FCC TEST REPORT

(PART 27)

REPORT NO.: RF110420C26-1

MODEL NO.: WIXFMM-122

FCC ID: MXFWIXFMM-122

RECEIVED: Apr. 20, 2011

TESTED: Apr. 25 ~ May 16, 2011

ISSUED: May 18, 2011

APPLICANT: Gemtek Technology Co., Ltd.

ADDRESS: No. 15-1, Zhonghua Rd, Hsinchu Industrial Park, Hsinchu County, Taiwan, R.O.C. 303

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

LAB ADDRESS: No. 47, 14th Ling, Chia Pau Tsuen, Lin Kou Hsiang, Taipei Hsien 244, Taiwan, R.O.C.

TEST LOCATION: No. 19, Hwa Ya 2nd Rd, Wen Hwa Tsuen, Kwei Shan Hsiang, Taoyuan Hsien 333, Taiwan, R.O.C.

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
Original release	N/A	May 18, 2011

1 CERTIFICATION

PRODUCT: 2.5GHz CLEAR 4G Spot
MODEL: WIXFMM-122
BRAND: CLEAR
APPLICANT: Gemtek Technology Co., Ltd.
TEST SAMPLE: ENGINEERING SAMPLE
TESTED: Apr. 25 ~ May 16, 2011
TEST STANDARDS: FCC Part 27, Subpart C & M

The above equipment (Model: WIXFMM-122) 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 : _____ , DATE : May 18, 2011
Pettie Chen / Specialist

APPROVED BY : _____ , DATE : May 18, 2011
Gary Chang / Assistant Manager

2 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

STANDARD SECTION FCC Part 27 & Part 2	TEST TYPE AND LIMIT	RESULT	REMARK
2.1046 27.50(h)(2)	Maximum Output Power Limit: max. 2 watts e.i.r.p peak power	PASS	Meet the requirement of limit. Minimum passing margin is 27.8dBm at 2501MHz.
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 -6.6dB at 10750.0MHz.

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	3.19 dB
	200MHz ~1000MHz	3.21 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	2.5GHz CLEAR 4G Spot
MODEL NO.	WIXFMM-122
FCC ID	MXFWIXFMM-122
NOMINAL VOLTAGE	5Vdc
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	27.8dBm
ANTENNA TYPE	Antenna 1: Metal (Monopole) antenna with 2.5dBi gain Antenna 2: Metal (Monopole) antenna with 1.8dBi gain
OPERATION TEMPERATURE RANGE	0°C ~ 40°C
DATA CABLE	0.95m shielded USB cable without core
I/O PORTS	USB
ACCESSORY DEVICES	Adapter

NOTE:

1. The EUT is a 2.5GHz CLEAR 4G Spot. The test data are separated into following test reports.

	TEST STANDARD	REFERENCE REPORT
WLAN	FCC Part 15, Subpart C	RF990802C25
WiMAX	FCC Part 27, Subpart C & M	RF990802C25-1

2. The EUT were powered by the following adapter:

BRAND:	DVE
MODEL:	DSC-5PFC-05 FUS 050100
INPUT:	100-240Vac~, 0.2A, 50/60Hz
OUTPUT:	+5Vdc, 1.0A

3. The EUT can supports different UL / DL ratio, max transmit ratio is up to 18 (UL): 29 (DL). After pretesting of output power and spurious emission, 18 (UL): 29 (DL) was found to be worst case and was selected for the final test configuration.

Bandwidth	Frequency(MHz)	Modulation	Average Power (dBm)	
			Antenna 1	Antenna 2
5MHz	2498.5	QPSK 1/2	25.84	25.81
		QPSK 3/4	25.69	25.66
		16QAM 1/2	25.80	25.77
		16QAM 3/4	25.72	25.61
	2593	QPSK 1/2	25.87	25.84
		QPSK 3/4	25.81	25.63
		16QAM 1/2	25.84	25.81
		16QAM 3/4	25.74	25.74
	2687.5	QPSK 1/2	25.82	25.79
		QPSK 3/4	25.67	25.61
		16QAM 1/2	25.80	25.76
		16QAM 3/4	25.61	25.58
10MHz	2501	QPSK 1/2	25.84	25.80
		QPSK 3/4	25.68	25.61
		16QAM 1/2	25.76	25.73
		16QAM 3/4	25.60	25.60
	2593	QPSK 1/2	25.88	25.84
		QPSK 3/4	25.69	25.59
		16QAM 1/2	25.80	25.78
		16QAM 3/4	25.74	25.62
	2685	QPSK 1/2	25.83	25.79
		QPSK 3/4	25.64	25.61
		16QAM 1/2	25.79	25.76
		16QAM 3/4	25.62	25.54

*After pretest of conducted power and spurious emission of 2 antennas under all modulations and coding rates, found the worst case is antenna 1 with QPSK 1/2.Therefore, select antenna 1 with QPSK 1/2 to do final test.

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

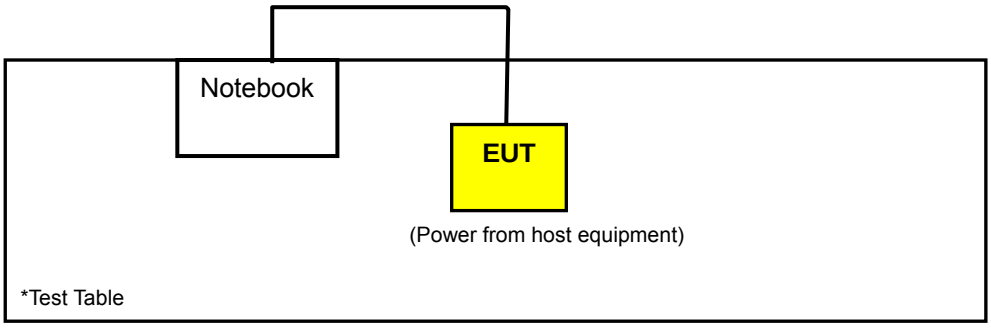
3.2 DESCRIPTION OF TEST MODES

Three channels had been tested for each channel bandwidth.

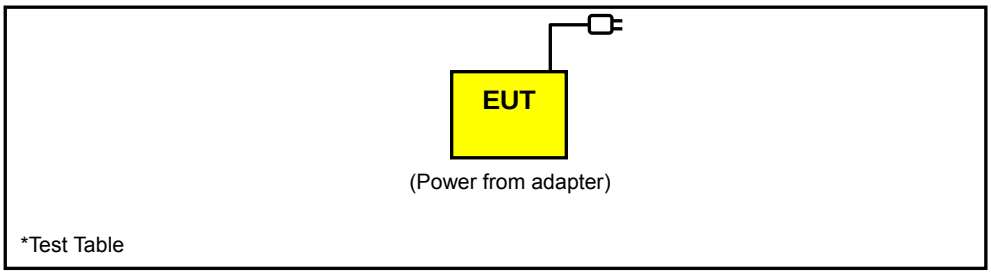
CHANNEL BANDWIDTH: 5MHz	CHANNEL BANDWIDTH: 10MHz
Low channel (L): 2498.5MHz	**Low channel (L)**: 2501.0MHz
Middle channel (M): 2593.0MHz	**Middle channel (M)**: 2593.0 MHz
High channel (H): 2687.5MHz	**High channel (H)**: 2685.0 MHz

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
	OP	FS	EB	CE	CSE	RE<1G	RE≥1G	
A	-	-	-	-	-	√	-	Power from host equipment
B	√	√	√	√	√	√	√	Power from adapter

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 **NOTE:** "-" means no effect.

OUTPUT POWER 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	TESTED CHANNEL	MODULATION TECHNOLOGY	CHANNEL BANDWIDTH	MODULATION TYPE	CODING RATE
B	L, M, H	OFDMA	5MHz	QPSK	1/2
B	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.

EUT CONFIGURE MODE	TESTED CHANNEL	MODULATION TECHNOLOGY	CHANNEL BANDWIDTH	MODULATION TYPE	CODING RATE
B	L	OFDMA	5MHz	QPSK	1/2
B	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.

EUT CONFIGURE MODE	TESTED CHANNEL	MODULATION TECHNOLOGY	CHANNEL BANDWIDTH	MODULATION TYPE	CODING RATE
B	L, M, H	OFDMA	5MHz	QPSK	1/2
B	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.

EUT CONFIGURE MODE	TESTED CHANNEL	MODULATION TECHNOLOGY	CHANNEL BANDWIDTH	MODULATION TYPE	CODING RATE
B	L, M, H	OFDMA	5MHz	QPSK	1/2
B	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.

EUT CONFIGURE MODE	TESTED CHANNEL	MODULATION TECHNOLOGY	CHANNEL BANDWIDTH	MODULATION TYPE	CODING RATE
B	L, M, H	OFDMA	5MHz	QPSK	1/2
B	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, XYZ axis and antenna ports (if EUT with antenna diversity architecture).

☒ Following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	TESTED CHANNEL	MODULATION TECHNOLOGY	CHANNEL BANDWIDTH	MODULATION TYPE	CODING RATE	AXIS
A & B	M	OFDMA	5MHz	QPSK	1/2	Y
A & B	M	OFDMA	10MHz	QPSK	1/2	Y

RADIATED EMISSION MEASUREMENT (ABOVE 1 GHz):

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates, XYZ axis and antenna ports (if EUT with antenna diversity architecture).

☒ Following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	TESTED CHANNEL	MODULATION TECHNOLOGY	CHANNEL BANDWIDTH	MODULATION TYPE	CODING RATE	AXIS
B	L, M, H	OFDMA	5MHz	QPSK	1/2	Y
B	L, M, H	OFDMA	10MHz	QPSK	1/2	Y

TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
OP	25deg. C, 63%RH, 1014 hPa	120Vac, 60Hz	Mark Liao
FS	25deg. C, 63%RH, 1014 hPa	120Vac, 60Hz	Mark Liao
EB	25deg. C, 63%RH, 1014 hPa	120Vac, 60Hz	Mark Liao
CE	25deg. C, 63%RH, 1014 hPa	120Vac, 60Hz	Mark Liao
CSE	25deg. C, 63%RH, 1014 hPa	120Vac, 60Hz	Mark Liao
RE≥1G	25deg. C, 68%RH, 1012 hPa	120Vac, 60Hz	Sun Lin
RE<1G	25deg. C, 68%RH, 1012 hPa	120Vac, 60Hz	Sun Lin

3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS

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

FCC 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	NOTEBOOK	HP	NC6000	CNU4110Y6Q	FCC DoC Approved

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	NA

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

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

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
High Speed Peak Power Meter	ML2495A	0824011	Aug. 02, 2010	Aug. 01, 2011
Power Sensor	MA2411B	0738171	Aug. 02, 2010	Aug. 01, 2011

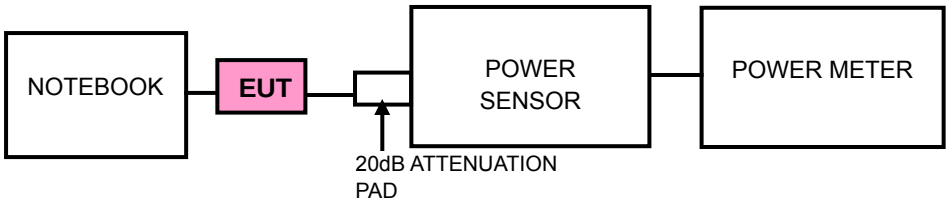
NOTE:

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.

4.1.3 TEST PROCEDURES

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.

4.1.4 TEST SETUP



4.1.5 EUT OPERATING CONDITIONS

a. Placed the EUT on the testing table.
b. Prepared notebook to act as communication partner and placed it outside of testing area.
c. Notebook used tool to control EUT to transmit at specific frequency, modulation and output power level via telnet utility.

4.1.6 TEST RESULTS

CHANNEL BANDWIDTH: 5MHz

ENVIRONMENTAL CONDITIONS	23degoC, 63%RH 991hPa	TESTED BY	Mark Liao

CONDUCTED POWER (RMS)					
CHANNEL	FREQUENCY (MHz)	C.F (dB)	POWER METER READING (dBm)	POWER (dBm)	POWER (W)
Low	2498.5	21.0	4.8	25.84	0.384
Middle	2593.0	21.0	4.9	25.87	0.386
High	2687.5	21.0	4.8	25.82	0.382

NOTE: C.F = attenuator + cable loss

EIRP POWER					
CHANNEL	FREQUENCY (MHz)	S.G VALUE (dBm)	CORRECTION FACTOR (dB)	OUTPUT POWER	
				dBm	Watt
Low	2498.5	19.3	8.3	27.6	0.5754
Middle	2593.0	18.3	8.5	26.8	0.4786
High	2687.5	17.9	8.5	26.4	0.4365

REMARKS: 1. Output Power (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

CHANNEL BANDWIDTH: 10MHz

ENVIRONMENTAL CONDITIONS	23degoC, 63%RH 991hPa	TESTED BY	Mark Liao

CONDUCTED POWER (RMS)					
CHANNEL	FREQUENCY (MHz)	C.F (dB)	POWER METER READING (dBm)	POWER (dBm)	POWER (W)
Low	2501	21.0	4.8	25.84	0.384
Middle	2593	21.0	4.9	25.88	0.387
High	2685	21.0	4.8	25.83	0.383

NOTE: C.F = attenuator + cable loss

EIRP POWER					
CHANNEL	FREQUENCY (MHz)	S.G VALUE (dBm)	CORRECTION FACTOR (dB)	OUTPUT POWER	
				dBm	Watt
Low	**2501**	**19.5**	**8.3**	**27.8**	**0.6026**
Middle	2593	18.7	8.5	27.2	0.5248
High	2685	18.2	8.5	26.7	0.4677

REMARKS: 1. Output Power (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

4.2 FREQUENCY STABILITY MEASUREMENT

4.2.1 LIMITS OF FREQUENCY STABILIITY 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℃ ~ 50℃.

4.2.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Spectrum Analyzer Agilent	E4446A	MY44360124	Dec. 29, 2010	Dec. 28, 2011
RF cable	SUCOFLEX 104	257029	Jan. 27, 2011	Jan. 26, 2012
WIT Standard Temperature & Humidity Chamber	MHU-225AU	920409	Jun. 09, 2010	Jun. 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.

4.2.3 TEST PROCEDURE

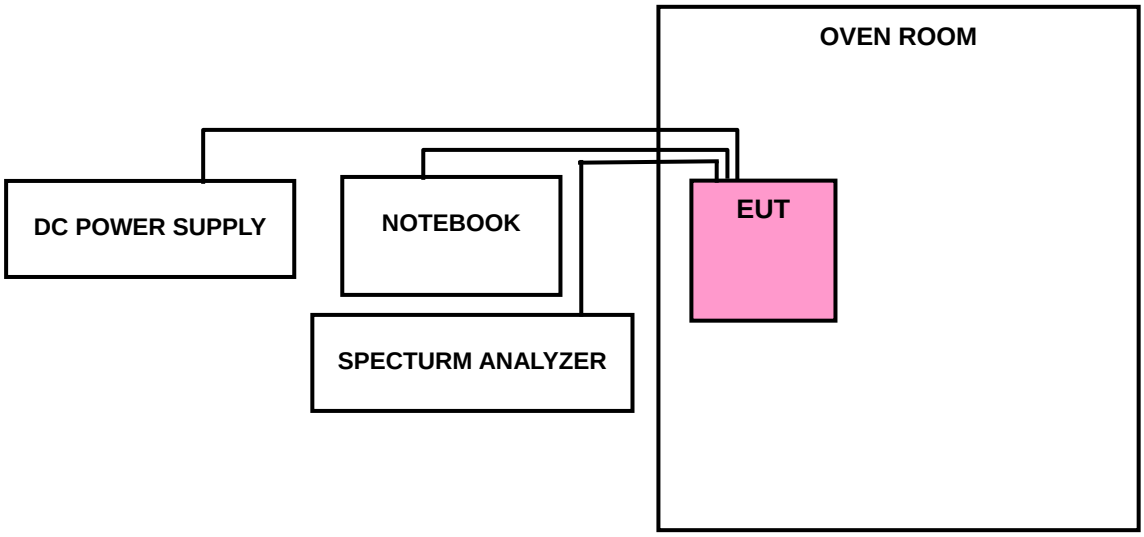
a. Power must be removed when changing from one temperature to another or one voltage to another voltage. Power warm up is at least 15 min and power applied should perform before recording frequency error.

b. EUT is connected the external power supply to control the DC input power. The various Volts from the minimum 3.4 Volts to 4.2 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 ±0.5℃ 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

4.2.6 TEST RESULTS

MODE	Low channel	ENVIRONMENTAL CONDITIONS	25degoC, 63%RH 991hPa
CHANNEL BANDWIDTH	5MHz	TESTED BY	Mark Liao

AFC FREQUENCY ERROR VS. VOLTAGE			
VOLTAGE (Volts)	TEMP. (℃)	FREQUENCY (MHz)	FREQUENCY ERROR (ppm)
3.4	20	2498.505248	2.100
3.7	20	2498.505394	2.159
4.2	20	2498.505663	2.267

AFC FREQUENCY ERROR VS. TEMP.			
VOLTAGE (Volts)	TEMP. (℃)	FREQUENCY (MHz)	FREQUENCY ERROR (ppm)
3.7	50	2498.505334	2.135
3.7	40	2498.504965	1.987
3.7	30	2498.505187	2.076
3.7	20	2498.505394	2.159
3.7	10	2498.505192	2.078
3.7	0	2498.505087	2.036
3.7	-10	2498.504990	1.997
3.7	-20	2498.505364	2.147
3.7	-30	2498.505217	2.088

MODE	Low channel	**ENVIRONMENTAL CONDITIONS**	25degoC, 63%RH 991hPa
CHANNEL BANDWIDTH	10MHz	**TESTED BY**	Mark Liao

AFC FREQUENCY ERROR VS. VOLTAGE			
VOLTAGE (Volts)	**TEMP. (℃)**	**FREQUENCY (MHz)**	**FREQUENCY ERROR (ppm)**
3.4	20	2501.005195	2.077
3.7	20	2501.005123	2.048
4.2	20	2501.005047	2.018

AFC FREQUENCY ERROR VS. TEMP.			
VOLTAGE (Volts)	**TEMP. (℃)**	**FREQUENCY (MHz)**	**FREQUENCY ERROR (ppm)**
3.7	50	2501.005604	2.241
3.7	40	2501.005218	2.086
3.7	30	2501.005102	2.040
3.7	20	2501.005123	2.048
3.7	10	2501.005504	2.201
3.7	0	2501.005461	2.184
3.7	-10	2501.005229	2.091
3.7	-20	2501.005567	2.226
3.7	-30	2501.005428	2.170

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

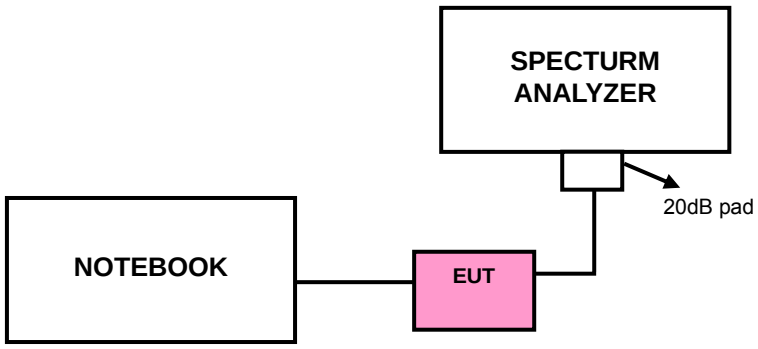
DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Spectrum Analyzer Agilent	E4446A	MY44360124	Dec. 29, 2010	Dec. 28, 2011
RF cable	SUCOFLEX 104	257029	Jan. 27, 2011	Jan. 26, 2012
WIT Standard Temperature & Humidity Chamber	MHU-225AU	920409	Jun. 09, 2010	Jun. 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

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

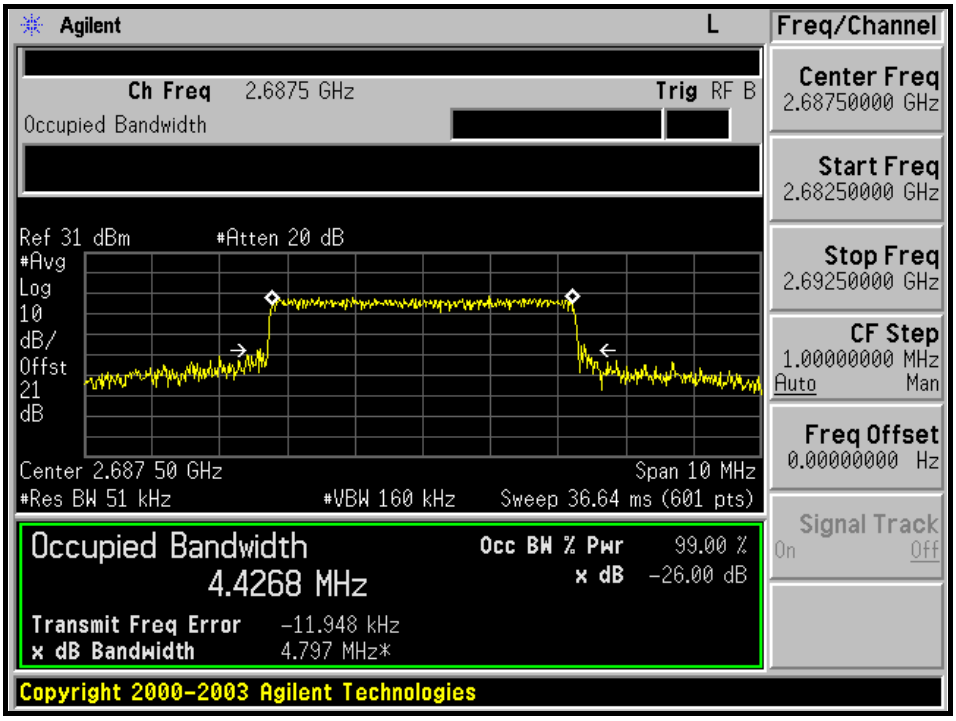
Same as 4.1.5

4.3.6 TEST RESULTS

CHANNEL BANDWIDTH: 5MHz

CHANNEL	-26dBc BANDWIDTH (MHz)
Low	4.692
Middle	4.692
High	4.797

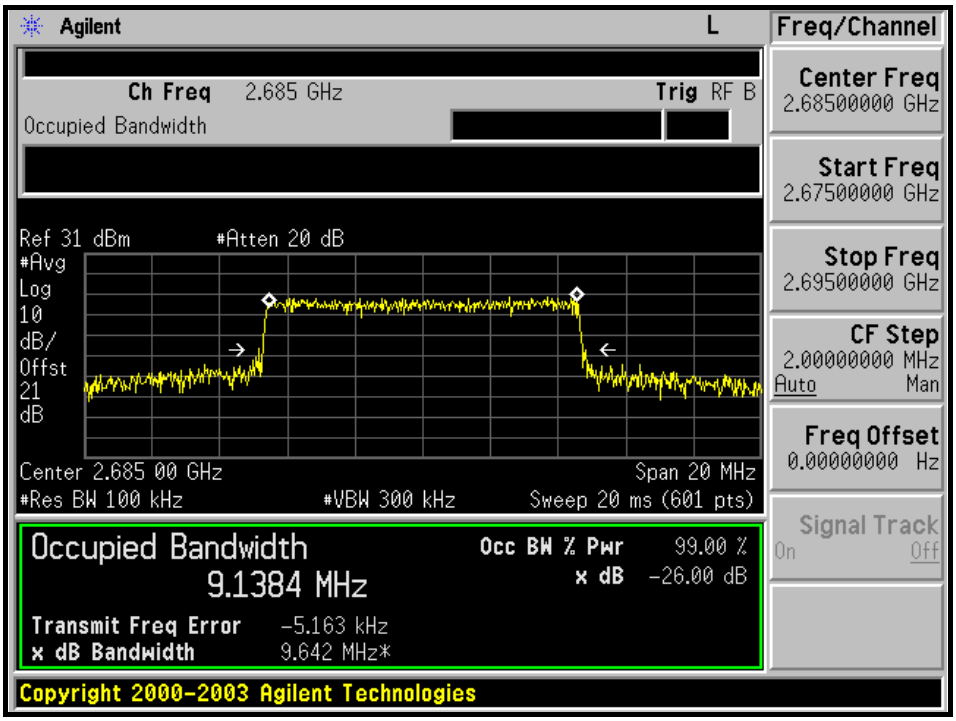
HIGH CHANNEL



CHANNEL BANDWIDTH: 10MHz

CHANNEL	-26dBc BANDWIDTH (MHz)
Low	9.552
Middle	9.641
High	9.642

HIGH 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	Dec. 29, 2010	Dec. 28, 2011
RF cable	SUCOFLEX 104	257029	Jan. 27, 2011	Jan. 26, 2012
WIT Standard Temperature & Humidity Chamber	MHU-225AU	920409	Jun. 09, 2010	Jun. 08, 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

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.

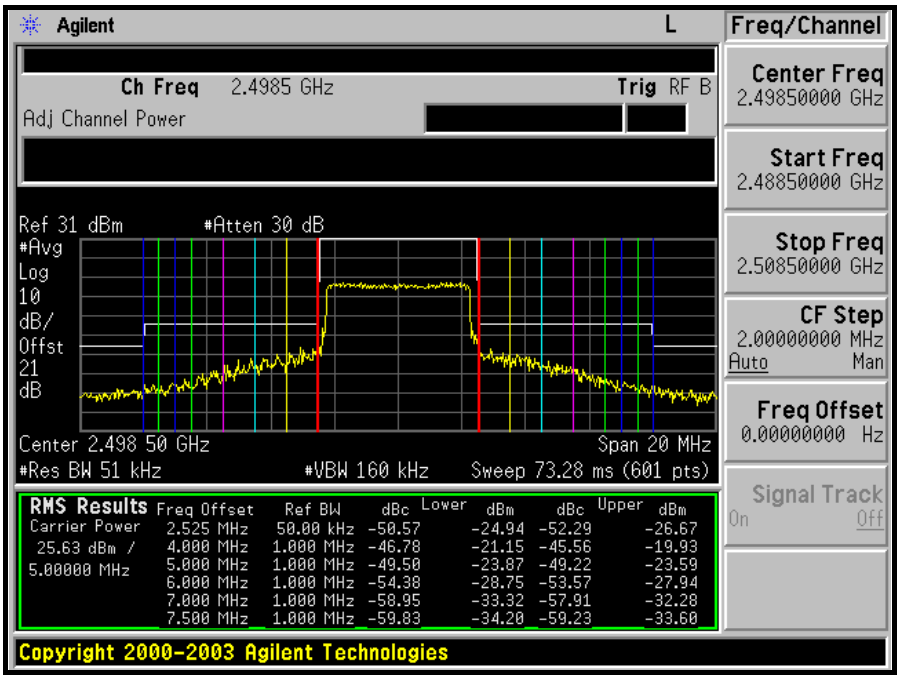
4.4.5 EUT OPERATING CONDITION

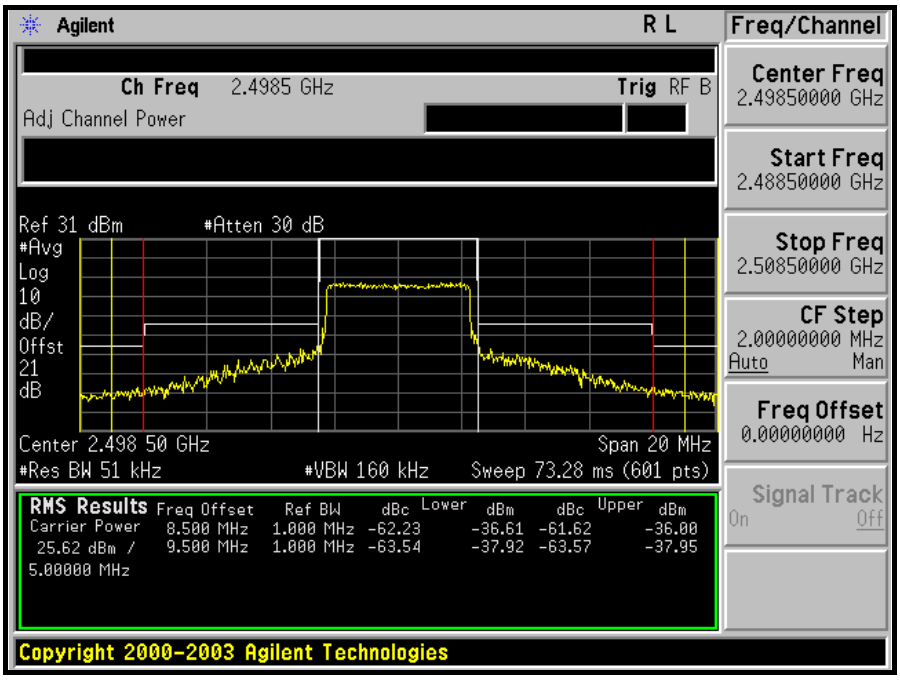
Same as 4.1.5

4.4.6 TEST RESULTS

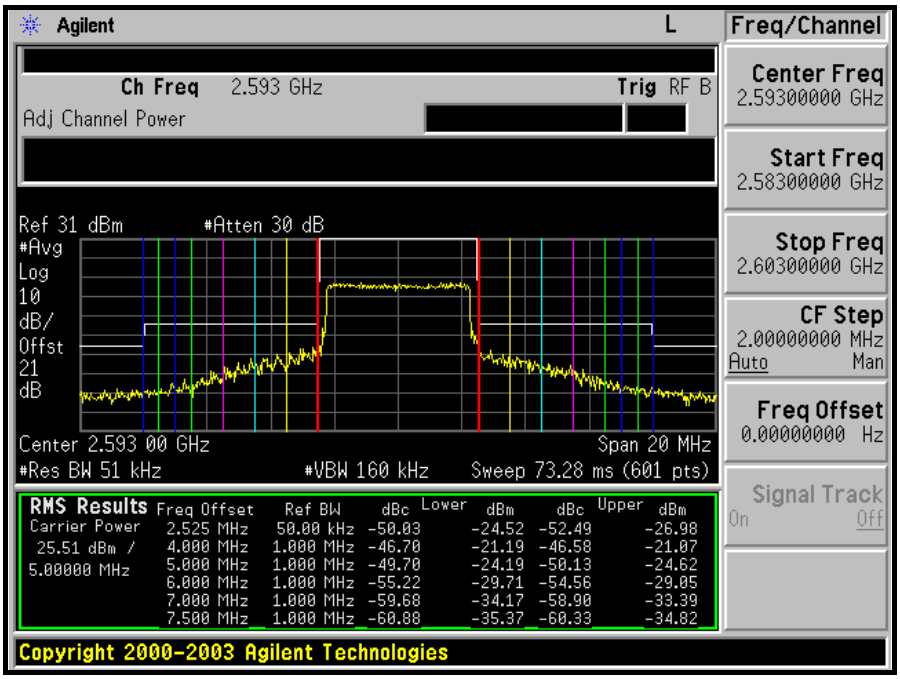
CHANNEL BANDWIDTH: 5MHz

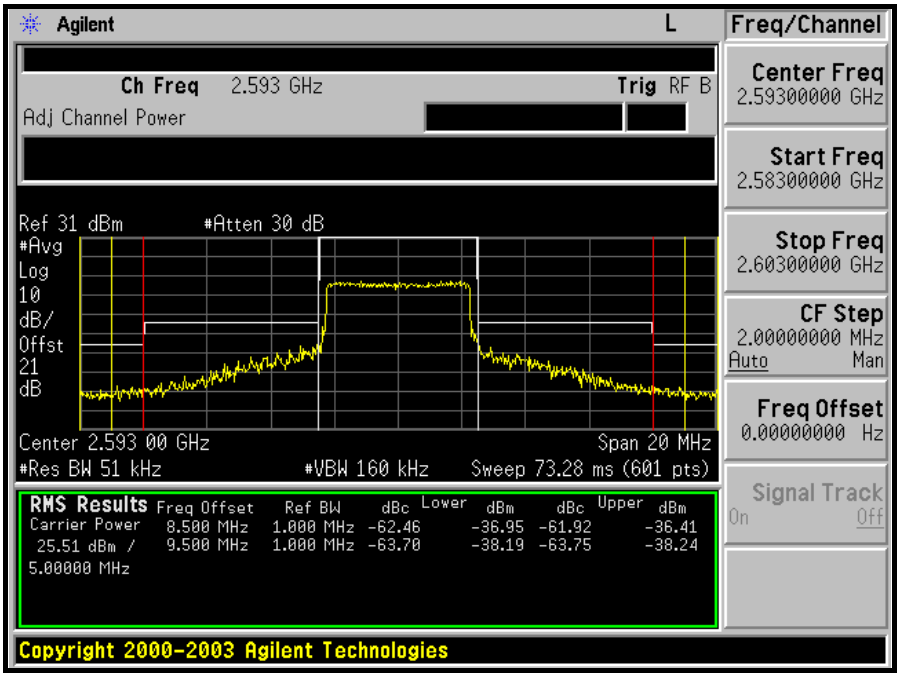
LOW CHANNEL



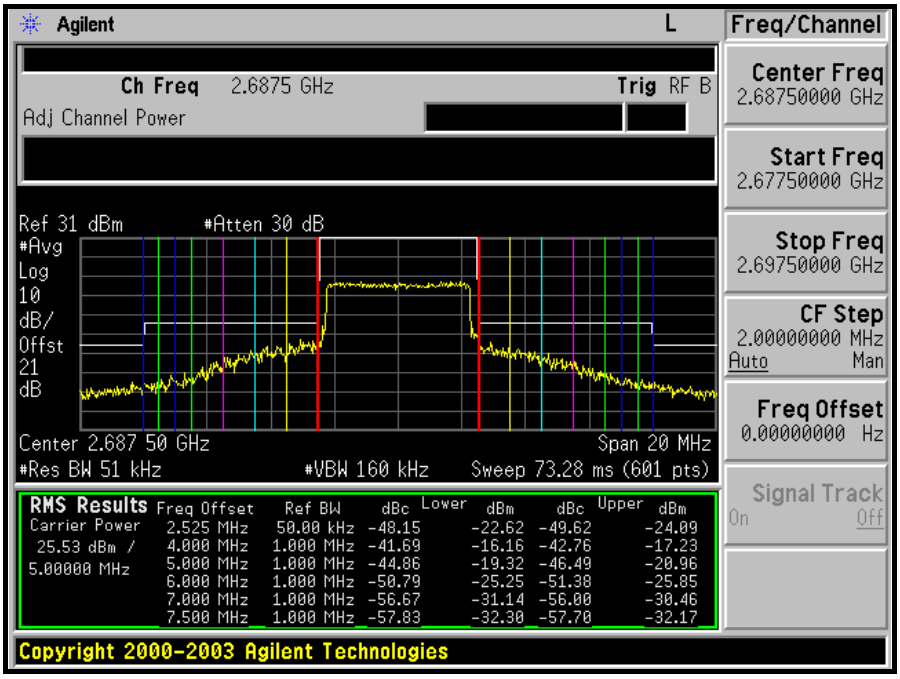


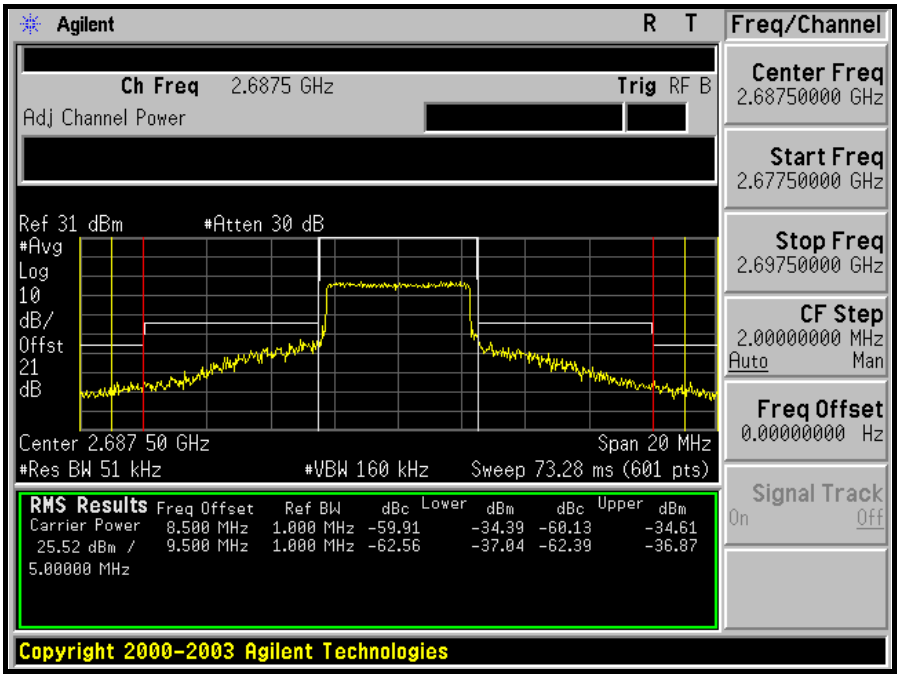
MIDDLE CHANNEL





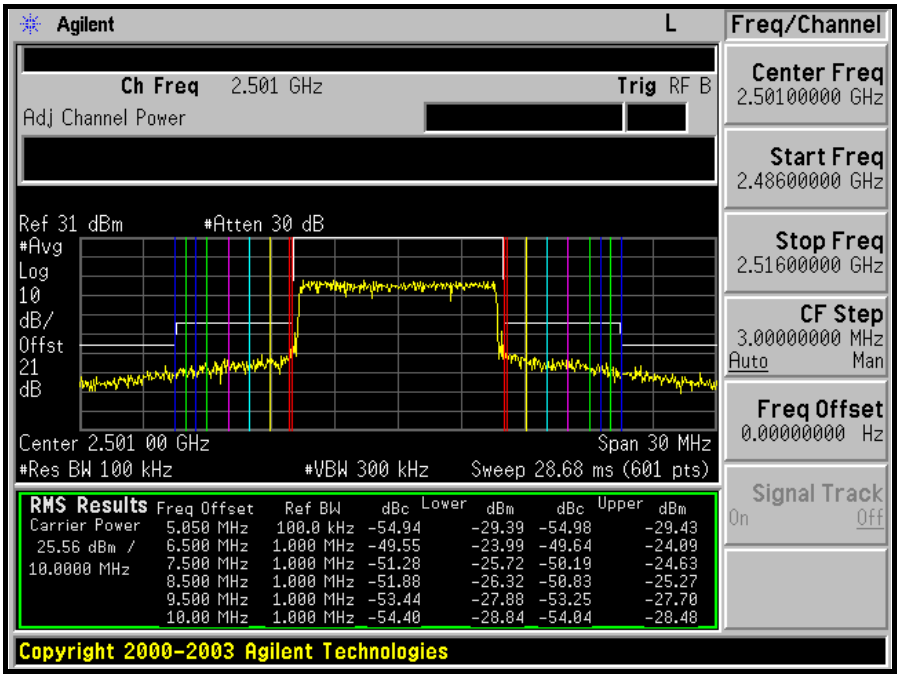
HIGH CHANNEL

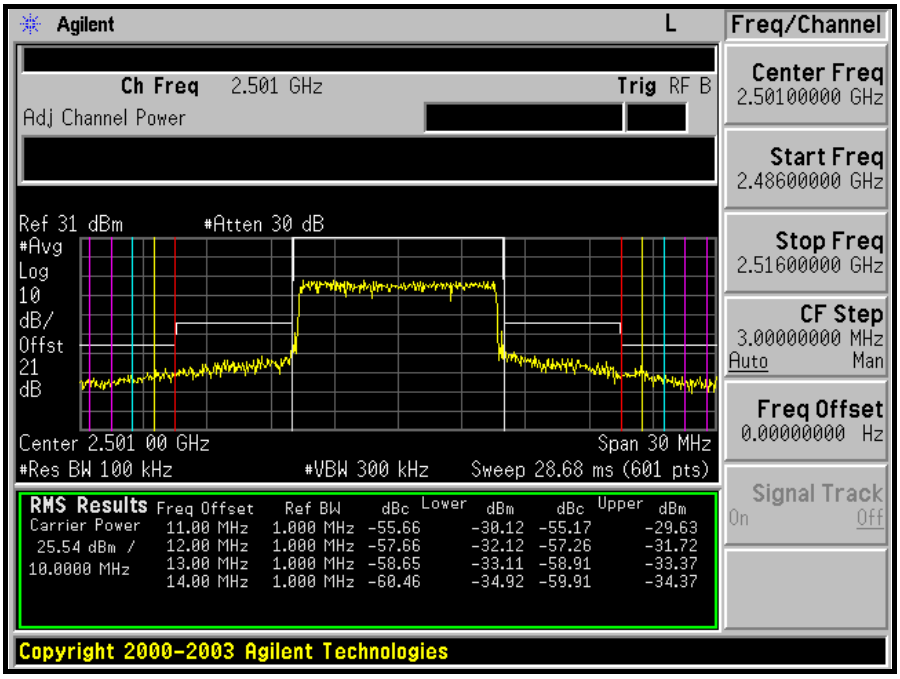




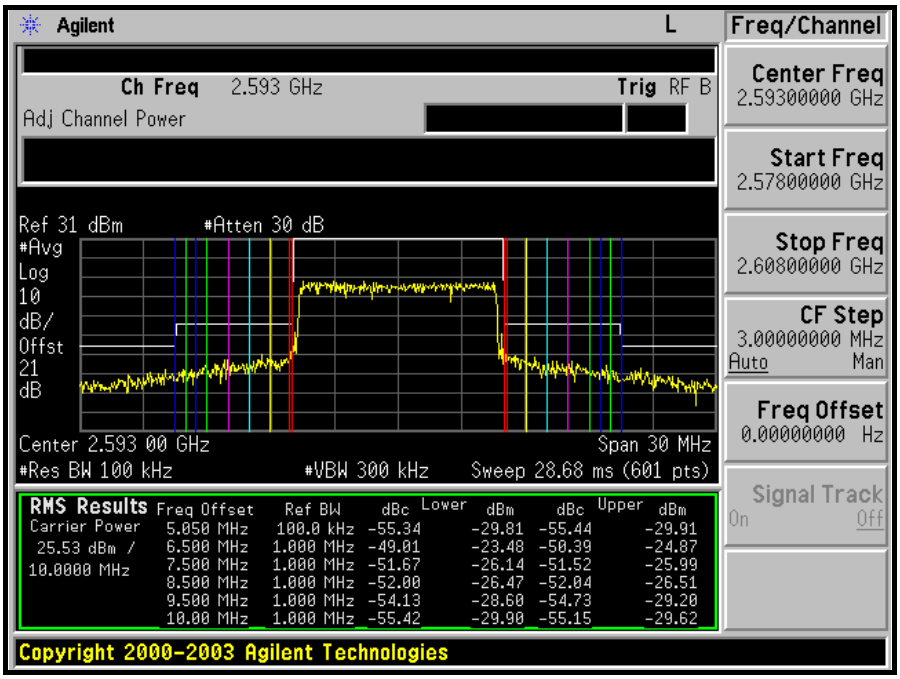
CHANNEL BANDWIDTH: 10MHz

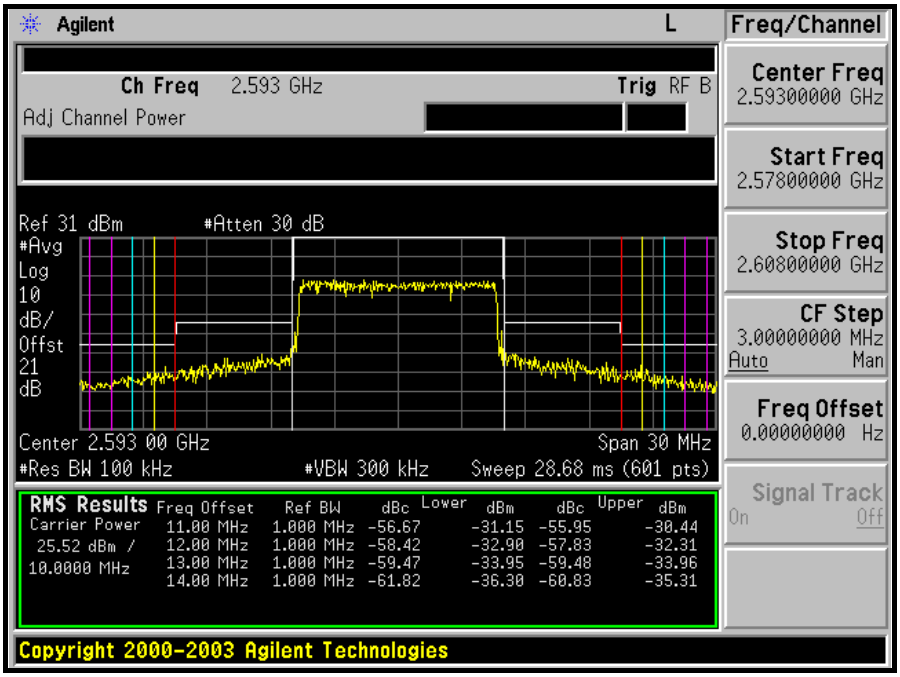
LOW CHANNEL



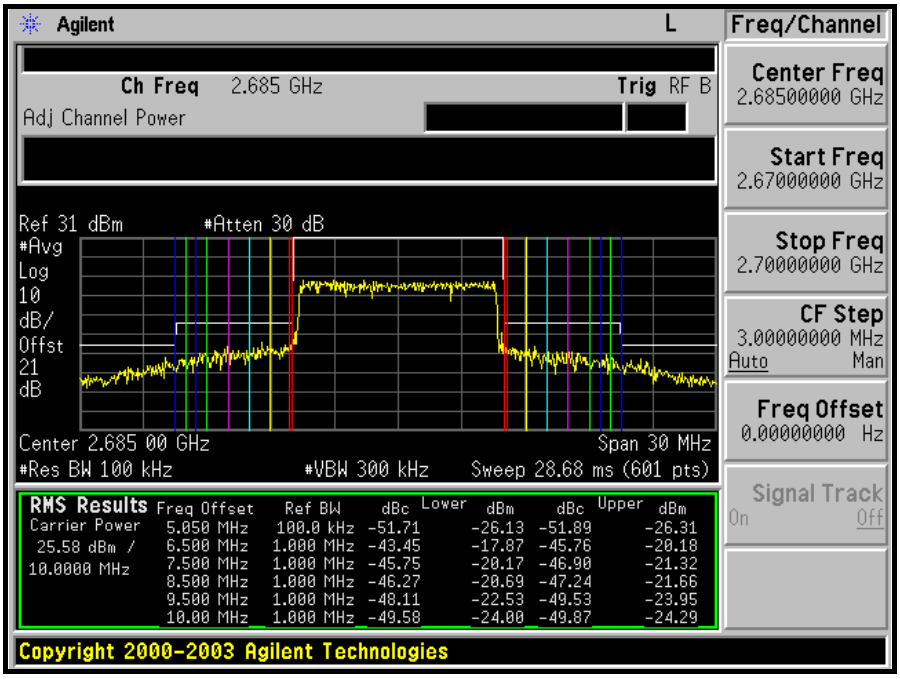


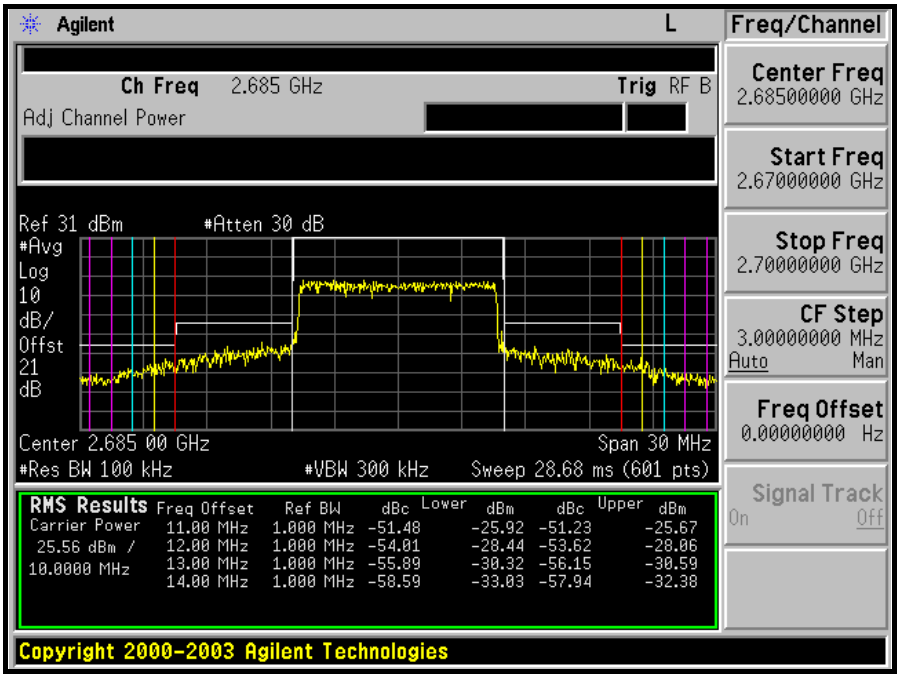
MIDDLE CHANNEL





HIGH CHANNEL





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 –25dBm.

4.5.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Spectrum Analyzer Agilent	E4446A	MY44360124	Dec. 29, 2010	Dec. 28, 2011
Wainwright Instruments High Pass Filter	WHK3.1/18G-10SS	ZZ-010096	Mar. 24, 2011	Mar. 23, 2012
JFW 20dB attenuation	50HF-020-SMA	NA	NA	NA
RF cable	SUCOFLEX 104	257029	Jan. 27, 2011	Jan. 26, 2012

NOTE: 1. 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 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 = 1MHz, VB = 3MHz.

4.5.4 TEST SETUP

Same as 4.3.4

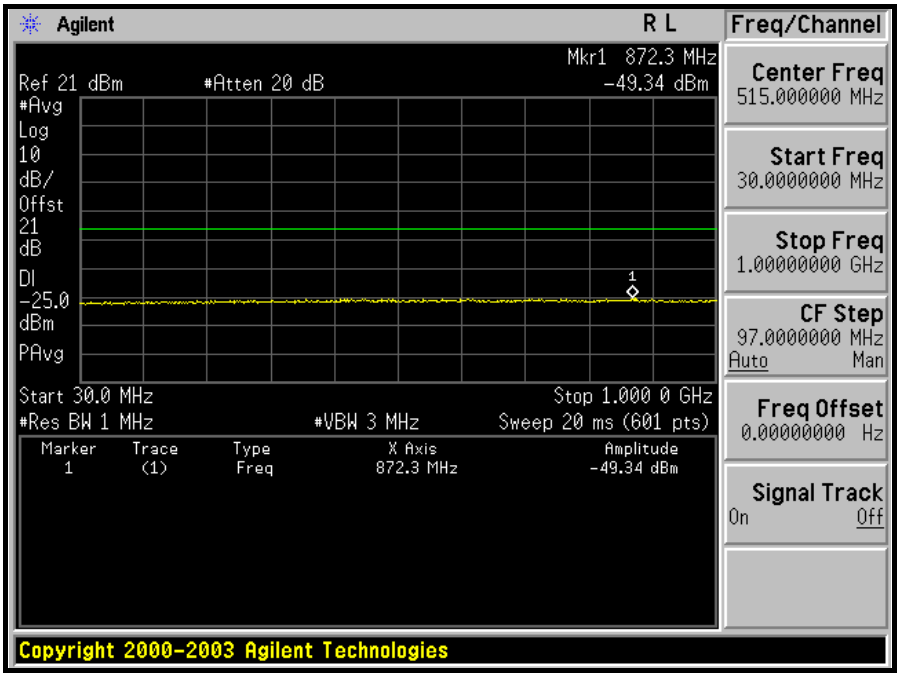
4.5.5 EUT OPERATING CONDITIONS

Same as 4.1.5

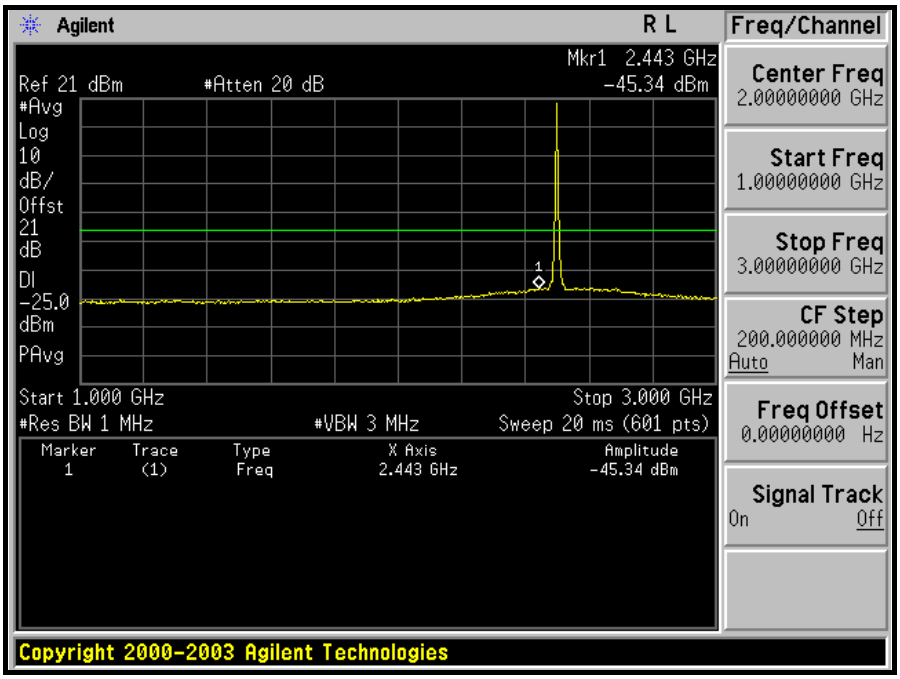
4.5.6 TEST RESULTS

CHANNEL BANDWIDTH: 5MHz

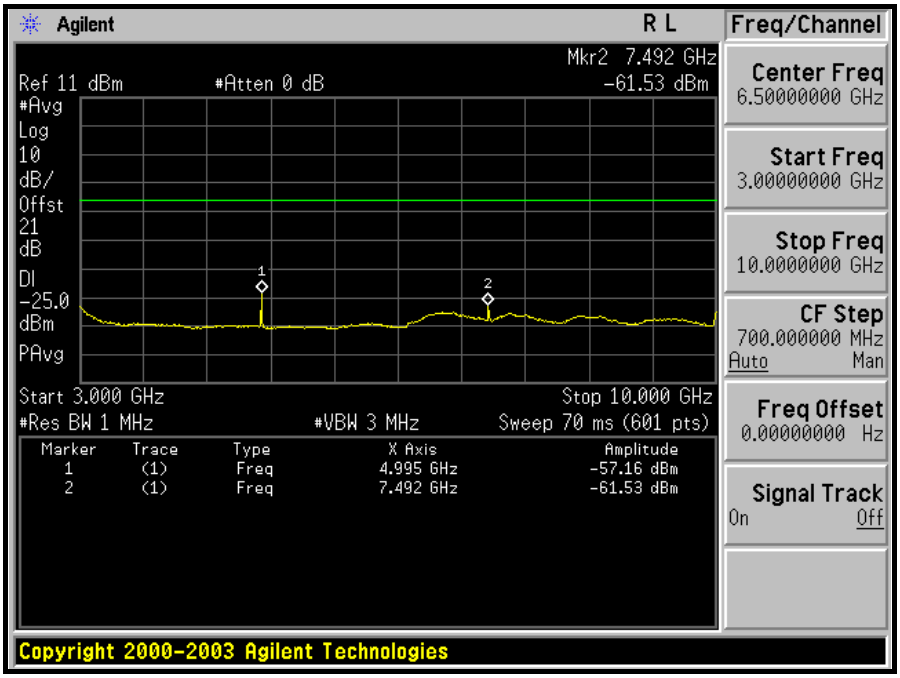
LOW CHANNEL: 30MHz ~ 1GHz:



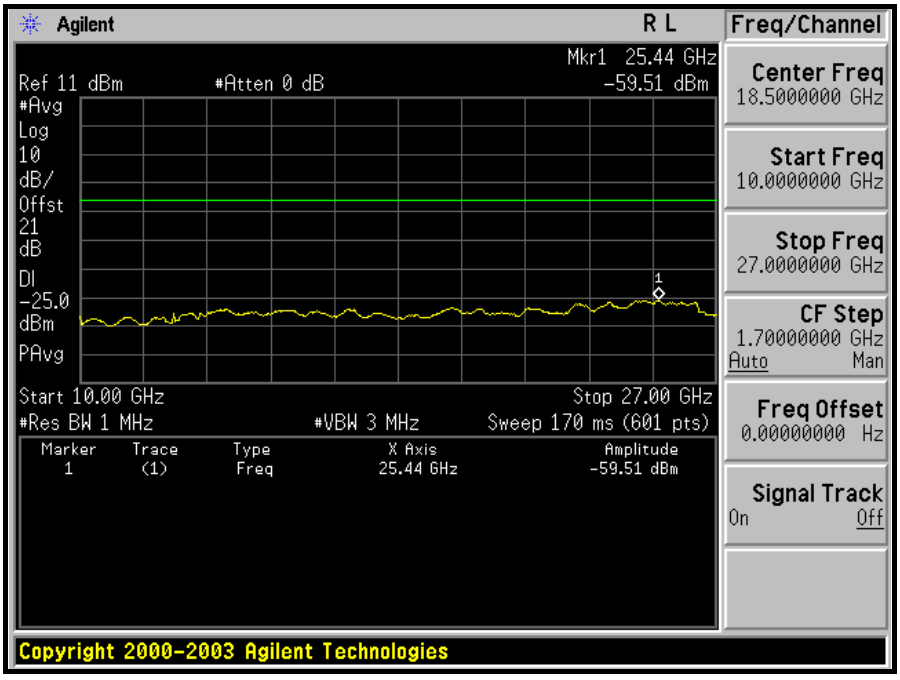
1GHz ~ 3GHz:



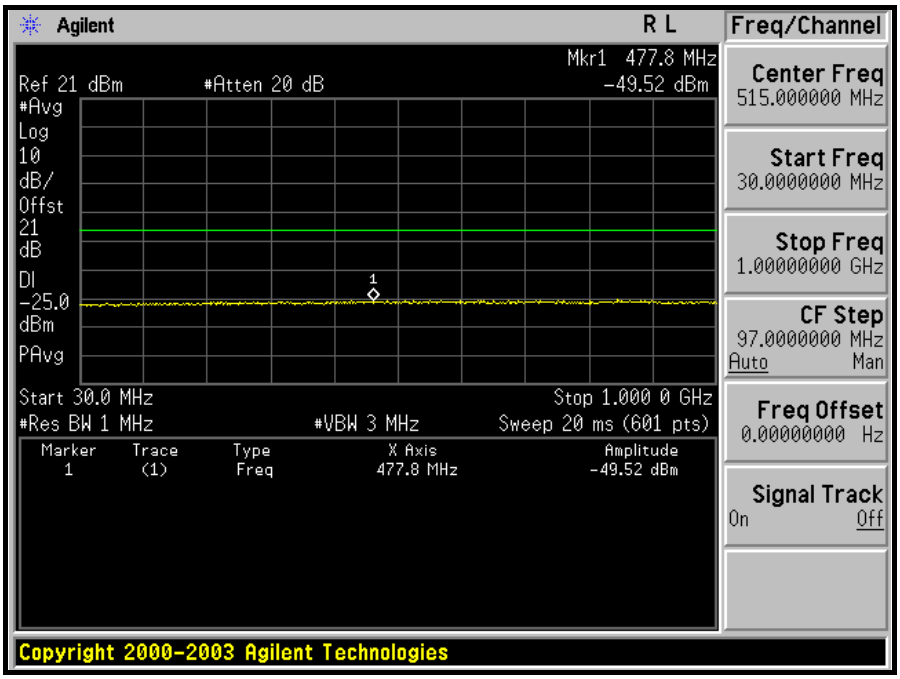
3GHz ~ 10GHz:



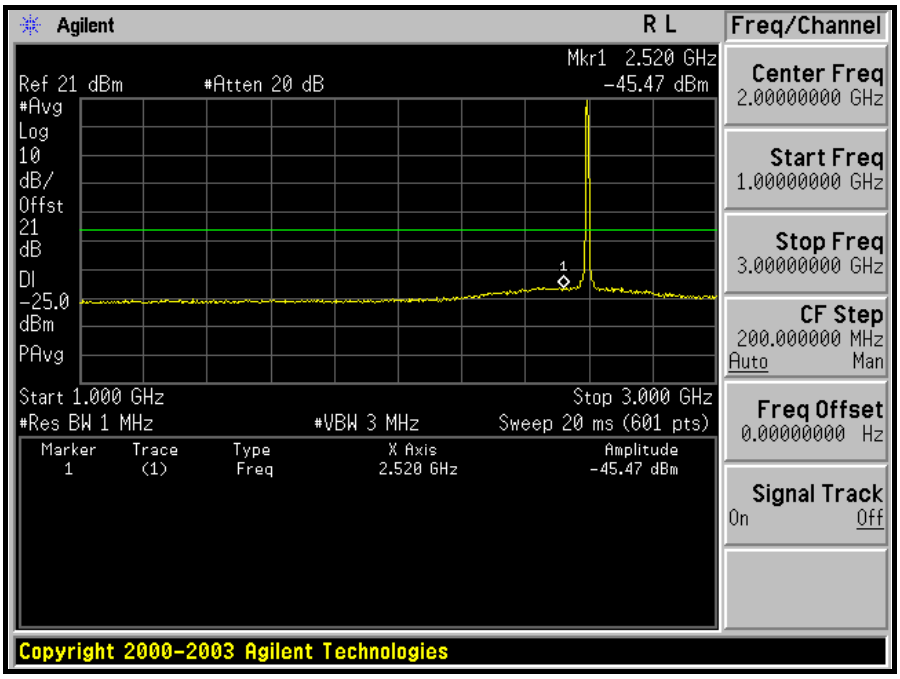
10GHz ~ 27GHz:



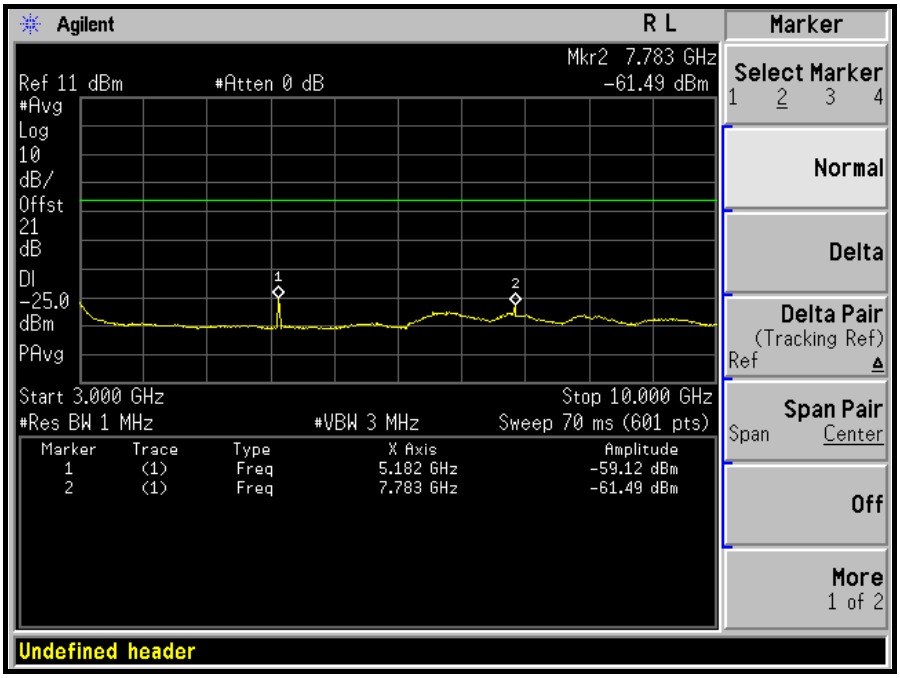
MIDDLE CHANNEL: 30MHz ~ 1GHz:



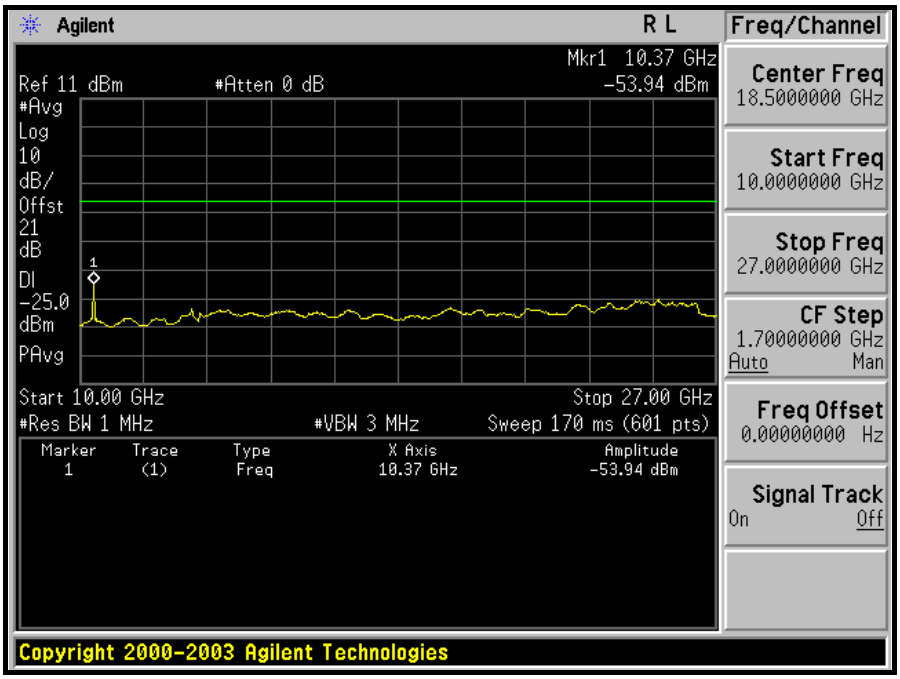
1GHz ~ 3GHz:



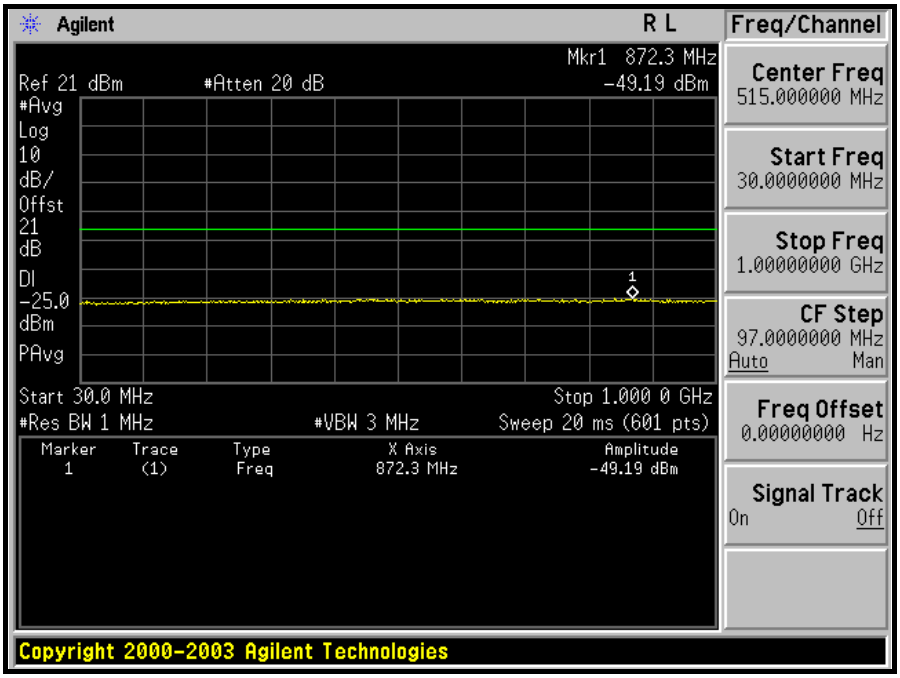
3GHz ~ 10GHz:



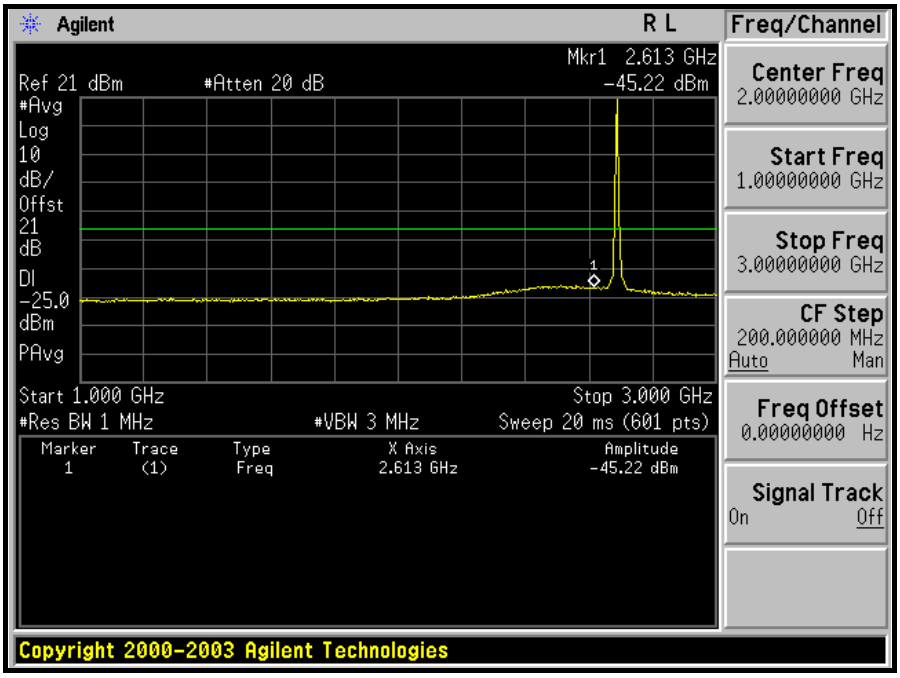
10GHz ~ 27GHz:



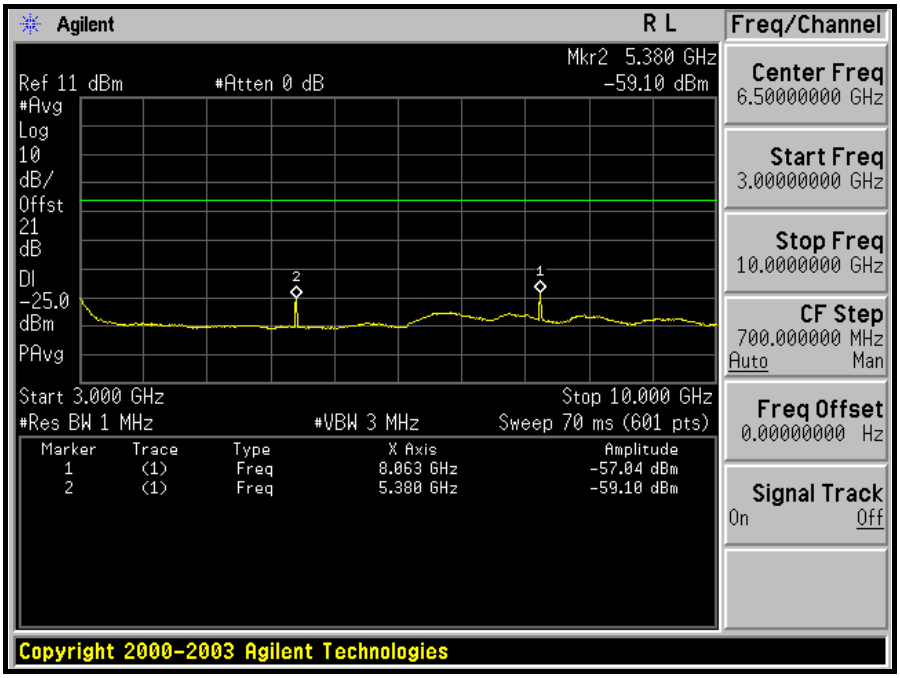
HIGH CHANNEL: 30MHz ~ 1GHz:



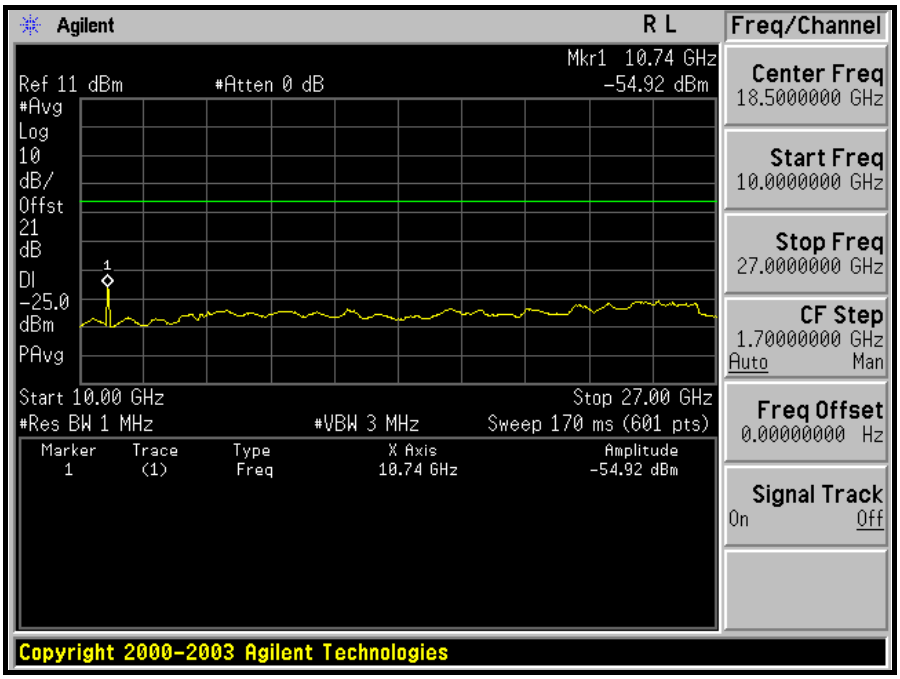
1GHz ~ 3GHz:



3GHz ~ 10GHz:

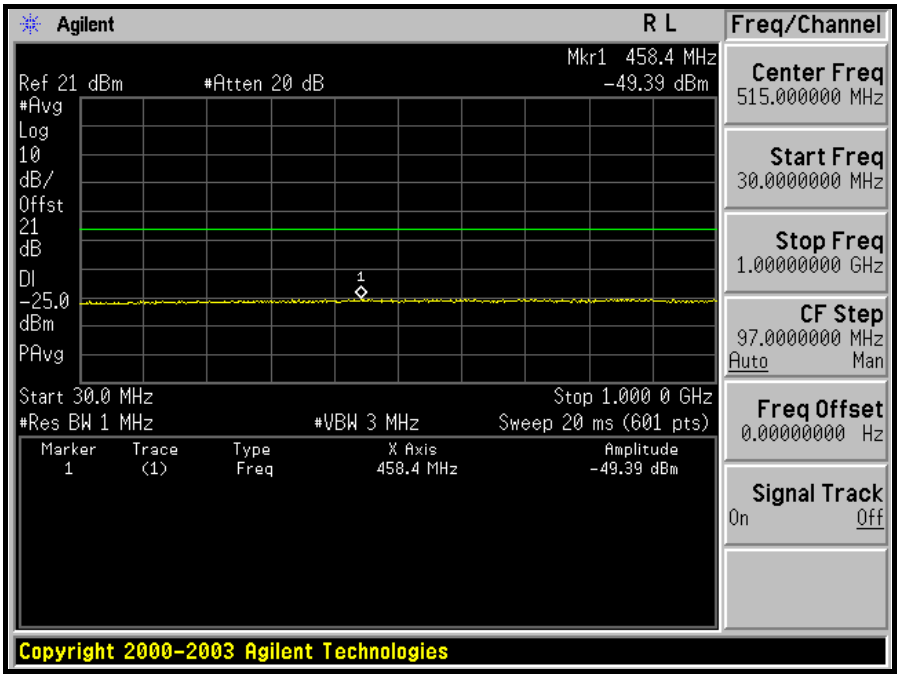


10GHz ~ 27GHz:

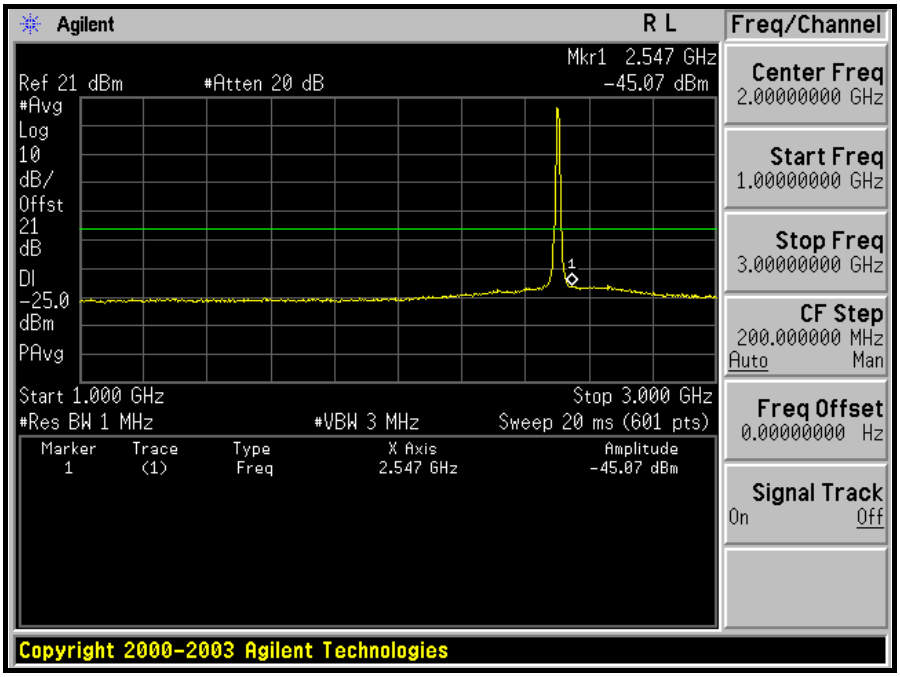


CHANNEL BANDWIDTH: 10MHz

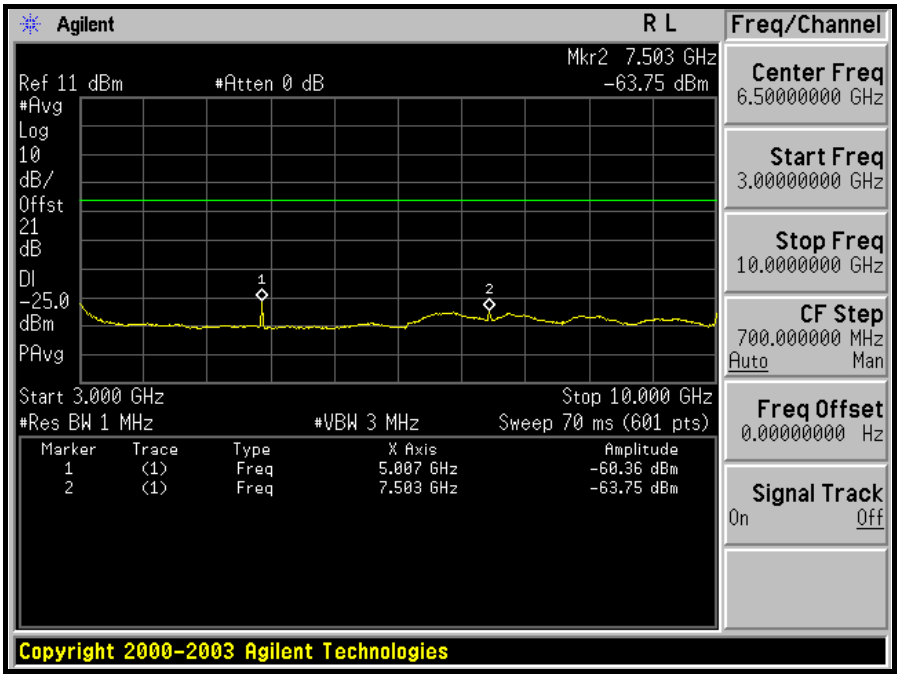
LOW CHANNEL: 30MHz ~ 1GHz:



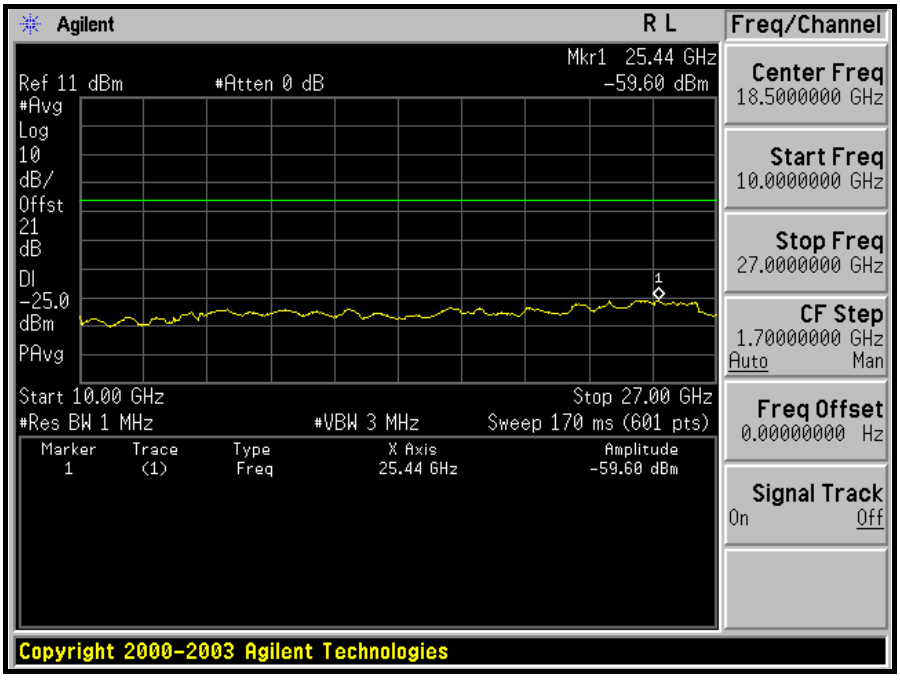
1GHz ~ 3GHz:



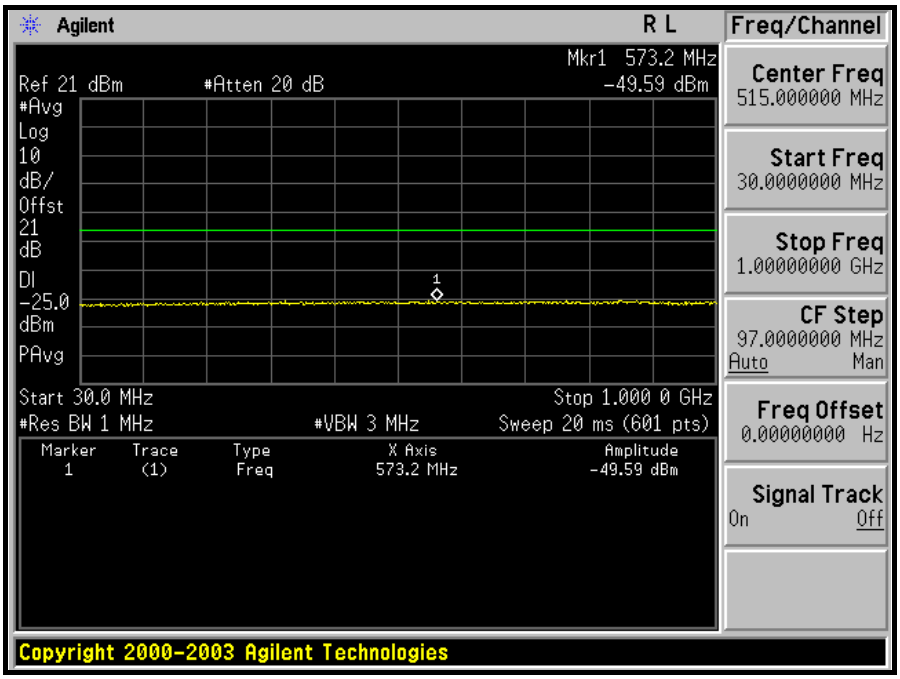
3GHz ~ 10GHz:



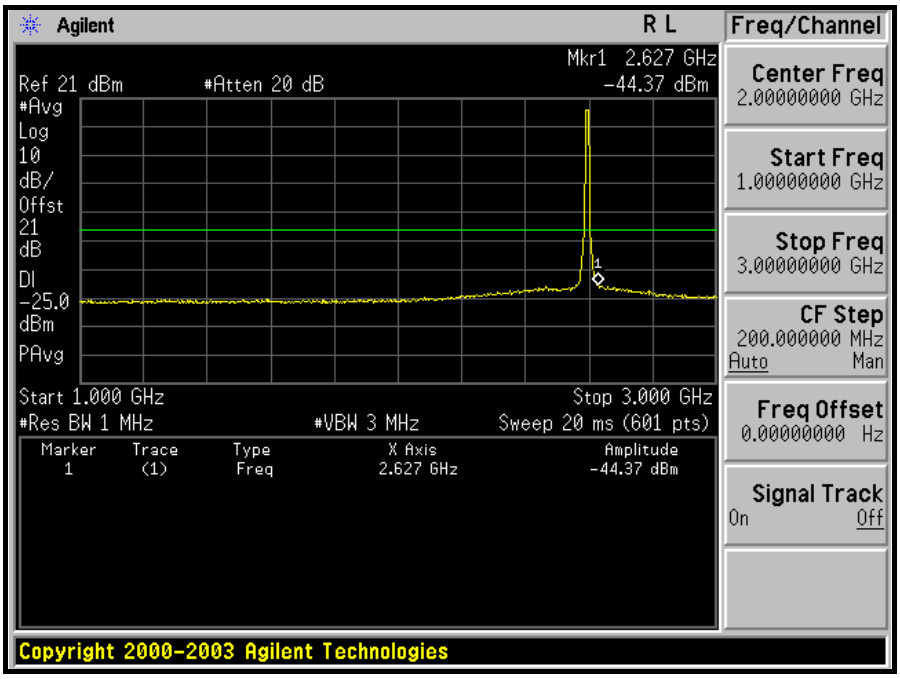
10GHz ~ 27GHz:



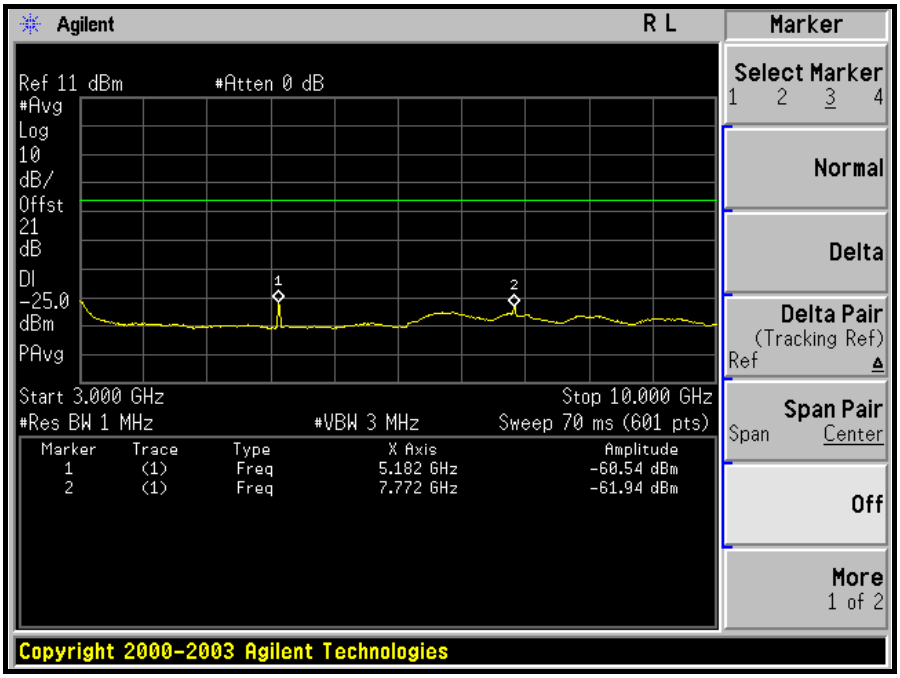
MIDDLE CHANNEL: 30MHz ~ 1GHz:



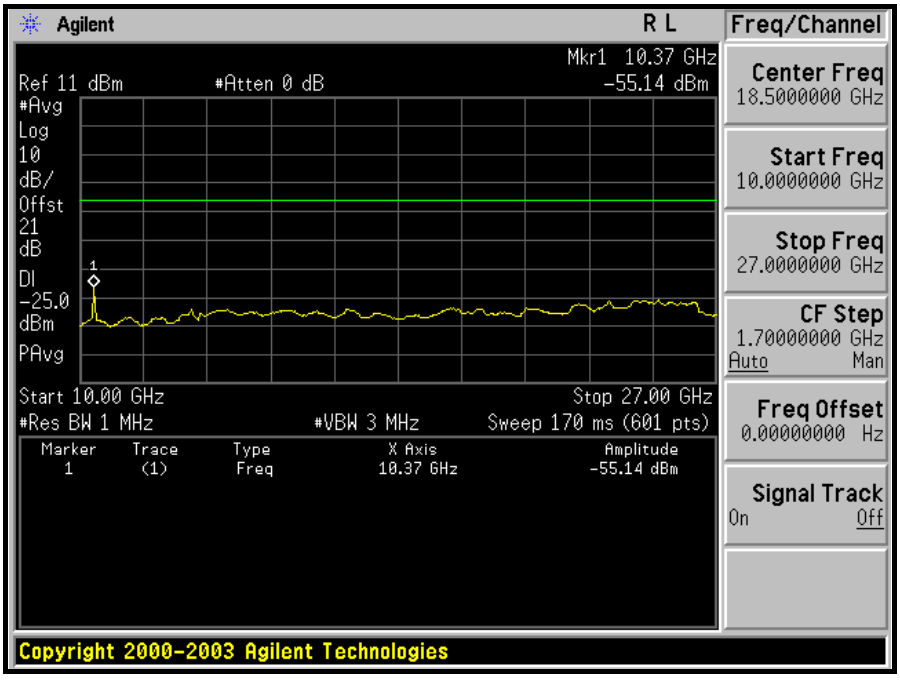
1GHz ~ 3GHz:



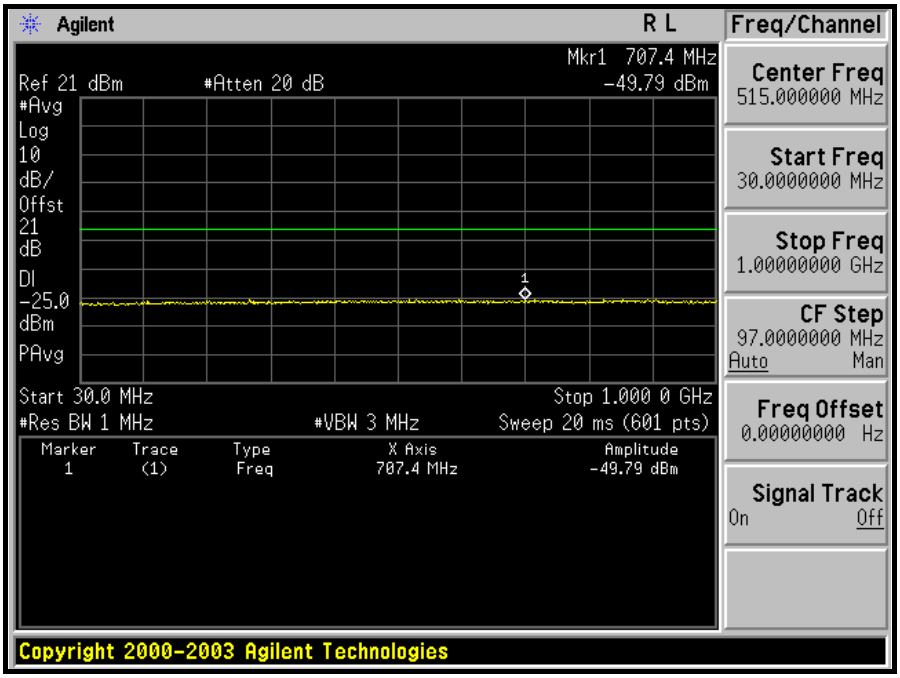
3GHz ~ 10GHz:



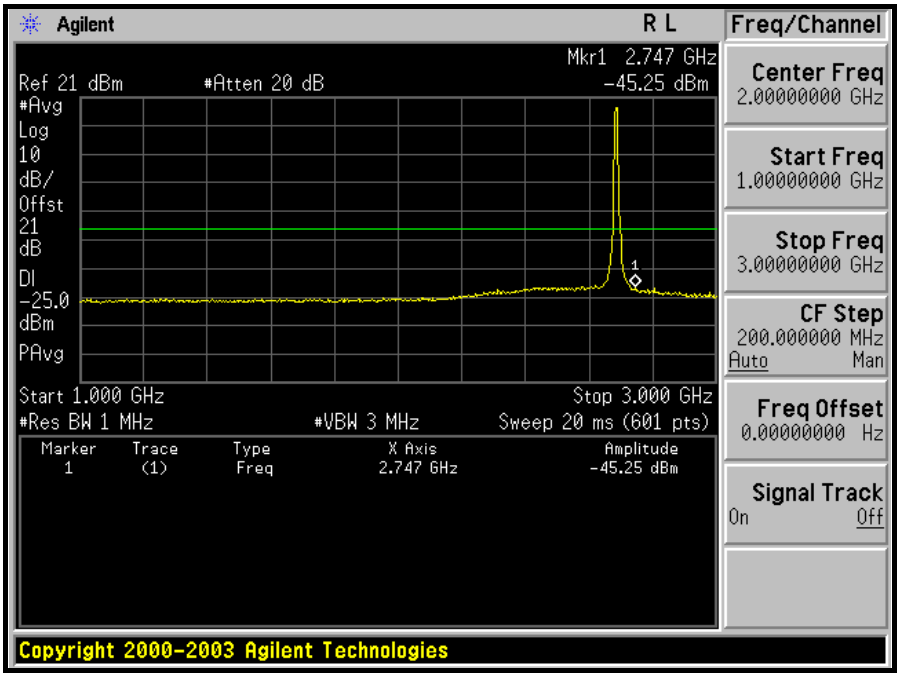
10GHz ~ 27GHz:



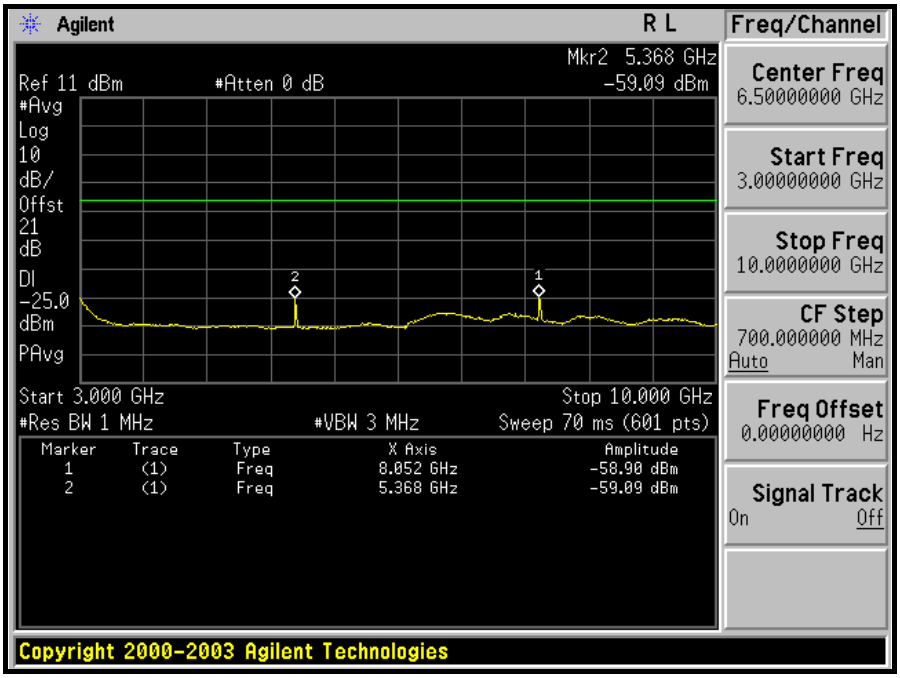
HIGH CHANNEL: 30MHz ~ 1GHz:



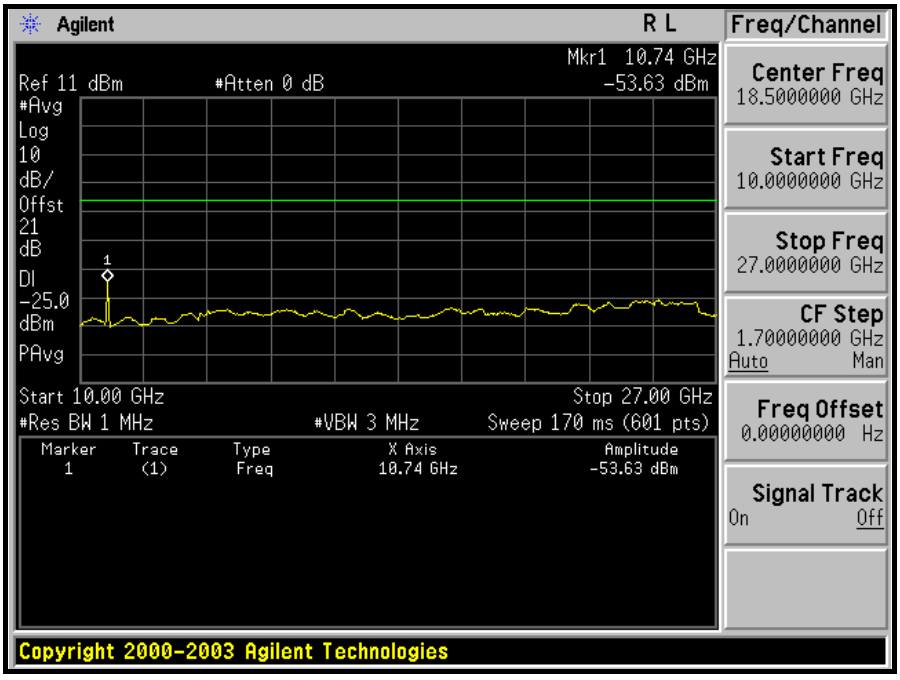
1GHz ~ 3GHz:



3GHz ~ 10GHz:



10GHz ~ 27GHz:



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 –25dBm.

4.6.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Test Receiver ROHDE & SCHWARZ	ESCI	100424	Aug. 04, 2010	Aug. 03, 2011
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100041	Jul. 09, 2010	Jul. 08, 2011
BILOG Antenna SCHWARZBECK	VULB9168	9168-156	Apr. 12, 2011	Apr. 11, 2012
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-209	Aug. 02, 2010	Aug. 01, 2011
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170243	Dec. 27, 2010	Dec. 26, 2011
Preamplifier Agilent	8449B	3008A01910	Sep. 09, 2010	Sep. 08, 2011
Preamplifier Agilent	8447D	2944A10638	Nov. 03, 2010	Nov. 02, 2011
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	274041/4	Aug. 21, 2010	Aug. 20, 2011
RF signal cable Worken	8D-FB	Cable-HYCH9-01	Aug. 20, 2010	Aug. 19, 2011
Software	ADT_Radiated_ V7.6.15.9.2	NA	NA	NA
Antenna Tower EMCO	2070/2080	512.835.4684	NA	NA
Turn Table EMCO	2087-2.03	NA	NA	NA
Antenna Tower &Turn Table Controller EMCO	2090	NA	NA	NA
Turn Table Controller ADT.	SC100.	SC93021704	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 9.

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 460141.

5. The IC Site Registration No. is IC 7450F-4.

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

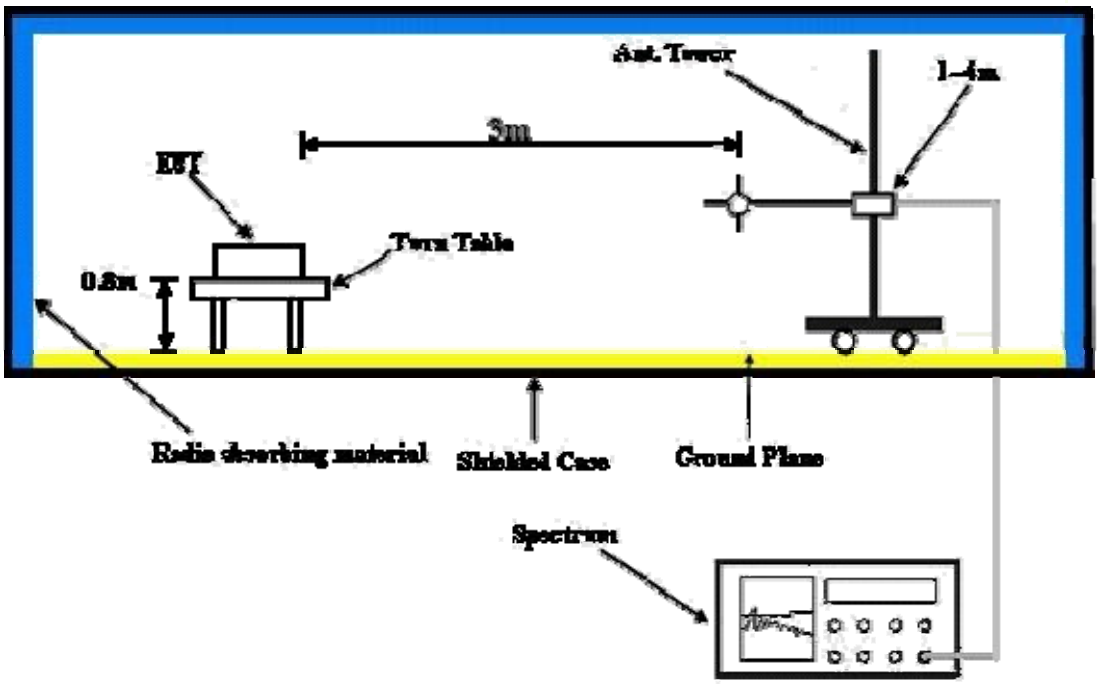
d. EIRP = Output power level of S.G – TX cable loss + Antenna gain of substitution antenna.

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

4.6.7 TEST RESULTS

MODE	Mid. channel	FREQUENCY RANGE	Below 1000MHz
INPUT POWER	120Vac, 60Hz	ENVIRONMENTAL CONDITIONS	25degoC, 68%RH 991hPa
CHANNEL BANDWIDTH	5MHz	TEST MODE	A
TESTED BY	Sun Lin		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 m								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	70.82	42.9	70.2	-27.3	1.25 H	358	30.80	12.10
2	234.11	48.2	70.2	-22.0	1.50 H	46	36.10	12.10
3	523.75	46.7	70.2	-23.5	1.50 H	97	26.80	19.90
4	558.74	46.0	70.2	-24.2	1.25 H	112	25.20	20.80
5	720.08	46.2	70.2	-24.0	1.25 H	37	23.70	22.50
6	801.72	49.2	70.2	-21.0	1.50 H	94	24.70	24.50
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	148.58	38.2	70.2	-32.0	1.00 V	259	24.50	13.70
2	239.94	41.3	70.2	-28.9	1.50 V	40	29.00	12.30
3	500.42	44.6	70.2	-25.6	1.00 V	10	25.40	19.20
4	560.68	45.6	70.2	-24.6	1.00 V	94	24.70	20.90
5	722.02	49.6	70.2	-20.6	1.50 V	13	27.10	22.50
6	801.72	54.8	70.2	-15.4	1.25 V	307	30.30	24.50

NOTE:

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

MODE	Mid. channel	**FREQUENCY RANGE**	Below 1000MHz
INPUT POWER	120Vac, 60Hz	**ENVIRONMENTAL CONDITIONS**	25degoC, 68%RH 991hPa
CHANNEL BANDWIDTH	5MHz	**TEST MODE**	B
TESTED BY	Sun Lin		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 m								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	134.97	42.0	70.2	-28.2	2.00 H	274	29.00	13.00
2	183.57	49.5	70.2	-20.7	1.50 H	286	37.40	12.10
3	210.78	50.0	70.2	-20.2	1.25 H	268	38.70	11.30
4	306.03	42.6	70.2	-27.6	1.00 H	10	28.00	14.60
5	393.51	36.4	70.2	-33.8	1.00 H	280	19.70	16.70
6	797.84	46.7	70.2	-23.5	1.50 H	319	22.30	24.40
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	37.78	42.9	70.2	-27.3	1.00 V	10	29.60	13.30
2	57.21	42.5	70.2	-27.7	1.00 V	190	29.00	13.50
3	175.79	52.1	70.2	-18.1	1.00 V	133	39.20	12.90
4	259.38	34.5	70.2	-35.7	2.00 V	139	21.50	13.00
5	467.37	36.8	70.2	-33.4	1.25 V	235	18.30	18.50
6	541.24	40.0	70.2	-30.2	1.00 V	316	19.60	20.40

NOTE:

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

MODE	Mid. channel	**FREQUENCY RANGE**	Below 1000MHz
INPUT POWER	120Vac, 60Hz	**ENVIRONMENTAL CONDITIONS**	25degoC, 68%RH 991hPa
CHANNEL BANDWIDTH	10MHz	**TEST MODE**	A
TESTED BY	Sun Lin		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 m								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	70.82	43.8	70.2	-26.4	1.25 H	346	31.70	12.10
2	239.94	50.9	70.2	-19.3	1.50 H	85	38.60	12.30
3	311.86	39.3	70.2	-30.9	1.00 H	82	24.60	14.70
4	500.42	44.8	70.2	-25.4	2.00 H	82	25.60	19.20
5	720.08	46.8	70.2	-23.4	1.25 H	37	24.30	22.50
6	801.72	49.3	70.2	-20.9	1.50 H	100	24.80	24.50
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	146.63	37.4	70.2	-32.8	1.00 V	289	23.80	13.60
2	239.94	45.9	70.2	-24.3	1.25 V	127	33.60	12.30
3	399.34	40.4	70.2	-29.8	1.50 V	349	23.60	16.80
4	558.74	46.7	70.2	-23.5	1.00 V	109	25.90	20.80
5	720.08	50.9	70.2	-19.3	1.50 V	352	28.40	22.50
6	801.72	54.9	70.2	-15.3	1.50 V	322	30.40	24.50

NOTE:

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

MODE	Mid. channel	**FREQUENCY RANGE**	Below 1000MHz
INPUT POWER	120Vac, 60Hz	**ENVIRONMENTAL CONDITIONS**	25degoC, 68%RH 991hPa
CHANNEL BANDWIDTH	10MHz	**TEST MODE**	B
TESTED BY	Sun Lin		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 m								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	98.04	40.5	70.2	-29.7	2.00 H	349	31.40	9.10
2	134.97	41.6	70.2	-28.6	2.00 H	262	28.60	13.00
3	183.57	49.2	70.2	-21.0	1.50 H	283	37.10	12.10
4	210.78	49.8	70.2	-20.4	1.25 H	268	38.50	11.30
5	306.03	42.7	70.2	-27.5	1.00 H	10	28.10	14.60
6	389.62	36.8	70.2	-33.4	1.00 H	280	20.20	16.60
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	37.78	43.1	70.2	-27.1	1.25 V	10	29.80	13.30
2	57.21	42.6	70.2	-27.6	1.00 V	217	29.10	13.50
3	175.79	52.3	70.2	-17.9	1.00 V	151	39.40	12.90
4	267.15	34.3	70.2	-35.9	1.50 V	325	21.00	13.30
5	469.32	34.5	70.2	-35.7	2.00 V	262	16.00	18.50
6	541.24	39.5	70.2	-30.7	1.00 V	184	19.10	20.40

NOTE:

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

4.7 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 –25dBm.

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

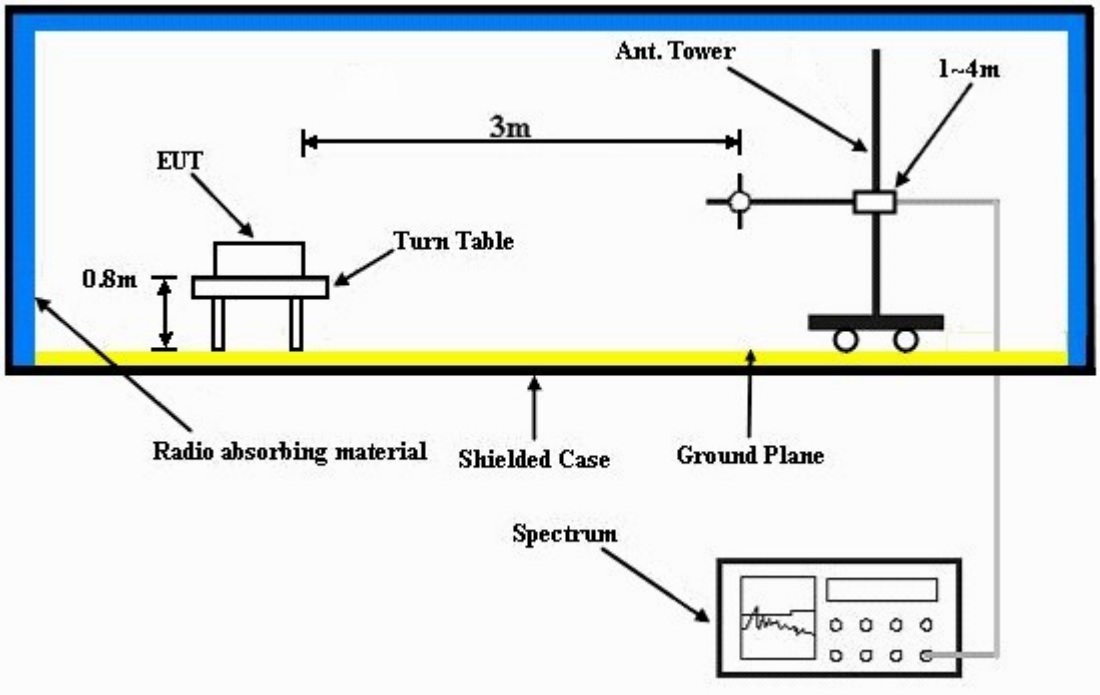
d. EIRP = Output power level of S.G – TX cable loss + Antenna gain of substitution antenna.

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.

4.7.7 TEST RESULTS

MODE	Low channel	FREQUENCY RANGE	Above 1000MHz
INPUT POWER	120Vac, 60Hz	ENVIRONMENTAL CONDITIONS	25degoC, 68%RH 991hPa
CHANNEL BANDWIDTH	5MHz	TESTED BY	Sun Lin

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	32.7	-25.0	-71.2	9.5	-61.7
2	7495.5	38.9	-25.0	-63.2	7.8	-55.4
3	9994.0	43.8	-25.0	-57.9	7.5	-50.4
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	4997.0	34.0	-25.0	-69.9	9.5	-60.4
2	7495.5	39.2	-25.0	-62.9	7.8	-55.1
3	9994.0	43.5	-25.0	-58.2	7.5	-50.7

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

MODE	Middle channel	**FREQUENCY RANGE**	Above 1000MHz
INPUT POWER	120Vac, 60Hz	**ENVIRONMENTAL CONDITIONS**	25degoC, 68%RH 991hPa
CHANNEL BANDWIDTH	5MHz	**TESTED BY**	Sun Lin

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	35.3	-25.0	-68.7	9.7	-59.0
2	7779.0	45.1	-25.0	-57.0	7.8	-49.2
3	10372.0	57.9	-25.0	-43.3	7.1	-36.2
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	35.1	-25.0	-68.9	9.7	-59.2
2	7779.0	44.3	-25.0	-57.8	7.8	-50.0
3	10372.0	54.1	-25.0	-47.1	7.1	-40.0

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

MODE	High channel	**FREQUENCY RANGE**	Above 1000MHz
INPUT POWER	120Vac, 60Hz	**ENVIRONMENTAL CONDITIONS**	25degoC, 68%RH 991hPa
CHANNEL BANDWIDTH	5MHz	**TESTED BY**	Sun Lin

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	41.8	-25.0	-62.2	9.7	-52.5
2	8062.5	52.1	-25.0	-50.1	7.8	-42.3
3	**10750.0**	**62.5**	**-25.0**	**-38.3**	**6.7**	**-31.6**
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	42.9	-25.0	-61.1	9.7	-51.4
2	8062.5	49.5	-25.0	-52.7	7.8	-44.9
3	10750.0	59.5	-25.0	-41.3	6.7	-34.6

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

MODE	Low channel	**FREQUENCY RANGE**	Above 1000MHz
INPUT POWER	120Vac, 60Hz	**ENVIRONMENTAL CONDITIONS**	25degoC, 68%RH 991hPa
CHANNEL BANDWIDTH	10MHz	**TESTED BY**	Sun Lin

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	32.4	-25.0	-71.5	9.5	-62.0
2	7503.0	41.2	-25.0	-60.9	7.8	-53.1
3	10004.0	45.2	-25.0	-56.5	7.5	-49.0
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	34.0	-25.0	-69.9	9.5	-60.4
2	7503.0	41.1	-25.0	-61.0	7.8	-53.2
3	10004.0	43.4	-25.0	-58.3	7.5	-50.8

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

MODE	Middle channel	**FREQUENCY RANGE**	Above 1000MHz
INPUT POWER	120Vac, 60Hz	**ENVIRONMENTAL CONDITIONS**	25degoC, 68%RH 991hPa
CHANNEL BANDWIDTH	10MHz	**TESTED BY**	Sun Lin

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	34.9	-25.0	-69.1	9.7	-59.4
2	7779.0	43.8	-25.0	-58.3	7.8	-50.5
3	10372.0	57.4	-25.0	-43.8	7.1	-36.7
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	34.3	-25.0	-69.7	9.7	-60.0
2	7779.0	43.7	-25.0	-58.4	7.8	-50.6
3	10372.0	54.5	-25.0	-46.7	7.1	-39.6

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

MODE	High channel	**FREQUENCY RANGE**	Above 1000MHz
INPUT POWER	120Vac, 60Hz	**ENVIRONMENTAL CONDITIONS**	25degoC, 68%RH 991hPa
CHANNEL BANDWIDTH	10MHz	**TESTED BY**	Sun Lin

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	37.8	-25.0	-66.2	9.7	-56.5
2	8055.0	49.4	-25.0	-52.8	7.8	-45.0
3	10740.0	60.0	-25.0	-40.8	6.7	-34.1
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	5370.0	35.5	-25.0	-68.5	9.7	-58.8
2	8055.0	43.4	-25.0	-58.8	7.8	-51.0
3	10740.0	54.9	-25.0	-45.9	6.7	-39.2

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

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:

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Web Site: www.adt.com.tw

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

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