TEST REPORT

DT&C Co., Ltd.

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	Tel : 031	1-321-2664,	Fax:031-	-321-1664		

1. Report No : DRTFCC1904-0151(1)

Dt&C

- 2. Customer
 - Name : LG Electronics USA, Inc.
 - Address : 1000 Sylvan Ave. Englewood Cliffs, New Jersey, United States 07632
- 3. Use of Report : FCC Original Grant
- 4. Product Name / Model Name : Mobile Phone / KF1919 FCC ID : ZNFKF1919
- 5. Test Method Used : KDB558074 D01v05r02, ANSI C63.10-2013

Test Specification : FCC Part 15 Subpart C.247

- 6. Date of Test : 2019.03.28 ~ 2019.04.19
- 7. Testing Environment : See appended test report.
- 8. Test Result : Refer to the attached test result.

Affirmation	Tested by	Reviewed by	Dest
Ammation	Name : JaeHyeok Bang	Name : Geunki Son	(Signature)
The tes	t results presented in this test report are	limited only to the sample supp	lied by applicant and
the use of	this test report is inhibited other than its p	ourpose. This test report shall n	ot be reproduced except
	in full, without the written	approval of DT&C Co., Ltd.	
	2019	. 05 . 03 .	
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	f this report is required to confirmation of		

Test Report Version

Test Report No.	Date	Description
DRTFCC1904-0151	Apr. 29, 2019	Initial issue
DRTFCC1904-0151(1)	May. 03, 2019	Revised the KDB558074 Version

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1. EUT DESCRIPTION

FCC Equipment Class	Digital Transmission System(DTS)
Product	Mobile Phone
Model Name	KF1919
Add Model Name	NA
Power Supply	DC 3.85 V
Frequency Range	▪ 802.11b/g/n : 2412 MHz ~ 2472 MHz
Max. RF Output Power	2.4GHz Band • 802.11b : 18.26 dBm • 802.11g : 24.02 dBm • 802.11n (HT20) : 23.20 dBm
Modulation Type	• 802.11b: CCK, DSSS • 802.11g/n: OFDM
Antenna Specification	Antenna type: PIFA Antenna Antenna gain: 2.5 dBi

2. INFORMATION ABOUT TESTING

2.1 Test mode

Test mode	Worst case data rate	Tested Frequency(MHz)			
TM 1	802.11b 1 Mbps	2412	2437	2462	2472
TM 2	802.11g 54 Mbps	2412	2437	2462	-
	802.11g 6 Mbps	-	-	-	2472
TM 3	802.11n(HT20) MCS 7	2412	2437	2462	-
	802.11n(HT20) MCS 0	-	-	-	2472

Note 1: The worst case data rate is determined as above test mode according to the power measurements. Note 2: The power measurement results for all modes and data rate were reported.

2.2 Auxiliary equipment

Equipment	Model No.	Serial No.	Manufacturer	Note
-	-	-	-	-
-	-	-	-	-

2.3 Tested environment

Temperature	: 20 ~ 25 °C
Relative humidity content	: 40 ~ 45 %
Details of power supply	: DC 3.85 V

2.4 EMI suppression Device(s) / Modifications

EMI suppression device(s) added and/or modifications made during testing \rightarrow None

2.5 Measurement Uncertainty

The measurement uncertainties shown below were calculated in accordance with requirements of ANSI C63.4-2014 and ANSI C63.10-2013. All measurement uncertainty values are shown with a coverage factor of k = 2 to indicate a 95 % level of confidence.

Test items	Measurement uncertainty
Transmitter Output Power	0.7 dB (The confidence level is about 95 %, $k = 2$)
Conducted spurious emission	0.9 dB (The confidence level is about 95 %, $k = 2$)
AC conducted emission	2.4 dB (The confidence level is about 95 %, k=2)
Radiated spurious emission (1 GHz Below)	5.1 dB (The confidence level is about 95 %, k = 2)
Radiated spurious emission (1 GHz ~ 18 GHz)	5.4 dB (The confidence level is about 95 %, k = 2)
Radiated spurious emission (18 GHz Above)	5.3 dB (The confidence level is about 95 %, k = 2)

3. SUMMARY OF TESTS

FCC Part Section(s)	Parameter	Limit	Test Condition	Status Note 1
15.247(a)	6 dB Bandwidth	> 500 kHz		С
15.247(b)	Transmitter Output Power	< 1 Watt		С
15.247(d)	Out of Band Emissions / Band Edge	20 dBc in any 100 kHz BW	Conducted	С
15.247(e)	Transmitter Power Spectral Density	< 8 dBm/3 kHz		С
-	RSS-Gen [6.6]	Occupied Bandwidth (99 %)		NA
15.247(d) 15.205 15.209	General Field Strength Limits (Restricted Bands and Radiated Emission Limits)	FCC 15.209 limits	Radiated	C Note 3
15.207	AC Line Conducted Emissions	FCC 15.207 limits	AC Line Conducted	С
15.203	Antenna Requirements	FCC 15.203	-	С

Note 1: C=Comply NC=Not Comply NT=Not Tested NA=Not Applicable

Note 2: For radiated emission tests below 30 MHz were performed on semi-anechoic chamber which is correlated with OATS. Note 3: This test item was performed in each axis and the worst case data was reported.



4. TEST METHODOLOGY

The measurement procedures described in the ANSI C63.10-2013 and the guidance provided in KDB558074 D01v05r02 were used in measurement of the EUT.

The EUT was tested per the guidance of KDB558074 D01v05r02. And ANSI C63.10-2013 was used to reference appropriate EUT setup and maximizing procedures of radiated spurious emission and AC line conducted emission testing.

4.1 EUT configuration

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner that intends to maximize its emission characteristics in a continuous normal application.

4.2 EUT exercise

The EUT was operated in the test mode to fix the Tx frequency that was for the purpose of the measurements. According to its specifications, the EUT must comply with the requirements of the Section 15.207, 15.209 and 15.247 under the FCC Rules Part 15 Subpart C.

4.3 General test procedures

Conducted Emissions

The power-line conducted emission test procedure is not described on the KDB558074 D01v05r02.

So this test was fulfilled with the requirements in Section 6.2 of ANSI C63.10-2013.

The EUT is placed on the wooden table, which is 0.8 m above ground plane and the conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30 MHz using CISPR Quasi-peak and Average detector

Radiated Emissions

Basically the radiated tests were performed with KDB558074 D01v05r02. But some requirements and procedures like test site requirements, EUT setup and maximizing procedure were fulfilled with the requirements in Section 5 and 6 of the ANSI C63.10 as stated on section 12.1 of the KDB558074 D01v05r02.

The EUT is placed on a non-conductive table. For emission measurements at or below 1 GHz, the table height is 80 cm. For emission measurements above 1 GHz, the table height is 1.5 m. The turntable shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3 m away from the receiving antenna, which varied from 1 m to 4 m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the highest emission, the relative positions of the EUT were rotated through three orthogonal axes.

4.4 Description of test modes

The EUT has been tested with all modes of operating conditions to determine the worst case emission characteristics. A test program is used to control the EUT for staying in continuous transmitting mode.



5. INSTRUMENT CALIBRATION

The measuring equipment, which was utilized in performing the tests documented herein, has been calibrated in accordance with the manufacturer's recommendations for utilizing calibration equipment, which is traceable to recognized national standards.

6. FACILITIES AND ACCREDITATIONS

6.1 Facilities

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The 3 m test site and conducted measurement facility used to collect the radiated data are located at the 42, Yurim-ro, 154beon-gil, Cheoin-gu, Yongin-si, Gyeonggi-do, Korea 17042. The test site complies with the requirements of § 2.948 according to ANSI C63.4-2014.

- FCC MRA Accredited Test Firm No. : KR0034

www.dtnc.net			
Telephone	:	+ 82-31-321-2664	
FAX	:	+ 82-31-321-1664	

6.2 Equipment

Radiated emissions are measured with one or more of the following types of linearly polarized antennas: tuned dipole, bi-conical, log periodic, bi-log, and/or ridged waveguide, loop, horn. Spectrum analyzers with pre-selectors and peak, quasi-peak detectors are used to perform radiated measurements.

Conducted emissions are measured with Line Impedance Stabilization Networks and EMI Test Receivers. Calibrated wideband preamplifiers, coaxial cables, and coaxial attenuators are also used for making measurements.

All receiving equipment conforms to CISPR Publication 16-1, "Radio Interference Measuring Apparatus and Measurement Methods."

7. ANTENNA REQUIREMENTS

7.1 According to FCC 47 CFR §15.203

An intentional radiator antenna shall be designed to ensure that no antenna other than that furnished by the responsible party can be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.

The antenna is attached on the device by means of unique coupling method (Spring Tension). Therefore this E.U.T Complies with the requirement of §15.203

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8. TEST RESULT

8.1 6dB bandwidth

Test Requirements and limit, §15.247(a)

The bandwidth at 6 dB down from the highest in-band spectral density is measured with a spectrum analyzer connected to the receive antenna while the EUT is operating in transmission mode at the appropriate frequencies.

The minimum permissible 6 dB bandwidth is 500 kHz.

Test Configuration:

Refer to the APPENDIX I.

Test Procedure:

- KDB558074 D01v05r02 Section 8.2
- ANSI C63.10-2013 Section 11.8.2
- 1. Set resolution bandwidth (RBW) = 100 kHz.
- 2. Set the video bandwidth (VBW) \ge 3 x RBW.
- (RBW : 100 kHz / VBW : 300 kHz)
- 3. Detector = **Peak**.
- 4. Trace mode = **Max hold**.
- 5. Sweep = **Auto couple**.
- 6. Allow the trace to stabilize.
- 7. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

Test Mode	Frequency	Test Results[MHz]
	2412	8.56
TM 1	2437	8.08
	2462	8.10
	2472	8.06
	2412	15.77
TM 2	2437	14.44
	2462	13.22
	2472	12.92
	2412	16.41
ТМ 3	2437	15.03
I WI S	2462	13.50
	2472	13.16

Test Results: Comply



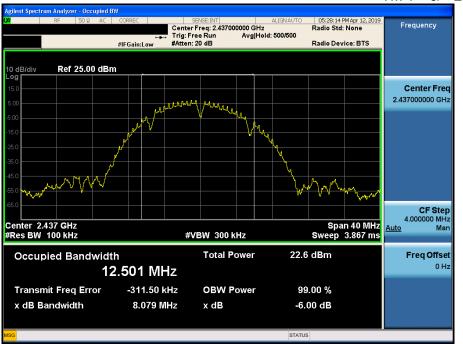
RESULT PLOTS

6 dB Bandwidth



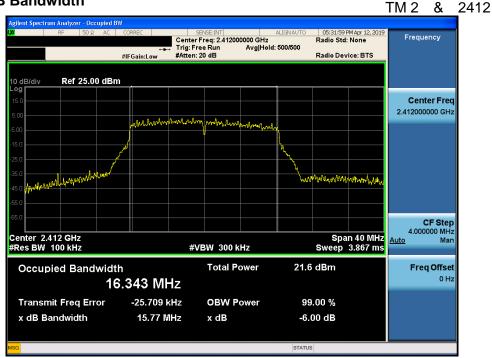
6 dB Bandwidth

TM 1 & 2437





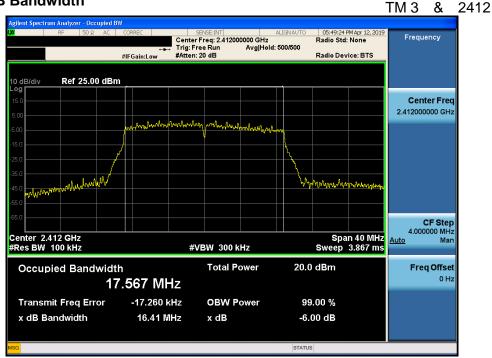




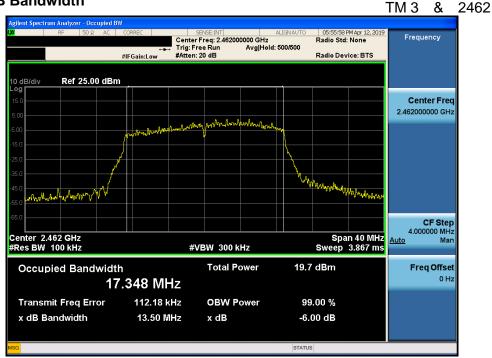












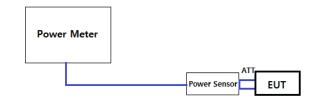


8.2 Maximum peak conducted output power

Test Requirements and limit, §15.247(b)

The maximum permissible conducted output power is 1 Watt.

Test Configuration



Test Procedure

1. PKPM1 Peak power meter method of KDB558074 D01v05r02

The maximum conducted output powers were measured using a broadband peak RF power meter which has greater video bandwidth than DUT's DTS bandwidth and utilize a fast-responding diode detector.

2. Method AVGPM-G (Measurement using a gated RF average power meter) of KDB558074 D01v05r02

The average conducted output powers were measured using a wideband gated RF power meter provided that the gate parameters are adjusted such that the power is measured only when the EUT is transmitting at its maximum power control level. Since this measurement is made only during the ON time of the transmitter, no duty cycle correction is required.



Test Results: Comply

Frog		Maximum Peak Conducted Output Power (dBm) for 802.11b										
Freq. (MHz)	Det.				Data Rat	e [Mbps]						
		1	2	5.5	11	-	-	-	-			
2412	PK	18.14	18.17	18.04	18.07	-	-	-	-			
2412	AV	15.87	15.85	15.74	15.70	-	-	-	-			
2437	PK	18.26	18.13	18.10	18.14	-	-	-	-			
2437	AV	15.88	15.81	15.76	15.71	-	-	-	-			
2462	PK	17.80	17.82	18.01	18.10	-	-	-	-			
2402	AV	15.39	15.33	15.39	15.38	-	-	-	-			
2472	PK	6.26	6.23	6.16	6.24	-	-	-	-			
2472	AV	3.72	3.67	3.56	3.58	-	-	-	-			

Free		Maximum Peak Conducted Output Power (dBm) for <u>802.11g</u>									
Freq. (MHz) Det.	Data Rate [Mbps]										
		6	9	12	18	24	36	48	54		
2412	PK	23.94	23.68	23.32	23.51	23.53	23.34	23.73	24.02		
2412	AV	13.91	13.91	13.90	13.82	13.76	13.82	13.87	13.82		
2437	PK	22.64	23.65	23.57	23.51	23.66	23.51	23.70	23.76		
2437	AV	15.27	15.17	15.16	14.56	14.56	14.69	14.90	15.02		
2462	PK	23.24	23.07	22.54	22.34	22.32	22.39	23.71	23.85		
2402	AV	13.73	13.65	13.70	13.67	13.53	13.52	13.67	13.65		
2472	PK	14.12	14.05	14.03	14.01	13.65	13.64	13.90	13.89		
2472	AV	3.52	3.54	3.53	3.58	3.57	3.58	3.77	3.78		

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E		Maximum Peak Conducted Output Power (dBm) for 802.11n(HT20)										
Freq. (MHz)	Det.	Data Rate [MCS]										
		0	1	2	3	4	5	6	7			
2412	PK	22.66	22.60	22.47	22.34	22.42	22.71	22.80	22.95			
2412	AV	12.48	12.45	12.45	12.45	12.10	12.40	12.48	12.47			
2437	PK	23.11	22.88	22.49	22.58	22.43	23.18	23.12	23.20			
2437	AV	13.62	13.54	13.50	13.51	13.60	13.51	13.56	13.63			
2462	PK	21.74	21.52	21.42	21.58	21.41	21.98	21.97	21.93			
2462	AV	12.18	12.12	12.15	12.17	12.18	12.41	12.39	12.41			
2472	PK	14.06	13.94	13.59	13.48	13.65	13.71	13.57	13.51			
2412	AV	3.40	3.58	3.61	3.50	3.41	3.62	3.74	3.70			



8.3 Maximum power spectral density

Test requirements and limit, §15.247(e)

The power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

Test Configuration:

Refer to the APPENDIX I.

Test Procedure

- KDB558074 D01v05r02 Section 8.4
- ANSI C63.10-2013 Section 11.10.2

Method PKPSD (peak PSD)

- 1. Set analyzer center frequency to DTS channel center frequency.
- 2. Set the span to **1.5 times** the DTS bandwidth.
- 3. Set the RBW to : $3 \text{ kHz} \le \text{RBW} \le 100 \text{ kHz}$
- 4. Set the VBW \geq 3 x RBW
- 5. Detector = Peak
- 6. Sweep time = **Auto couple**
- 7. Trace mode = **Max hold.**
- 8. Allow trace to fully stabilize.
- 9. Use the **peak marker function** to determine the maximum amplitude level within the RBW.

10. If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

Test Results: Comply

Test Mode	Frequency	RBW	PKPSD [dBm]
	2412	3 kHz	-6.66
TN 4	2437	3 kHz	-6.12
TM 1	2462	3 kHz	-6.31
	2472	3 kHz	-19.06
	2412	3 kHz	-10.64
TM 2	2437	3 kHz	-9.26
	2462	3 kHz	-10.43
	2472	3 kHz	-19.87
	2412	3 kHz	-12.57
TM 2	2437	3 kHz	-11.20
ТМ 3	2462	3 kHz	-12.19
	2472	3 kHz	-20.76

RESULT PLOTS





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Maximum PPSD



Maximum PPSD



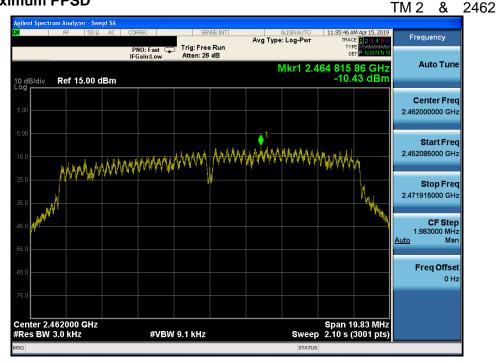
Maximum PPSD



Maximum PPSD

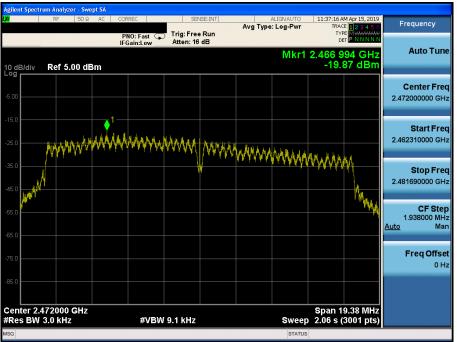


Maximum PPSD



Maximum PPSD

TM 2 & 2472



Maximum PPSD



Maximum PPSD

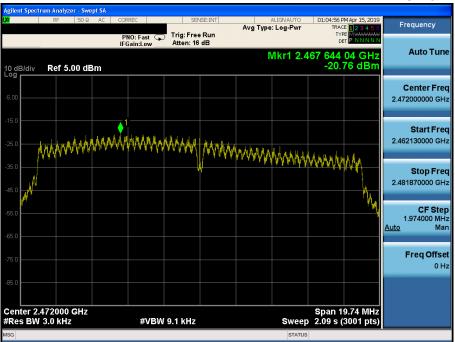


Maximum PPSD



Maximum PPSD







8.4 Out of band emissions at the band edge / conducted spurious emissions

Test requirements and limit, §15.247(d)

§15.247(d) specifies that in any 100 kHz bandwidth outside of the authorized frequency band, the power shall be attenuated according to the following conditions:

If the peak output power procedure is used to measure the fundamental emission power to demonstrate compliance to **15.247(b)(3)** requirements, then the peak conducted output power measured within any 100 kHz outside the authorized frequency band shall be attenuated **by at least 20 dB** relative to the maximum measured in-band peak PSD level.

If the average output power procedure is used to measure the fundamental emission power to demonstrate compliance to **15.247(b)(3)** requirements, then the power in any 100 kHz outside of the authorized frequency band shall be attenuated by at least 30 dB relative to the maximum measured in band average PSD level. In either case, attenuation to levels below the general emission limits specified in §15.209(a) is not required.

Test Configuration:

Refer to the APPENDIX I.

Test Procedure

- KDB558074 D01v05r02 Section 8.5
- ANSI C63.10-2013 Section 11.11

- Reference level measurement

1. Set instrument center frequency to DTS channel center frequency.

- 2. Set the span to \geq 1.5 times the DTS bandwidth.
- 3. Set the $\overrightarrow{RBW} = 100 \text{ kHz}$.
- 4. Set the VBW \geq 3 x RBW.
- 5. Detector = Peak.
- 6. Sweep time = Auto couple.
- 7. Trace mode = Max hold.
- 8. Allow trace to fully stabilize.
- 9. Use the peak marker function to determine the maximum PSD level.

- Emission level measurement

- 1. Set the center frequency and span to encompass frequency range to be measured.
- 2. Set the RBW = 100 kHz. (Actual 1 MHz , See below note)
- 3. Set the VBW ≥ 3 x RBW. (Actual 3 MHz, See below note)
- 4. Detector = **Peak**.
- 5. Ensure that the number of measurement points \geq Span / RBW.
- 6. Sweep time = Auto couple.
- 7. Trace mode = **Max hold.**
- 8. Allow the trace to stabilize. (this may take some time, depending on the extent of the span)
- 9. Use the peak marker function to determine the maximum amplitude level.

Note : The conducted spurious emission was tested with below settings. Frequency range: 9 kHz ~ 30 MHz RBW = 100 kHz, VBW = 300 kHz, SWEEP TIME = AUTO, DETECTOR = PEAK, TRACE = MAX HOLD, SWEEP POINT : 40001

Frequency range: 30 MHz ~ 10 GHz, 10 GHz ~25 GHz

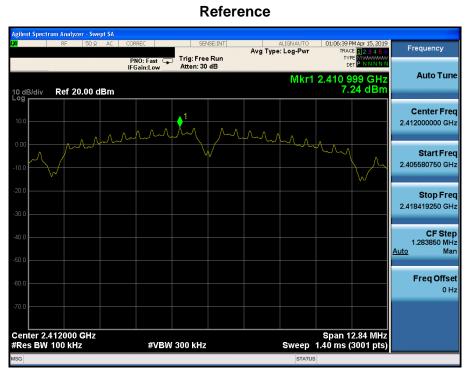
RBW = 1 MHz, VBW = 3 MHz, SWEEP TIME = AUTO, DETECTOR = PEAK, TRACE = MAX HOLD, SWEEP POINT : 40001

LIMIT LINE = 20 dB below of the reference level of above measurement procedure Step 2. (RBW = 100 kHz, VBW = 300 kHz)

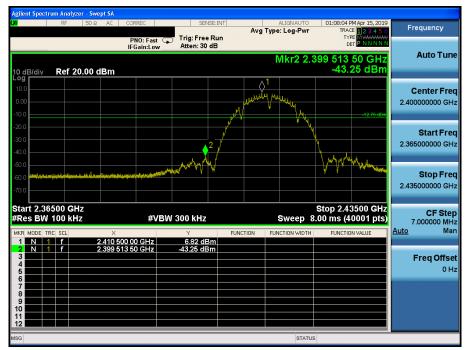
If the emission level with above setting was close to the limit (ie, less than 3 dB margin) then zoom scan is required using RBW = 100 kHz, VBW = 300 kHz, SPAN = 100 MHz and BINS = 2001 to get accurate emission level within 100 kHz BW.

RESULT PLOTS

TM 1 & 2412



Low Band-edge



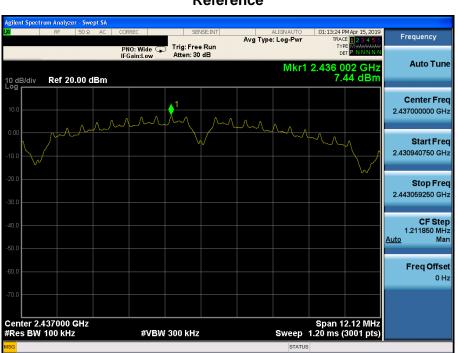
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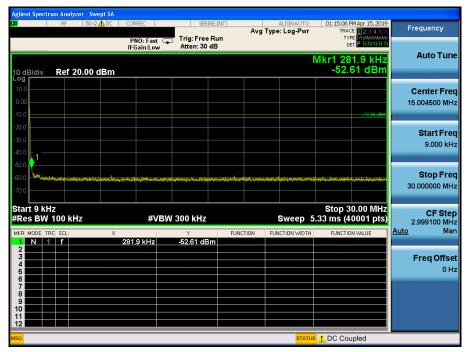
Agilent Spectrum Analyzer - Swe	ept SA				
LXI RF 50 Ω	AC CORREC	SENSE:INT	ALIGNAUTO	01:11:34 PM Apr 15, 2019	Frequency
	PNO: Fast ⊂ IFGain:Low	Trig: Free Run Atten: 30 dB	Avg Type: Log-Pwr	TRACE 123456 TYPE MWWWWW DET PNNNNN	
10 dB/div Ref 20.00 c			Mkr	2 6.941 70 GHz -40.49 dBm	Auto Tune
10.0 0.00 -10.0				-12.70 dDm	Center Freq 5.015000000 GHz
-20.0			2-		Start Freq 30.000000 MHz
-60.0 -60.0 -70.0					Stop Freq 10.000000000 GHz
Start 30 MHz #Res BW 1.0 MHz	#VBI	W 3.0 MHz	Sweep 1	Stop 10.000 GHz 8.7 ms (40001 pts)	CF Step 997.000000 MHz
MKR MODE TRC SCL	× 2.411 09 GHz	10.35 dBm	NCTION FUNCTION WIDTH	FUNCTION VALUE	<u>Auto</u> Man
2 N 1 f 3 4 5 6 9	6.941 70 GHz	-40.49 dBm			Freq Offset 0 Hz
7 8 9 10					
			STATUS		

Dt&C



TM 1 & 2437





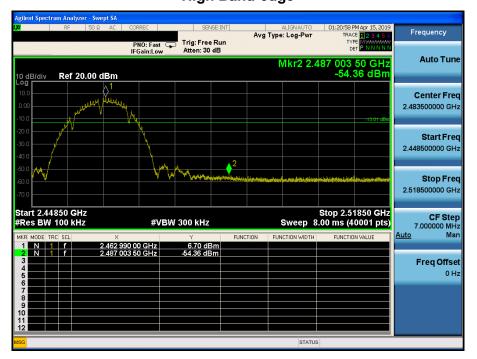


Agilent Spectrum Analyzer - Swept SA						
L <mark>XI</mark> RF 50Ω AC	CORREC	SENSE:IN		ALIGNAUTO Type: Log-Pwr	01:18:09 PM Apr 15, 2019 TRACE 1 2 3 4 5 6	Frequency
	PNO: Fast 😱 IFGain:Low	Trig: Free Run Atten: 30 dB		Type: Log-Pwr	TYPE MWWWWW DET P N N N N N	
10 dB/div Ref 20.00 dBm				Mkr5 1	9.003 750 GHz -34.46 dBm	Auto Tune
10.0 0.00 -10.0					-12.58 dBm	Center Freq 17.500000000 GHz
-20.0 -30.0 -40.0		4	5		3 2 2 2 2	Start Freq 10.000000000 GHz
-60.0 -70.0						Stop Freq 25.000000000 GHz
Start 10.000 GHz #Res BW 1.0 MHz	#VBW	3.0 MHz		Sweep 4	Stop 25.000 GHz 0.0 ms (40001 pts)	CF Step 1.50000000 GHz
MKR MODE TRC SCL X	2 125 GHz	⊻ -26.31 dBm	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE	<u>Auto</u> Man
2 N 1 f 24.21 3 N 1 f 21.85 4 N 1 f 16.75	12 125 GHZ 15 875 GHZ 56 000 GHZ 50 375 GHZ 03 750 GHZ	-26.31 dBm -27.38 dBm -31.49 dBm -34.08 dBm -34.46 dBm				Freq Offset 0 Hz
7 8 9 9 9 9 10 11 12 12 12 12 12 12 12 12 12 12 12 12						
MSG				STATUS		

TM 1 & 2462



High Band-edge



RF	50 Ω 🧥 DC	CORREC	SENSE:INT	ALIGNAUTO	01:21:53 PM Apr 15, 2019	E
		PNO: Fast 🖵 IFGain:Low	Trig: Free Run Atten: 30 dB	Avg Type: Log-Pwr	TRACE 123456 TYPE MWWWWW DET PNNNNN	Frequency
dB/div Ref 2	20.00 dBm				Mkr1 281.9 kHz -52.06 dBm	Auto Tune
0.0 0.0 0.0					-13.01 dBm	Center Fre 15.004500 MH
D.0 D.0 D.0 1						Start Fre 9.000 k⊢
2.0 2.0 2.0	lan original standar ya mahili	ing an francisco de parto que da presenta por por	tereform), and an and a spin can be done	aða þagi vírenny juja skin je agi vyndiskeil strada.	પ્રી હી તે નિર્વેશ છે. આ ગુજ કે જિલ્લા ગુજરાત છે. આ ગામ નિર્વેશ છે. આ ગામ નિર્વેશ છે. આ ગામ	Stop Fre 30.000000 M⊦
tart 9 kHz Res BW 100 kl	×			Sweep 5	Stop 30.00 MHz .33 ms (40001 pts) FUNCTION VALUE	CF Ste 2.999100 MH Auto Ma
1 N 1 f	2	281.9 kHz	-52.06 dBm			
2 3 4 5 6						
2 2 3 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2						Freq Offs 0 F

Agilent Spectrum Analyzer	Swept SA					
LXI RF 5	50 Ω AC CORF	REC SI	ENSE:INT	ALIGNAUTO Type: Log-Pwr	01:25:29 PM Apr 15, 2019 TRACE 1 2 3 4 5 6	Frequency
	PN IFG	IO: Fast 🖵 Trig: Fre ain:Low Atten: 3	e Run -	Type: Log-Pwr	TYPE MWWWWW DET P N N N N N	
10 dB/div Ref 20.0				Mkr2	2 6.830 04 GHz -40.13 dBm	Auto Tune
10.0 0.00 -10.0	 				-13.01 dBm	Center Freq 5.015000000 GHz
-20.0 -30.0 -40.0		Attention of the second second	n (ng ang ang ang ang ang ang ang ang ang a			Start Freq 30.000000 MHz
-50.0 -60.0 -70.0						Stop Freq 10.000000000 GHz
Start 30 MHz #Res BW 1.0 MHz		#VBW 3.0 MH	z	Sweep 18	Stop 10.000 GHz 8.7 ms (40001 pts)	CF Step 997.000000 MHz
MKR MODE TRC SCL	X	Y 40.02	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE	<u>Auto</u> Man
1 N 1 f 2 N 1 f 3 4	2.463 68 6.830 04	GHz 10.23 c GHz -40.13 c	Bm Bm			Freq Offset
5						0 Hz
7 8						
9 10 11						
12						
MSG				STATUS		

Dt&C

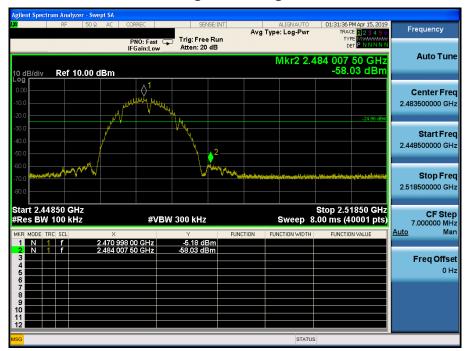


TM 1 & 2472



Reference

High Band-edge



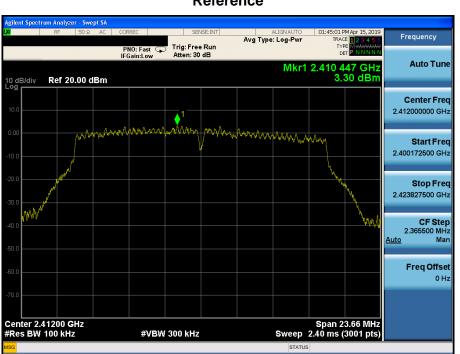
	F 50 Ω 🧘 DC	CORREC	SENSE:I		ALIGNAUTO	01:32:36 PM Apr 15, 2019	Frequency
		PNO: Fast IFGain:Low	Trig: Free Ru Atten: 20 dB		Type: Log-Pwr	TRACE 123456 TYPE MWWWWW DET PNNNNN	
dB/div Re	ef 10.00 dBm					Vkr1 281.9 kHz -62.87 dBm	Auto Tun
90 00 0.0 0.0						-24.96 dBm	Center Fre 15.004500 M⊦
.0							Start Fre 9.000 k⊦
	nen an	s, han a share	ykananya ini manya king	สมีนสารากรูญระจำรุ่งและ	undanstaller son generative Andreas		Stop Fre 30.000000 MH
art 9 kHz es BW 100	kHz	#VE	W 300 kHz		Sweep 5	Stop 30.00 MHz .33 ms (40001 pts)	CF Ste 2.999100 MH
			Y	FUNCTION	EUNCTION WIDTH	ELINCTION VALUE	Auto Ma
R MODE TRC SC N 1 f 3	l X	281.9 kHz	Ƴ -62.87 dBm	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE	Freq Offs
R MODE TRC SC N 1 f 2 3 4	l X	281.9 kHz		FUNCTION	FUNCTION WIDTH	FUNCTION VALUE	Auto Ma Freq Offs 0 H

t <mark>gilent Spectrum Analyzer - Swe</mark> K <mark>I</mark> RF 50 Ω		SENSE:INT	ALIGNAUTO Avg Type: Log-Pwr	01:34:04 PM Apr 15, 2019 TRACE 12 3 4 5 6	Frequency
	PNO: Fast IFGain:Low	Trig: Free Run Atten: 20 dB	Mkr	4 3.509 78 GHz	Auto Tune
10 dB/div Ref 10.00 c - og 0.00 -10.0 -20.0	iBm ↓1			-51.71 dBm	Center Free 5.015000000 GH;
30.0 40.0 50.0	4				Start Free 30.000000 MH
-60.0					Stop Free 10.000000000 GH
Start 30 MHz Res BW 1.0 MHz MKR MODE TRC SCL	× 2.470 66 GHz	3.0 MHz Y -1.50 dBm	Sweep 1	Stop 10.000 GHz 8.7 ms (40001 pts) FUNCTION VALUE	CF Ste 997.000000 MH <u>Auto</u> Ma
2 N 1 f 3 N 1 f 4 N 1 f 6	7.495 04 GHz 6.562 59 GHz 3.509 78 GHz	-50.54 dBm -50.88 dBm -51.71 dBm			Freq Offse 0 H
11 12 56			STATUS	3	

Dt&C



TM 2 & 2412



Reference

Low Band-edge



	Analyzer Swept SA RF 50 Ω Δ	CORREC	SENSE:INT		ALIGNAUTO Type: Log-Pwr	01:47:05 PM Apr 15, 2019 TRACE 1 2 3 4 5 6	Frequency
		PNO: Fast IFGain:Low	Trig: Free Run Atten: 30 dB	Avg	Type. Log-rwi		
0 dB/div	Ref 20.00 dBm				ſ	/kr1 284.9 kHz -52.15 dBm	Auto Tune
- og 10.0 0.00 10.0							Center Free 15.004500 MH
20.0 30.0 40.0						-16.70 dBm	Start Free 9.000 kH
50.0 -	and the second second	rifet and incident	สะส ¹ มี _{การค} ารค่างให้สุดที่สุดที่สุดได้ประเพศ	nista (persionale)	te est west a blief or standard of	lagenaationsee, interest op te te toge op de laater	Stop Fre 30.000000 MH
tart 9 kHz Res BW 10			W 300 kHz	FUNCTION	Sweep 5	Stop 30.00 MHz .33 ms (40001 pts) FUNCTION VALUE	CF Ste 2.999100 MH <u>Auto</u> Ma
2 3 4 5	f	284.9 kHz	-52.15 dBm				Freq Offse 0 H
6 7 8 9 10 11							

Agilent Spectrum Analyzer - Swe	pt SA AC CORREC	SENSE: INT	ALIGNAUTO	01:48:18 PM Apr 15, 2019			
	PNO: Fast C		Avg Type: Log-Pwr	TRACE 123456 TYPE MWWWW DET P N N N N N	Frequency		
10 dB/div Ref 20.00 d	IBm		Mkr	3 3.301 16 GHz -41.58 dBm	Auto Tune		
10.0 0.00 -10.0	⊘1				Center Freq 5.015000000 GHz		
-20.0	3 		∂ 2	-16.70 dBm	Start Free 30.000000 MH:		
-60.0					Stop Fred 10.000000000 GH2		
Start 30 MHz #Res BW 1.0 MHz	tes BW 1.0 MHz #VBW 3.0 MHz Sweep 18.7 ms (40001 pts)						
MKR MODE TRC SCL 1 N 1 f 2 N 1 f 3 N 1 f 4	× 2.411 33 GHz 7.217 87 GHz 3.301 16 GHz	Y FUN 11.81 dBm -40.55 dBm -41.58 dBm	ICTION FUNCTION WIDTH	FUNCTION VALUE	<u>Auto</u> Man Freq Offset 0 Hz		
7 8 9 10 11							
ISG			STATUS				

Dt&C



TM 2 & 2437



