

FCC TEST REPORT (PART 27)

REPORT NO.: RF980326H01

MODEL NO.: WMX-MC01

RECEIVED: March 26, 2009

TESTED: May 26 to June 16, 2009

ISSUED: July 07, 2009

APPLICANT: Alpha Networks Inc.

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

LAB LOCATION : No. 81-1, Lu Liao Keng, 9th Ling,Wu Lung Tsuen,
Chiung Lin Hsiang, Hsin Chu Hsien 307, Taiwan

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1 CERTIFICATION

PRODUCT: WiMAX MiniPCI Card

BRAND NAME: Alpha

MODEL NO.: WMX-MC01

APPLICANT: Alpha Networks Inc.

TESTED: May 26 to June 16, 2009

TEST SAMPLE: MASS-PRODUCTION

TEST STANDARDS: FCC 47 CFR Part 2

FCC 47 CFR Part 27, Subpart C & M

ANSI/TIA/EIA-603-C-2004

The above equipment (Model No.: WMX-MC01) 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:** July 07, 2009
(Claire Kuan, Specialist)

TECHNICAL
ACCEPTANCE :  , **DATE:** July 07, 2009
Responsible for RF (Hank Chung, Deputy Manager)

APPROVED BY :  , **DATE:** July 07, 2009
(May Chen, Deputy Manager)

2 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC Part 27 & Part 2			
STANDARD SECTION	TEST TYPE AND LIMIT	RESULT	REMARK
2.1046 27.50(h)(2)	Maximum Peak Output Power Limit: max. 2 watts conducted peak power	PASS	Meet the requirement of limit.
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.

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:

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

Measurement	Value
Radiated emissions (30MHz-1GHz)	3.94 dB
Radiated emissions (1GHz -18GHz)	2.49 dB
Radiated emissions (18GHz -40GHz)	2.70 dB

3 GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

PRODUCT	WiMAX MiniPCI Card
MODEL NO.	WMX-MC01
FCC ID	RRK2520090401-1
POWER SUPPLY	DC 3.3 and 4.2V from host equipment
MODULATION TECHNOLOGY	OFDMA
MODULATION	QPSK-1/2, -3/4, 16QAM-1/2, 3/4, 64QAM-1/2, -2/3, -3/4, -5/6 (64QAM for Rx only)
OPERATING FREQUENCY	5MHz: 2502.5MHz ~ 2687.5MHz 10MHz: 2505MHz ~ 2685MHz
CHANNEL BANDWIDTH	5MHz & 10MHz
MAX. CONDUCTED POWER	5MHz: 28.52dBm 10MHz: 27.63dBm
ANTENNA TYPE	Please see note 1
DATA CABLE	NA
I/O PORTS	NA
ASSOCIATED DEVICES	NA

NOTE:

- There are two sets of antennas provided to this EUT, please refer to the following table:

Set 1								
Chain	Manufacture	Model No.	Antenna Type	Antenna Connector	Antenna Gain (dBi)	Cable Length (cm)	Cable loss(dB)	Frequency range (MHz)
0	SmartAnt Telecom	ALP07-050530	Patch	U.F.L	12	NA	NA	2300~2700
1								
Set 2								
Chain	Manufacture	Model No.	Antenna Type	Antenna Connector	Antenna Gain (dBi)	Cable Length (cm)	Cable loss(dB)	Frequency range (MHz)
0	WHA YU GROUP	C037-590915-A (SSR-82006)	Dipole	SMA Plug Reverse	2.7	4	2.3	2500~2700
1								

2. For the EUT Modulation type and coding rate. After pre-testing items of output power and spurious emissions, 16QAM-1/2 was found to be 5MHz & 10MHz worst case, and was selected for the final test configuration.

Up Link / Down Link			
Modulation	Coding rate	Modulation	Coding rate
QPSK	1/2	64QAM	1/2
	3/4		3/4
16QAM	1/2		5/6
	3/4		

3. The EUT is 2 * 2 spatial MIMO without beam forming function. The antenna configuration is two transmitter antennas and two receiver antennas, as there are two patch antennas and two dipole antennas. Spatial multiplexing modes for simultaneous transmission using 2 antennas, and for simultaneous receiver using 2 antennas.
4. The EUT embedded a firmware for testing that needs to control from Notebook computer to let EUT with different DL/UL ration.
5. The device has different DL/UL ration in normal operation. It was tested with 37.79% (DL:UL= 29:18) and 37.79% (DL:UL=29:18) duty cycle mode for 5MHz and 10MHz, which is the worse mode, and controlled by software. (The detail duty cycle refer to appendix A).
6. 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 have been tested and presented.

CHANNEL BANDWIDTH: 5MHz

Low channel (L): 2502.5MHz.

Middle channel (M): 2600MHz.

High channel (H): 2687.5MHz.

CHANNEL BANDWIDTH: 10MHz

Low channel (L): 2505MHz.

Middle channel (M): 2600MHz.

High channel (H): 2685MHz.

3.2.1 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

EUT CONFIGURE MODE	APPLICABLE TO							DESCRIPTION
	OP	FS	EB	CE	CSE	RE<1G	RE ³ 1G	
MODE 1	√	√	√	√	√	√	√	Channel Bandwidth: 5MHz
MODE 2	√	√	√	√	√	√	√	Channel Bandwidth: 10MHz

Where **OP**: Output power **FS**: Frequency stability
EB: Emission bandwidth **CE**: Channel edge
CSE: Conducted spurious emissions **RE<1G**: Radiated emission below 1GHz
RE³1G: Radiated emission above 1GHz

ANTENNA COMBINATION MODE:

COMBINATION MODE	OPERATION MODE	TX CHAIN(0)	TX CHAIN(1)
A	Matrix A	√	√
B	Matrix B	√	√
C	Cycle Delay Diversity	√	√
D	Tile Switched Diversity	√	√
E	1T	√	

Note:

- The above information was declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or user's manual.
- Antenna 1 is Patch; Antenna 2 is Dipole.
- Mode A the worst modes, were selected as representative mode for the report.

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.

TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE
L, M, H	OFDMA	16QAM

FREQUENCY STABILITY 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.

TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE
M	OFDMA	Unmodulation

EMISSION BANDWIDTH 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.

TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE
L, M, H	OFDMA	16QAM

CHANNEL EDGE 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.

TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE
L, M, H	OFDMA	16QAM

CONDUCTED SPURIOUS EMISSIONS 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.

TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE
L, M, H	OFDMA	16QAM

RADIATED EMISSION MEASUREMENT (BELOW 1 GHz):

- ☒ 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.

TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE
H	OFDMA	16QAM

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, 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	MODULATION TYPE
L, M, H	OFDMA	16QAM

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, Subpart C & M

ANSI/TIA/EIA-603-C-2004

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

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

3.4 DESCRIPTION OF SUPPORT UNITS

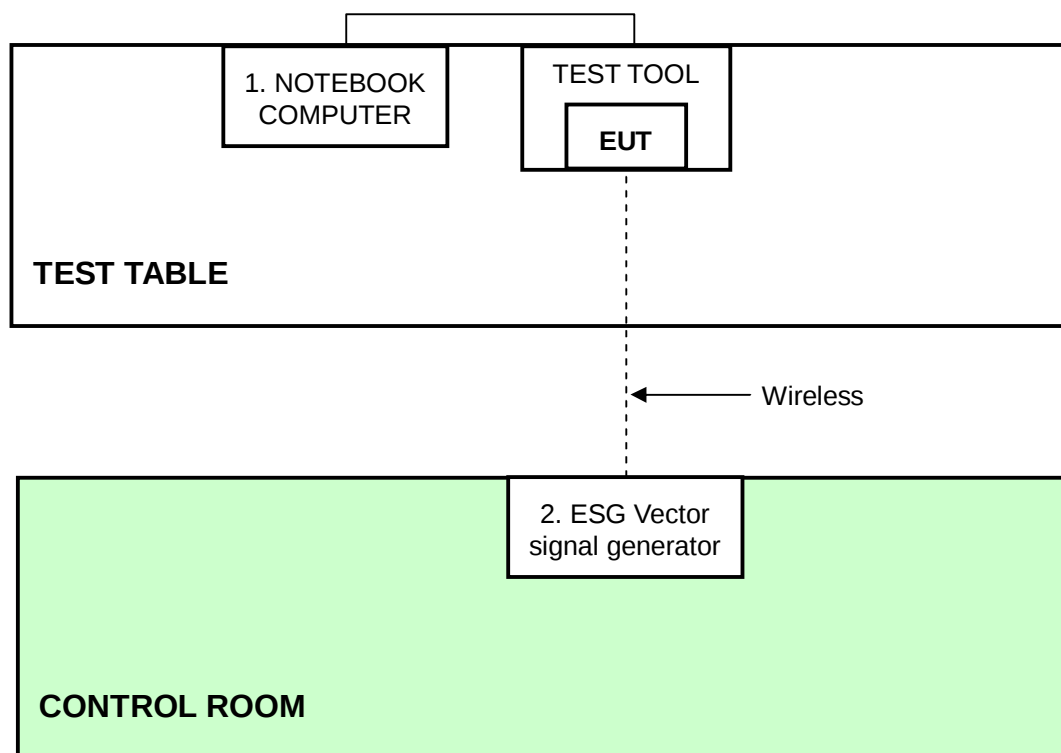
The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	NOTEBOOK COMPUTER	ASUS	M2400N	4ANP088103	DoC
2	ESG Vector signal generator	Agilent	E4438C	MY45094468/005 506 602 UK6 UNJ	NA

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	SUB cable (unshielded, 0.6m)
2	NA

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

3.4.1 CONFIGURATION OF SYSTEM UNDER TEST



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 “Other 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.	CALIBRATED DATE	CALIBRATED UNTIL
Agilent Spectrum Analyzer	E4440A	MY46185282	June 19, 2008	June 18, 2009
HUBER+SUHNER	SUCOFLEX104	231115/4	May 29, 2009	May 28, 2010

NOTE:

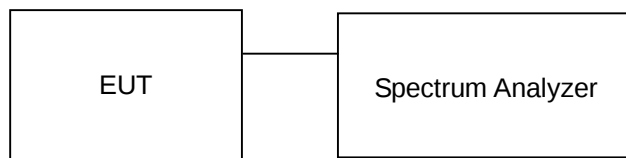
The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

4.1.3 TEST PROCEDURES

For Conducted Power:

- a. Set span to encompass the entire emission bandwidth (EBW) of the signal.
- b. For Channel bandwidth: 5 MHz:
Set RBW=56kHz, VBW=160kHz, Detector mode=RMS.
- c. For Channel bandwidth: 10 MHz:
Set RBW=110kHz, VBW=330kHz, Detector mode=RMS.
- d. Computer power by integrating the spectrum across the 26dB EBW of the signal.
- e. Record the power level.
- f. The “Read Value” is the spectrum reading the maximum power value.

4.1.4 TEST SETUP



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

4.1.5 EUT OPERATING CONDITIONS

1. Connect the EUT with the support unit 1 (Notebook Computer) which placed on a testing table.
2. Prepared other computer system (support unit 1) to act as communication partners and placed them outside of testing area.
3. The communication partners run test program “RF Tool: SQM Command Telnet” to enable EUT under transmission/receiving condition continuously at specific channel frequency.



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4.1.6 TEST RESULTS

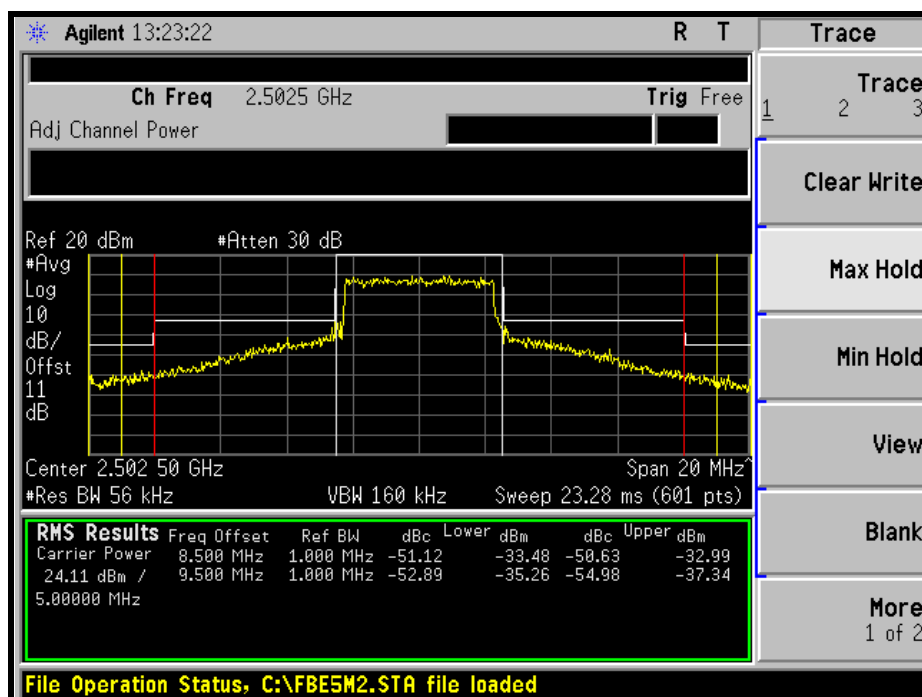
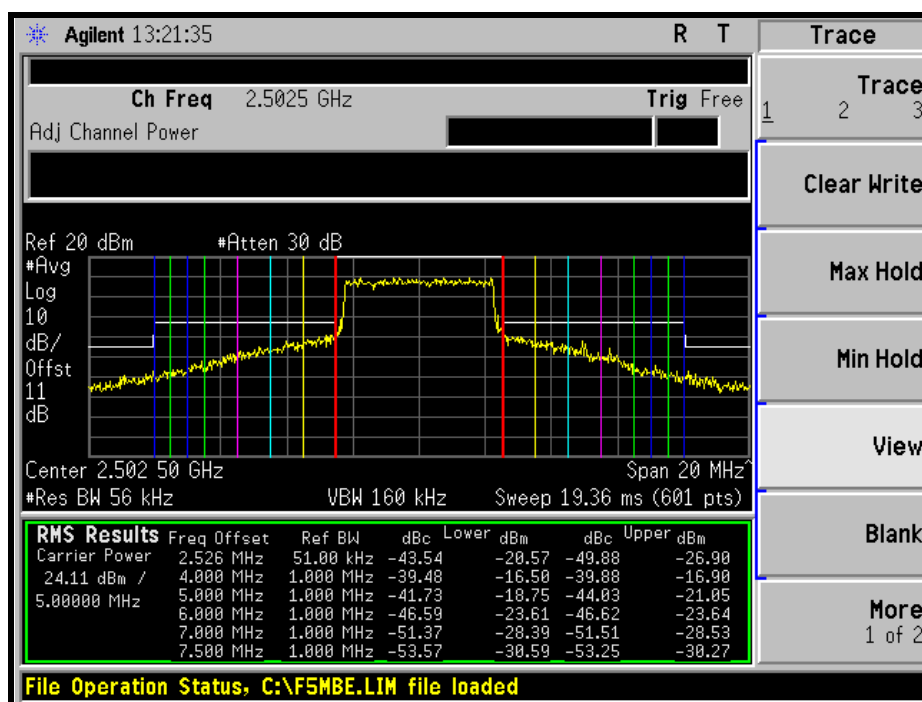
CHANNEL BANDWIDTH: 5MHz

INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	RMS
ENVIRONMENTAL CONDITIONS	20deg°C, 60%RH 960hPa	TESTED BY	Phoenix Huang

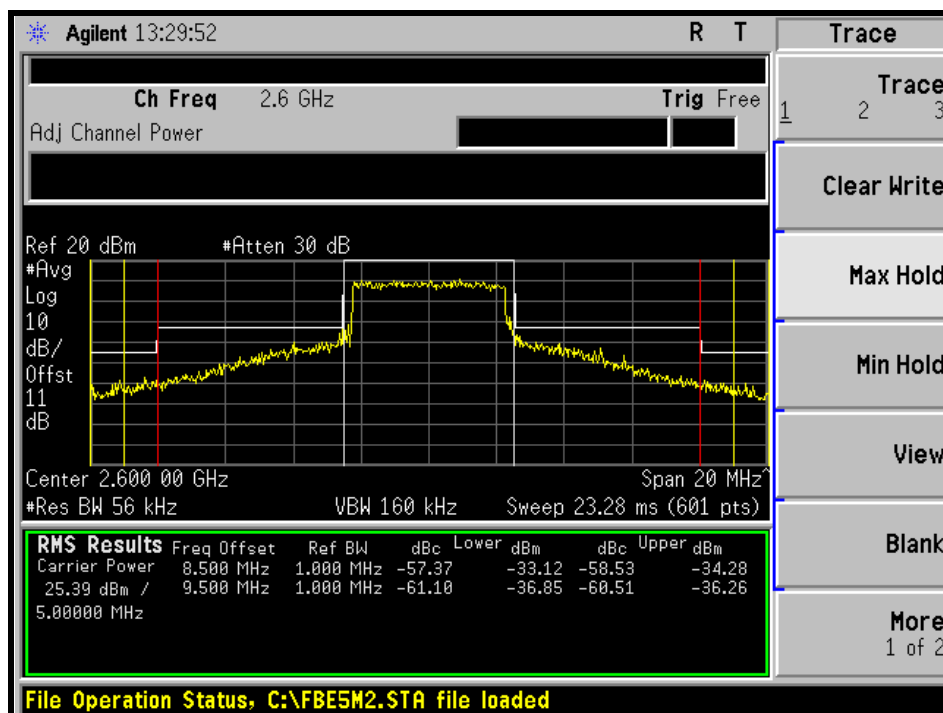
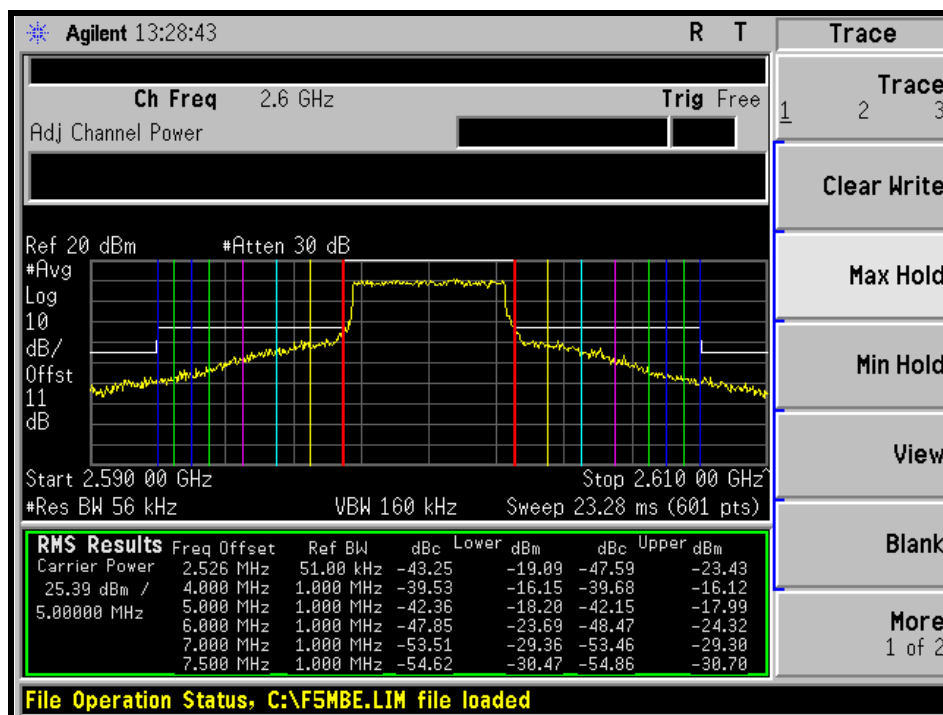
CONDUCTED POWER							
CHANNEL	FREQUENCY (MHz)	Chain 0 POWER OUTPUT (dBm)	Chain 1 POWER OUTPUT (dBm)	Chain 0 POWER OUTPUT (mW)	Chain 1 POWER OUTPUT (mW)	TOTAL POWER OUTPUT (mW)	TOTAL POWER OUTPUT (dBm)
Low	2502.5	24.11	24.23	257.632	264.850	522.482	27.18
Middle	2600	25.39	25.62	345.939	364.754	710.693	28.52
High	2687.5	25.60	25.40	363.078	346.737	709.815	28.51

CHIN 0

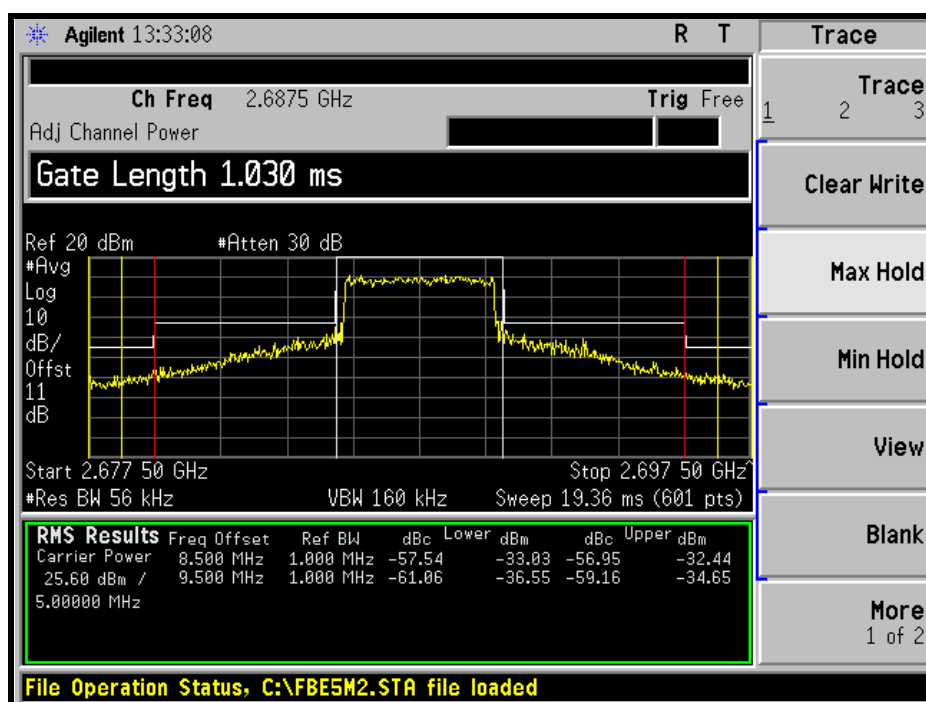
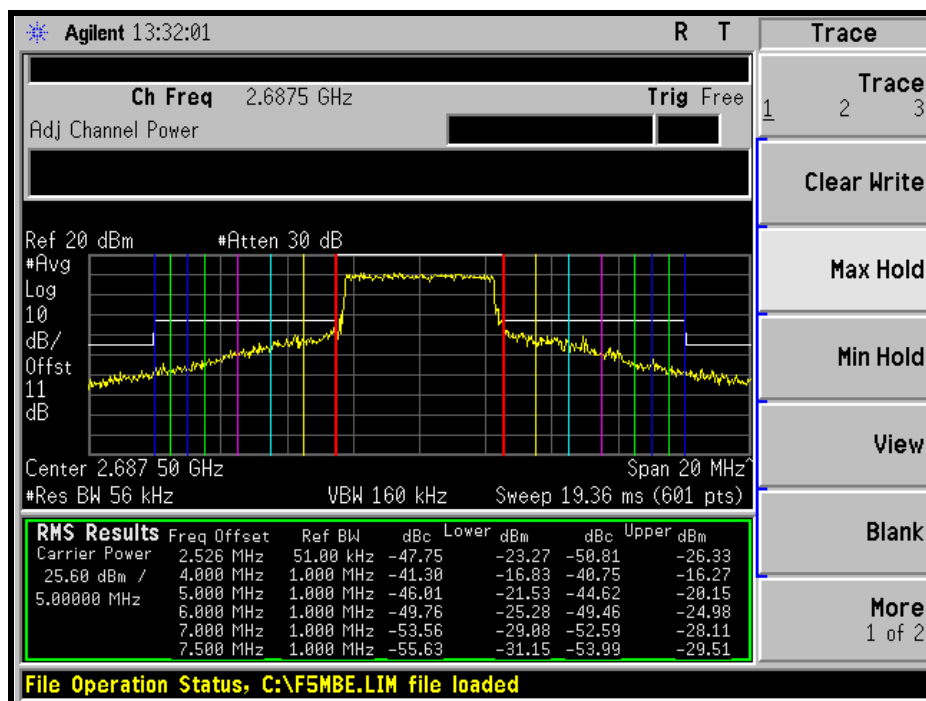
LOW CHANNEL



MIDDLE CHANNEL

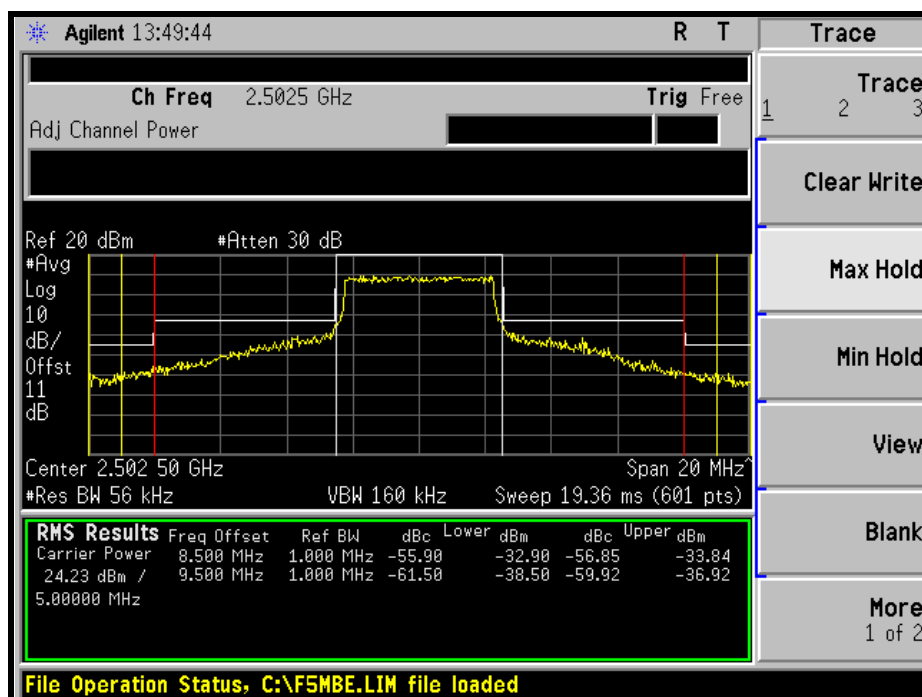
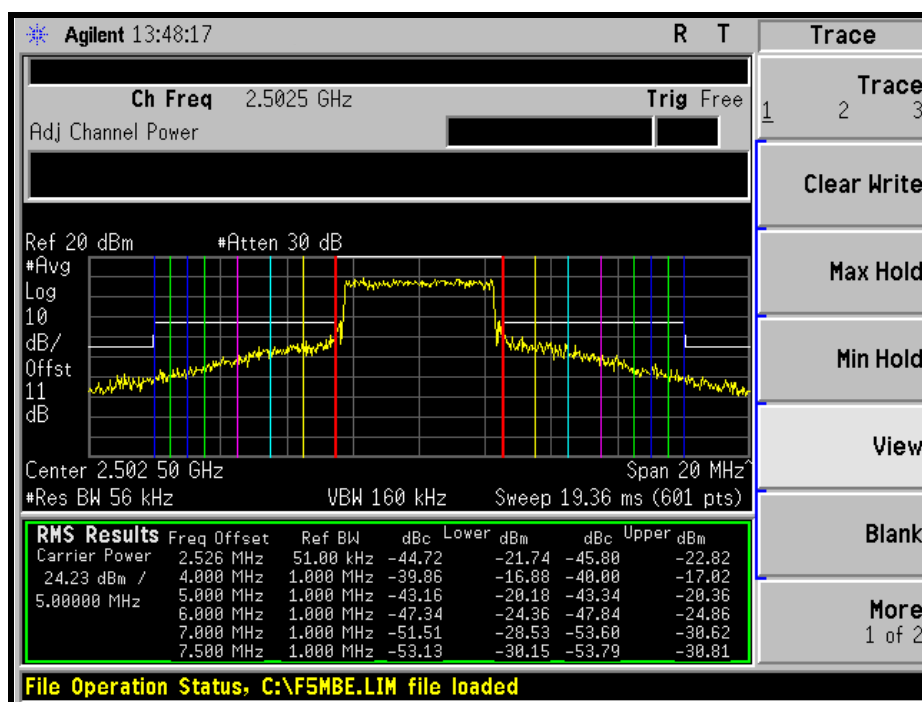


HIGH CHANNEL

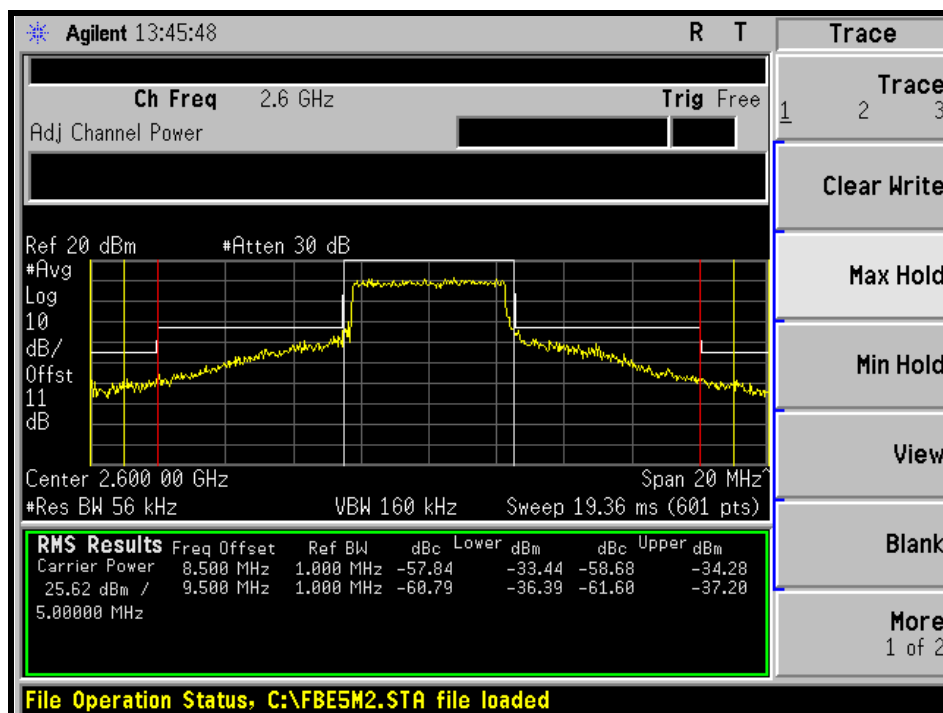
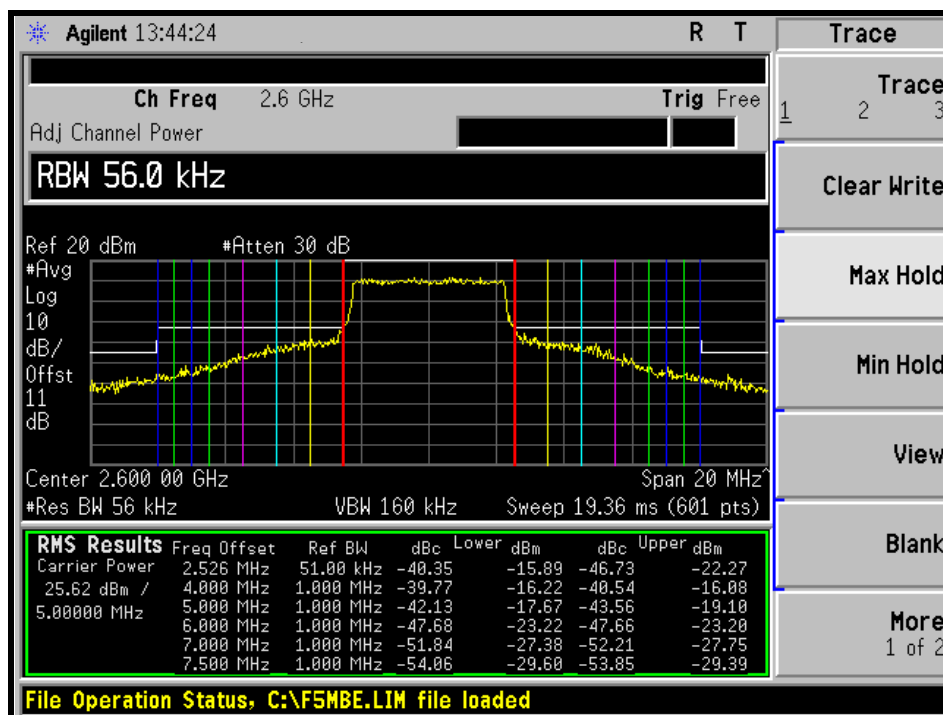


CHIN 1

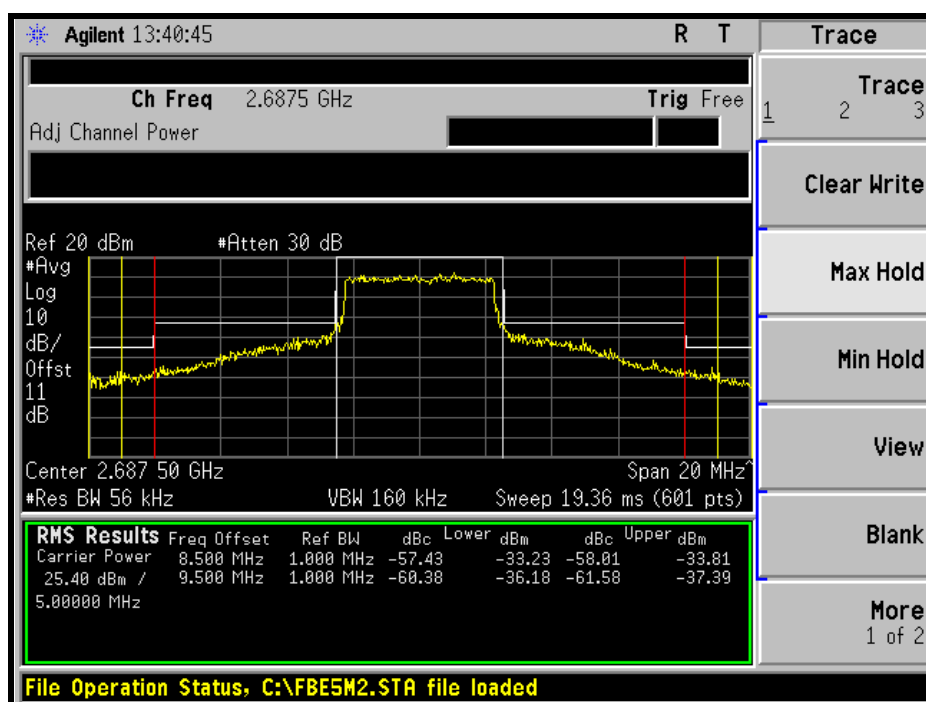
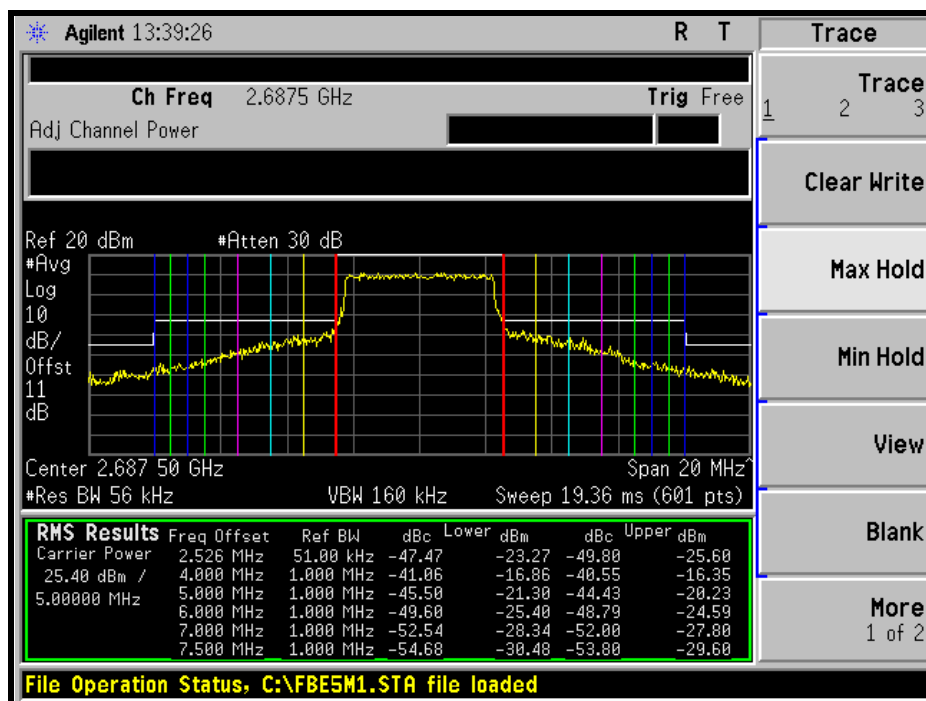
LOW CHANNEL



MIDDLE CHANNEL



HIGH CHANNEL





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CHANNEL BANDWIDTH: 10MHz

INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	RMS
ENVIRONMENTAL CONDITIONS	20deg°C, 60%RH 960hPa	TESTED BY	Phoenix Huang

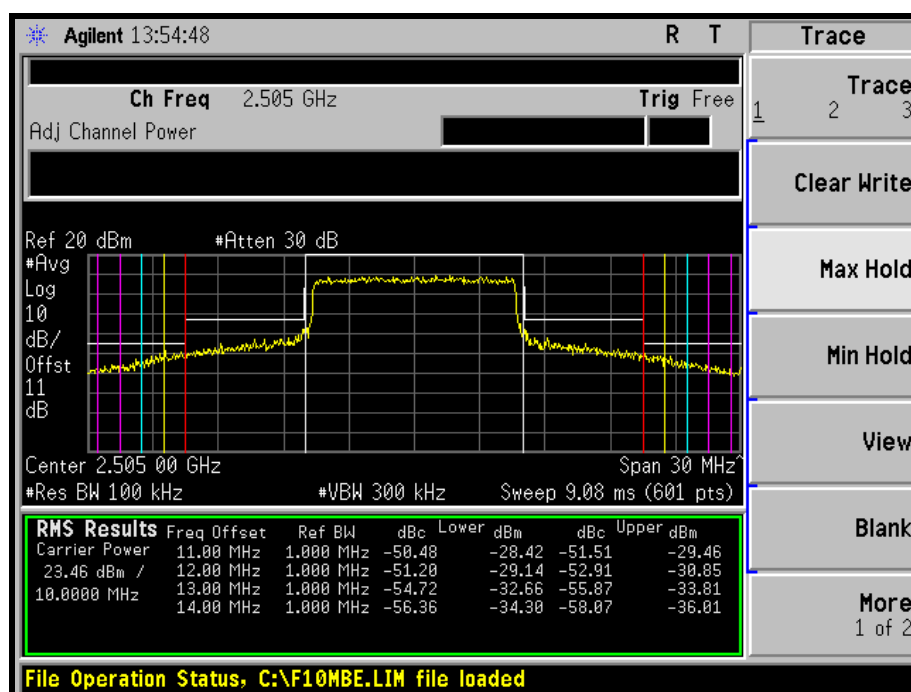
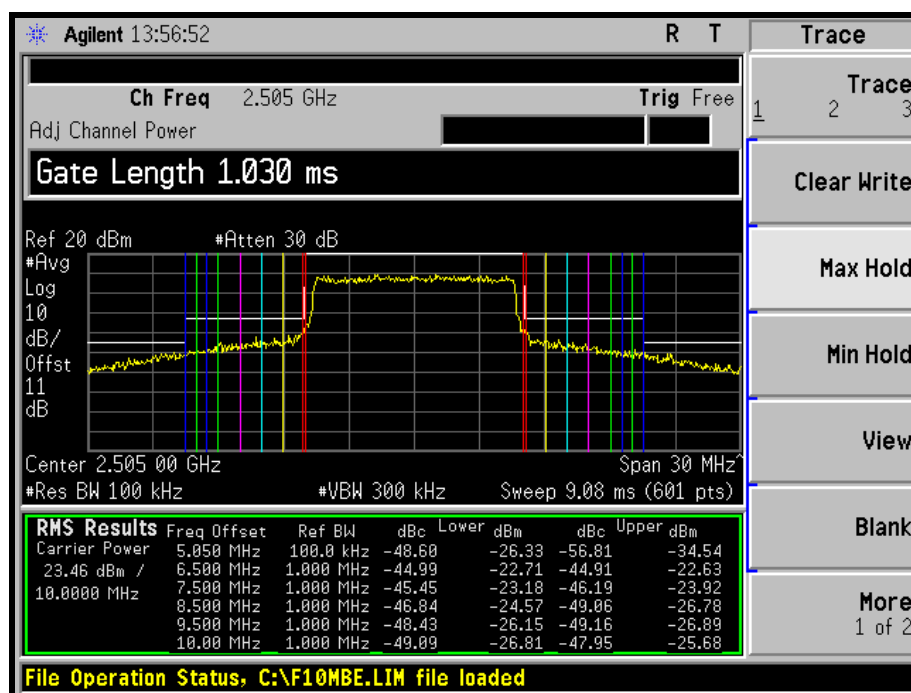
CONDUCTED POWER							
CHANNEL	FREQUENCY (MHz)	Chain 0 POWER OUTPUT (dBm)	Chain 1 POWER OUTPUT (dBm)	Chain 0 POWER OUTPUT (mW)	Chain 1 POWER OUTPUT (mW)	TOTAL POWER OUTPUT (mW)	TOTAL POWER OUTPUT (dBm)
Low	2505	23.46	23.17	221.820	207.491	429.311	26.33
Middle	2600	24.26	24.42	266.686	276.694	543.380	27.35
High	2685	24.86	24.36	306.196	272.898	579.094	27.63



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CHIN 0

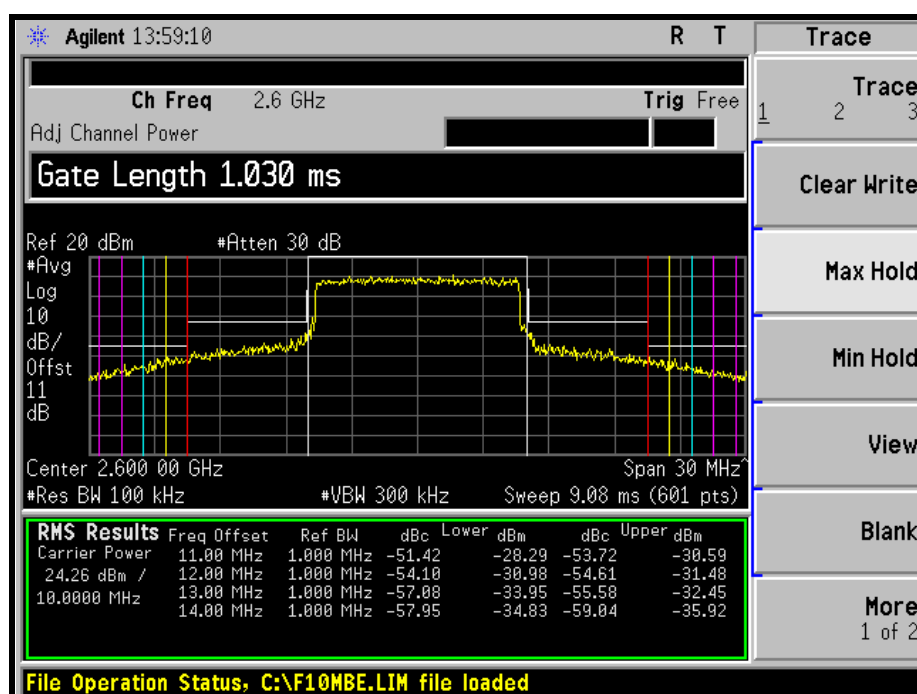
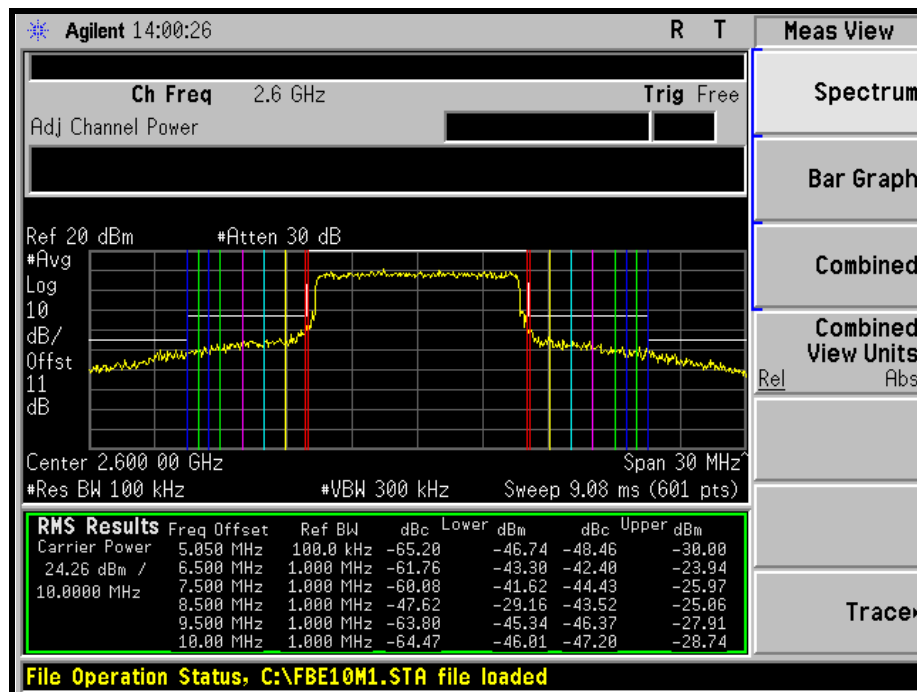
LOW CHANNEL



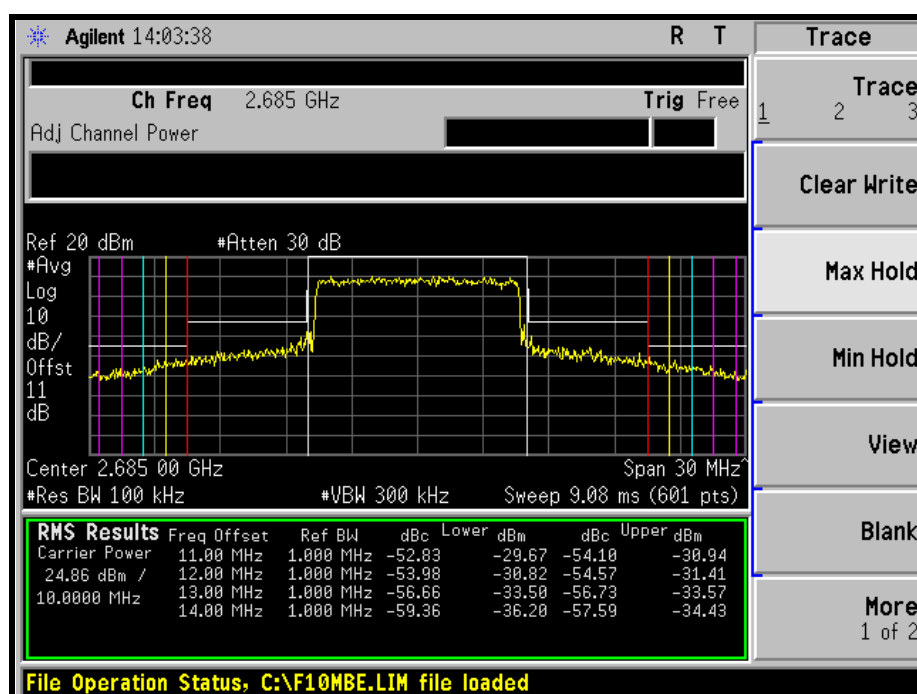
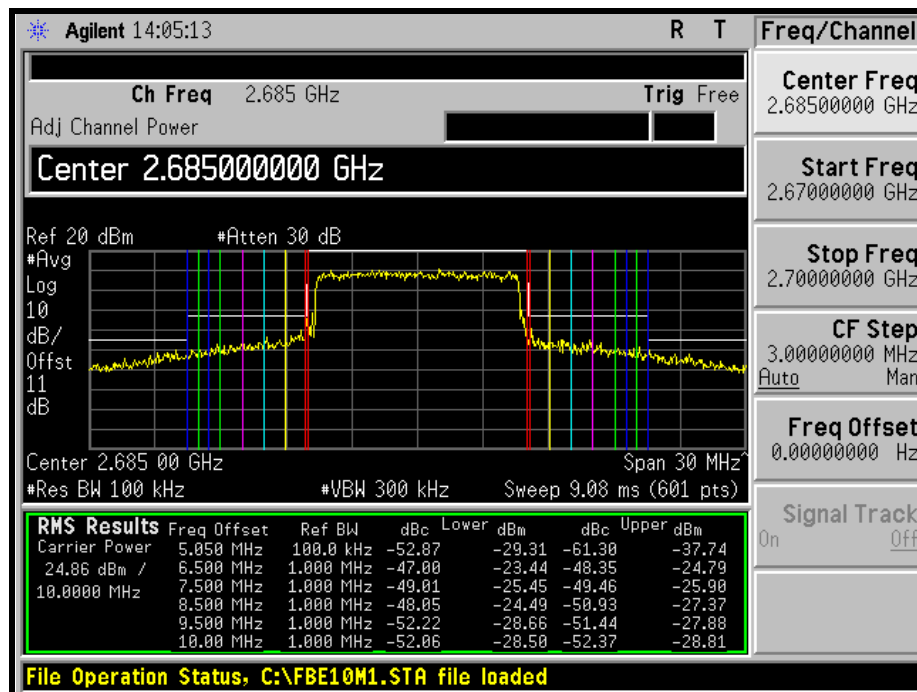


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MIDDLE CHANNEL



HIGH CHANNEL

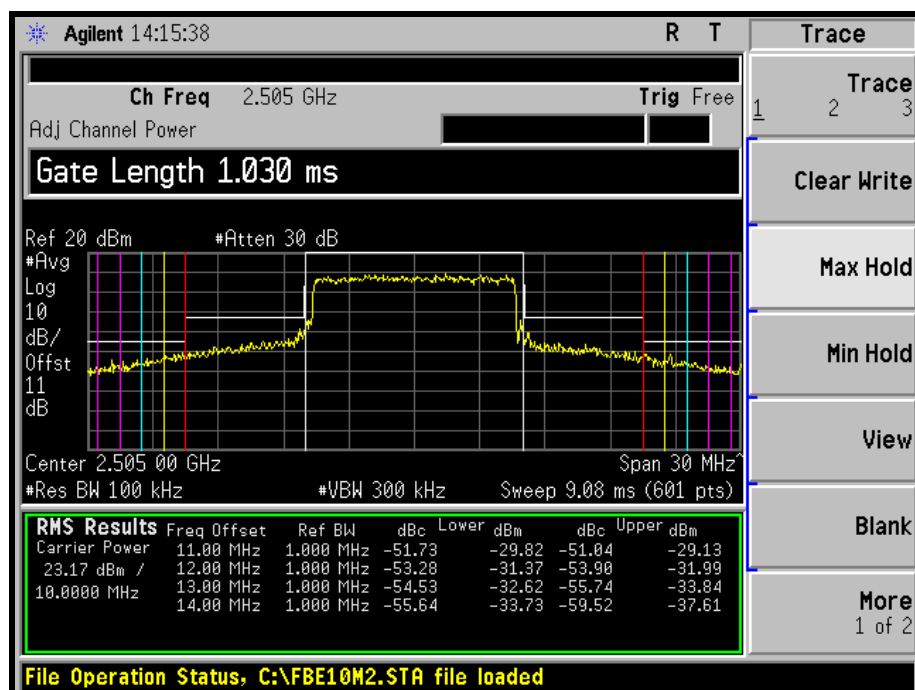
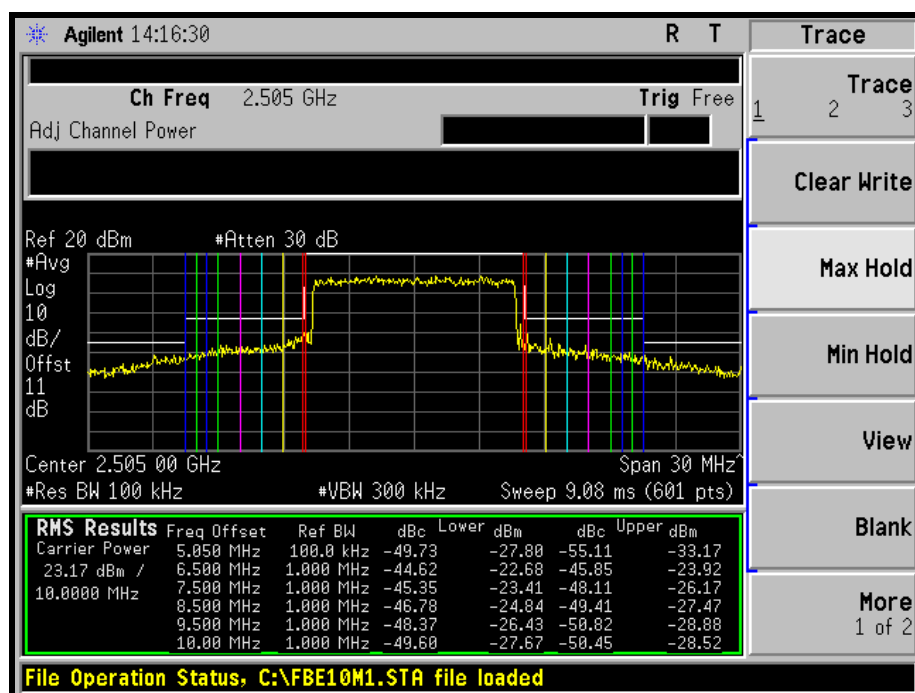




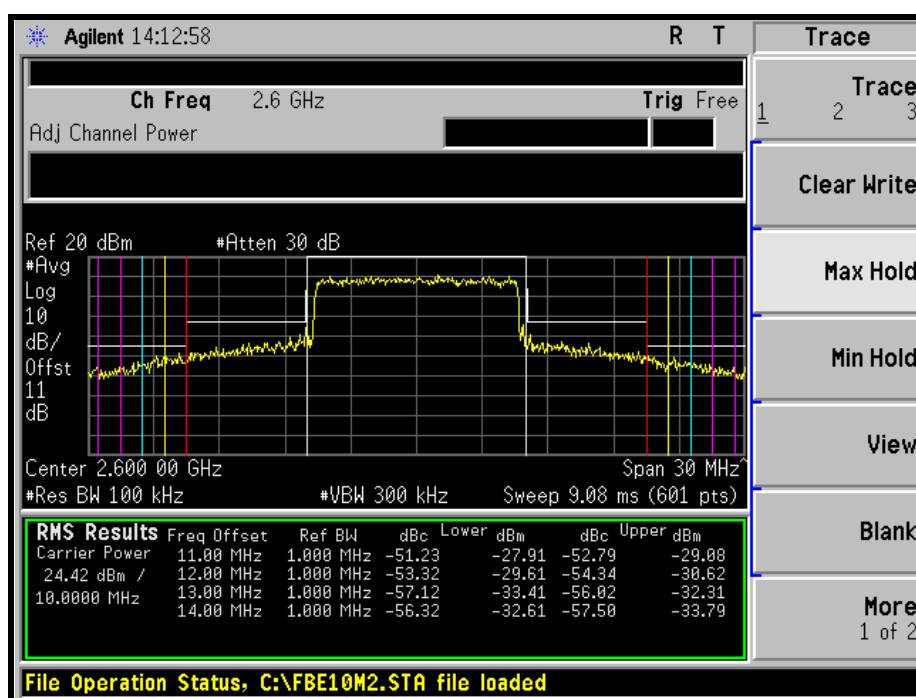
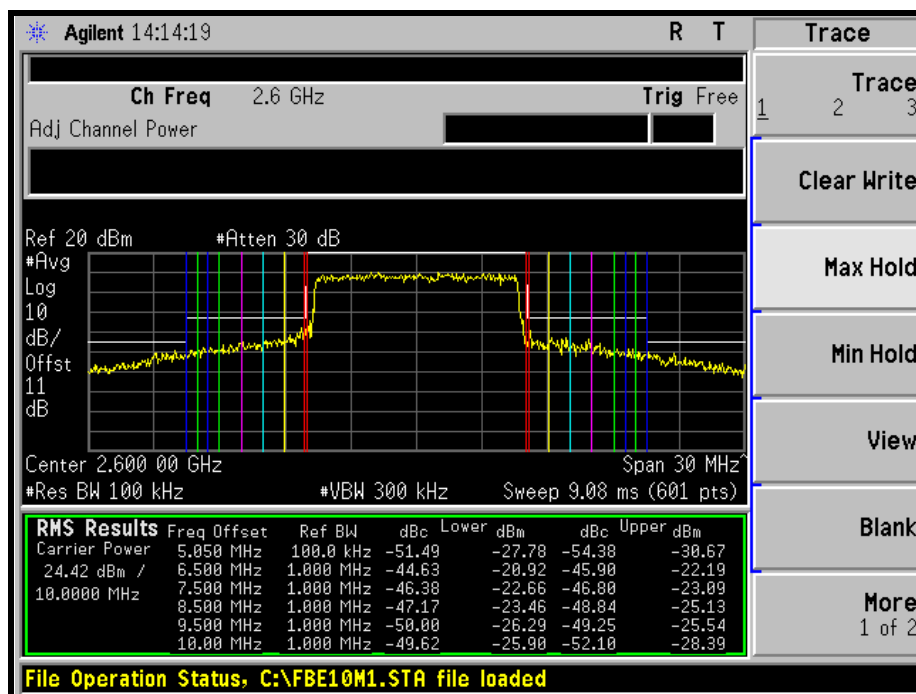
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CHIN 1

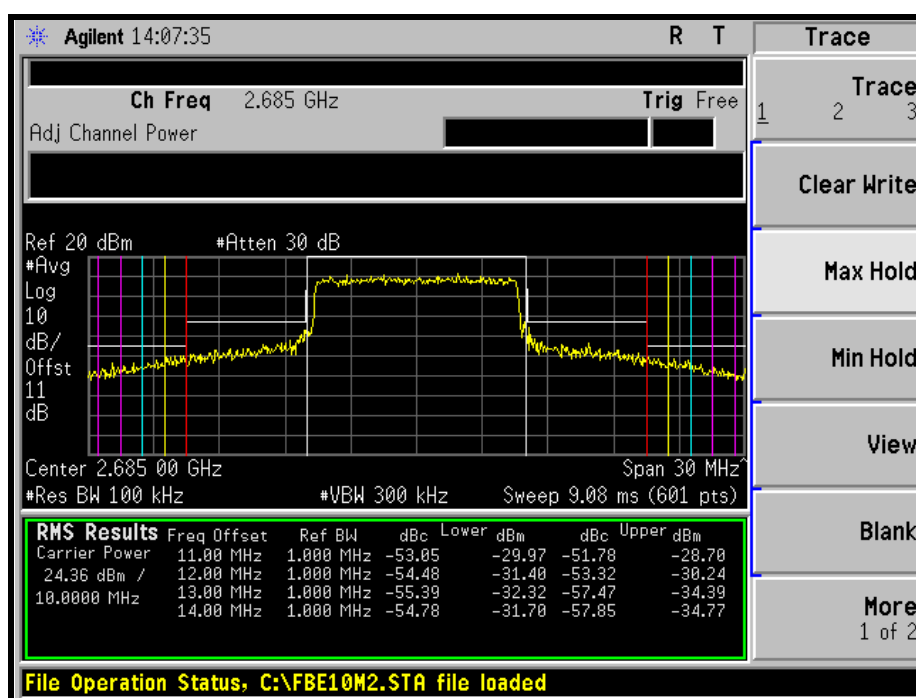
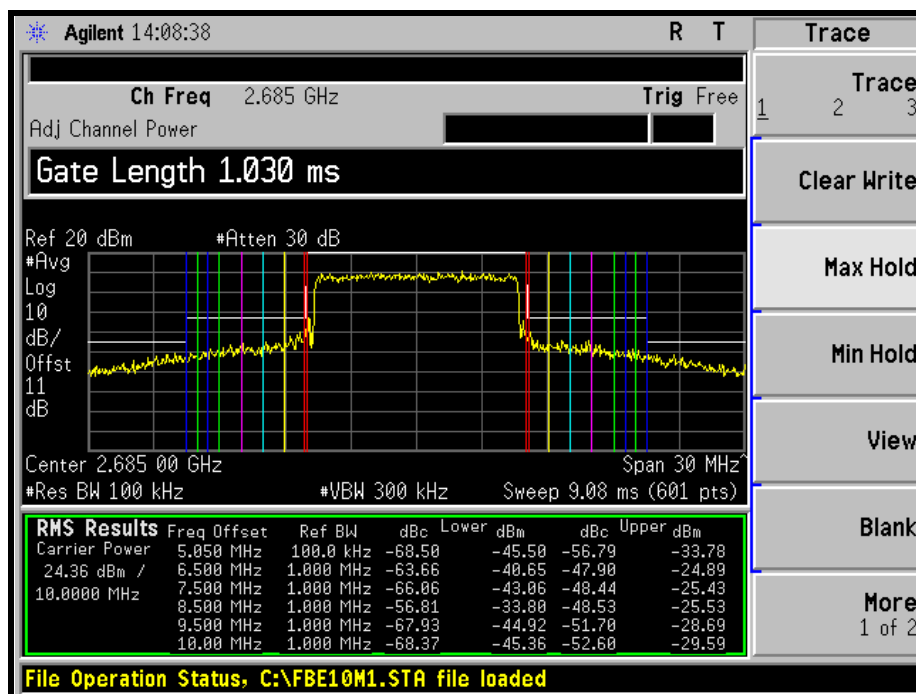
LOW CHANNEL



MIDDLE CHANNEL



HIGH CHANNEL



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 $-30^{\circ}\text{C} \sim 50^{\circ}\text{C}$.

4.2.2 TEST INSTRUMENTS

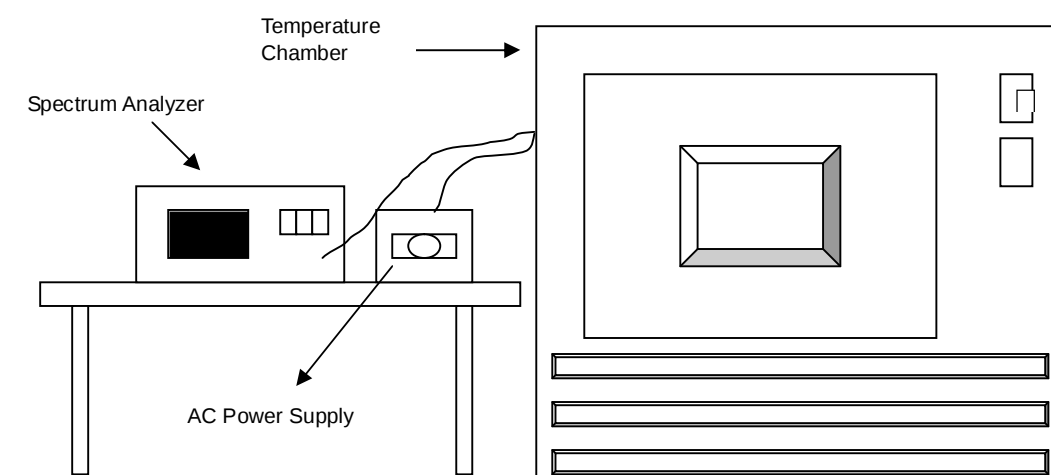
DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
R&S SPECTRUM ANALYZER	FSP40	100037	Aug. 09, 2008	Aug. 08, 2009
OVEN	MHU-225AU	911033	Dec. 18, 2008	Dec. 17, 2009
HUBER+SUHNER	SUCOFLEX104	231115/4	May 03, 2008	Nov. 02, 2009
AC POWER SOURCE	6205	1140503	N/A	N/A

NOTE: 1. The calibration interval of the above test instruments is 12 months. And the calibrations are traceable to NML/ROC and NIST/USA.

4.2.3 TEST PROCEDURE

- 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.
- 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.
- 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.
- 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 TEST RESULTS

MODE	Middle channel (2600MHz)	INPUT POWER (SYSTEM)	120Vac, 60Hz
ENVIRONMENTAL CONDITIONS	20deg°C, 60%RH 960hPa	TESTED BY	Phoenix Huang

AFC FREQUENCY ERROR VS. VOLTAGE						
VOLTAGE (Volts)	2Minutes		5Minutes		10Minutes	
	FREQUENCY (MHz)	PPM (%)	FREQUENCY (MHz)	PPM (%)	FREQUENCY (MHz)	PPM (%)
126.5	2600.0018	0.000069	2600.0021	0.000081	2600.0017	0.000065
110	2600.0025	0.000096	2600.0180	0.000692	2600.0019	0.000073
93.5	2600.0019	0.000073	2600.0170	0.000654	2600.0014	0.000054

AFC FREQUENCY ERROR VS. TEMP						
TEMP (°C)	2Minutes		5Minutes		10Minutes	
	FREQUENCY (MHz)	PPM (%)	FREQUENCY (MHz)	PPM (%)	FREQUENCY (MHz)	PPM (%)
50	2600.0025	0.000096	2600.0026	0.000100	2600.0022	0.000085
40	2600.0026	0.000100	2600.0023	0.000088	2600.0024	0.000092
30	2600.002	0.000077	2600.0018	0.000069	2600.0022	0.000085
20	2600.0025	0.000096	2600.0180	0.000692	2600.0019	0.000073
10	2600.0025	0.000096	2600.0028	0.000108	2600.0024	0.000092
0	2600.0031	0.000119	2600.0033	0.000127	2600.0029	0.000112
-10	2600.0042	0.000162	2600.0041	0.000158	2600.0044	0.000169
-20	2600.0053	0.000204	2600.0050	0.000192	2600.0051	0.000196
-30	2600.0047	0.000181	2600.0050	0.000192	2600.0052	0.000200

4.3 EMISSION BANDWIDTH MEASUREMENT

4.3.1 LIMITS OF EMISSION BANDWIDTH MEASUREMENT

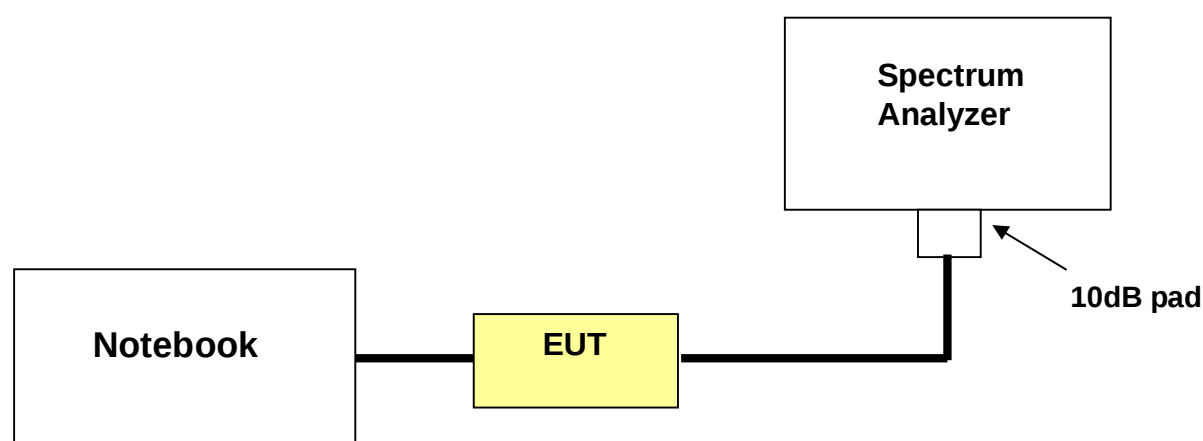
According to FCC 27.53(m)(6) specified that emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26dB below the transmitter power.

4.3.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	CALIBRATED DATE	CALIBRATED UNTIL
Agilent Spectrum Analyzer	E4440A	MY46185282	Jun. 14, 2009	Jun. 13, 2010
HUBER+SUHNER	SUCOFLEX104	231115/4	May 29, 2009	May 28, 2010
JFW 10dB attenuation	50HF-010-SMA	N/A	N/A	N/A

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 SETUP



4.3.4 TEST PROCEDURES

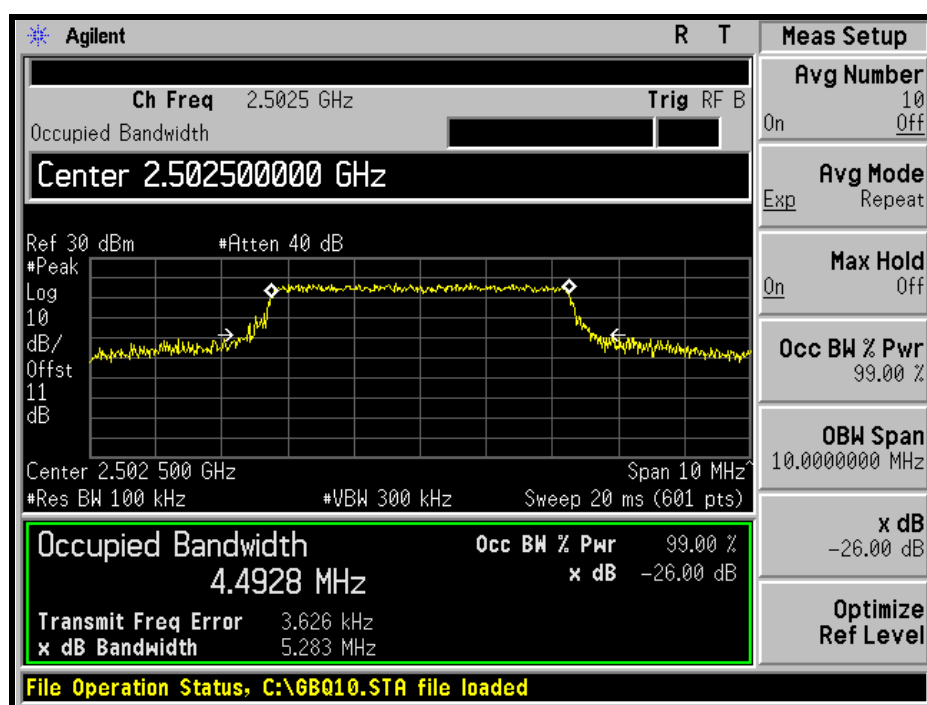
- a. The Notebook controlled EUT to export rated output power under transmission mode and specific channel frequency. The bandwidth of the fundamental frequency was measured by spectrum analyzer with 100kHz RBW and 300kHz VBW. The 26dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 26dB.

4.3.5 TEST RESULTS

CHANNEL BANDWIDTH: 5MHz

FREQUENCY (MHz)	-26 dBc BANDWIDTH (MHz)
2502.5	5.283
2600	5.241
2687.5	5.332

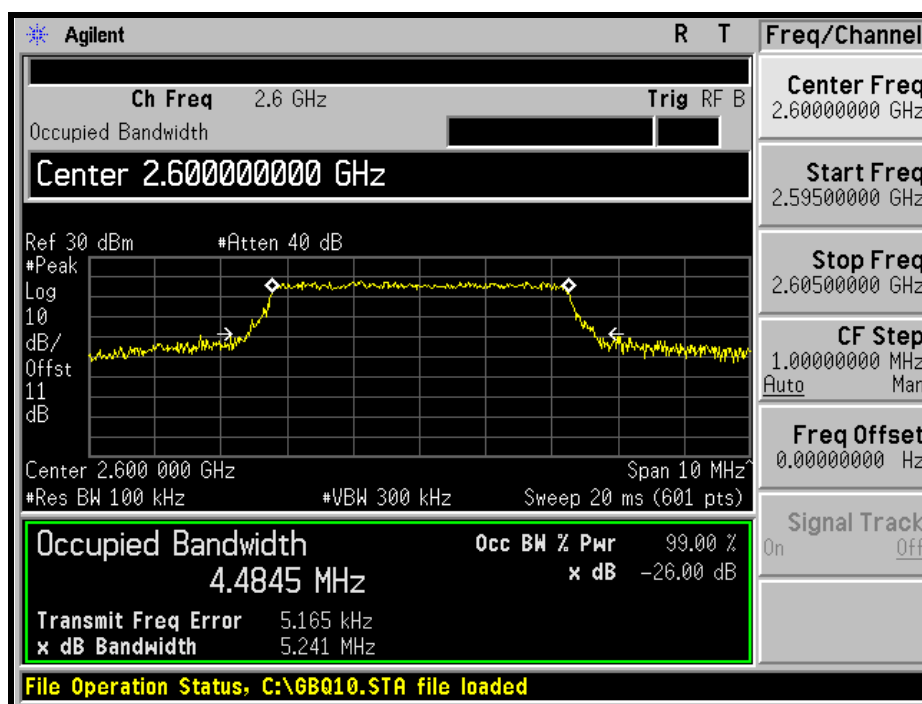
LOW CHANNEL



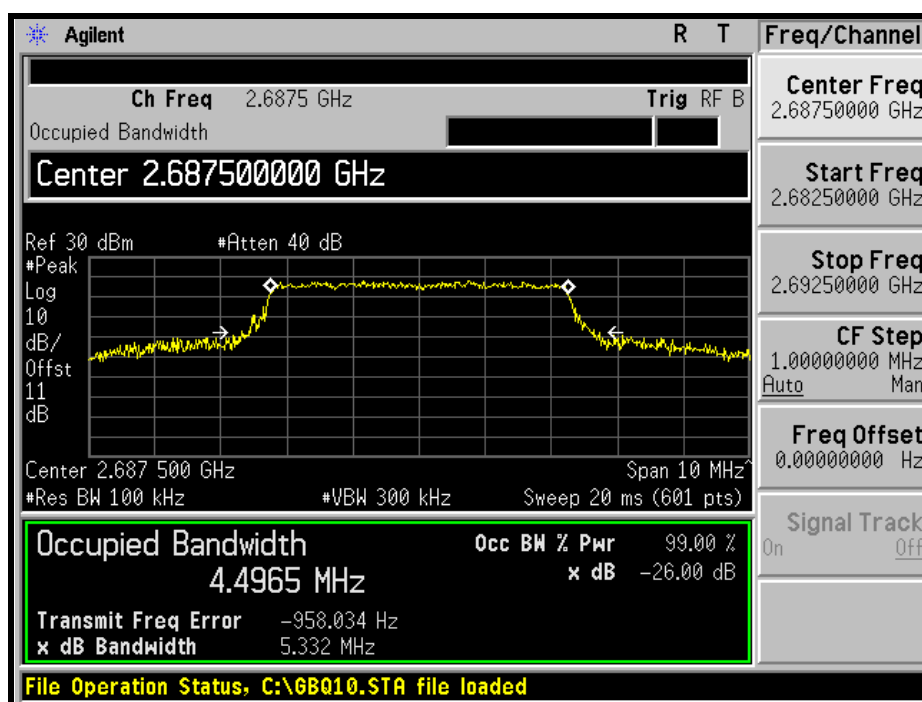


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MIDDLE CHANNEL



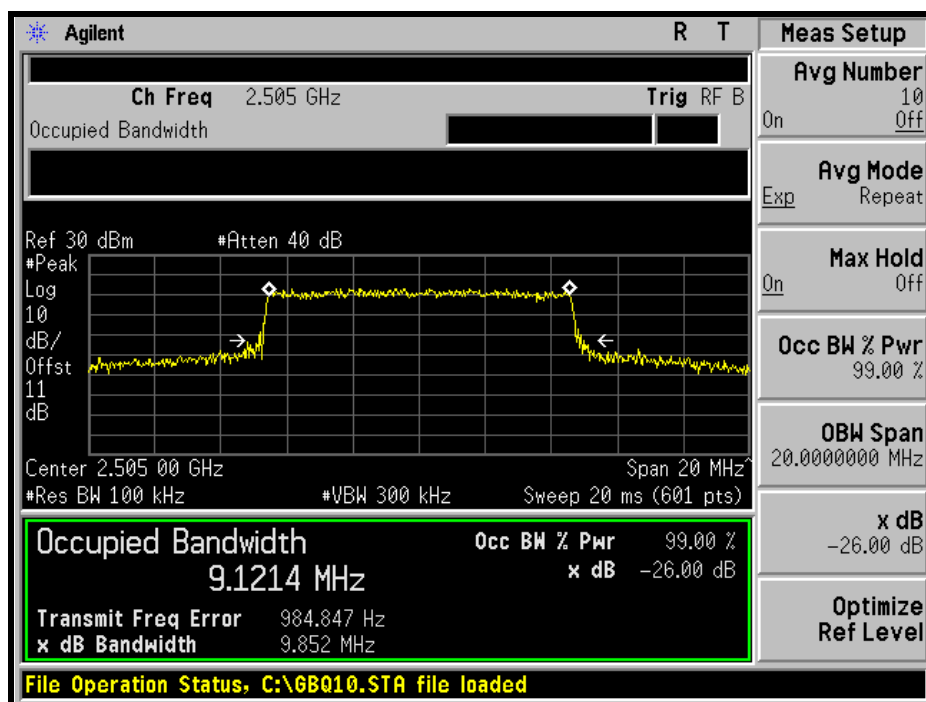
HIGH CHANNEL



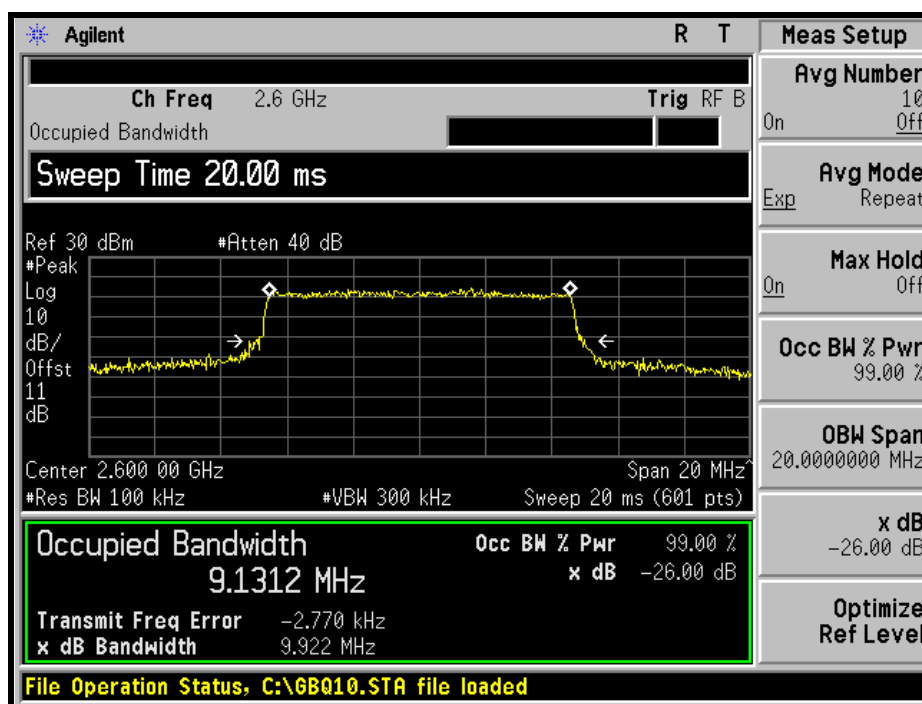
CHANNEL BANDWIDTH: 10MHz

FREQUENCY (MHz)	-26 dBc BANDWIDTH (MHz)
2505	9.852
2600	9.922
2685	9.828

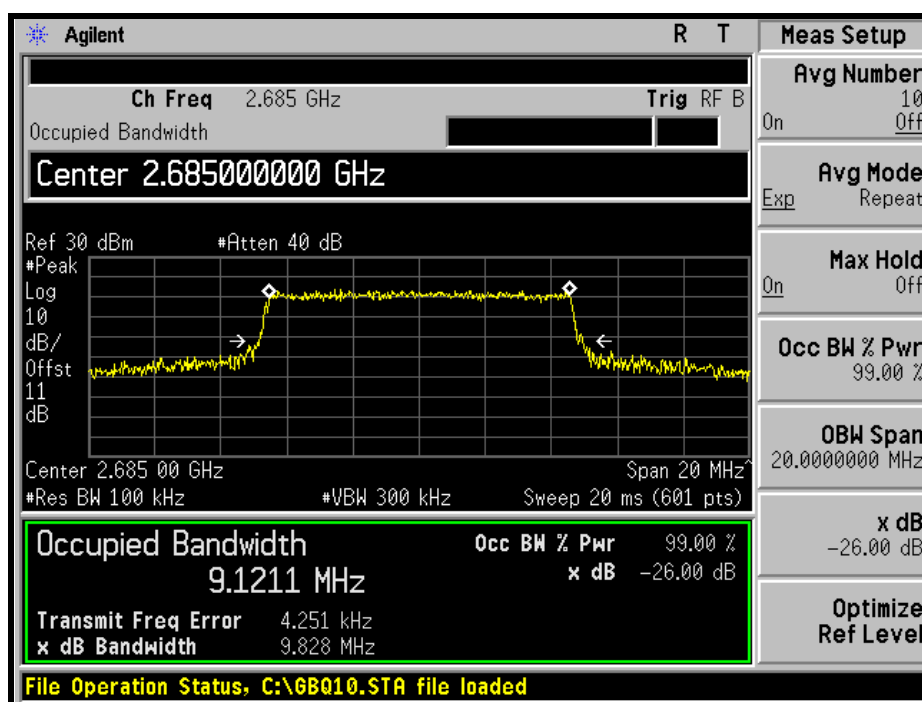
LOW CHANNEL



MIDDLE CHANNEL



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 of at least $43 + 10 \log(P)$ dB and $55 + 10 \log(P)$ dB at 5.5 MHz from the channel edges. 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.	CALIBRATED DATE	CALIBRATED UNTIL
Agilent Spectrum Analyzer	E4440A	MY46185282	Jun. 14, 2009	Jun. 13, 2010
HUBER+SUHNER	SUCOFLEX104	231115/4	May 29, 2009	May 28, 2010
JFW 10dB attenuation	50HF-010-SMA	N/A	N/A	N/A

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

4.4.3 TEST SETUP

Same as Item 4.3.3

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. For Channel bandwidth: 5 MHz:
The center frequency of spectrum is the band edge frequency and span is 20MHz. RB of the spectrum is 56kHz and VB of the spectrum is 160kHz.
- c. For Channel bandwidth: 10 MHz:
The center frequency of spectrum is the band edge frequency and span is 30MHz. RB of the spectrum is 100kHz and VB of the spectrum is 300kHz.
- d. Record the max trace plot into the test report.

4.4.5 EUT OPERATING CONDITION

Same as item 4.1.5

4.4.6 TEST RESULTS

CHANNEL BANDWIDTH: 5MHz

LOW CHANNEL-LEFT

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)		RF POWER LEVEL IN 3kHz BW (mW)		TOTAL POWER DENSITY (mW)	TOTAL POWER DENSITY (dBm)	MAXIMUM LIMIT (dBm)	PASS / FAIL
		CHAIN(0)	CHAIN(1)	CHAIN(0)	CHAIN(1)				
2502.5	2499.974	-20.57	-21.74	0.009	0.007	0.015	-18.11	-13	PASS
	2498.5	-16.50	-16.88	0.022	0.021	0.043	-13.68	-13	PASS
	2497.5	-18.75	-20.18	0.013	0.010	0.023	-16.40	-13	PASS
	2496.5	-23.61	-24.36	0.004	0.004	0.008	-20.96	-13	PASS
	2495.5	-28.39	-28.53	0.001	0.001	0.003	-25.45	-13	PASS
	2495	-30.59	-30.15	0.001	0.001	0.002	-27.35	-13	PASS
	2494	-33.48	-32.90	0.000	0.001	0.001	-30.18	-25	PASS
	2493	-35.26	-38.50	0.000	0.000	0.000	-33.57	-25	PASS

LOW CHANNEL-RIGHT

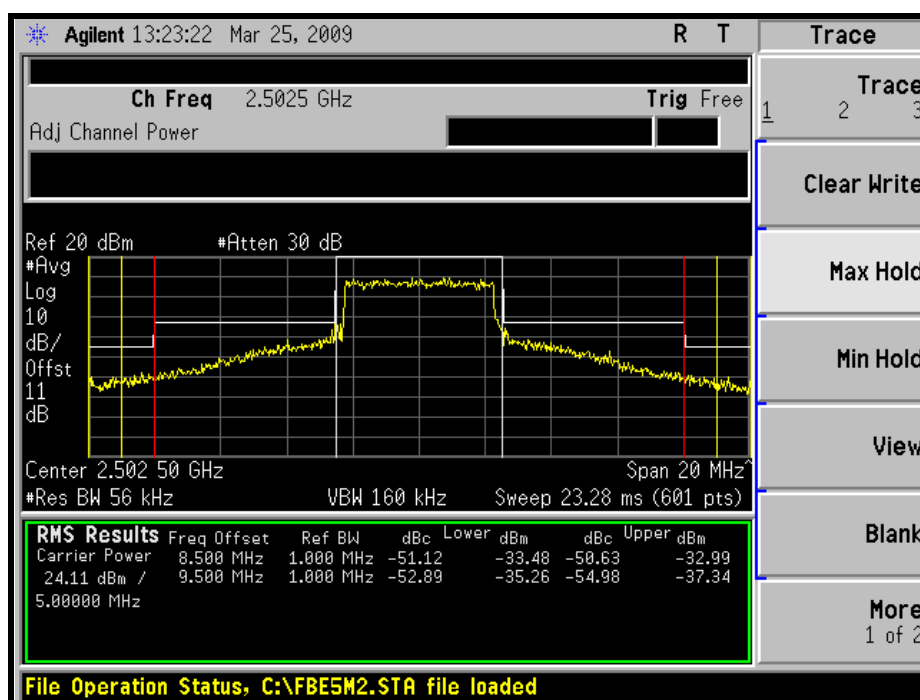
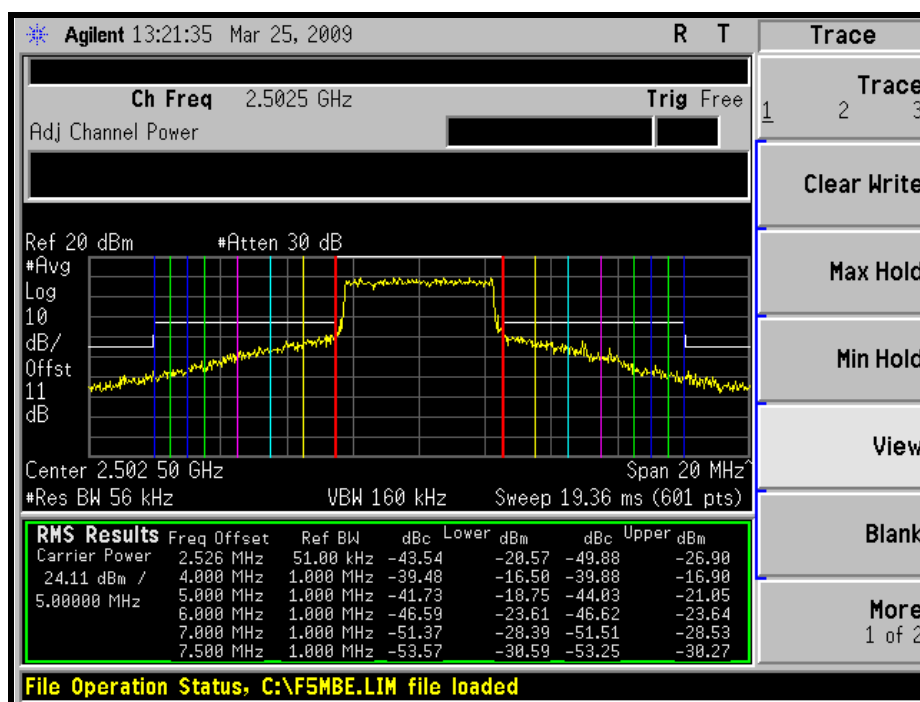
CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)		RF POWER LEVEL IN 3kHz BW (mW)		TOTAL POWER DENSITY (mW)	TOTAL POWER DENSITY (dBm)	MAXIMUM LIMIT (dBm)	PASS / FAIL
		CHAIN(0)	CHAIN(1)	CHAIN(0)	CHAIN(1)				
2502.5	2505.026	-26.90	-22.82	0.002	0.005	0.007	-21.39	-13	PASS
	2506.5	-16.90	-17.02	0.020	0.020	0.040	-13.95	-13	PASS
	2507.5	-21.05	-20.36	0.008	0.009	0.017	-17.68	-13	PASS
	2508.5	-23.64	-24.86	0.004	0.003	0.008	-21.19	-13	PASS
	2509.5	-28.53	-30.62	0.001	0.001	0.002	-26.44	-13	PASS
	2510	-30.27	-30.01	0.001	0.001	0.002	-27.12	-13	PASS
	2511	-32.99	-33.84	0.001	0.000	0.001	-30.41	-25	PASS
	2512	-37.34	-36.92	0.000	0.000	0.000	-34.20	-25	PASS



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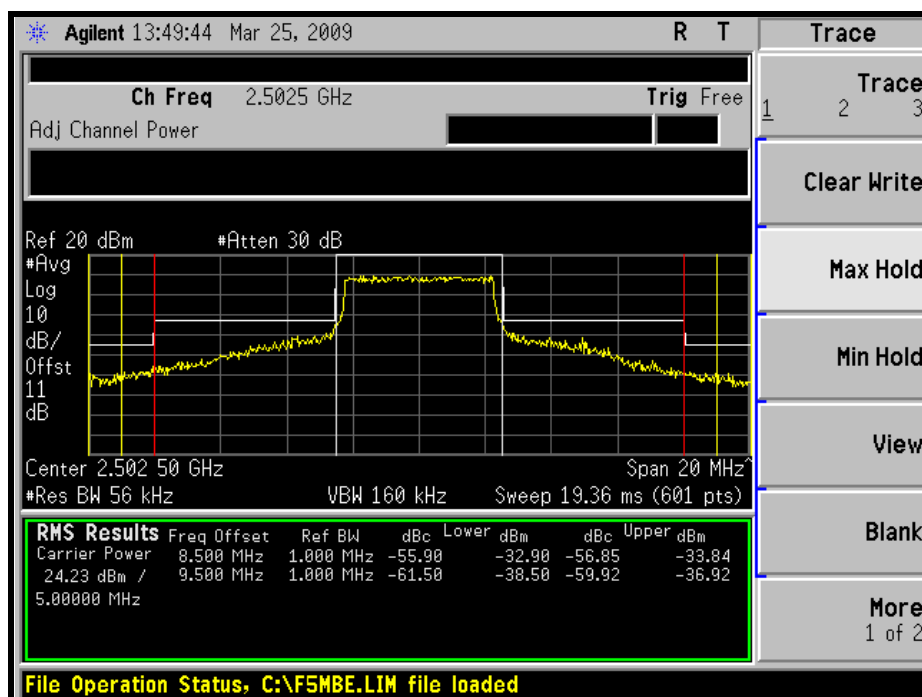
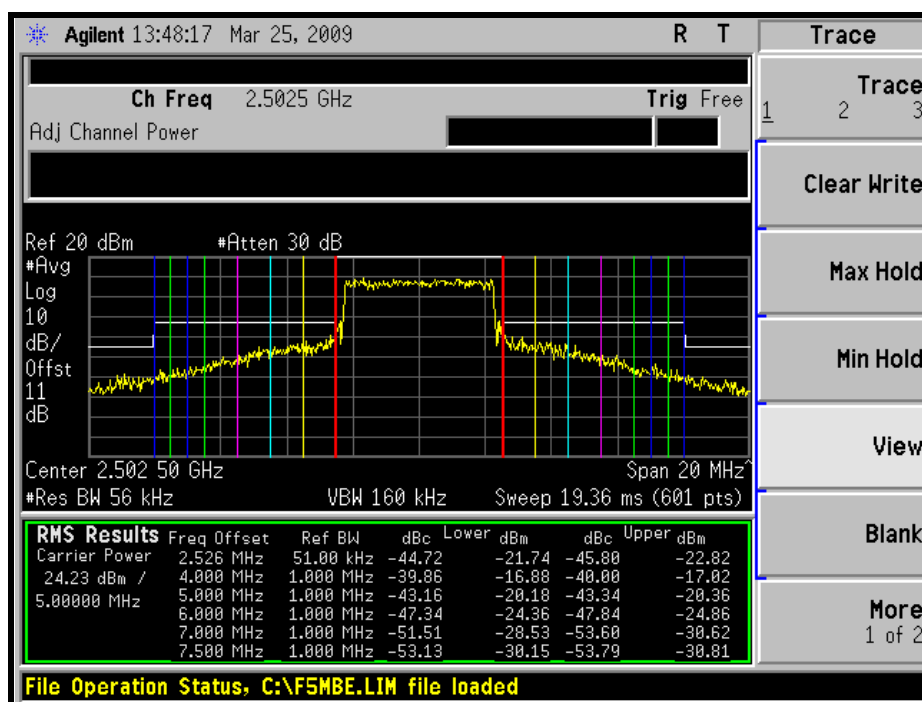
CHAIN 0

LOW CHANNEL



CHAIN 1

LOW CHANNEL





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MIDDLE CHANNEL-LEFT

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)		RF POWER LEVEL IN 3kHz BW (mW)		TOTAL POWER DENSITY (mW)	TOTAL POWER DENSITY (dBm)	MAXIMUM LIMIT (dBm)	PASS / FAIL
		CHAIN(0)	CHAIN(1)	CHAIN(0)	CHAIN(1)				
2600	2597.474	-19.09	-15.89	0.012	0.026	0.038	-14.19	-13	PASS
	2596	-16.15	-16.22	0.024	0.024	0.048	-13.17	-13	PASS
	2595	-18.20	-17.67	0.015	0.017	0.032	-14.92	-13	PASS
	2594	-23.69	-23.22	0.004	0.005	0.009	-20.44	-13	PASS
	2593	-29.36	-27.38	0.001	0.002	0.003	-25.24	-13	PASS
	2592.5	-30.47	-29.60	0.001	0.001	0.002	-26.99	-13	PASS
	2591.5	-33.12	-33.44	0.000	0.000	0.001	-30.27	-25	PASS
	2590.5	-36.85	-36.39	0.000	0.000	0.000	-33.57	-25	PASS

MIDDLE CHANNEL-RIGHT

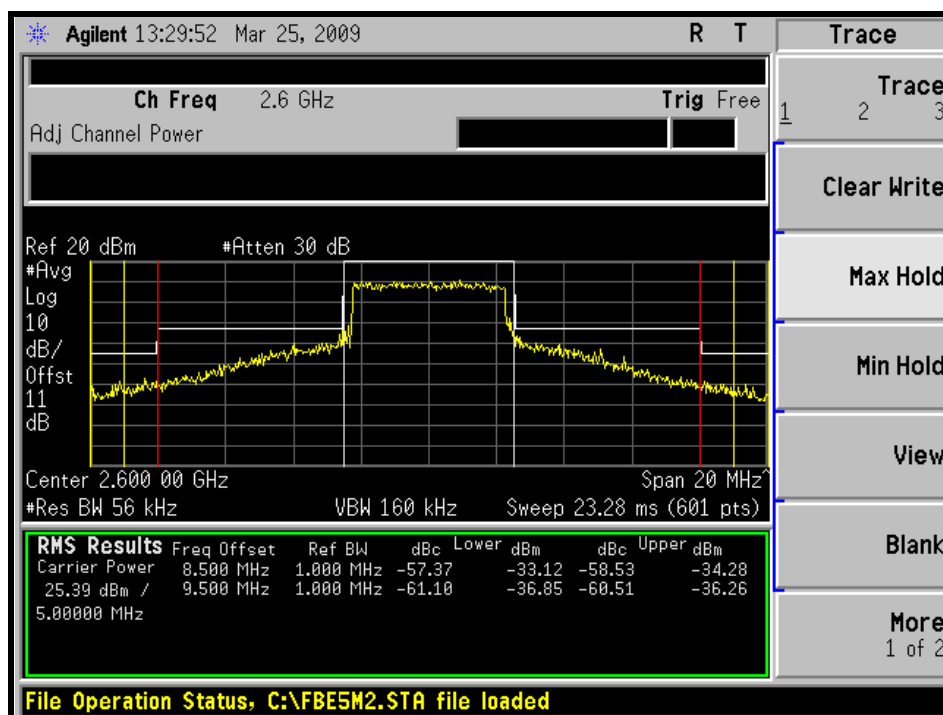
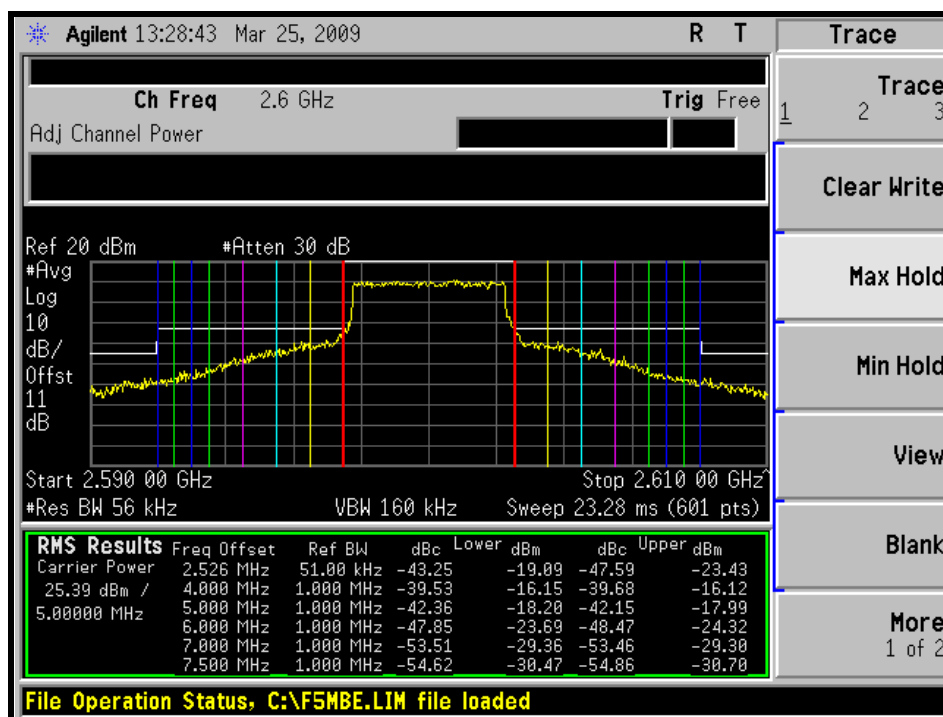
CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)		RF POWER LEVEL IN 3kHz BW (mW)		TOTAL POWER DENSITY (mW)	TOTAL POWER DENSITY (dBm)	MAXIMUM LIMIT (dBm)	PASS / FAIL
		CHAIN(0)	CHAIN(1)	CHAIN(0)	CHAIN(1)				
2600	2602.526	-23.43	-22.27	0.005	0.006	0.010	-19.80	-13	PASS
	2604	-16.12	-16.08	0.024	0.025	0.049	-13.09	-13	PASS
	2605	-17.99	-19.10	0.016	0.012	0.028	-15.50	-13	PASS
	2606	-24.32	-23.20	0.004	0.005	0.008	-20.71	-13	PASS
	2607	-29.30	-27.75	0.001	0.002	0.003	-25.45	-13	PASS
	2607.5	-30.70	-29.39	0.001	0.001	0.002	-26.99	-13	PASS
	2608.5	-34.28	-34.28	0.000	0.000	0.001	-31.31	-25	PASS
	2609.5	-36.26	-37.20	0.000	0.000	0.000	-33.67	-25	PASS



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CHAIN 0

MIDDLE CHANNEL

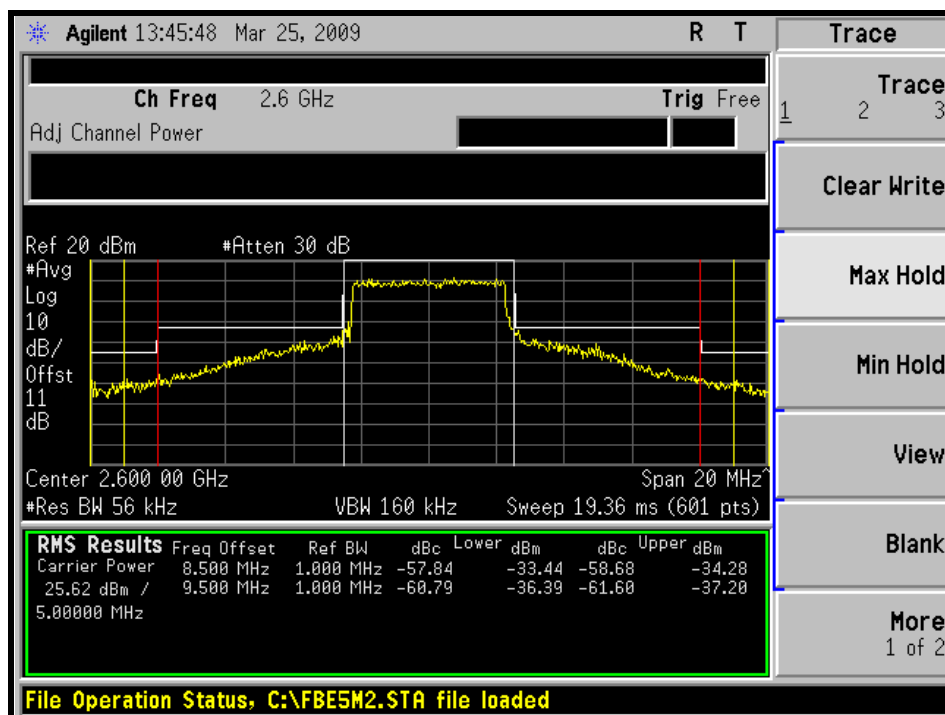
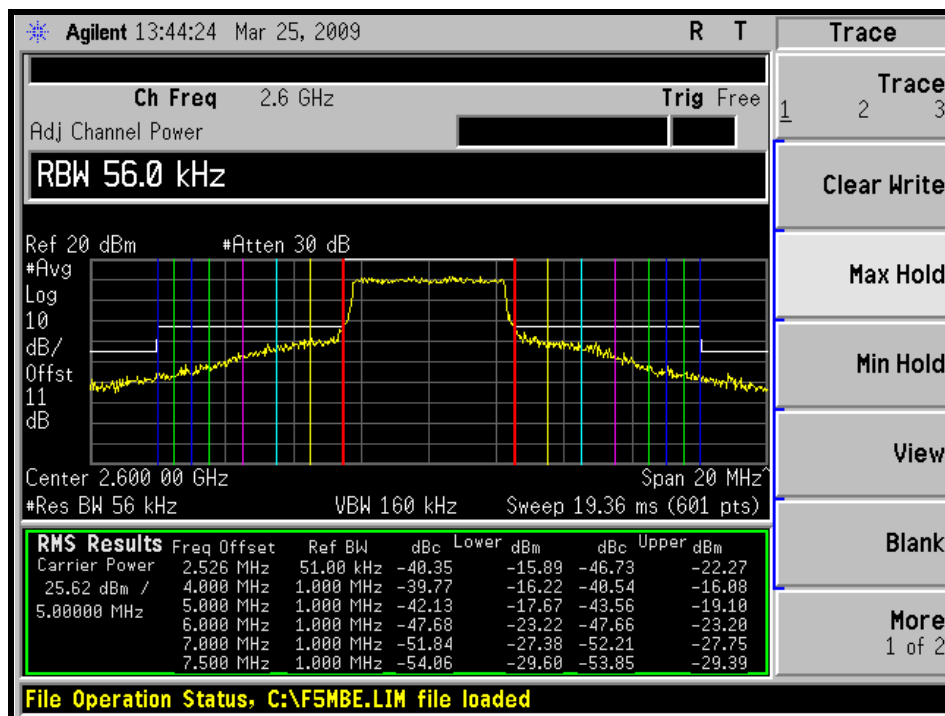




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CHAIN 1

MIDDLE CHANNEL





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HIGH CHANNEL-LEFT

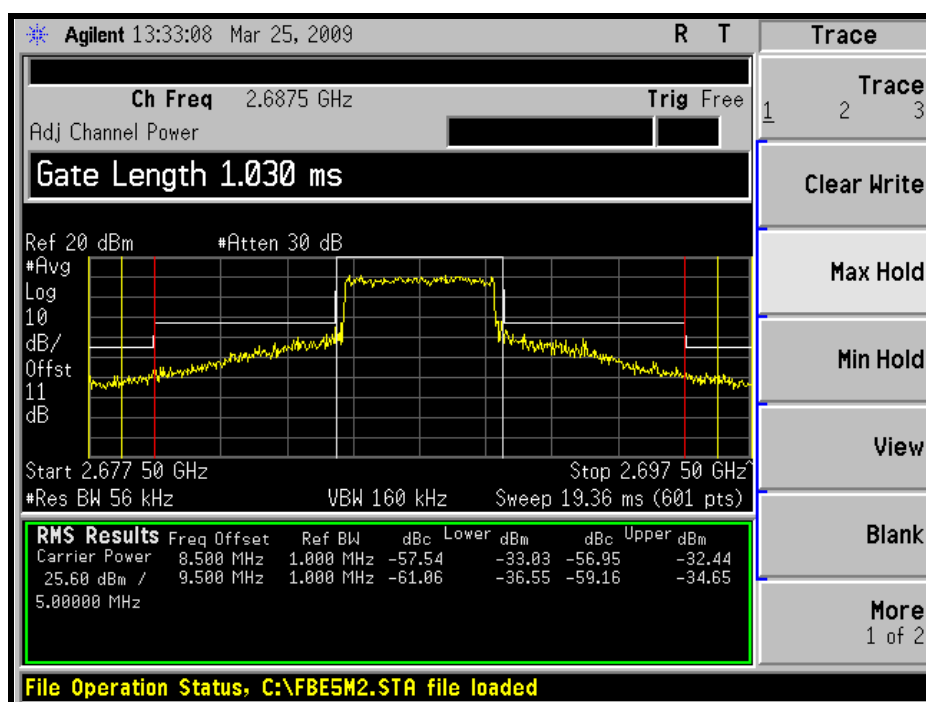
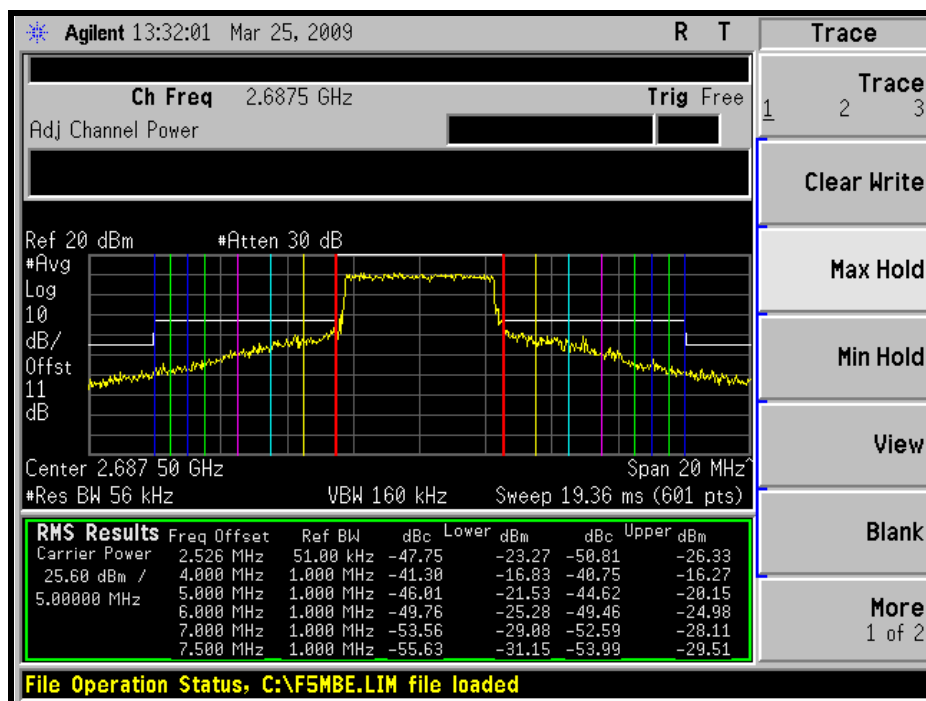
CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)		RF POWER LEVEL IN 3kHz BW (mW)		TOTAL POWER DENSITY (mW)	TOTAL POWER DENSITY (dBm)	MAXIMUM LIMIT (dBm)	PASS / FAIL
		CHAIN(0)	CHAIN(1)	CHAIN(0)	CHAIN(1)				
2687.5	2684.974	-23.27	-23.27	0.005	0.005	0.009	-20.26	-13	PASS
	2683.5	-16.83	-16.86	0.021	0.021	0.041	-13.83	-13	PASS
	2682.5	-21.53	-21.30	0.007	0.007	0.014	-18.40	-13	PASS
	2681.5	-25.28	-25.40	0.003	0.003	0.006	-22.34	-13	PASS
	2680.5	-29.08	-28.34	0.001	0.001	0.003	-25.67	-13	PASS
	2680	-31.15	-30.48	0.001	0.001	0.002	-27.77	-13	PASS
	2679	-33.03	-33.23	0.001	0.000	0.001	-30.09	-25	PASS
	2678	-36.55	-36.18	0.000	0.000	0.000	-33.37	-25	PASS

HIGH CHANNEL-RIGHT

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)		RF POWER LEVEL IN 3kHz BW (mW)		TOTAL POWER DENSITY (mW)	TOTAL POWER DENSITY (dBm)	MAXIMUM LIMIT (dBm)	PASS / FAIL
		CHAIN(0)	CHAIN(1)	CHAIN(0)	CHAIN(1)				
2687.5	2690.026	-26.33	-25.60	0.002	0.003	0.005	-22.94	-13	PASS
	2691.5	-16.27	-16.35	0.024	0.023	0.047	-13.30	-13	PASS
	2692.5	-20.15	-20.23	0.010	0.009	0.019	-17.18	-13	PASS
	2693.5	-24.98	-24.59	0.003	0.003	0.007	-21.77	-13	PASS
	2694.5	-28.11	-27.80	0.002	0.002	0.003	-24.93	-13	PASS
	2695	-29.51	-29.60	0.001	0.001	0.002	-26.54	-13	PASS
	2696	-32.44	-33.81	0.001	0.000	0.001	-30.04	-25	PASS
	2697	-34.65	-37.39	0.000	0.000	0.001	-32.84	-25	PASS

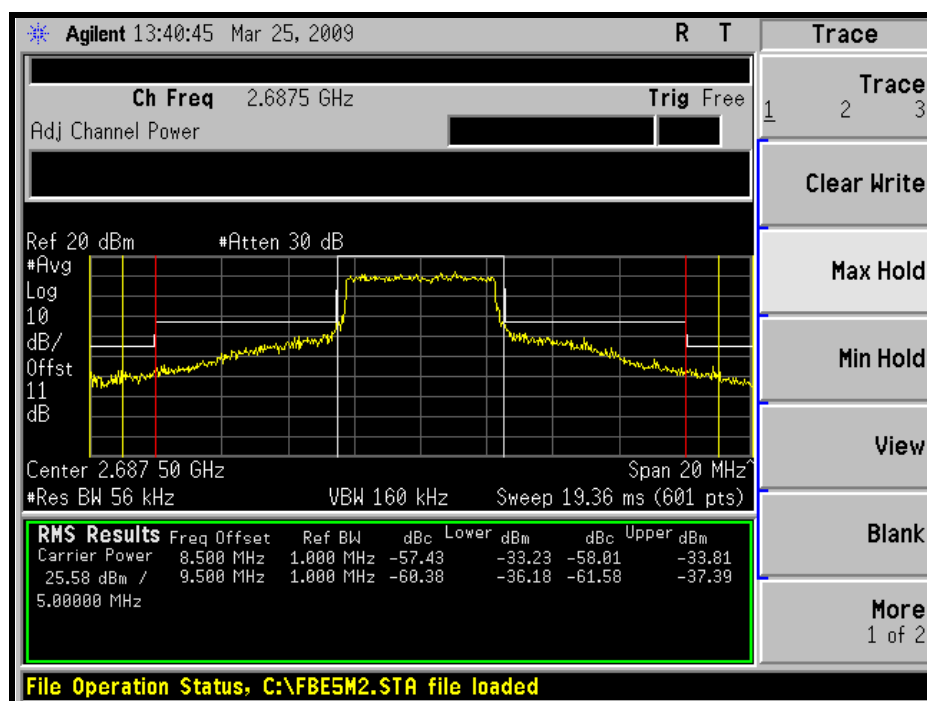
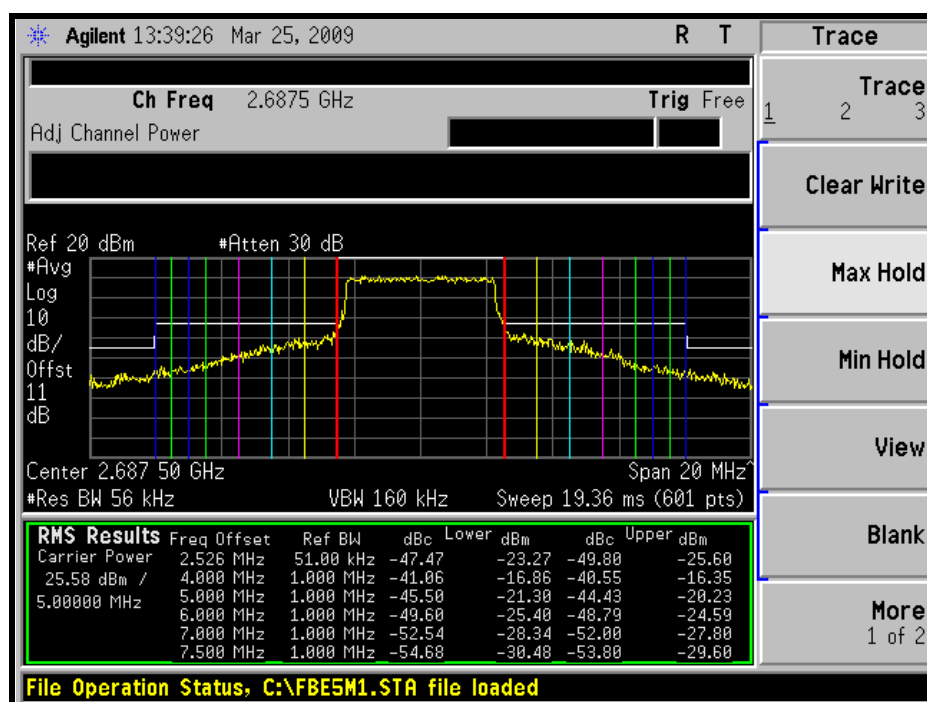
CHAIN 0

HIGH CHANNEL



CHAIN 1

HIGH CHANNEL



CHANNEL BANDWIDTH: 10MHz

LOW CHANNEL-LEFT

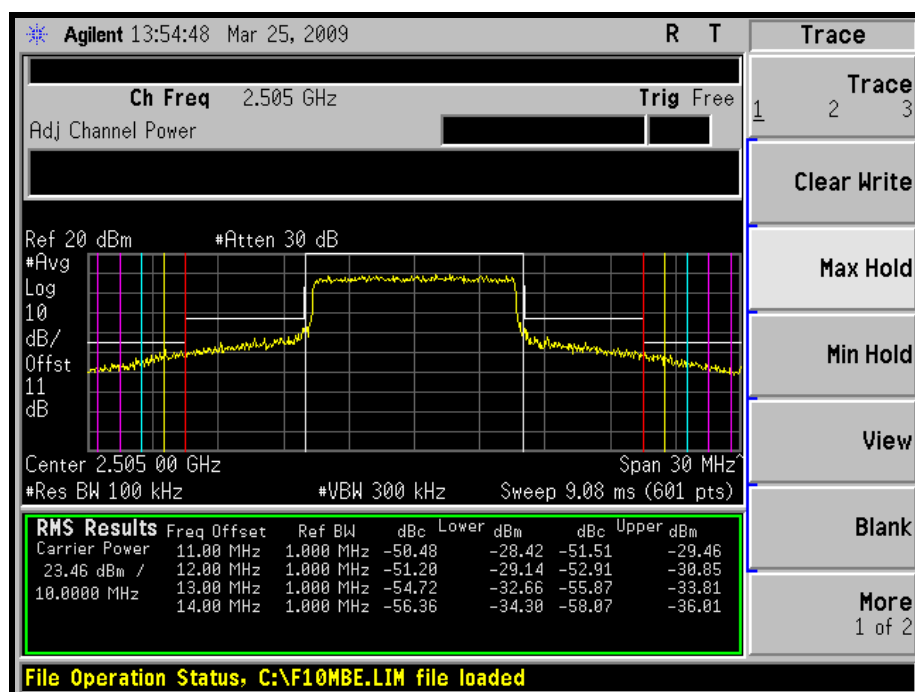
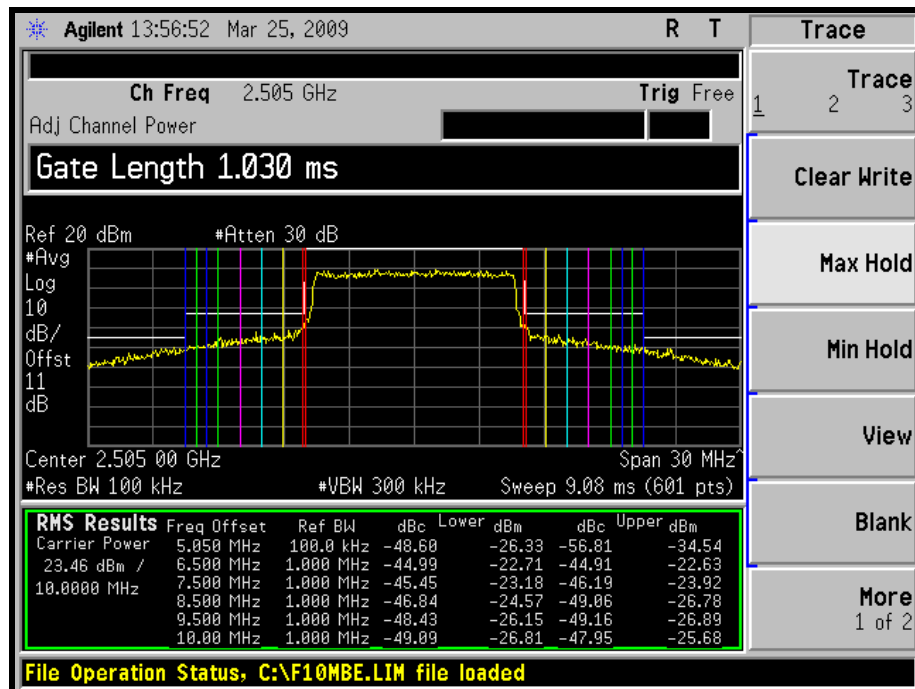
CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)		RF POWER LEVEL IN 3kHz BW (mW)		TOTAL POWER DENSITY (mW)	TOTAL POWER DENSITY (dBm)	MAXIMUM LIMIT (dBm)	PASS / FAIL
		CHAIN(0)	CHAIN(1)	CHAIN(0)	CHAIN(1)				
2505	2499.95	-26.33	-27.80	0.002	0.002	0.004	-24.02	-13	PASS
	2498.5	-22.71	-22.68	0.005	0.005	0.011	-19.68	-13	PASS
	2497.5	-23.18	-23.41	0.005	0.005	0.009	-20.28	-13	PASS
	2496.5	-24.57	-24.84	0.003	0.003	0.007	-21.69	-13	PASS
	2495.5	-26.15	-26.43	0.002	0.002	0.005	-23.27	-13	PASS
	2495	-26.81	-27.67	0.002	0.002	0.004	-24.21	-13	PASS
	2494	-28.42	-29.82	0.001	0.001	0.002	-26.06	-25	PASS
	2493	-29.14	-31.37	0.001	0.001	0.002	-27.10	-25	PASS
	2492	-32.66	-32.62	0.001	0.001	0.001	-29.63	-25	PASS
	2491	-34.30	-33.73	0.000	0.000	0.001	-31.02	-25	PASS

LOW CHANNEL-RIGHT

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)		RF POWER LEVEL IN 3kHz BW (mW)		TOTAL POWER DENSITY (mW)	TOTAL POWER DENSITY (dBm)	MAXIMUM LIMIT (dBm)	PASS / FAIL
		CHAIN(0)	CHAIN(1)	CHAIN(0)	CHAIN(1)				
2505	2510.05	-34.54	-33.17	0.000	0.000	0.001	-30.81	-13	PASS
	2511.5	-22.63	-23.92	0.005	0.004	0.010	-20.21	-13	PASS
	2512.5	-23.92	-26.17	0.004	0.002	0.006	-21.88	-13	PASS
	2513.5	-26.78	-27.47	0.002	0.002	0.004	-24.10	-13	PASS
	2514.5	-26.89	-28.88	0.002	0.001	0.003	-24.76	-13	PASS
	2515	-25.68	-28.52	0.003	0.001	0.004	-23.86	-13	PASS
	2516	-29.46	-29.13	0.001	0.001	0.002	-26.29	-25	PASS
	2517	-30.85	-31.99	0.001	0.001	0.001	-28.39	-25	PASS
	2518	-33.81	-33.84	0.000	0.000	0.001	-30.81	-25	PASS
	2519	-36.01	-37.61	0.000	0.000	0.000	-33.77	-25	PASS

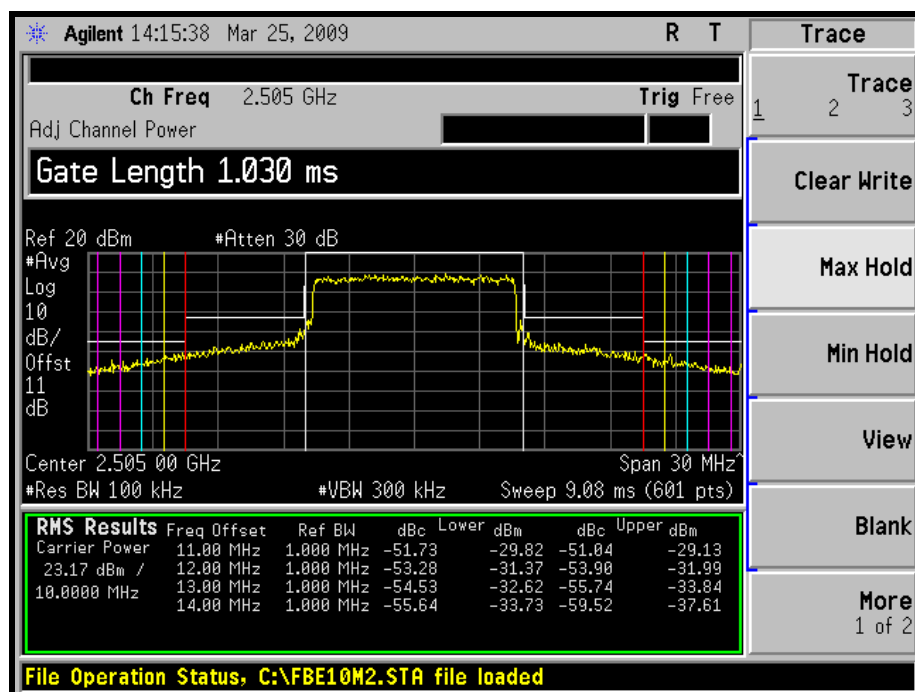
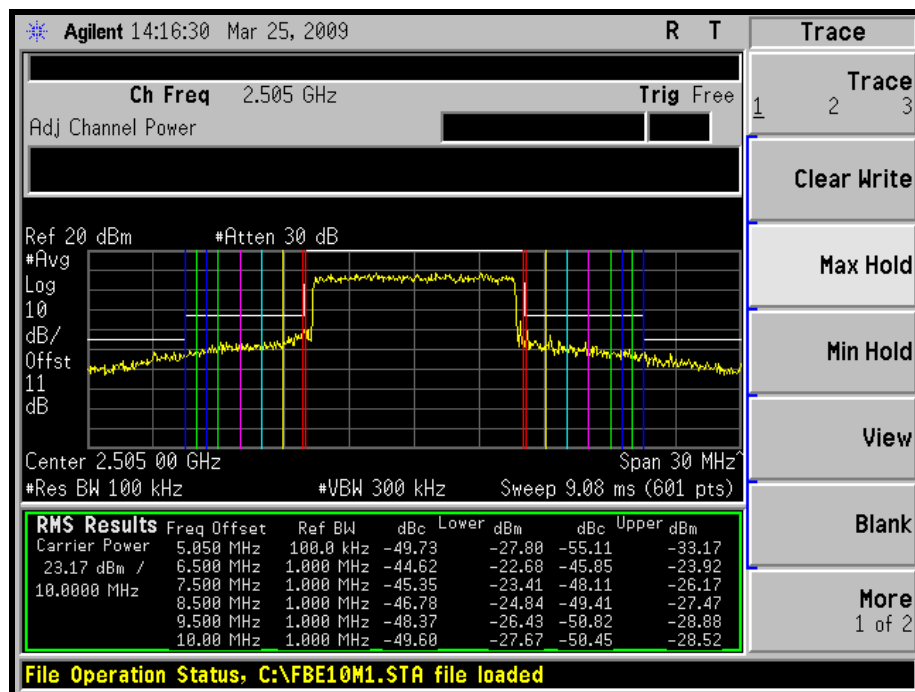
CHAIN 0

LOW CHANNEL



CHAIN 1

LOW CHANNEL





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MIDDLE CHANNEL-LEFT

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)		RF POWER LEVEL IN 3kHz BW (mW)		TOTAL POWER DENSITY (mW)	TOTAL POWER DENSITY (dBm)	MAXIMUM LIMIT (dBm)	PASS / FAIL
		CHAIN(0)	CHAIN(1)	CHAIN(0)	CHAIN(1)				
2600	2594.95	-46.74	-27.78	0.000	0.002	0.002	-27.72	-13	PASS
	2593.5	-43.30	-20.92	0.000	0.008	0.008	-20.89	-13	PASS
	2592.5	-41.62	-22.66	0.000	0.005	0.005	-22.60	-13	PASS
	2591.5	-29.16	-23.46	0.001	0.005	0.006	-22.43	-13	PASS
	2590.5	-45.34	-26.29	0.000	0.002	0.002	-26.23	-13	PASS
	2590	-46.01	-25.90	0.000	0.003	0.003	-25.85	-13	PASS
	2589	-28.29	-27.91	0.001	0.002	0.003	-25.09	-25	PASS
	2588	-30.98	-29.61	0.001	0.001	0.002	-27.24	-25	PASS
	2587	-33.95	-33.41	0.000	0.000	0.001	-30.66	-25	PASS
	2586	-34.83	-32.61	0.000	0.001	0.001	-30.56	-25	PASS

MIDDLE CHANNEL-RIGHT

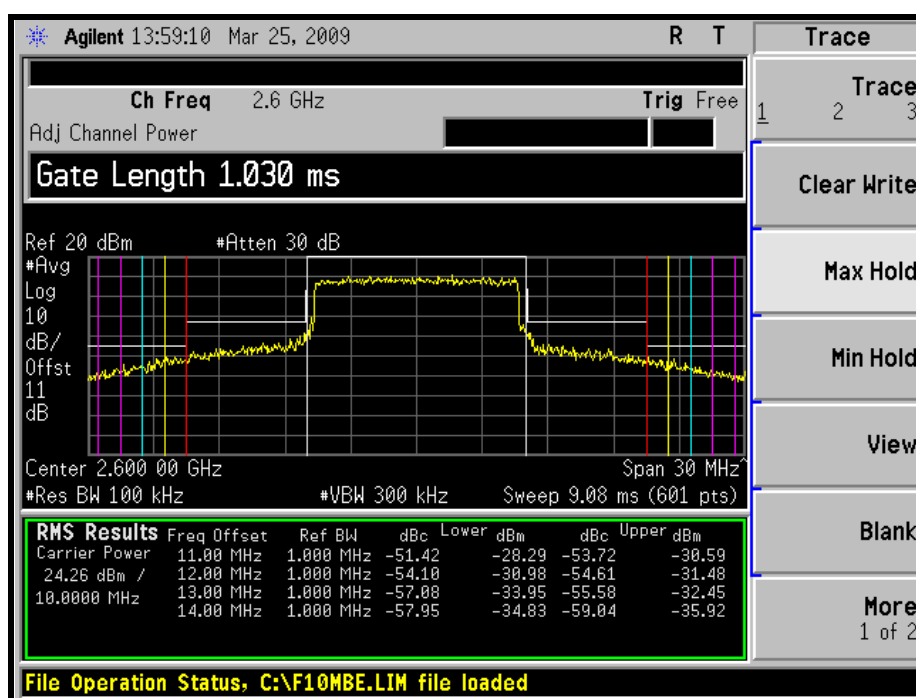
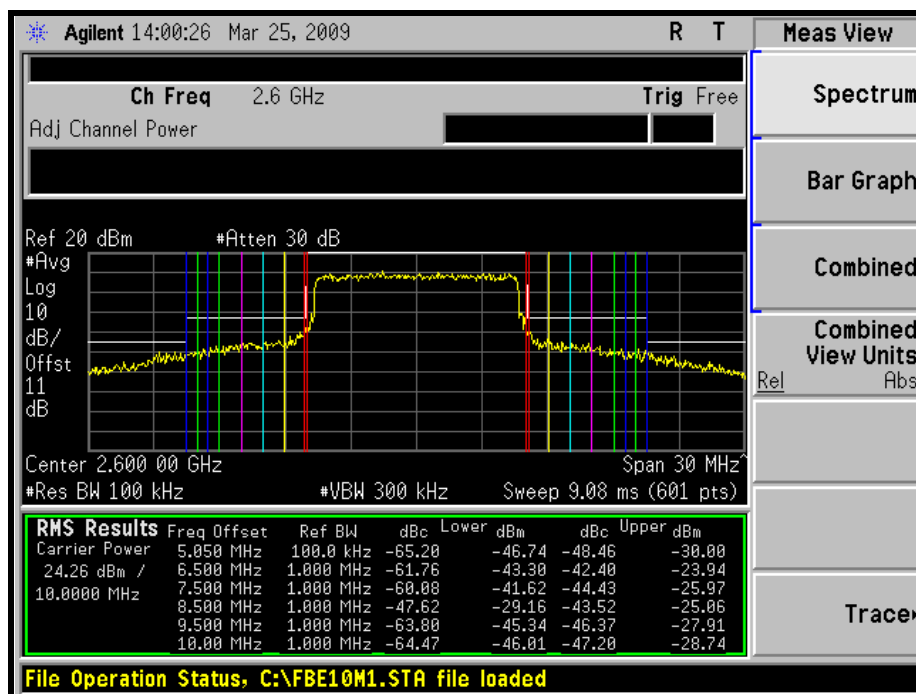
CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)		RF POWER LEVEL IN 3kHz BW (mW)		TOTAL POWER DENSITY (mW)	TOTAL POWER DENSITY (dBm)	MAXIMUM LIMIT (dBm)	PASS / FAIL
		CHAIN(0)	CHAIN(1)	CHAIN(0)	CHAIN(1)				
2600	2605.05	-30.00	-30.67	0.001	0.001	0.002	-27.30	-13	PASS
	2606.5	-23.94	-22.19	0.004	0.006	0.010	-19.97	-13	PASS
	2607.5	-25.97	-23.09	0.003	0.005	0.007	-21.28	-13	PASS
	2608.5	-25.06	-25.13	0.003	0.003	0.006	-22.08	-13	PASS
	2609.5	-27.91	-25.54	0.002	0.003	0.004	-23.56	-13	PASS
	2610	-28.74	-28.39	0.001	0.001	0.003	-25.54	-13	PASS
	2611	-30.59	-29.08	0.001	0.001	0.002	-26.76	-25	PASS
	2612	-31.48	-30.62	0.001	0.001	0.002	-28.01	-25	PASS
	2613	-32.45	-32.31	0.001	0.001	0.001	-29.36	-25	PASS
	2614	-35.92	-33.79	0.000	0.000	0.001	-31.67	-25	PASS



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CHAIN 0

MIDDLE CHANNEL

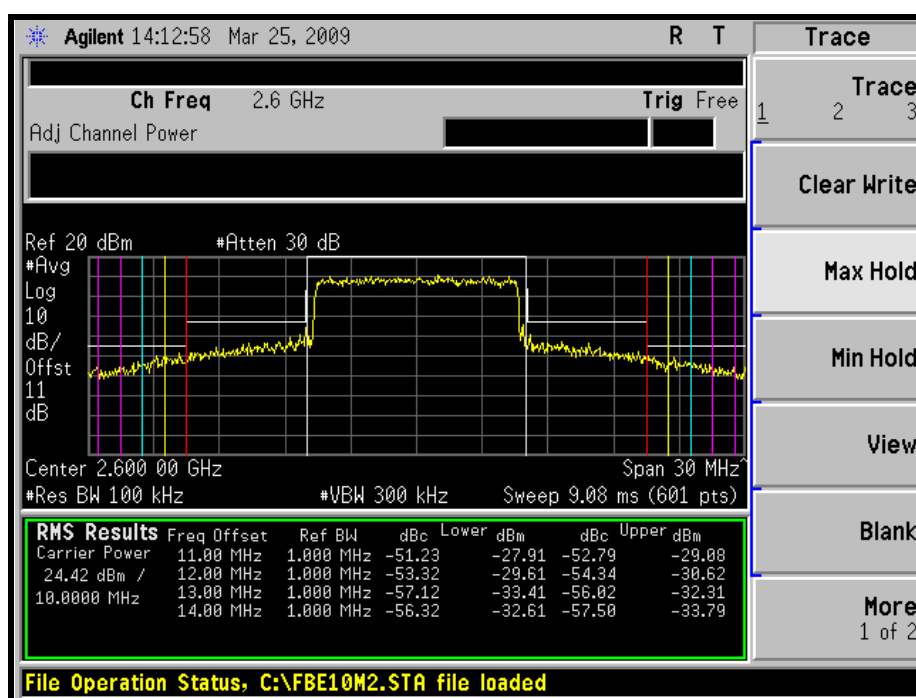
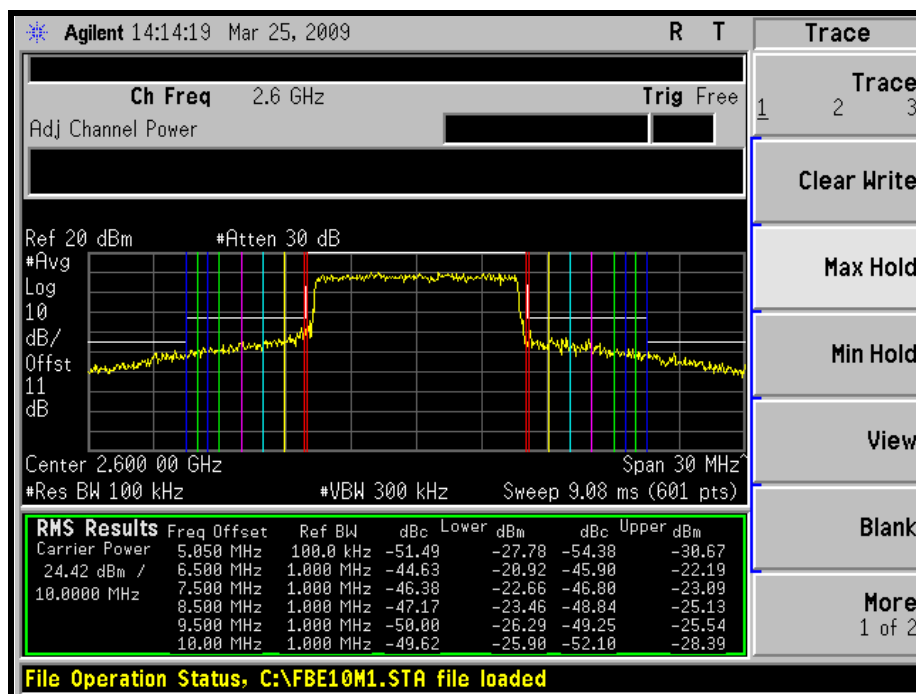




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CHAIN 1

MIDDLE CHANNEL





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HIGH CHANNEL-LEFT

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)		RF POWER LEVEL IN 3kHz BW (mW)		TOTAL POWER DENSITY (mW)	TOTAL POWER DENSITY (dBm)	MAXIMUM LIMIT (dBm)	PASS / FAIL
		CHAIN(0)	CHAIN(1)	CHAIN(0)	CHAIN(1)				
2685	2679.95	-29.31	-45.50	0.001	0.000	0.001	-30.00	-13	PASS
	2678.5	-23.44	-40.65	0.005	0.000	0.005	-23.01	-13	PASS
	2677.5	-25.45	-43.06	0.003	0.000	0.003	-25.23	-13	PASS
	2676.5	-24.49	-33.80	0.004	0.000	0.004	-23.98	-13	PASS
	2675.5	-28.66	-44.92	0.001	0.000	0.001	-30.00	-13	PASS
	2675	-28.50	-45.36	0.001	0.000	0.001	-30.00	-13	PASS
	2674	-29.67	-29.97	0.001	0.001	0.002	-26.99	-25	PASS
	2673	-30.82	-31.40	0.001	0.001	0.002	-26.99	-25	PASS
	2672	-33.50	-32.32	0.000	0.001	0.001	-30.00	-25	PASS
	2671	-36.20	-31.70	0.000	0.001	0.001	-30.00	-25	PASS

HIGH CHANNEL-RIGHT

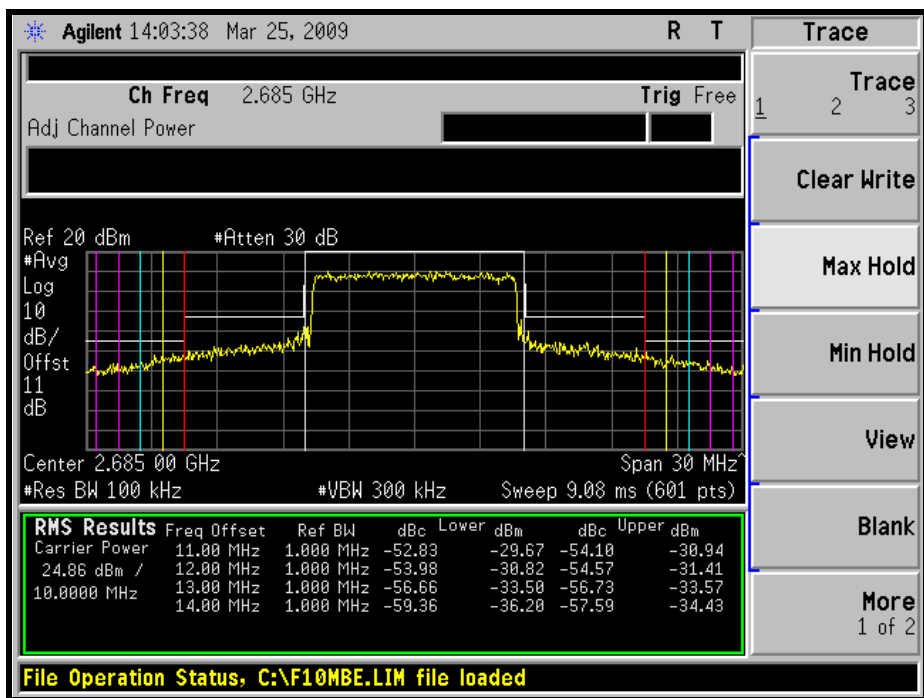
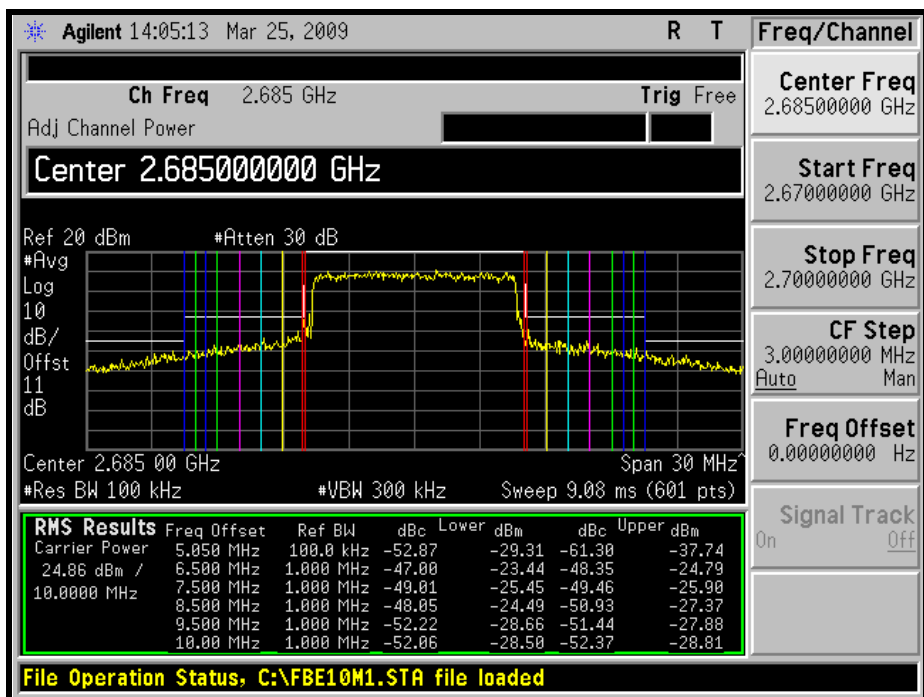
CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)		RF POWER LEVEL IN 3kHz BW (mW)		TOTAL POWER DENSITY (mW)	TOTAL POWER DENSITY (dBm)	MAXIMUM LIMIT (dBm)	PASS / FAIL
		CHAIN(0)	CHAIN(1)	CHAIN(0)	CHAIN(1)				
2685	2690.05	-37.74	-33.78	0.000	0.000	0.001	-32.29	-13	PASS
	2691.5	-24.79	-24.89	0.003	0.003	0.007	-21.83	-13	PASS
	2692.5	-25.90	-25.43	0.003	0.003	0.005	-22.65	-13	PASS
	2693.5	-27.37	-25.53	0.002	0.003	0.005	-23.34	-13	PASS
	2694.5	-27.88	-28.69	0.002	0.001	0.003	-25.26	-13	PASS
	2695	-28.81	-29.59	0.001	0.001	0.002	-26.16	-13	PASS
	2696	-30.94	-28.70	0.001	0.001	0.002	-26.66	-25	PASS
	2697	-31.41	-30.24	0.001	0.001	0.002	-27.77	-25	PASS
	2698	-33.57	-34.39	0.000	0.000	0.001	-30.97	-25	PASS
	2699	-34.43	-34.77	0.000	0.000	0.001	-31.61	-25	PASS



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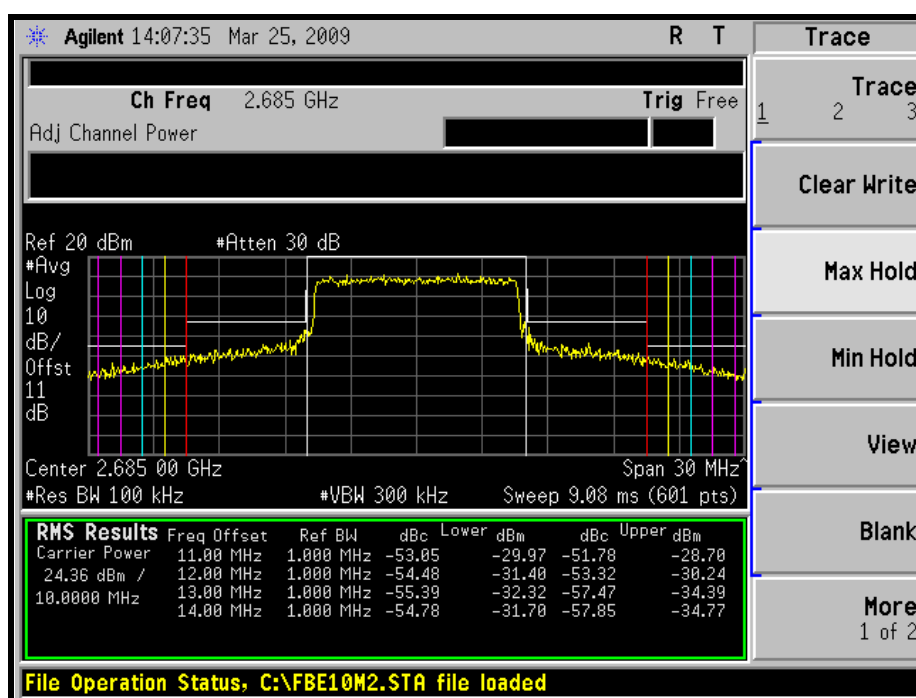
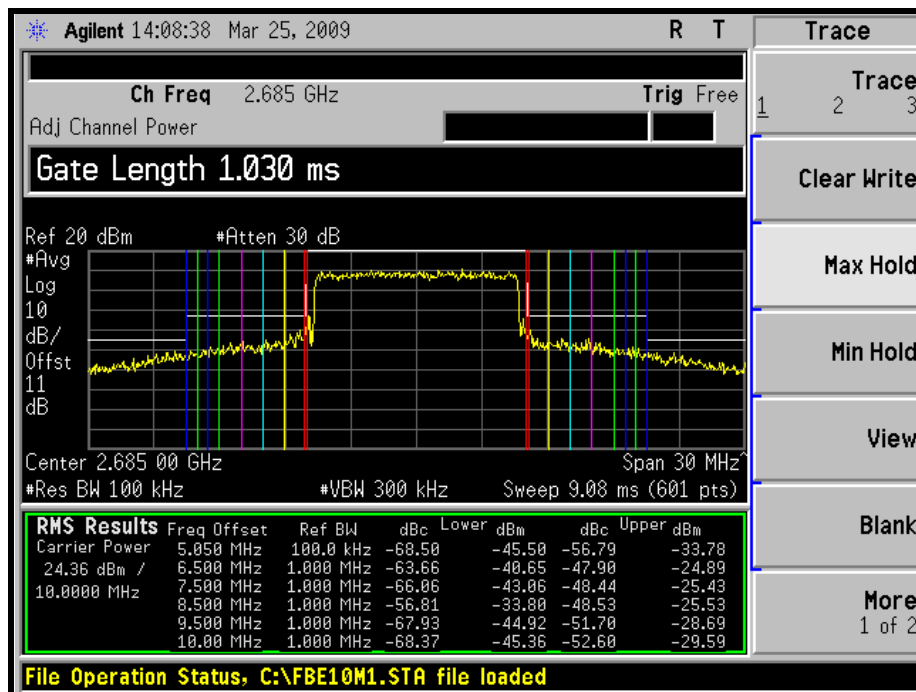
CHAIN 0

HIGH CHANNEL



CHAIN 1

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 $43 + 10 \log (P)$ dB and $55 + 10 \log (P)$ dB at 5.5 MHz from the channel edges.

4.5.2 TEST INSTRUMENTS

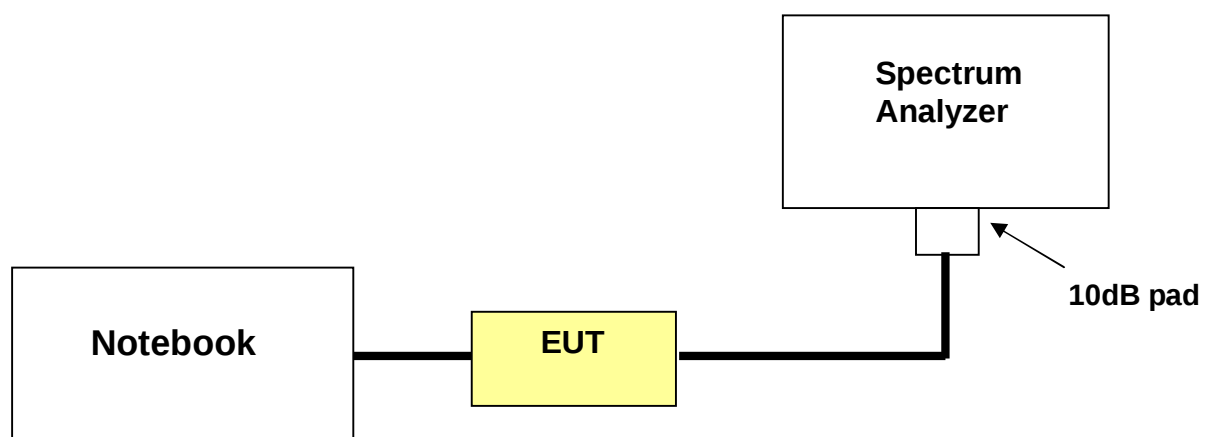
Description & Manufacturer	Model No.	Serial No.	CALIBRATED DATE	CALIBRATED UNTIL
Agilent Spectrum Analyzer	E4440A	MY46185282	Jun. 14, 2009	Jun. 13, 2010
HUBER+SUHNER	SUCOFLEX104	231115/4	May 29, 2009	May 28, 2010
JFW 10dB attenuation	50HF-010-SMA	N/A	N/A	N/A
Wainwright Instruments High Pass Filter	WHK3.1/18G-1 OSS	ZZ-010091	N/A	N/A

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

4.5.3 TEST PROCEDURE

- 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.
- When the spectrum scanned from 30MHz to 3GHz, it shall be connected to the 10dB pad attenuated the carried frequency. The spectrum set RB = 1MHz, VB = 3MHz.
- When the spectrum scanned from 3GHz to 26.5GHz, it shall be connected to the high pass filter attenuated the carried frequency. The spectrum set RB = 1MHz, VB = 3MHz.

4.5.4 TEST SETUP



4.5.5 EUT OPERATING CONDITIONS

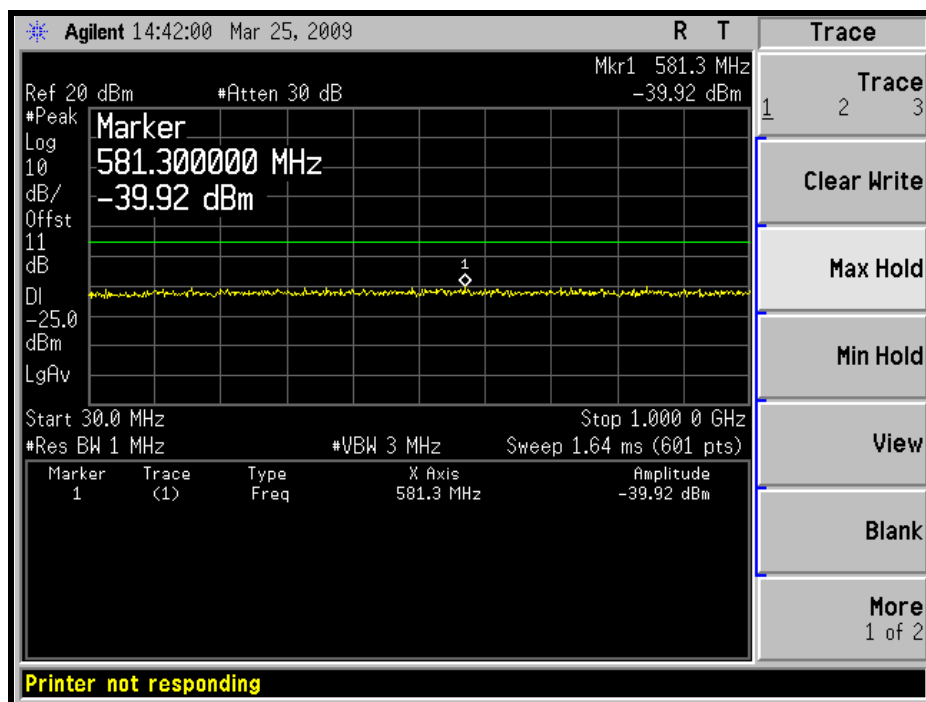
Same as item 4.1.5

4.5.6 TEST RESULTS

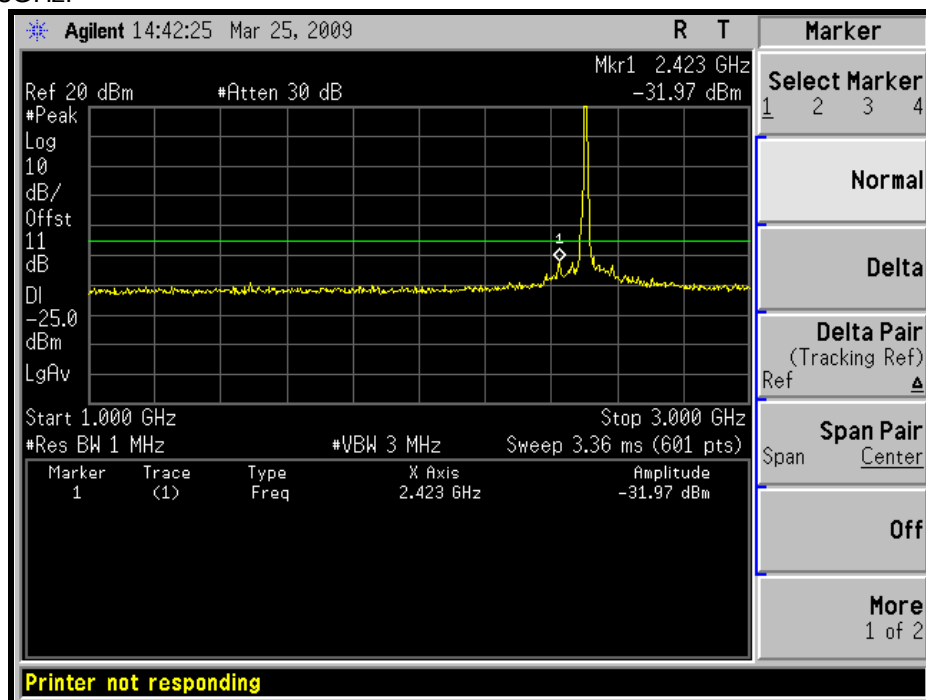
CHANNEL BANDWIDTH: 5MHz

CHIN0

LOW CHANNEL: 30MHz ~ 1GHz:



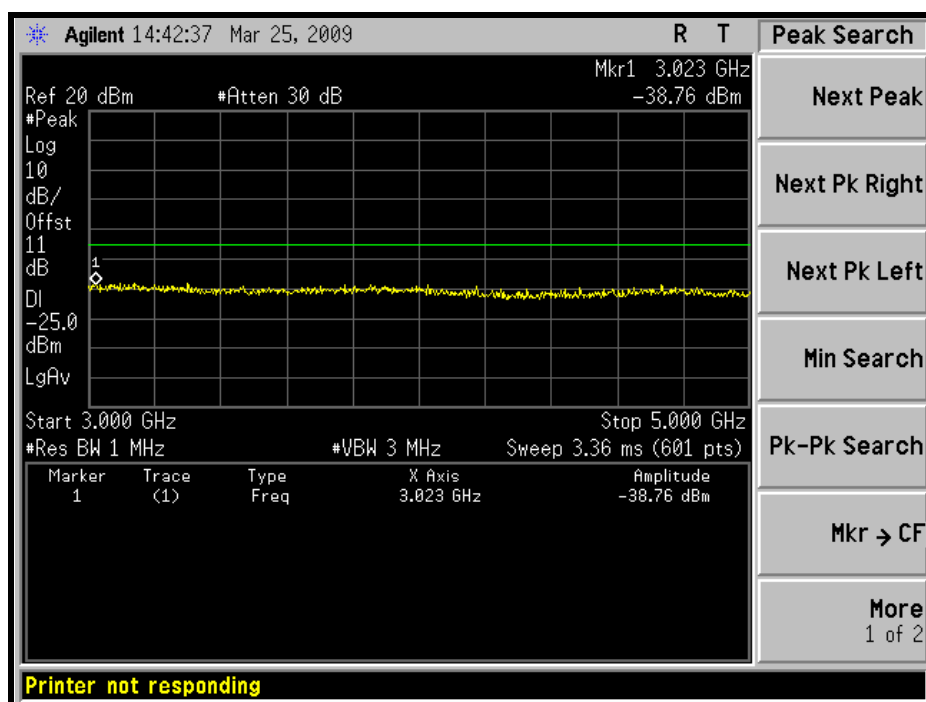
1GHz ~ 3GHz:



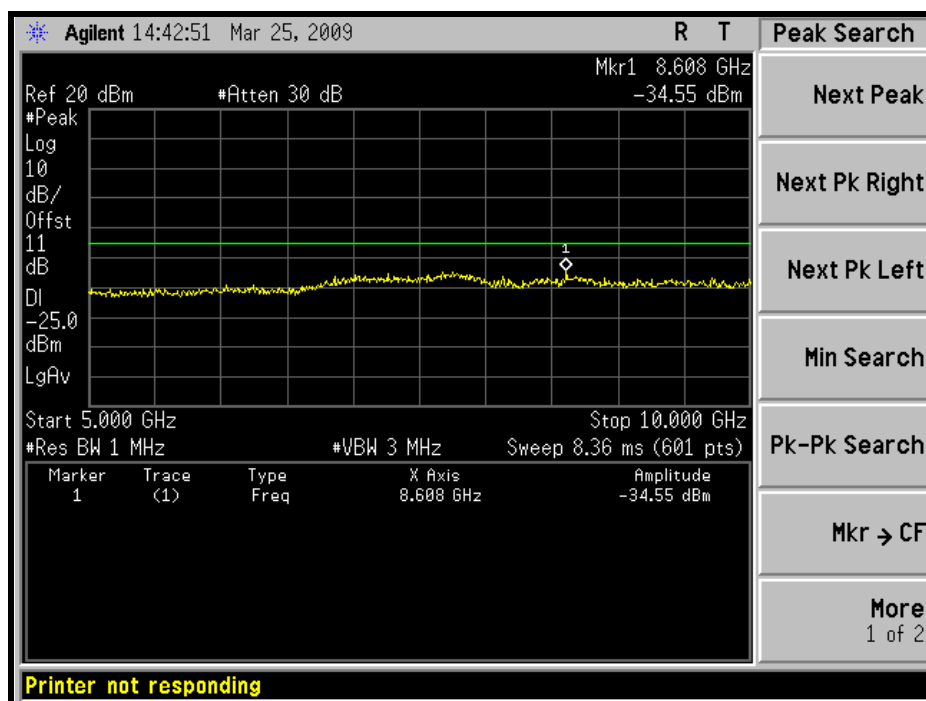


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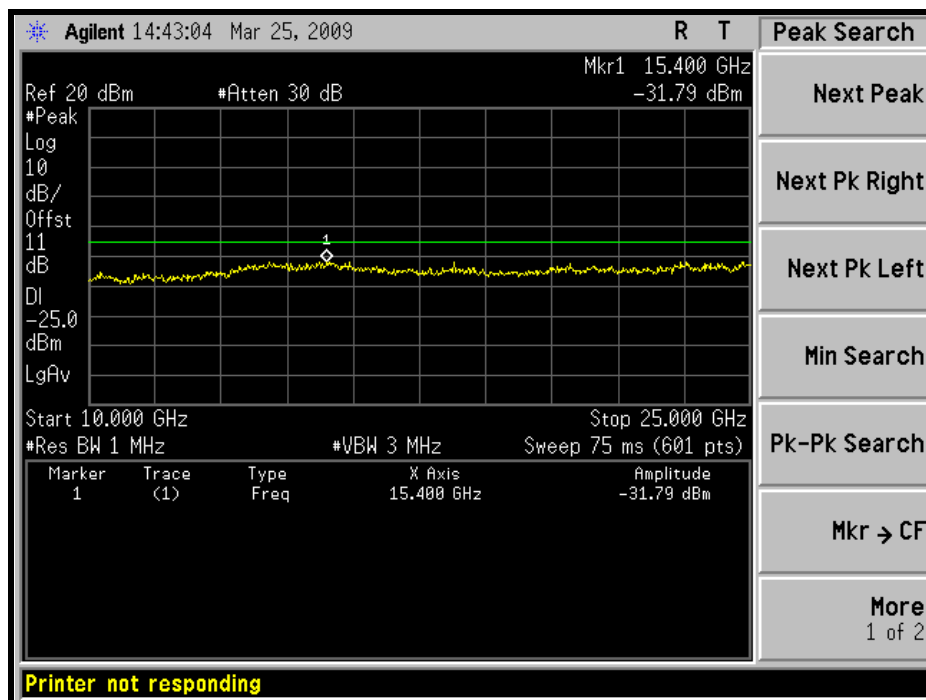
3GHz ~ 5GHz:



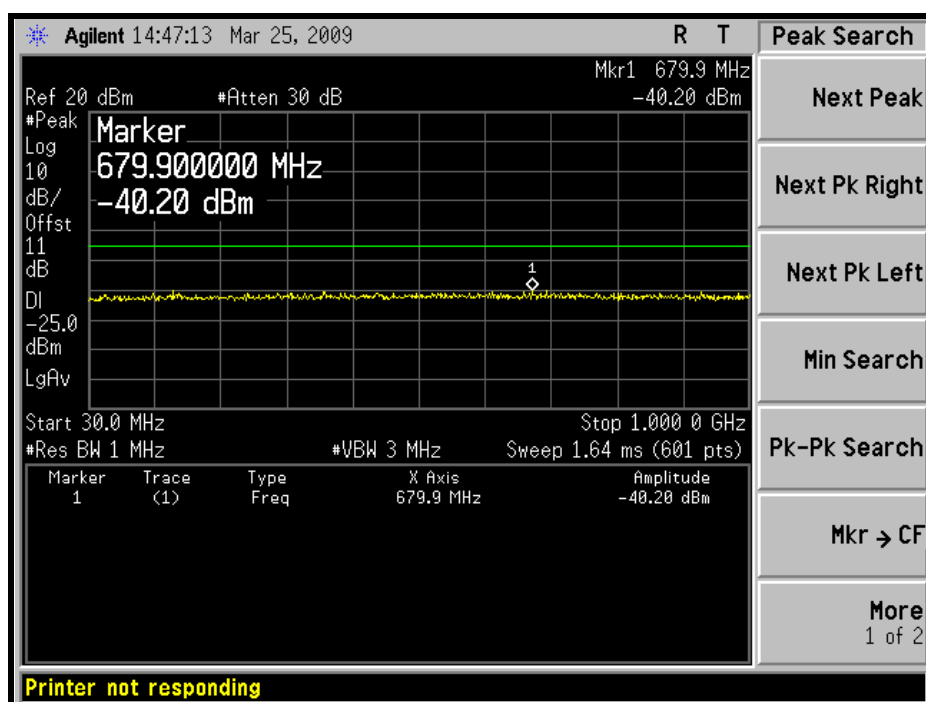
5GHz ~ 10GHz:



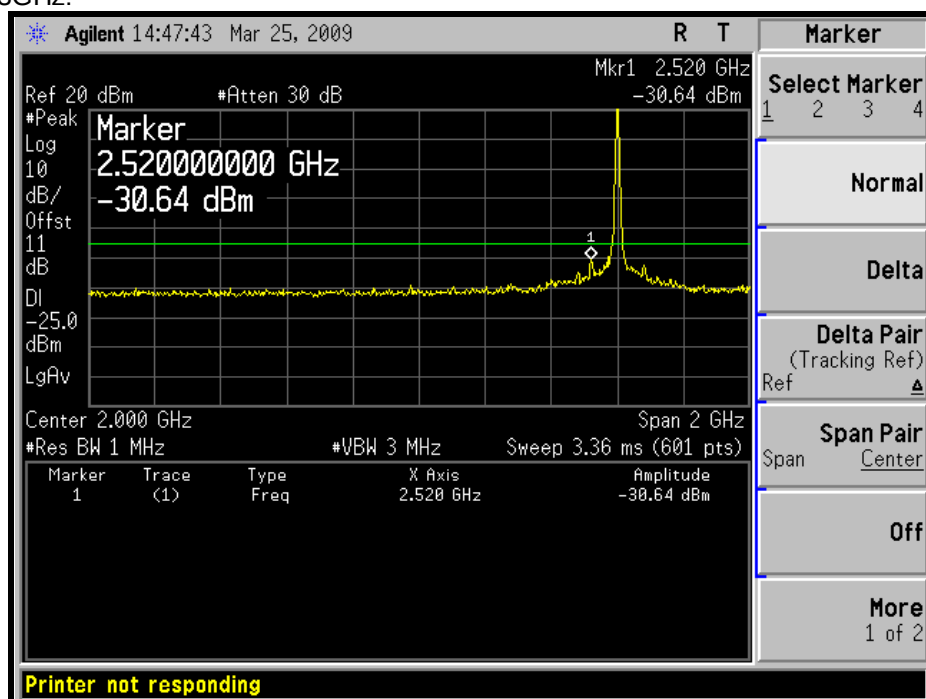
10GHz ~ 25GHz:



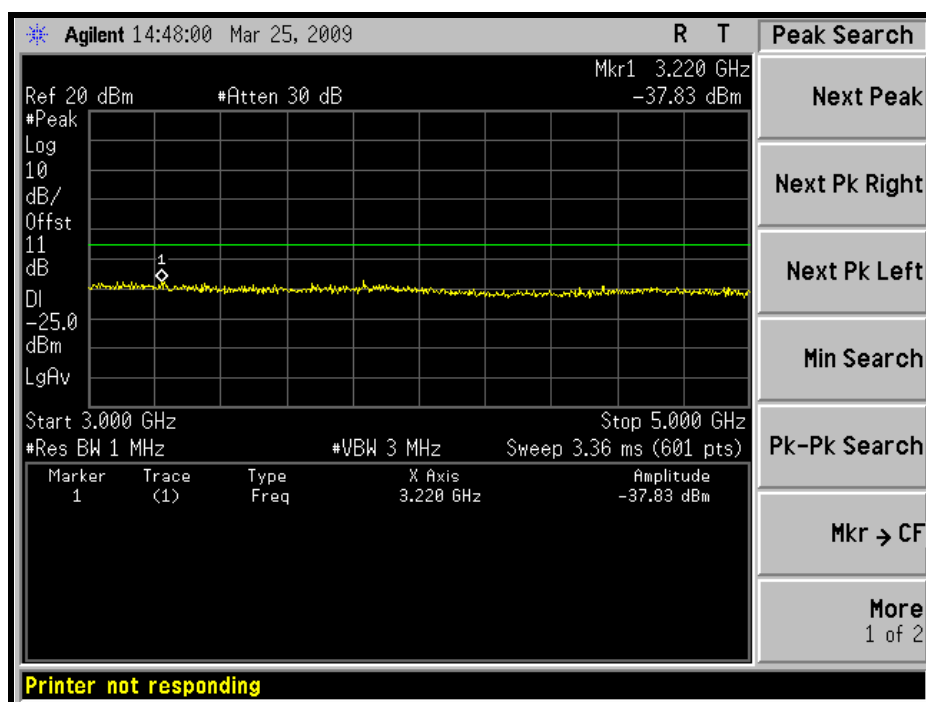
MIDDLE CHANNEL: 30MHz ~ 1GHz:



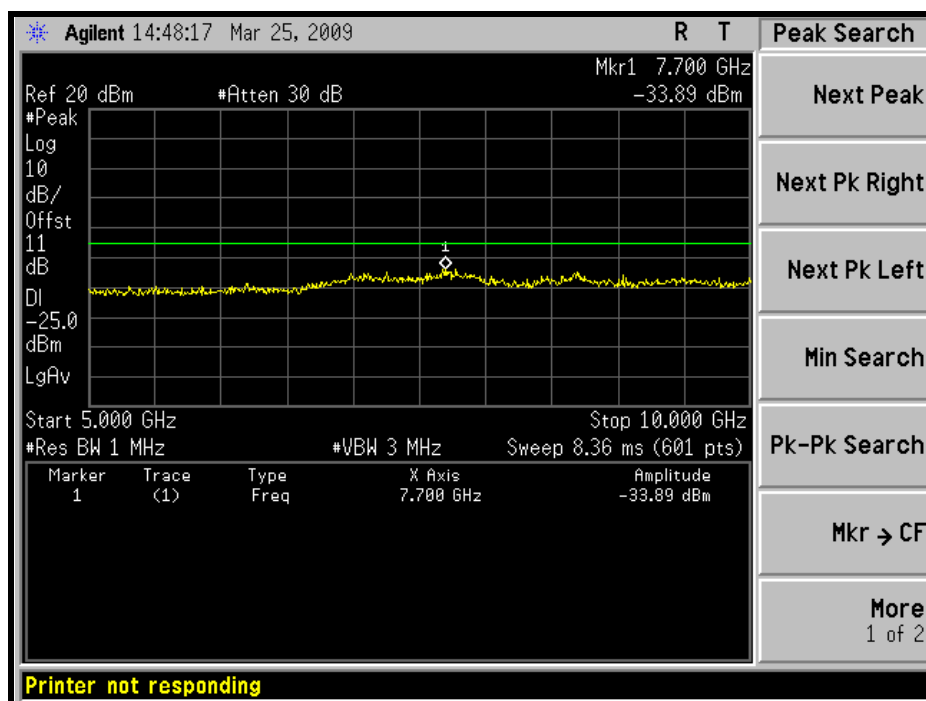
1GHz ~ 3GHz:



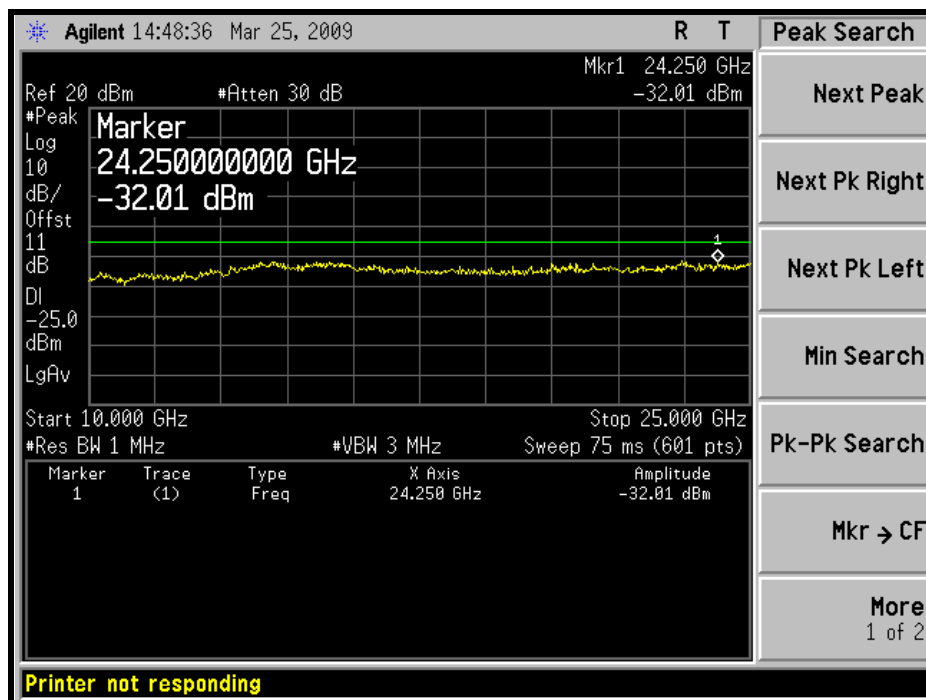
3GHz ~ 5GHz:



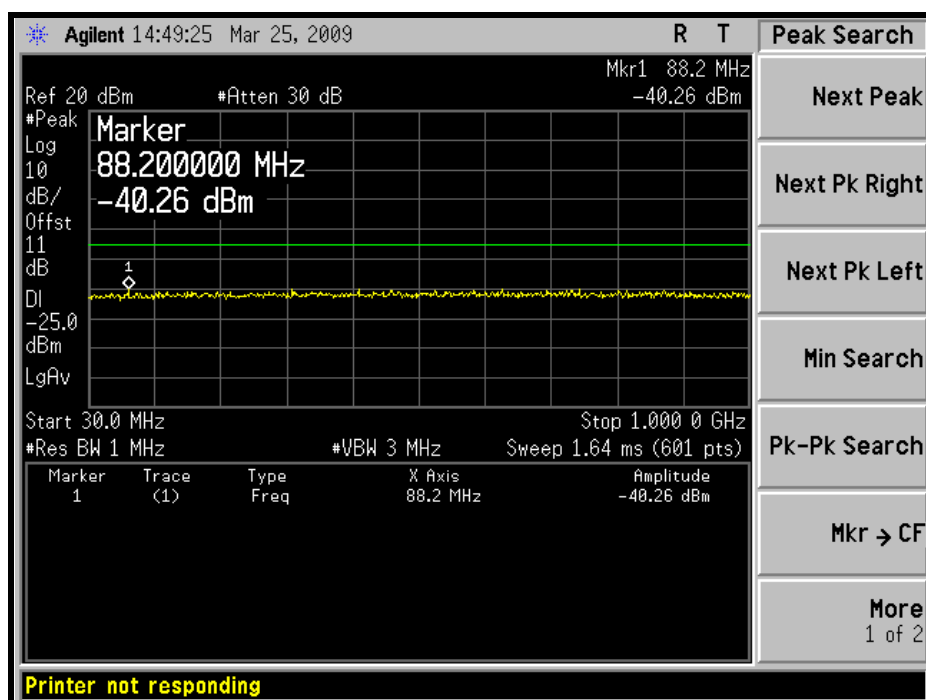
5GHz ~ 10GHz:



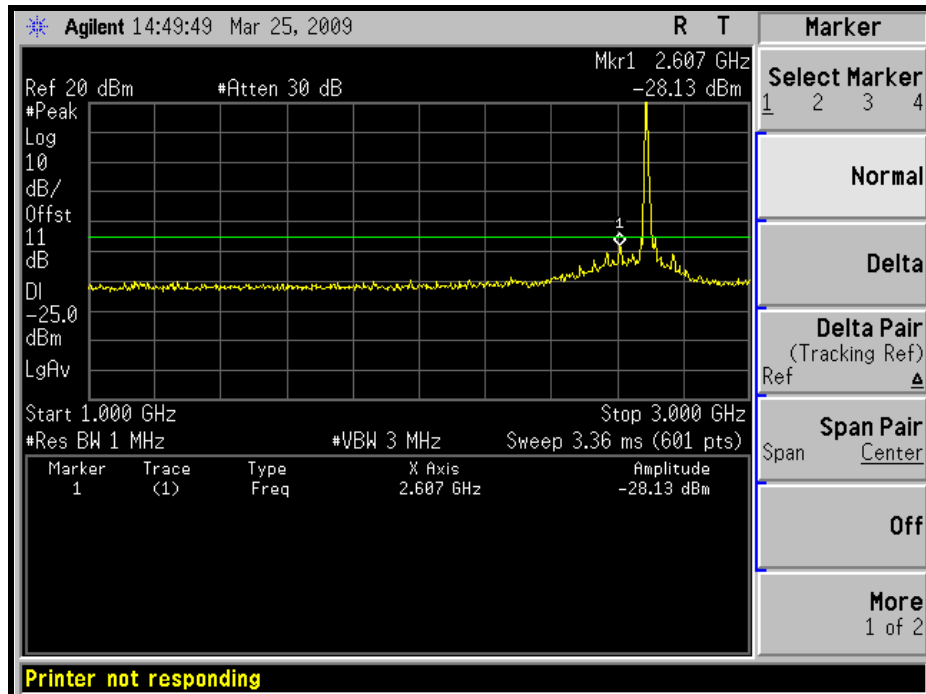
10GHz ~ 25GHz:



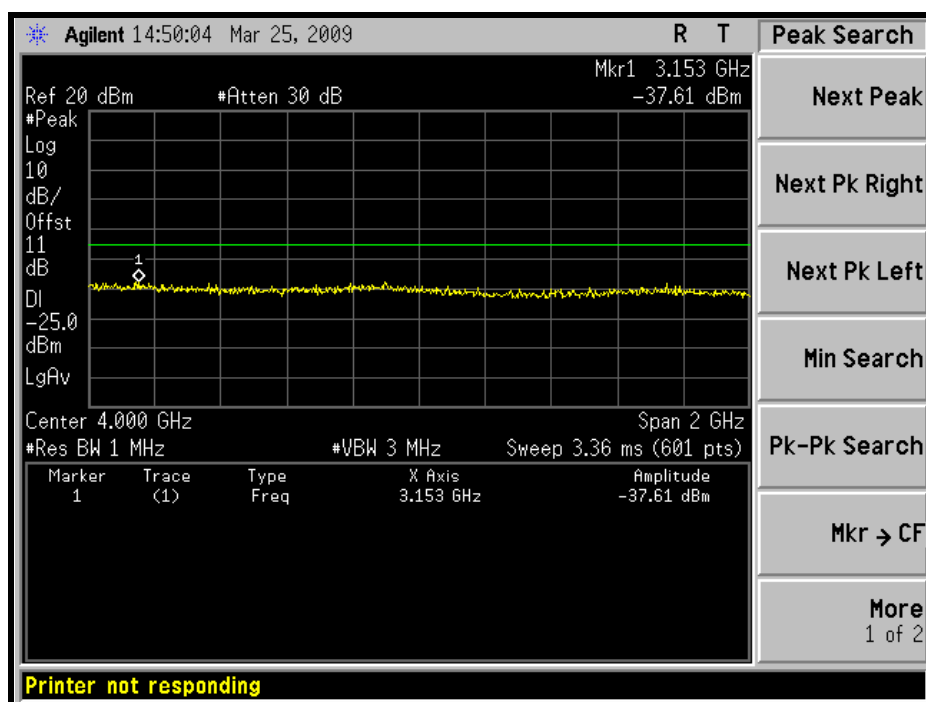
HIGH CHANNEL: 30MHz ~ 1GHz:



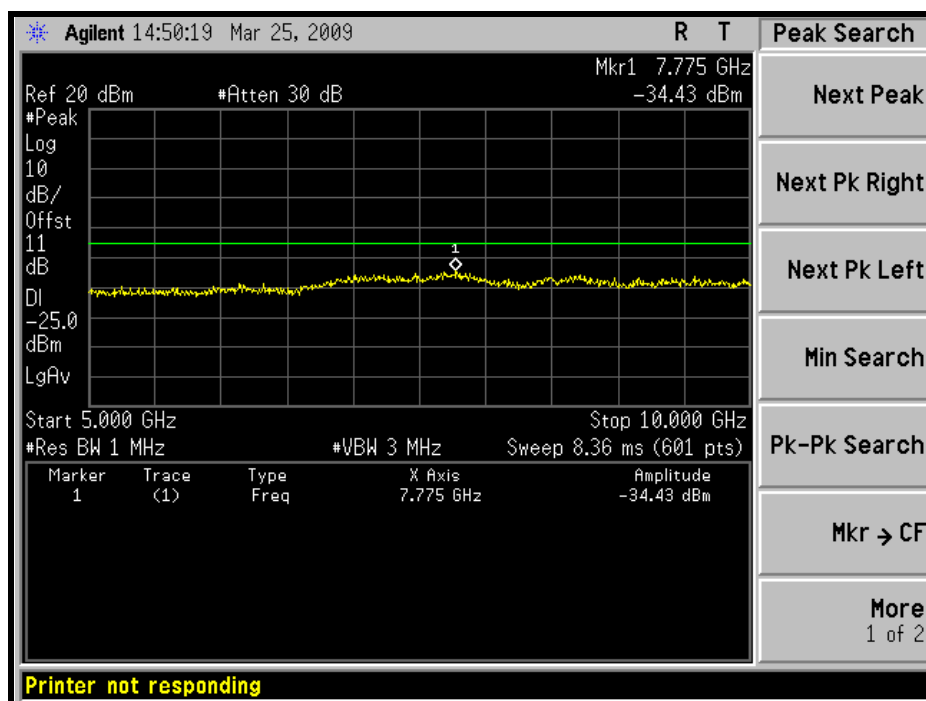
1GHz ~ 3GHz:



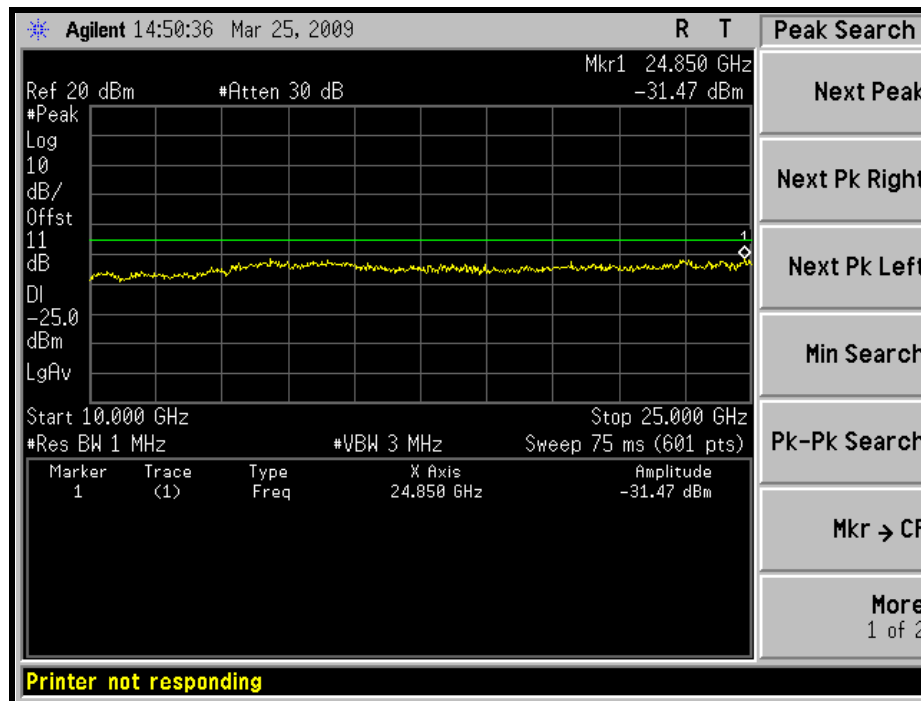
3GHz ~ 5GHz:



5GHz ~ 10GHz:



10GHz ~ 25GHz:

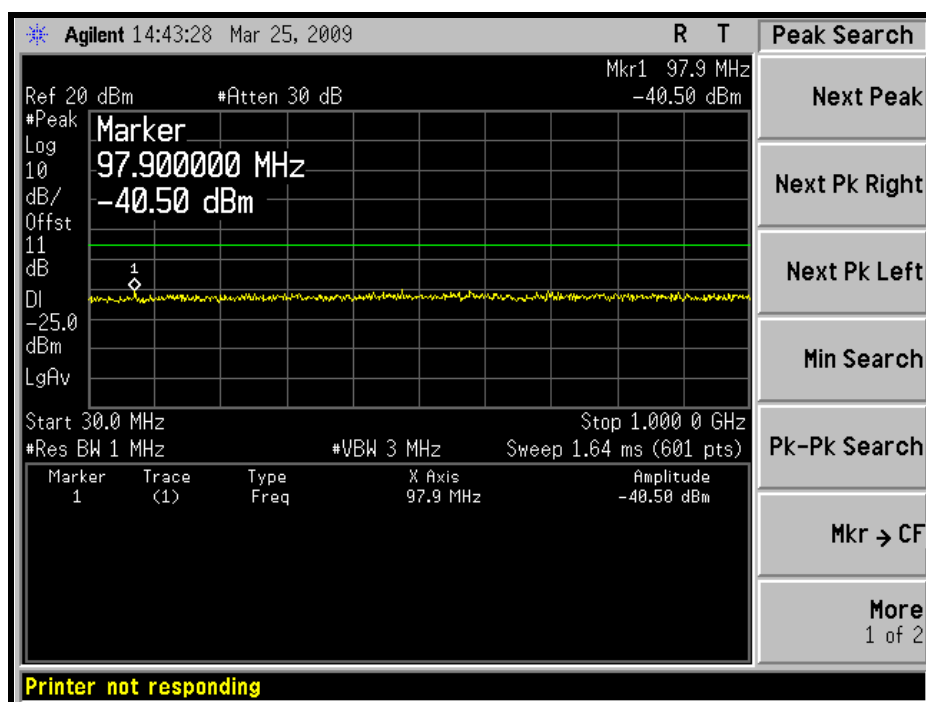




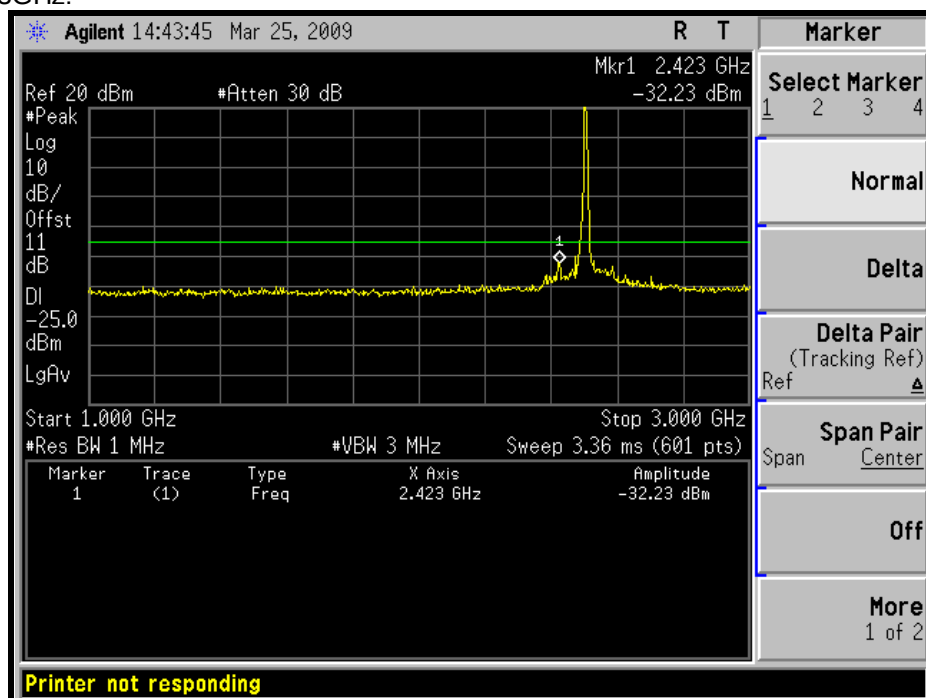
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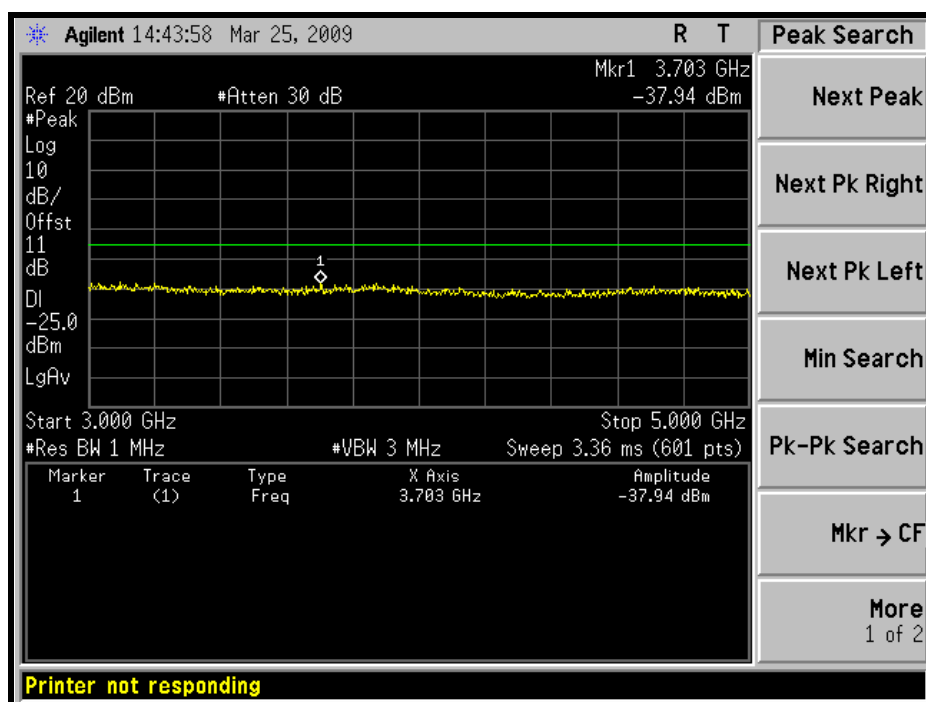
LOW CHANNEL: 30MHz ~ 1GHz:



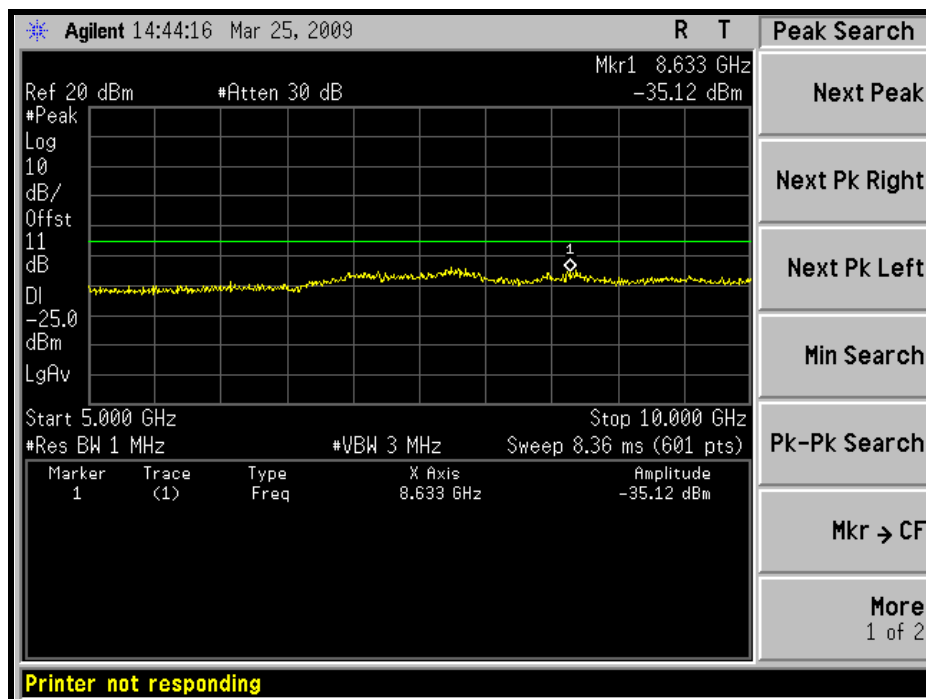
1GHz ~ 3GHz:



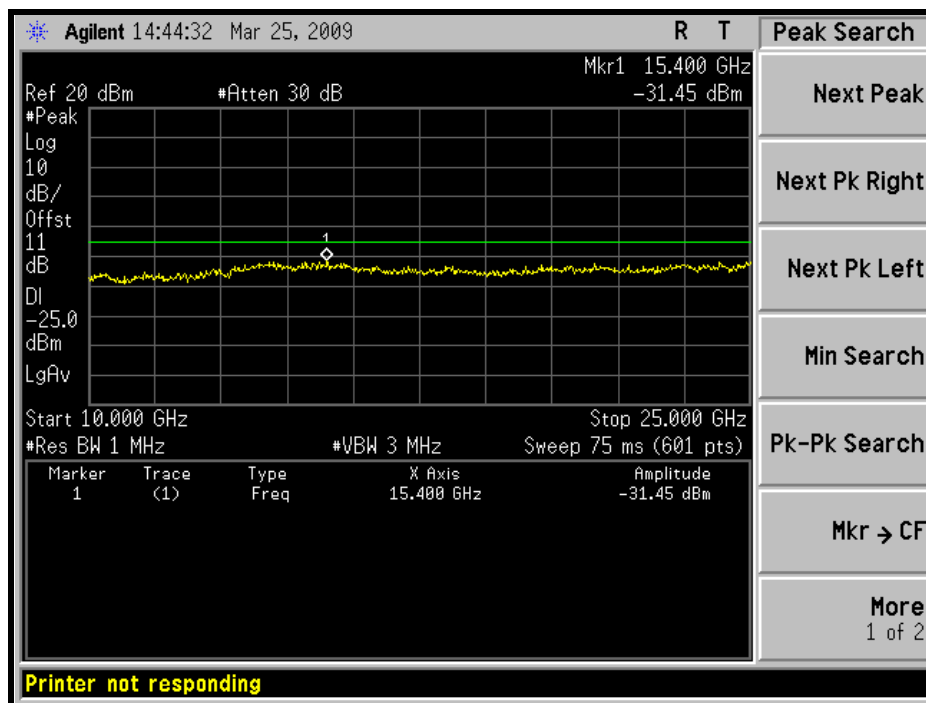
3GHz ~ 5GHz:



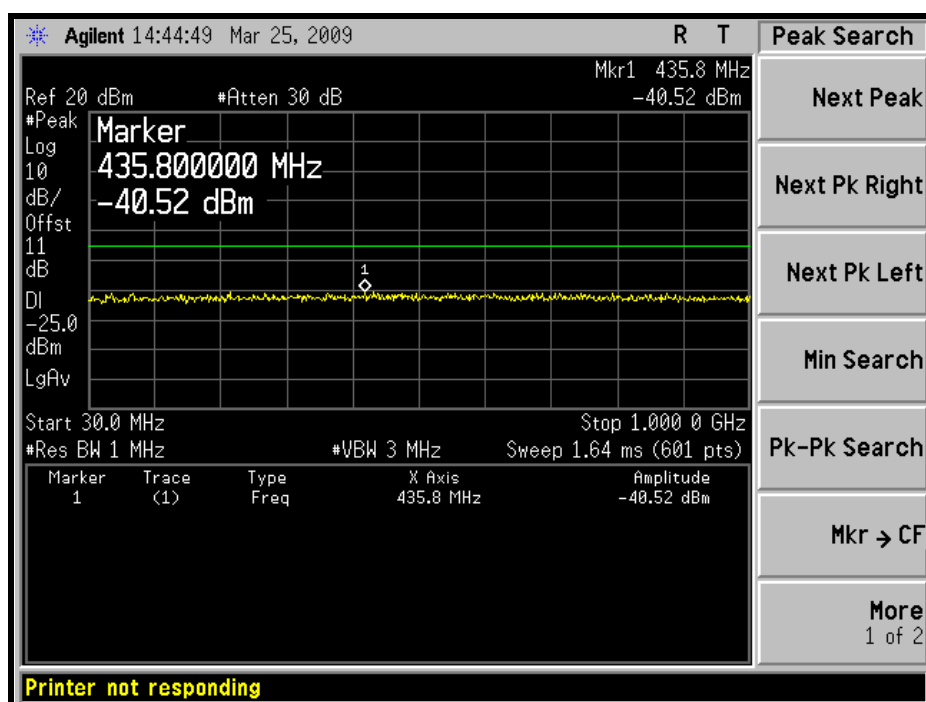
5GHz ~ 10GHz:



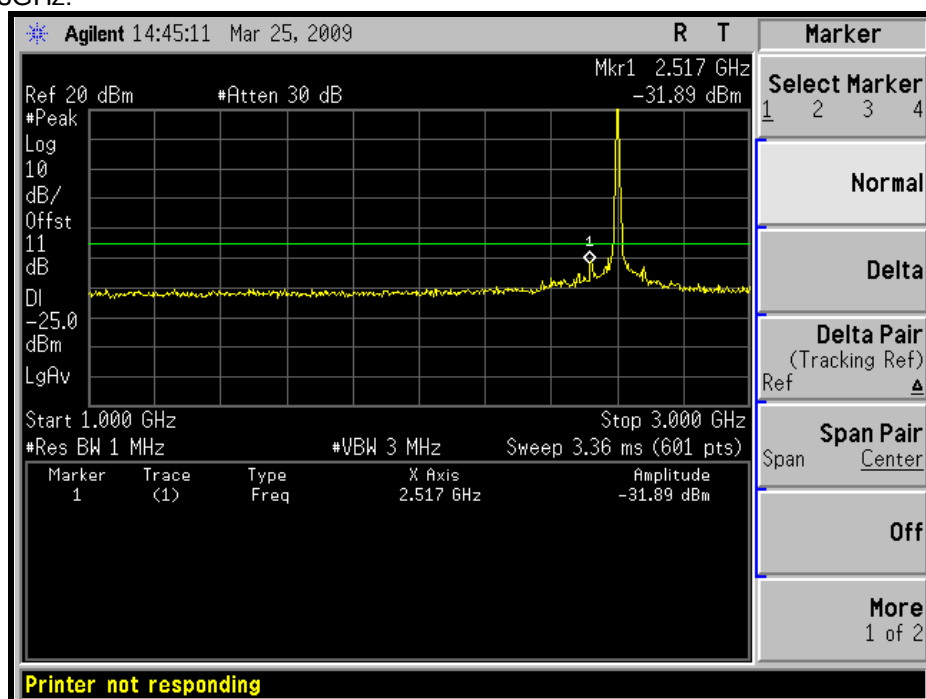
10GHz ~ 25GHz:



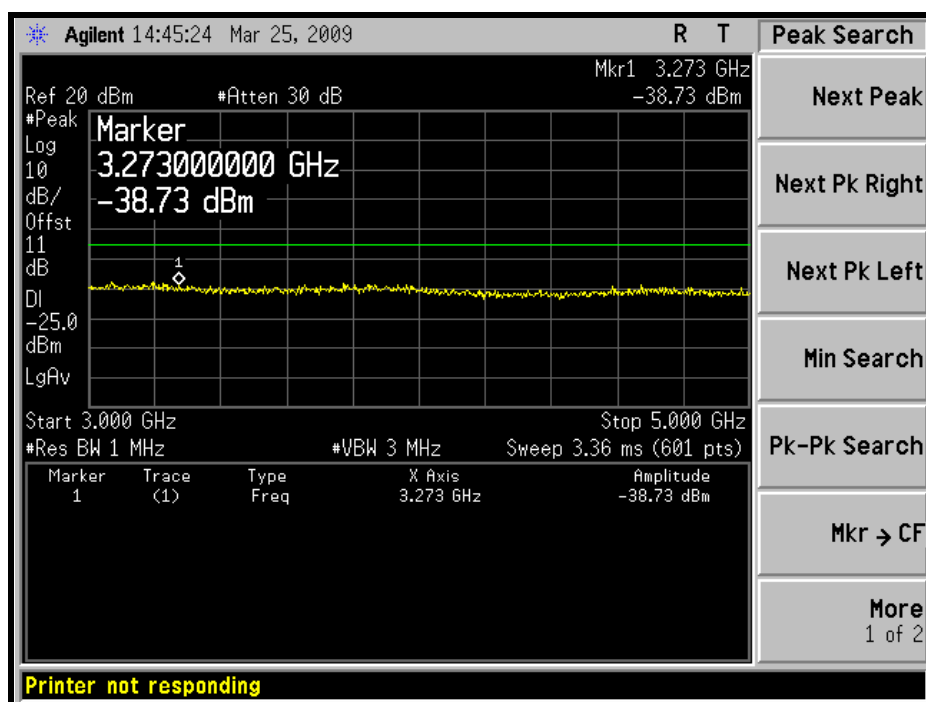
MIDDLE CHANNEL: 30MHz ~ 1GHz:



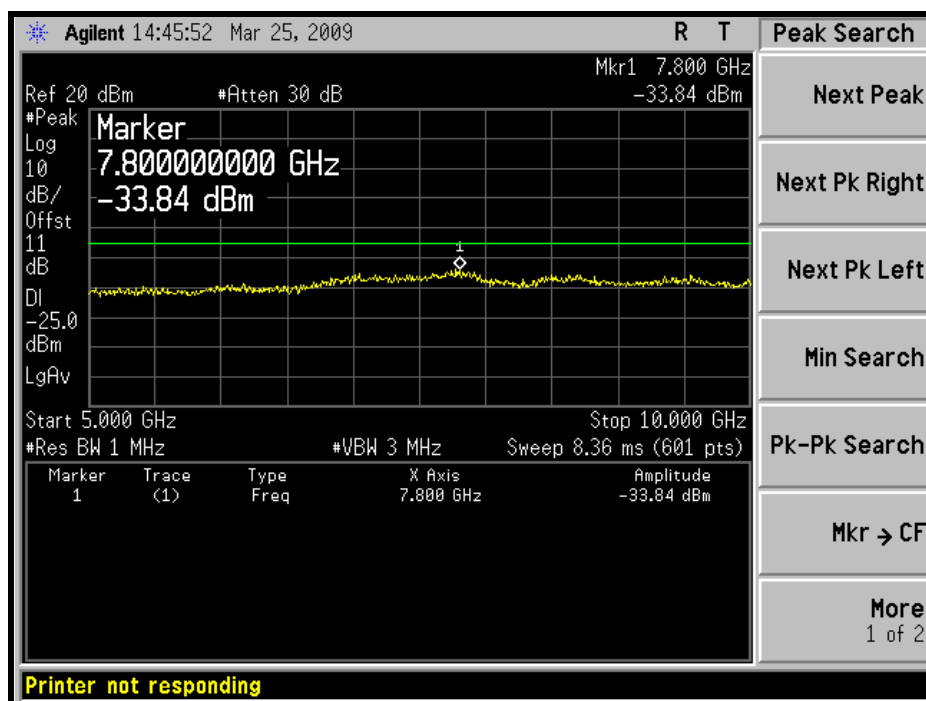
1GHz ~ 3GHz:



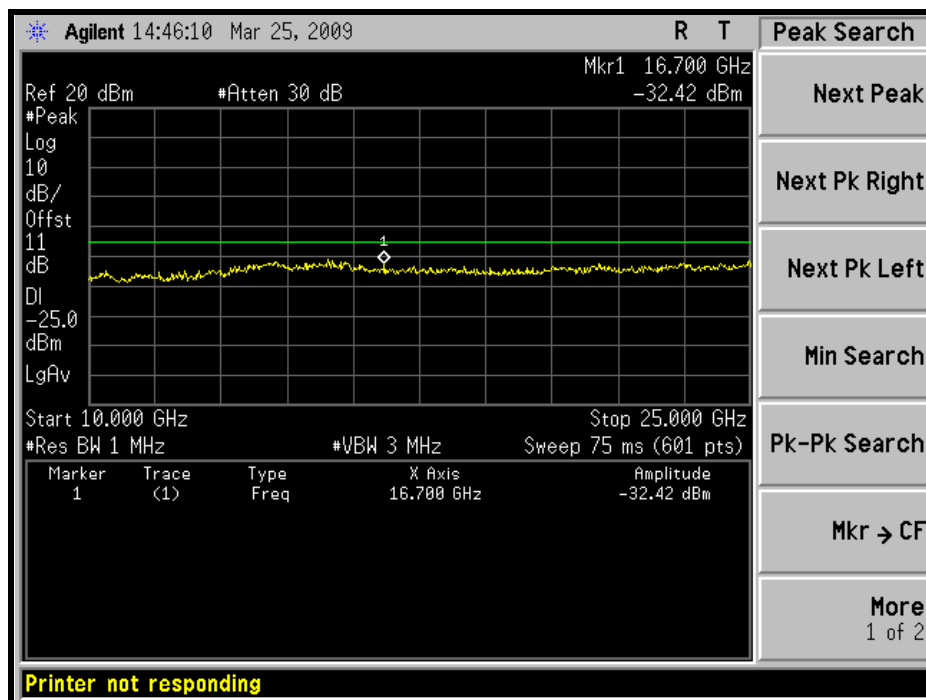
3GHz ~ 5GHz:



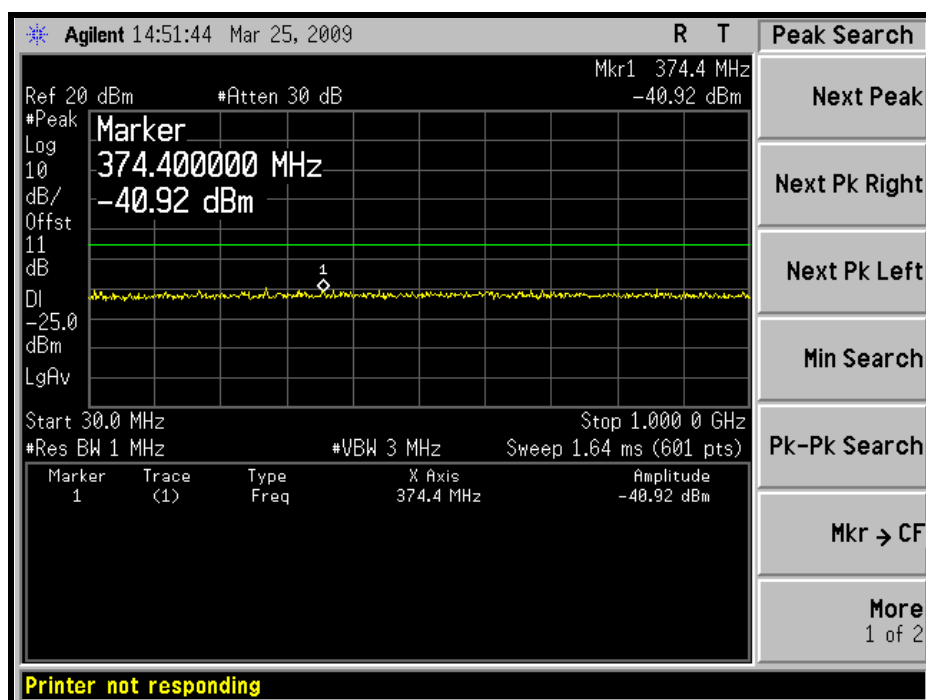
5GHz ~ 10GHz:



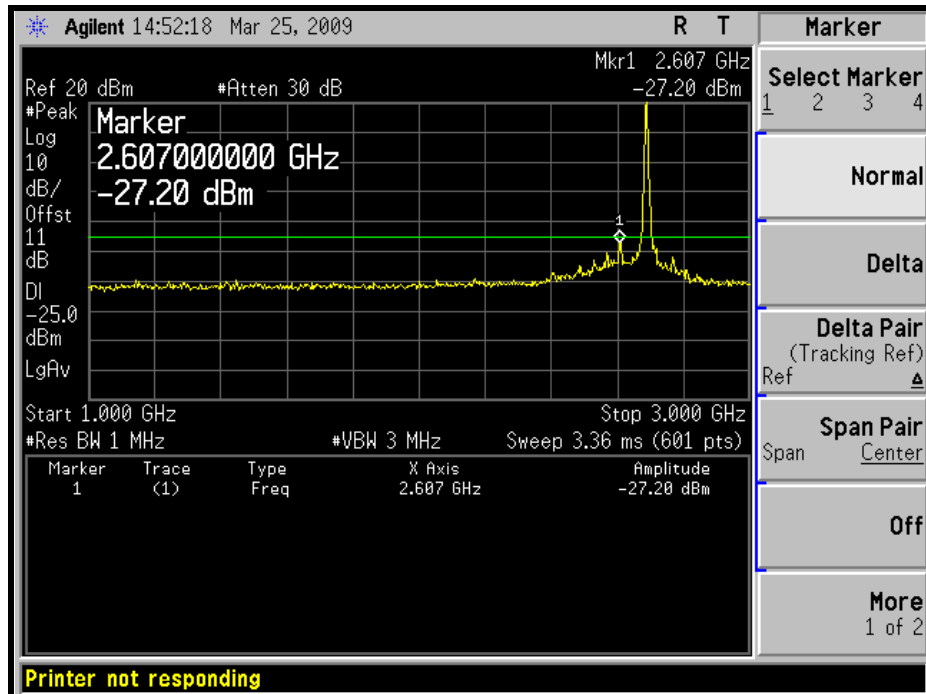
10GHz ~ 25GHz:



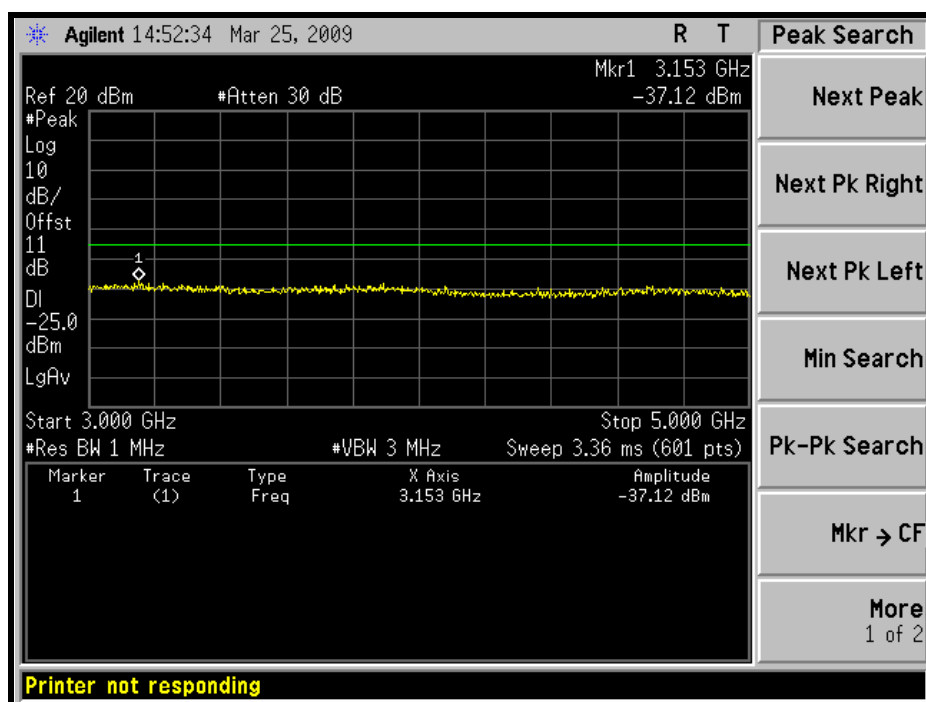
HIGH CHANNEL: 30MHz ~ 1GHz:



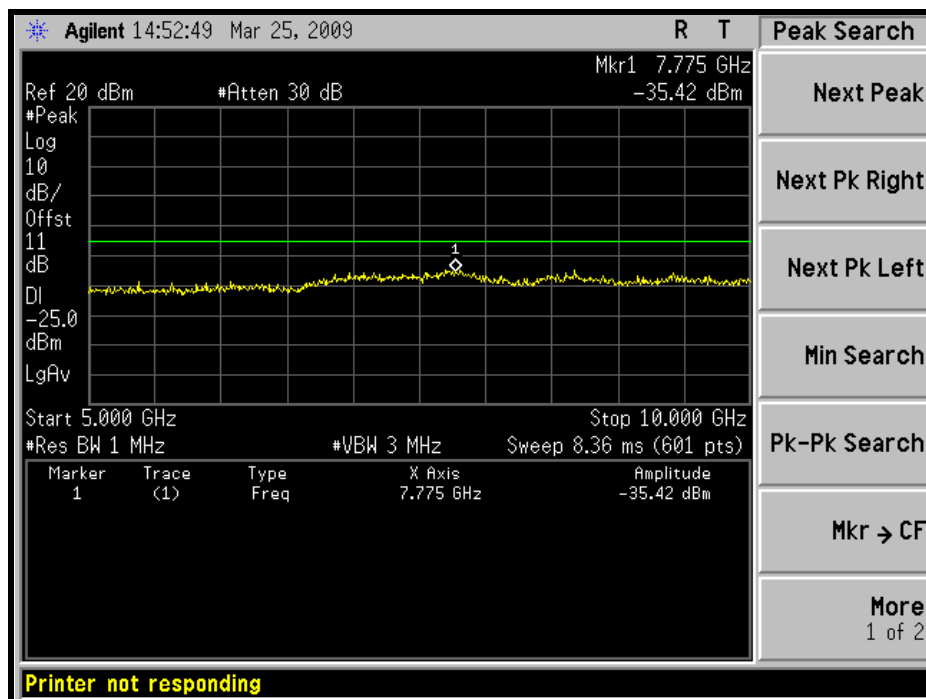
1GHz ~ 3GHz:



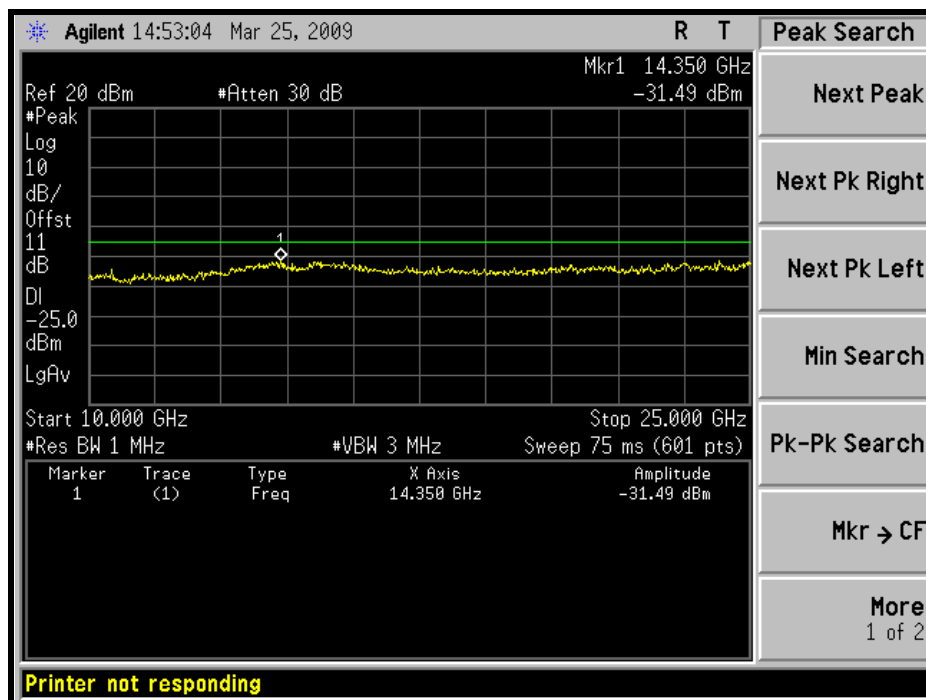
3GHz ~ 5GHz:



5GHz ~ 10GHz:



10GHz ~ 25GHz:



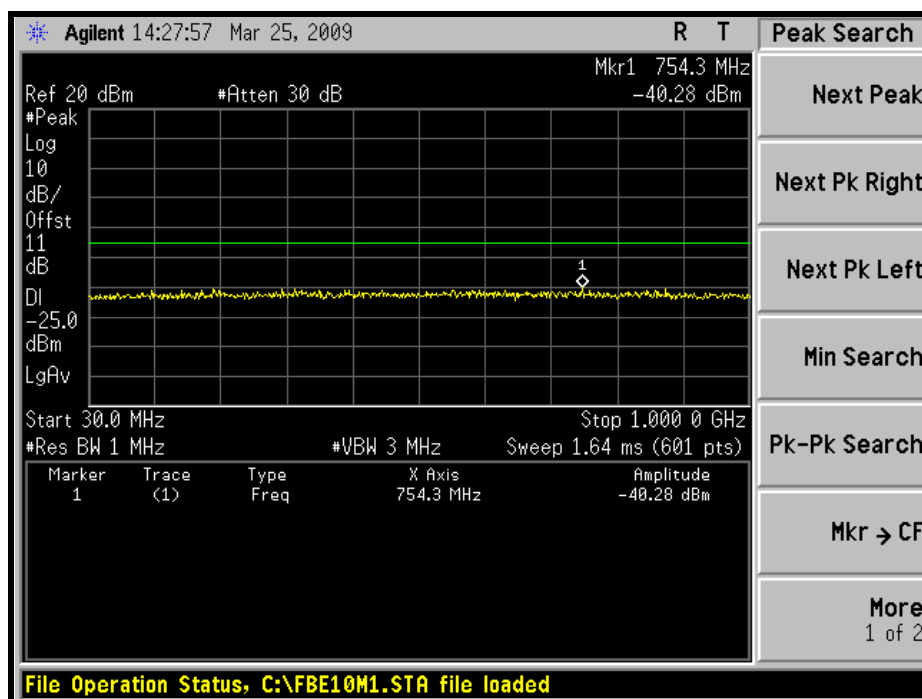


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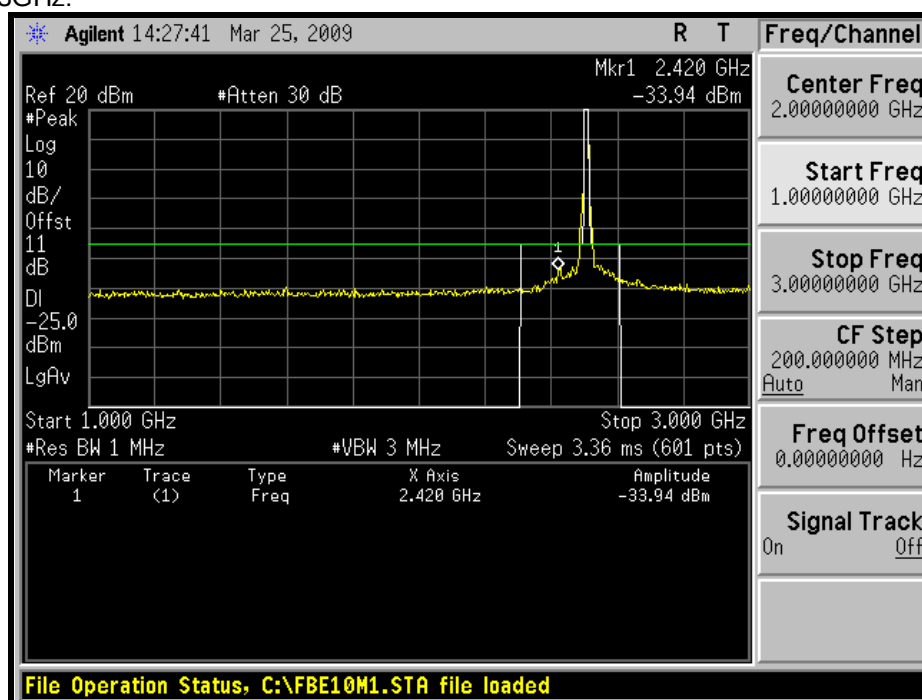
CHANNEL BANDWIDTH: 10MHz

CHIN0

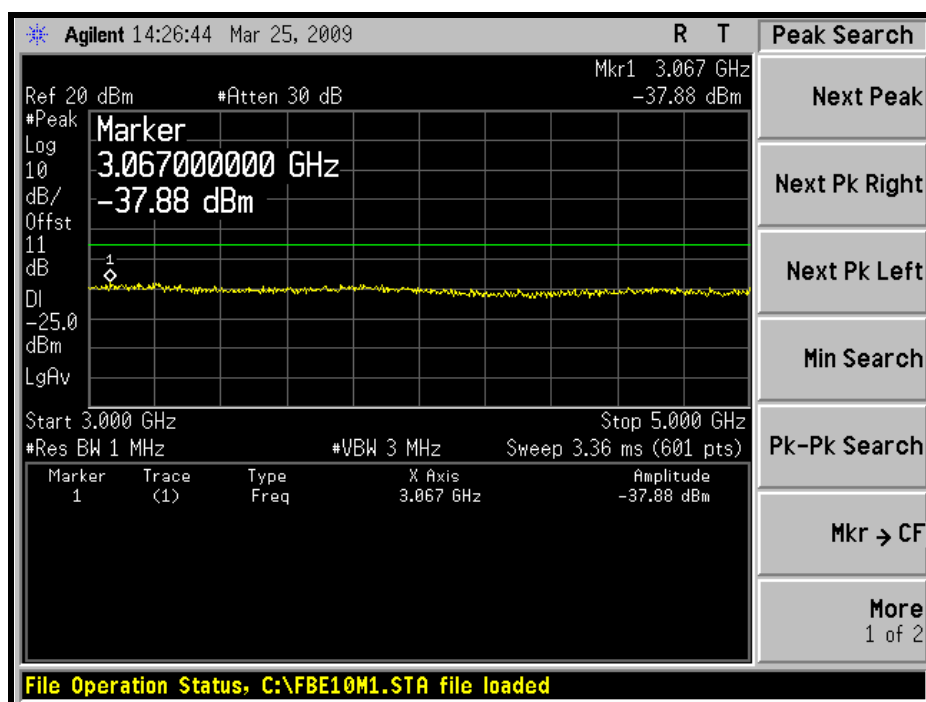
LOW CHANNEL: 30MHz ~ 1GHz:



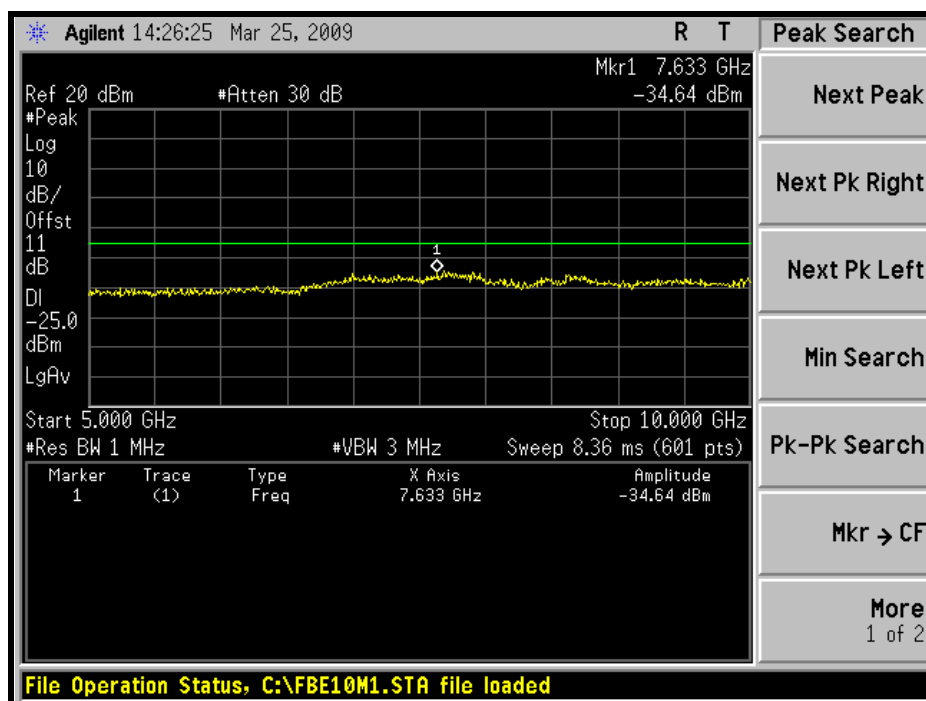
1GHz ~ 3GHz:



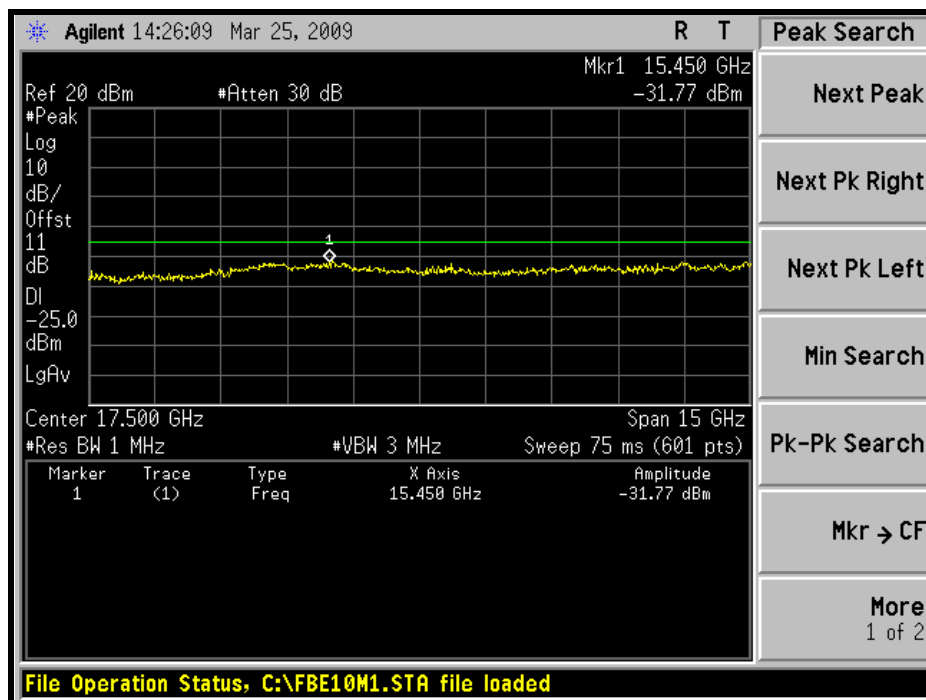
3GHz ~ 5GHz:



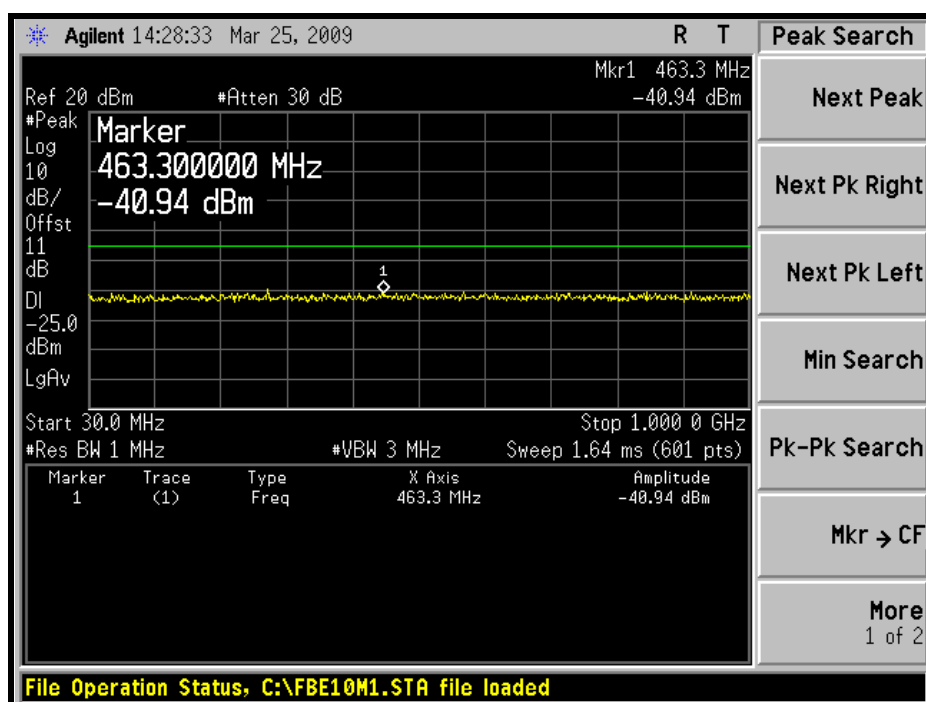
5GHz ~ 10GHz:



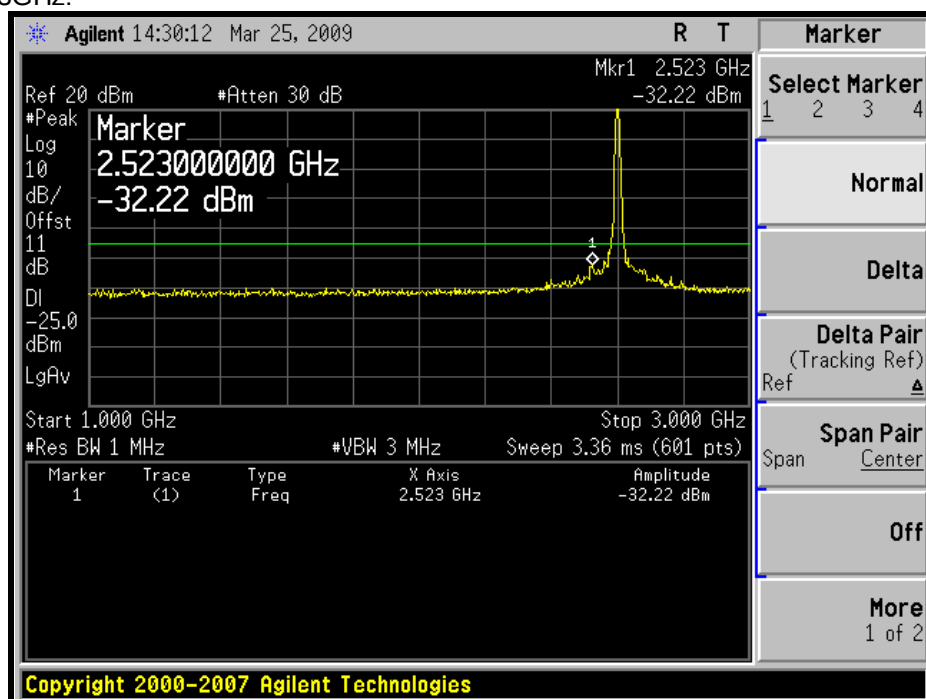
10GHz ~ 25GHz:



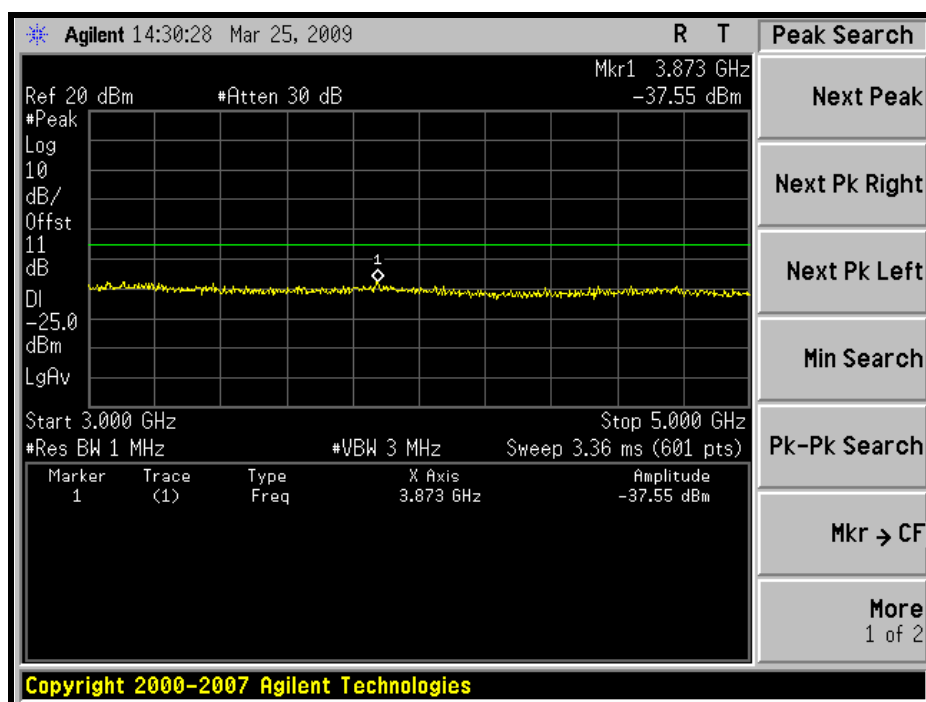
MIDDLE CHANNEL: 30MHz ~ 1GHz:



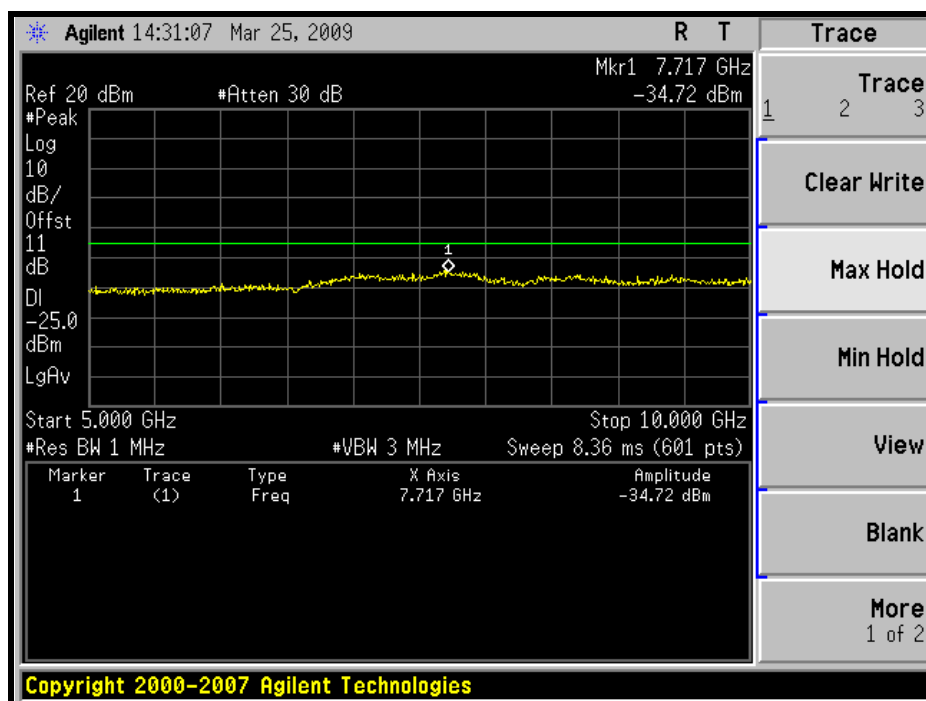
1GHz ~ 3GHz:



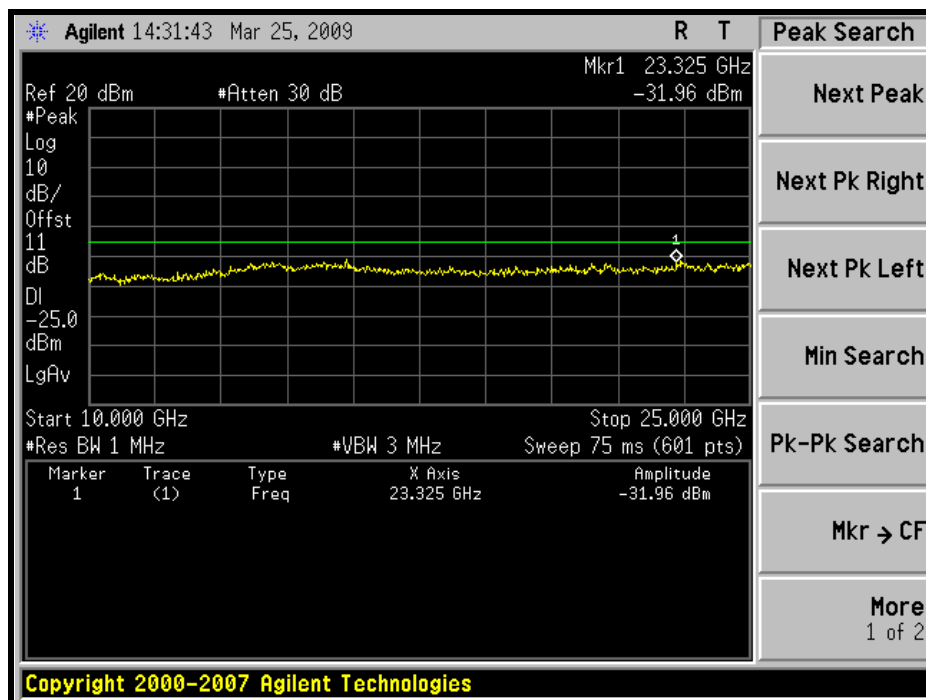
3GHz ~ 5GHz:



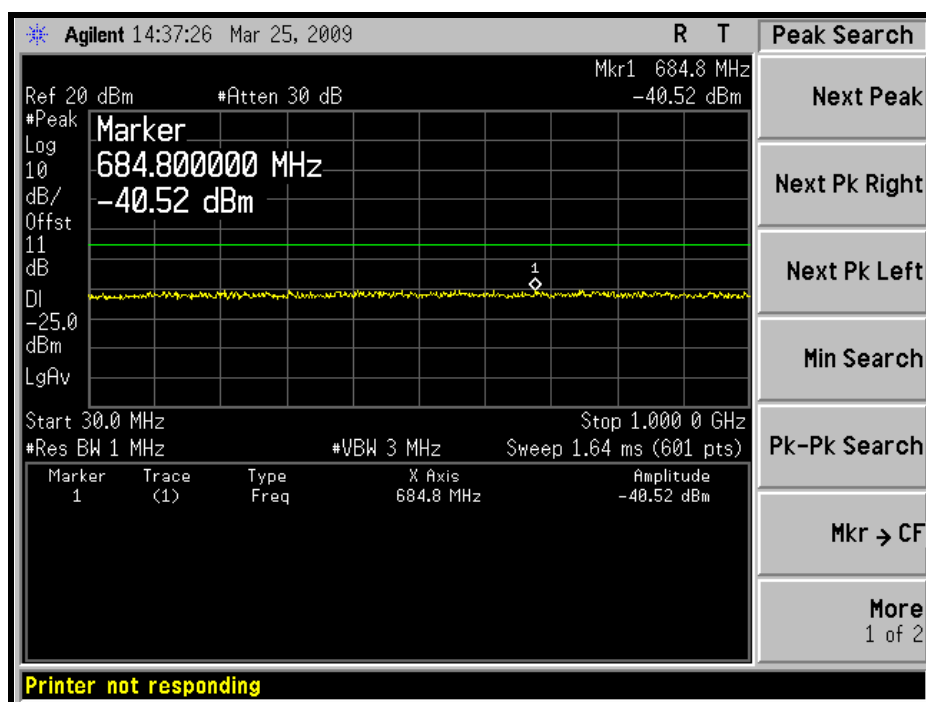
5GHz ~ 10GHz:



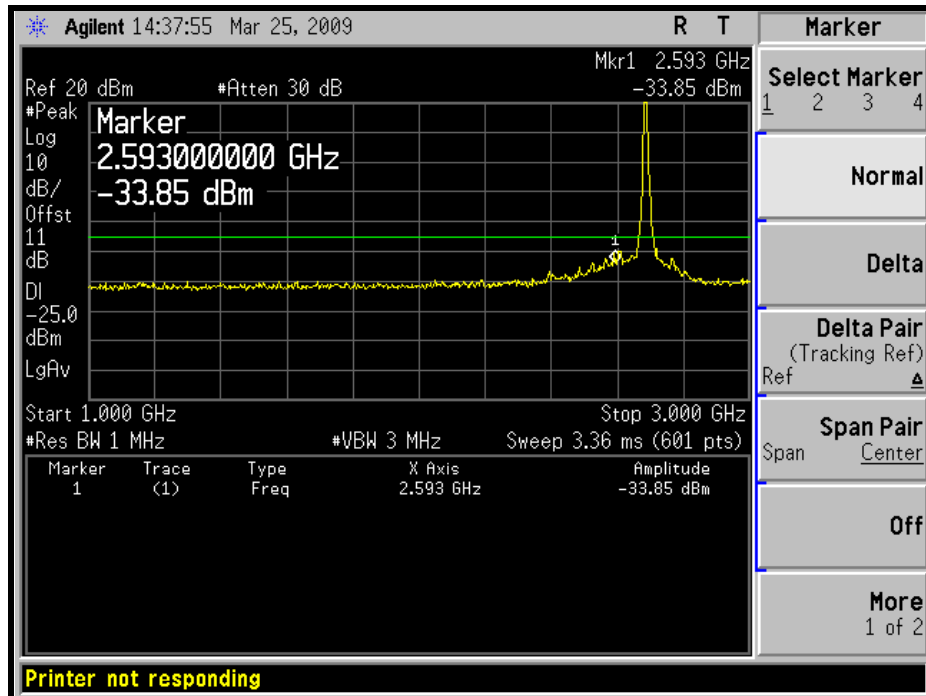
10GHz ~ 25GHz:



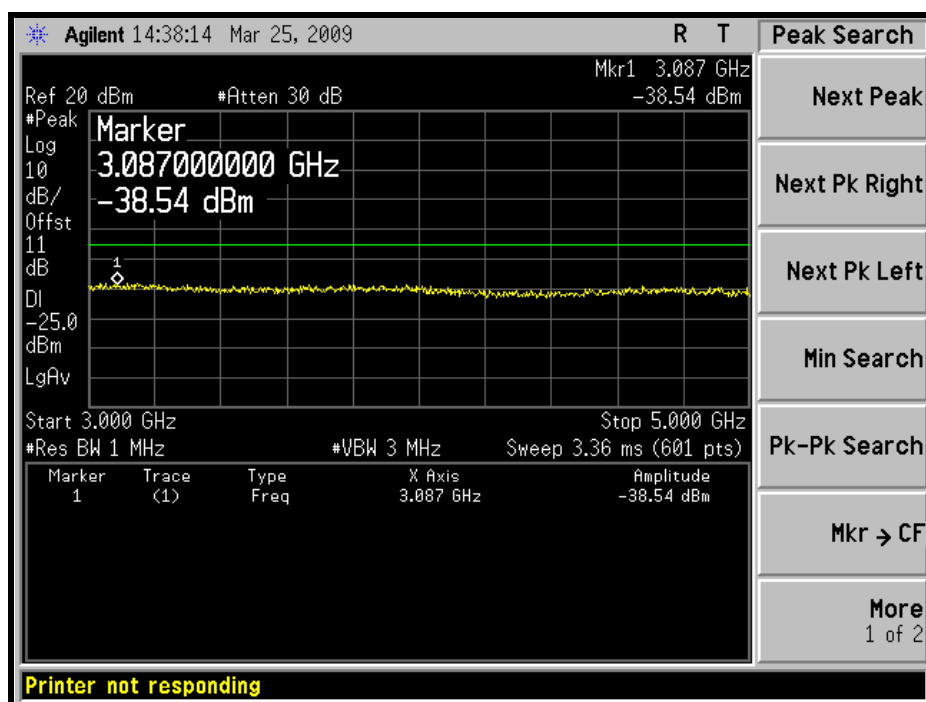
HIGH CHANNEL: 30MHz ~ 1GHz:



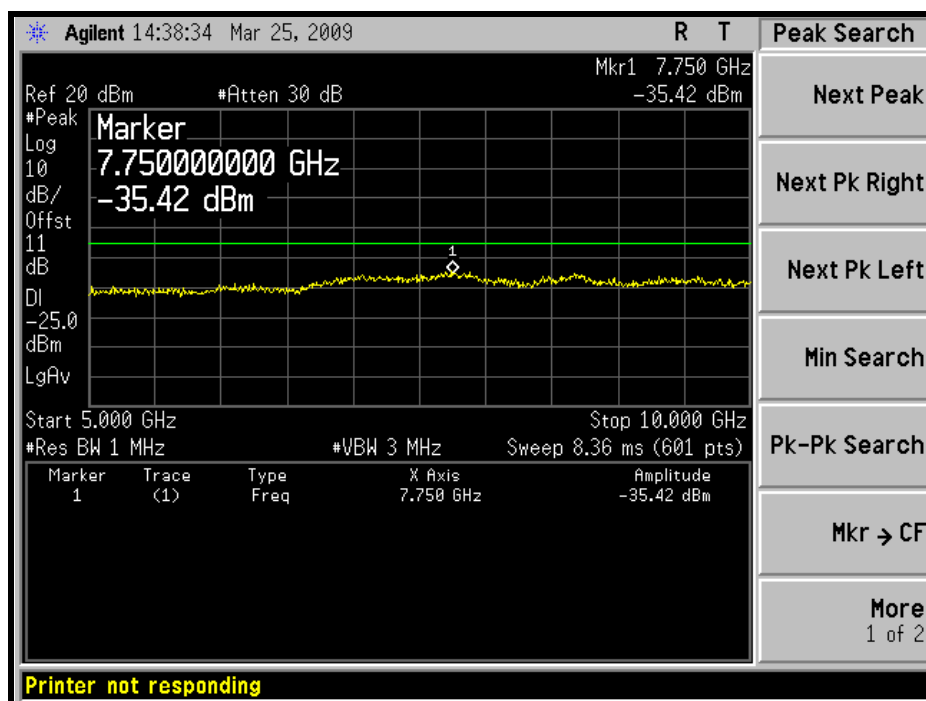
1GHz ~ 3GHz:



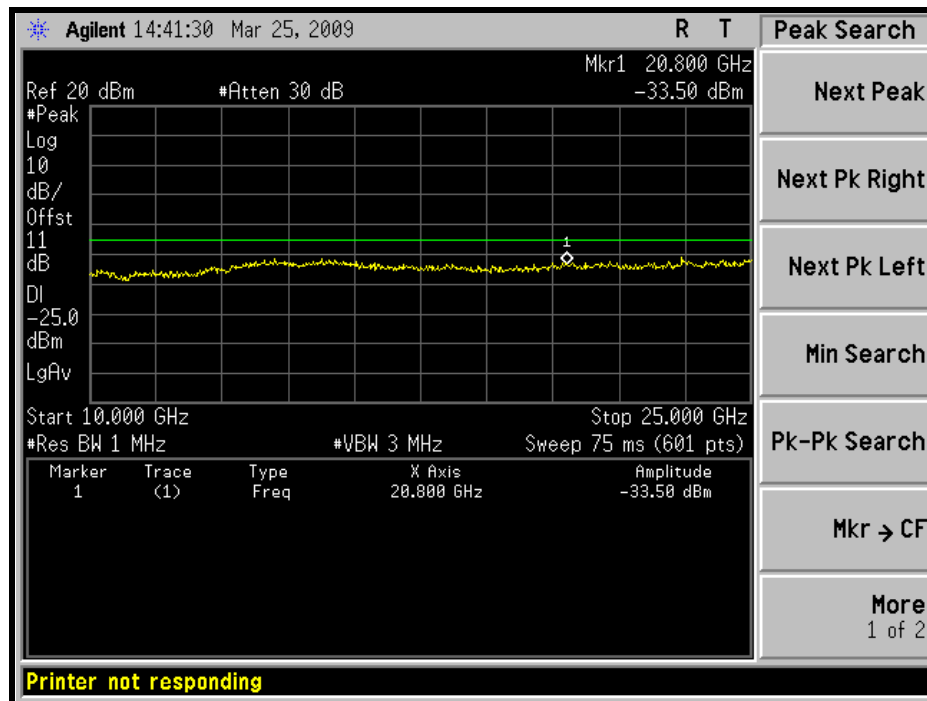
3GHz ~ 5GHz:



5GHz ~ 10GHz:



10GHz ~ 25GHz:

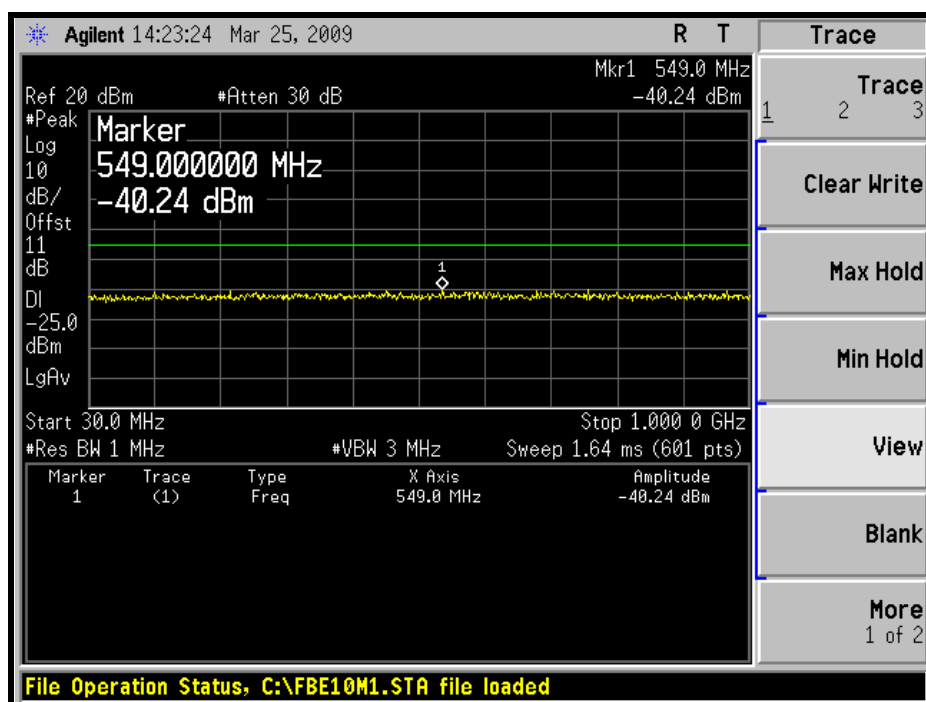




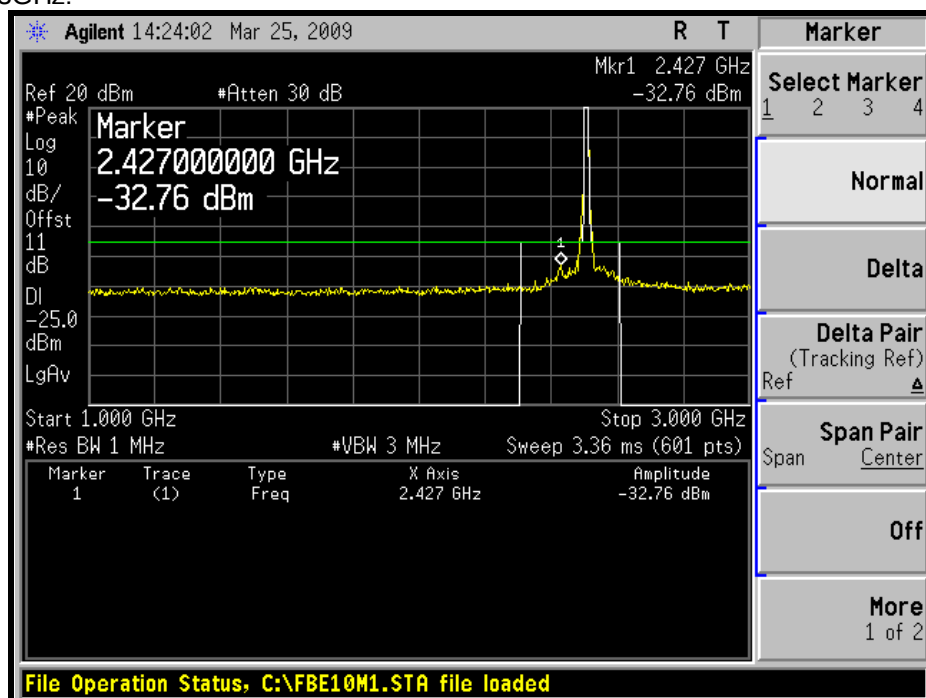
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CHIN1

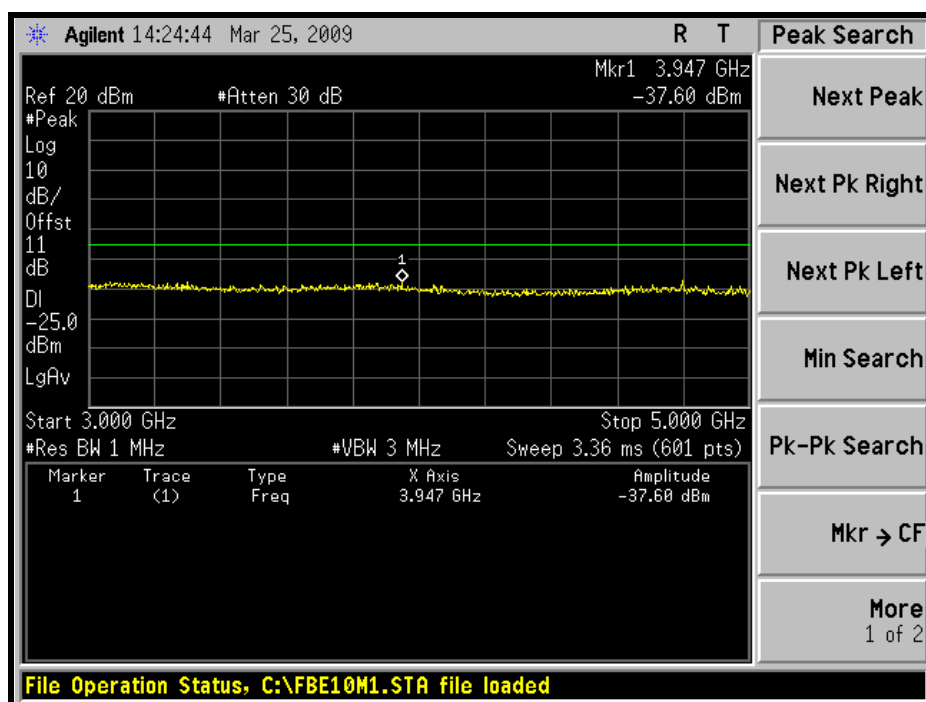
LOW CHANNEL: 30MHz ~ 1GHz:



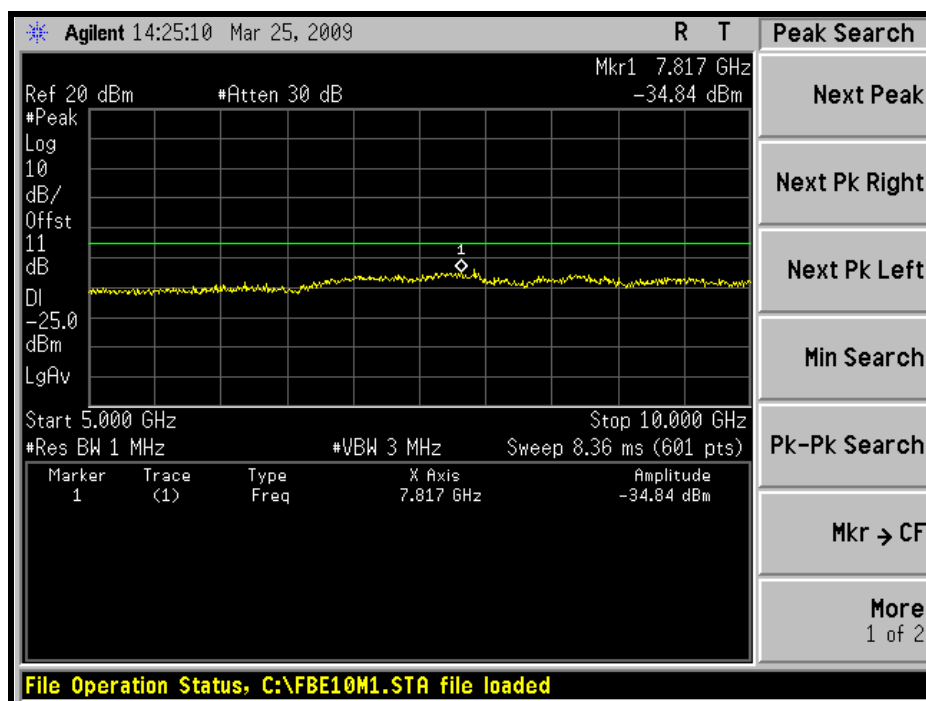
1GHz ~ 3GHz:



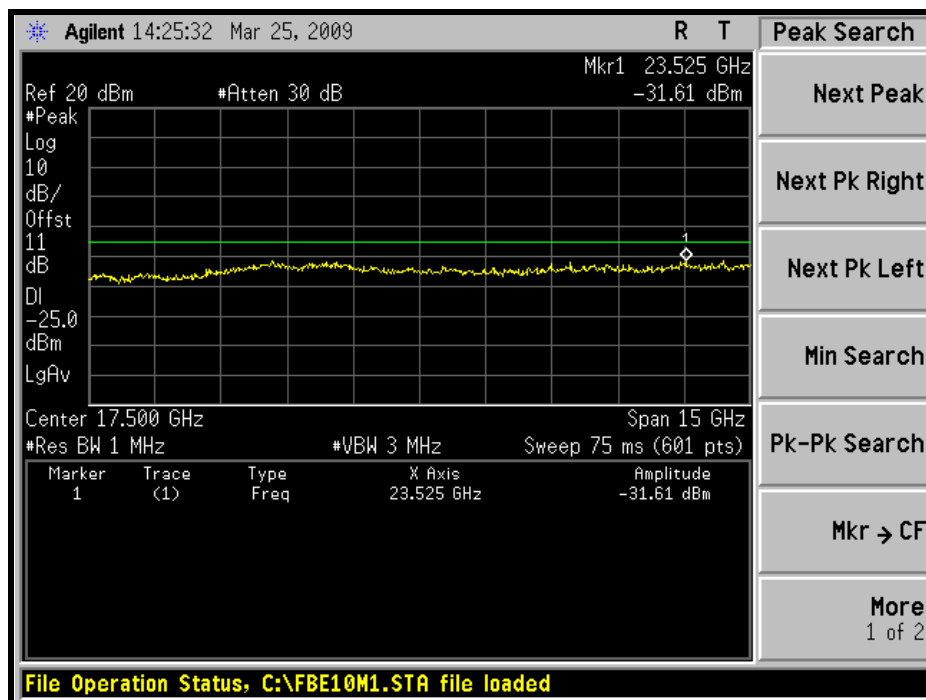
3GHz ~ 5GHz:



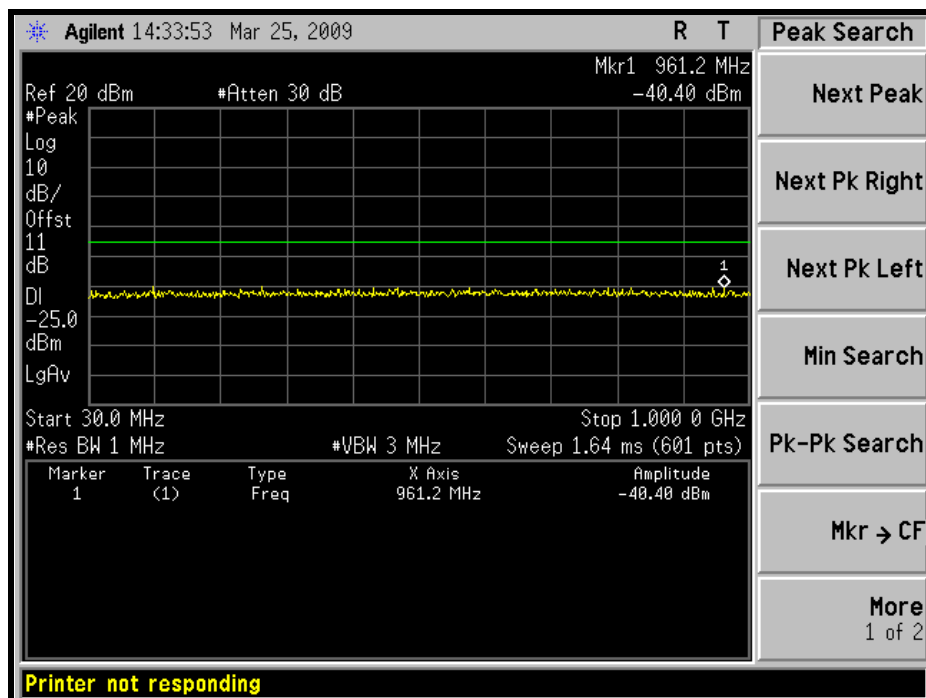
5GHz ~ 10GHz:



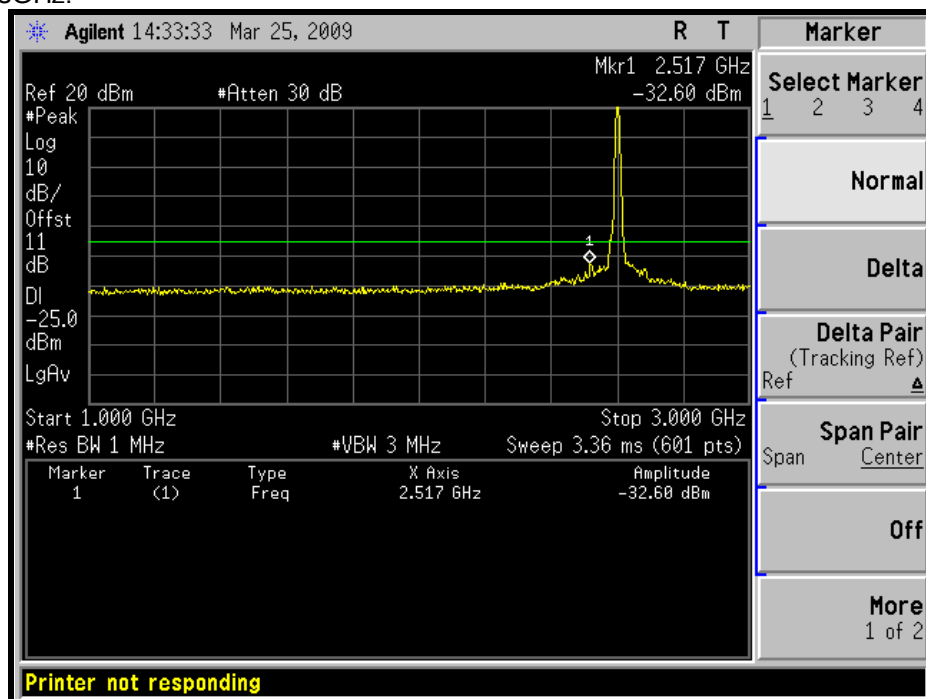
10GHz ~ 25GHz:



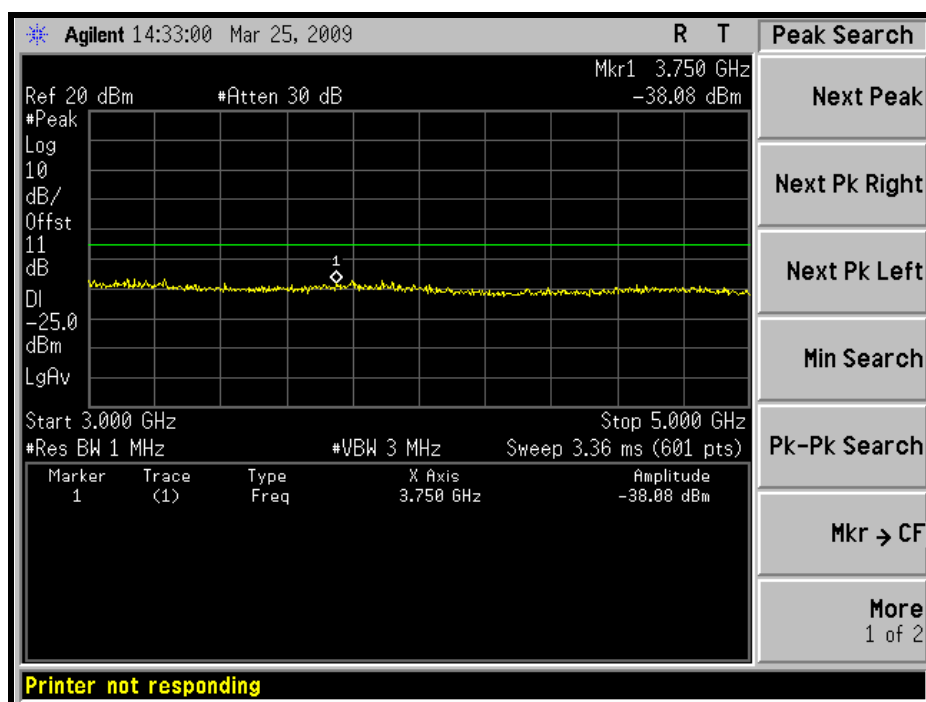
MIDDLE CHANNEL: 30MHz ~ 1GHz:



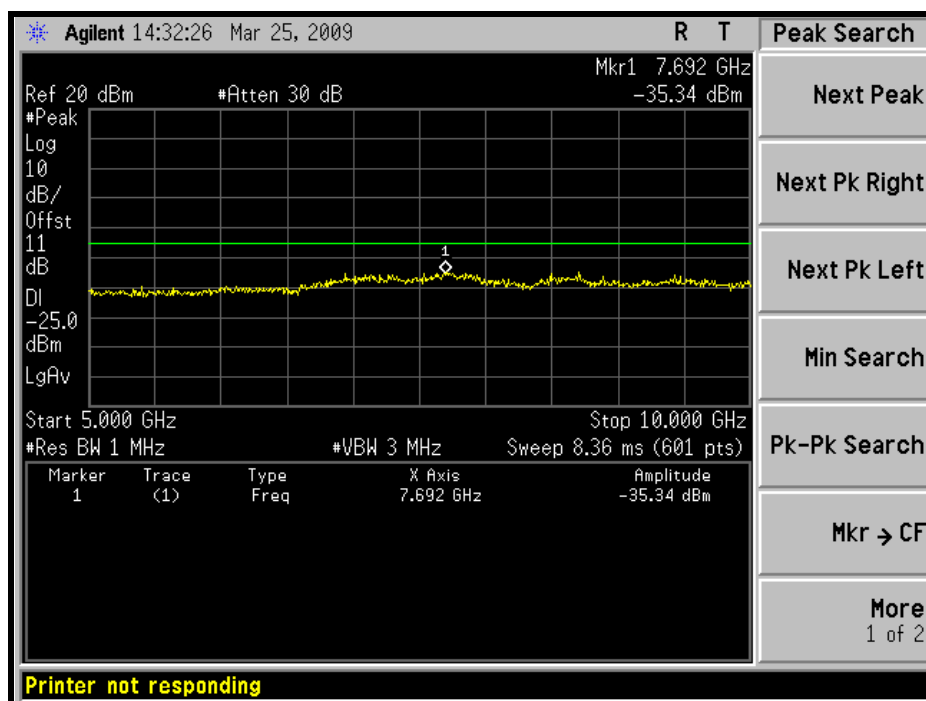
1GHz ~ 3GHz:



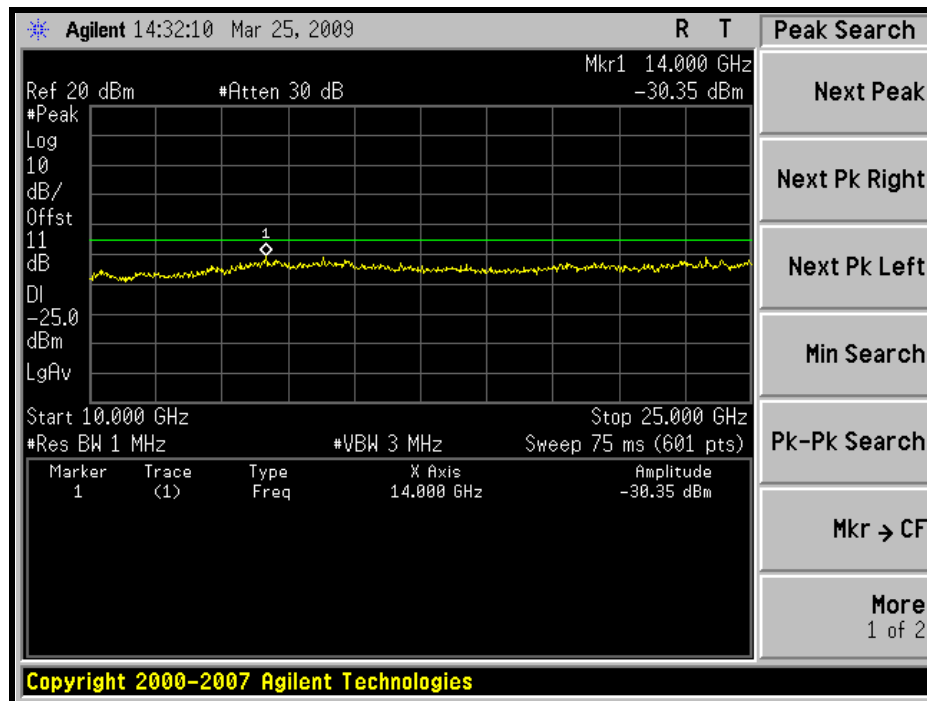
3GHz ~ 5GHz:



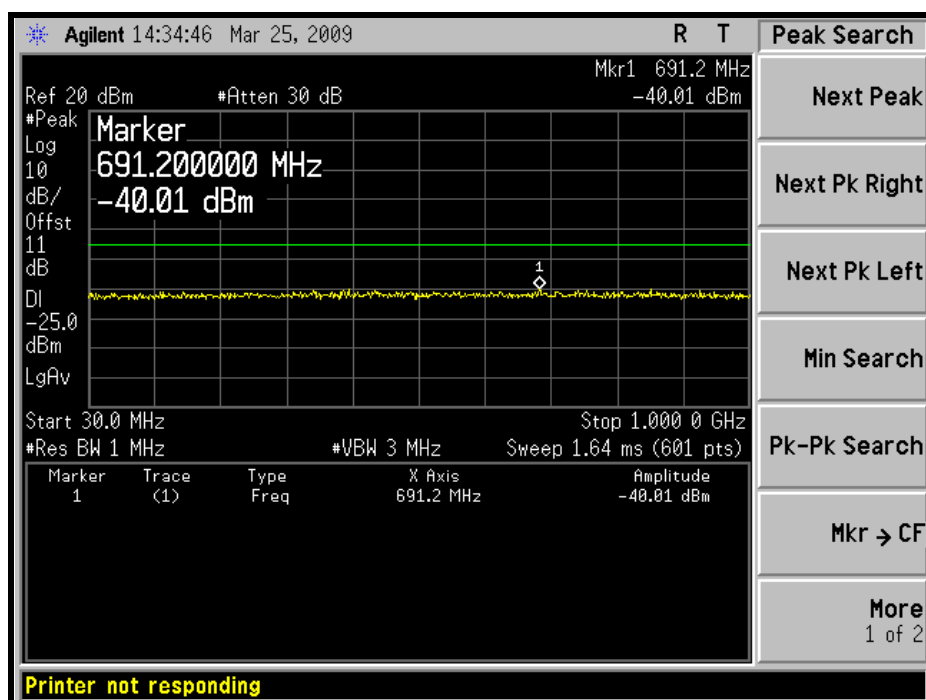
5GHz ~ 10GHz:



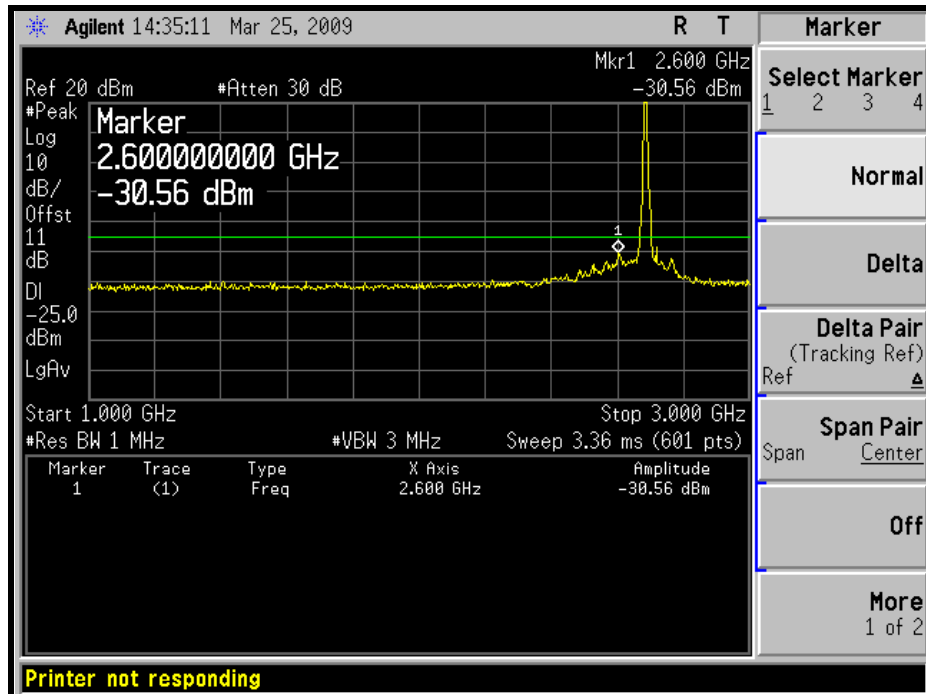
10GHz ~ 25GHz:



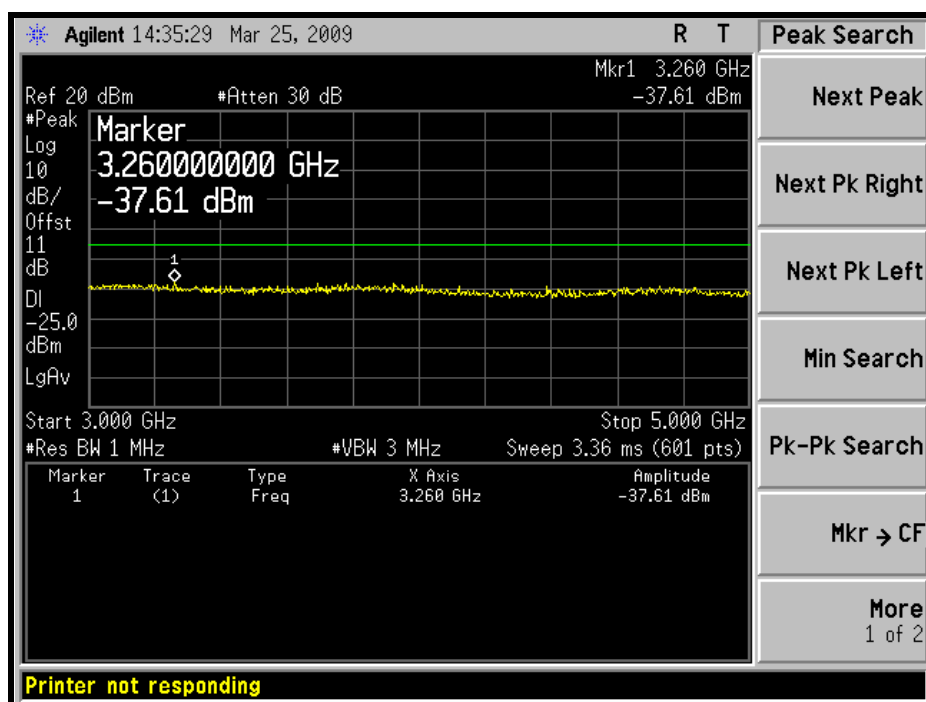
HIGH CHANNEL: 30MHz ~ 1GHz:



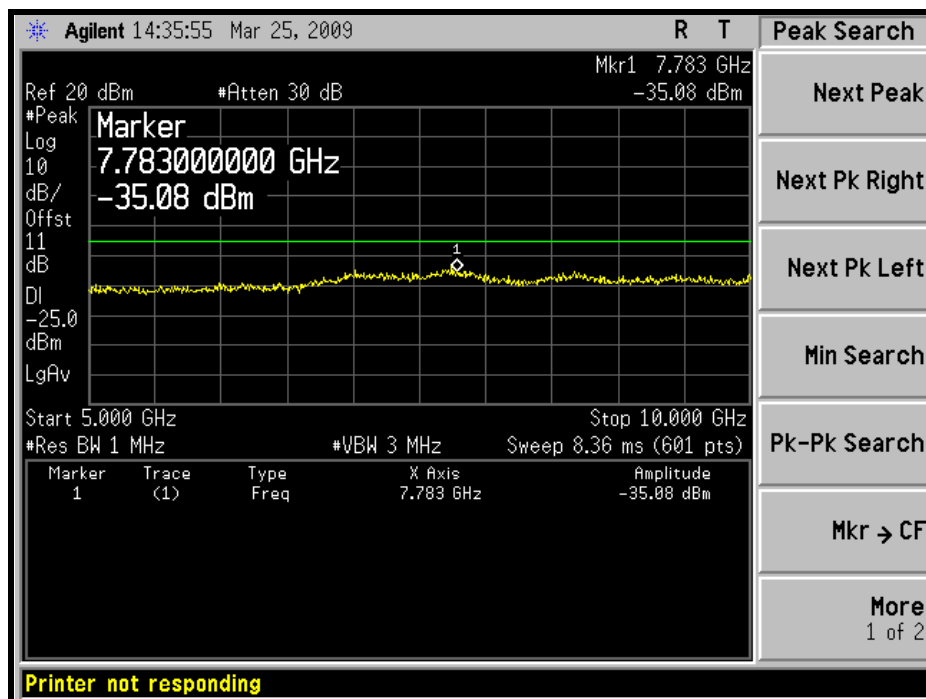
1GHz ~ 3GHz:



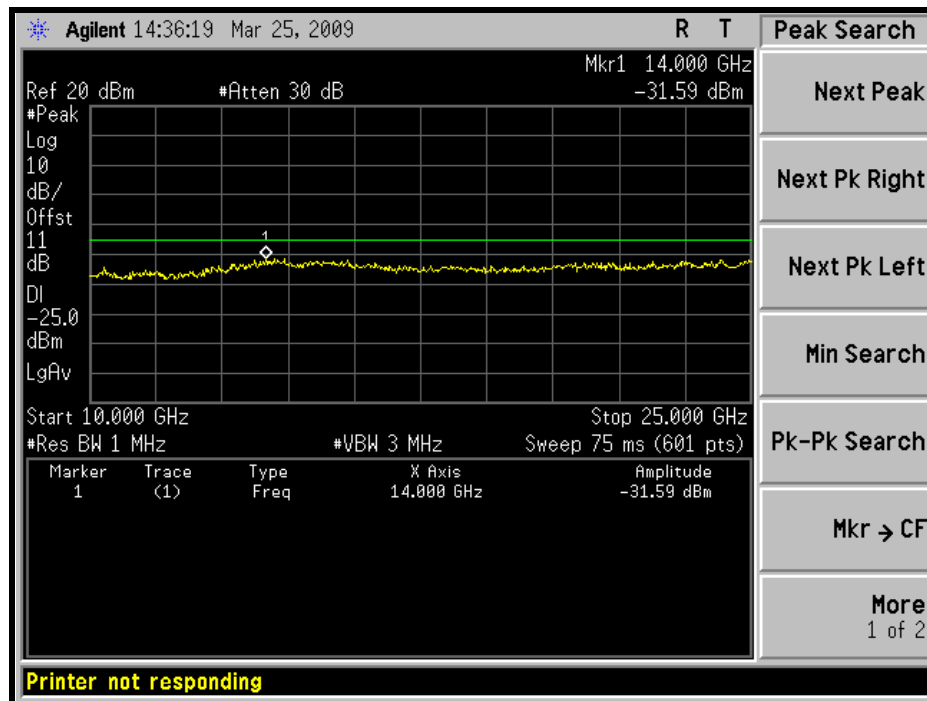
3GHz ~ 5GHz:



5GHz ~ 10GHz:



10GHz ~ 25GHz:



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 $43 + 10 \log (P)$ dB and $55 + 10 \log (P)$ dB at 5.5 MHz from the channel edges.

4.6.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
ROHDE & SCHWARZ Spectrum Analyzer	FSP40	100036	Dec. 09, 2008	Dec. 08, 2009
HP Pre_Amplifier	8449B	3008A01923	Nov. 10, 2008	Nov. 09, 2009
ROHDE & SCHWARZ Test Receiver	ESCS30	847124/029	Sep. 09, 2008	Sep. 08, 2009
SCHWARZBECK TRILOG Broadband Antenna	VULB 9168	138	April 29, 2009	April 28, 2010
Schwarzbeck Horn_Antenna	BBHA9120	D124	Dec. 09, 2008	Dec. 08, 2009
Schwarzbeck Horn_Antenna	BBHA 9170	BBHA9170153	Jan. 22, 2009	Jan. 21, 2010
RF Switches	EMH-011	08009	Oct. 07, 2008	Oct. 06, 2009
RF CABLE (Chaintek)	Sucoflex 106	28077	Aug. 15, 2008	Aug. 14, 2009
RF Cable	8DFB	STCCAB-30M-1GHz	Oct. 07, 2008	Oct. 06, 2009
Software	ADT_Radiated_V7.6.15.9.2	NA	NA	NA
CT Antenna Tower & Turn Table	NA	NA	NA	NA

- Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
 2. The horn antenna, HP preamplifier (model: 8449B) and Spectrum Analyzer (model: FSP40) are used only for the measurement of emission frequency above 1GHz if tested.
 3. The test was performed in Open Site No. C.
 4. The FCC Site Registration No. is 656396.
 5. The VCCI Site Registration No. is R-1626.
 6. The CANADA Site Registration No. is IC 7450G-3.

4.6.3 TEST PROCEDURES

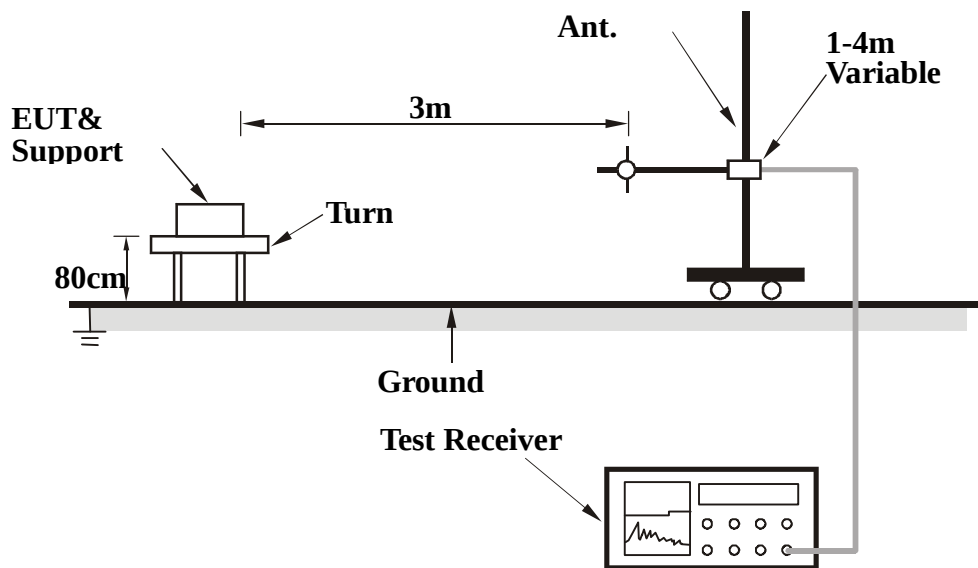
- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the receiving antenna, which was mounted on antenna tower and its position at 0.8 m above the ground.
- c. For each suspected emission, the EUT was arranged to its worst case and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading and recorded the value.
- d. The EUT is replaced by a horn antenna connected to a signal generator tuned to the frequency of emission.
- e. The signal generator level has to be adjusted to have the same emission nature.
- f. The radiated power can be calculated via the factor and antenna gain.
- g. Repeat step a ~ f for horizontal polarization.

NOTE: The resolution bandwidth of spectrum analyzer is 1MHz and the video bandwidth is 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 item 4.1.5



A D T

4.6.7 TEST RESULTS-PATCH ANTENNA

CHANNEL BANDWIDTH: 5MHz

MODE	High channel	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	ENVIRONMENTAL CONDITIONS	20deg°C, 60%RH 960hPa
TESTED BY	Wen Yu		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M						
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBm)	S.G level (dBm)	C.F. (dB)	Power level (dBm)
1	120.00	29.78	-25.00	-59.82	-1.18	-61.00
2	144.00	26.85	-25.00	-65.94	-1.19	-67.13
3	240.00	30.72	-25.00	-64.64	3.82	-60.82
4	479.98	29.95	-25.00	-66.66	2.86	-63.81
5	527.98	30.77	-25.00	-64.42	2.68	-61.74
6	719.98	27.97	-25.00	-68.38	1.30	-67.09
7	900.00	40.97	-25.00	-57.76	0.49	-57.27

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M						
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBm)	S.G level (dBm)	C.F. (dB)	Power level (dBm)
1	36.00	29.56	-25.00	-43.87	-13.44	-57.31
2	120.00	29.83	-25.00	-59.77	-1.18	-60.95
3	144.00	28.96	-25.00	-63.83	-1.19	-65.02
4	240.00	29.33	-25.00	-66.03	3.82	-62.21
5	479.99	31.63	-25.00	-64.98	2.86	-62.13
6	719.99	33.95	-25.00	-62.40	1.30	-61.11
7	900.00	36.78	-25.00	-61.95	0.49	-61.46

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



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CHANNEL BANDWIDTH: 10MHz

MODE	High channel	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	ENVIRONMENTAL CONDITIONS	20deg°C, 60%RH 960hPa
TESTED BY	Wen Yu		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M						
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBm)	S.G level (dBm)	C.F. (dB)	Power level (dBm)
1	120.00	28.47	-25.00	-61.13	-1.18	-62.31
2	144.00	26.36	-25.00	-66.43	-1.19	-67.62
3	240.00	30.75	-25.00	-64.61	3.82	-60.79
4	479.98	29.57	-25.00	-67.04	2.86	-64.19
5	527.98	30.51	-25.00	-64.68	2.68	-62.00
6	719.98	27.85	-25.00	-68.50	1.30	-67.21
7	900.00	39.75	-25.00	-58.98	0.49	-58.49

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M						
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBm)	S.G level (dBm)	C.F. (dB)	Power level (dBm)
1	36.00	29.96	-25.00	-43.47	-13.44	-56.91
2	120.00	28.89	-25.00	-60.71	-1.18	-61.89
3	144.00	28.85	-25.00	-63.94	-1.19	-65.13
4	240.00	29.53	-25.00	-65.83	3.82	-62.01
5	479.99	31.59	-25.00	-65.02	2.86	-62.17
6	719.99	33.82	-25.00	-62.53	1.30	-61.24
7	900.00	36.99	-25.00	-61.74	0.49	-61.25

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



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4.6.8 TEST RESULTS-DIPOLE ANTENNA

CHANNEL BANDWIDTH: 5MHz

MODE	High channel	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	ENVIRONMENTAL CONDITIONS	20deg°C, 60%RH 960hPa
TESTED BY	Wen Yu		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBm)	S.G level (dBm)	C.F. (dB)	Power level (dBm)
1	120.00	29.63	-25.00	-59.97	-1.18	-61.15
2	144.00	26.24	-25.00	-66.55	-1.19	-67.74
3	240.00	30.99	-25.00	-64.37	3.82	-60.55
4	479.98	29.85	-25.00	-66.76	2.86	-63.91
5	527.98	30.82	-25.00	-64.37	2.68	-61.69
6	719.98	27.83	-25.00	-68.52	1.30	-67.23
7	900.00	40.85	-25.00	-57.88	0.49	-57.39

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBm)	S.G level (dBm)	C.F. (dB)	Power level (dBm)
1	36.00	29.77	-25.00	-43.66	-13.44	-57.10
2	120.00	29.85	-25.00	-59.75	-1.18	-60.93
3	144.00	28.55	-25.00	-64.24	-1.19	-65.43
4	240.00	29.45	-25.00	-65.91	3.82	-62.09
5	479.99	31.88	-25.00	-64.73	2.86	-61.88
6	719.99	33.75	-25.00	-62.60	1.30	-61.31
7	900.00	36.75	-25.00	-61.98	0.49	-61.49

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



A D T

CHANNEL BANDWIDTH: 10MHz

MODE	High channel	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	ENVIRONMENTAL CONDITIONS	20deg°C, 60%RH 960hPa
TESTED BY	Wen Yu		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M						
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBm)	S.G level (dBm)	C.F. (dB)	Power level (dBm)
1	120.00	28.25	-25.00	-61.35	-1.18	-62.53
2	144.00	25.99	-25.00	-66.80	-1.19	-67.99
3	240.00	30.64	-25.00	-64.72	3.82	-60.90
4	479.98	29.06	-25.00	-67.55	2.86	-64.70
5	527.98	30.55	-25.00	-64.64	2.68	-61.96
6	719.98	27.69	-25.00	-68.66	1.30	-67.37
7	900.00	39.98	-25.00	-58.75	0.49	-58.26

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M						
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBm)	S.G level (dBm)	C.F. (dB)	Power level (dBm)
1	36.00	29.68	-25.00	-43.75	-13.44	-57.19
2	120.00	28.76	-25.00	-60.84	-1.18	-62.02
3	144.00	28.78	-25.00	-64.01	-1.19	-65.20
4	240.00	29.12	-25.00	-66.24	3.82	-62.42
5	479.99	31.58	-25.00	-65.03	2.86	-62.18
6	719.99	33.67	-25.00	-62.68	1.30	-61.39
7	900.00	36.94	-25.00	-61.79	0.49	-61.30

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

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 $43 + 10 \log (P)$ dB and $55 + 10 \log (P)$ dB at 5.5 MHz from the channel edges.

4.7.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
ROHDE & SCHWARZ Spectrum Analyzer	FSP40	100036	Dec. 09, 2008	Dec. 08, 2009
HP Pre_Amplifier	8449B	3008A01923	Nov. 10, 2008	Nov. 09, 2009
ROHDE & SCHWARZ Test Receiver	ESCS30	847124/029	Sep. 09, 2008	Sep. 08, 2009
SCHWARZBECK TRILOG Broadband Antenna	VULB 9168	138	April 29, 2009	April 28, 2010
Schwarzbeck Horn_Antenna	BBHA9120	D124	Dec. 09, 2008	Dec. 08, 2009
Schwarzbeck Horn_Antenna	BBHA 9170	BBHA9170153	Jan. 22, 2009	Jan. 21, 2010
RF Switches	EMH-011	08009	Oct. 07, 2008	Oct. 06, 2009
RF CABLE (Chaintek)	Sucoflex 106	28077	Aug. 15, 2008	Aug. 14, 2009
RF Cable	8DFB	STCCAB-30M-1GHz	Oct. 07, 2008	Oct. 06, 2009
Software	ADT_Radiated_V7.6.15.9.2	NA	NA	NA
CT Antenna Tower & Turn Table	NA	NA	NA	NA

- Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
 2. The horn antenna, HP preamplifier (model: 8449B) and Spectrum Analyzer (model: FSP40) are used only for the measurement of emission frequency above 1GHz if tested.
 3. The test was performed in Open Site No. C.
 4. The FCC Site Registration No. is 656396.
 5. The VCCI Site Registration No. is R-1626.
 6. The CANADA Site Registration No. is IC 7450G-3.

4.7.3 TEST PROCEDURES

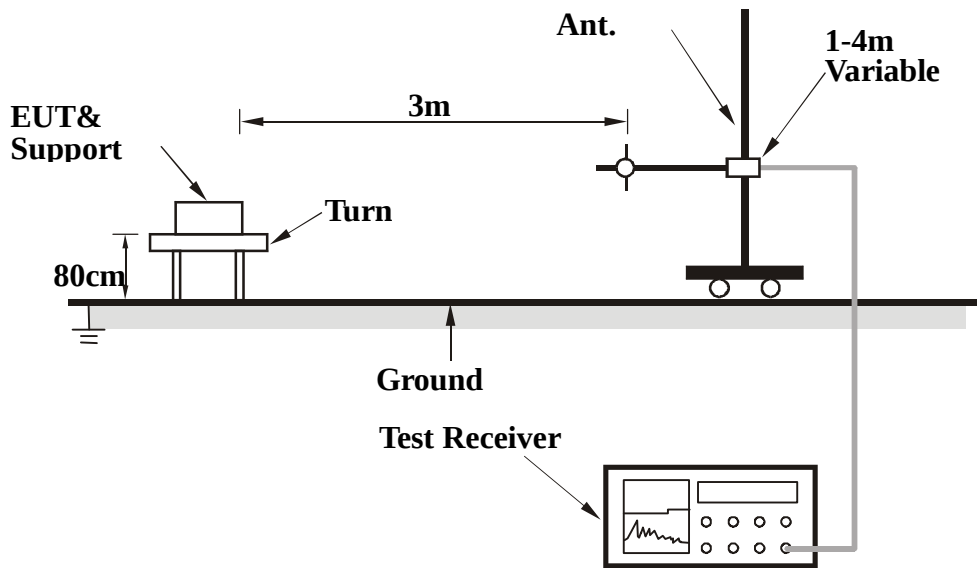
- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the receiving antenna, which was mounted on antenna tower and its position at 0.8 m above the ground.
- c. For each suspected emission, the EUT was arranged to its worst case and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading and recorded the value.
- d. The EUT is replaced by a horn antenna connected to a signal generator tuned to the frequency of emission.
- e. The signal generator level has to be adjusted to have the same emission nature.
- f. The radiated power can be calculated via the factor and antenna gain.
- g. Repeat step a ~ f for horizontal polarization.

NOTE: The resolution bandwidth of spectrum analyzer is 1MHz and the video bandwidth is 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 item 4.1.5



A D T

4.7.7 TEST RESULTS-PATCH ANTENNA

CHANNEL BANDWIDTH: 5MHz

MODE	Low channel	FREQUENCY RANGE	Above 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	ENVIRONMENTAL CONDITIONS	20deg°C, 60%RH 960hPa
TESTED BY	Wen Yu		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M						
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBm)	S.G level (dBm)	C.F. (dB)	Power level (dBm)
1	5005.00	42.62	-25.00	-61.62	7.01	-54.61
2	7507.50	60.32	-25.00	-42.30	4.54	-37.76
3	10010.00	55.73	-25.00	-45.84	4.03	-41.81

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M						
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBm)	S.G level (dBm)	C.F. (dB)	Power level (dBm)
1	5005.00	41.87	-25.00	-62.37	7.01	-55.36
2	7507.50	64.72	-25.00	-37.90	4.54	-33.36
3	10010.00	55.14	-25.00	-46.43	4.03	-42.40

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



A D T

MODE	Middle channel	FREQUENCY RANGE	Above 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	ENVIRONMENTAL CONDITIONS	20deg°C, 60%RH 960hPa
TESTED BY	Wen Yu		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M						
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBm)	S.G level (dBm)	C.F. (dB)	Power level (dBm)
1	5200.00	46.99	-25.00	-57.54	7.05	-50.49
2	7800.00	59.80	-25.00	-42.82	4.29	-38.53
3	10400.00	62.47	-25.00	-39.54	3.66	-35.87

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M						
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBm)	S.G level (dBm)	C.F. (dB)	Power level (dBm)
1	5200.00	49.13	-25.00	-55.40	7.05	-48.35
2	7800.00	63.87	-25.00	-38.75	4.29	-34.46
3	10400.00	63.43	-25.00	-38.58	3.66	-34.91

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



A D T

MODE	High channel	FREQUENCY RANGE	Above 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	ENVIRONMENTAL CONDITIONS	20deg°C, 60%RH 960hPa
TESTED BY	Wen Yu		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M						
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBm)	S.G level (dBm)	C.F. (dB)	Power level (dBm)
1	5357.00	56.50	-25.00	-48.27	7.09	-41.18
2	8062.50	52.32	-25.00	-50.30	4.13	-46.17
3	10750.00	54.78	-25.00	-47.06	3.33	-43.72

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M						
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBm)	S.G level (dBm)	C.F. (dB)	Power level (dBm)
1	5357.00	53.18	-25.00	-51.59	7.09	-44.50
2	8062.50	54.94	-25.00	-47.68	4.13	-43.55
3	10750.00	59.40	-25.00	-42.44	3.33	-39.10

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



A D T

CHANNEL BANDWIDTH: 10MHz

MODE	Low channel	FREQUENCY RANGE	Above 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	ENVIRONMENTAL CONDITIONS	20deg°C, 60%RH 960hPa
TESTED BY	Wen Yu		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBm)	S.G level (dBm)	C.F. (dB)	Power level (dBm)
1	5010.00	40.07	-25.00	-64.18	7.01	-57.16
2	7515.00	55.62	-25.00	-47.00	4.53	-42.47
3	10020.00	51.42	-25.00	-50.16	4.02	-46.14

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBm)	S.G level (dBm)	C.F. (dB)	Power level (dBm)
1	5010.00	40.64	-25.00	-63.61	7.01	-56.59
2	7515.00	59.65	-25.00	-42.97	4.53	-38.44
3	10020.00	51.60	-25.00	-49.98	4.02	-45.96

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



A D T

MODE	Middle channel	FREQUENCY RANGE	Above 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	ENVIRONMENTAL CONDITIONS	20deg°C, 60%RH 960hPa
TESTED BY	Wen Yu		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M						
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBm)	S.G level (dBm)	C.F. (dB)	Power level (dBm)
1	5200.00	43.42	-25.00	-61.11	7.05	-54.06
2	7800.00	59.06	-25.00	-43.56	4.29	-39.27
3	10400.00	56.23	-25.00	-45.78	3.66	-42.11

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M						
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBm)	S.G level (dBm)	C.F. (dB)	Power level (dBm)
1	5200.00	42.54	-25.00	-61.99	7.05	-54.94
2	7800.00	59.16	-25.00	-43.46	4.29	-39.17
3	10400.00	57.86	-25.00	-44.15	3.66	-40.48

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



A D T

MODE	High channel	FREQUENCY RANGE	Above 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	ENVIRONMENTAL CONDITIONS	20deg°C, 60%RH 960hPa
TESTED BY	Wen Yu		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M						
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBm)	S.G level (dBm)	C.F. (dB)	Power level (dBm)
1	5370.00	51.27	-25.00	-53.52	7.09	-46.42
2	8055.00	47.89	-25.00	-54.73	4.13	-50.60
3	10740.00	52.45	-25.00	-49.40	3.34	-46.06

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M						
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBm)	S.G level (dBm)	C.F. (dB)	Power level (dBm)
1	5370.00	47.23	-25.00	-57.56	7.09	-50.46
2	8055.00	50.28	-25.00	-52.34	4.13	-48.21
3	10740.00	55.76	-25.00	-46.09	3.34	-42.75

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



A D T

4.7.8 TEST RESULTS-DIPOLE ANTENNA

CHANNEL BANDWIDTH: 5MHz

MODE	Low channel	FREQUENCY RANGE	Above 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	ENVIRONMENTAL CONDITIONS	20deg°C, 60%RH 960hPa
TESTED BY	Wen Yu		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M						
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBm)	S.G level (dBm)	C.F. (dB)	Power level (dBm)
1	5005.00	41.22	-25.00	-63.02	7.01	-56.01
2	7507.50	45.04	-25.00	-57.58	4.54	-53.04
3	10010.00	49.16	-25.00	-52.41	4.03	-48.38

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M						
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBm)	S.G level (dBm)	C.F. (dB)	Power level (dBm)
1	5005.00	47.15	-25.00	-57.09	7.01	-50.08
2	7507.50	51.12	-25.00	-51.50	4.54	-46.96
3	10010.00	49.68	-25.00	-51.89	4.03	-47.86

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



A D T

MODE	Middle channel	FREQUENCY RANGE	Above 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	ENVIRONMENTAL CONDITIONS	20deg°C, 60%RH 960hPa
TESTED BY	Wen Yu		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M						
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBm)	S.G level (dBm)	C.F. (dB)	Power level (dBm)
1	5200.00	43.56	-25.00	-60.97	7.05	-53.92
2	7800.00	48.78	-25.00	-53.84	4.29	-49.55
3	10400.00	53.58	-25.00	-48.43	3.66	-44.76

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M						
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBm)	S.G level (dBm)	C.F. (dB)	Power level (dBm)
1	5200.00	52.15	-25.00	-52.38	7.05	-45.33
2	7800.00	50.38	-25.00	-52.24	4.29	-47.95
3	10400.00	57.60	-25.00	-44.41	3.66	-40.74

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



A D T

MODE	High channel	FREQUENCY RANGE	Above 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	ENVIRONMENTAL CONDITIONS	20deg°C, 60%RH 960hPa
TESTED BY	Wen Yu		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M						
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBm)	S.G level (dBm)	C.F. (dB)	Power level (dBm)
1	5357.00	45.98	-25.00	-58.79	7.09	-51.70
2	8062.50	49.41	-25.00	-53.21	4.13	-49.08
3	10750.00	56.04	-25.00	-45.80	3.33	-42.46

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M						
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBm)	S.G level (dBm)	C.F. (dB)	Power level (dBm)
1	5357.00	54.02	-25.00	-50.75	7.09	-43.66
2	8062.50	55.82	-25.00	-46.80	4.13	-42.67
3	10750.00	57.78	-25.00	-44.06	3.33	-40.72

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



A D T

CHANNEL BANDWIDTH: 10MHz

MODE	Low channel	FREQUENCY RANGE	Above 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	ENVIRONMENTAL CONDITIONS	20deg°C, 60%RH 960hPa
TESTED BY	Wen Yu		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBm)	S.G level (dBm)	C.F. (dB)	Power level (dBm)
1	5010.00	38.98	-25.00	-65.27	7.01	-58.25
2	7515.00	42.40	-25.00	-60.22	4.53	-55.69
3	10020.00	47.50	-25.00	-54.08	4.02	-50.06

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBm)	S.G level (dBm)	C.F. (dB)	Power level (dBm)
1	5010.00	43.35	-25.00	-60.90	7.01	-53.88
2	7515.00	44.52	-25.00	-58.10	4.53	-53.57
3	10020.00	47.60	-25.00	-53.98	4.02	-49.96

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



A D T

MODE	Middle channel	FREQUENCY RANGE	Above 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	ENVIRONMENTAL CONDITIONS	20deg°C, 60%RH 960hPa
TESTED BY	Wen Yu		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M						
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBm)	S.G level (dBm)	C.F. (dB)	Power level (dBm)
1	5200.00	40.64	-25.00	-63.89	7.05	-56.84
2	7800.00	45.79	-25.00	-56.83	4.29	-52.54
3	10400.00	51.71	-25.00	-50.30	3.66	-46.63

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M						
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBm)	S.G level (dBm)	C.F. (dB)	Power level (dBm)
1	5200.00	49.16	-25.00	-55.37	7.05	-48.32
2	7800.00	47.44	-25.00	-55.18	4.29	-50.89
3	10400.00	53.65	-25.00	-48.36	3.66	-44.69

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



A D T

MODE	High channel	FREQUENCY RANGE	Above 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	ENVIRONMENTAL CONDITIONS	20deg°C, 60%RH 960hPa
TESTED BY	Wen Yu		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M						
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBm)	S.G level (dBm)	C.F. (dB)	Power level (dBm)
1	5370.00	43.36	-25.00	-61.43	7.09	-54.33
2	8055.00	47.45	-25.00	-55.17	4.13	-51.04
3	10740.00	53.16	-25.00	-48.69	3.34	-45.35

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M						
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBm)	S.G level (dBm)	C.F. (dB)	Power level (dBm)
1	5370.00	49.84	-25.00	-54.95	7.09	-47.85
2	8055.00	53.19	-25.00	-49.43	4.13	-45.30
3	10740.00	55.33	-25.00	-46.52	3.34	-43.18

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

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 by the following approval agencies according to ISO/IEC 17025.

USA	FCC, NVLAP
Germany	TUV Rheinland
Japan	VCCI
Norway	NEMKO
Canada	INDUSTRY CANADA , CSA
R.O.C.	TAF, BSMI, NCC
Netherlands	Telefication
Singapore	GOST-ASIA(MOU)
Russia	CERTIS(MOU)

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

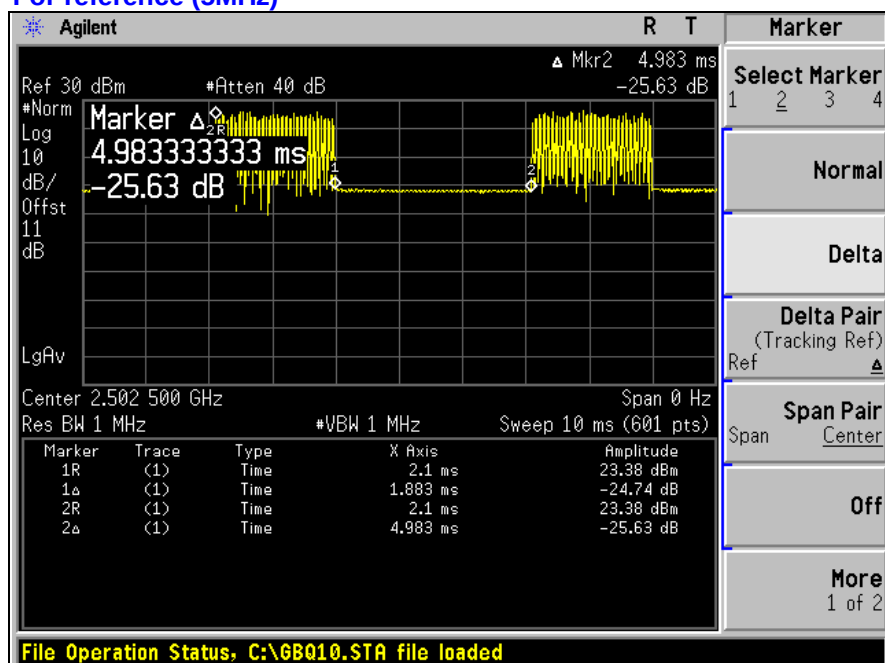
Tel: 886-3-3183232

Fax: 886-3-3185050

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

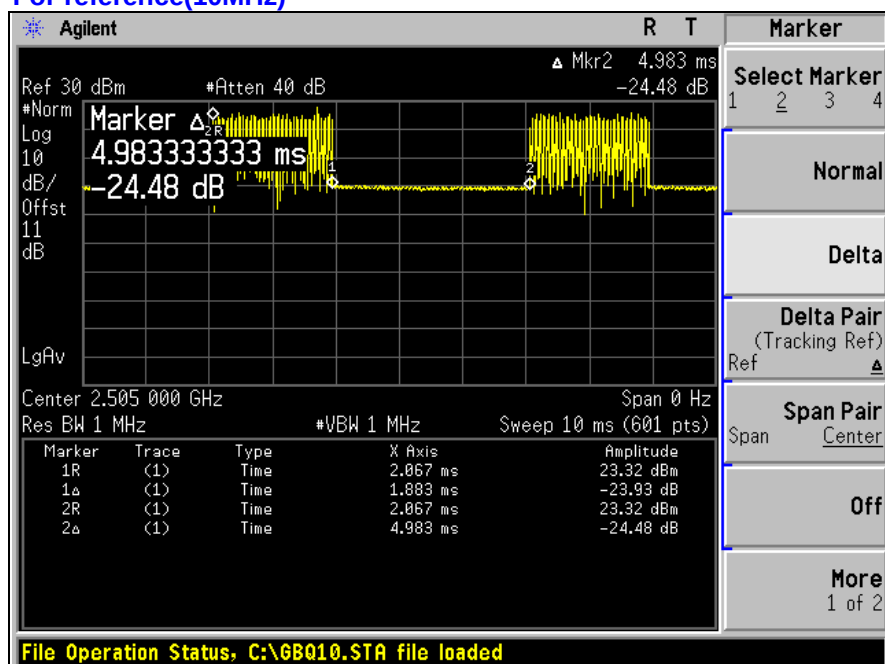
7 APPENDIX - A DL/UL RATION FOR TEST

For reference (5MHz)



The ration is approximate 37.79%.

For reference(10MHz)



The ration is approximate 37.79%.

--- END ---