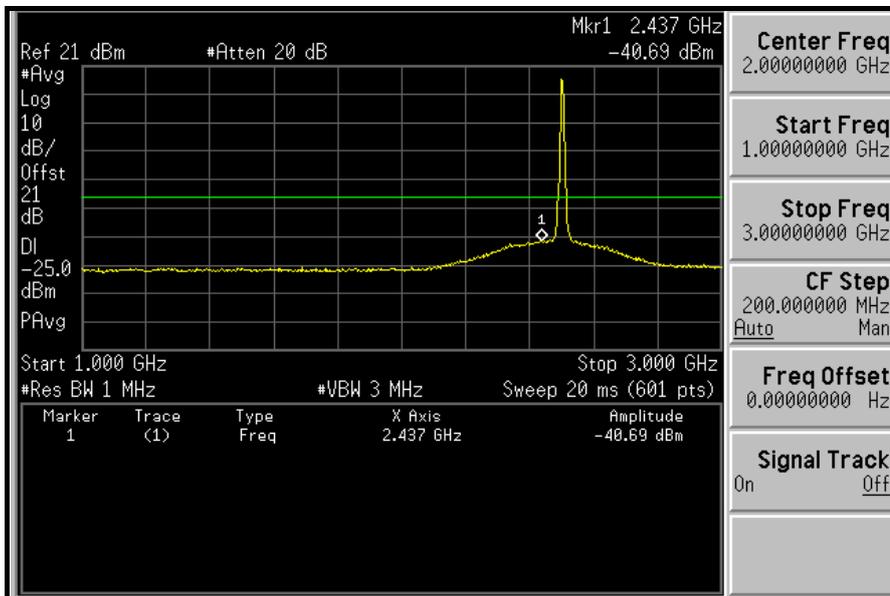
A D T

CHANNEL BANDWIDTH: 10MHz

LOW CHANNEL: 30MHz ~ 1GHz:



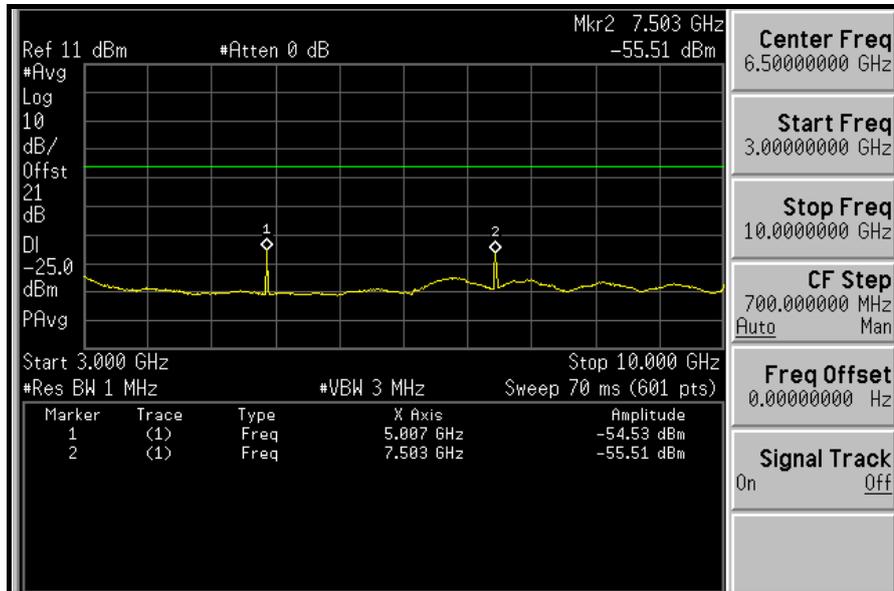
1GHz ~ 3GHz:



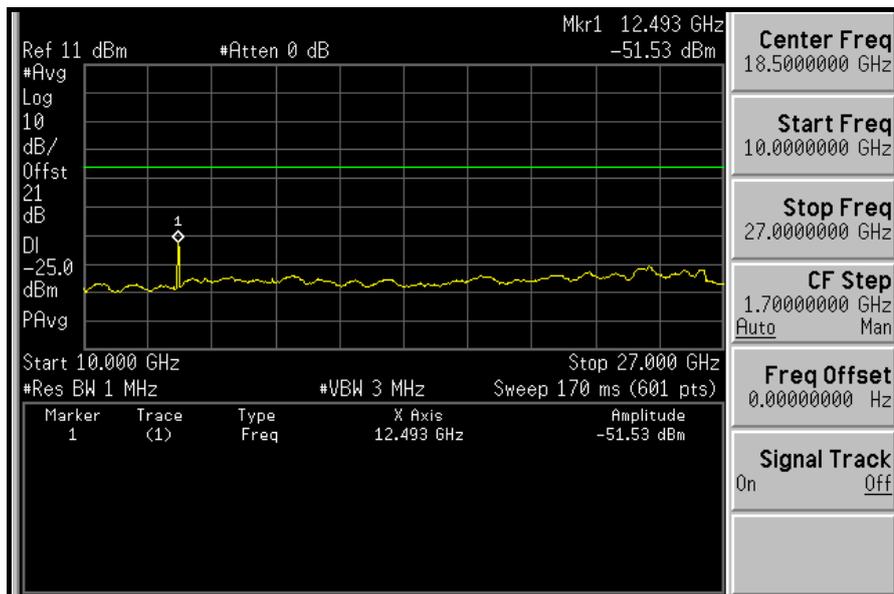


A D T

3GHz ~ 10GHz:



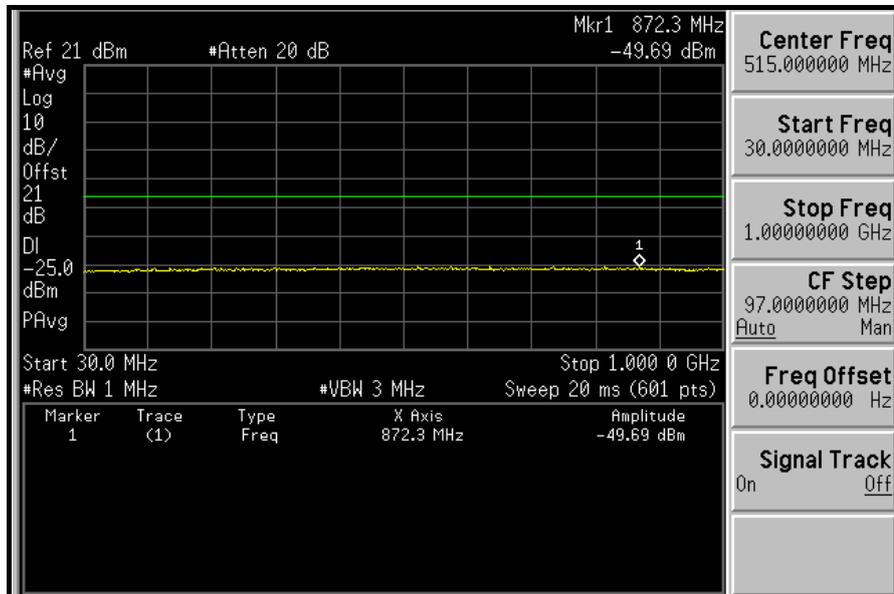
10GHz ~ 27GHz:



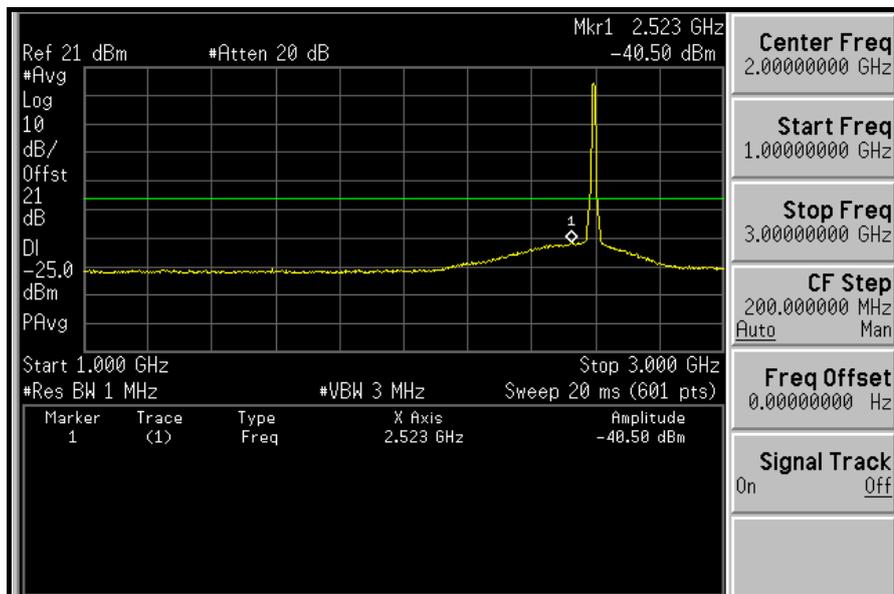


A D T

MIDDLE CHANNEL: 30MHz ~ 1GHz:



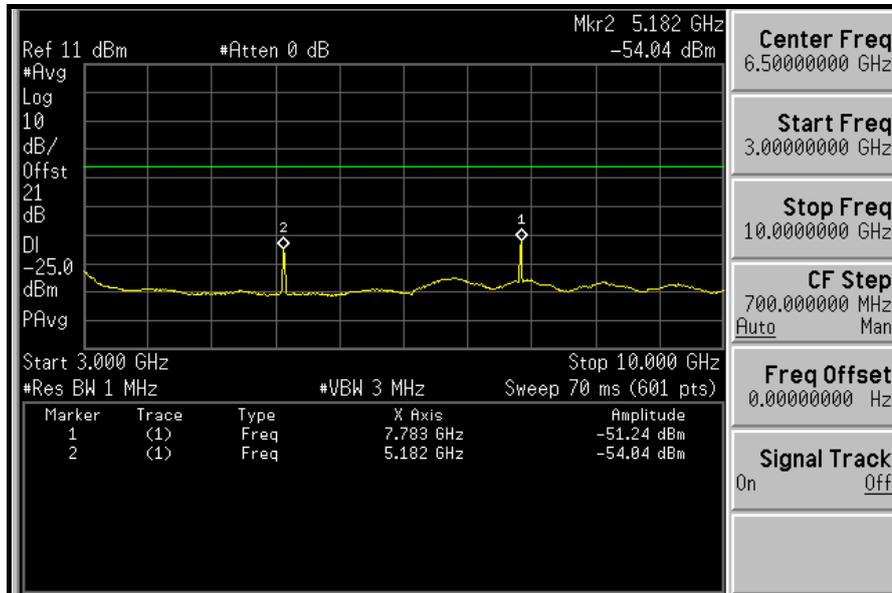
1GHz ~ 3GHz:



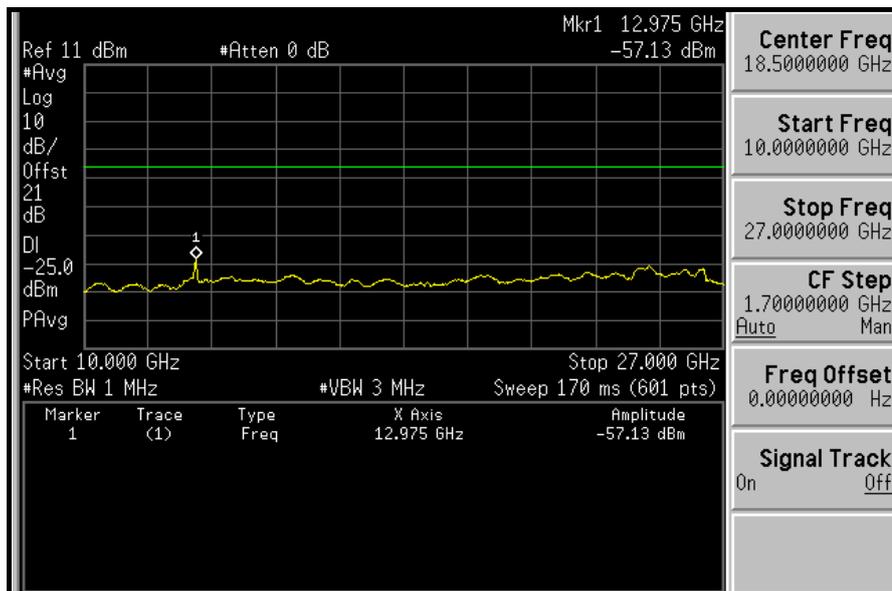


A D T

3GHz ~ 10GHz:



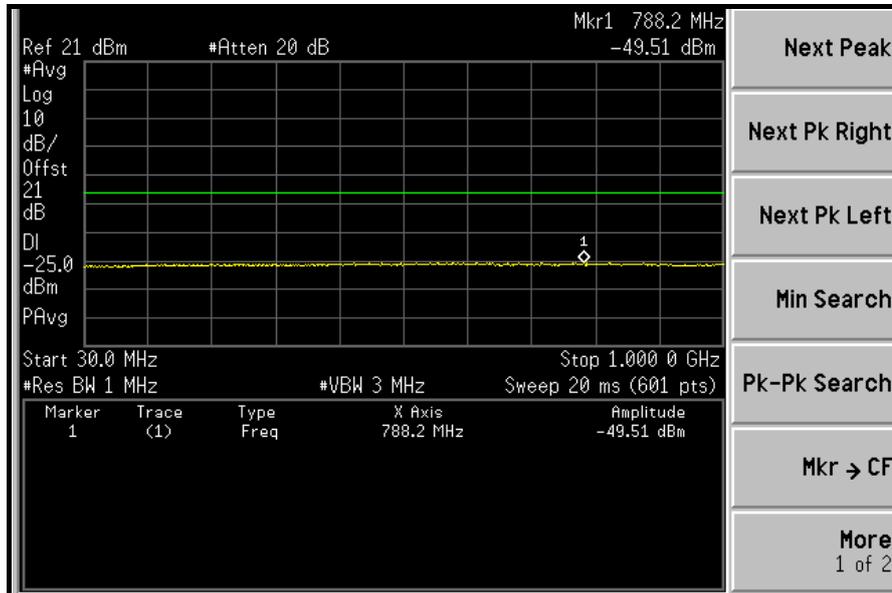
10GHz ~ 27GHz:



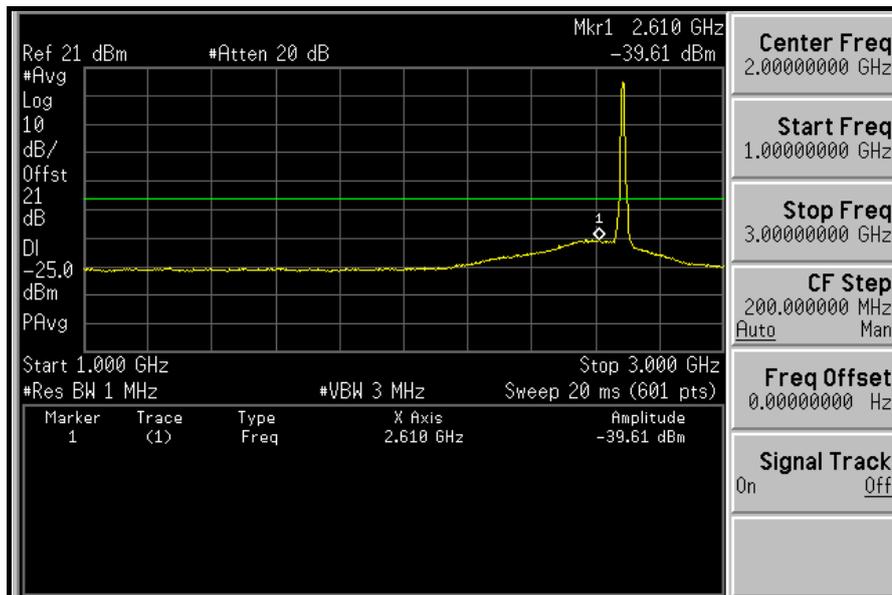


A D T

HIGH CHANNEL: 30MHz ~ 1GHz:



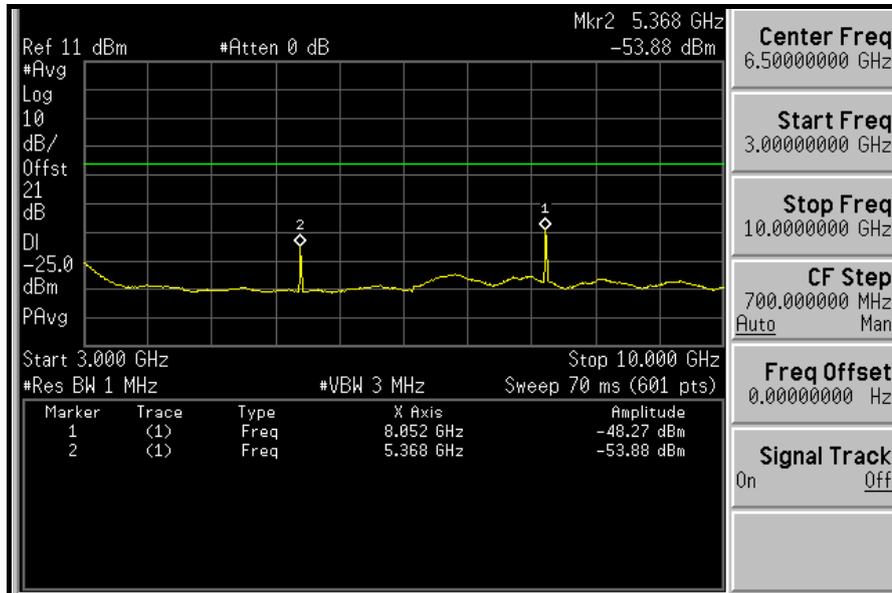
1GHz ~ 3GHz:



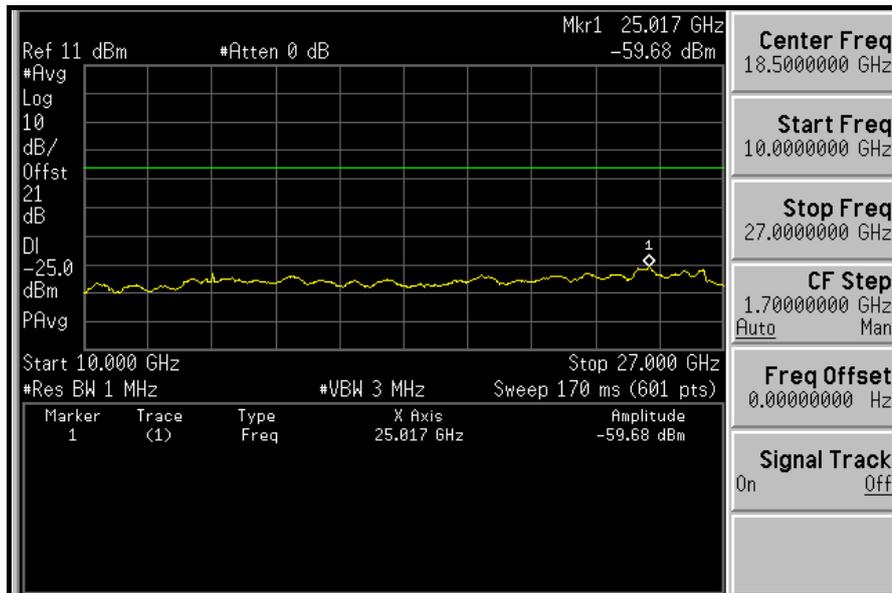


A D T

3GHz ~ 10GHz:



10GHz ~ 27GHz:





A D T

4.6 RADIATED EMISSION MEASUREMENT (BELOW 1GHz)

4.6.1 LIMITS OF RADIATED EMISSION MEASUREMENT

In the FCC 27.53(m) (4), On any frequency outside a licensee's frequency block the power of any emission shall be attenuated below the transmitter power (P) by at least $55 + 10 \log (P)$ dB. The limit of emission equal to -25 dBm.



A D T

4.6.2 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 ROHDE & SCHWARZ	FSP40	100269	Dec. 31, 2009	Dec. 30, 2010
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. 25, 2009	Dec. 24, 2010
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

- 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 IC 7450F-3.



A D T

4.6.3 TEST PROCEDURES

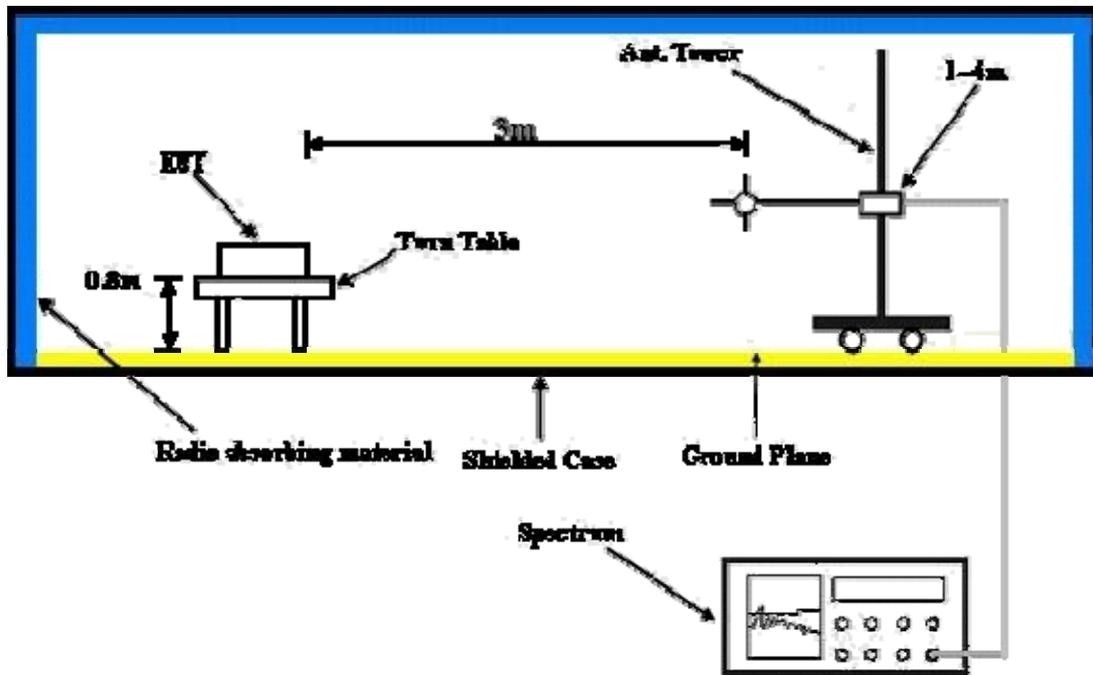
- a. The power was measured with R&S Spectrum Analyzer. All measurements were done at 3 channels (low, middle and high channel of operational frequency range.)
- b. Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8m height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power. The “Read Value” is the spectrum reading the maximum power value.
- c. The substitution antenna is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a TX cable. Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to “Read Value “ of step b. Record the power level of S.G
- d. $EIRP = \text{Output power level of S.G} - \text{TX cable loss} + \text{Antenna gain of substitution antenna.}$

NOTE: The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1MHz/3MHz

4.6.4 DEVIATION FROM TEST STANDARD

No deviation

4.6.5 TEST SETUP



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

4.6.6 EUT OPERATING CONDITIONS

Same as 4.1.5



A D T

4.6.7 TEST RESULTS

MODE	Low channel	FREQUENCY RANGE	Below 1000MHz
INPUT POWER	120Vac, 60Hz	ENVIRONMENTAL CONDITIONS	25degoC, 65%RH 1020hPa
CHANNEL BANDWIDTH	5MHz	TESTED BY	Mark Liao

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3m						
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV)	LIMIT (dBm)	S.G POWER VALUE (dBm)	CORRECTION FACTOR (dB)	POWER VALUE (dBm)
1	119.34	43.0	-25.0	-43.7	-7.7	-51.4
2	181.55	44.4	-25.0	-42.5	-7.7	-50.2
3	298.21	44.7	-25.0	-41.7	-7.7	-49.4
4	531.53	43.6	-25.0	-43.1	-7.8	-50.9
5	749.29	40.9	-25.0	-45.1	-7.9	-53.0
6	799.84	40.1	-25.0	-46.1	-7.9	-54.0
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3m						
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBm)	S.G POWER VALUE (dBm)	CORRECTION FACTOR (dB)	POWER VALUE (dBm)
1	30.00	43.6	-25.0	-42.9	-7.7	-50.6
2	103.78	44.4	-25.0	-41.9	-7.7	-49.6
3	300.16	38.7	-25.0	-48.2	-7.8	-56.0
4	533.47	43.4	-25.0	-42.9	-7.8	-50.7
5	749.29	42.0	-25.0	-44.4	-7.9	-52.3
6	795.95	39.4	-25.0	-47.3	-7.9	-55.2

NOTE 1: Power Value (dBm) = S.G Power Value (dBm) + Correction Factor (dB).

NOTE 2: Correction Factor = Antenna gain of substitution antenna- TX cable loss



A D T

MODE	Low channel	FREQUENCY RANGE	Below 1000MHz
INPUT POWER	120Vac, 60Hz	ENVIRONMENTAL CONDITIONS	25degoC, 65%RH 1020hPa
CHANNEL BANDWIDTH	10MHz	TESTED BY	Mark Liao

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3m						
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV)	LIMIT (dBm)	S.G POWER VALUE (dBm)	CORRECTION FACTOR (dB)	POWER VALUE (dBm)
1	97.95	43.4	-25.0	-42.9	-7.7	-50.6
2	177.67	44.2	-25.0	-42.6	-7.7	-50.3
3	298.21	42.6	-25.0	-44.3	-7.7	-52.0
4	405.15	42.2	-25.0	-44.2	-7.8	-52.0
5	531.53	41.7	-25.0	-45.3	-7.8	-53.1
6	747.34	41.0	-25.0	-45.7	-7.9	-53.6

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3m						
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBm)	S.G POWER VALUE (dBm)	CORRECTION FACTOR (dB)	POWER VALUE (dBm)
1	31.84	43.8	-25.0	-43.1	-7.7	-50.8
2	70.73	40.6	-25.0	-46.3	-7.7	-54.0
3	292.38	45.6	-25.0	-40.8	-7.7	-48.5
4	531.53	45.7	-25.0	-41.2	-7.8	-49.0
5	624.85	44.0	-25.0	-42.6	-7.8	-50.4
6	801.78	44.5	-25.0	-42.1	-7.9	-50.0

NOTE 1: Power Value (dBum) = S.G Power Value (dBm) + Correction Factor (dB).

NOTE 2: Correction Factor = Antenna gain of substitution antenna- TX cable loss

4.7 RADIATED EMISSION MEASUREMENT (ABOVE 1GHz)

4.7.1 LIMITS OF RADIATED EMISSION MEASUREMENT

In the FCC 27.53(m) (4), On any frequency outside a licensee's frequency block, the power of any emission shall be attenuated below the transmitter power (P) by at least $55 + 10 \log (P)$ dB. The limit of emission equal to -25 dBm.

4.7.2 TEST INSTRUMENTS

Same as 4.6.2

4.7.3 TEST PROCEDURES

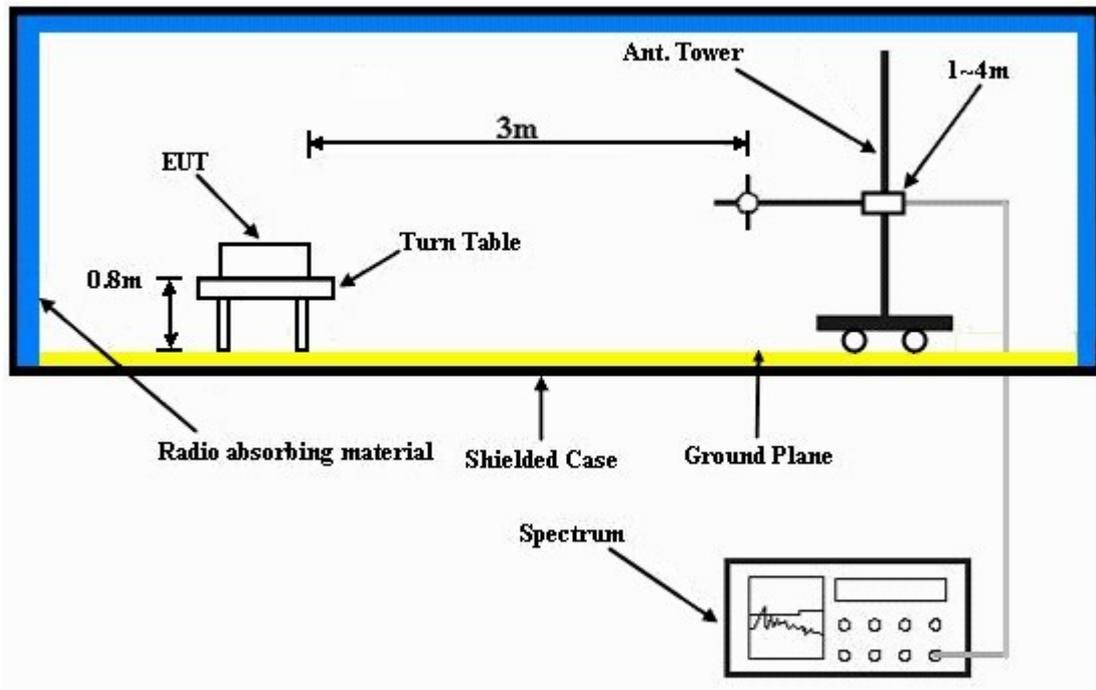
- a. The power was measured with R&S Spectrum Analyzer. All measurements were done at 3 channels (low, middle and high channel of operational frequency range.)
- b. Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8m height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power. The "Read Value" is the spectrum reading the maximum power value.
- c. The substitution antenna is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a TX cable. Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to "Read Value " of step b. Record the power level of S.G
- d. $EIRP = \text{Output power level of S.G} - \text{TX cable loss} + \text{Antenna gain of substitution antenna.}$

NOTE: The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1MHz/3MHz

4.7.4 DEVIATION FROM TEST STANDARD

No deviation

4.7.5 TEST SETUP



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

4.7.6 EUT OPERATING CONDITIONS

Same as 4.6.6.



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4.7.7 TEST RESULTS

MODE	Low channel	FREQUENCY RANGE	Above 1000MHz
INPUT POWER	120Vac, 60Hz	ENVIRONMENTAL CONDITIONS	25degoC, 65%RH 1018hPa
CHANNEL BANDWIDTH	5MHz	TESTED BY	Mark Liao

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3m						
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV)	LIMIT (dBm)	S.G POWER VALUE (dBm)	CORRECTION FACTOR (dB)	POWER VALUE (dBm)
1	4997.0	43.9	-25.0	-60.1	9.5	-50.6
2	7495.5	46.6	-25.0	-55.7	7.8	-47.9
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3m						
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV)	LIMIT (dBm)	S.G POWER VALUE (dBm)	CORRECTION FACTOR (dB)	POWER VALUE (dBm)
1	4997.0	42.4	-25.0	-61.6	9.5	-52.1
2	7495.5	46.9	-25.0	-55.4	7.8	-47.6

NOTE 1: Power Value (dBum) = S.G Power Value (dBm) + Correction Factor (dB).

NOTE 2: Correction Factor = Antenna gain of substitution antenna- tx cable loss



A D T

MODE	Middle channel	FREQUENCY RANGE	Above 1000MHz
INPUT POWER	120Vac, 60Hz	ENVIRONMENTAL CONDITIONS	25degoC, 65%RH 1018hPa
CHANNEL BANDWIDTH	5MHz	TESTED BY	Mark Liao

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3m						
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV)	LIMIT (dBm)	S.G POWER VALUE (dBm)	CORRECTION FACTOR (dB)	POWER VALUE (dBm)
1	5186.0	40.5	-25.0	-63.9	9.7	-54.2
2	7779.0	44.1	-25.0	-57.9	7.8	-50.1

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3m						
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV)	LIMIT (dBm)	S.G POWER VALUE (dBm)	CORRECTION FACTOR (dB)	POWER VALUE (dBm)
1	5186.0	42.5	-25.0	-61.9	9.7	-52.2
2	7779.0	47.1	-25.0	-54.7	7.8	-46.9

NOTE 1: Power Value (dBum) = S.G Power Value (dBm) + Correction Factor (dB).

NOTE 2: Correction Factor = Antenna gain of substitution antenna- tx cable loss



A D T

MODE	High channel	FREQUENCY RANGE	Above 1000MHz
INPUT POWER	120Vac, 60Hz	ENVIRONMENTAL CONDITIONS	25degoC, 65%RH 1018hPa
CHANNEL BANDWIDTH	5MHz	TESTED BY	Mark Liao

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3m						
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV)	LIMIT (dBm)	S.G POWER VALUE (dBm)	CORRECTION FACTOR (dB)	POWER VALUE (dBm)
1	5375.0	41.3	-25.0	-62.6	9.7	-52.9
2	8062.5	44.7	-25.0	-57.2	7.8	-49.4

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3m						
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV)	LIMIT (dBm)	S.G POWER VALUE (dBm)	CORRECTION FACTOR (dB)	POWER VALUE (dBm)
1	5375.0	45.3	-25.0	-58.7	9.7	-49.0
2	8062.5	48.7	-25.0	-53.2	7.8	-45.4

NOTE 1: Power Value (dBum) = S.G Power Value (dBm) + Correction Factor (dB).

NOTE 2: Correction Factor = Antenna gain of substitution antenna- tx cable loss



A D T

MODE	Low channel	FREQUENCY RANGE	Above 1000MHz
INPUT POWER	120Vac, 60Hz	ENVIRONMENTAL CONDITIONS	23degoC, 62%RH 991hPa
CHANNEL BANDWIDTH	10MHz	TESTED BY	Mark Liao

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3m

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV)	LIMIT (dBm)	S.G POWER VALUE (dBm)	CORRECTION FACTOR (dB)	POWER VALUE (dBm)
1	5002.0	42.0	-25.0	-61.7	9.5	-52.2
2	7503.0	45.8	-25.0	-56.1	7.8	-48.3

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3m

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV)	LIMIT (dBm)	S.G POWER VALUE (dBm)	CORRECTION FACTOR (dB)	POWER VALUE (dBm)
1	5002.0	43.1	-25.0	-60.4	9.5	-50.9
2	7503.0	46.3	-25.0	-55.6	7.8	-47.8

NOTE 1: Power Value (dBm) = S.G Power Value (dBm) + Correction Factor (dB).

NOTE 2: Correction Factor = Antenna gain of substitution antenna- tx cable loss



A D T

MODE	Middle channel	FREQUENCY RANGE	Above 1000MHz
INPUT POWER	120Vac, 60Hz	ENVIRONMENTAL CONDITIONS	23degoC, 62%RH 991hPa
CHANNEL BANDWIDTH	10MHz	TESTED BY	Mark Liao

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3m						
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV)	LIMIT (dBm)	S.G POWER VALUE (dBm)	CORRECTION FACTOR (dB)	POWER VALUE (dBm)
1	5186.0	40.0	-25.0	-63.8	9.7	-54.1
2	7779.0	47.2	-25.0	-55.1	7.8	-47.3

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3m						
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV)	LIMIT (dBm)	S.G POWER VALUE (dBm)	CORRECTION FACTOR (dB)	POWER VALUE (dBm)
1	5186.0	42.1	-25.0	-61.7	9.7	-52.0
2	7779.0	48.5	-25.0	-53.8	7.8	-46.0

NOTE 1: Power Value (dBum) = S.G Power Value (dBm) + Correction Factor (dB).

NOTE 2: Correction Factor = Antenna gain of substitution antenna- tx cable loss



A D T

MODE	High channel	FREQUENCY RANGE	Above 1000MHz
INPUT POWER	120Vac, 60Hz	ENVIRONMENTAL CONDITIONS	23degoC, 62%RH 991hPa
CHANNEL BANDWIDTH	10MHz	TESTED BY	Mark Liao

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3m						
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV)	LIMIT (dBm)	S.G POWER VALUE (dBm)	CORRECTION FACTOR (dB)	POWER VALUE (dBm)
1	5370.0	43.2	-25.0	-60.6	9.7	-50.9
2	8055.0	44.4	-25.0	-57.6	7.8	-49.8

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3m						
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV)	LIMIT (dBm)	S.G POWER VALUE (dBm)	CORRECTION FACTOR (dB)	POWER VALUE (dBm)
1	5370.0	42.7	-25.0	-61.2	9.7	-51.5
2	8055.0	47.4	-25.0	-54.8	7.8	-47.0

NOTE 1: Power Value (dBum) = S.G Power Value (dBm) + Correction Factor (dB).

NOTE 2: Correction Factor = Antenna gain of substitution antenna- tx cable loss



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5 PHOTOGRAPHS OF THE TEST CONFIGURATION

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



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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: Web Site: www.adt.com.tw

Tel: 886-3-3183232

Fax: 886-3-3185050

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

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