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CNAS L0310



# FCC

# RF Test Report

**Product Name: Smart Phone**

**Model Number: VKY-L09**

**Report No: SYBH(Z-RF)018122016-2004**

**FCC ID: QISVKY-L09**

**Reliability Laboratory of Huawei Technologies Co.**

**(Global Compliance and Testing Center of Huawei Technologies Co., Ltd)**

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

Tel: +86 755 28780808 Fax: +86 755 89652518

## 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-1.
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.
9. The laboratory (Reliability Lab of Huawei Technologies Co., Ltd) is also named as “Global Compliance and Testing Center of Huawei Technologies Co., Ltd”, the both names have coexisted since 2009.



**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:** 2016-11-17  
**Start Date of Test:** 2016-11-17  
**End Date of Test:** 2016-12-29

**Test Result:** Pass

<b>Approved by Senior Engineer:</b>	2016-12-30	Roger Zhang	<i>Roger Zhang</i>
	Date	Name	Signature

<b>Prepared by:</b>	2016-12-30	zhoulingbo	<i>zhou ling bo</i>
	Date	Name	Signature



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## 1 General Information

### 1.1 Applied Standard

Applied Rules: 47 CFR FCC Part 2, Subpart J 2014  
47 CFR FCC Part 15, Subpart C 2014

Test Method: FCC KDB 558074 D01 DTS Meas Guidance v03r04  
ANSI C63.10-2013, American National Standard for Testing Unlicensed  
Wireless Devices.

### 1.2 Test Location

Test Location: 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	SYBH(Z-RF)03511 2016-2004 OF FCC ID QISVKY-L29
Occupied Bandwidth	---	---	Appendix B	SYBH(Z-RF)03511 2016-2004 OF FCC ID QISVKY-L29
Duty Cycle	KDB 558074 (6.0)	No limit	Appendix C	SYBH(Z-RF)03511 2016-2004 OF FCC ID QISVKY-L29
Maximum Conducted Average Output Power	15.247(b)(3)	For directional gain: < 30 dBm – (G[dBi] – 6 [dB]), Average; Otherwise: < 30 dBm, Average;	Appendix D	SYBH(Z-RF)03511 2016-2004 OF FCC ID QISVKY-L29
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 E	SYBH(Z-RF)03511 2016-2004 OF FCC ID QISVKY-L29
Band Edges Compliance	15.247(d)	< -30 dBm/100 kHz if total average power ≤ power limit.	Appendix F	SYBH(Z-RF)03511 2016-2004 OF FCC ID QISVKY-L29
Unwanted Emissions into Non-Restricted Frequency Bands			Appendix G	SYBH(Z-RF)03511 2016-2004 OF FCC ID QISVKY-L29
Unwanted Emissions into Restricted Frequency Bands (Radiated)	15.247(d) 15.209 (NOTE 1)	FCC Part 15.209 field strength limit;	Appendix H	SYBH(Z-RF)03511 2016-2004 OF FCC ID QISVKY-L29
AC Power Line Conducted Emissions	15.207	FCC Part 15.207 conducted limit;	Appendix I	SYBH(Z-RF)03511 2016-2004 OF FCC ID QISVKY-L29
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

VKY-L09 is subscriber equipment in the LTE/ WCDMA/GSM system. The LTE frequency band is Band I,Band II,Band III,Band IV,Band V, Band VII,Band VIII, Band IX,Band XII,BandXVII, Band XVIII ,Band XIX, Band XX, Band XXVI, Band XXVIII, Band XXIX,Band XXXVIII,BandXXXIX, Band XL and Band XLI. The HSUPA/HSDPA/UMTS frequency band is Band I, Band II, Band IV, Band V, Band VI, Band VIII and Band XIX, 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/ WCDMA /GSM protocol processing, voice, video, MMS service, GPS, AGPS,NFC and WIFI 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.

NOTE: Only Bluetooth BLE test data included in this report.

Differences between VKY-L29 and VKY-L09

Model	VKY-L29	VKY-L09
Trade mark	HUAWEI	HUAWEI
Frequency-GSM	the same	the same
Frequency-WCDMA	the same	the same
Frequency-LTE	the same	the same
Frequency-LTE	the same	the same
SIM Card	Dual	Single
Hardware Version	the same	the same
Software Version	different	different
Dimensions	the same	the same
Appearance	the same	the same
main antenna	the same	the same
BT/Wi-Fi antenna	the same	the same
DIV antenna	the same	the same
Supported CA configurations for Inter-band CA	CA_3A-8A, CA_3A-20A, CA_3A-7A-8A,CA_3A-7A-20A, CA_3A-7A-28A Unsupported	CA_3A-8A, CA_3A-20A, CA_3A-7A-8A,CA_3A-7A-20A, CA_3A-7A-28A Supported
Others	the same	the same

NOTE1:We do not test Bluetooth BLE data of VKY-L09, the test data refer to SYBH(Z-RF)035112016-2004 of FCC ID QISVKY-L29

#### 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	HL1AVICKYM	D189-L09C432B083

### 3.2.2 Sub-Assembly

Sub-Assembly			
Sub-Assembly Name	Model	Manufacturer	Description
Adapter	HW-050450B00	Huawei Technologies Co., Ltd.	Input Voltage: 100-240V ~50/60Hz, 0.75A Output Voltage: 5V  2A/4.5A 4.5V  5A Rated Power: 10W/22.5W
Adapter	HW-050450E00	Huawei Technologies Co., Ltd.	Input Voltage: 100-240V ~50/60Hz, 0.75A Output Voltage: 5V  2A/4.5A 4.5V  5A Rated Power: 10W/22.5W
Adapter	HW-050450U00	Huawei Technologies Co., Ltd.	Input Voltage: 100-240V ~50/60Hz, 0.75A Output Voltage: 5V  2A/4.5A 4.5V  5A Rated Power: 10W/22.5W
Adapter	HW-050450A00	Huawei Technologies Co., Ltd.	Input Voltage: 100-240V ~50/60Hz, 0.75A Output Voltage: 5V  2A/4.5A 4.5V  5A Rated Power: 10W/22.5W
Rechargeable Li-ion	HB386589ECW	Huawei Technologies Co., Ltd.	Rated capacity: 3650mAh Nominal Voltage:  +3.82V Charging Voltage:  +4.4V



### 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 4.2: 690KFXD	
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, - All TX tests are performed at all TX antenna ports of the EUT, and - All RX tests are performed at all RX antenna ports of the EUT.
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 4.2 modulation, package type DH5, hopping off.	Ch No. 0 / 2402 MHz	62%
TM1_Ch19	GFSK for BT 4.2 modulation, package type DH5, hopping off.	Ch No. 19 / 2440 MHz	62%
TM1_Ch39	GFSK for BT 4.2 modulation, package type DH5, hopping off.	Ch No. 39 / 2480 MHz	62%

### 4.2 Test Environments

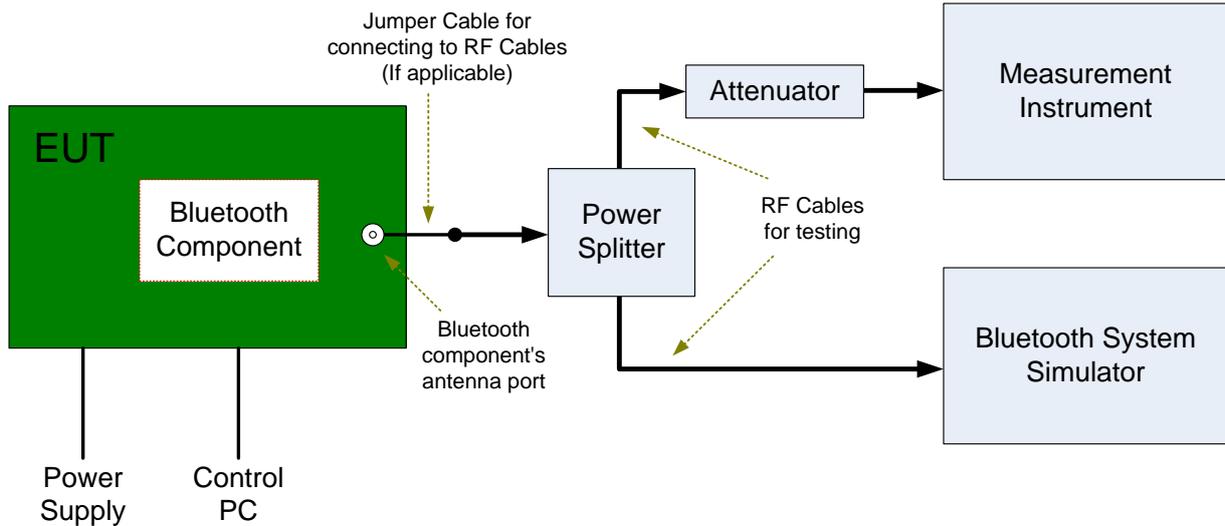
NOTE: The values used in the test report may be stringent than the declared.

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

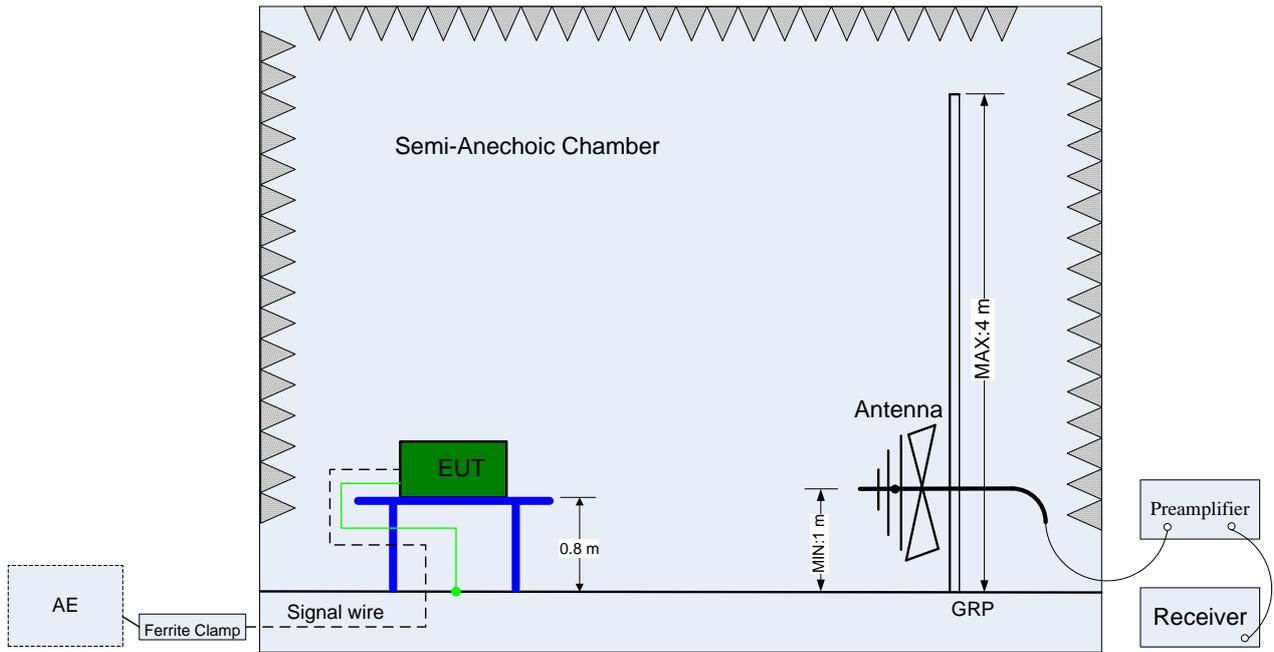
The Bluetooth component's antenna ports(s) of the EUT are connected to the measurement instrument per an appropriate attenuator. The EUT is controlled by Bluetooth System Simulator and/or PC/software to emit the specified signals for the purpose of measurements.



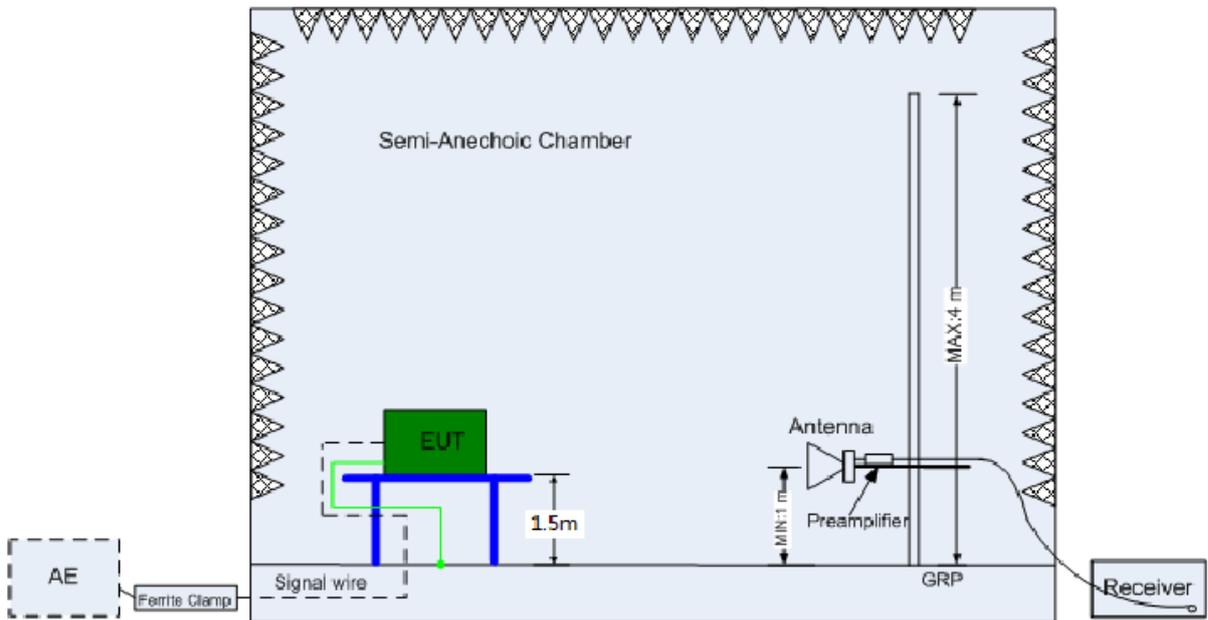
### 4.3.2 Test Setup 2

The test site semi-anechoic chamber 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)

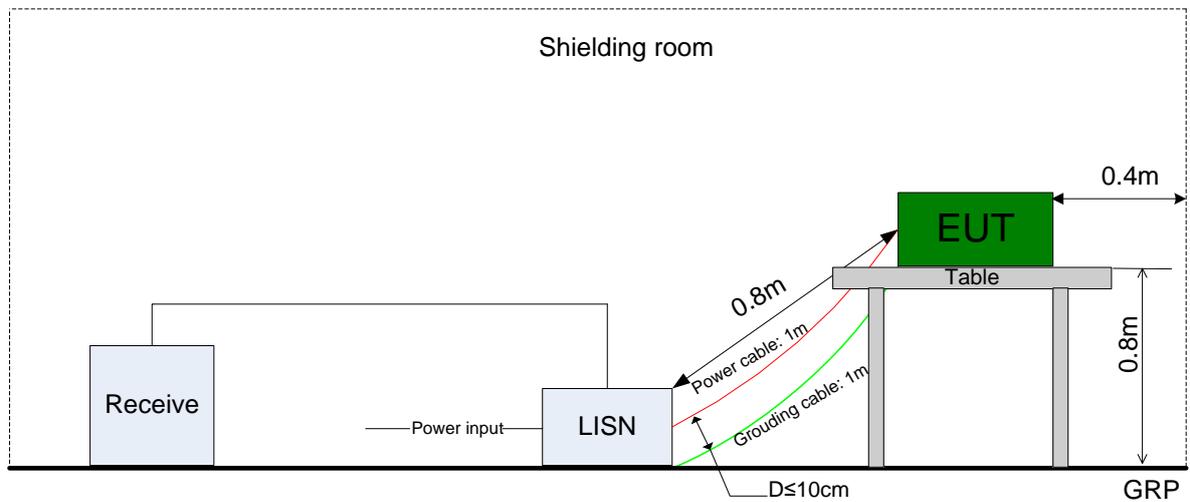


(Above 1 GHz)

### 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 §8.1 Option 2.	
	Test Env.	NTNV	
	Test Setup	Test Setup 1	
	EUT Conf.	TM1_Ch0, TM1_Ch19, TM1_Ch39.	
Occupied Bandwidth	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 §10.1	
	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**

Main Test Equipments					
Equipment Name	Manufacturer	Model	Serial Number	Cal Date	Cal- Due
Power supply	KEITHLEY	2303	1342889	2016/10/13	2017/10/12
Wireless Communication Test set	Agilent	N4010A	MY49081592	2016/8/5	2017/8/5
Spectrum Analyzer	Agilent	N9020A	MY52090652	2016/6/29	2017/6/29
Spectrum Analyzer	Agilent	N9030A	MY49431698	2016/8/5	2017/8/5
Temperature Chamber	WEISS	WKL64	56246002940010	2016/1/21	2017/1/20
Signal generator	Agilent	E8257D	MY49281095	2016/8/5	2017/8/5
Vector Signal Generator	R&S	SMU200A	104162	2016/8/5	2017/8/5
Test receiver	R&S	ESU26	100387	2016/6/21	2017/6/21
Test receiver	R&S	ESCI	101163	2016/11/02	2017/11/01
Spectrum analyzer	R&S	FSU3	200474	2016/5/24	2017/5/24
Spectrum analyzer	R&S	FSU43	100144	2016/6/2	2017/6/2
LOOP Antennas(9kHz-30MHz)	R&S	HFH2-Z2	100262	2015/4/30	2017/4/29
LOOP Antennas(9kHz-30MHz)	R&S	HFH2-Z2	100263	2015/4/30	2017/4/29
Trilog Broadband Antenna (30M~3GHz)	SCHWARZBECK	VULB 9163	9163-490	2015/4/30	2017/4/29
Trilog Broadband Antenna (30M~3GHz)	SCHWARZBECK	VULB 9163	9163-520	2015/4/30	2017/4/29
Double-Ridged Waveguide Horn Antenna (1G~18GHz)	R&S	HF907	100304	2015/4/30	2017/4/29
double ridged horn antenna (0.8G-18GHz)	R&S	HF907	100305	2015/4/30	2017/4/29
Pyramidal Horn Antenna(18GHz-26.5GHz)	ETS-Lindgren	Sep-60	5140299	2015/7/15	2017/7/14
Artificial Main Network	R&S	ENV4200	100134	2016/6/2	2017/6/2
Line Impedance Stabilization Network	R&S	ENV216	100382	2016/6/2	2017/6/2
Signal Generator	Agilent	E4438C	MY49071538	2016/3/1	2017/3/1
Power Detecting & Sampling Unit	R&S	OSP-B157	100914	2016/8/5	2017/8/5
Software Information					
Test Item	Software Name		Manufacturer	Version	
RE	EMC32		R&S	V9.25.0	
CE	EMC32		R&S	V9.25.0	



**6 Appendixes**

Appendix No.	Description
SYBH(Z-RF)018122016-2004-A	Appendix for Bluetooth BLE

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END



# Appendix for Testreport



## 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.

### Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	DTS6dBBW[MHz]	Verdict
TM1 _Ch0	L	2402	0.69	pass
TM1 _Ch19	M	2440	0.68	pass
TM1 _Ch39	H	2480	0.69	pass



Part II - Test Plots

2.1 TM1\_Ch0\_L





2.2 TM1\_Ch19\_M





### 2.3 TM1\_Ch39\_H





## 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.

### Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	Occupied Bandwidth [MHz]	Verdict
TM1 _Ch0	L	2402	1.06	pass
TM1 _Ch19	M	2440	1.06	pass
TM1 _Ch39	H	2480	1.06	pass



Part II - Test Plots

2.1 TM1\_Ch0\_L





2.2 TM1\_Ch19\_M





### 2.3 TM1\_Ch39\_H





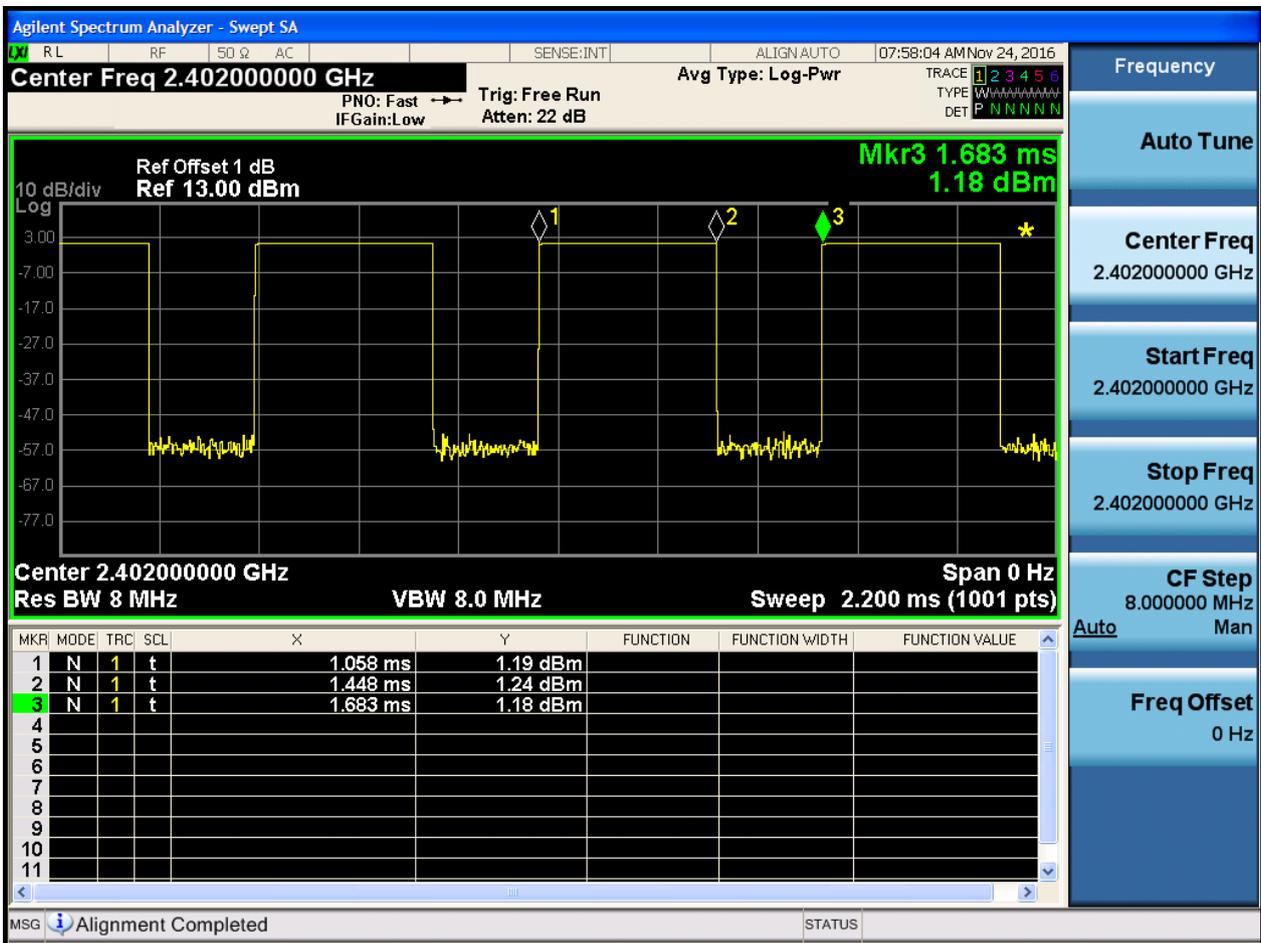
# Appendix C: Duty Cycle

## Part I - Test Results

Test Mode	TX Freq. [MHz]	Duty cycle [%]
TM1	CH0,CH19,CH39	62

## Part II - Test Plots

### 2.1 TM1



## Appendix D: Maximum Conducted Average Output Power

### Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	Power[dBm]	Verdict
TM1 _Ch0	L	2402	2.24	pass
TM1 _Ch19	M	2440	4.13	pass
TM1 _Ch39	H	2480	2.02	pass



### Part II - Test Plots

#### 2.1 TM1\_Ch0\_L





2.2 TM1\_Ch19\_M





2.3 TM1\_Ch39\_H





## Appendix E: Maximum Power Spectral Density Level

### Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	PD[MHz]	Verdict
TM1 _Ch0	L	2402	-1.17	pass
TM1 _Ch19	M	2440	1.14	pass
TM1 _Ch39	H	2480	-1.44	pass



### Part II - Test Plots

#### 2.1 TM1\_Ch0\_L





2.2 TM1\_Ch19\_M





### 2.3 TM1\_Ch39\_H



## Appendix F: Band Edges Compliance

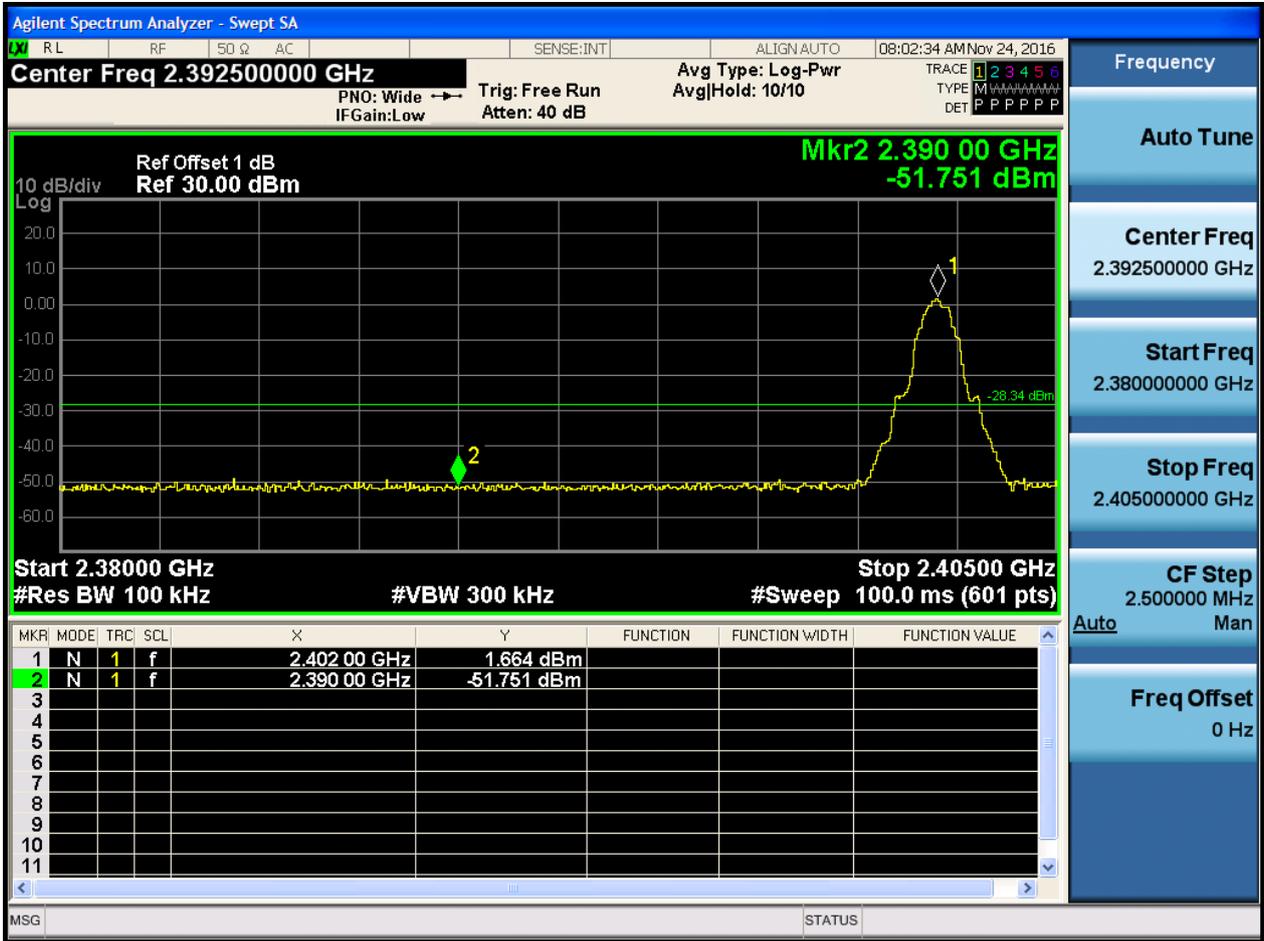
### Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	Carrier Power[dBm]	Max.Spurious Level[dBm]	Verdict
TM1 _Ch0	L	2402	1.66	-51.75	pass
TM1 _Ch39	H	2480	1.25	-50.81	pass



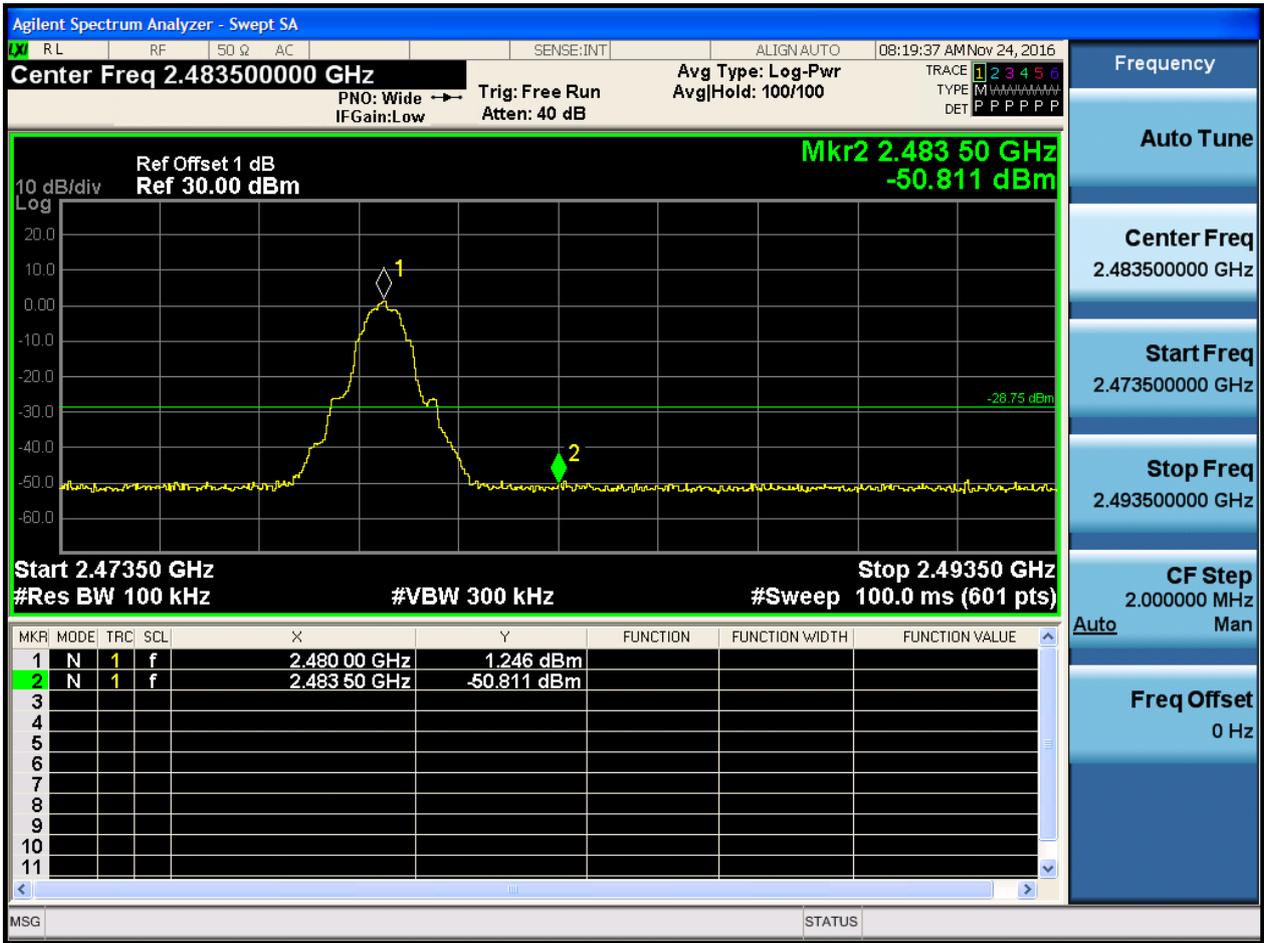
### Part II - Test Plots

#### 2.1 TM1\_Ch0\_L





### 2.2 TM1\_Ch39\_H



## Appendix G: 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".

### Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	Pref[dBm]	Puw[dBm]	Verdict
TM1_Ch0	L	2402	1.68	<limit	pass
TM1_Ch19	M	2440	3.50	<limit	pass
TM1_Ch39	H	2480	1.24	<limit	pass



## Part II - Test Plots

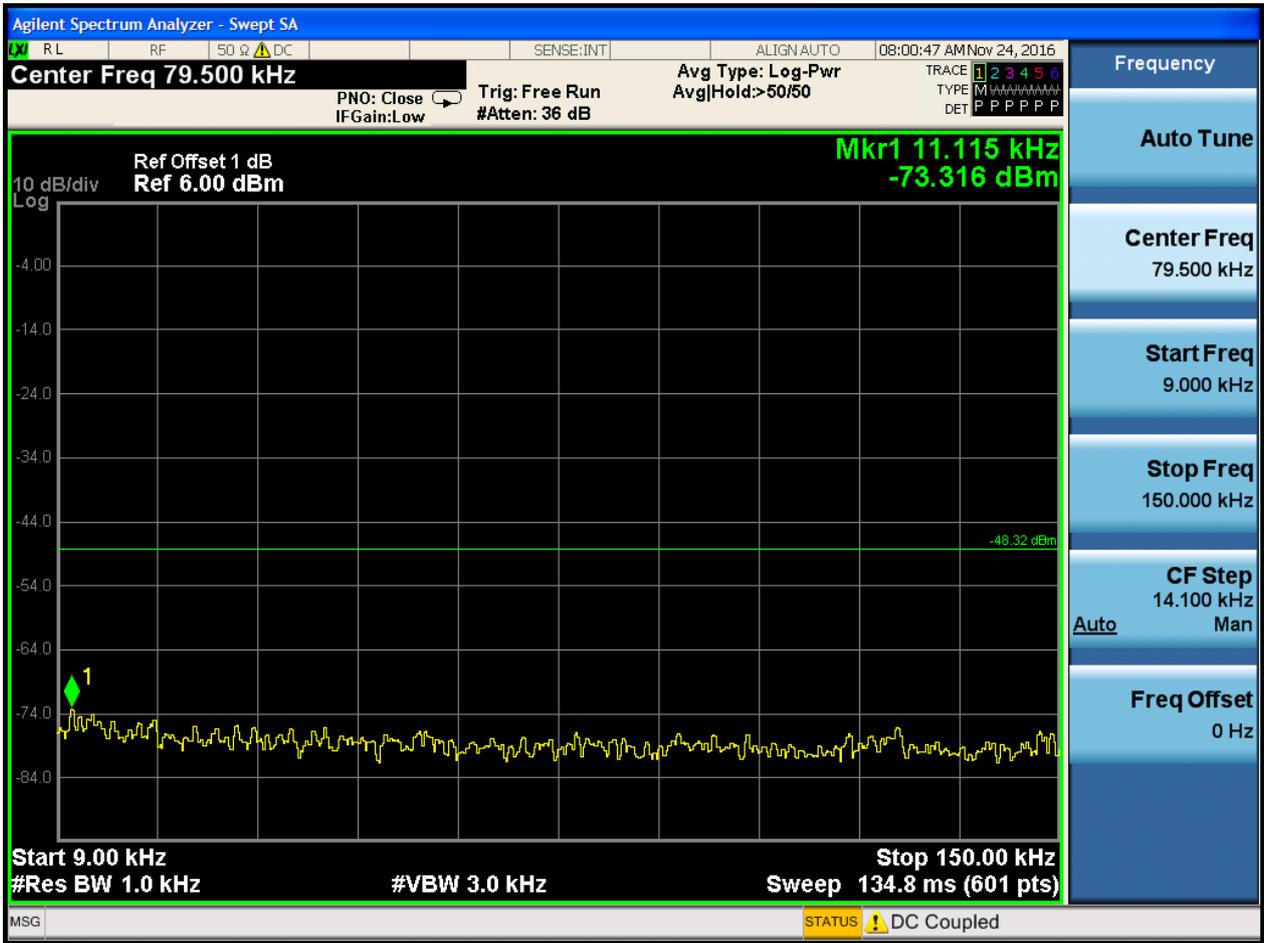
### 2.1 TM1\_Ch0\_L

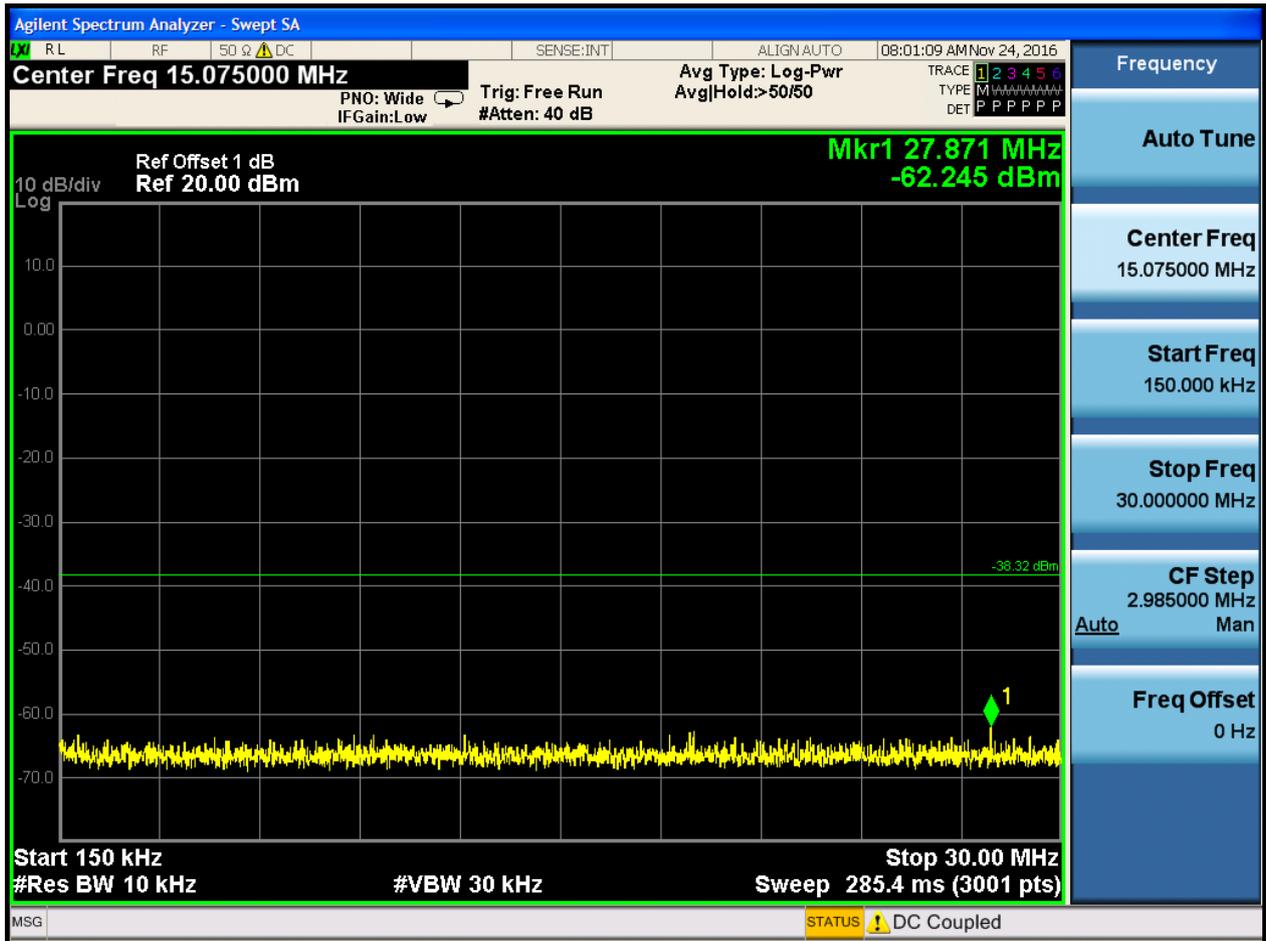
Pref:



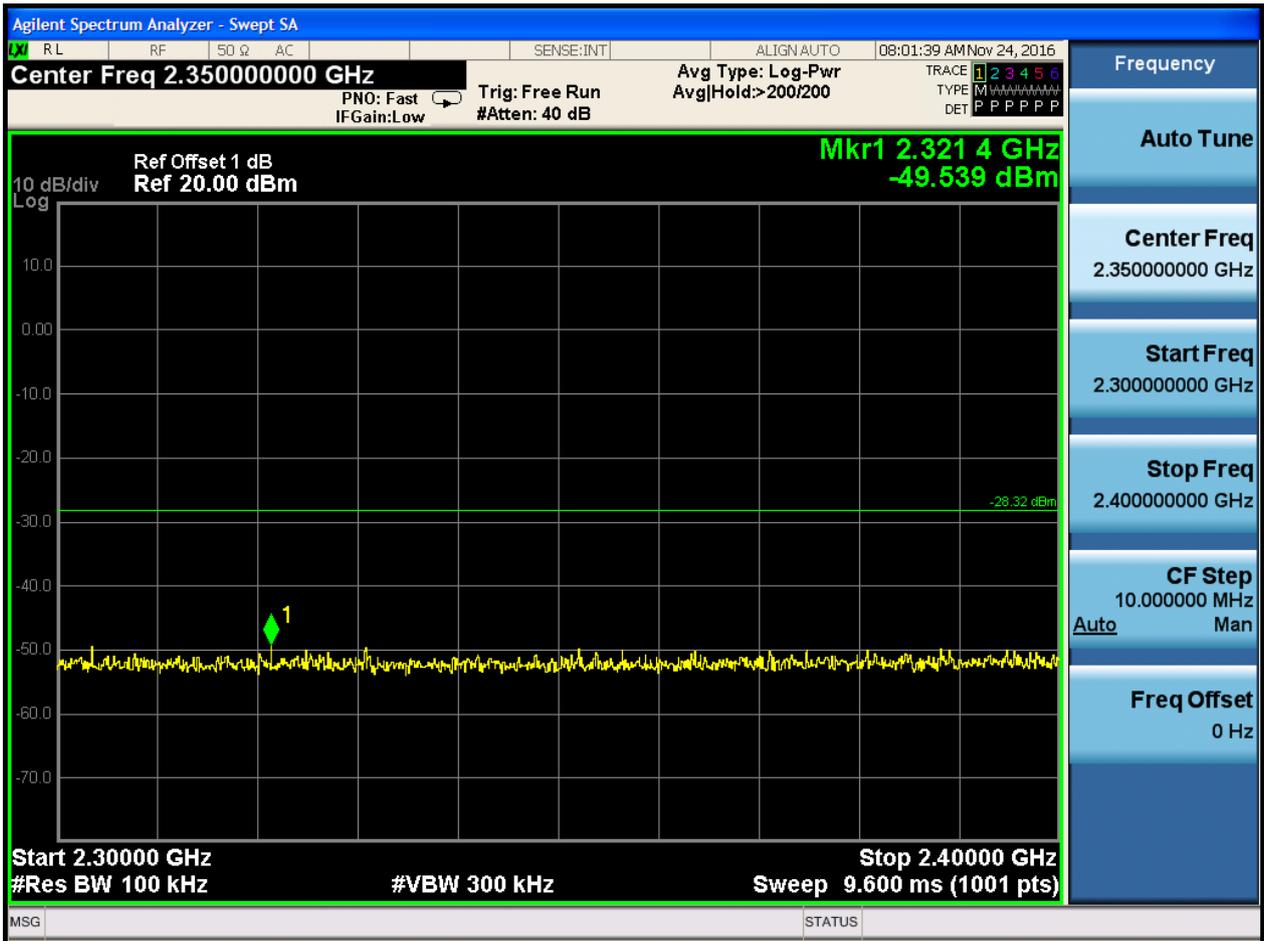


Puw:















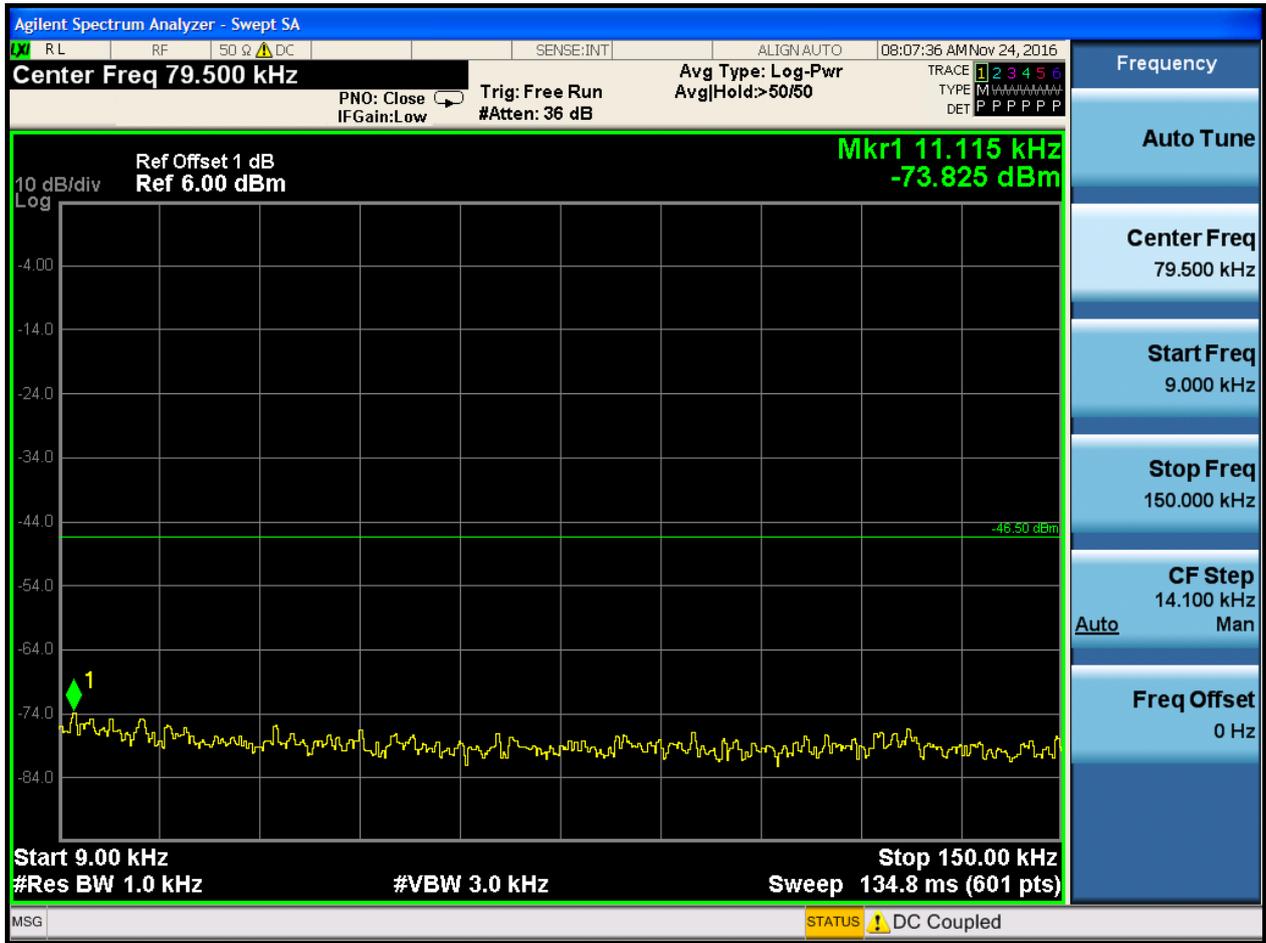
## 2.2 TM1\_Ch19\_M

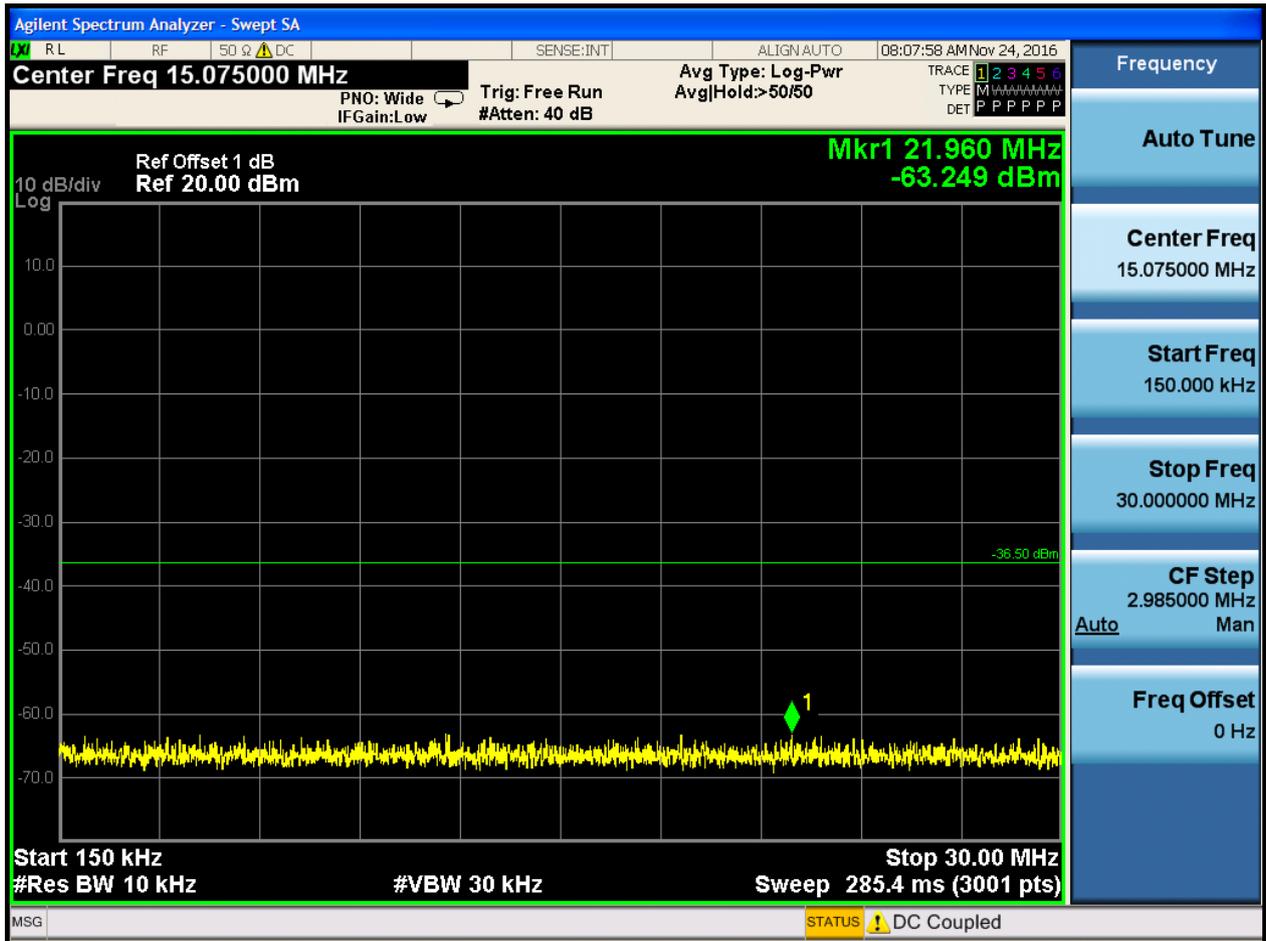
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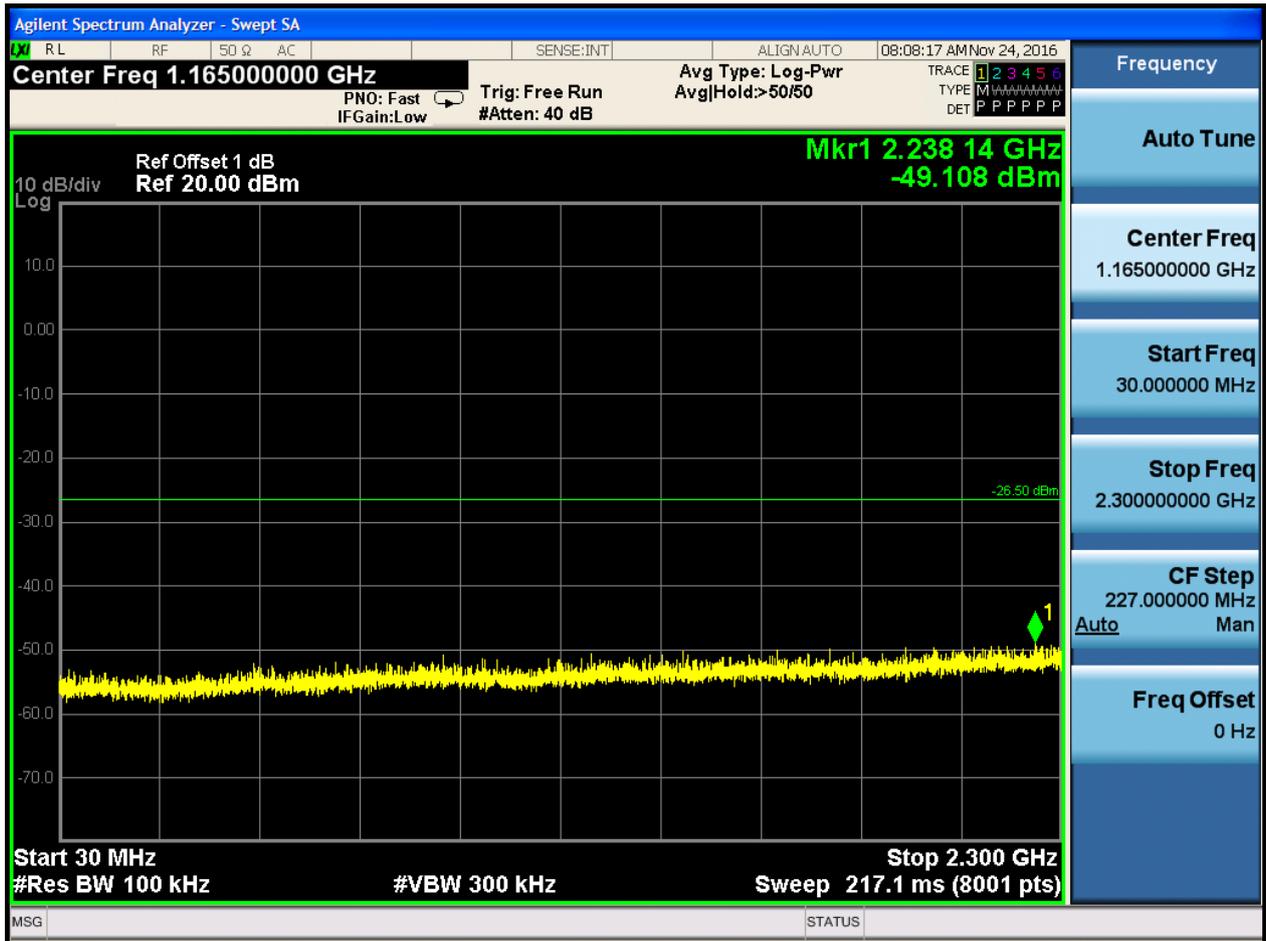


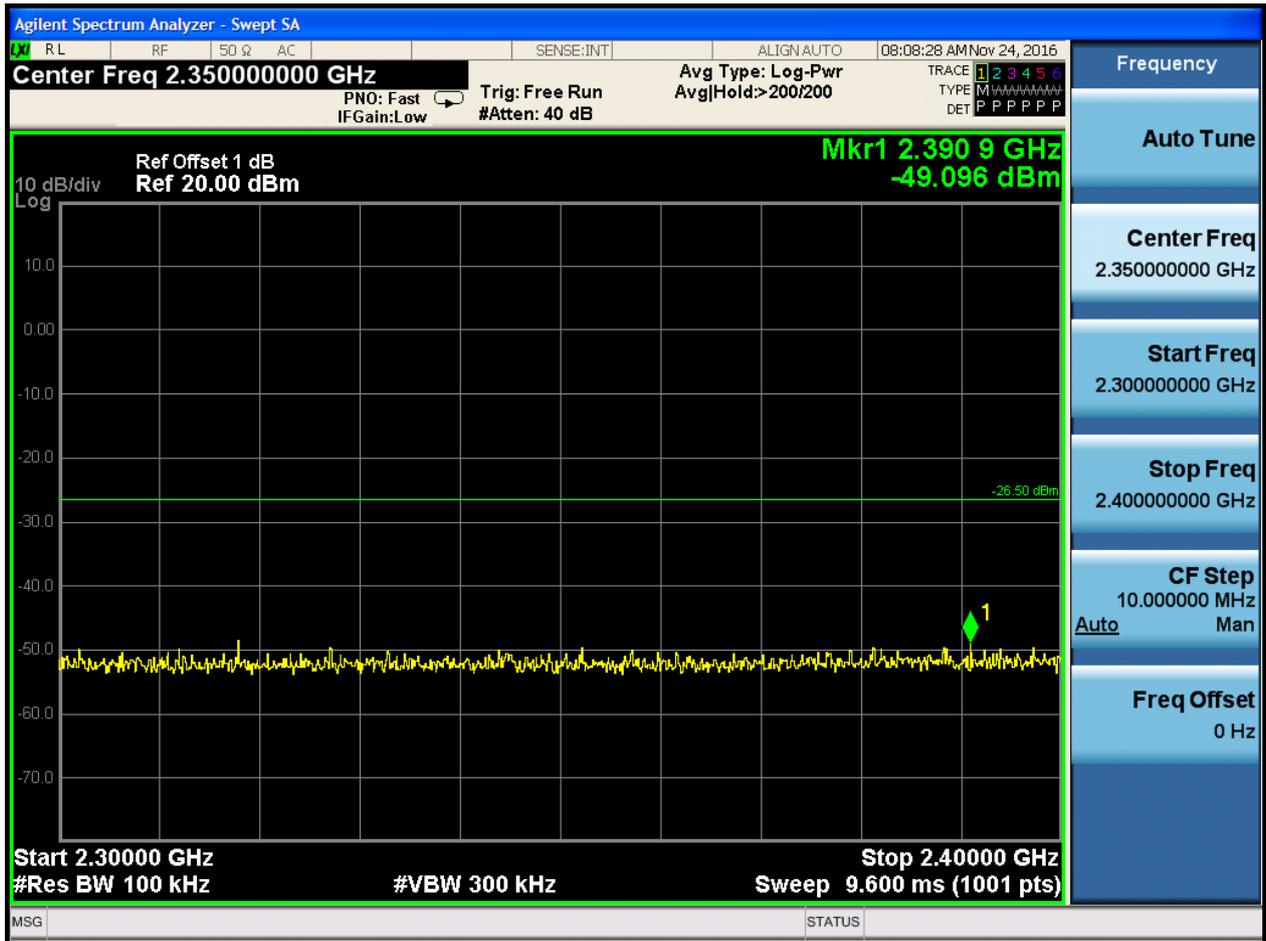


Puw:















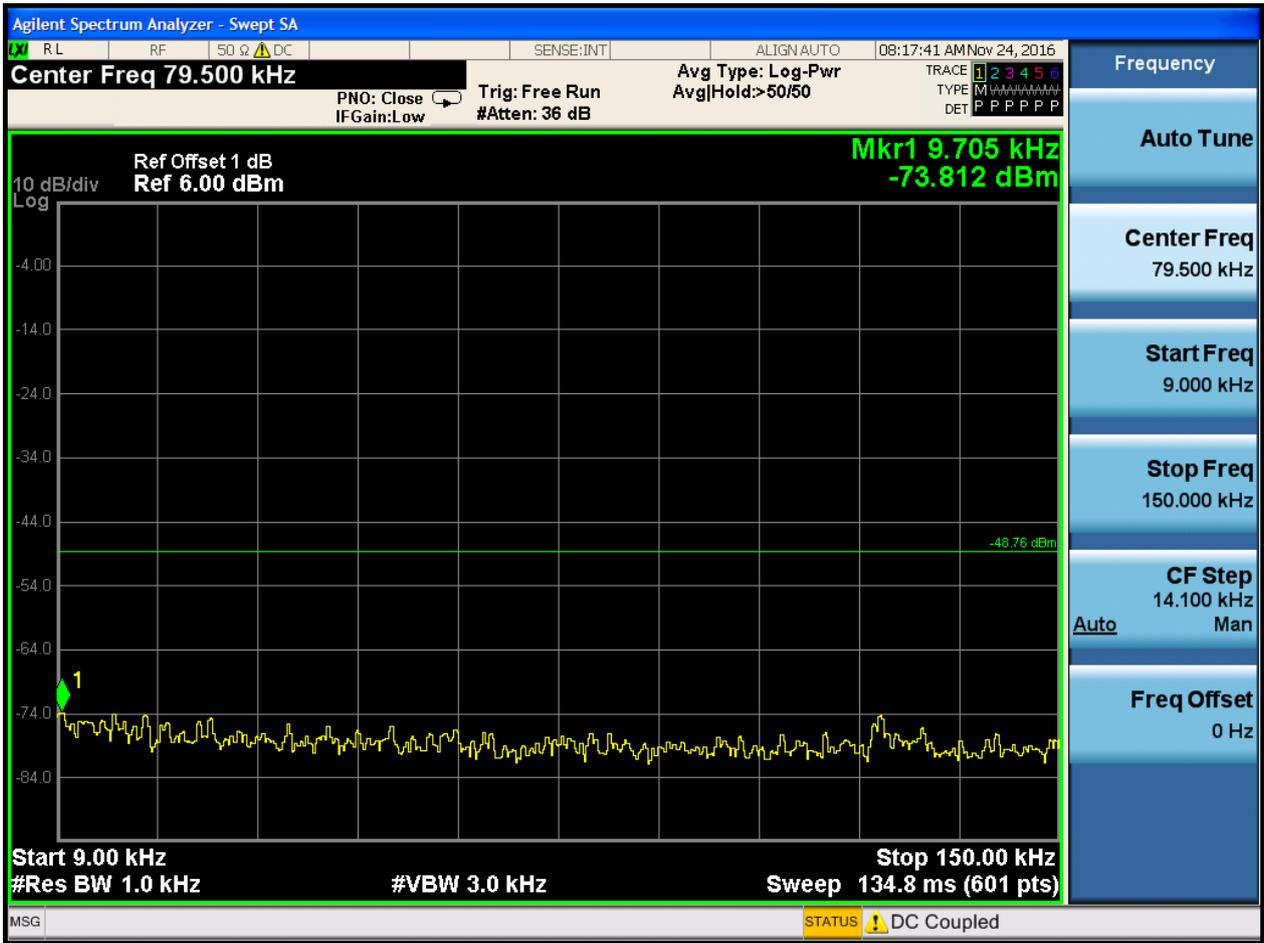
### 2.3 TM1\_Ch39\_H

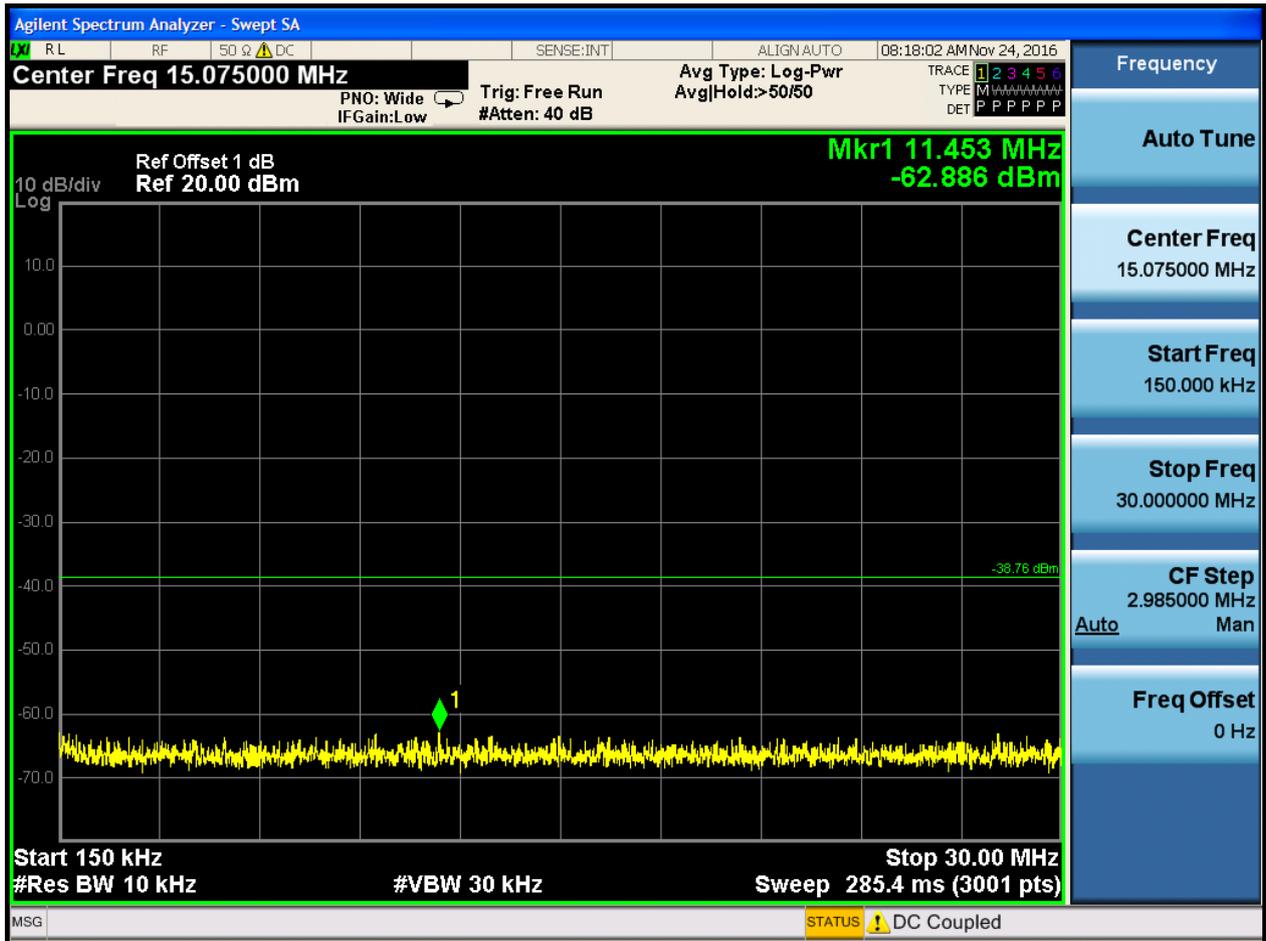
Pref:

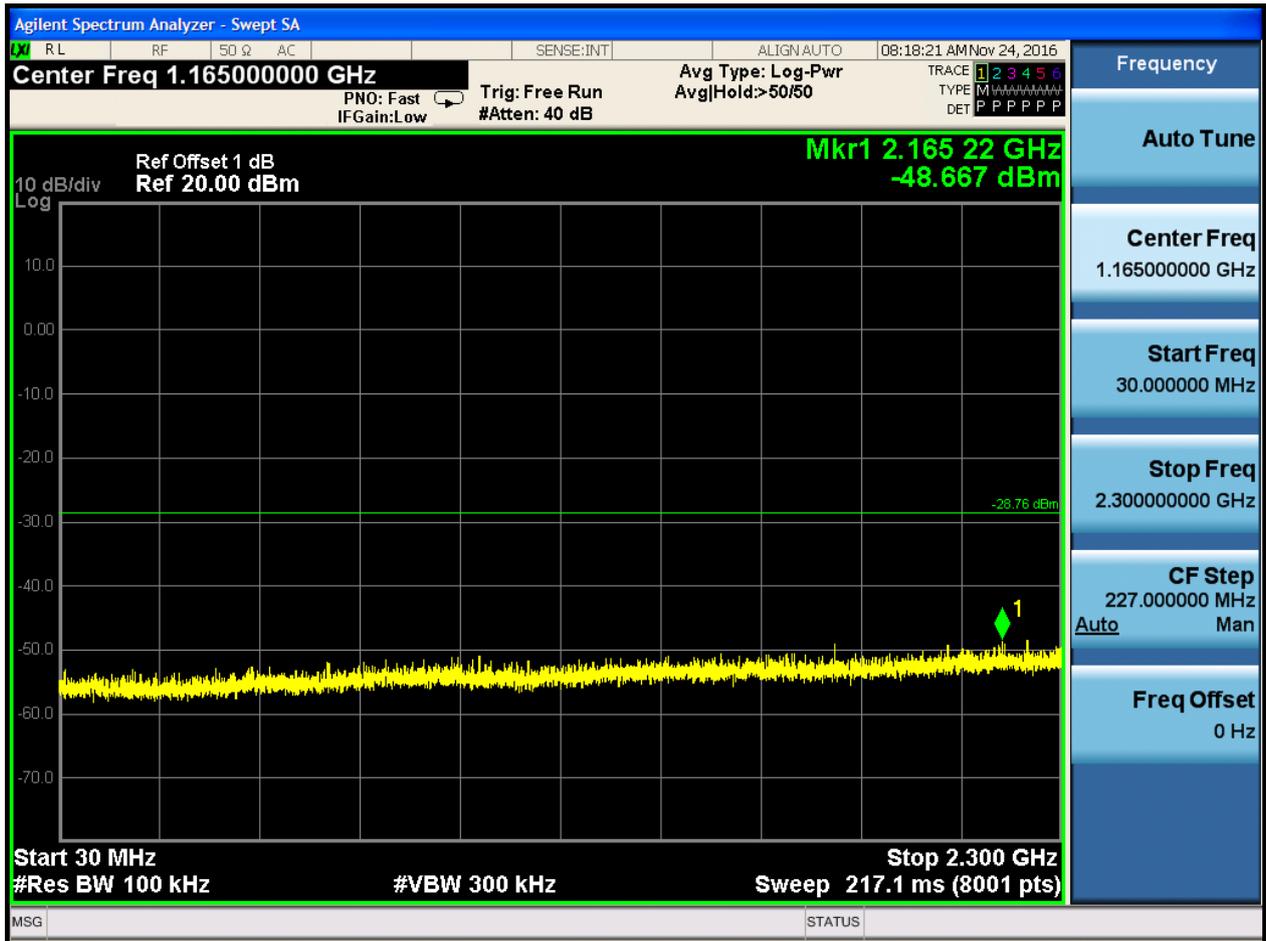


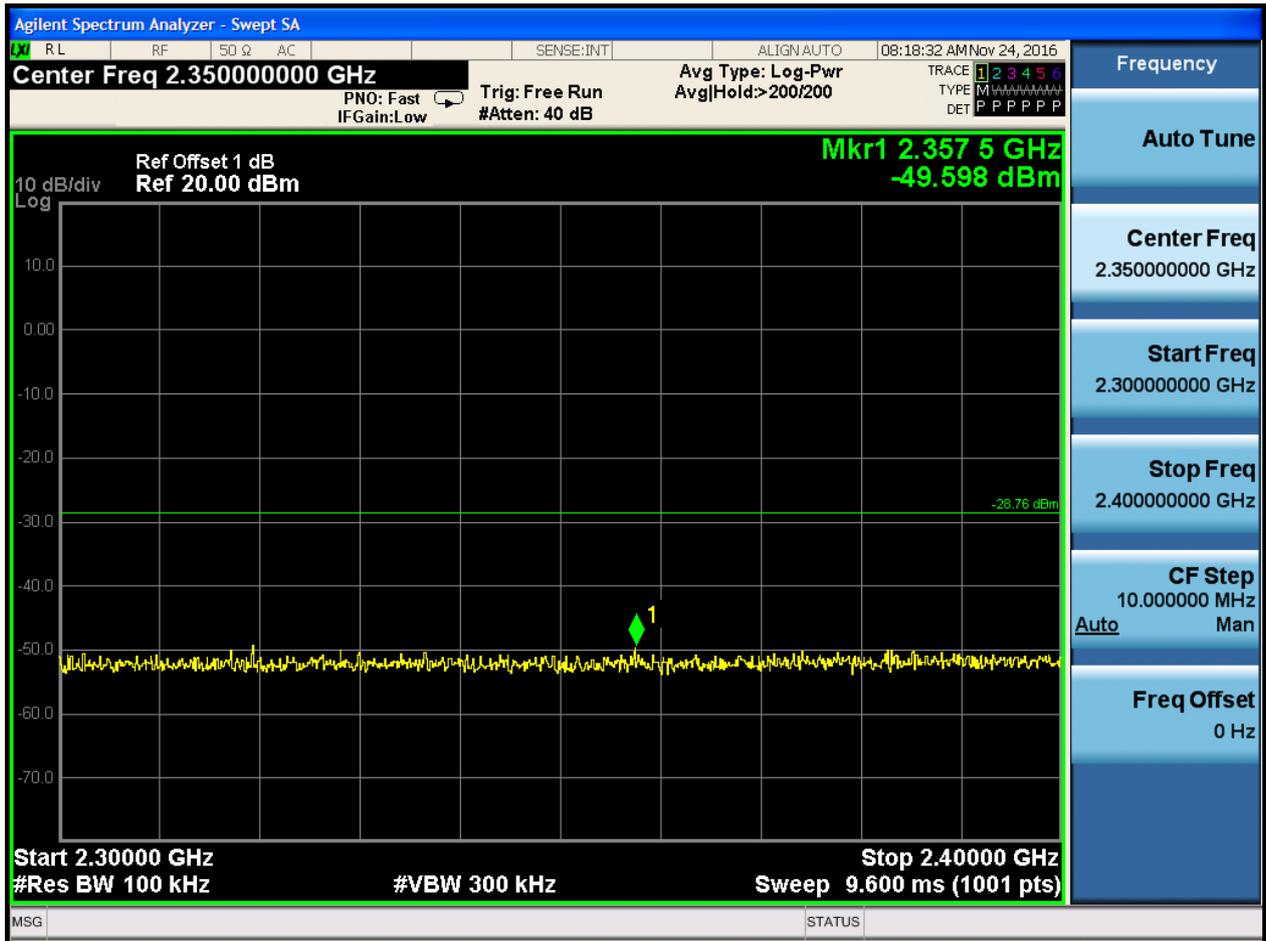


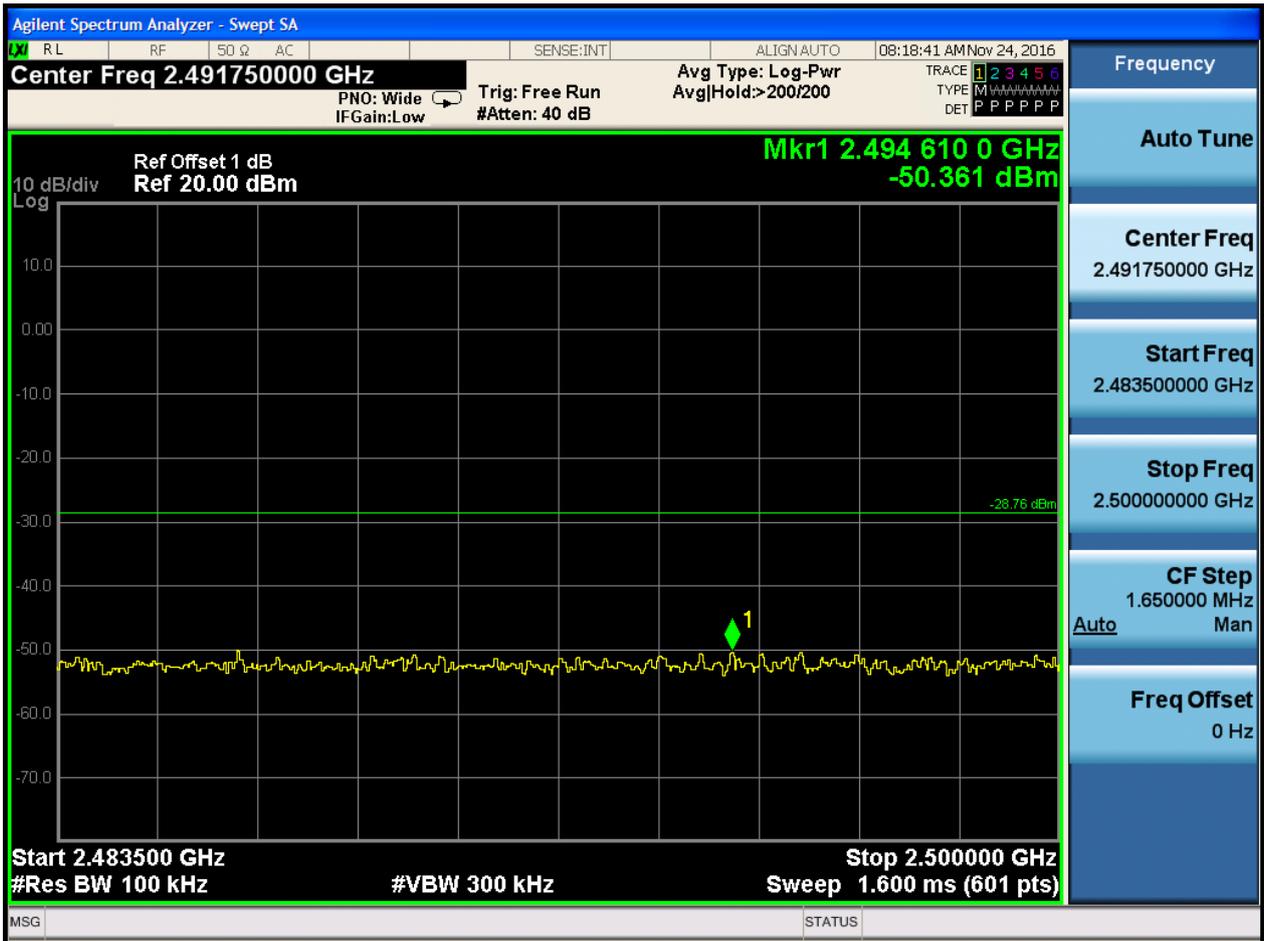
Puw:















## **Appendix H: 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

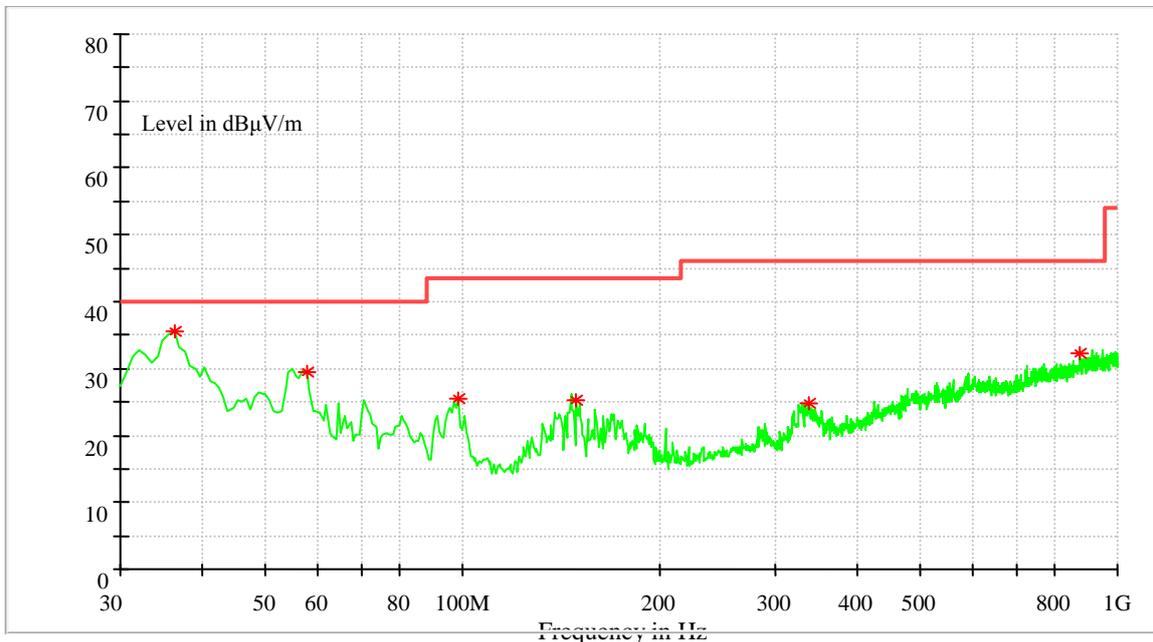
**2.1 Part 1: Testing Range of “9 kHz to 30MHz”**

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

**2.2 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 (dBµ V/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Trans d. (dB)
36.235714	35.6	40	4.4	100	V	249	14.6
57.714286	29.36	40	10.64	100	V	264	13.8
98.592857	25.49	43.5	18.01	100	V	293	13.2
149.171429	25.19	43.5	18.31	100	V	335	10.1
337.628571	24.81	46	21.19	100	H	95	16.4
878.057143	32.18	46	13.82	100	H	342	24.9

Note:

1, Level =Reading level by receiver + Transd (Antenna factor + cable loss – preamplifier gain)

The reading level is calculated by software which is not shown in the sheet.

2, Margin=Limit - Level

### 2.3 Part 3: Testing Range of “1GHz to 3GHz”

Note 1: The testing range of “1GHz to 3 GHz” is for checking radiated emissions located in restricted bands near the EUT operating bands.

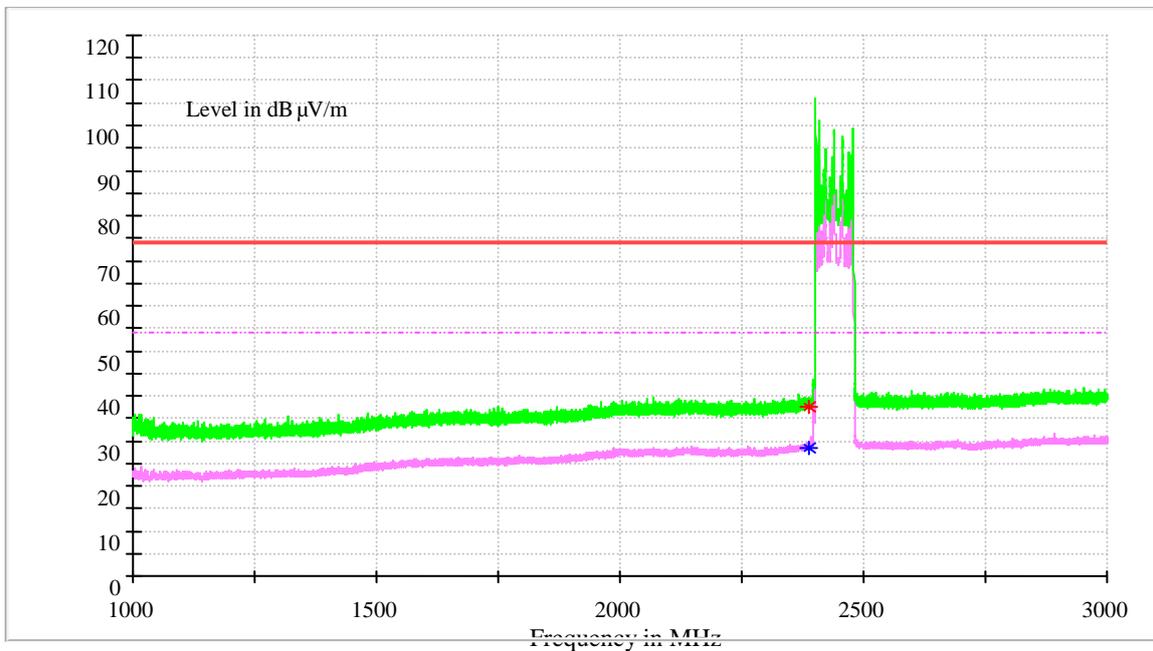
Note 2: Two limits are required in the testing range above 1 GHz, that is Peak limit (74 dB $\mu$ V/m) and Average Limit (54 dB $\mu$ V/m).

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

Test Mode:

#### 2.4.1 Test Mode: TM1

##### 2.4.1.1 Channel 0



#### MEASUREMENT RESULT: AV Detector

Frequency (MHz)	Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth h	Transd. (dB)
2390	28.51	54	25.49	100	H	230	-2.1

#### MEASUREMENT RESULT: PK Detector

Frequency (MHz)	Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth h (deg)	Transd. (dB)
2390	37.72	74	36.28	100	H	230	-2.1

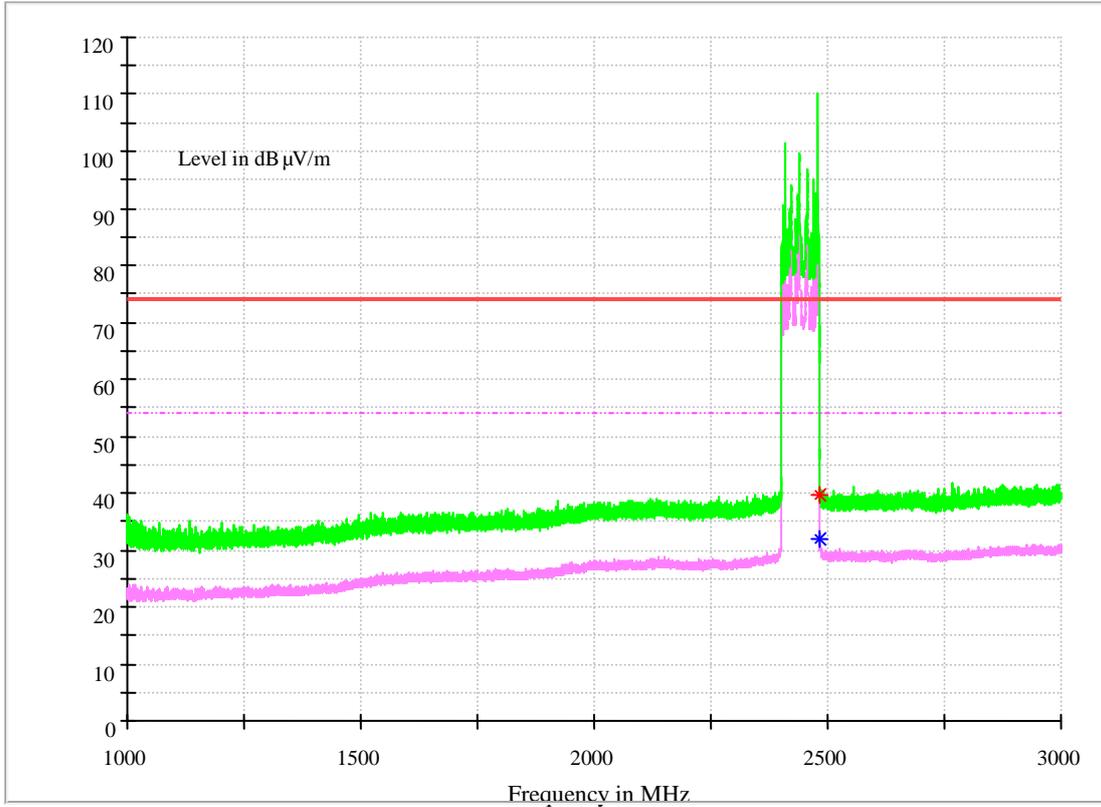
Note2:

1, Level =Reading level by receiver + Transd (Antenna factor + cable loss – preamplifier gain)

The reading level is calculated by software which is not shown in the sheet.

2, Margin=Limit - Level

**2.4.1.2 Channel 39**



MEASUREMENT RESULT: AV Detector

Frequency (MHz)	Level (dBµ V/m)	Limit (dBµ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth h	Transd. (dB)
2483.5	31.97	54	22.03	100	H	289	7.2

MEASUREMENT RESULT: PK Detector

Frequency (MHz)	Level (dBµ V/m)	Limit (dBµ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth h (deg)	Transd. (dB)
2483.5	39.5	74	34.5	100	V	90	7.2

Note2:

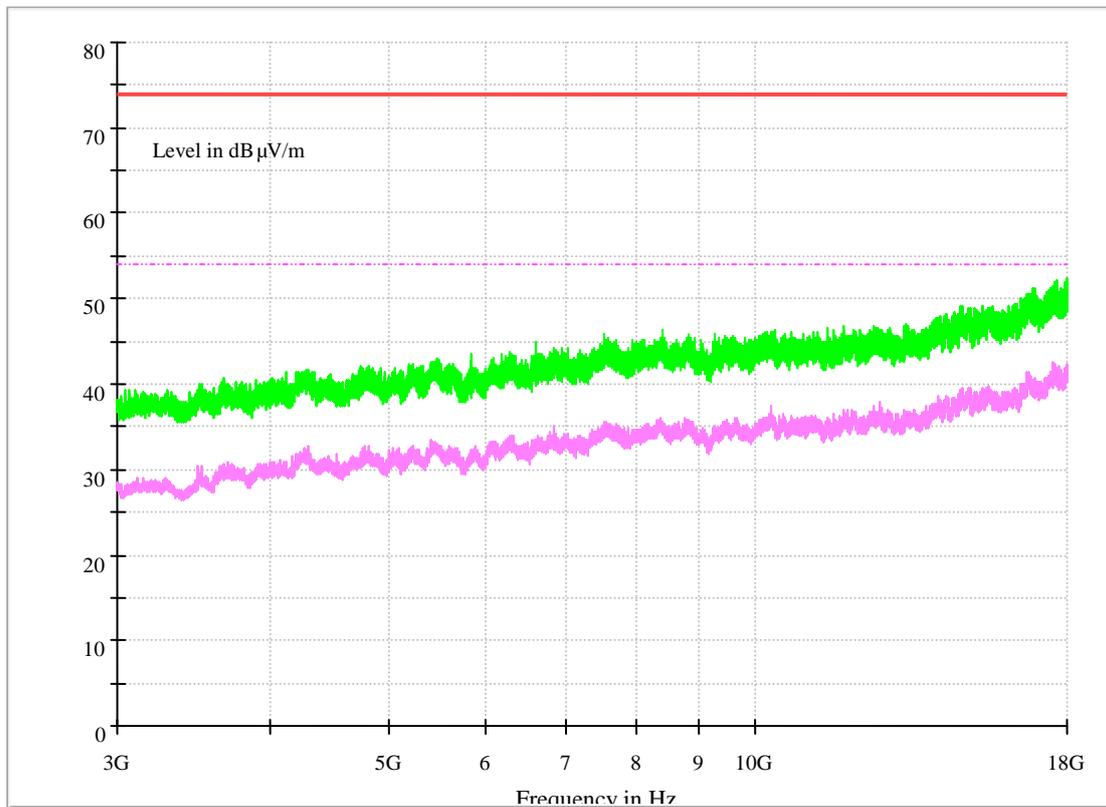
1, Level =Reading level by receiver + Transd (Antenna factor + cable loss – preamplifier gain)

The reading level is calculated by software which is not shown in the sheet.

2, Margin=Limit - Level

## 2.4 Part 4: Testing Range of “3 GHz to 18 GHz”

- Note 1: The test results and plot for testing range of “3 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 “3 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).





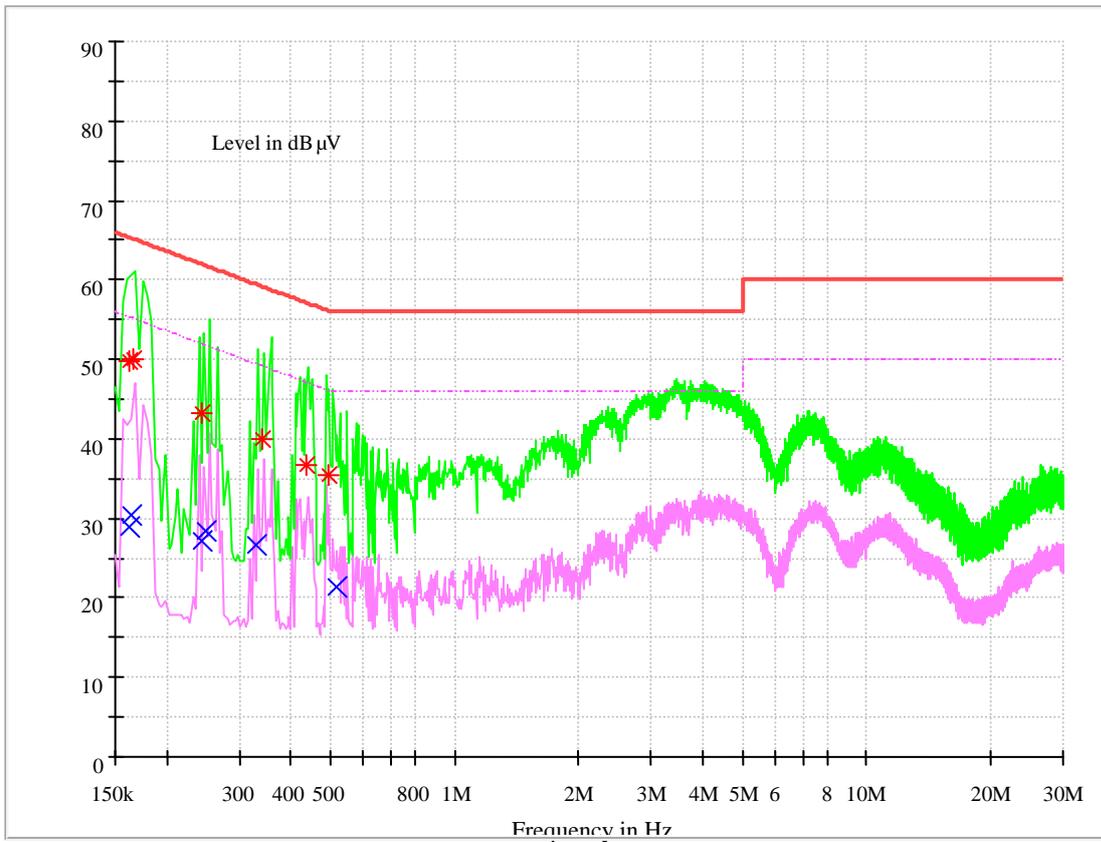
## 2.5 Part 5: Testing Range of “18 GHz to 26.5 GHz”

NOTE: No peak found in the Test Range of “18 GHz to 26.5GHz”

## Appendix I: AC Power Line Conducted Emission

Note: RBW =9 kHz, VBW = 30 kHz

### Channel 39



**MEASUREMENT RESULT: AV Detector**

Frequency (MHz)	Level (dB $\mu$ V)	Limit (dB $\mu$ V)	Transd. (dB)	Margin (dB)	Line	PE
0.16185	28.91	55.37	9.7	26.46	N	FLO
0.16331	30.39	55.29	9.7	24.9	N	FLO
0.24377	27.18	51.97	9.7	24.79	L1	FLO
0.24885	28.48	51.8	9.7	23.32	N	FLO
0.32864	26.74	49.49	9.7	22.75	L1	FLO
0.51535	21.42	46	9.7	24.58	N	FLO

**MEASUREMENT RESULT: PK Detector**

Frequency (MHz)	Level (dB $\mu$ V)	Limit (dB $\mu$ V)	Transd. (dB)	Margin (dB)	Line	PE
0.16541	50	65.19	9.7	15.19	N	FLO
0.16233	49.81	65.34	9.7	15.53	N	FLO
0.24251	43.25	62.01	9.7	18.76	L1	FLO
0.34038	39.87	59.19	9.7	19.32	N	FLO
0.43703	36.8	57.12	9.7	20.32	N	FLO
0.49322	35.4	56.11	9.7	20.71	N	FLO

Note2:

1, Level =Reading level by receiver + Transd (Antenna factor + cable loss – preamplifier gain)

The reading level is calculated by software which is not shown in the sheet.

2, Margin=Limit - Level

END