



# FCC

# RF Test Report

**Product Name: Smart Phone**

**Model Number: HUAWEI GRA-L09**

**Report No: SYBH(Z-RF)013022015-2003**

**FCC ID: QISGRA-L09**

**Reliability Laboratory of Huawei Technologies Co., Ltd.**

Administration Building, Headquarters of Huawei Technologies Co., Ltd., Bantian, Longgang District,  
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## Notice

1. The laboratory has Passed the accreditation by China National Accreditation Service for Conformity Assessment (CNAS). The accreditation number is L0310.
2. The laboratory has Passed the accreditation by The American Association for Laboratory Accreditation (A2LA). The accreditation number is 2174.01.
3. The laboratory has been listed by the US Federal Communications Commission to perform electromagnetic emission measurements. The site recognition number is 97456.
4. The laboratory has been listed by Industry Canada to perform electromagnetic emission measurements. The recognition numbers of test site are 6369A-2.
5. The test report is invalid if not marked with the signatures of the persons responsible for preparing and approving the test report.
6. The test report is invalid if there is any evidence of erasure and/or falsification.
7. The test report is only valid for the test samples.
8. Content of the test report, in part or in full, cannot be used for publicity and/or promotional purposes without prior written approval from the laboratory.



**Applicant:** Huawei Technologies Co., Ltd.  
**Address:** Administration Building, Headquarters of Huawei Technologies Co., Ltd.,  
Bantian, Longgang District, Shenzhen, 518129, P.R.C

**Date of Receipt Sample:** 2015-03-09  
**Start Date of Test:** 2015-03-10  
**End Date of Test:** 2015-03-24

**Test Result:** Pass

<b>Approved by Senior Engineer:</b>	2015-03-24	Liu Chunlin	
	Date	Name	Signature

<b>Prepared by:</b>	2015-03-24	maowenli	
	Date	Name	Signature



**Modification Record**

No.	Last Report No.	Modification Description
1		First report.



## CONTENT

1	General Information.....	6
1.1	Applied Standard.....	6
1.2	Test Location.....	6
1.3	Test Environment Condition .....	6
2	Test Summary .....	7
3	Description of the Equipment under Test (EUT).....	8
3.1	General Description.....	8
3.2	EUT Identity .....	8
3.3	Technical Description.....	9
4	General Test Conditions / Configurations .....	10
4.1	EUT Configurations.....	10
4.2	Test Environments .....	10
4.3	Test Setups.....	11
4.4	Test Conditions.....	14
5	Main Test Instruments.....	15



## 1 General Information

### 1.1 Applied Standard

Applied Rules: 47 CFR FCC Part 2, Subpart J 2013  
47 CFR FCC Part 15, Subpart C 2013

Test Method: FCC KDB 558074 D01 DTS Meas Guidance v03r02  
ANSI C63.10-2009, American National Standard for Testing Unlicensed  
Wireless Devices.

### 1.2 Test Location

Test Location 1: Reliability Laboratory of Huawei Technologies Co., Ltd.  
Address: Administration Building, Headquarters of Huawei Technologies Co., Ltd.,  
Bantian, Longgang District, Shenzhen, 518129, P.R.C

### 1.3 Test Environment Condition

Ambient Temperature: 19.5to 25 °C  
Ambient Relative Humidity: 40 to 55 %  
Atmospheric Pressure: Not applicable

## 2 Test Summary

Test Item	FCC Part No.	Requirements	Test Result	Verdict
DTS (6 dB) Bandwidth	15.247(a)(2)	≥ 500 kHz.	Appendix A	Pass
Occupied Bandwidth	---	---	Appendix B	Pass
Maximum Conducted Average Output Power	15.247(b)(3)	For directional gain: < 30 dBm – (G[dBi] – 6 [dB]), Average; Otherwise: < 30 dBm, Average;	Appendix C	Pass
Maximum Power Spectral Density Level	15.247(e)	For directional gain: < 8 dBm/3 kHz – (G[dBi] – 6 [dB]), Average. Otherwise: < 8 dBm/3 kHz, Average.	Appendix D	Pass
Band Edges Compliance	15.247(d)	< -30 dBm/100 kHz if total peak power ≤ power limit.	Appendix E	Pass
Unwanted Emissions into Non-Restricted Frequency Bands			Appendix F	Pass
Unwanted Emissions into Restricted Frequency Bands (Radiated)	15.247(d) 15.209 (NOTE 1)	FCC Part 15.209 field strength limit;	Appendix G	Pass
AC Power Line Conducted Emissions	15.207	FCC Part 15.207 conducted limit;	Appendix H	Pass
NOTE 1: According to KDB 558074, antenna-port conducted measurements are acceptable as an alternative to radiated measurements for demonstrating compliance to the limits in the restricted frequency bands. If conducted measurements are performed, then proper impedance matching must be ensured and an additional radiated test for cabinet/case emissions will also be required.				

### 3 Description of the Equipment under Test (EUT)

#### 3.1 General Description

HUAWEI GRA-L09 is subscriber equipment in the LTE/UMTS/GSM system. The LTE frequency band is Band I,Band II,Band III,Band IV,Band V,Band VII,Band VIII,Band XII,BandXVII,BandXVIII,BandXIX,Band XX,Band XXV,Band XXVI,Band XXVIII and Band XL. The HSUPA/HSDPA/UMTS frequency band is Band I, Band II, Band IV,Band V and Band VIII, The GSM/GPRS/EDGE frequency band includes GSM850 and GSM900 and DCS1800 and PCS1900, The Mobile Phone implements such functions as RF signal receiving/transmitting, LTE/UMTS/GSM protocol processing, voice, video, MMS service, GPS, AGPS WIFI and NFC etc. Externally it provides earphone port (to provide voice service) and USIM card interface. It also provides Bluetooth module to synchronize data between a PC and the phone, or to use the built-in modem of the phone to access the Internet with a PC, or to exchange data with other Bluetooth devices.

#### 3.2 EUT Identity

NOTE: Unless otherwise noted in the report, the functional boards installed in the units shall be selected from the below list, but not means all the functional boards listed below shall be installed in one unit.

##### 3.2.1 Board

Board		
Description	Hardware Version	Software Version
Main Board	HL2UGRACEM	GRA-L09V100R1001C900B022

##### 3.2.2 Sub-Assembly

Sub-Assembly			
Sub-Assembly Name	Model	Manufacturer	Description
Adapter	HW-050100B01	Huawei Technologies Co., Ltd.	Input Voltage: ~100-240V 50/60Hz 0.2A Output Voltage: 5V  1A Rated Power: 5W
Adapter	HW-050100E01	Huawei Technologies Co., Ltd.	Input Voltage: ~100-240V 50/60Hz 0.2A Output Voltage: 5V  1A Rated Power: 5W
Adapter	HW-050100U01	Huawei Technologies Co., Ltd.	Input Voltage: ~100-240V 50/60Hz 0.2A Output Voltage: 5V  1A Rated Power: 5W
Adapter	HW-050100A01	Huawei Technologies Co., Ltd.	Input Voltage: ~100-240V 50/60Hz 0.2A Output Voltage: 5V  1A Rated Power: 5W
Adapter	HW-050100B2W	Huawei	Input Voltage: ~100-240V 50/60Hz

Sub-Assembly			
Sub-Assembly Name	Model	Manufacturer	Description
		Technologies Co., Ltd.	0.2A Output Voltage: 5V  1A Rated Power: 5W
Adapter	HW-050100E2W	Huawei Technologies Co., Ltd.	Input Voltage: ~100-240V 50/60Hz 0.2A Output Voltage: 5V  1A Rated Power: 5W
Adapter	HW-050100U2W	Huawei Technologies Co., Ltd.	Input Voltage: ~100-240V 50/60Hz 0.2A Output Voltage: 5V  1A Rated Power: 5W
Adapter	HW-050100A2W	Huawei Technologies Co., Ltd.	Input Voltage: ~100-240V 50/60Hz 0.2A Output Voltage: 5V  1A Rated Power: 5W
Battery	HB3447A9EBW	Huawei Technologies Co., Ltd.	Rated capacity: 2600mAh Nominal Voltage:  +3.8V Charging Voltage:  +4.35V

### 3.3 Technical Description

Characteristics	Description	
TX/RX Operating Range	2400-2483.5 MHz band	$f_c = 2402 \text{ MHz} + N * 2 \text{ MHz}$ , where: - $f_c$ = "Operating Frequency" in MHz, - $N$ = "Channel Number" with the range from 0 to 39.
Modulation Type	Digital	GFSK,
Emission Designator	GFSK for BT 4.0: 720KGXD	
Bluetooth Power Class	Class 1	



## 4 General Test Conditions / Configurations

### 4.1 EUT Configurations

#### 4.1.1 General Configurations

Configuration	Description
Test Antenna Ports	Until otherwise specified, <ul style="list-style-type: none"><li>- All TX tests are performed at all TX antenna ports of the EUT, and</li><li>- All RX tests are performed at all RX antenna ports of the EUT.</li></ul>
Multiple RF Sources	Other than the tested RF source of the EUT, other RF source(s) are disabled or shutdown during measurements.

#### 4.1.2 Customized Configurations

# EUT Conf.	Signal Description	Operating Frequency	Duty cycle
TM1_Ch0	GFSK for BT 4.0 modulation, package type DH5, hopping off.	Ch No. 0 / 2402 MHz	62%
TM1_Ch19	GFSK for BT 4.0 modulation, package type DH5, hopping off.	Ch No. 19 / 2440 MHz	62%
TM1_Ch39	GFSK for BT 4.0 modulation, package type DH5, hopping off.	Ch No. 39 / 2480 MHz	62%

### 4.2 Test Environments

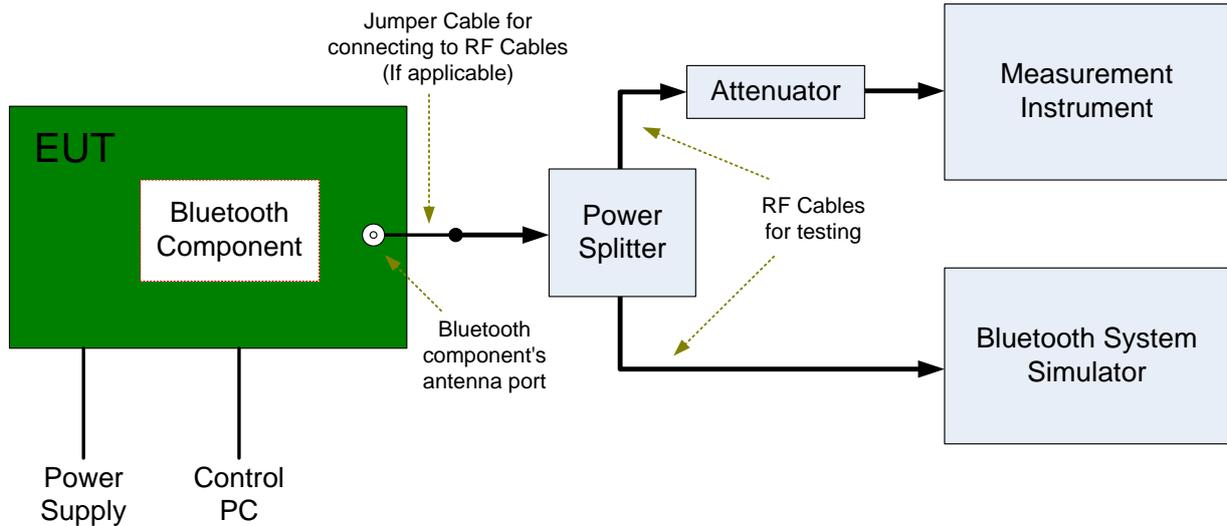
NOTE: The values used in the test report may be stringent than the declared.

Environment Parameter	Selected Values During Tests		
	Temperature	Voltage	Relative Humidity
NTNV	Ambient	3.8 VDC	Ambient

## 4.3 Test Setups

### 4.3.1 Test Setup 1

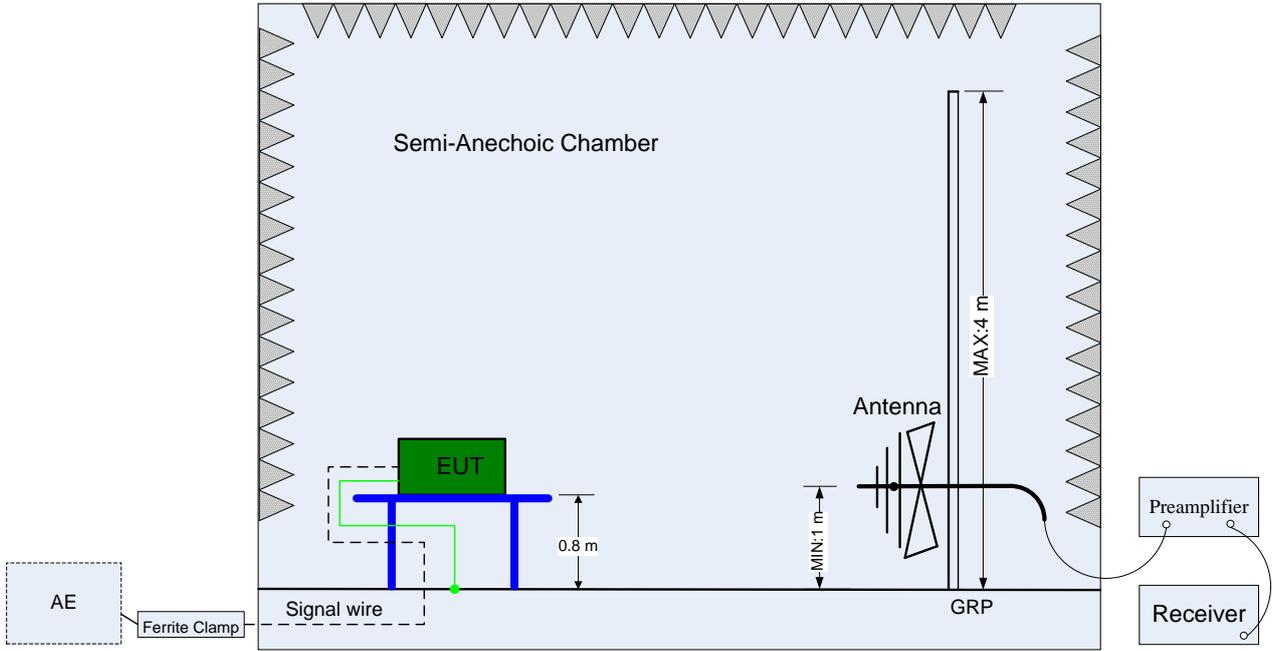
The Bluetooth component's antenna ports(s) of the EUT are connected to the measurement instrument per an appropriate attenuator. The EUT is controlled by Bluetooth System Simulator and/or PC/software to emit the specified signals for the purpose of measurements.



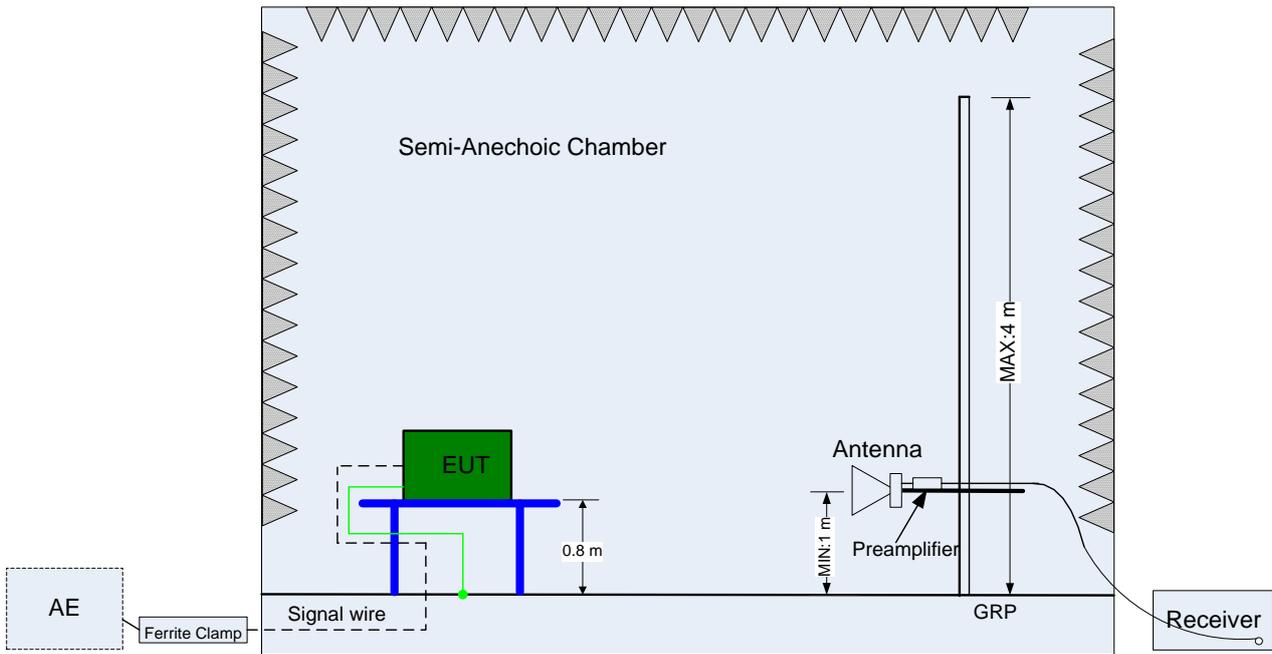
### 4.3.2 Test Setup 2

The test site semi-anechoic chamber has met the requirement of NSA tolerance 4 dB according to the standards: ANSI C63.4. The test distance is 3m. The setup is according to ANSI C63.4 and CAN/CSA-CEI/IEC CISPR 22.

The maximal emission value is acquired by adjusting the antenna height, polarisation and turntable azimuth. Normally, the height range of antenna is 1 m to 4 m, the azimuth range of turntable is 0° to 360°, and the receive antenna has two polarizations Vertical (V) and Horizontal (H).



(Below 1 GHz)

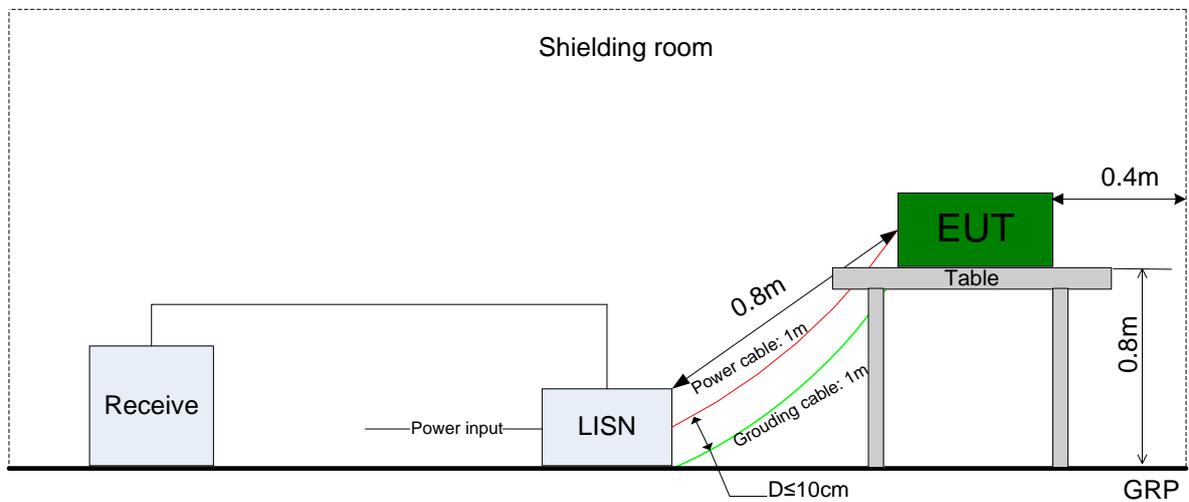


(Above 1 GHz)

### 4.3.3 Test Setup 3

The mains cable of the EUT (maybe per AC/DC Adapter) must be connected to LISN. The LISN shall be placed 0.8 m from the boundary of EUT and bonded to a ground reference plane for LISN mounted on top of the ground reference plane. This distance is between the closest points of the LISN and the EUT. All other units of the EUT and associated equipment shall be at least 0.8m from the LISN.

Ground connections, where required for safety purposes, shall be connected to the reference ground point of the LISN and, where not otherwise provided or specified by the manufacturer, shall be of same length as the mains cable and run parallel to the mains connection at a separation distance of not more than 0.1 m.



#### 4.4 Test Conditions

Test Case	Test Conditions		
	Configuration	Description	
6dB Emission Bandwidth (EBW)	Meas. Method	FCC KDB 558074 §8.2 Option 2.	
	Test Env.	NTNV	
	Test Setup	Test Setup 1	
	EUT Conf.	TM1_Ch0, TM1_Ch19, TM1_Ch39.	
Maximum Conducted Average Output Power	Meas. Method	FCC KDB 558074 §9.2 .2. 4	
	Test Env.	NTNV	
	Test Setup	Test Setup 1	
	EUT Conf.	TM1_Ch0, TM1_Ch19, TM1_Ch39.	
Maximum Power Spectral Density Level	Meas. Method	FCC KDB 558074 §10.5	
	Test Env.	NTNV	
	Test Setup	Test Setup 1	
	EUT Conf.	TM1_Ch0, TM1_Ch19, TM1_Ch39.	
Band edge spurious emission	Meas. Method	FCC KDB 558074 §13.0.	
	Test Env.	NTNV	
	Test Setup	Test Setup 1	
	EUT Conf.	TM1_Ch0, TM1_Ch39.	
Unwanted Emissions into Non-Restricted Frequency Bands	Meas. Method	FCC KDB 558074 §11.0	
	Test Env.	NTNV	
	Test Setup	Test Setup 1	
	EUT Conf.	TM1_Ch0, TM1_Ch19, TM1_Ch39.	
Unwanted Emissions into Restricted Frequency Bands (Radiated)	Meas. Method	ANSI C63.10; FCC KDB 558074 §12.1, Radiated	
	Test Env.	NTNV	
	Test Setup	Test Setup 2	
	EUT Conf.	30 MHz -1 GHz	TM1_Ch0 (Worst Conf.).
		1-3 GHz	TM1_Ch0, TM1_Ch19, TM1_Ch39.
3-18 GHz		TM1_Ch19 (Worse Conf.),	
18-26.5 GHz		TM1_Ch0 (Worst Conf.).	
AC Power Line Conducted Emissions	Meas. Method	AC mains conducted. Pre: RBW = 10 kHz; Det. = Peak. Final: RBW = 9 kHz; Det. = CISPR Quasi-Peak & Average.	
	Test Env.	NTNV	
	Test Setup	Test Setup 3	
	EUT Conf.	TM1_Ch39.	

**5 Main Test Instruments**

Equipment Name	Manufacturer	Model	Serial Number	Cal Date	Cal- Due
Power supply	KEITHLEY	2303	A120714713	2014-08-07	2016-08-06
Wireless Communication Test set	Agilent	N4010A	MY49081592	2014-11-04	2015-11-03
Universal Radio Communication Tester	R&S	CMU200	123299	2014-11-04	2015-11-03
Spectrum Analyzer	Agilent	N9020A	MY52090652	2014-07-11	2015-07-10
Universal Radio Communication Tester	R & S	CMW500	126854	2015-02-13	2016-02-12
Spectrum Analyzer	Agilent	E4440A	MY48250119	2014-07-11	2015-07-10
Signal Analyzer	R&S	FSQ31	200021	2014-11-04	2015-11-03
Spectrum Analyzer	Agilent	N9030A	MY49431698	2014-11-04	2015-11-03
Temperature Chamber	WEISS	WKL64	56246002940010	2015-02-13	2016-02-12
Temperature Chamber	ESPEC	MW3030	06114003	2014-05-09	2015-05-08
Signal generator	Agilent	E8257D	MY51500314	2014-05-09	2015-05-08
Vector Signal Generator	R&S	SMU200A	104162	2014-11-04	2015-11-03
Test receiver	R&S	ESU26	100150	2014-05-09	2015-05-08
Spectrum analyzer	R&S	FSU3	200474	2014-11-04	2015-11-03
Spectrum analyzer	R&S	FSU43	100144	2014-11-04	2015-11-03
Double-Ridged Waveguide Horn Antenna (1G~18GHz)	R&S	HF907	100391	2013-12-21	2015-12-20
Trilog Broadband Antenna (30M~3GHz)	SCHWARZ BECK	VULB 9163	9163-521	2013-12-21	2015-12-20
LOOP Antennas(9kHz-30MHz)	R&S	HFH2-Z2	100263	2013-05-11	2015-05-10
Pyramidal Horn Antenna(18GHz-26-5GHz)	ETS-LIND GREN	3160-09	5140299	2015-01-05	2017-01-04
Artificial Mains Network	R&S	ENV4200	100134	2014-11-04	2015-11-03
Artificial Mains Network	R&S	ENV216	100382	2014-11-04	2015-11-03
Power Detecting & Sampling Unit	R&S	OSP-B157	19709DD	2014-09-08	2015-09-07
Signal Generator	Agilent	E4438C	MY47271904	2014-10-28	2015-10-27

END



# Appendix for Test report



## 1 Appendix A: DTS (6 dB) Bandwidth

In this document, the "DTS6dBBW" refers to the measured "DTS (6 dB) Bandwidth" value. In this Appendix, the "fc(DTS6dBBW)" refers to the centre of the measured "DTS6dBBW". The introduction of the "fc(DTS6dBBW)" is due to that other measurements use it as the spectrum analyzer setting.

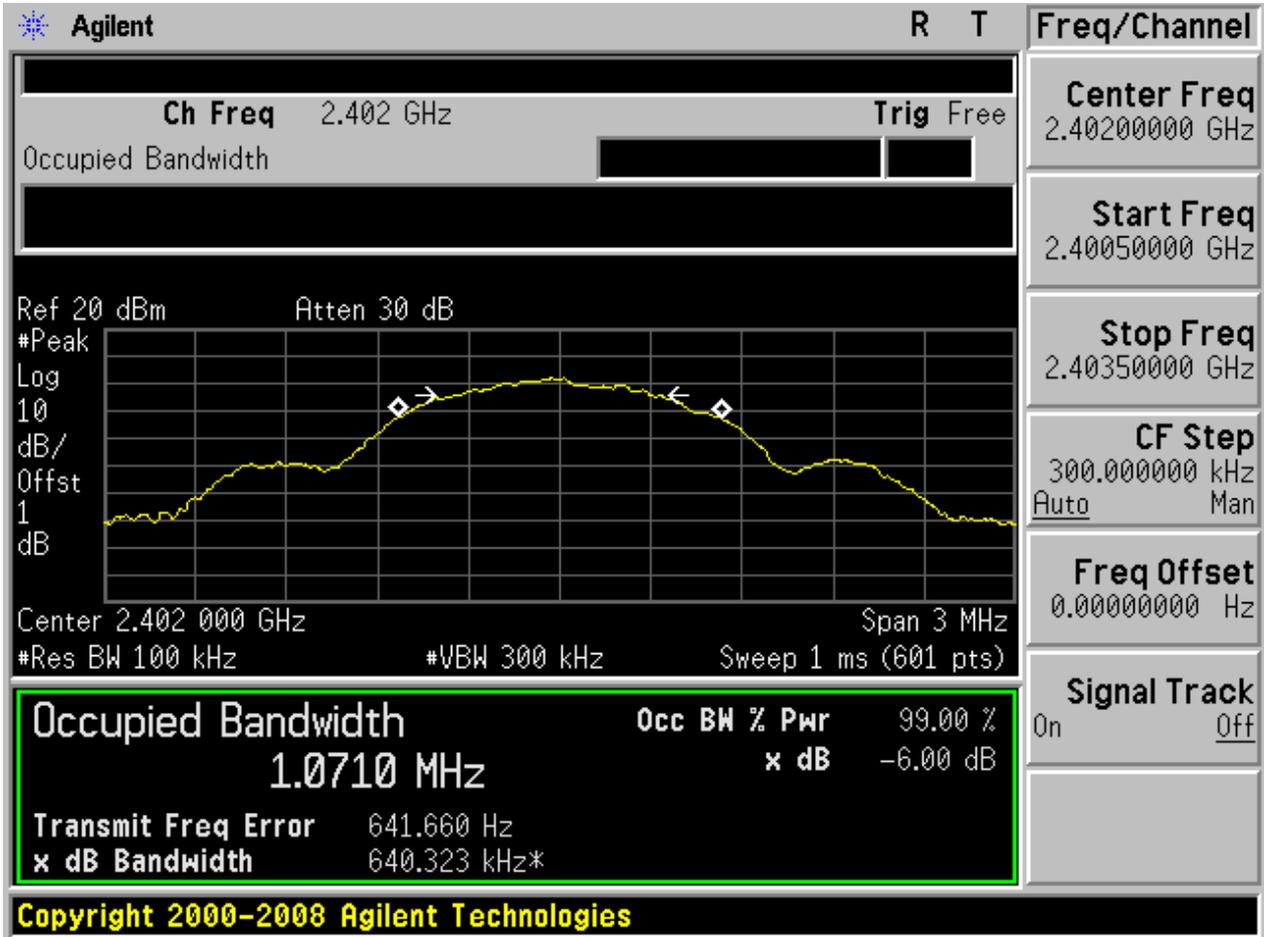
For measurements on smart antenna systems (devices with multiple transmit chains), the test is performed at each chain, and used as respective results for each chain.

### 1.1 Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	DTS6dBBW[MHz]	Verdict
TM1 _Ch0	L	2402	0.64	pass
TM1 _Ch19	M	2440	0.70	pass
TM1 _Ch39	H	2480	0.72	pass

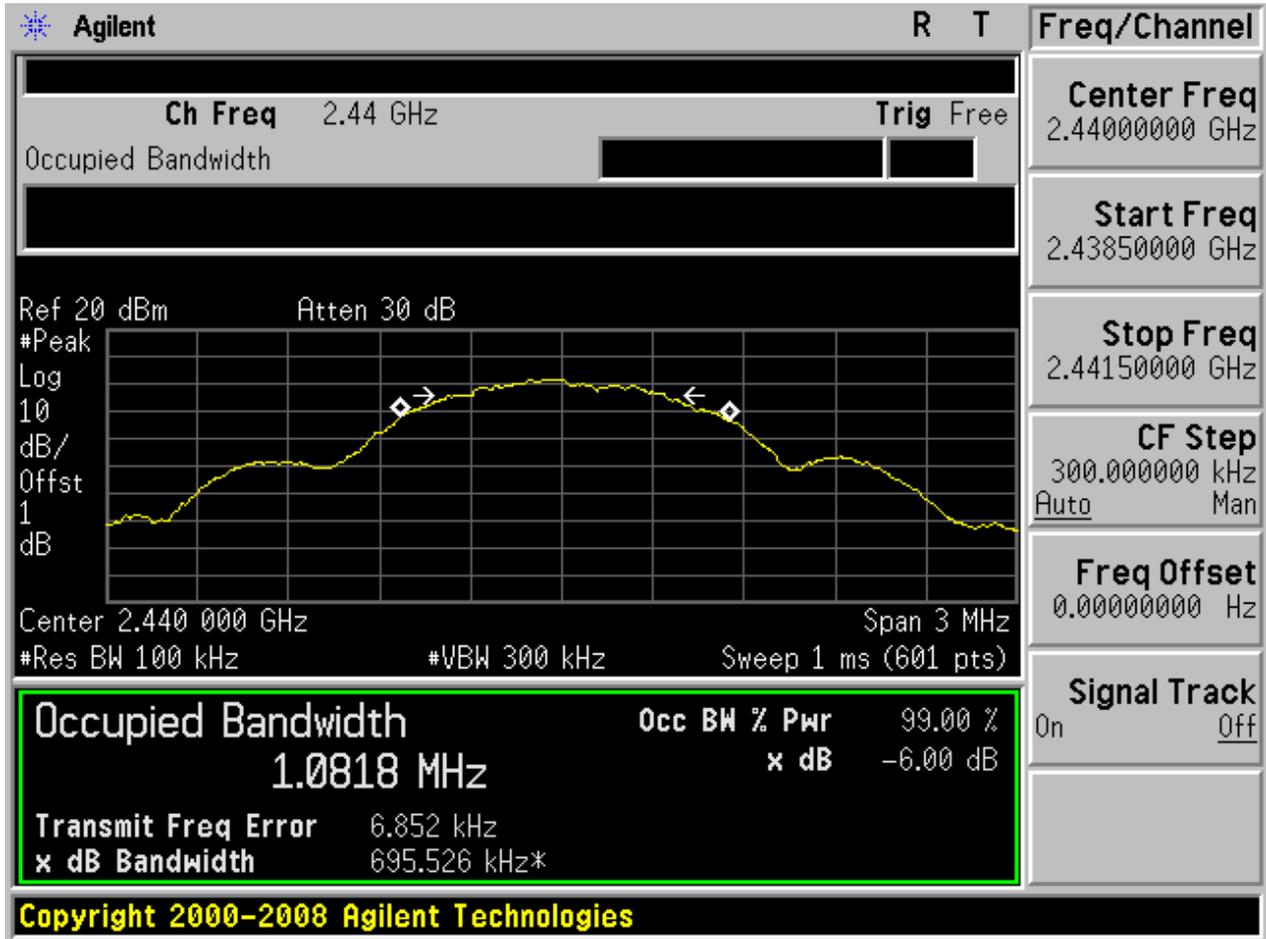
1.2Part II - Test Plots

1.2.1 TM1\_Ch0\_L

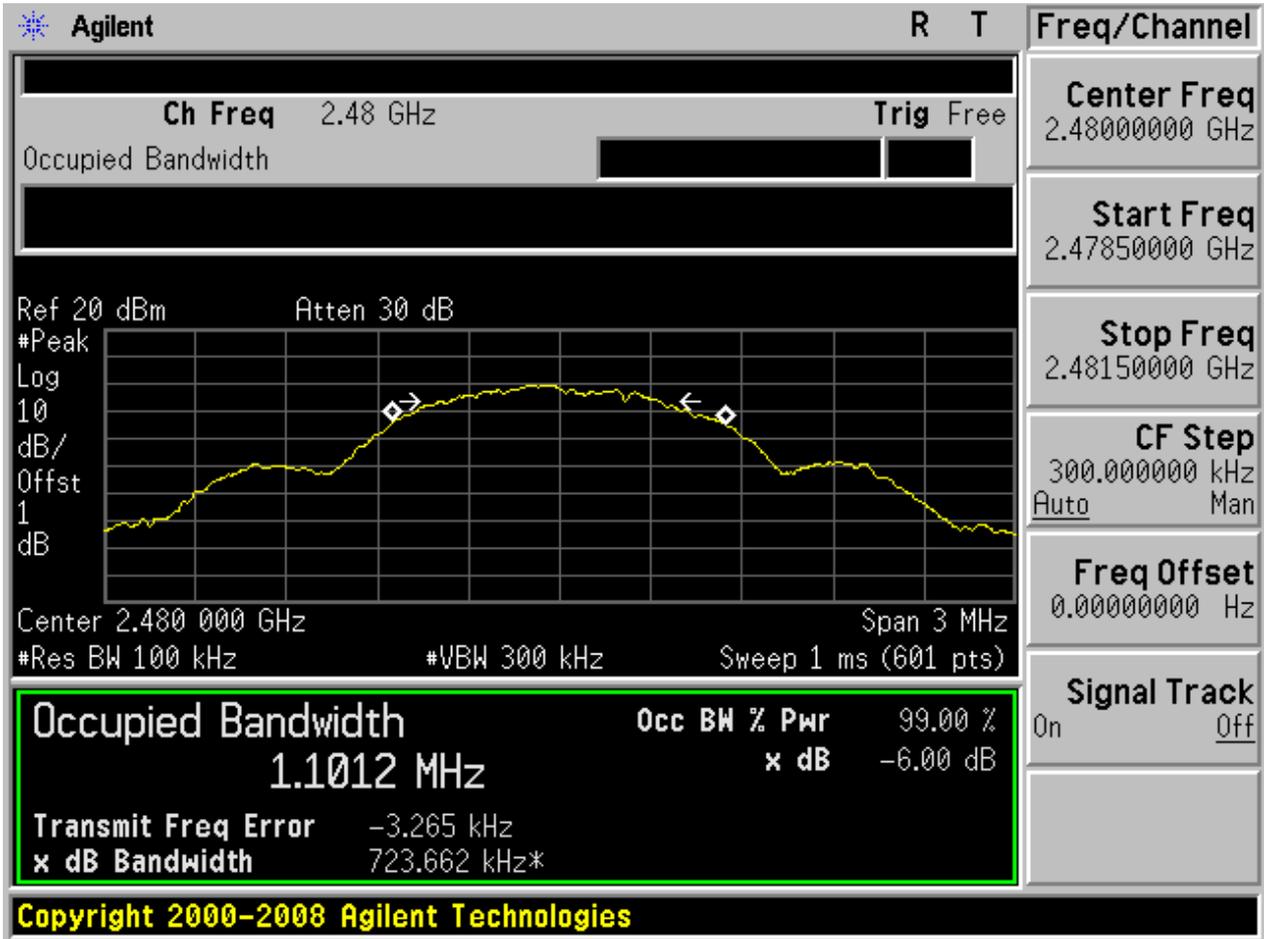




1.2.2 TM1\_Ch19\_M



## 1.2.3 TM1\_Ch39\_H





## 2 Appendix B: Occupied Bandwidth

For measurements on smart antenna systems (devices with multiple transmit chains), the test is performed at each chain, and used as respective results for each chain.

### 2.1Part I - Test Results

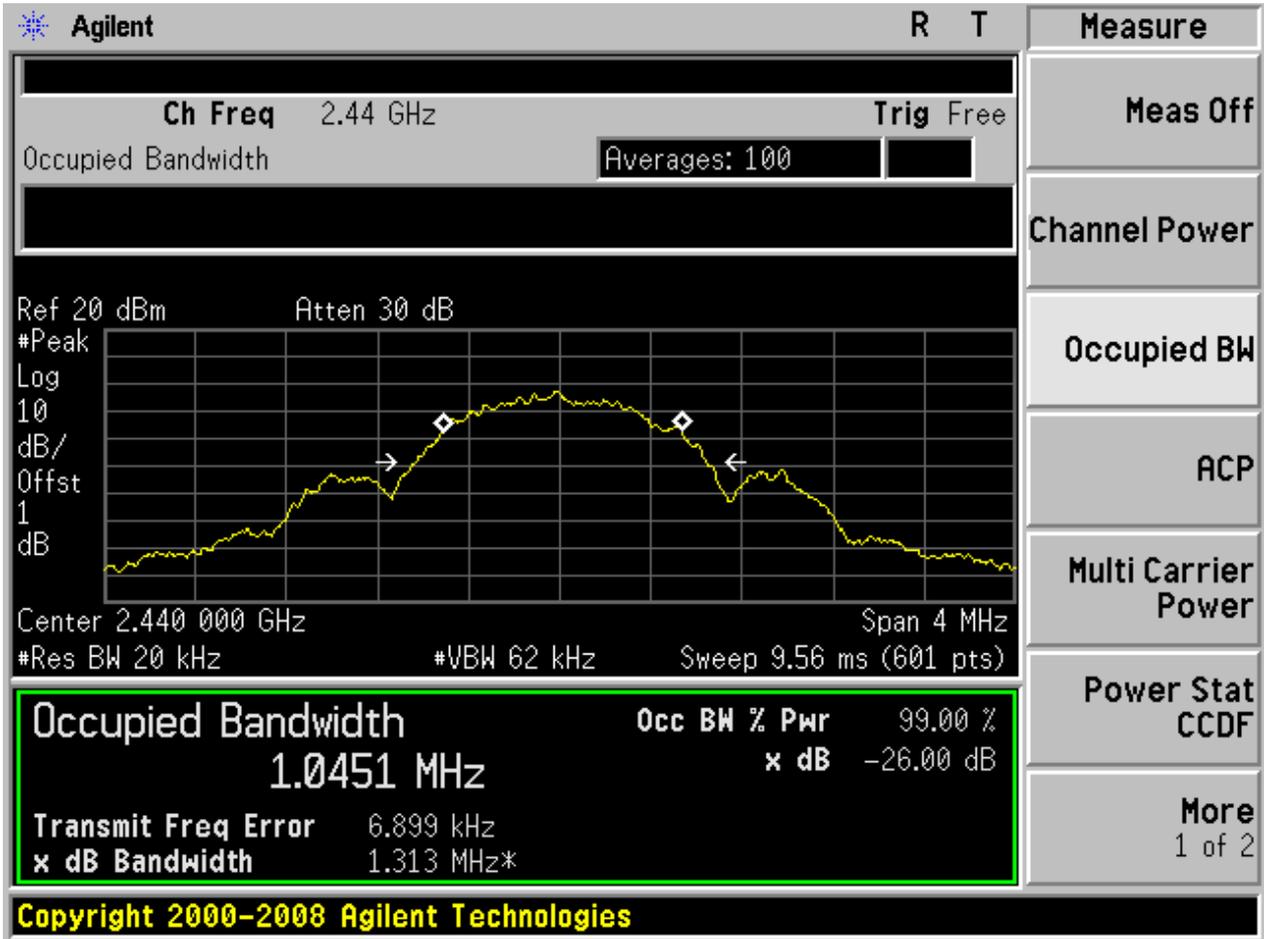
Test Mode	Test Channel	Frequency[MHz]	Occupied Bandwidth [MHz]	Verdict
TM1 _Ch0	L	2402	1.04	pass
TM1 _Ch19	M	2440	1.05	pass
TM1 _Ch39	H	2480	1.04	pass

2.2Part II - Test Plots

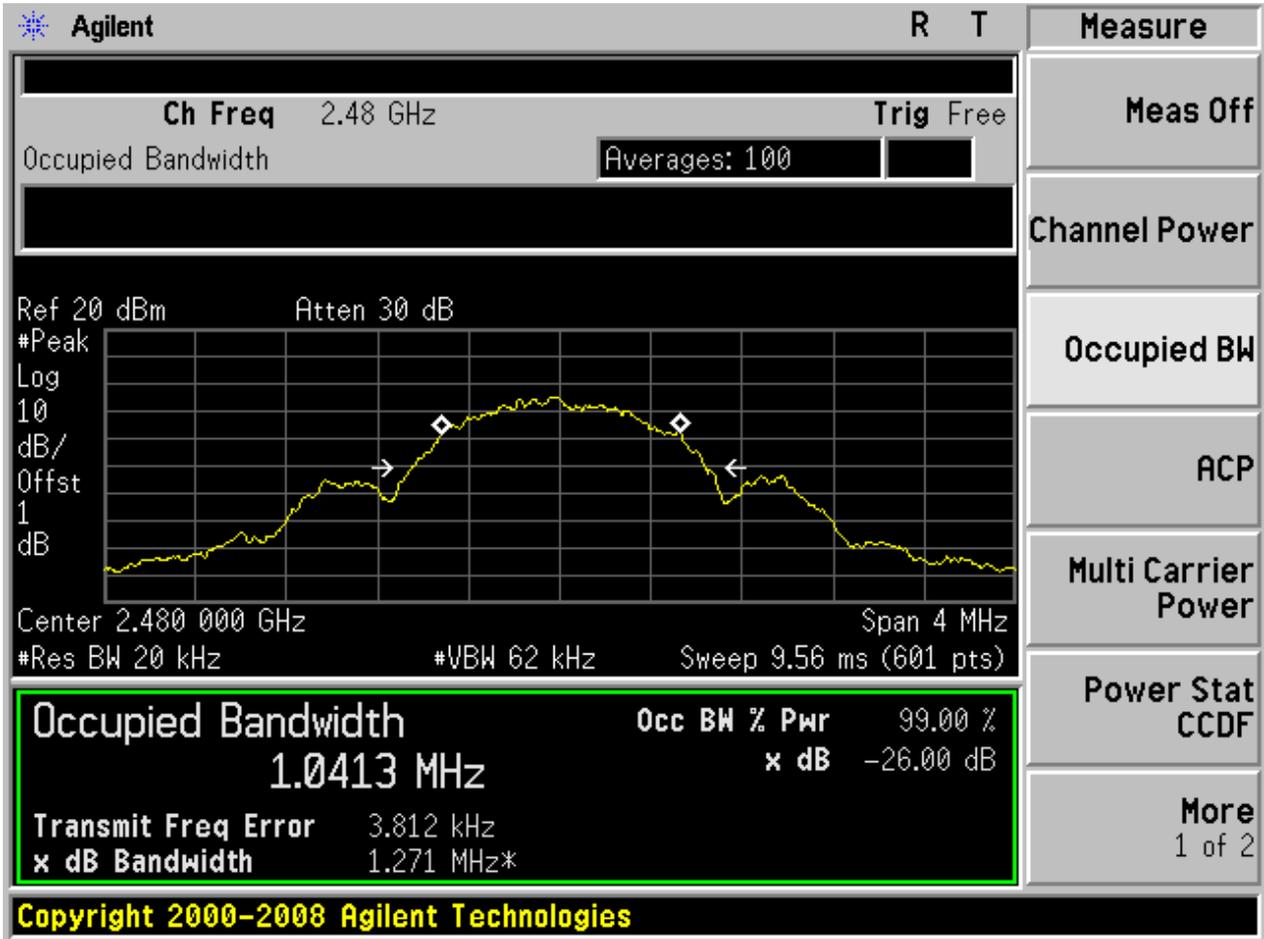
2.2.1 TM1\_Ch0\_L



2.2.2 TM1\_Ch19\_M



2.2.3 TM1\_Ch39\_H





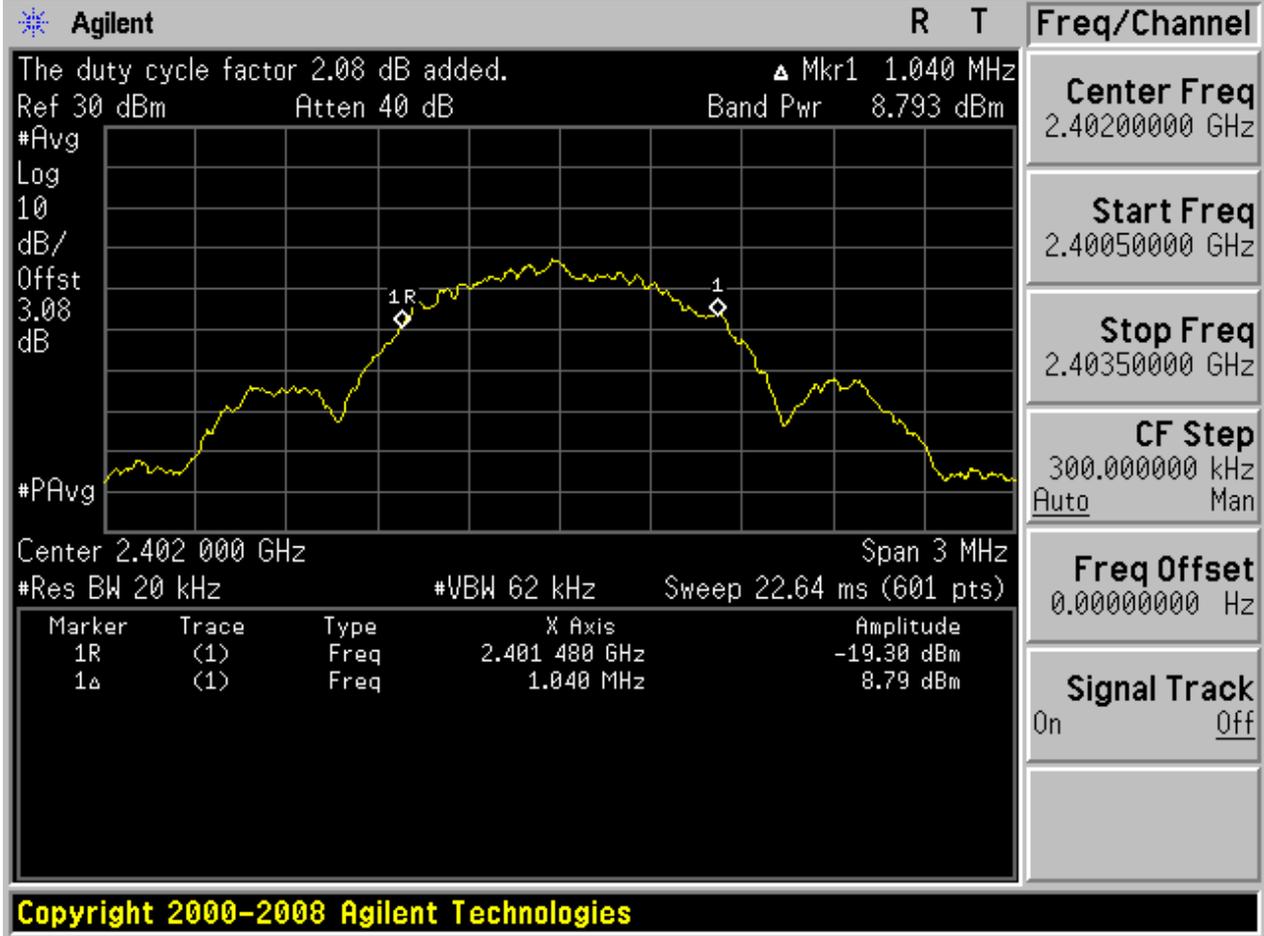
### 3 Appendix C: Maximum Conducted Average Output Power

#### 3.1 Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	Duty Cycle [%]	Power[dBm]	Verdict
TM1_Ch0	L	2402	62	8.79	pass
TM1_Ch19	M	2440	62	9.17	pass
TM1_Ch39	H	2480	62	7.60	pass

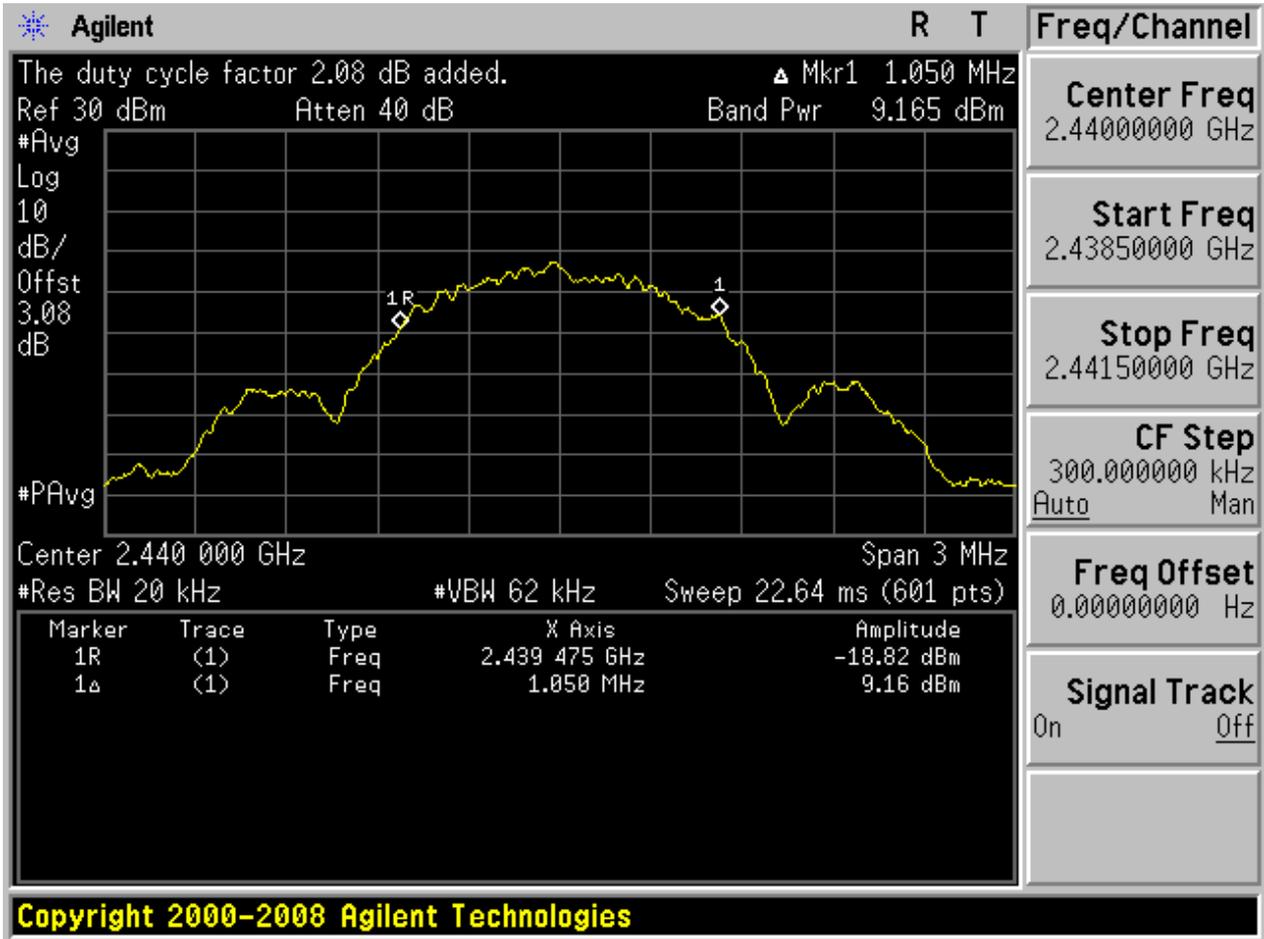
3.2Part II - Test Plots

3.2.1 TM1\_Ch0\_L

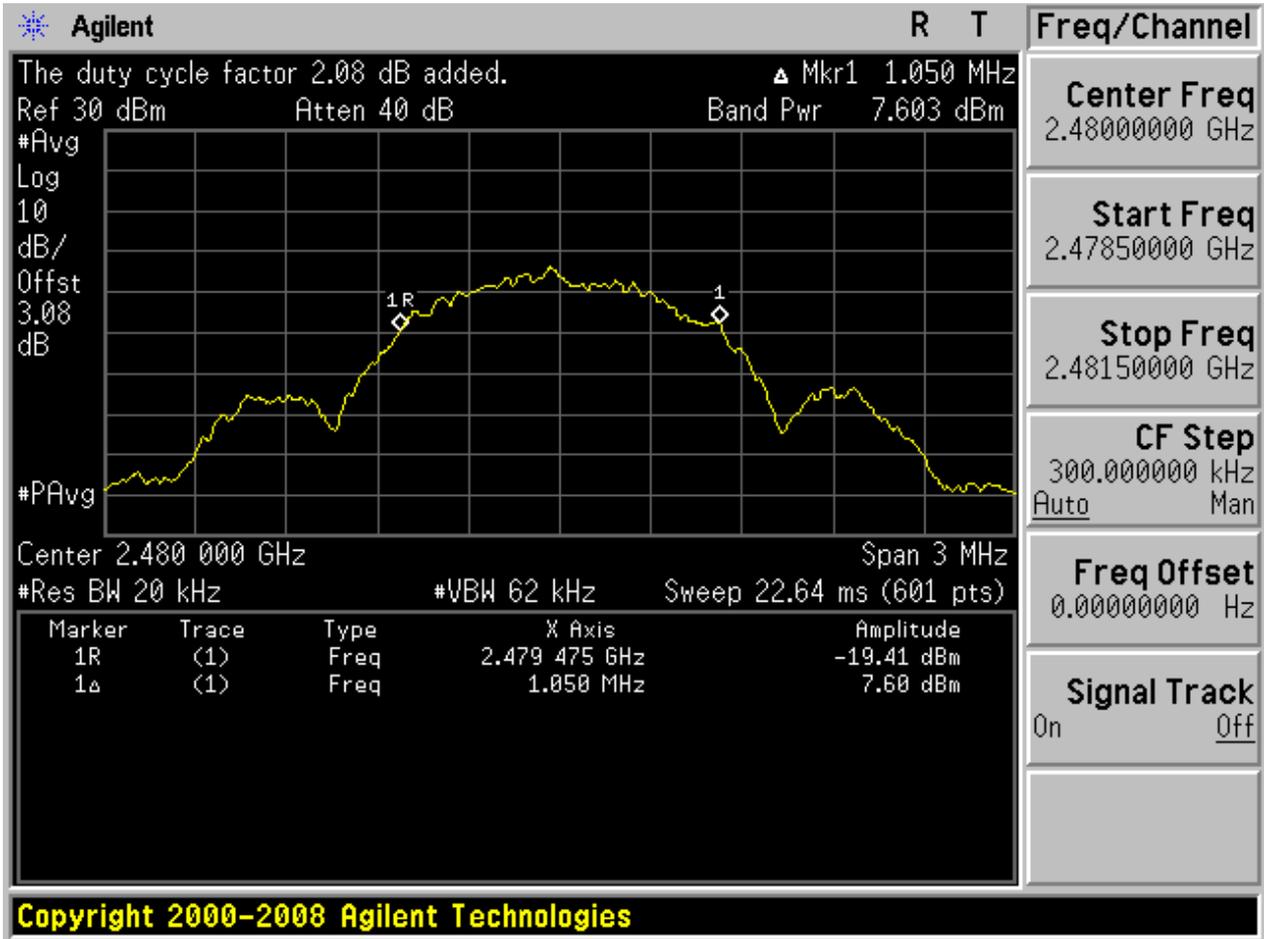




3.2.2 TM1\_Ch19\_M



3.2.3 TM1\_Ch39\_H



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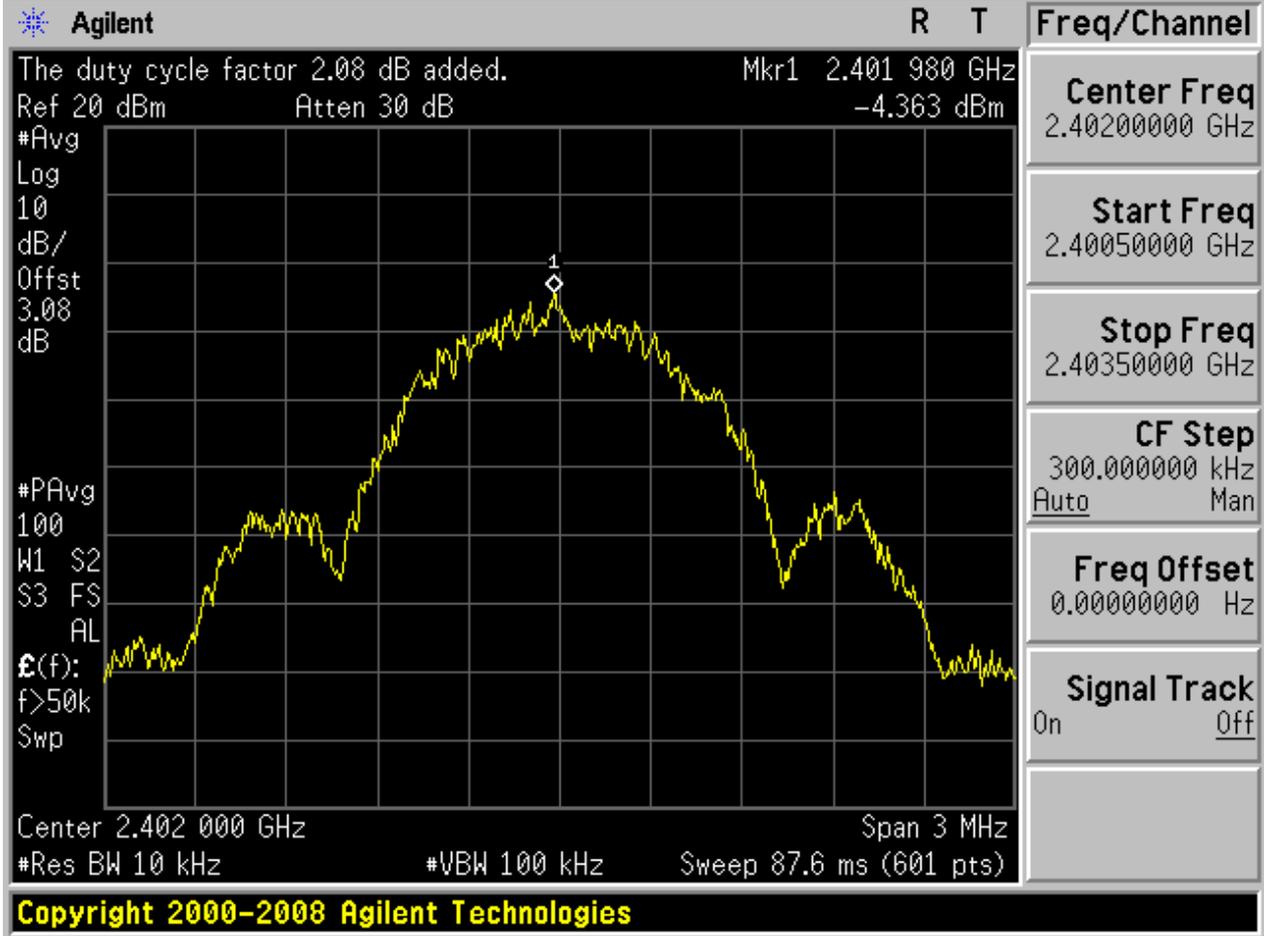
## 4 Appendix D: Maximum Power Spectral Density Level

### 4.1 Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	Duty Cycle [%]	PD[MHz]	Verdict
TM1 _Ch0	L	2402	62	-4.36	pass
TM1 _Ch19	M	2440	62	-4.92	pass
TM1 _Ch39	H	2480	62	-5.84	pass

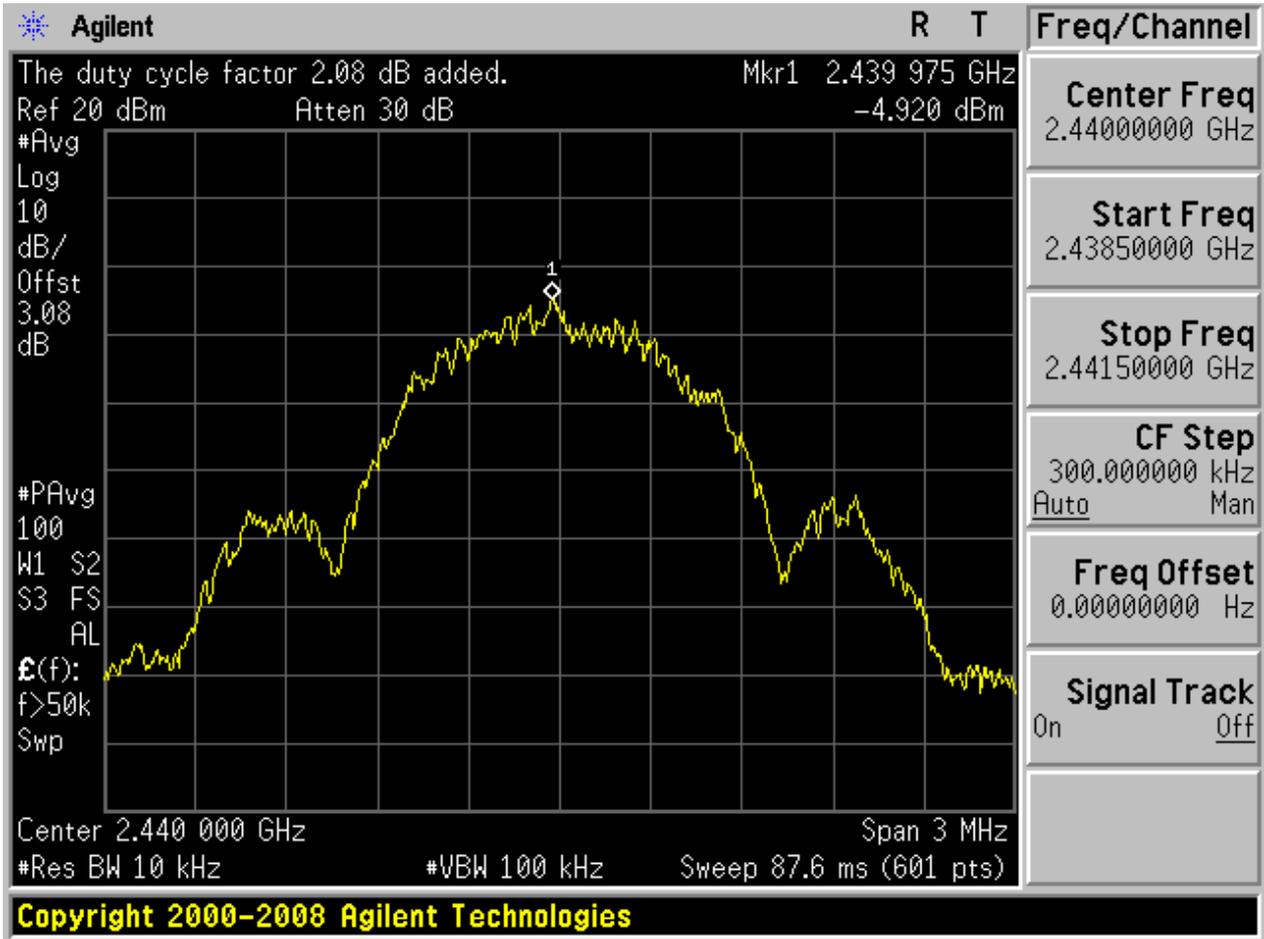
4.2Part II - Test Plots

4.2.1 TM1\_Ch0\_L

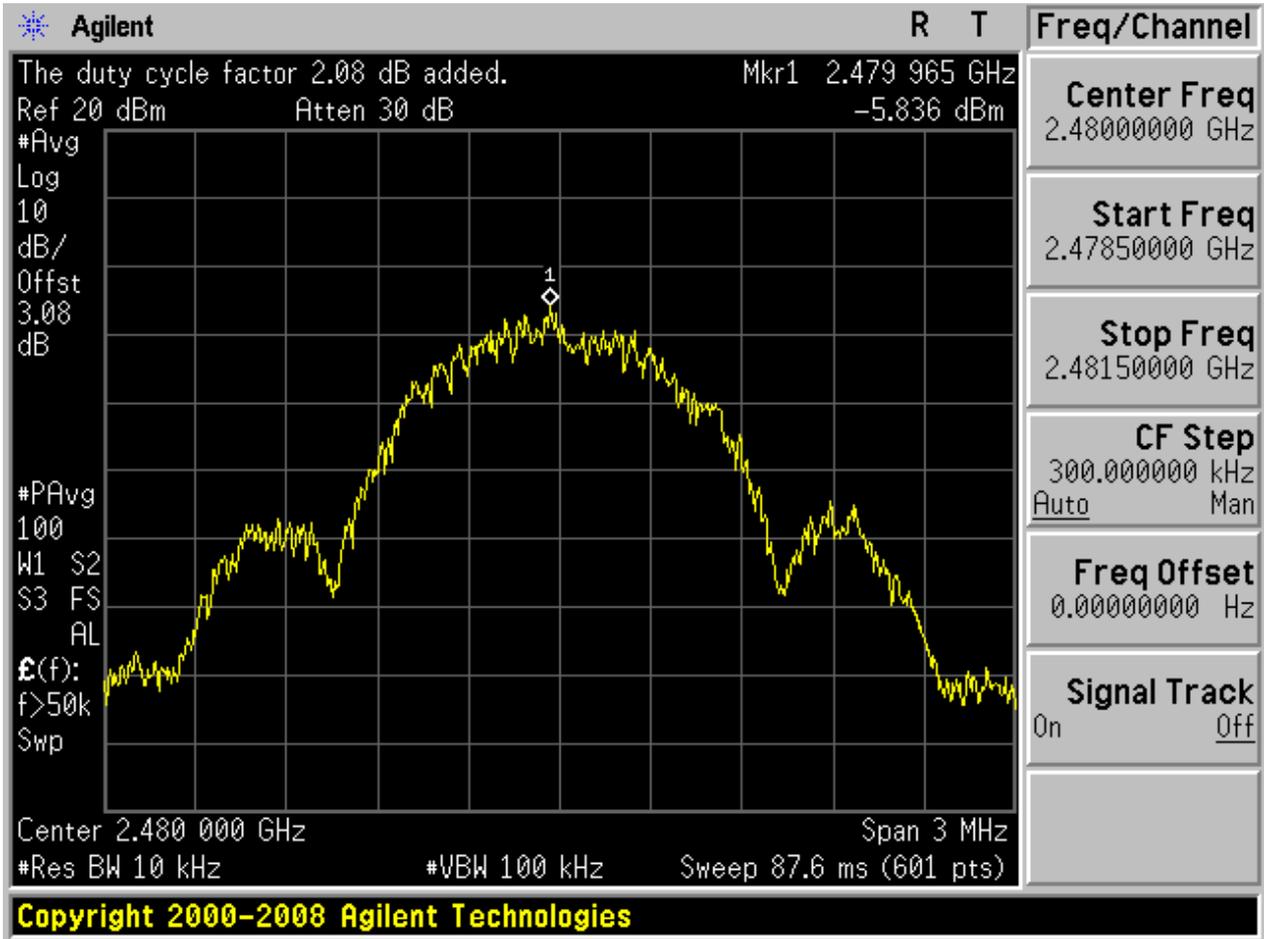




4.2.2 TM1\_Ch19\_M



4.2.3 TM1\_Ch39\_H





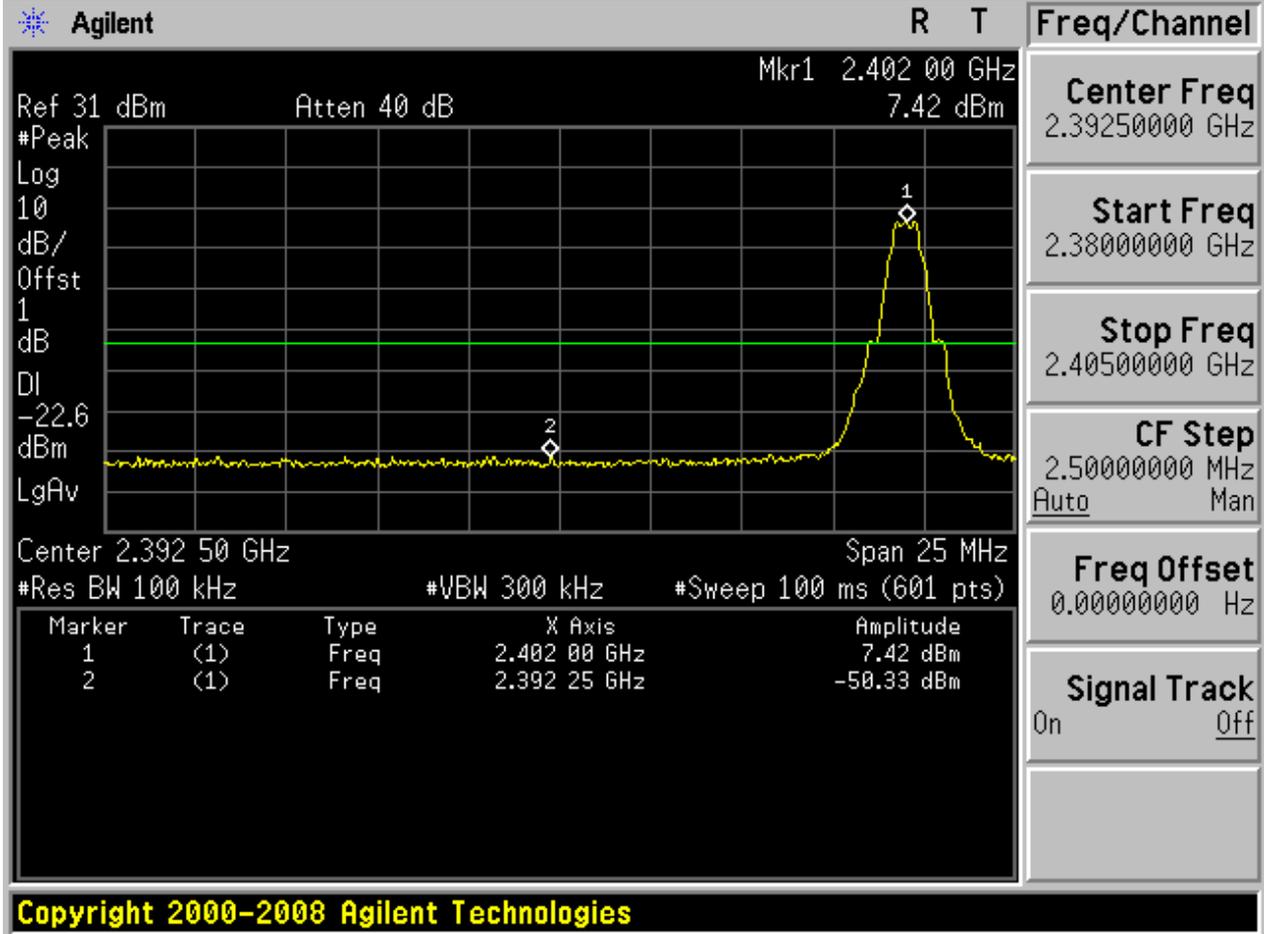
## 5 Appendix E: Band Edges Compliance

### 5.1 Part I - Test Results

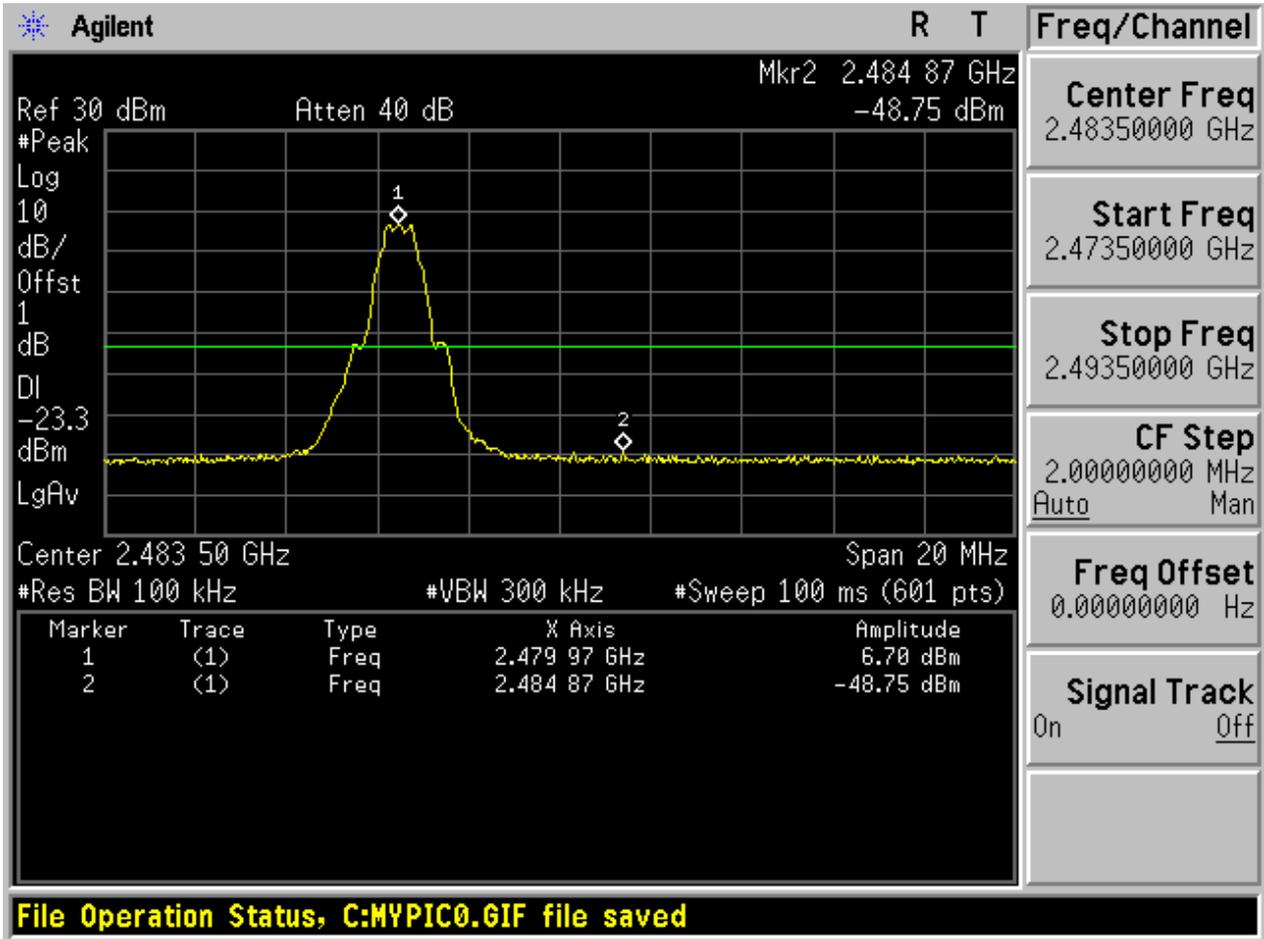
Test Mode	Test Channel	Frequency[MHz]	Carrier Power[dBm]	Max.Spurious Level[dBm]	Verdict
TM1_Ch0	L	2402	7.42	-50.33	pass
TM1_Ch39	H	2480	6.70	-48.75	pass

5.2 Part II - Test Plots

5.2.1 TM1\_Ch0\_L



5.2.2 TM1\_Ch39\_H



## 6 Appendix F: Unwanted Emissions into Non-Restricted Frequency

### Bands

In this Appendix, the "Pref", which is used as the reference level, refers to the peak power level in any 100 kHz bandwidth within the fundamental emission, the "Puw" refers to the maximum emission power in 100 kHz band segments outside of the authorized frequency band.

Considering that the higher ratio of RBW to the span for the frequency ranges below 30 MHz makes the results determination be complicated, a narrower RBW other than 100 kHz is used for these ranges. The measured value should add a RBW correction factor (RBWCF) where  $RBWCF [dB] = 10 \times \lg(100 [kHz]/\text{narrower RBW [kHz]})$ . As to this Appendix, the narrower RBW is 1 kHz and RBWCF is 20 dB for the frequency 9 kHz to 150 kHz, and the narrower RBW is 10 kHz and RBWCF is 10 dB for the frequency 150 kHz to 30 MHz.

For measurements on smart antenna systems (devices with multiple transmit chains), the test is performed at each chain and used as respective results for each chain, due to the relative-limit requirement.

In the result table, the "< Limit" denotes that "The Puw [dBm] is less than Pref[dBm]-30[dBm], see test plots for detailed".

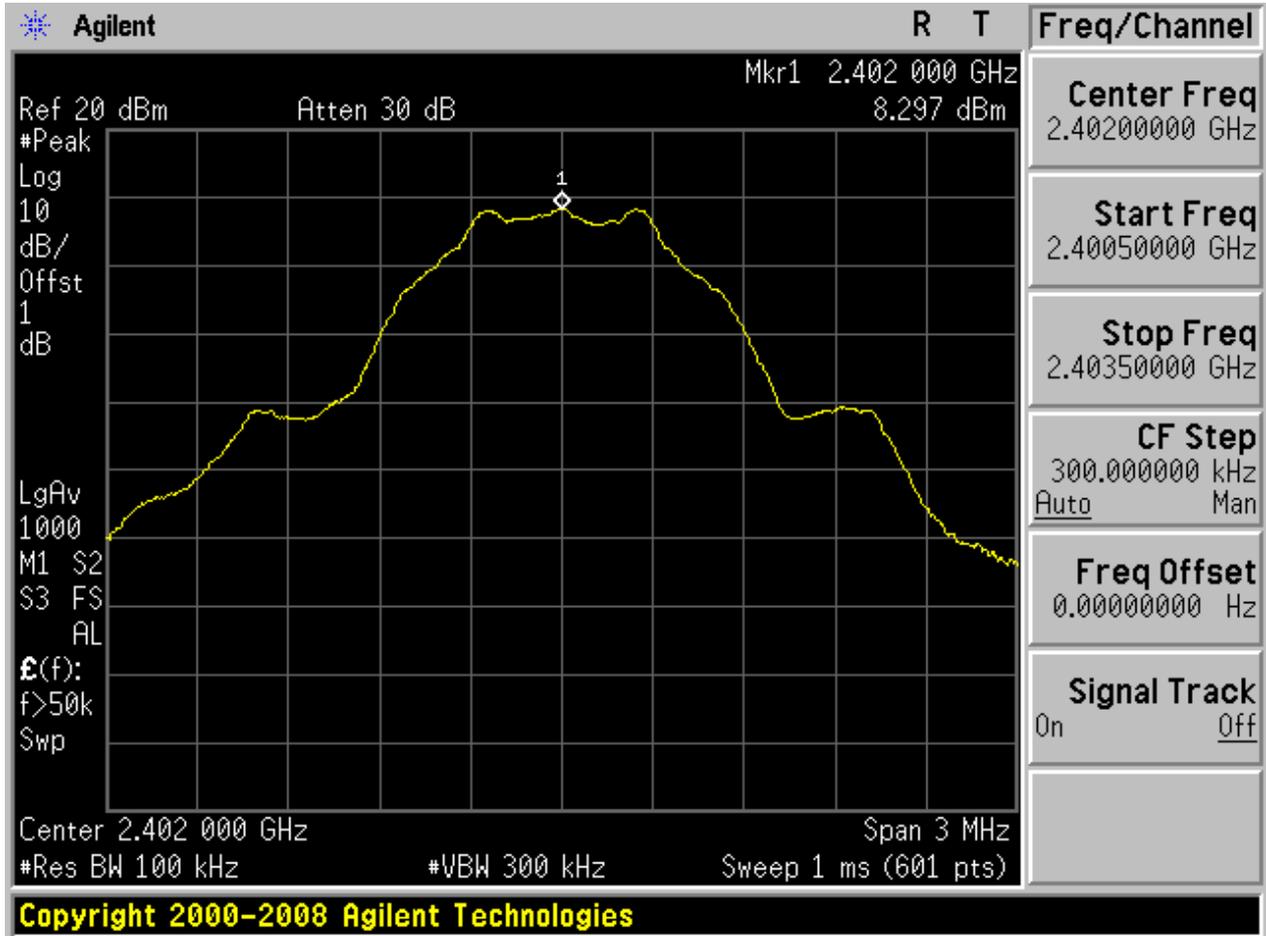
#### 6.1 Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	Pref[dBm]	Puw[dBm]	Verdict
TM1_Ch0	L	2402	8.30	<limit	pass
TM1_Ch19	M	2440	8.68	<limit	pass
TM1_Ch39	H	2480	6.99	<limit	pass

## 6.2 Part II - Test Plots

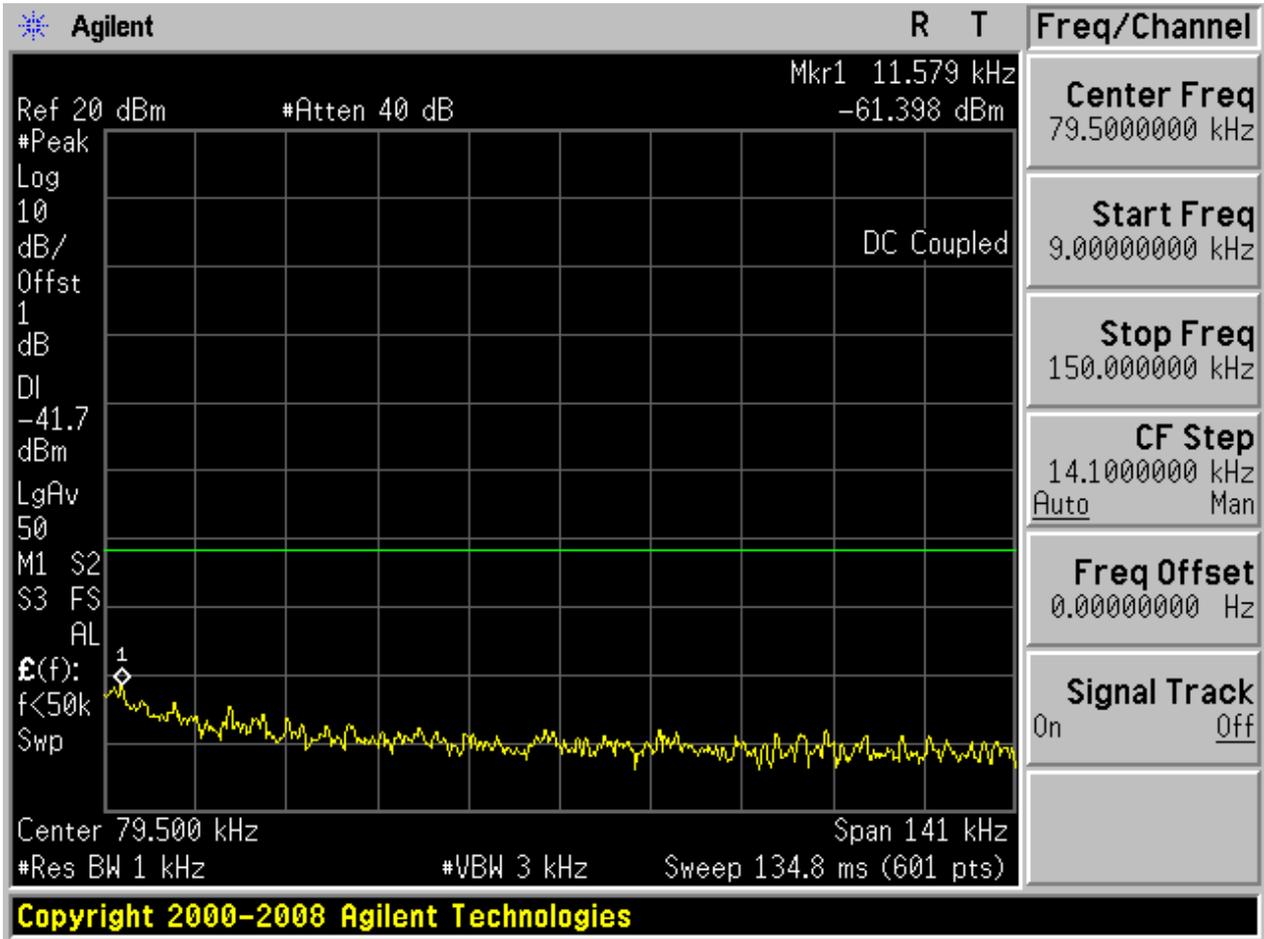
### 6.2.1 TM1\_Ch0\_L

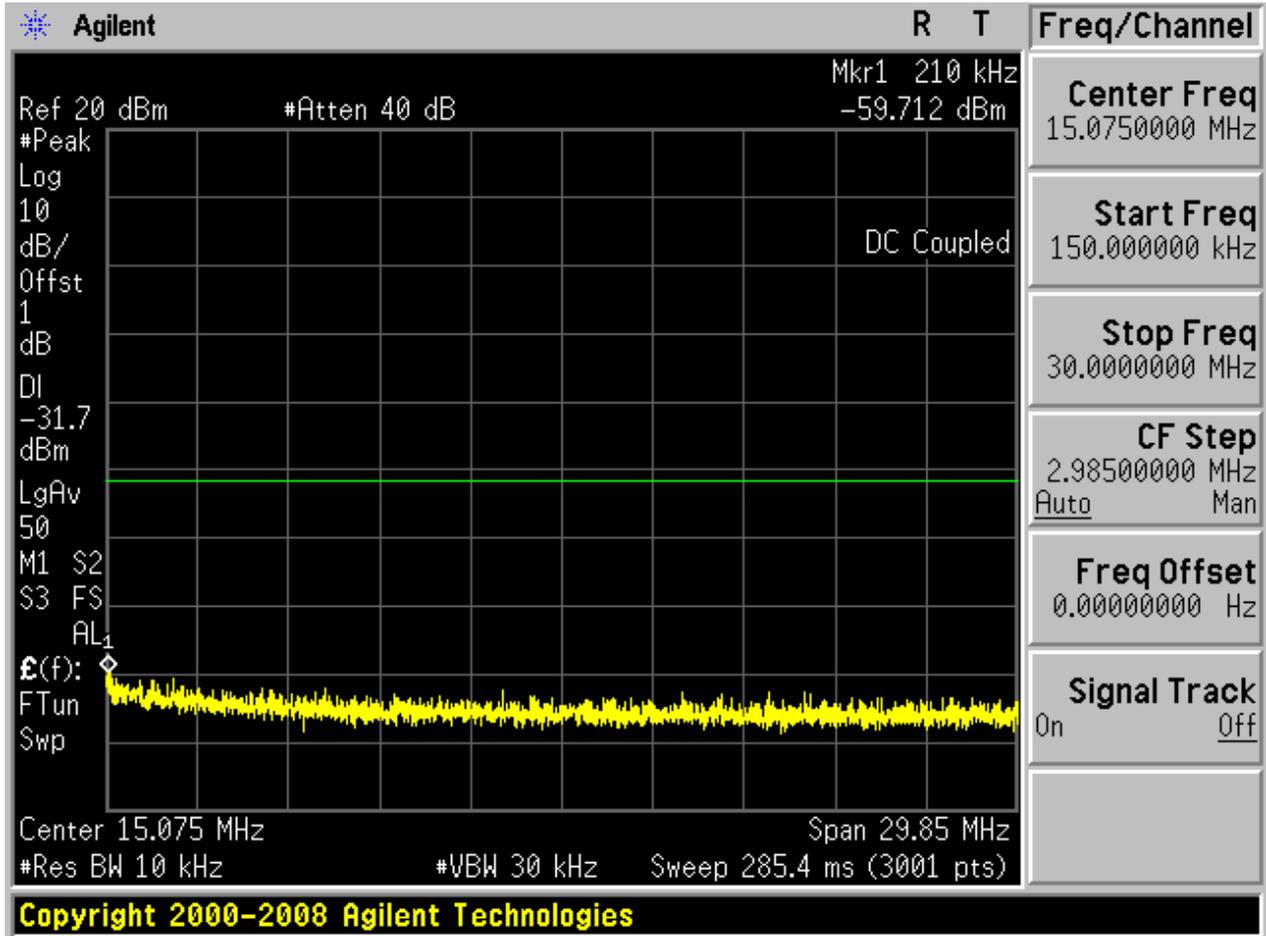
#### 6.2.1.1 Pref:

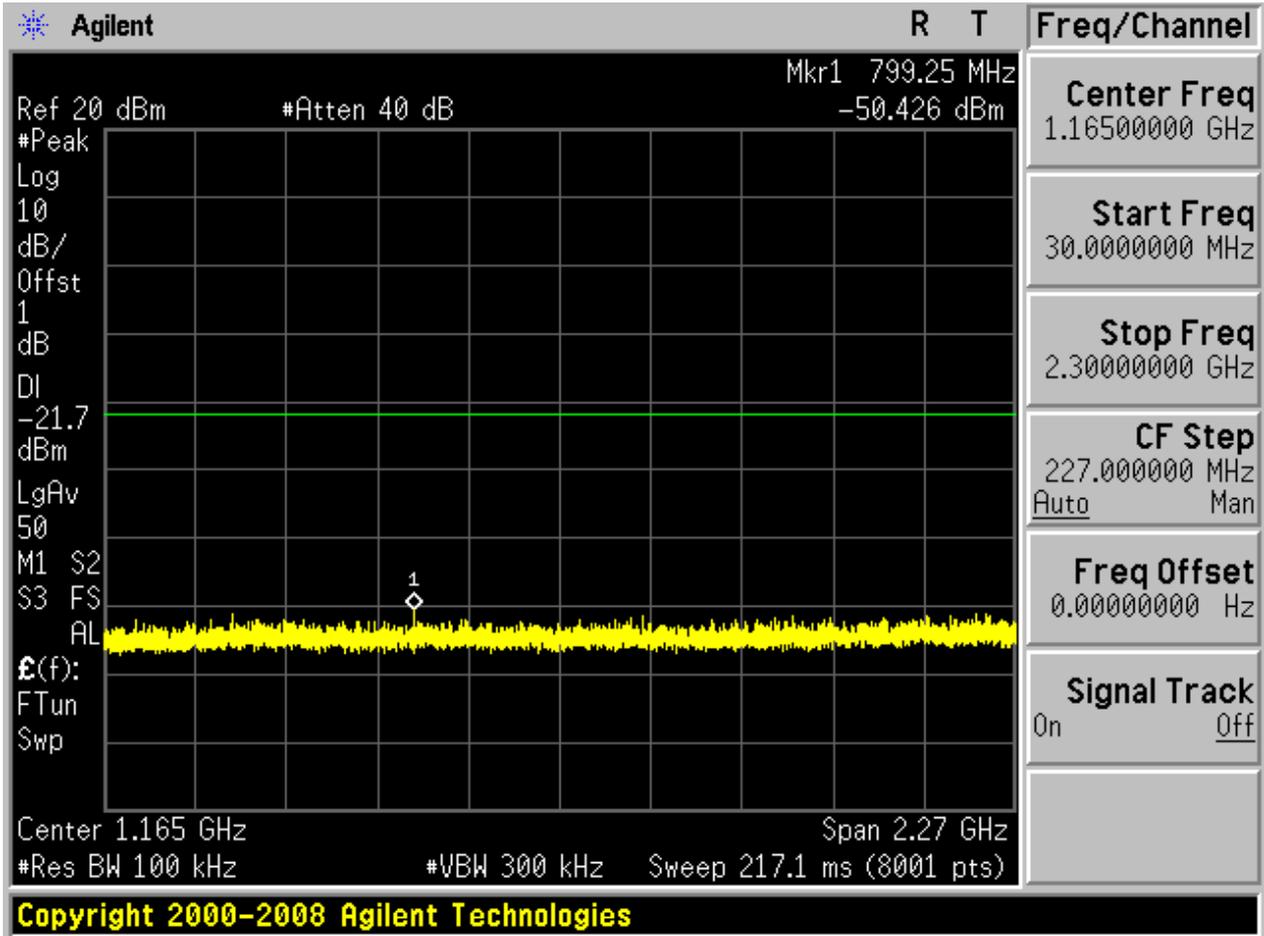


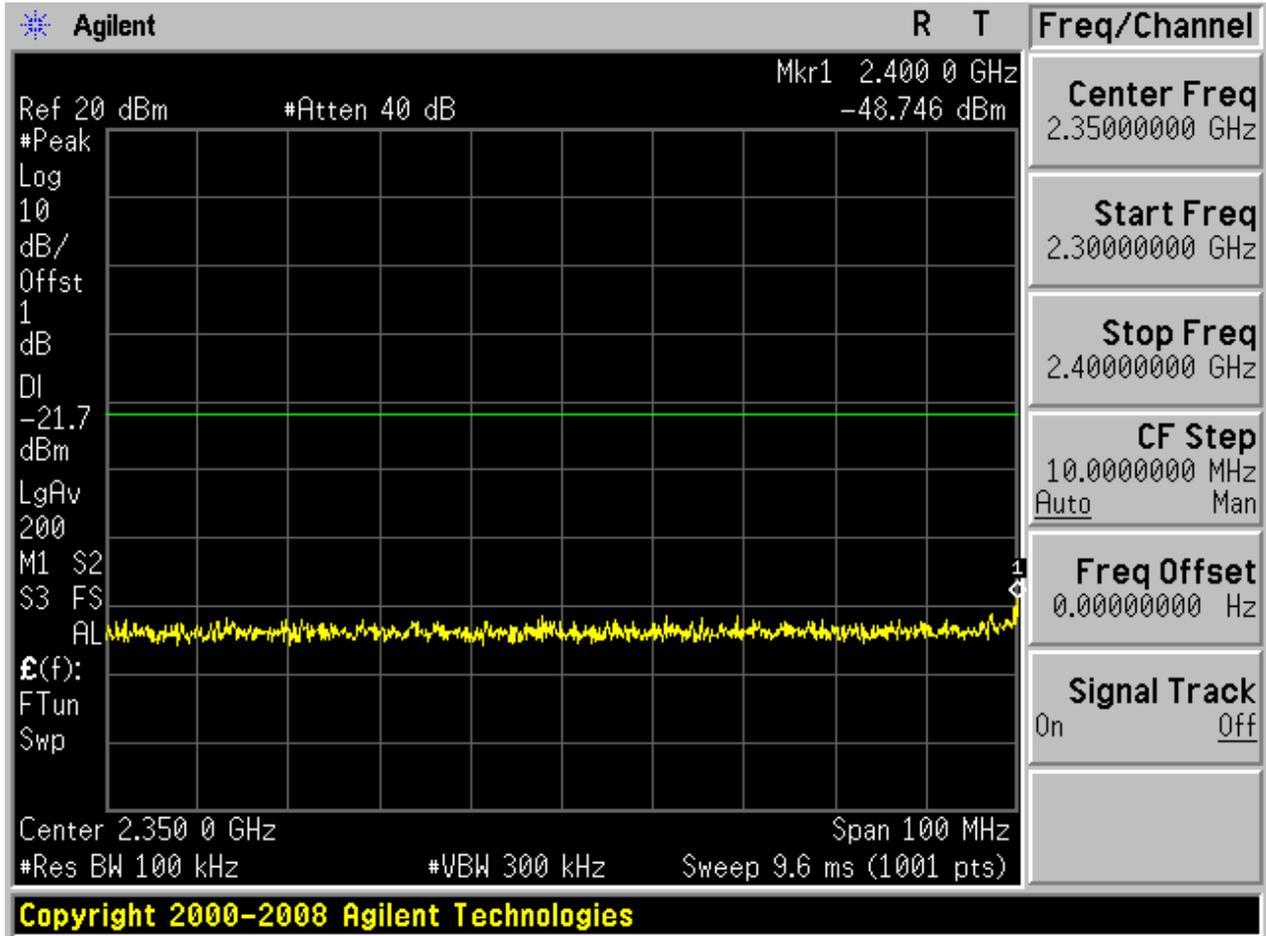


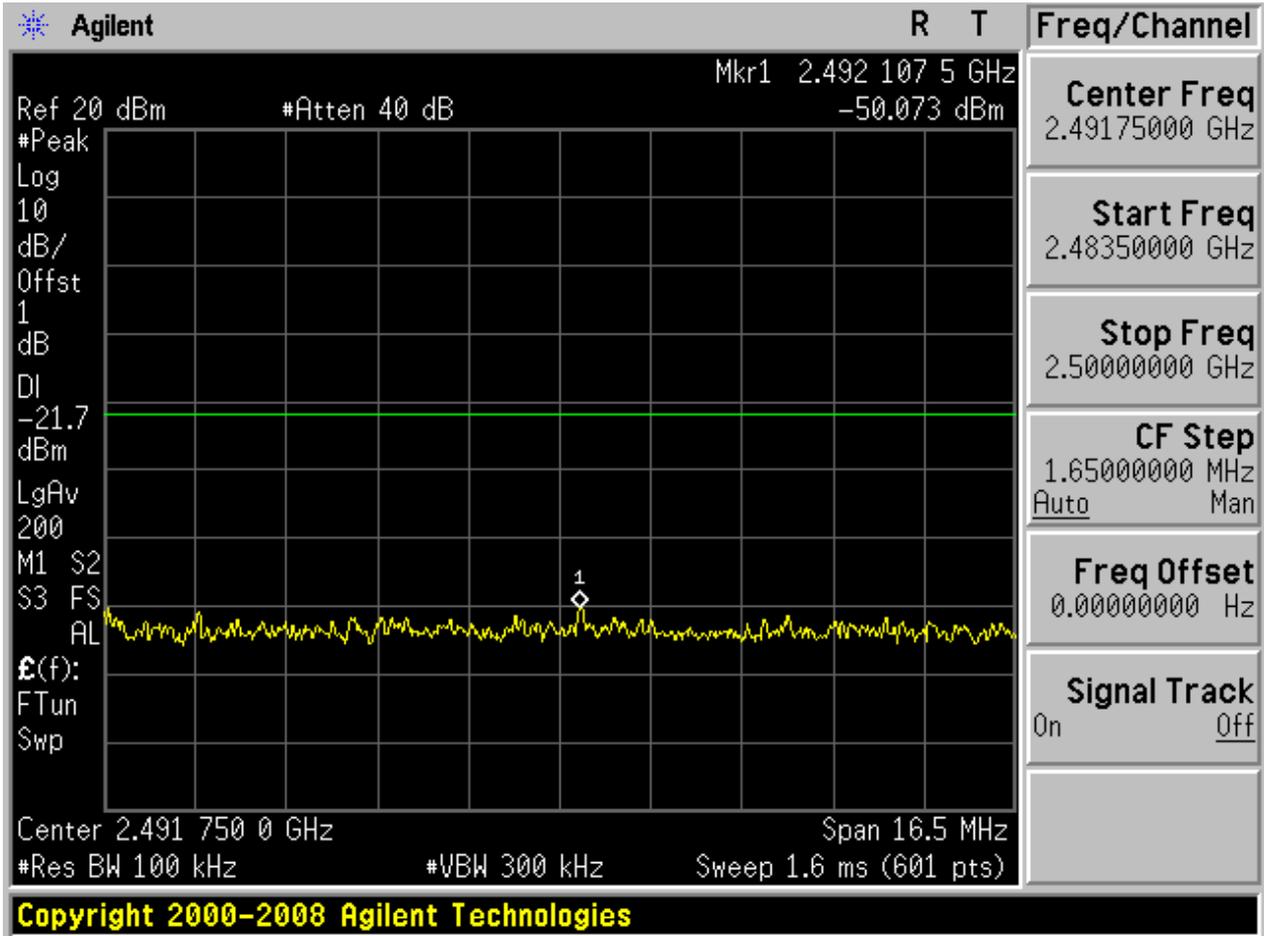
6.2.1.2 Puw:

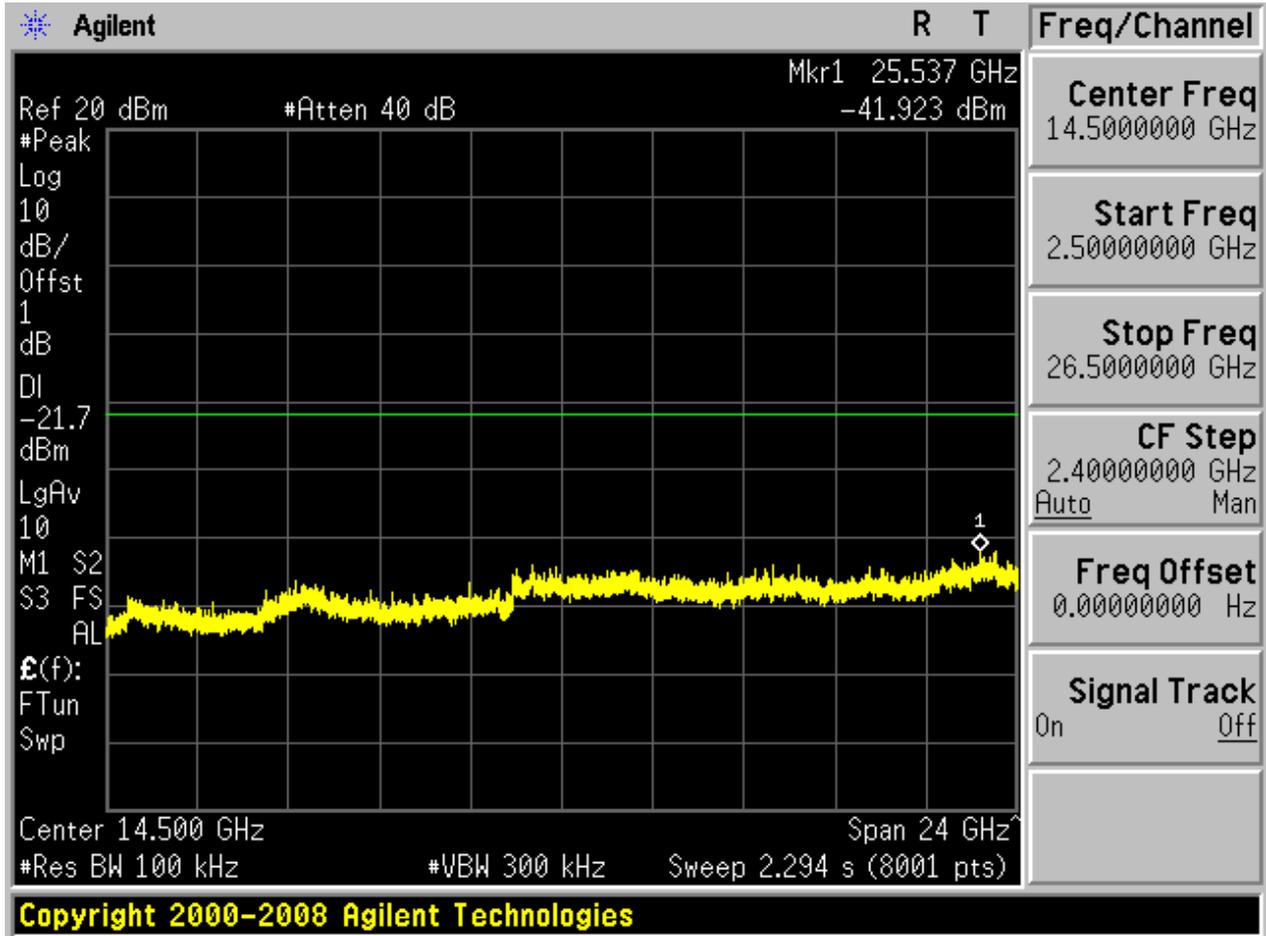






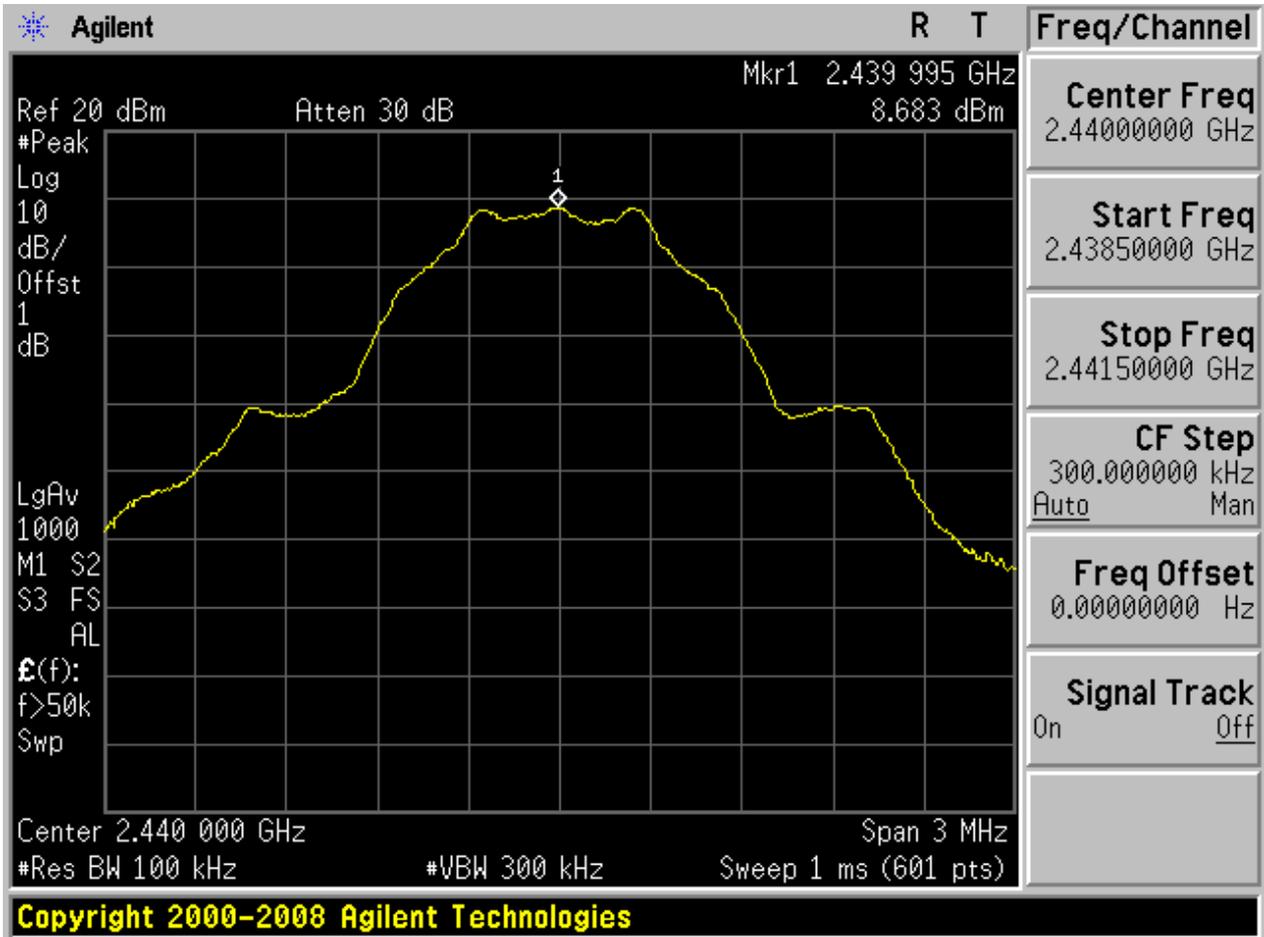




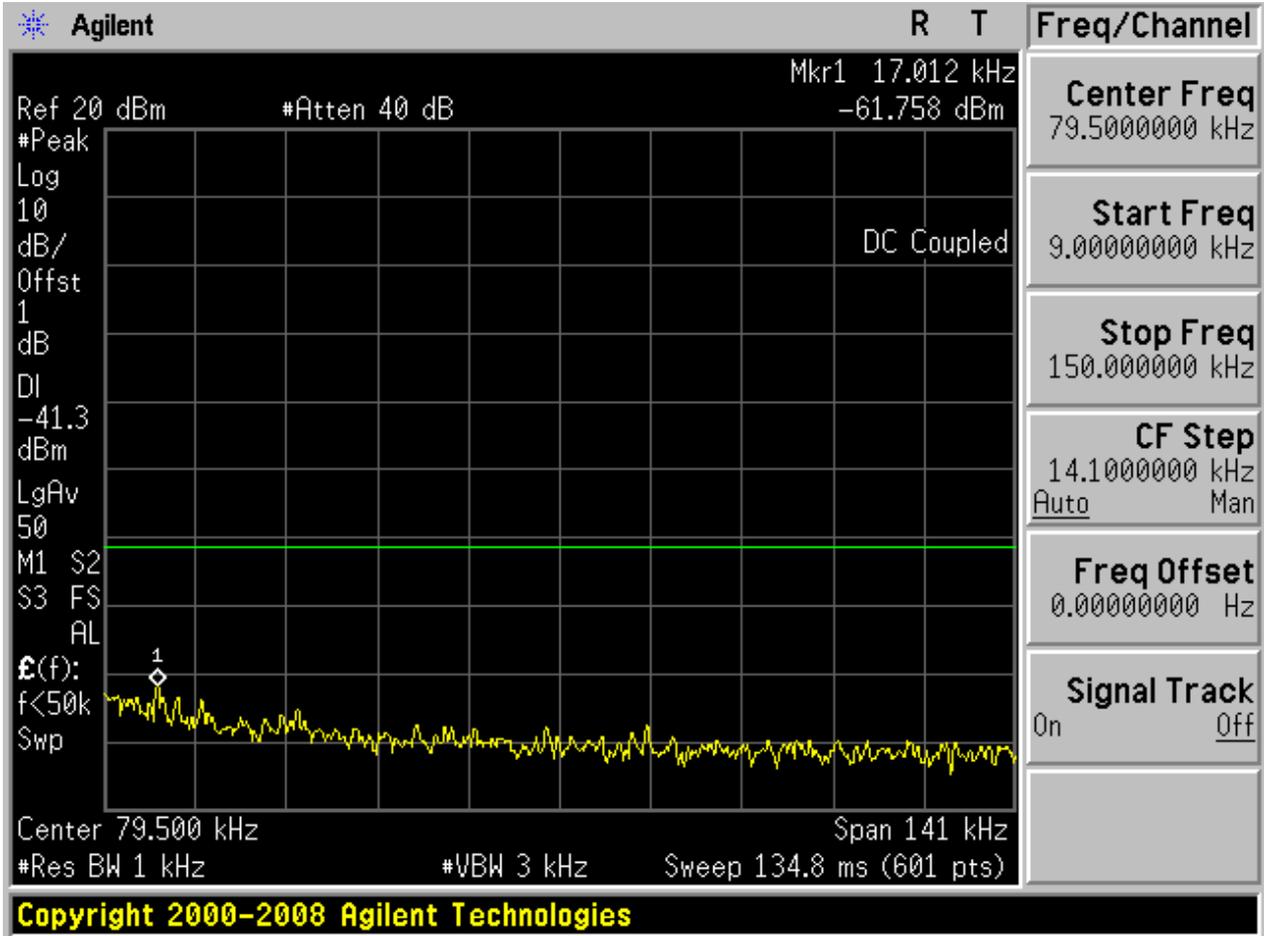


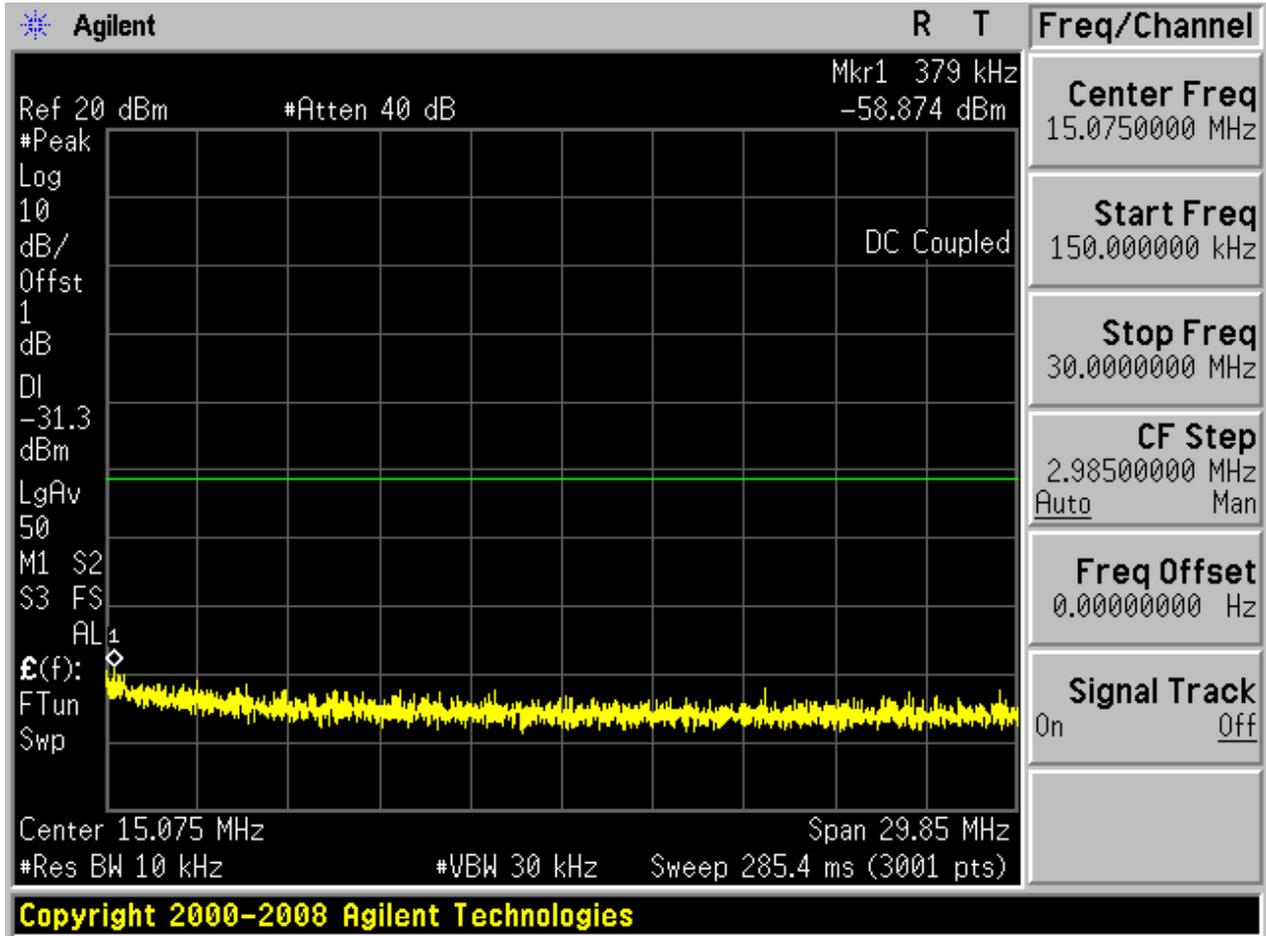
6.2.2 TM1\_Ch19\_M

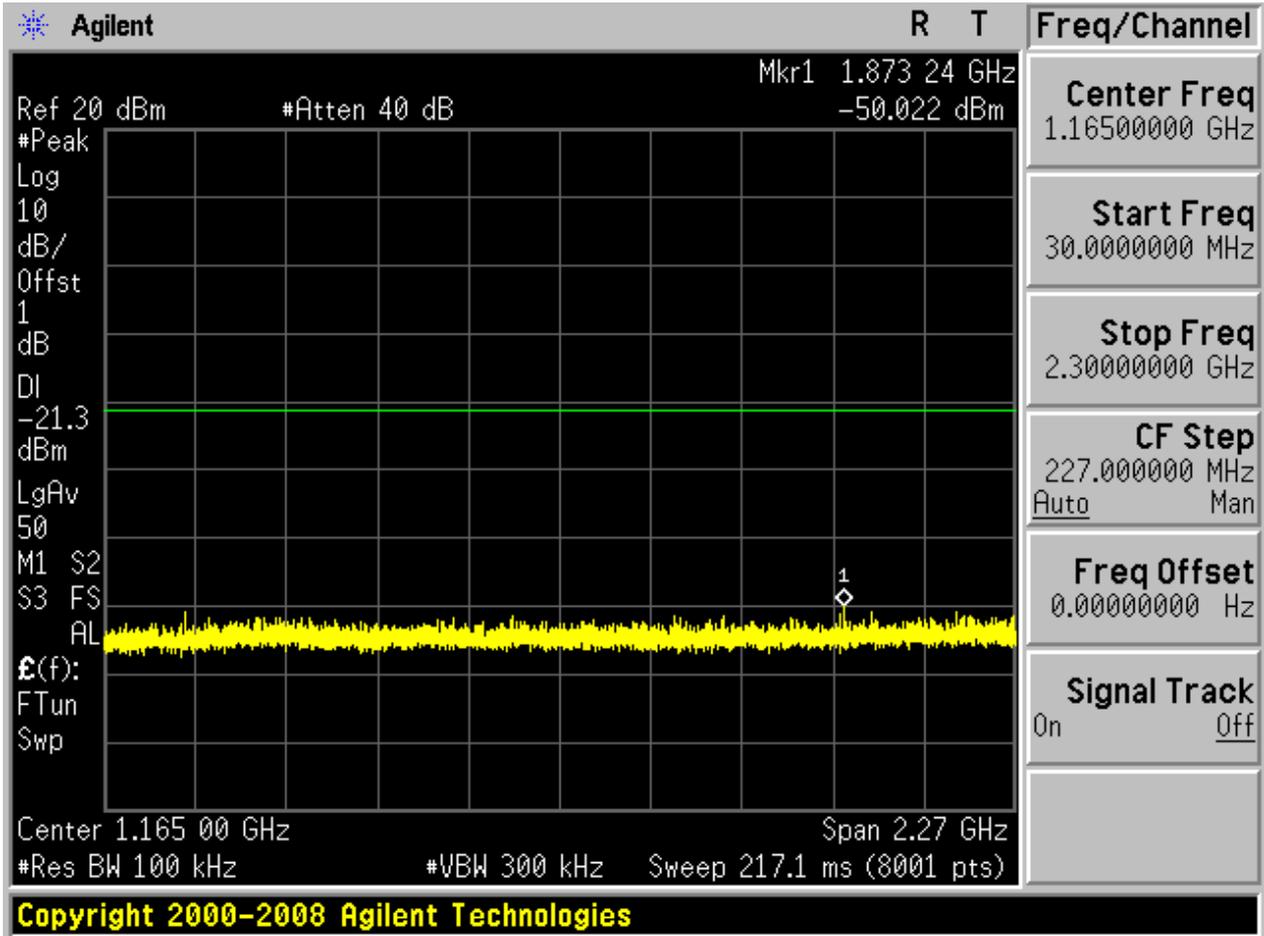
6.2.2.1 Pref:

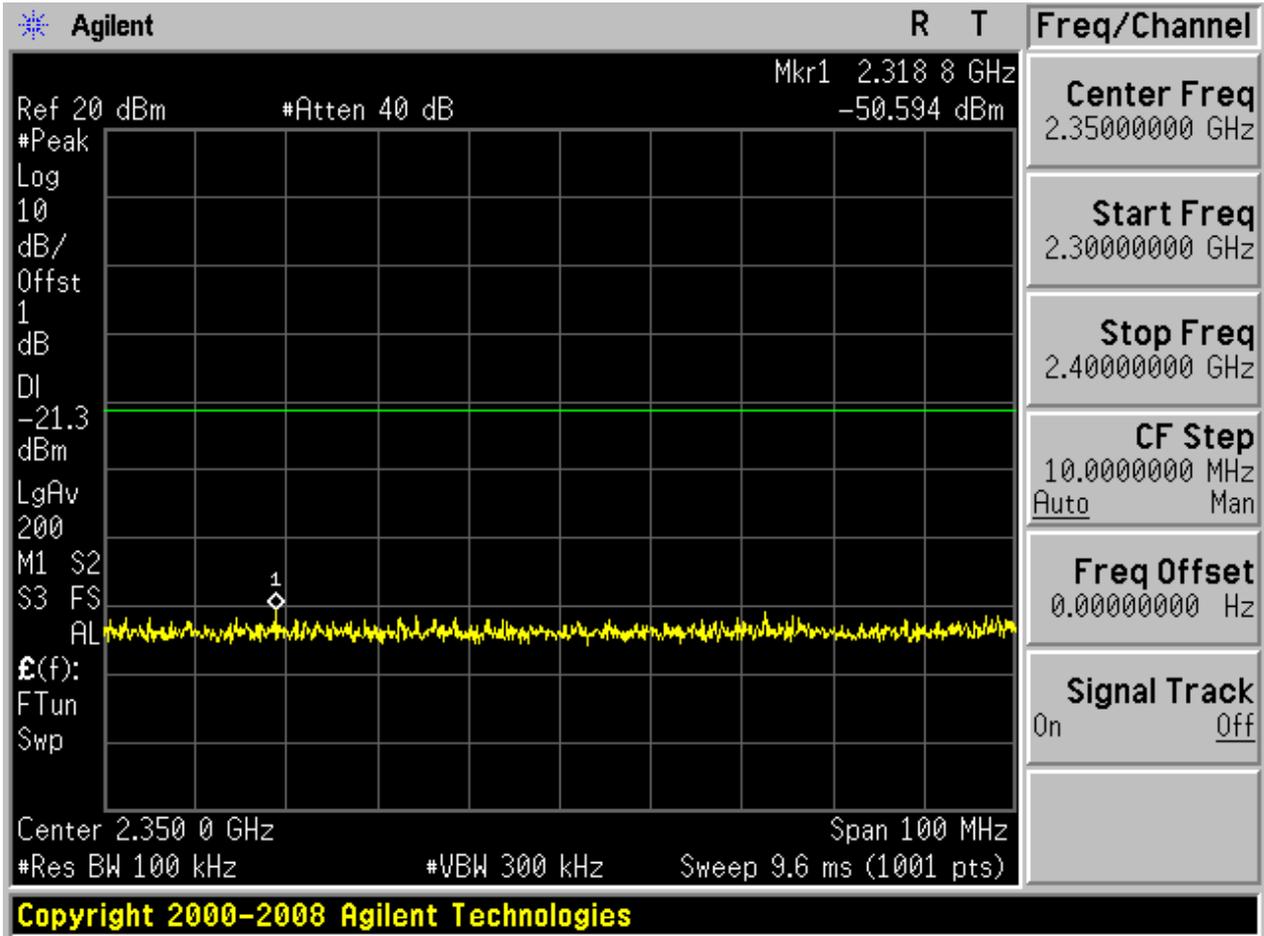


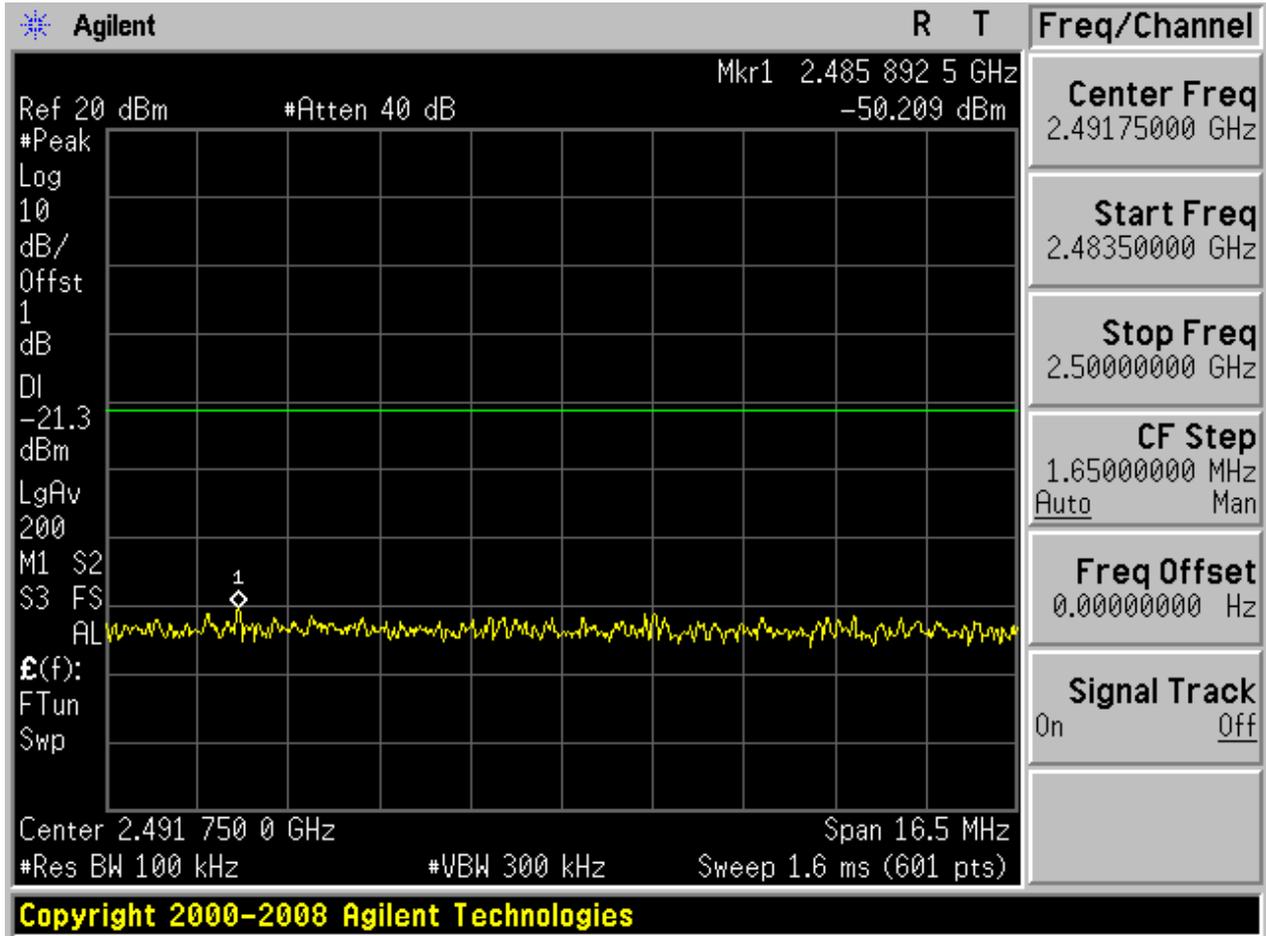
6.2.2.2 Puw:

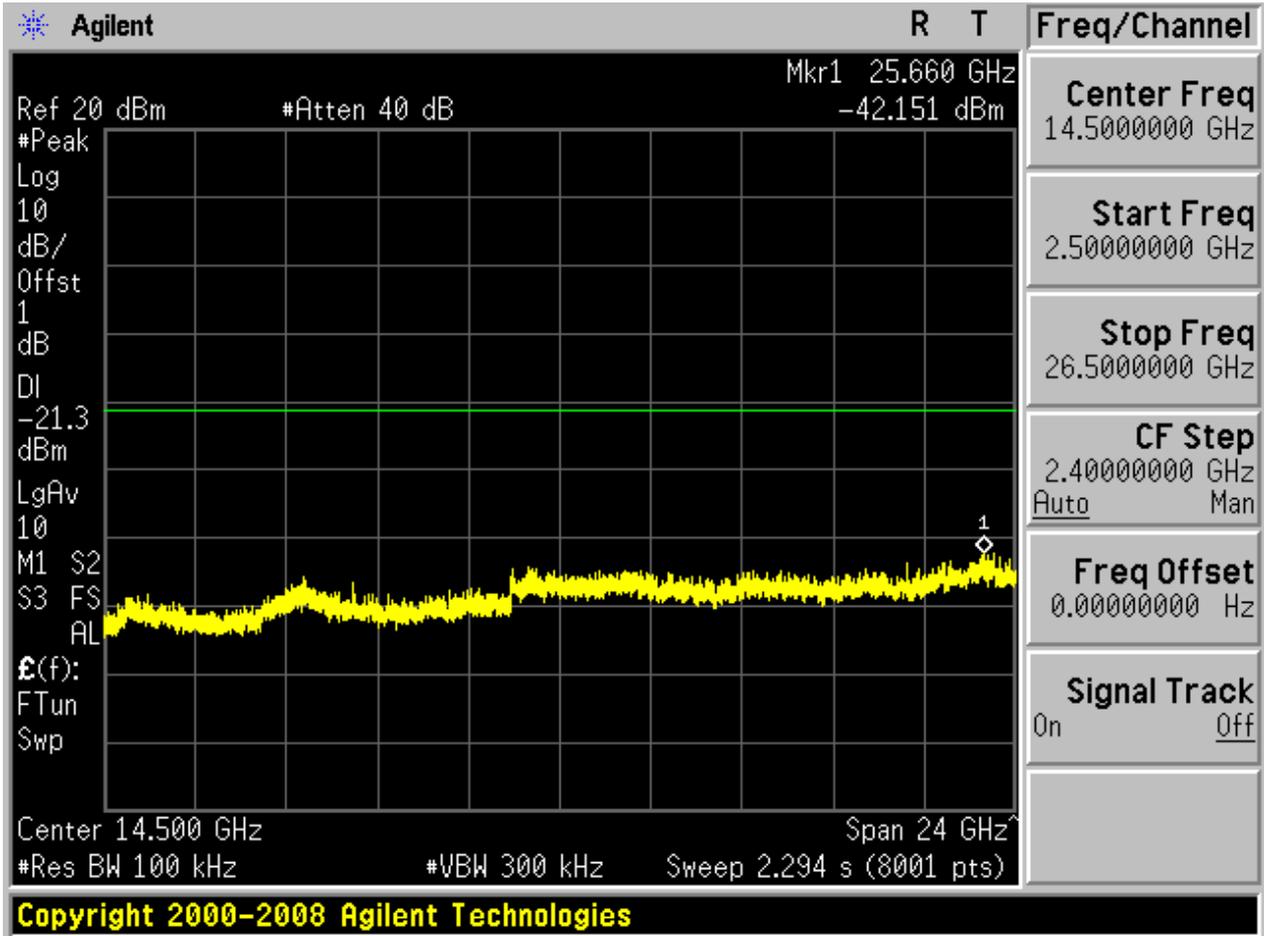






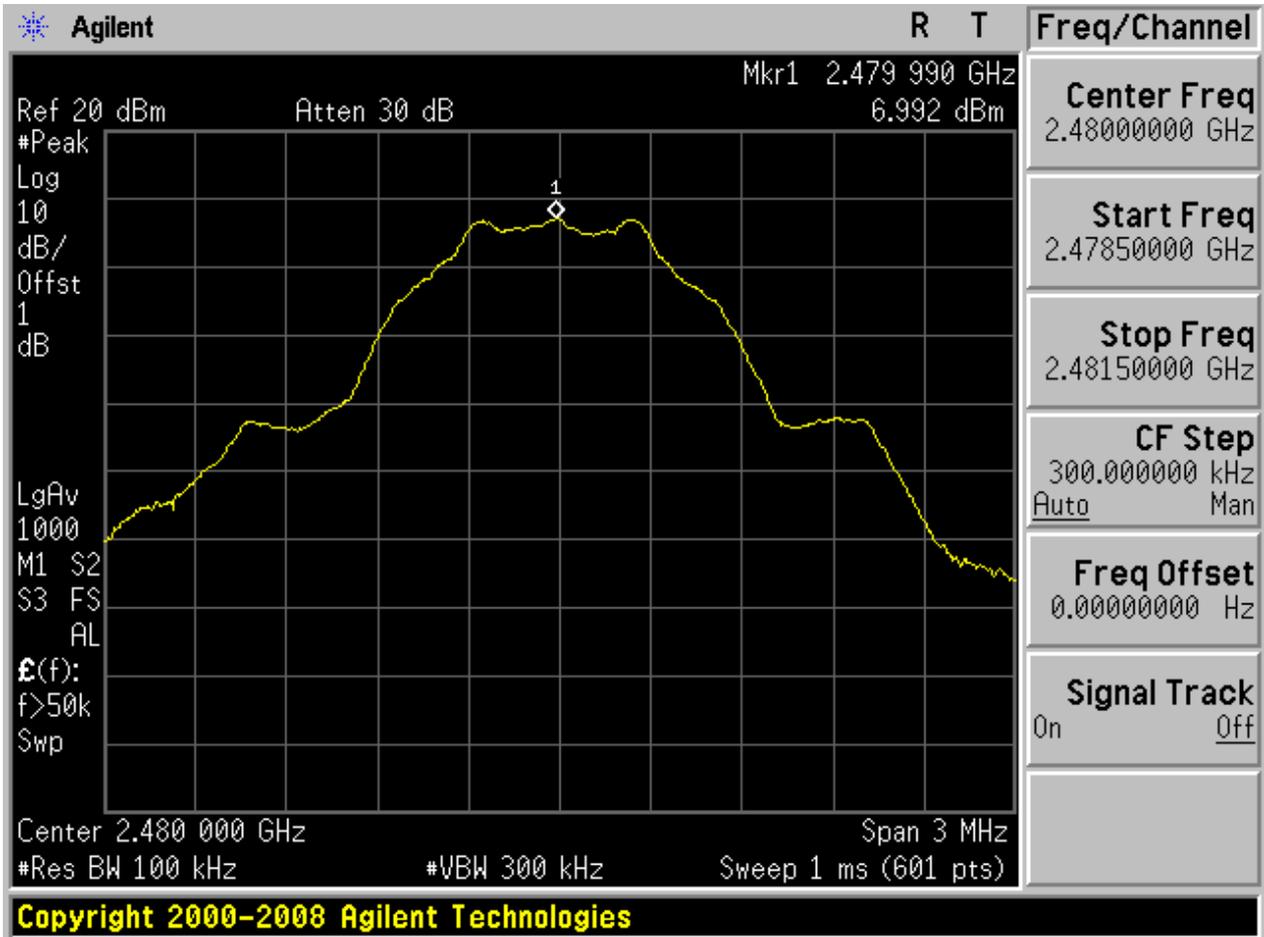




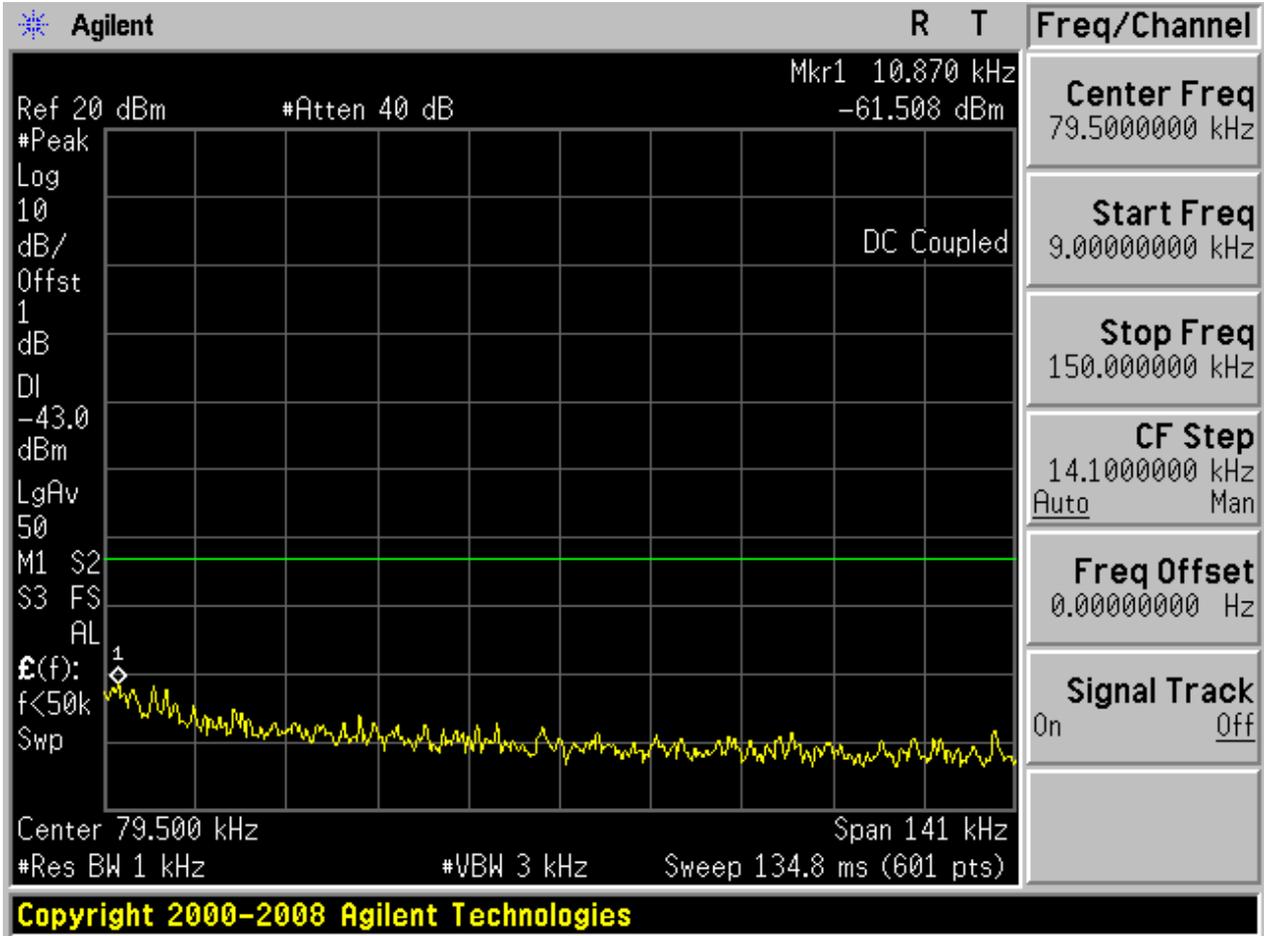


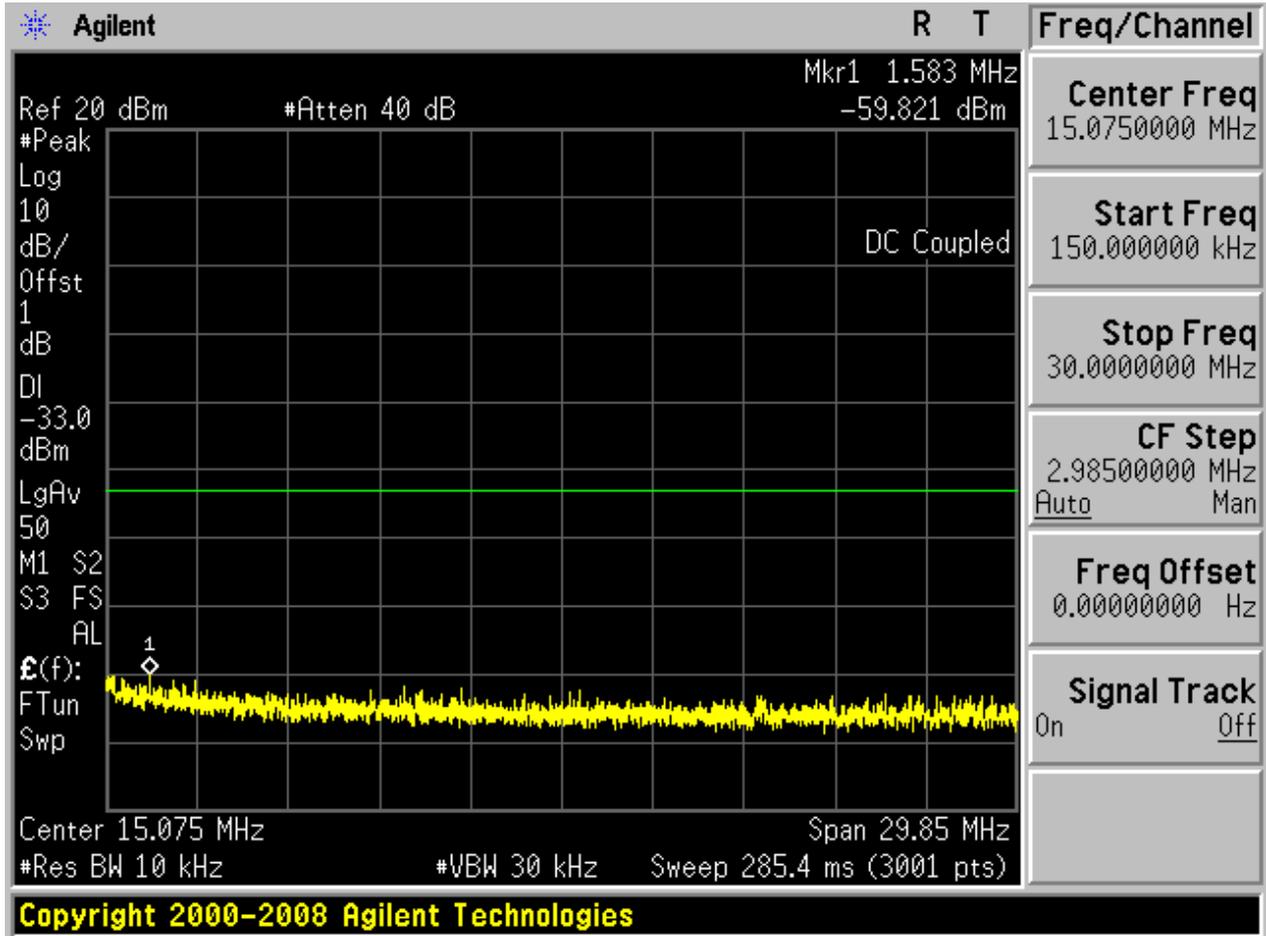
6.2.3 TM1\_Ch39\_H

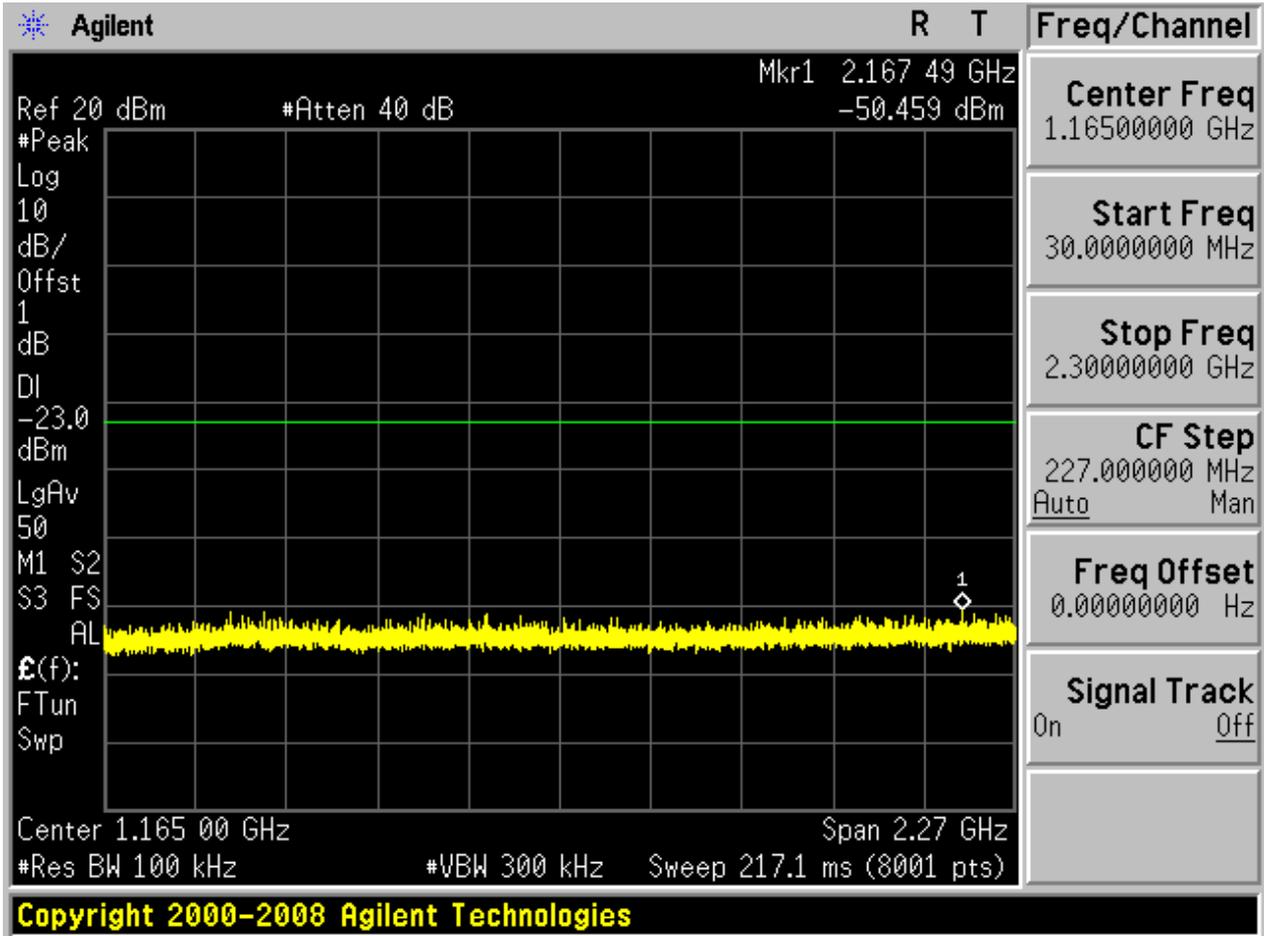
6.2.3.1 Pref:

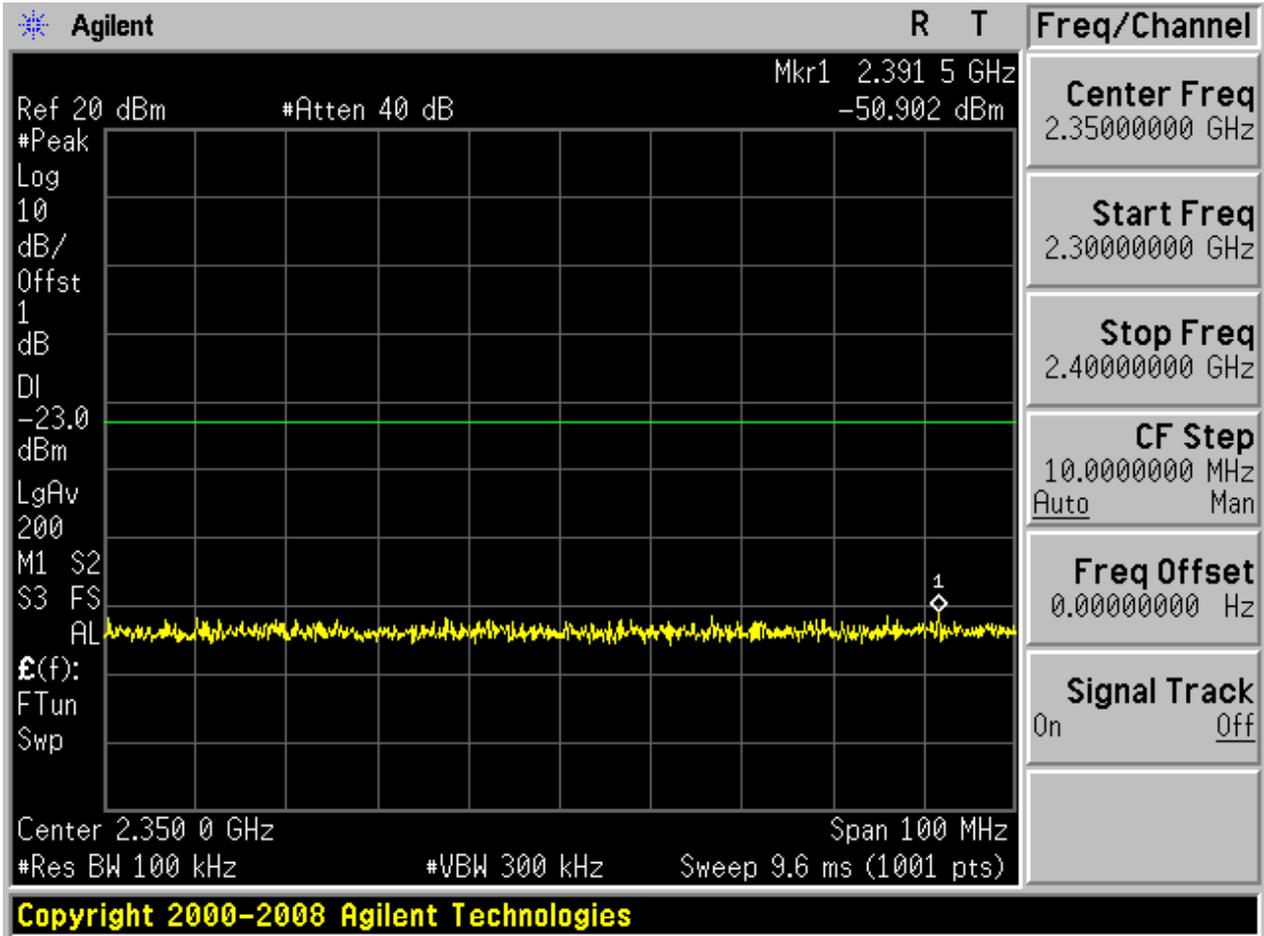


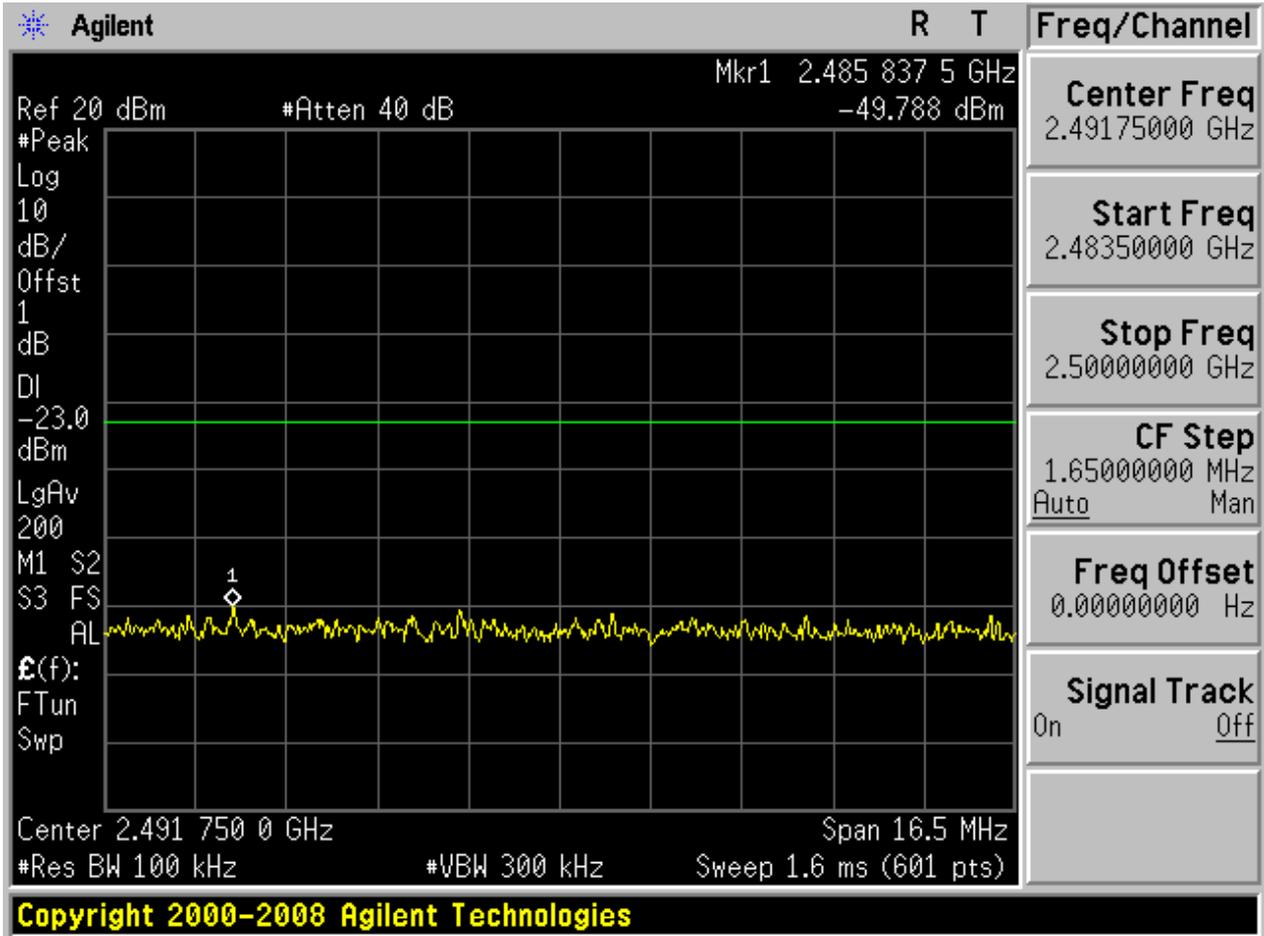
6.2.3.2 Puw:

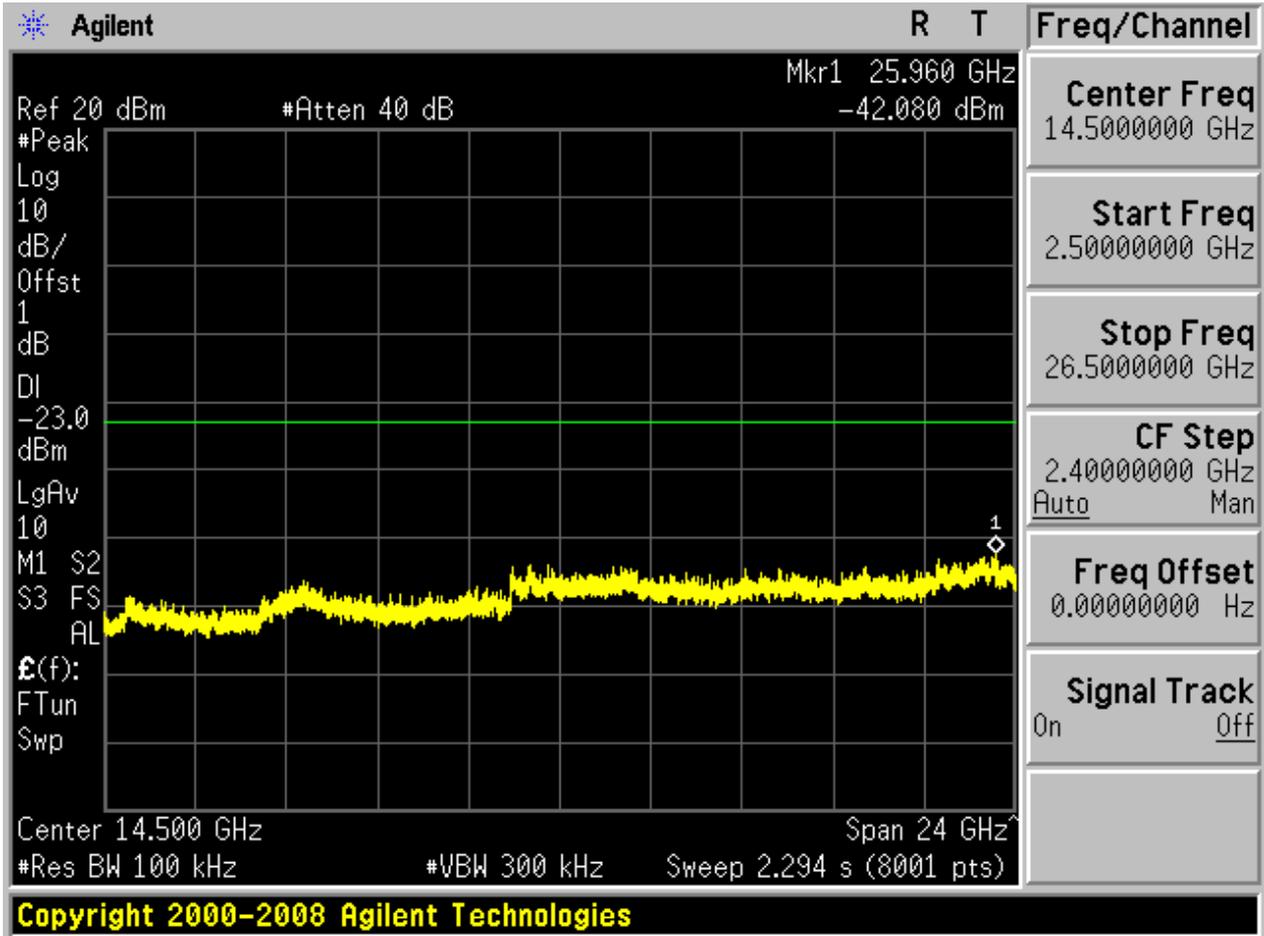














## 7 Appendix G: Radiated Spurious Emission & Spurious in Restricted Band

Note: We tested all modes, but the data presented below is the worst case. Below 1GHz, RBW = 100 kHz, VBW = 300 kHz.

Above 1GHz, RBW = 1 MHz, VBW = 3 MHz.

The simultaneous transmission has been considered

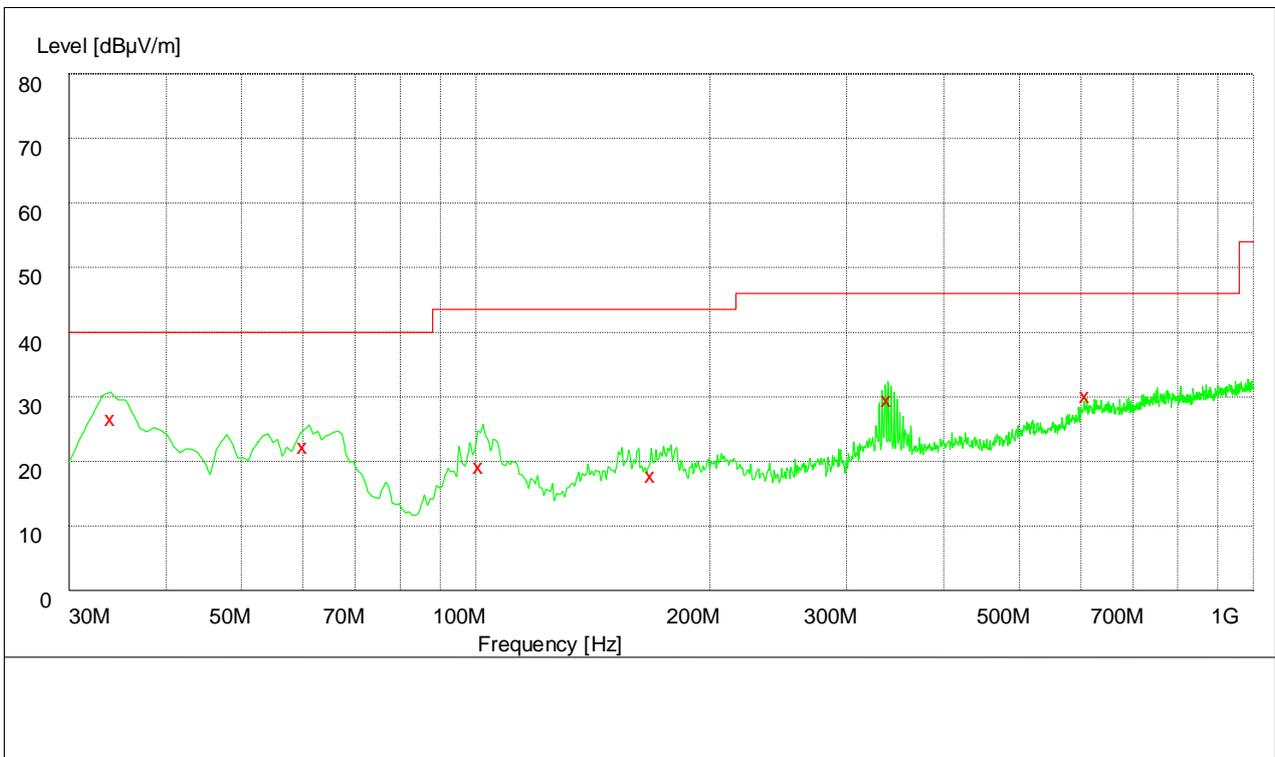
**7.1 Part 1: Testing Range of “9 kHz to 30MHz”**

NOTE1: No peak found in the Test Range of “9 kHz to 30MHz”

**7.2 Part 2: Testing Range of “30 MHz to 1 GHz”**

Note 1: The test results and plot for testing range of “30 MHz to 1 GHz” showed as below is the WORST case for all Test Modes and Channels. This range will not be presented for each Test Mode and each Channel.

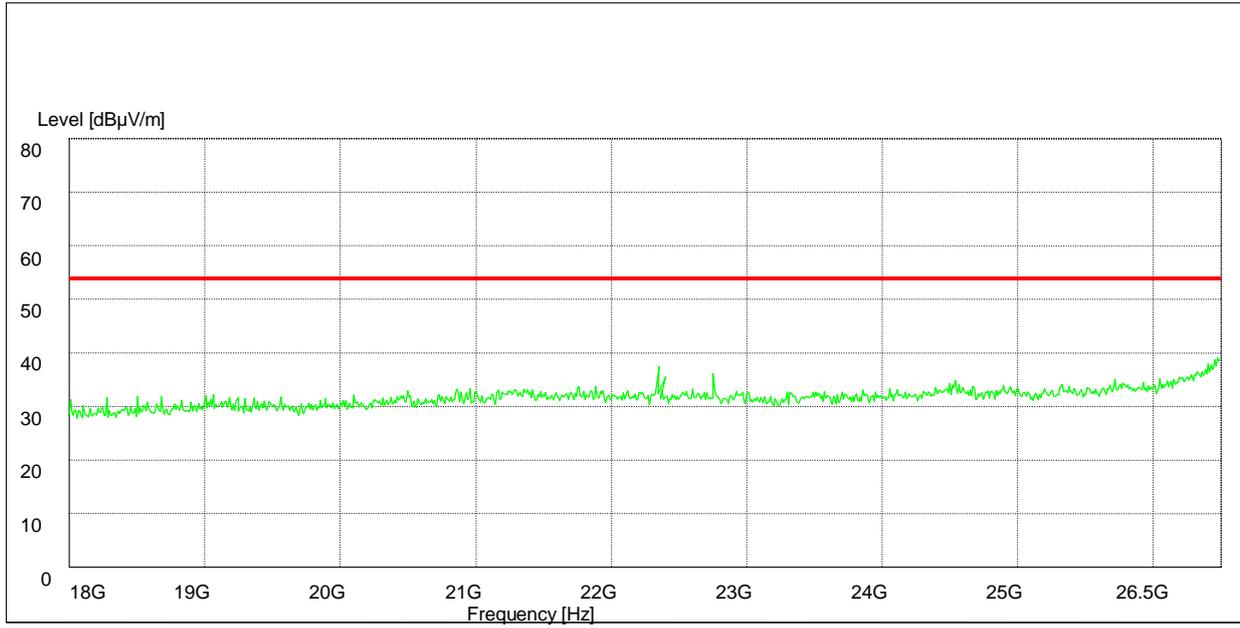
Note 2: The emissions in this range are mainly from the Platform Device (Notepad PC and its ancillary components).



Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Plarization
34.120000	28.20	13.2	40.0	11.8	100.0	360.00	VERTICAL
60.200000	23.90	15.1	40.0	16.1	180.0	92.00	VERTICAL
101.268000	20.80	13.8	43.5	22.7	131.0	358.00	VERTICAL
168.488000	19.30	10.7	43.5	24.2	100.0	132.00	VERTICAL
339.144000	31.10	19.1	46.0	14.9	100.0	73.00	HORIZONTAL
610.324000	31.70	24.0	46.0	14.3	132.0	92.00	VERTICAL

### 7.3Part 3: Testing Range of “18 GHz to 26.5 GHz”

Note: No peak found in pre- test.



### 7.4Part 4: Testing Range of “2.3GHz to 2.5GHz”

Note 1: The testing range of “2.3 GHz to 2.5 GHz” is for checking radiated emissions located in restricted bands near the EUT operating bands.

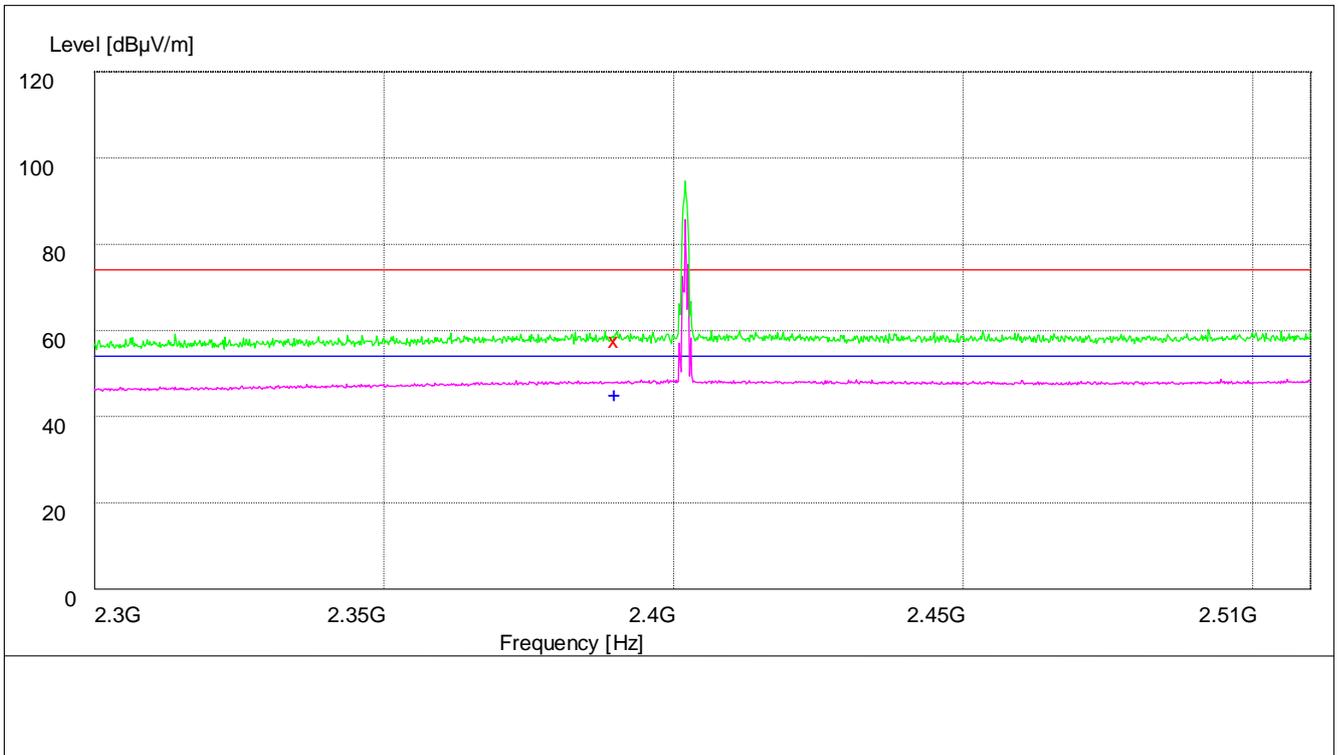
Note 2: Two limits are required in the testing range above 1 GHz, that is Peak limit (74 dB $\mu$ V/m) and Average Limit (54 dB $\mu$ V/m).

Note 3: The peak spike exceeds the limit line is EUT’s operating frequency.

Test Mode:

#### 7.4.1Test Mode:

#### 7.4.1.1Channel 0



Note: The peak exceeds the limit line is carrier frequency.

MEASUREMENT RESULT: PK Detector

Frequency MHz	Level dB $\mu$ V/m	Transd dB	Limit dB $\mu$ V/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	60.20	34.8	74.0	13.8	130.0	318.00	HORIZONTAL

MEASUREMENT RESULT: AV Detector

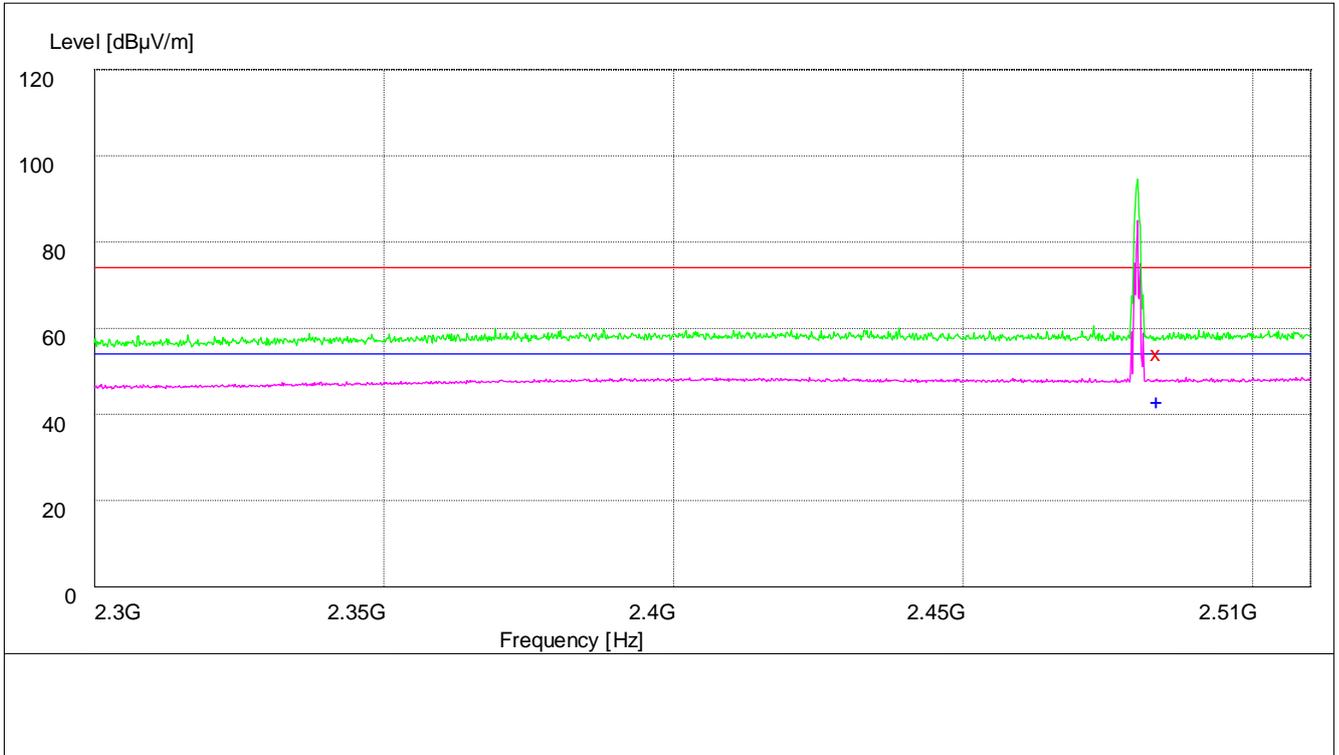


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Frequency MHz	Level dB $\mu$ V/m	Transd dB	Limit dB $\mu$ V/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	47.50	34.8	54.0	6.5	105.0	360.00	HORIZONTAL

### 7.4.1.2 Channel 39



Note: The peak exceeds the limit line is carrier frequency.

MEASUREMENT RESULT: PK Detector

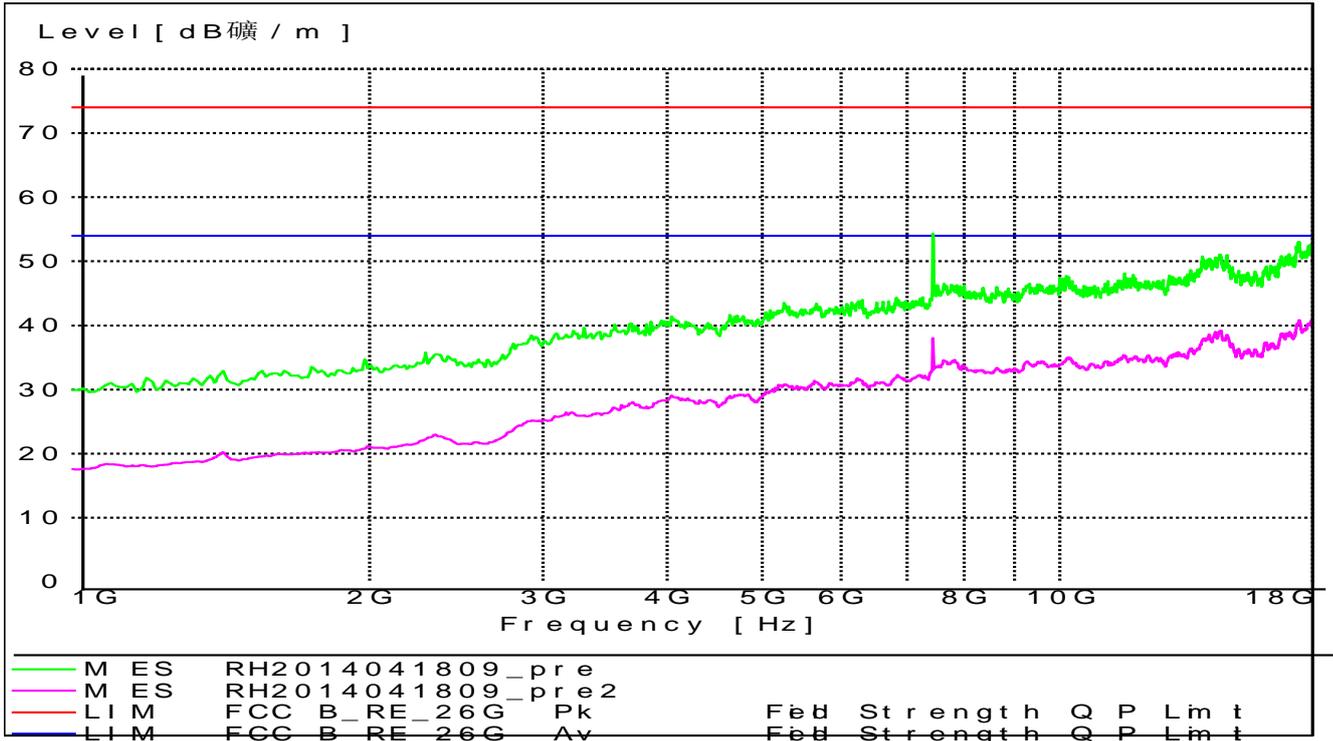
Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2483.500000	56.70	35.1	74.0	17.3	160.0	85.00	VERTICAL

MEASUREMENT RESULT: AV Detector

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2483.500000	45.30	35.1	54.0	8.7	166.0	230.00	VERTICAL

**7.5Part 5: Testing Range of “1 GHz to 18 GHz”**

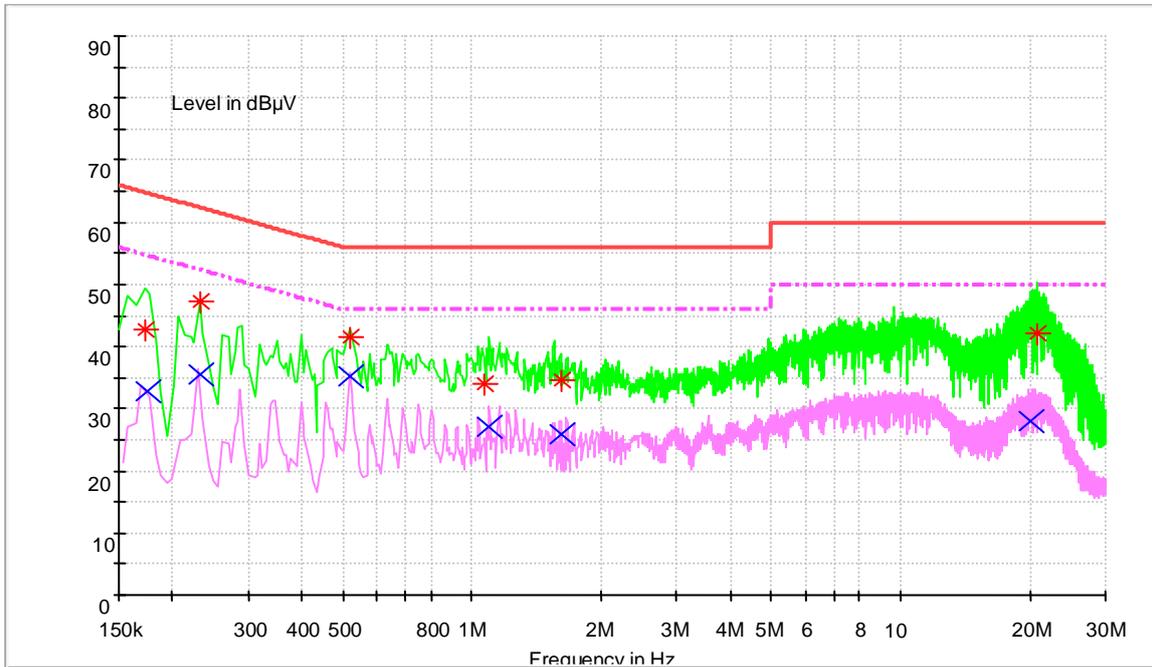
- Note 1: The test results and plot for testing range of “1 GHz to 18 GHz” showed as below is the WORST case for all Test Modes and Channels. This range will not be presented for each Test Mode and each Channel.
- Note 2: The testing range of “1 GHz to 18 GHz” is for checking radiated emissions located in restricted bands faraway from the EUT operating bands.
- Note 3: Two limits are required in the testing range above 1 GHz, that is Peak limit (74 dB $\mu$ V/m) and Average Limit (54 dB $\mu$ V/m).



## 8 Appendix H: Conducted Emission at Power Port

Note: RBW =9 kHz, VBW = 30 kHz

### Channel 39



#### MEASUREMENT RESULT: QP Detector

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Line	PE
0.173728	42.8	L1	9.7	22.0	64.8	FLO
0.232088	47.2	L1	9.7	17.5	64.7	FLO
0.517302	41.5	N	9.7	14.5	56.0	FLO
1.071754	33.9	N	9.7	22.1	56.0	FLO
1.613970	34.5	N	9.7	21.5	56.0	FLO
20.775434	42.1	L1	10.1	17.9	60.0	FLO

#### MEASUREMENT RESULT: AV Detector

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Line	PE
0.173986	32.9	N	9.7	21.9	54.8	FLO
0.231021	35.4	N	9.7	17.0	52.4	FLO



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0.516716	35.3	N	9.7	10.7	46.0	FLO
1.092948	27.0	N	9.7	19.0	46.0	FLO
1.608506	25.7	N	9.7	20.3	46.0	FLO
19.977554	28.0	N	10.1	22.0	50.0	FLO

Note: Level= Reading level+ Transd (cable loss + correction factor).The reading level is used to calculate by software which is not shown in the sheet.

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END