

FCC BT LE REPORT

FCC Certification

Applicant Name:

LG Electronics MobileComm U.S.A., Inc.

Address:

1000 Sylvan Avenue, Englewood Cliffs NJ 07632

Date of Issue: July 18, 2016 Test Site/Location: HCT CO., LTD., 74,Seoicheon-ro 578beon-gil,Majangmyeo,Icheon-si, Gyeonggi-do, 17383, Rep. of KOREA Report No.: HCT-R-1607-F007-1 HCT FRN: 0005866421

IC Recognition No.: 5944A-5

FCC ID : ZNFK600

APPLICANT : LG Electronics MobileComm U.S.A., Inc.

Model(s):	LG-K600
Additional Model(s):	LGK600, K600
EUT Type:	GSM/WCDMA/LTE Phone with Bluetooth, WLAN, NFC
RF Peak Output Power:	6.450 dBm (4.416 mW)
Frequency Range:	2402 MHz -2480 MHz
Modulation type	GFSK
FCC Classification:	Digital Transmission System(DTS)
FCC Rule Part(s):	Part 15.247

Engineering Statement:

The measurements shown in this report were made in accordance with the procedures indicated, and the emissions from this

equipment were found to be within the limits applicable. I assume full responsibility for the accuracy and completeness of these measurements, and for the qualifications of all persons taking them.

HCT CO., LTD. Certifies that no party to this application has subject to a denial of Federal benefits that includes FCC benefits pursuant to section 5301 of the Anti-Drug Abuse Act of 1998,21 U.S. C.853(a)

Report prepared by : Seul Ki Lee Test Engineer of RF Team

Approved by : Jong Seok Lee Manager of RF Team

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Version

TEST REPORT NO.	DATE	DESCRIPTION
HCT-R-1607-F007	July 8, 2016	- First Approval Report
HCT-R-1607-F007-1	July 18, 2016	- Added the min and max conditions for data packet length in the report.



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1. GENERAL INFORMATION

Applicant:	LG Electronics MobileComm U.S.A., Inc.				
Address:	1000 Sylvan Avenue, Englewood Cliffs NJ 07632				
FCC ID:	ZNFK600				
EUT Type:	GSM/WCDMA/LTE Phone with Bluetooth, WLAN, NFC				
Model (s):	LG-K600				
Date(s) of Tests:	May 17, 2016 ~ June 22, 2016				
Place of Tests:	HCT Co., Ltd. 74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, Korea (IC Recognition No. : 5944A-5)				

2. EUT DESCRIPTION

Model	LG-K600			
Additional Model(s):	LGK600, K600			
EUT Type	GSM/WC	DMA/LTE Phone with Bluetooth, WLAN, NFC		
Power Supply	DC 3.85	/		
	Model: Bl	51YF		
Battery Infomation	Type: Li-i	on Battery		
	TX: 2402	MHz ~ 2480 MHz		
Frequency Range	RX: 2402 MHz ~ 2480 MHz			
	Peak	Data packet length (Min)_6.450 dBm (4.416 mW)		
Max. RF Output Power		/ Data packet length (Max)_6.393 dBm (4.358 mW)		
	Average	Data packet length (Min)_6.260 dBm (4.227 mW)		
	Average	/ Data packet length (Max)_6.250 dBm (4.217 mW)		
BT Operating Mode	BT_Low	Energy Mode		
Modulation Type	GFSK			
Number of Channels	40 Channels			
	Manufacturer: Ace Technology			
Antenna Specification	Antenna	ype: INTERNAL ANTENNA		
	Peak Gai	n : -1.47 dBi		



3. TEST METHODOLOGY

FCC KDB 558074 D01 DTS Meas Guidance v03r05 dated April 8, 2016 entitled "Guidance for Performing Compliance Measurements on Digital Transmission Systems(DTS) and the measurement procedure described in ANSI C63.10(Version : 2013) 'the American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices'.

3.1 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.

3.2 EUT EXERCISE

The EUT was operated in the engineering 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.

3.3 GENERAL TEST PROCEDURES

Conducted Emissions

The EUT is placed on the turntable, which is 0.8 m above ground plane. According to the requirements in Section 6.2 of ANSI C63.10. (Version :2013) Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30MHz using CISPR Quasi-peak and average detector modes.

Radiated Emissions

The EUT is placed on a turn table, which is 0.8 m above ground plane below 1GHz. Above 1GHz with 1.5m using absorbers between the EUT and receive antenna. The turntable shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3.75 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 max. emission, the relative positions of this hand-held transmitter (EUT) was rotated through three orthogonal axes according to the requirements in Section 8 of ANSI C63.10. (Version: 2013)

Conducted Antenna Terminal

See Section from 9.1 to 9.2.(KDB 558074 v03r05)

3.4 DESCRIPTION OF TEST MODES

The EUT has been tested under operating condition. Test program used to control the EUT for staying in continuous transmitting and receiving mode is programmed.

Channel low, mid and high with highest data rate (worst case) is chosen for full testing.



4. 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 equipments, which is traceable to recognized national standards.

Espectially, all antenna for measurement is calibrated in accordance with the requirements of C63.5 (Version : 2006).

5. FACILITIES AND ACCREDITATIONS

5.1 FACILITIES

The SAC(Semi-Anechoic Chamber) and conducted measurement facility used to collect the radiated data are located at the 74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, Korea. The site is constructed in conformance with the requirements of ANSI C63.4. (Version :2014) and CISPR Publication 22. Detailed description of test facility was submitted to the Commission and accepted dated July 07, 2015 (Registration Number: 90661)

5.2 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, horn. Spectrum analyzers with pre-selectors and 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."

6. ANTENNA REQUIREMENTS

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 antennas of this E.U.T are permanently attached.

*The E.U.T Complies with the requirement of §15.203



7. MEASUREMENT UNCERTAINTY

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI C63.4:2014.

All measurement uncertainty values are shown with a coverage factor of k = 2 to indicate a 95 % level of confidence. The measurement data shown herein meets or exceeds the U_{CISPR} measurement uncertainty values specified in CISPR 16-4-2 and, thus, can be compared directly to specified limits to determine compliance.

Parameter	Expanded Uncertainty (±dB)
Conducted Disturbance (150 kHz ~ 30 MHz)	1.82
Radiated Disturbance (9 kHz ~ 30 MHz)	3.40
Radiated Disturbance (30 MHz ~ 1 GHz)	4.80
Radiated Disturbance (1 GHz ~ 18 GHz)	6.07



8. SUMMARY TEST OF RESULTS

Test Description	FCC Part Section(s)	Test Limit	Test Condition	Test Result
6 dB Bandwidth	§15.247(a)(2)	> 500 kHz		PASS
Conducted Maximum Peak Output Power	§15.247(b)(3)	< 1 Watt		PASS
Power Spectral Density	§15.247(e)	< 8 dBm / 3 kHz Band	CONDUCTED	PASS
Band Edge(Out of Band Emissions)	§15.247(d)	Conducted > 20 dBc		PASS
AC Power line Conducted Emissions	§15.207	cf. Section 8.7		PASS
Radiated Spurious Emissions	§15.205, 15.209	cf. Section 8.6.1	RADIATED	PASS
Radiated Restricted Band Edge	§15.247(d), 15.205, 15.209	cf. Section 8.6.2	RADIATED	PASS

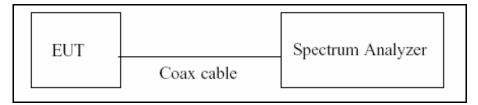


9. TEST RESULT 9.1 DUTY CYCLE

TEST PROCEDURE

The zero-span mode on a spectrum analyzer or EMI receiver if the response time and spacing between bins on the sweep are sufficient to permit accurate measurements of the on and off times of the transmitted signal. Set the center frequency of the instrument to the center frequency of the transmission. Set RBW \geq OBW if possible; otherwise, set RBW to the largest available value. Set VBW \geq RBW. Set detector = peak or average. The zero-span measurement method shall not be used unless both RBW and VBW are > 50/T and the number of sweep points across duration T exceeds 100. (For example, if VBW and/or RBW are limited to 3 MHz, then the zero-span method of measuring duty cycle shall not be used if T \leq 16.7 microseconds.)

TEST CONFIGURATION



TEST PROCEDURE

The transmitter output is connected to the Spectrum Analyzer. We tested accroding to the zerospan measurement method, 6.0)b) in KDB 558074 v03r05.

The largest available value of RBW is 8 MHz and VBW is 50 MHz. The zero-span method of measuring duty cycle shall not be used if $T \le 6.25$ microseconds. (50/6.25 = 8)

The zero-span method was used because all measured T data are > 6.25 microseconds and both RBW and VBW are > 50/T.

- 1. RBW = 8 MHz (the largest available value)
- 2. VBW = 8 MHz (≥ RBW)
- 3. SPAN = 0 Hz
- 4. Detector = Peak
- 5. Number of points in sweep > 100
- 6. Trace mode = Clear write
- 7. Measure $T_{total} \,and \, T_{on}$
- 8. Calculate Duty Cycle = T_{on}/T_{total} and Duty Cycle Factor = 10*log(1/Duty Cycle)

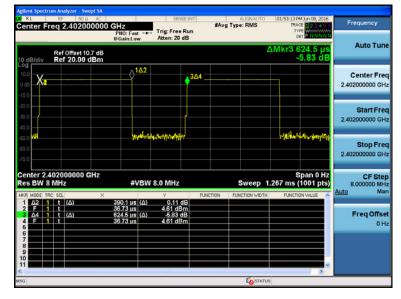


Model: LG-K600

Data packet length (Min)

LE Mode	T _{on} (ms)	T _{total} (ms)	Duty Cycle	Duty Cycle Factor (dB)	
	0.3901	0.6245	0.6247	2.04	
Data packet length (Max)					
LE Mode	T _{on} (ms)	T _{total} (ms)	Duty Cycle	Duty Cycle Factor	
	2.1350	2.5000	0.8540	0.69	

RESULT PLOTS_Data packet length (Min)



RESULT PLOTS_ Data packet length (Max)

enter Fre	q 2.4020000			SENSE IN Trig: Free Run Atten: 20 dB	#Av;	ALIGN) g Type: RM		TRAK	MJun 08, 2016 CE 1 2 3 4 5 6 PE WANNINN N	Frequency
0 dB/div	Ref Offset 10.7 dB Ref 20.00 dBm						Δ		500 ms 0.03 dB	Auto Tur
og 10.0 1.00 10.0		X				1∆2	3∆4			Center Fre 2.402000000 GH
0.0	پورتې د او د ا					-	,			Start Fre 2.402000000 GH
i0.0 i0.0 '0.0										Stop Fre 2.402000000 GH
enter 2.40 es BW 8 N			BW 8	.0 MHz	FUNCTION	Swee	_	000 ms (pan 0 Hz 1001 pts)	CF Ste 8.000000 MH Auto Ma
1 42 1	t (Δ)	2.135 ms 1.255 ms	(Δ)	0.23 dB 4.56 dBm	Tenenen			TUTUT		
	τ (Δ) t	2.500 ms 1.255 ms	(Δ)	0.03 dB 4.56 dBm						Freq Offs 01
7										
							_		~	



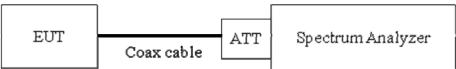
9.2 6 dB BANDWIDTH MEASUREMENT

Test Requirements and limit, §15.247(a)(2)

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



TEST PROCEDURE

The transmitter output is connected to the Spectrum Analyzer.

The Spectrum Analyzer is set to (Procedure 8.1 in KDB 558074 v03r05)

RBW = 100 kHz VBW \geq 3 x RBW Detector = Peak Trace mode = max hold Sweep = auto couple Allow the trace to stabilize

Note : We tested 6 dB bandwidth using the automatic bandwidth measurement capability of a spectrum analyzer. X dB is set 6 dB.

TEST RESULT_Data packet length (Min)

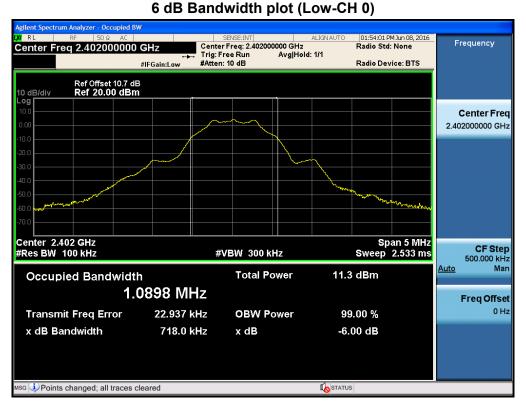
Mode	Channel	6 dB Bandwidth (kHz)	Limit (kHz)	Pass/Fail
BT LE	0	718.0		Pass
	19	722.4	> 500	Pass
	39	712.7		Pass

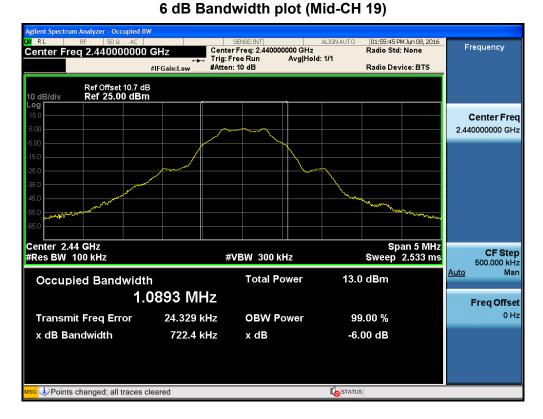
TEST RESULT_ Data packet length (Max)

Mode	Channel	6 dB Bandwidth	Limit	Pass/Fail	
	Channel	(kHz)	(kHz)	Fass/Fall	
BT LE	0	676.2		Pass	
	19	672.9	> 500	Pass	
	39	675.2		Pass	

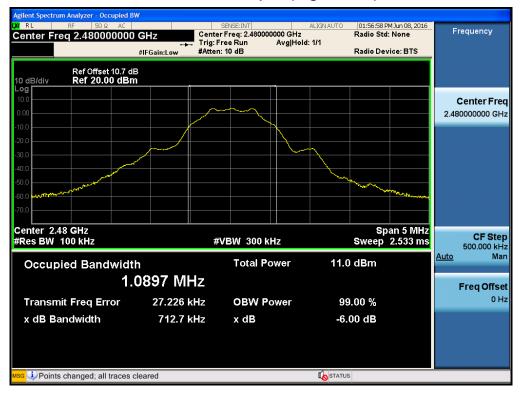


RESULT PLOTS_Min





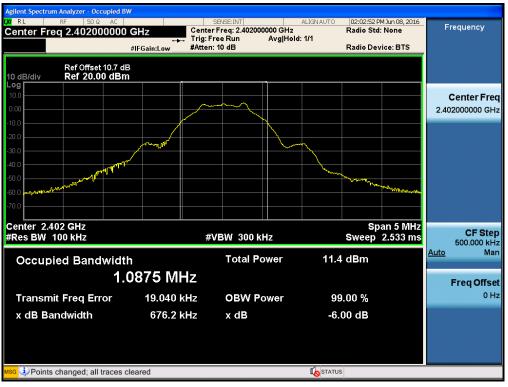




6 dB Bandwidth plot (High-CH 39)

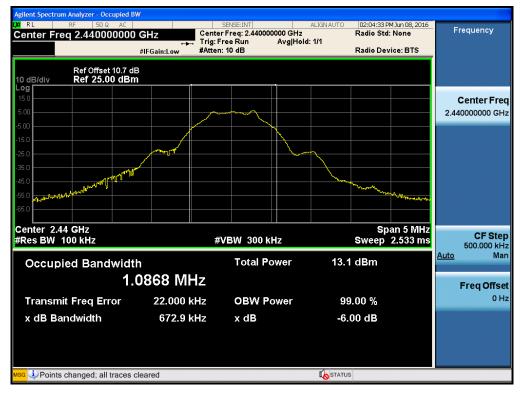


RESULT PLOTS_Max

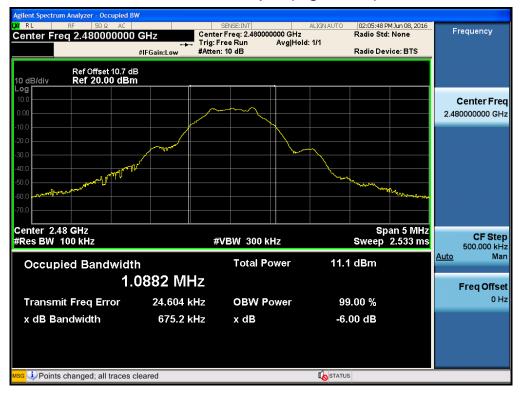


6 dB Bandwidth plot (Low-CH 0)

6 dB Bandwidth plot (Mid-CH 19)







6 dB Bandwidth plot (High-CH 39)



9.3 OUTPUT POWER MEASUREMENT

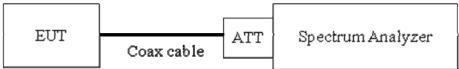
Test Requirements and limit, §15.247(b)(3)

A transmitter antenna terminal of EUT is connected to the input of a Spectrum Analyzer.

Measurement is made while the EUT is operating in transmission mode at the appropriate frequencies.

The maximum permissible conducted output power is 1 Watt.

TEST CONFIGURATION



TEST PROCEDURE

The transmitter output is connected to the Spectrum Analyzer. We use the spectrum analyzer's integrated band power measurement function.

This EUT TX condition is actual operating mode by BT LE mode test program.

The Spectrum Analyzer is set to

- Peak Power (Procedure 9.1.1 in KDB 558074 v03r05)
 - RBW ≥ DTS Bandwidth
 - $VBW \ge 3 \times RBW$
 - SPAN ≥ 3 x RBW
 - Detector Mode = Peak
 - Sweep = auto couple

Trace Mode = max hold

Allow trace to fully stabilize.

Use peak marker function to determine the peak amplitude level

Average Power (Procedure 9.2.2.4 in KDB 558074 v03r05)

Measure the duty cycle

Set span to at least 1.5 times the OBW

RBW = 1-5 % of the OBW, not to exceed 1 MHz.

VBW \geq 3 x RBW.

Number of points in sweep $\ge 2 x \text{ span} / \text{RBW}$. (This gives bin-to-bin spacing $\le \text{RBW}/2$,

so that narrowband signals are not lost between frequency bins.)

Sweep time = auto.

Detector = RMS(i.e., power averaging)

Do not use sweep triggering. Allow the sweep to "free run".



Trace average at least 100 traces in power averaging(RMS) mode.

Compute power by integrating the spectrum across the OBW of the signal using the instrument's band power measurement function with band limits set equal to the OBW band edges.

Add 10 log (1/x), where x is the duty cycle, to the measured power in order to compute the average power during the actual transmission times.

Sample Calculation

Output Power = Reading Value + ATT loss + Cable loss(1 ea) + Duty Cycle Factor Output Power = 10 dBm + 10 dB + 0.8 dB + 0.2 dB = 21.0 dBm

Note :

- 1. Spectrum reading values are not plot data. The power results in plot is already including the actual values of loss for the attenuator and cable combination.
- 2. Spectrum offset = Attenuator loss + Cable loss
- 3. We apply to the offset in the 2.4 GHz range that was rounded off to the closest tenth dB. So, 10.7 dB is offset for 2.4 GHz Band.



TEST RESULTS-Peak

Conducted Output Power Measurements_Data packet length (Min)

LE Mode		Measured	Limit
Frequency[MHz]	Channel No.	Power(dBm)	(dBm)
2402	0	4.792	30
2440	19	6.450	30
2480	39	4.513	30

Conducted Output Power Measurements_ Data packet length (Max)

LE M	ode	Measured	Limit
Frequency[MHz]	Channel No.	Power(dBm)	(dBm)
2402	0	4.760	30
2440	19	6.393	30
2480	39	4.452	30

TEST RESULTS-Average

Conducted Output Power Measurements_ Data packet length (Min)

LE Me	ode		Duty Cycle	Measured	
Frequency[MHz]	Channel No.	Measured Power(dBm)	Duty Cycle Factor (dB)	Power(dBm) + Duty Cycle Factor(dB)	Limit (dBm)
2402	0	2.61	2.04	4.65	30
2440	19	4.22	2.04	6.26	30
2480	39	2.27	2.04	4.31	30

Conducted Output Power Measurements_ Data packet length (Max)

LE Me	ode		Duty Cycle	Measured	
Frequency[MHz]	Channel No.	Measured Power(dBm)	Duty Cycle Factor (dB)	Power(dBm) + Duty Cycle Factor(dB)	Limit (dBm)
2402	0	3.87	0.69	4.55	30
2440	19	5.57	0.69	6.25	30
2480	39	3.51	0.69	4.19	30



RESULT PLOTS-Peak_Data packet length (Min) Conducted Output Power (Low-CH 0)

<mark>gilent Spectrum Analyzer - Swept SA</mark> <mark>d RL RF 50 Ω AC</mark> #Avg Type: RMS Avg|Hold: 1/1 10 PM Jun 08, 2016 Frequency TRACE 1 2 3 4 5 6 TYPE M Center Freq 2.402000000 GHz Trig: Free Run Atten: 10 dB PNO: Wide IFGain:Low Auto Tune Mkr1 2.402 263 GHz 4.792 dBm Ref Offset 10.7 dB Ref 10.70 dBm 10 dB/div Log **1 Center Freq** 2.402000000 GHz Start Freq 2.400500000 GHz Stop Freq 2.403500000 GHz CF Step 300.000 kHz Man <u>Auto</u> **Freq Offset** 0 Hz Center 2.402000 GHz #Res BW 1.0 MHz Span 3.000 MHz Sweep 1.532 ms (1000 pts) #VBW 3.0 MHz Points changed; all traces cleared **I**STATUS

Conducted Output Power (Mid-CH 19)

Agilent Spectrum Analyzer - Swept SA						
K RL RF 50Ω AC Center Freq 2.440000000	GHz	SENSE:INT	#Avg Type:	RMS T	4 PM Jun 08, 2016 RACE <mark>1 2 3 4 5 6</mark>	Frequency
	PNO: Wide ++++	「rig: Free Run Atten: 10 dB	Avg Hold: 1	/1		
Ref Offset 10.7 dB 10 dB/div Ref 10.70 dBm				Mkr1 2.440 6	281 GHz 450 dBm	Auto Tune
0.700			1			Center Freq 2.440000000 GHz
-9.30 Untrannum						Start Freq
-19.3						2.438500000 GHz
-29.3						Stop Freq 2.441500000 GHz
-49.3						CF Step 300.000 kHz <u>Auto</u> Man
-69.3						Freq Offset 0 Hz
-79.3						
Center 2.440000 GHz #Res BW 1.0 MHz	#VBW 3	0 MHz	s	Span weep 1.532 m	1 3.000 MHz s (1000 pts)	
мsg 🧼Points changed; all traces c	leared			STATUS		





Conducted Output Power (High-CH 39)



RESULT PLOTS-Peak_ Data packet length (Max) Conducted Output Power (Low-CH 0)

<mark>gilent Spectrum Analyzer - Swept SA</mark> <mark>d RL RF 50 Ω AC</mark> #Avg Type: RMS Avg|Hold: 1/1 03:01 PM Jun 08, 2016 Frequency TRACE 123456 TYPE MWWWWW DET PPPPP Center Freq 2.402000000 GHz Trig: Free Run Atten: 10 dB PNO: Wide IFGain:Low Auto Tune Mkr1 2.402 290 GHz 4.760 dBm Ref Offset 10.7 dB Ref 10.70 dBm 10 dB/div Loa <u>1</u> **Center Freq** 2.402000000 GHz ۰V Start Freq 2.400500000 GHz Stop Freq 2.403500000 GHz CF Step 300.000 kHz Man <u>Auto</u> **Freq Offset** 0 Hz Center 2.402000 GHz #Res BW 1.0 MHz Span 3.000 MHz Sweep 1.532 ms (1000 pts) #VBW 3.0 MHz Points changed; all traces cleared **I**STATUS

Conducted Output Power (Mid-CH 19)

Agilent Spectrum Analyzer - Swept SA						
X RL RF 50 Ω AC Center Freq 2.44000000) GHz	SENSE:INT	#Avg Type:	RMS	13 PM Jun 08, 2016 TRACE 123456	Frequency
	PNO: Wide 中 IFGain:Low	Trig: Free Run Atten: 10 dB	Avg Hold: 1	/1		
Ref Offset 10.7 dB 10 dB/div Ref 10.70 dBm				Mkr1 2.439 6	9 797 GHz 393 dBm	Auto Tune
0.700		•1				Center Freq 2.44000000 GHz
-9.30						
-19.3						Start Freq 2.438500000 GHz
-29.3						Stop Freq 2.441500000 GHz
-39.3						CF Step
-49.3						300.000 kHz <u>Auto</u> Man
-69.3						Freq Offset 0 Hz
-79.3						
Center 2.440000 GHz #Res BW 1.0 MHz	#VBW	3.0 MHz	s	Spai weep 1.532 m	n 3.000 MHz Is (1000 pts)	
мsg 🧼 Points changed; all traces	cleared			STATUS		



	um Analyzer - Swept SA								
Center Fi	RF 50 Ω AC	GHz	SENS	E:INT	#Avg Type	ALIGNAUTO	TRAC	4 Jun 08, 2016 E <mark>1 2 3 4 5 6</mark>	Frequency
Conton	2.40000000	PNO: Wide 井	Trig: Free I Atten: 10 c		Avg Hold:		TYP	E MWWWWW T P P P P P P	
		IFGain:Low	Atten. 10 c	0		Micret	9 470 7	91 GHz	Auto Tune
10 dB/div Log	Ref Offset 10.7 dB Ref 10.70 dBm						4.4	52 dBm	
9			1						Center Freq
0.700									2.480000000 GHz
	. And								
-9.30									Start Fred
-19.3									2.478500000 GHz
-10.0									
-29.3									Stop Freq
									2.481500000 GHz
-39.3									2.401000000 0112
									CF Step
-49.3									300.000 kHz
-59.3									<u>Auto</u> Man
-39.3									
-69.3									Freq Offset
									0 Hz
-79.3									
Center 2.4	180000 GHz						Span 3	.000 MHz	
#Res BW	1.0 MHz	#VBW	3.0 MHz			Sweep 1	.532 ms (1000 pts)	
<mark>мsg</mark> 🧼 Point	ts changed; all traces	cleared				I STATUS			

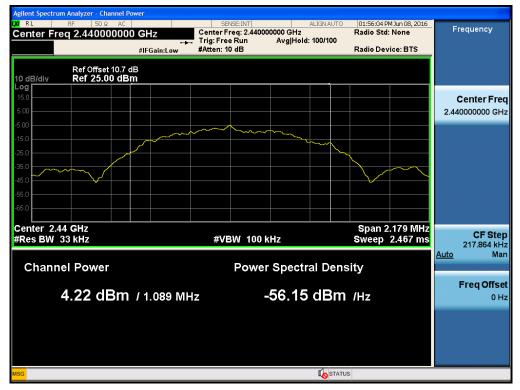
Conducted Output Power (High-CH 39)



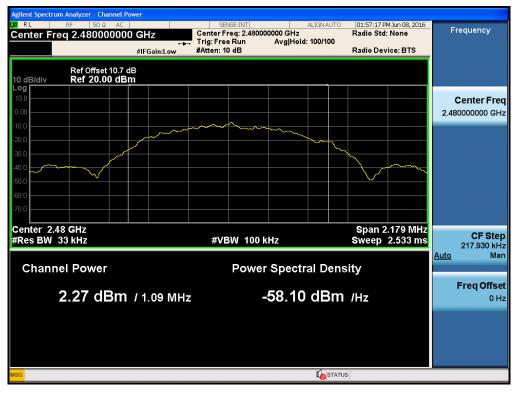
RESULT PLOTS-Average_ Data packet length (Min) Conducted Output Power (Low-CH 0)



Conducted Output Power (Mid-CH 19)







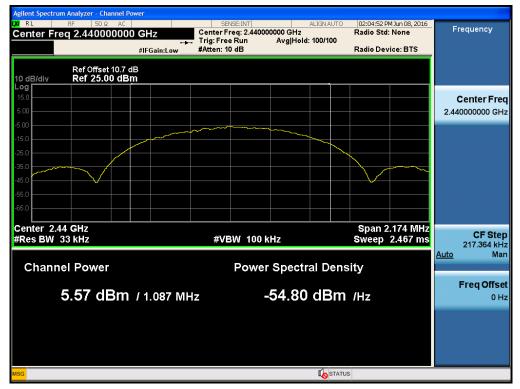
Conducted Output Power (High-CH 39)



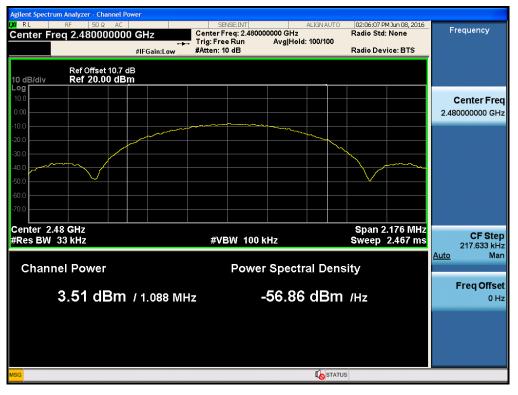
RESULT PLOTS-Average_ Data packet length (Max) Conducted Output Power (Low-CH 0)

gilent Spectrum Analyzer - Channel Powe RL ALIGN AU 02:03:10 PM Jun 08, 2016 Radio Std: None Center Freq: 2.402000000 GHz Trig: Free Run Avg|Hold #Atten: 10 dB Frequency Center Freq 2.402000000 GHz Avg|Hold: 100/100 Radio Device: BTS #IFGain:Low Ref Offset 10.7 dB Ref 20.00 dBm dB/div og **Center Freq** 2.402000000 GHz Center 2.402 GHz #Res BW 33 kHz Span 2.175 MHz Sweep 2.467 ms CF Step 217.499 kHz #VBW 100 kHz Auto Man **Channel Power Power Spectral Density** Freq Offset -56.50 dBm /Hz 3.87 dBm / 1.087 MHz 0 Hz **STATUS**

Conducted Output Power (Mid-CH 19)







Conducted Output Power (High-CH 39)



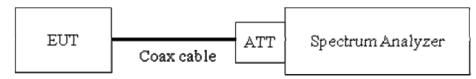
9.4 POWER SPECTRAL DENSITY

Test Requirements and limit, §15.247(e)

The peak power density is measured with a spectrum analyzer connected to the antenna terminal while the EUT is operating in transmission mode at the appropriate frequencies.

Minimum Standard – The transmitter power density average over 1-second interval shall not be greater than 8dBm in any 3kHz BW.

TEST CONFIGURATION



TEST PROCEDURE

We tested according to Procedure 10.2 in KDB 558074 v03 r05

The spectrum analyzer is set to :

Set analyzer center frequency to DTS channel center frequency.

Span = 1.5 times the DTS channel bandwidth.

 $RBW = 3 kHz \le RBW \le 100 kHz.$

VBW \geq 3 x RBW.

Sweep = auto couple

Detector = peak

Trace Mode = max hold

Allow trace to fully stabilize.

Use the peak marker function to determine the maximum amplitude level within the RBW.

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

Sample Calculation

PSD = Reading Value + ATT loss + Cable loss(1 ea) Output Power = -5 dBm + 10 dB + 0.8 dB = 5.8 dBm Note :

- 1. Spectrum reading values are not plot data. The PSD results in plot is already including the actual values of loss for the attenuator and cable combination.
- 2. Spectrum offset = Attenuator loss + Cable loss
- 3. We apply to the offset in the 2.4 GHz range that was rounded off to the closest tenth dB. So,10.7 dB is offset for 2.4 GHz Band.



Model: LG-K600

TEST RESULTS

Conducted Power Density Measurements_Data packet length (Min)

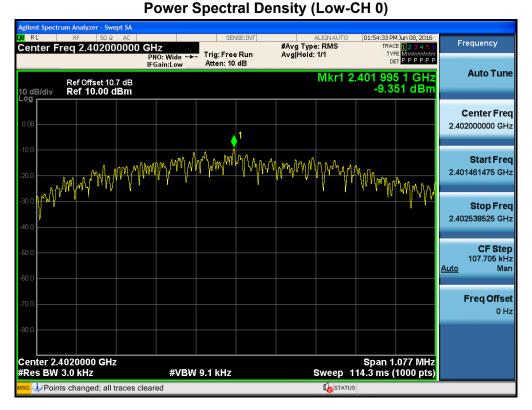
Frequency	Channel		Test F	Result	
(MHz)	No.	Mode	PSD	Limit	Pass/
(11112)	NO.		(dBm)	(dBm)	Fail
2402	0		-9.351	8	Pass
2440	19	LE	-7.534	8	Pass
2480	39		-9.606	8	Pass

Conducted Power Density Measurements_ Data packet length (Max)

Frequency	Channel		Test F	Result	
(MHz)	No.	Mode	PSD	Limit	Pass/
(11112)	NO.		(dBm)	(dBm)	Fail
2402	0		-10.829	8	Pass
2440	19	LE	-9.165	8	Pass
2480	39		-11.088	8	Pass



RESULT PLOTS_Data packet length (Min) Bower Spectral Density (Level)



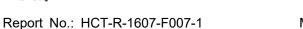
Power Spectral Density (Mid-CH 19)







Power Spectral Density (High-CH 39)



RESULT PLOTS_ Data packet length (Max)



Power Spectral Density (Mid-CH 19)





Agilent Spectrum Analyzer - Swept SA					
🗱 RL RF 50Ω AC Center Freq 2.480000000	GHz	SENSE:INT	ALIGN AUTO #Avg Type: RMS	02:06:20 PM Jun 08, 2016 TRACE 123456	Frequency
	PNO: Wide ↔ Trig: F IFGain:Low Atten:	ree Run 10 dB	Avg Hold: 1/1		
Ref Offset 10.7 dB 10 dB/div Ref 10.00 dBm			Mkr1 2	.480 008 6 GHz -11.088 dBm	Auto Tune
0.00		.1			Center Freq 2.480000000 GHz
-10.0 -20.0	mmm	walr may	mmmunn	Marin Marina	Start Freq 2.479493605 GHz
-30.0					Stop Freq 2.480506395 GHz
-60.0					CF Step 101.279 kHz <u>Auto</u> Man
-70.0					Freq Offset 0 Hz
-80.0 Center 2.4800000 GHz				Span 1.013 MHz	
#Res BW 3.0 kHz	#VBW 9.1 kH	2	Sweep 1	07.5 ms (1000 pts)	

Power Spectral Density (High-CH 39)

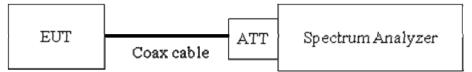


9.5 OUT OF BAND EMISSIONS AT THE BAND EDGE/ CONDUCTED SPURIOUS EMISSIONS Test Requirements and limit, §15.247(d)

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in § 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.205(c)).

Limit : 20 dBc

TEST CONFIGURATION



TEST PROCEDURE

The transmitter output is connected to the spectrum analyzer. (Procedure 11.0 in KDB 558074 v03r05)

RBW = 100 kHz

 $VBW \ge 3 \times RBW$

Set span to encompass the spectrum to be examined

Detector = Peak

Trace Mode = max hold

Sweep time = auto couple

Ensure that the number of measurement points $\geq 2^{*}$ Span/RBW

Allow trace to fully stabilize.

Use peak marker function to determine the maximum amplitude level.

Measurements are made over the 30 MHz to 10th harmonic range with the transmitter set to the lowest, middle, and highest channels.

Note :

1. The maximum peak conducted output power procedure was used to demonstrate compliance as described in 9.1(KDB558074 v03r05), so the peak output power measured in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum in-band peak



PSD level in 100 kHz (i.e., 20 dBc).

- 2. The band edge results in plot is already including the actual values of loss for the attenuator and cable combination.
- 3. Spectrum offset = Attenuator loss + Cable loss
- 4. We apply to the offset in the 2.4 GHz range that was rounded off to the closest tenth dB. So, 10.7 dB is offset for 2.4 GHz Band.
- 5. In case of conducted spurious emissions test, please check factors blow table.
- 6. In order to simplify the report, attached plots were only the worst case channel and data rate.

Freq(MHz)	Factor(dB)
30	11.30
100	9.83
200	10.19
300	10.13
400	10.23
500	10.25
600	10.32
700	10.35
800	10.35
900	10.34
1000	10.39
2000	10.64
2400*	10.65
2500*	10.67
3000	10.68
4000	10.89
5000	11.07
6000	11.06
7000	11.35
8000	11.32
9000	11.48
10000	11.56
11000	11.56
12000	11.68
13000	11.83

FACTORS FOR FREQUENCY

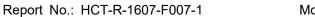


Model: LG-K600

14000	11.90
15000	11.98
16000	12.04
17000	12.02
18000	12.08
19000	12.07
20000	12.14
21000	12.17
22000	12.31
23000	12.60
24000	12.34
25000	12.53

Note : 1. '*' is fundamental frequency range.

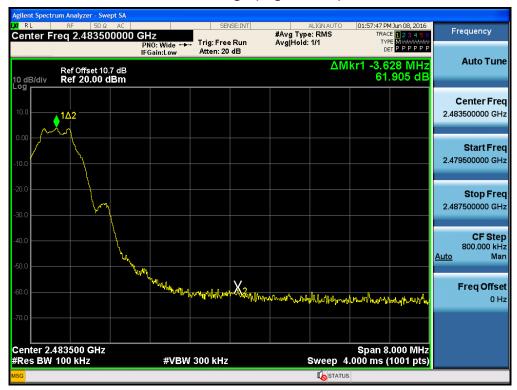
2. Factor = Cable loss + Attenuator loss



RESULT PLOTS_ Data packet length (Min) BandEdge (Low-CH 0)

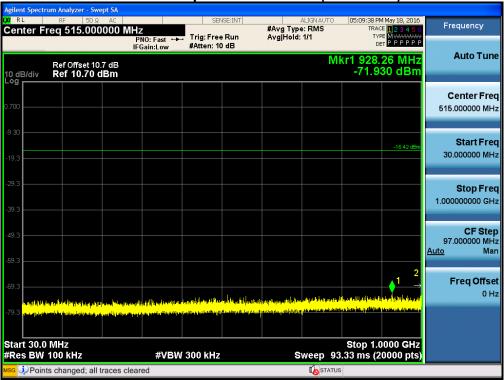


BandEdge (High-CH 39)





30 MHz ~ 1 GHz



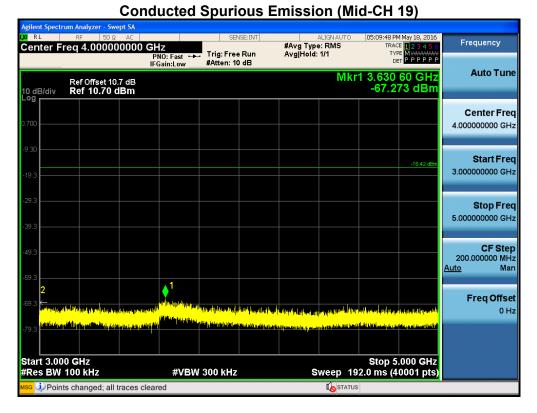
1 GHz ~ 3 GHz



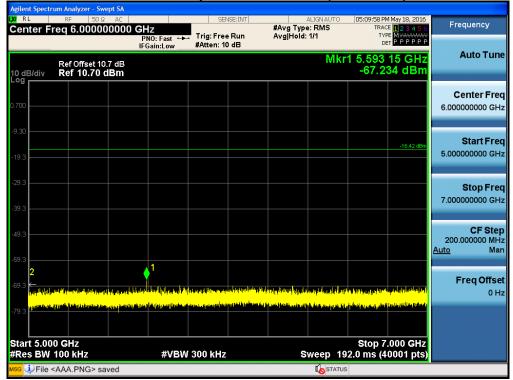
KI RL	um Analyzer - Swo RF 50 Ω req 2.00000	AC 00000 GHz		SENSE: IN	#Av	ALIG g Type: R Hold: 1/1	NAUTO MS	TRAC	M May 18, 2016 CE 1 2 3 4 5 6 PE M WWWWW	Frequency
10 dB/div	Ref Offset 10 Ref 10.70 (IFGai 1.7 dB	: Fast +++ n:Low	#Atten: 10 dB			Mkr	DI 2 2.637	15 GHz 70 dBm	Auto Tun
- og 0.700							∲1		-16.42 dBm	Center Fre 2.000000000 GH
-29.3 -39.3 -49.3										Start Fre 1.000000000 GH
-59.3	and an internet for the second se	no dat general talanta Beneral da talan Manana da seconda da talan		ulan jaga kan georg jula 9- ar an an a bi yana den sundar jula					al garge to the location of a location destination of the	Stop Fre 3.000000000 GH
	100 kHz		#VBW (_	2.0 ms (4	.000 GHz 0001 pts)	CF Ste 200.000000 MH Auto Ma
MKR MODE TF 1 N 1 2 N 1 3 4 5 6	f	× 2.480 05 0 2.637 15 0		Y 3.581 dBm 68.870 dBm	FUNCTION		IN WIDTH ;	FUNCTIO		Freq Offs
7 8 9 10 11									~	
C D Point	ts changed; all	traces cleared				П	STATUS			



3 GHz ~ 5 GHz



5 GHz ~ 7 GHz

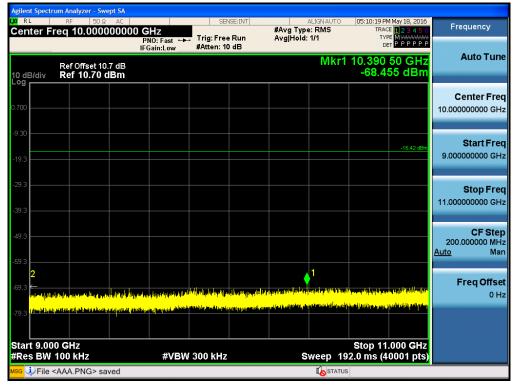




7 GHz ~ 9 GHz

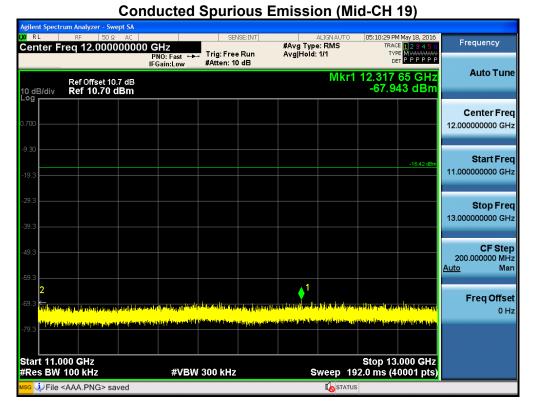
Conducted Spurious Emission (Mid-CH 19) RL 05:10:09 PM May 18, 2016 Frequency Center Freq 8.000000000 GHz #Avg Type: RMS Avg|Hold: 1/1 TRACE 1 2 3 4 5 6 TYPE M PNO: Fast +++ IFGain:Low Trig: Free Run #Atten: 10 dB Auto Tune Mkr1 7.124 40 GHz -68.766 dBm Ref Offset 10.7 dB Ref 10.70 dBm 10 dB/div **Center Freq** 8.00000000 GHz Start Freq 7.00000000 GHz Stop Freq 9.00000000 GHz CF Step 200.000000 MHz <u>Auto</u> Man 1 **Freq Offset** 0 Hz Stop 9.000 GHz Sweep 192.0 ms (40001 pts) Start 7.000 GHz #Res BW 100 kHz #VBW 300 kHz File <AAA.PNG> saved **I**STATUS

9 GHz ~ 11 GHz





11 GHz ~ 13 GHz

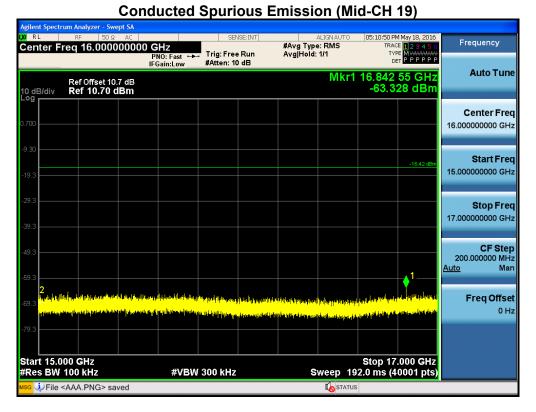


13 GHz ~ 15 GHz

Agilent Spectru	u <mark>m Analyzer - Swept SA</mark> RF 50 Ω AC		CTN	SE:INT		ALIGN AUT	0 05:40:40 5	MM	
	eq 14.0000000	00 GHz PN0: Fast ↔⊷			#Avg Type Avg Hold:	: RMS	TRA	M May 18, 2016 CE 123456 PE M WWWWWW	Frequency
		IFGain:Low	#Atten: 10		inglinina.				Auto Tune
10 dB/div Log	Ref Offset 10.7 dB Ref 10.70 dBm					MK	r1 14.981 -65.0	70 GHz 06 dBm	Auto Tune
									Center Freq
0.700									14.000000000 GHz
-9.30									Start Freq
-19.3								-16.42 dBm	13.000000000 GHz
-29.3									Stop Freq
-39.3									15.00000000 GHz
-49.3									CF Step
									200.000000 MHz <u>Auto</u> Man
-59.3 								\	
-69.3	Angrew and California And Chicky Angeles	aline participation and the second	an a	a a grad the state of the state	, dan adalam bi	hanh at the	hida e san pelanjahina	and the balance of the	Freq Offset 0 Hz
-79.3	and and the second state of the		an an di lan ani ang	anneder for the second states of	ny KARINGA PANANANAN' N	A COLLARD ON	, a galari sa kali ngi sala di dina sa	a shakarara a shakarar	
Start 13.00		-43.753.44	200 611-				Stop 15	5.000 GHz	
#Res BW	AAA.PNG> saved	#VBW	300 kHz		S	weep	192.0 ms (4	rount pre)	



15 GHz ~ 17 GHz

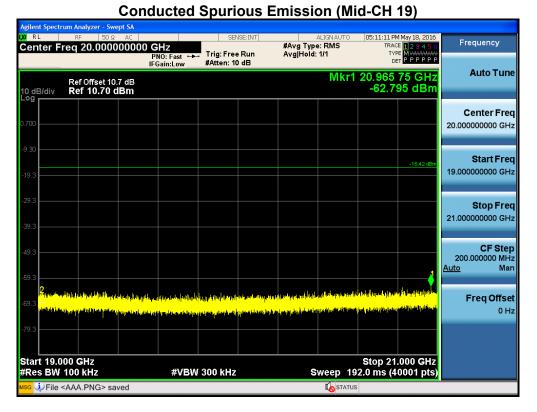


17 GHz ~ 19 GHz

Agilent Spectrum Ana									
RL RF Center Freq 1	50 Ω AC 8.000000000				#Avg Type Avg Hold:		TRAC	May 18, 2016 E 1 2 3 4 5 6 E M WWWWW	Frequency
	Dffset 10.7 dB 10.70 dBm	PNO: Fast ++ IFGain:Low	#Atten: 10		Avg Hola.		DR 17.903	15 GHz 80 dBm	Auto Tune
0.700									Center Freq 18.00000000 GHz
-19.30								-16.42 dBm	Start Freq 17.000000000 GHz
-29.3									Stop Fred 19.000000000 GHz
-49.3			1_						CF Step 200.000000 MH Auto Mar
-69.3 Control of the law law	an de la collection de la collection Anna de la collection de la collection Anna de la collection de la collection de la collection de la collection	e la competencia de l		and a second second second	and the set of a solid state data was been been been a	an Maria Independent	dit ideation of the s	andraad Mara Adaress a adar	Freq Offset 0 Hz
-79.3 Start 17.000 Gł #Res BW 100 k		#\/B)A	300 kHz			ween 40	Stop 19 92.0 ms (4	.000 GHz	
MSG ()File <aaa.f< td=""><td></td><td># V D V V</td><td>- JOO KHZ</td><td></td><td>3</td><td></td><td>-</td><td>ooor pisj</td><td></td></aaa.f<>		# V D V V	- JOO KHZ		3		-	ooor pisj	



19 GHz ~ 21 GHz



21 GHz ~ 23 GHz

Agilent Spectr	r <mark>um Analyzer - Swept SA</mark> RF 50 Ω AC		SENSE:IN	T	ALIGNAUTO	05:11:21 PM	1 May 18, 2016	
	req 22.0000000	00 GHz PN0: East ↔		#Avg Typ	e: RMS	TRAC	E 1 2 3 4 5 6 E M WWWWW	Frequency
10 dB/div	Ref Offset 10.7 dB Ref 10.70 dBm	IFGain:Low	#Atten: 10 dB		Mkr1	22.955	40 GHz 00 dBm	Auto Tune
0.700								Center Fred 22.000000000 GH2
-9.30							-16.42 dBm	Start Free 21.000000000 GH:
-29.3								Stop Fre 23.000000000 GH
-49.3							1	CF Ste 200.000000 MH <u>Auto</u> Ma
2 Januar	alfonosianalan fasilan dalam ang kupan na mana dala Monasila na kana sa kana na pang kana dalam k						nemationalitati nemationalitati	Freq Offse 0 H
-79.3 Start 21.0							.000 GHz	
#Res BW	<pre>400 kHz <aaa.png> saved</aaa.png></pre>	#VBW	300 kHz		Sweep 1	92.0 ms (4	0001 pts)	

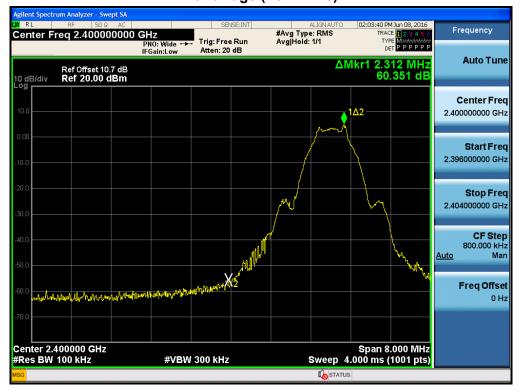


23 GHz ~ 25 GHz

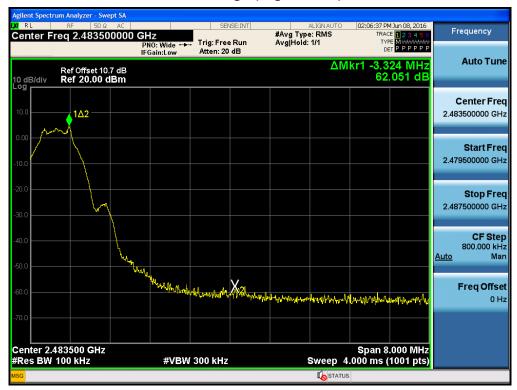
gilent Spectrum Analyzer - Swept SA RL #Avg Type: RMS Avg|Hold: 1/1 31 PM May 18, 2016 Frequency TRACE 1 2 3 4 5 6 TYPE M Center Freq 24.000000000 GHz Trig: Free Run #Atten: 10 dB PNO: Fast + IFGain:Low Auto Tune Mkr1 24.023 15 GHz -58.191 dBm Ref Offset 10.7 dB Ref 10.70 dBm 10 dB/div Log **Center Freq** 24.00000000 GHz Start Freq 23.00000000 GHz Stop Freq 25.00000000 GHz CF Step 200.000000 MHz to Man 1 <u>Auto</u> . I. Ishu A ALLER AND A CONTRACT OF A DESCRIPTION OF **Freq Offset** 0 Hz Start 23.000 GHz #Res BW 100 kHz Stop 25.000 GHz Sweep 192.0 ms (40001 pts) #VBW 300 kHz File <AAA.PNG> saved **I**STATUS



RESULT PLOTS_ Data packet length (Max) BandEdge (Low-CH 0)

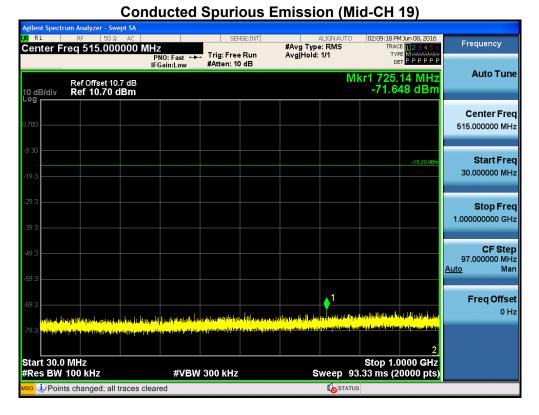


BandEdge (High-CH 39)





30 MHz ~ 1 GHz



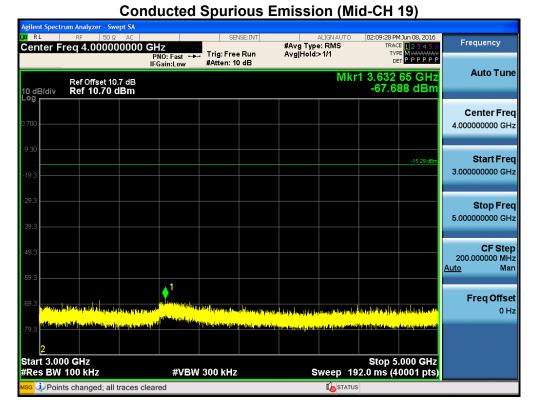
1 GHz ~ 3 GHz



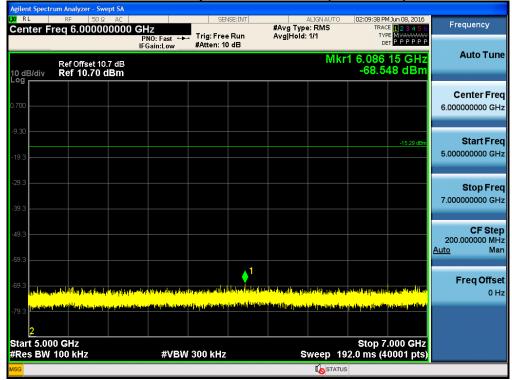
XI RL	um Analyzer - Sw RF 50 Ω req 2.00000	AC	SENSE:INT	ALIGNAUTO #Avg Type: RMS Avg Hold: 1/1	02:09:07 PM Jun 08, 2016 TRACE 1 2 3 4 5 6 TYPE M WWWWWW DET P P P P P	Frequency
10 dB/div	Ref Offset 10 Ref 10.70).7 dB	PAGEN. IV VID		2 2.675 10 GHz -68.589 dBm	Auto Tuno
Log 0.700 -9.30 -19.3					-15.29 dBm	Center Free 2.000000000 GH
-29.3 -39.3 -49.3						Start Fre 1.000000000 GH
-59.3 -69.3 -79.3	a dari yang berkang pang berkang berkan Berkang berkang	na se fana y se pome na fange fan en instrumente fan en instrumente fan en instrumente fan en instrumente fan e Instrumente fan en instrumente fan e	ang bang pang kang sang sang sang sang sang sang sang s		2 19 Alfred Alfred Andrew College and Angree Alfred Alfred Alfred Alfred Alfred Alfred Alfred Alfred Alfred Alfred 19 Alfred Alfr	Stop Fre 3.000000000 GH
Start 1.00 #Res BW	100 kHz		N 300 kHz	-	Stop 3.000 GHz 2.0 ms (40001 pts)	CF Ste 200.000000 MH Auto Ma
MKR MODE TR 1 N 1 2 N 1 3 4 5 5 6	f	× 2.440 05 GHz 2.675 10 GHz	4.708 dBm -68.589 dBm	FUNCTION FUNCTION WIDTH	FUNCTION VALUE	Freq Offse
7 8 9 10 11					×	
<mark>sg</mark> 🗼 Point	ts changed; all	traces cleared		K STATU	S	



3 GHz ~ 5 GHz



5 GHz ~ 7 GHz

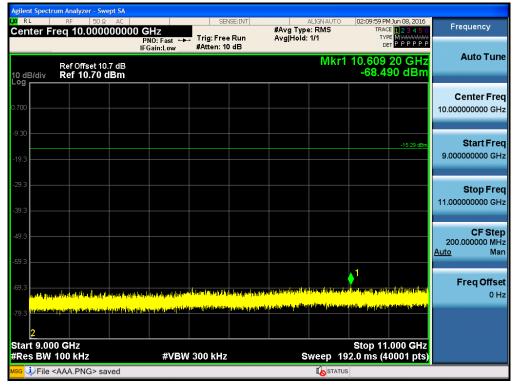




7 GHz ~ 9 GHz

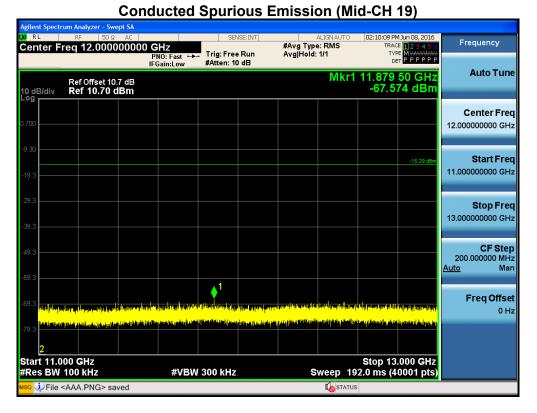
Conducted Spurious Emission (Mid-CH 19) 02:09:49 PM Jun 08, 2016 RL Frequency Center Freq 8.000000000 GHz #Avg Type: RMS Avg|Hold: 1/1 TRACE 1 2 3 4 5 6 TYPE M PNO: Fast +++ IFGain:Low Trig: Free Run #Atten: 10 dB Auto Tune Mkr1 7.413 05 GHz -68.700 dBm Ref Offset 10.7 dB Ref 10.70 dBm 10 dB/div **Center Freq** 8.00000000 GHz Start Freq 7.00000000 GHz Stop Freq 9.00000000 GHz CF Step 200.000000 MHz <u>Auto</u> Man **Freq Offset** 0 Hz أنسال بتراكأه Stop 9.000 GHz Sweep 192.0 ms (40001 pts) Start 7.000 GHz #Res BW 100 kHz #VBW 300 kHz File <AAA.PNG> saved **I**STATUS

9 GHz ~ 11 GHz





11 GHz ~ 13 GHz

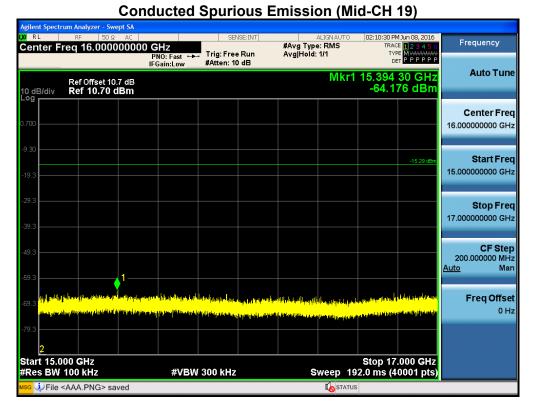


13 GHz ~ 15 GHz

		m Analyzer									
(X) RL			50Ω AC DOOOOOOO		SEN	ISE:INT	#Avg Typ	ALIGNAUTO : RMS		M Jun 08, 2016 E <mark>1 2 3 4 5 6</mark>	Frequency
Cell		59 14 0	0000000	PNO: Fast ↔ IFGain:Low	Trig: Free #Atten: 10		Avg Hold:		TY		
10 dE Log		Ref Offse Ref 10.7						Mkr	1 14.848 -66.1	00 GHz 85 dBm	Auto Tune
0.700											Center Freq 14.00000000 GHz
-9.30 -19.3										-15.29 dBm	Start Freq 13.00000000 GHz
-29.3 -39.3											Stop Freq 15.00000000 GHz
-49.3 -59.3											CF Step 200.000000 MHz <u>Auto</u> Man
-69.3	alaynaaylah	anna an	er and a state of the state of	aller (poleultpoodbloe deptiget of the state		terrandel state and the state	allasi si sadire bel pasi sa pasi sadire bel	andalahahahaha mangalahahaha	n in falsfalste fan sonde Angelegen oar oar geberen	n an	Freq Offset 0 Hz
-79.3 Star	2 t 13.00										
		0 GHZ 00 kHz		#VBV	/ 300 kHz		s	weep_1	5.0p 15	.000 GHz .0001 pts)	
		AAA.PNG	> saved					I STAT	<u> </u>		



15 GHz ~ 17 GHz

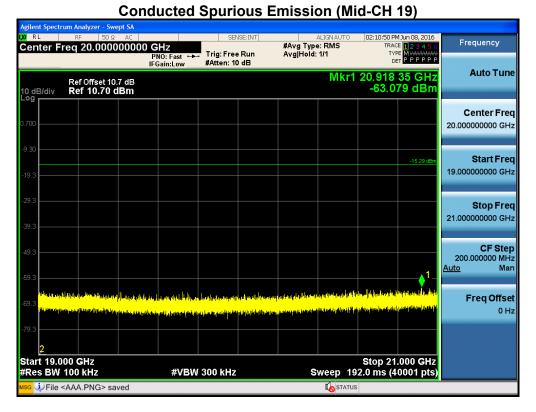


17 GHz ~ 19 GHz

	um Analyzer - Swept SA								
Center Fi	RF 50 Ω AC req 18.0000000	000 GHz			#Avg Type Avg Hold:		TRAC	4 Jun 08, 2016 E 1 2 3 4 5 6 E M 444 4 5 6	Frequency
		PNO: Fast 🔸 IFGain:Low	#Atten: 10		Avginola:	1/1	De	PPPPP	
10 dB/div	Ref Offset 10.7 dE Ref 10.70 dBm					Mkr1	18.348 -62.8	70 GHz 43 dBm	Auto Tune
209									Center Freq
0.700									18.00000000 GHz
-9.30									
								-15.29 dBm	Start Freq
-19.3									17.00000000 GHz
-29.3									Oton From
									Stop Freq 19.00000000 GHz
-39.3									
-49.3									CF Step 200.000000 MHz
					. 1				Auto Man
-59.3					• • • • • • • • •				
E 03.	nder gelanstelskapen det konstandet som Ander det som att som a					a na sa ta ta k	on to Habilitation	1.1.1.1	Freq Offset
		It is a market with a solution of the		and the state	Te i e conduc			and a manual field.	0 Hz
-79.3									
2 Start 17.0							Stop 10	000 CH-	
#Res BW		#VBW	300 kHz		s	weep 19	2.0 ms (4	.000 GHz 0001 pts)	
мsg 🔱 File •	<aaa.png> saved</aaa.png>						5		



19 GHz ~ 21 GHz



21 GHz ~ 23 GHz

Agilent Spectr	r <mark>um Analyzer - Swept SA</mark> RF 50 Ω AC		SENSE:INT	ALIGNAUT	02:11:01 PM Jun 08, 2016	_
Center F	req 22.000000	000 GHz PN0: Fast ↔	. Trig: Free Run	#Avg Type: RMS Avg Hold: 1/1	TRACE 123456 TYPE MANANAN DET P P P P P P	Frequency
	D-608	IFGain:Low	#Atten: 10 dB	Mk	r1 22.955 05 GHz	Auto Tune
10 dB/div Log	Ref Offset 10.7 dB Ref 10.70 dBm				-62.061 dBm	
9						Center Free
0.700						22.00000000 GH
-9.30						
					-15.29 dBm	Start Free 21.00000000 GH
-19.3						21.00000000000
-29.3						Stop Free
-39.3						23.000000000 GH
00.0						
-49.3						CF Stej 200.000000 MH
-59.3						<u>Auto</u> Mar
	and shaded a strate a studied by the	ahaluathan patènang datahan d	in a line to the level of the state of the s	add lete of th <mark>e protocoling larged accorde</mark>	iyik bayan da sa kabu si kata kina di kita da K	Freq Offse
-69.3 <mark>White</mark> rry	analda (ma da sa parlandras da mara) da da ma	ar ny aran' arang panalapan aran	a finaline a stall a la stall para più a stall più de la stall più de la stall più de la stall più de la stall	an fa la superiore esta en la superior de la superiore de la superiore de la superiore de la superiore de la s	<mark>n na na manana na manana kata kata kata kata kata kata kata</mark>	0 H
-79.3						
2						
Start 21.0 #Res BW		#\/B\A	300 kHz	Swoon	Stop 23.000 GHz 192.0 ms (40001 pts)	
	<aaa.png> saved</aaa.png>	#VDV	500 KH2	Sweep		



23 GHz ~ 25 GHz

gilent Spectrum Analyzer - Swept SA RL #Avg Type: RMS Avg|Hold: 1/1 11 PM Jun 08, 2016 Frequency TRACE 1 2 3 4 5 6 TYPE M Center Freq 24.000000000 GHz Trig: Free Run #Atten: 10 dB PNO: Fast + IFGain:Low Auto Tune Mkr1 24.604 60 GHz -58.038 dBm Ref Offset 10.7 dB Ref 10.70 dBm 10 dB/div Log **Center Freq** 24.00000000 GHz Start Freq 23.00000000 GHz Stop Freq 25.00000000 GHz CF Step 200.000000 MHz to Man 1 <u>Auto</u> بالترابة العرر والمراجع والمحاصر والمترافي والمراجع والمراجع والمراجع والمحارفة **Freq Offset** 0 Hz Start 23.000 GHz #Res BW 100 kHz Stop 25.000 GHz Sweep 192.0 ms (40001 pts) #VBW 300 kHz File <AAA.PNG> saved **I**STATUS



9.6 RADIATED MEASUREMENT.9.6.1 RADIATED SPURIOUS EMISSIONS.

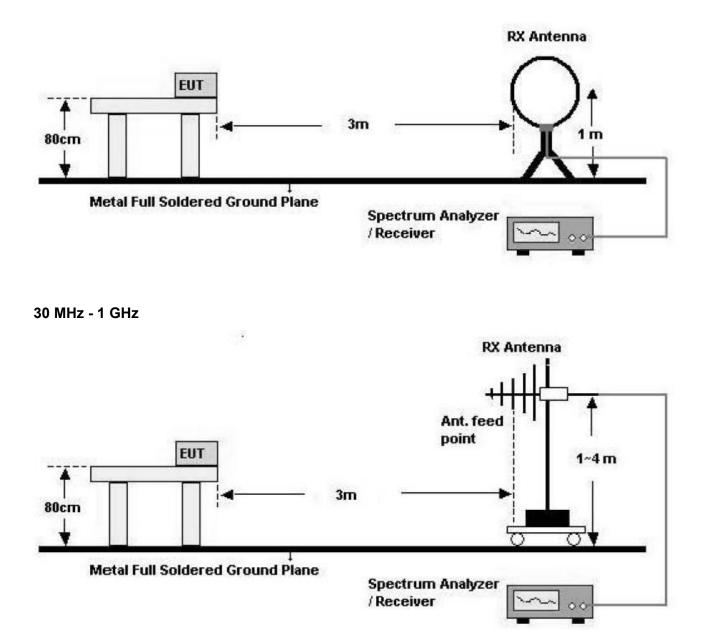
Test Requirements and limit, §15.205, §15.209

Frequency (MHz)	Field Strength (uV/m)	Measurement Distance (m)		
0.009 - 0.490	2400/F(kHz)	300		
0.490 – 1.705	24000/F(kHz)	30		
1.705 – 30	30	30		
30-88	100	3		
88-216	150	3		
216-960	200	3		
Above 960	500	3		



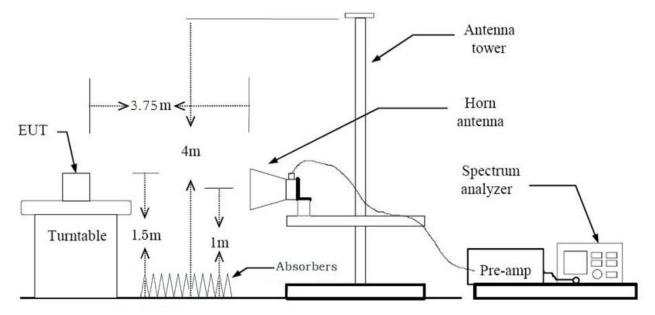
Test Configuration

Below 30 MHz





Above 1 GHz



TEST PROCEDURE USED

Method 12.1 in KDB 558074 v03r05

Spectrum Setting

- Peak

Peak emission levels are measured by setting the instrument as follows:

RBW = cf. Table 1.

VBW \geq 3 x RBW.

Detector = Peak.

Sweep time = auto.

Trace mode = max hold.

Allow sweeps to continue until the trace stabilizes.

(Note that the required measurement time may be longer for low duty cycle applications).

Frequency	RBW
9-150 kHz	200-300 Hz
0.15-30 MHz	9-10 kHz
30-1000 MHz	100-120 kHz
> 1000 MHz	1 MHz

Table 1 — RBW as a function of frequency



Average (duty cycle < 98%, duty cycle variations are less than ±2%)
Set RBW = 1 MHz
Set VBW ≥ 3 x RBW
Detector = RMS.
Averaging type = power (*i.e.*, RMS).
Sweep time = auto.

Trace mode = average (at least 100 traces).

A correction factor shall be added to the measurement results prior to comparing to the emission limit in order to compute the emission level that would have been measured had the test been performed at 100 percent duty cycle.

Note :

1. We are performed the RSE and radiated band edge using standard radiated method(RMS).

2. According to SVSWR requirement in ANSI 63.4-2014, We performed the radiated test at 3.75 m distance from center of turn table. So, we applied the distance factor(reference distance : 3 m).

3. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Data packet length (Min)

LE Mode	T _{on} (ms)	T _{total} (ms)	Duty Cycle	Duty Cycle Factor (dB)
	0.3901	0.6245	0.6247	2.04

Data packet length (Max)

LE Mode	T _{on} (ms)	T _{total} (ms)	Duty Cycle	Duty Cycle Factor (dB)
	2.1350	2.5000	0.8540	0.69



TEST RESULTS

9 kHz – 30MHz

Operation Mode: Normal Mode

Frequency	Reading	Ant. factor	Cable loss	Ant. POL	Total	Limit	Margin		
MHz	dBuV/m	dBm/m	dBm	(H/V)	dBuV/m	dBuV/m	dB		
No Critical peaks found									

- 1. Measuring frequencies from 9 kHz to the 30MHz.
- 2. The reading of emissions are attenuated more than 20 dB below the permissible limits or the field strength is too small to be measured.
- 3. Distance extrapolation factor = 40 log (specific distance / test distance) (dB)
- 4. Limit line = specific Limits (dBuV) + Distance extrapolation factor
- 5. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.



TEST RESULTS

Below 1 GHz

Operation Mode: Normal Mode

Frequency	Reading	Ant. factor	Cable loss	Ant. POL	Total	Limit	Margin		
MHz	dBuV/m	dBm/m	dBm	(H/V)	dBuV/m	dBuV/m	dB		
No Critical peaks found									

- 1. Measuring frequencies from 30 MHz to the 1 GHz.
- 2. Radiated emissions measured in frequency range from 30 MHz to 1000 MHz were made with an instrument using Quasi peak detector mode.
- 3. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.



Model: LG-K600

Above 1 GHz

Frequency	Reading	Duty Cycle Factor	A.F.+C.LA.G.+D.F.	ANT. POL	Total	Limit	Margin	Measurement
[MHz]	[dBuV/m]	[dB]	[dBm]	[H/V]	[dBuV/m]	[dBuV/m]	[dB]	Туре
4804	49.35	0.00	-1.02	V	48.33	73.98	25.65	PK
4804	36.82	2.04	-1.02	V	37.84	53.98	16.14	AV
7206	46.91	0.00	8.82	V	55.73	73.98	18.25	PK
7206	33.65	2.04	8.82	V	44.51	53.98	9.47	AV
4804	49.09	0.00	-1.02	Н	48.07	73.98	25.91	PK
4804	36.76	2.04	-1.02	Н	37.78	53.98	16.20	AV
7206	46.77	0.00	8.82	Н	55.59	73.98	18.39	PK
7206	33.61	2.04	8.82	Н	44.47	53.98	9.51	AV

Operation Mode: CH.0_ Data packet length (Min)

*A.F. : Antenna Factor / C.L. : Cable Loss / A.G. : Amplifier Gain / D.F. : Distance Factor

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
- 3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
- 4. Total = Reading Value + Antenna Factor + Cable Loss Amp Gain + Distance Factor + Duty Cycle Factor
- 5. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)
- 6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.



Model: LG-K600

Frequency	Reading	Duty Cycle Factor	A.F.+C.LA.G.+D.F.	ANT. POL	Total	Limit	Margin	Measurement
[MHz]	[dBuV/m]	[dB]	[dBm]	[H/V]	[dBuV/m]	[dBuV/m]	[dB]	Туре
4804	49.45	0.00	-1.02	V	48.43	73.98	25.55	PK
4804	36.88	0.69	-1.02	V	36.545	53.98	17.44	AV
7206	46.82	0.00	8.82	V	55.64	73.98	18.34	PK
7206	33.73	0.69	8.82	V	43.235	53.98	10.75	AV
4804	49.21	0.00	-1.02	Н	48.19	73.98	25.79	PK
4804	36.72	0.69	-1.02	Н	36.385	53.98	17.60	AV
7206	46.69	0.00	8.82	Н	55.51	73.98	18.47	PK
7206	33.64	0.69	8.82	Н	43.145	53.98	10.84	AV

Operation Mode: CH.0 Data packet length (Max)

*A.F. : Antenna Factor / C.L. : Cable Loss / A.G. : Amplifier Gain / D.F. : Distance Factor

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
- 3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
- 4. Total = Reading Value + Antenna Factor + Cable Loss Amp Gain + Distance Factor + Duty Cycle Factor
- 5. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)
- 6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.



Model: LG-K600

Frequency	Reading	Duty Cycle Factor	A.F.+C.LA.G.+D.F.	ANT. POL	Total	Limit	Margin	Measurement
[MHz]	[dBuV/m]	[dB]	[dBm]	[H/V]	[dBuV/m]	[dBuV/m]	[dB]	Туре
4882	49.42	0.00	-0.66	V	48.76	73.98	25.22	PK
4882	37.40	2.04	-0.66	V	38.78	53.98	15.20	AV
7323	46.18	0.00	8.05	V	54.23	73.98	19.75	PK
7323	34.00	2.04	8.05	V	44.09	53.98	9.89	AV
4882	48.75	0.00	-0.66	Н	48.09	73.98	25.89	PK
4882	37.44	2.04	-0.66	Н	38.82	53.98	15.16	AV
7323	45.82	0.00	8.05	Н	53.87	73.98	20.11	PK
7323	33.89	2.04	8.05	Н	43.98	53.98	10.00	AV

Operation Mode: CH.19 Data packet length (Min)

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
- 3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
- 4. Total = Reading Value + Antenna Factor + Cable Loss Amp Gain + Distance Factor
 + Duty Cycle Factor
- 5. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)
- 6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.



Model: LG-K600

Frequency	Reading	Duty Cycle Factor	A.F.+C.LA.G.+D.F.	ANT. POL	Total	Limit	Margin	Measurement
[MHz]	[dBuV/m]	[dB]	[dBm]	[H/V]	[dBuV/m]	[dBuV/m]	[dB]	Туре
4882	49.10	0.00	-0.66	V	48.44	73.98	25.54	PK
4882	37.42	0.69	-0.66	V	37.445	53.98	16.54	AV
7323	46.23	0.00	8.05	V	54.28	73.98	19.70	PK
7323	33.90	0.69	8.05	V	42.635	53.98	11.35	AV
4882	48.86	0.00	-0.66	Н	48.2	73.98	25.78	PK
4882	37.35	0.69	-0.66	Н	37.375	53.98	16.61	AV
7323	46.11	0.00	8.05	Н	54.16	73.98	19.82	PK
7323	33.92	0.69	8.05	Н	42.655	53.98	11.33	AV

Operation Mode: CH.19_ Data packet length (Max)

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
- 3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
- 4. Total = Reading Value + Antenna Factor + Cable Loss Amp Gain + Distance Factor
 + Duty Cycle Factor
- 5. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)
- 6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.



Model: LG-K600

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Frequency	Reading	Duty Cycle Factor	A.F.+C.LA.G.+D.F.	ANT. POL	Total	Limit	Margin	Measurement
[MHz]	[dBuV/m]	[dB]	[dBm]	[H/V]	[dBuV/m]	[dBuV/m]	[dB]	Туре
4960	50.06	0.00	-0.59	V	49.47	73.98	24.51	PK
4960	37.64	2.04	-0.59	V	39.09	53.98	14.89	AV
7440	46.11	0.00	7.67	V	53.78	73.98	20.20	PK
7440	33.82	2.04	7.67	V	43.53	53.98	10.45	AV
4960	49.48	0.00	-0.59	Н	48.89	73.98	25.09	PK
4960	37.65	2.04	-0.59	Н	39.1	53.98	14.88	AV
7440	45.56	0.00	7.67	Н	53.23	73.98	20.75	PK
7440	33.79	2.04	7.67	Н	43.5	53.98	10.48	AV

Operation Mode: CH.39 Data packet length (Min)

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
- 3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
- 4. Total = Reading Value + Antenna Factor + Cable Loss Amp Gain + Distance Factor
 + Duty Cycle Factor
- 5. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)
- 6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.



Model: LG-K600

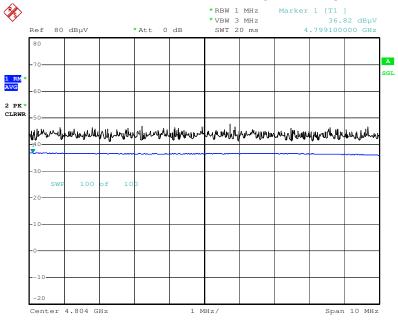
Frequency	Reading	Duty Cycle Factor	A.F.+C.LA.G.+D.F.	ANT. POL	Total	Limit	Margin	Measurement
[MHz]	[dBuV/m]	[dB]	[dBm]	[H/V]	[dBuV/m]	[dBuV/m]	[dB]	Туре
4960	49.80	0.00	-0.59	V	49.21	73.98	24.77	PK
4960	37.62	0.69	-0.59	V	37.72	53.98	16.27	AV
7440	46.14	0.00	7.67	V	53.81	73.98	20.17	PK
7440	33.85	0.69	7.67	V	42.205	53.98	11.78	AV
4960	49.23	0.00	-0.59	Н	48.64	73.98	25.34	PK
4960	37.57	0.69	-0.59	Н	37.665	53.98	16.32	AV
7440	45.79	0.00	7.67	Н	53.46	73.98	20.52	PK
7440	33.78	0.69	7.67	Н	42.135	53.98	11.85	AV

Operation Mode: CH.39_ Data packet length (Max)

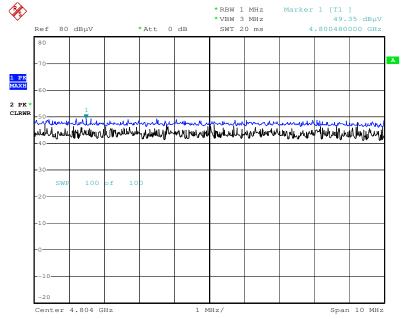
- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
- 3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
- 4. Total = Reading Value + Antenna Factor + Cable Loss Amp Gain + Distance Factor
 + Duty Cycle Factor
- 5. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)
- 6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.



RESULT PLOTS_Data packet length (Min) (Worst case : z-V) Radiated Spurious Emissions plot – Average Reading (Ch.0 2nd Harmonic)



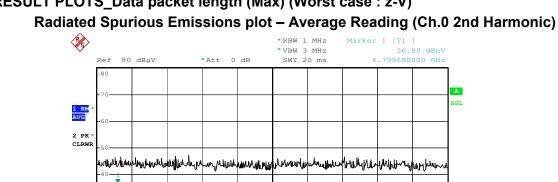
Date: 31.MAY.2016 11:42:11



Radiated Spurious Emissions plot – Peak Reading (Ch.0 2nd Harmonic)

Date: 31.MAY.2016 12:12:09



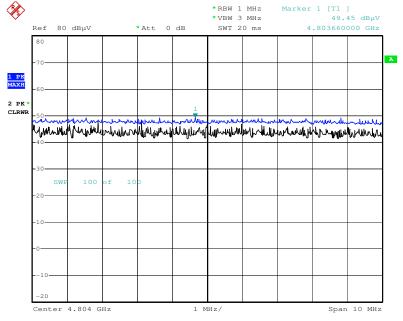


RESULT PLOTS_Data packet length (Max) (Worst case : z-V)

Center 4.804 GHz

SWI

f



Radiated Spurious Emissions plot – Peak Reading (Ch.0 2nd Harmonic)

1 MHz/

Span 10 MHz

Date: 31.MAY.2016 12:10:56

Note : Only the worst case plots for Radiated Spurious Emissions.

Date: 31.MAY.2016 12:11:29



9.6.2 RADIATED RESTRICTED BAND EDGES

Test Requirements and limit, §15.247(d) §15.205, §15.209

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in section 15.209(a) (See section 15.205(c)).

Operation Mode Operating Frequency Channel No. BT_LE Data packet length (Min)

2402 MHz

0

Frequency [MHz]	Reading [dBuV/m]	Duty Cycle Factor [dB]	A.F.+C.L.+D.F. [dB]	Ant. Pol. [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
2390.0	15.242	0.00	33.25	Н	48.49	73.98	25.49	PK
2390.0	4.138	2.04	33.25	Н	39.43	53.98	14.55	AV
2390.0	15.366	0.00	33.25	V	48.62	73.98	25.36	PK
2390.0	4.235	2.04	33.25	V	39.53	53.98	14.46	AV

Operation Mode Operating Frequency Channel No.

BT_LE Data packet length (Max)

2402 MHz
)

Frequency	Reading	Duty Cycle Factor	A.F.+C.L.+D.F.	Ant. Pol.	Total	Limit	Margin	Measurement
[MHz]	[dBuV/m]	[dB]	[dB]	[H/V]	[dBuV/m]	[dBuV/m]	[dB]	Туре
2390.0	15.239	0.00	33.25	Н	48.49	73.98	25.49	PK
2390.0	4.154	0.69	33.25	Н	38.09	53.98	15.89	AV
2390.0	15.381	0.00	33.25	V	48.63	73.98	25.35	PK
2390.0	4.336	0.69	33.25	V	38.27	53.98	15.71	AV



- 1. Frequency range of measurement = 2310 MHz ~ 2390 MHz
- 2. Total = Reading Value + Antenna Factor + Cable Loss + Duty Cycle Factor + Distance Factor
- 3. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)
- 4. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
- 5. The radiated restricted band edge measurements are measured with a spectrum analyzer connected to the receive antenna while the EUT is transmitting.

Operation Mode Operating Frequency Channel No.

BT_LE Data packet length (Min)

2480 MHz

39

	Frequency [MHz]	Reading [dBuV/m]	Duty Cycle Factor [dB]	A.F.+C.L.+D.F. [dB]	Ant. Pol. [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
	2483.5	15.397	0.00	33.31	Н	48.71	73.98	25.27	PK
ſ	2483.5	4.475	2.04	33.31	Н	39.83	53.98	14.16	AV
	2483.5	15.768	0.00	33.31	V	49.08	73.98	24.90	PK
	2483.5	4.518	2.04	33.31	V	39.87	53.98	14.11	AV

Operation Mode Operating Frequency Channel No.

BT_LE Data packet length (Max)

2480 MHz		
39		

Frequency	Reading	Duty Cycle Factor	A.F.+C.L.+D.F.	Ant. Pol.	Total	Limit	Margin	Measurement
[MHz]	[dBuV/m]	[dB]	[dB]	[H/V]	[dBuV/m]	[dBuV/m]	[dB]	Туре
2483.5	15.361	0.00	33.31	Н	48.67	73.98	25.31	PK
2483.5	4.438	0.69	33.31	Н	38.43	53.98	15.55	AV
2483.5	15.570	0.00	33.31	V	48.88	73.98	25.10	PK
2483.5	4.486	0.69	33.31	V	38.48	53.98	15.50	AV

Notes:

1. Frequency range of measurement = 2483.5 MHz ~ 2500 MHz

2. Total = Reading Value + Antenna Factor + Cable Loss + Duty Cycle Factor + Distance Factor

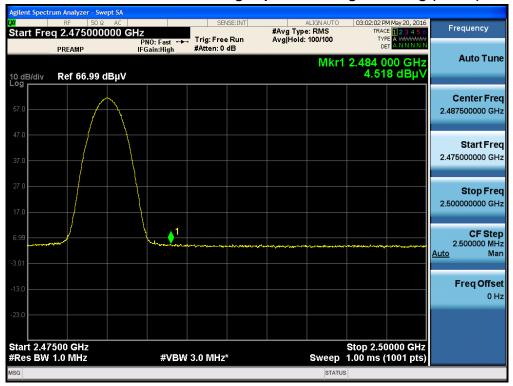
- 3. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)
- 4. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

5. The radiated restricted band edge measurements are measured with a spectrum analyzer

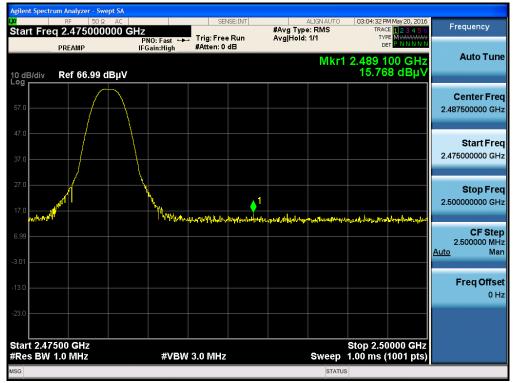
connected to the receive antenna while the EUT is transmitting.



RESULT PLOTS_Data packet length (Min) (Worst case : z-V) Radiated Restricted Band Edges plot – Average Reading (Ch.39)

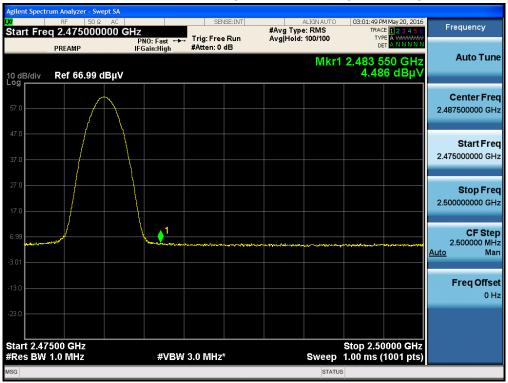


Radiated Restricted Band Edges plot - Peak Reading (Ch.39)

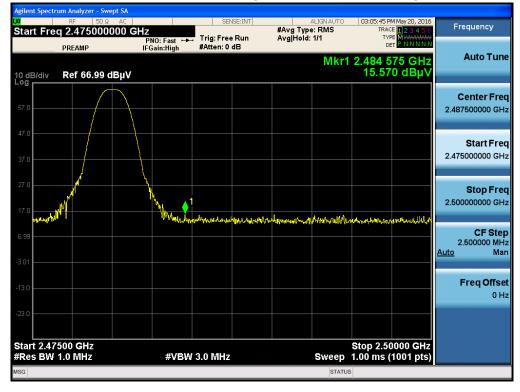




RESULT PLOTS_Data packet length (Max) (Worst case : z-V) Radiated Restricted Band Edges plot – Average Reading (Ch.39)



Radiated Restricted Band Edges plot - Peak Reading (Ch.39)



Note : Only the worst case plots for Radiated Restricted Band Edges.



9.7 POWERLINE CONDUCTED EMISSIONS

Test Requirements and limit, §15.207

For an intentional radiator which is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed 250 microvolts (The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz). The limits at specific frequency range is listed as follows:

	Limits (dBµV)				
Frequency Range (MHz)	Quasi-peak	Average			
0.15 to 0.50	66 to 56	56 to 46			
0.50 to 5	56	46			
5 to 30	60	50			

Compliance with this provision shall be based on the measurement of the radio frequency voltage between each power line (LINE and NEUTRAL) and ground at the power terminals.

Test Configuration

See test photographs attached in Appendix 1 for the actual connections between EUT and support equipment.

TEST PROCEDURE

- 1. The EUT is placed on a wooden table 80 cm above the reference ground plane.
- 2. The EUT is connected via LISN to a test power supply.
- 3. The measurement results are obtained as described below:
- 4. Detectors Quasi Peak and Average Detector.

Sample Calculation

Quasi-peak(Final Result) = Reading Value + Correction Factor



RESULT PLOTSConducted Emissions (Line 1)

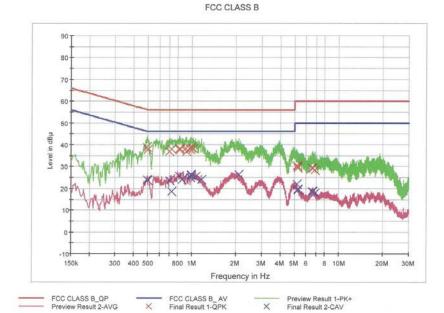
BT LE MODE L1

1/2

HCT TEST Report

Common Information

EUT: Manufacturer: Test Site: Operating Conditions: LG-K600 LG SHIELD ROOM BT LE MODE



Final Result 1

Frequency (MHz)	QuasiPeak (dBuV)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.496000	39.0	9.000	Off	L1	9.7	17.1	56.1
0.502000	37.6	9.000	Off	L1	9.7	18.4	56.0
0.700000	36.9	9.000	Off	L1	9.7	19.1	56.0
0.730000	37.8	9.000	Off	L1	9.7	18.2	56.0
0.824000	37.6	9.000	Off	L1	9.7	18.4	56.0
0.828000	38.4	9.000	Off	L1	9.7	17.6	56.0
0.912000	38.3	9.000	Off	L1	9.7	17.7	56.0
0.916000	37.0	9.000	Off	L1	9.7	19.0	56.0
0.974000	37.9	9.000	Off	L1	9.7	18.1	56.0
0.984000	38.7	9.000	Off	L1	9.7	17.3	56.0
0.988000	38.7	9.000	Off	L1	9.7	17.3	56.0
1.018000	38.2	9.000	Off	L1	9.7	17.8	56.0
5.198000	30.6	9.000	Off	L1	9.9	29.4	60.0
5.240000	30.2	9.000	Off	L1	9.9	29.8	60.0
5.252000	29.5	9.000	Off	L1	9.9	30.5	60.0
6.570000	29.6	9.000	Off	L1	9.9	30.4	60.0
6.640000	29.2	9.000	Off	L1	9.9	30.8	60.0
6.856000	28.3	9.000	Off	L1	9.9	31.7	60.0

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BT LE MODE L1

Frequency (MHz)	CAverage (dBuV)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBuV
0.496000	24.0	9.000	Off	L1	9.7	22.1	46.1
0.502000	23.8	9.000	Off	L1	9.7	22.2	46.0
0.700000	23.8	9.000	Off	L1	9.7	22.2	46.0
0.730000	18.7	9.000	Off	L1	9.7	27.3	46.0
0.822000	25.8	9.000	Off	L1	9.7	20.2	46.0
0.858000	24.1	9.000	Off	L1	9.7	21.9	46.0
0.974000	24.9	9.000	Off	L1	9.7	21.1	46.0
0.982000	26.0	9.000	Off	L1	9.7	20.0	46.0
0.986000	26.3	9.000	Off	L1	9.7	19.7	46.0
1.060000	25.5	9.000	Off	L1	9.7	20.5	46.0
1.160000	24.1	9.000	Off	L1	9.7	21.9	46.0
2.076000	26.3	9.000	Off	L1	9.8	19.7	46.0
5.198000	21.9	9.000	Off	L1	9.9	28.1	50.0
5.240000	19.7	9.000	Off	L1	9.9	30.3	50.0
5.252000	19.2	9.000	Off	L1	9.9	30.8	50.0
6.570000	18.6	9.000	Off	L1	9.9	31.4	50.0
6.640000	18.6	9.000	Off	L1	9.9	31.4	50.0
6.856000	18.0	9.000	Off	L1	9.9	32.0	50.0

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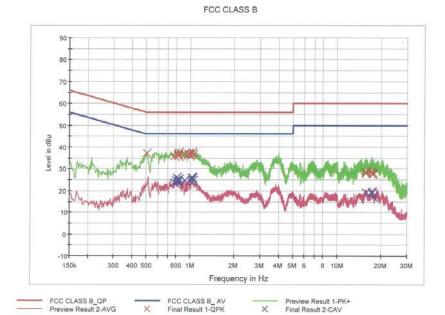
Conducted Emissions (Line 2)

BT LE MODE N

HCT TEST Report



Manufacturer: Test Site: Operating Conditions: LG-K600 LG SHIELD ROOM BT LE MODE



Final Result 1

Frequency (MHz)	QuasiPeak (dBuV)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.508000	37.3	9.000	Off	N	9.6	18.7	56.0
0.784000	36.1	9.000	Off	N	9.7	19.9	56.0
0.824000	35.9	9.000	Off	N	9.7	20.1	56.0
0.828000	36.6	9.000	Off	N	9.7	19.4	56.0
0.832000	37.0	9.000	Off	N	9.7	19.0	56.0
0.840000	37.5	9.000	Off	N	9.7	18.5	56.0
0.924000	37.1	9.000	Off	N	9.7	18.9	56.0
0.974000	36.6	9.000	Off	N	9.7	19.4	56.0
0.978000	36.9	9.000	Off	N	9.7	19.1	56.0
1.012000	36.6	9.000	Off	N	9.7	19.4	56.0
1.036000	37.6	9.000	Off	N	9.7	18.4	56.0
1.046000	36.5	9.000	Off	N	9.7	19.5	56.0
15.678000	28.7	9.000	Off	N	10.2	31.3	60.0
15.704000	28.6	9.000	Off	N	10.2	31.4	60.0
15.750000	28.1	9.000	Off	N	10.2	31.9	60.0
17.340000	28.7	9.000	Off	N	10.2	31.3	60.0
17.344000	27.9	9.000	Off	N	10.2	32.1	60.0
17.644000	27.8	9.000	Off	N	10.2	32.2	60.0

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BT LE MODE N

Frequency (MHz)	CAverage (dBuV)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.784000	23.6	9.000	Off	N	9.7	22.4	46.0
0.796000	24.6	9.000	Off	N	9.7	21.4	46.0
0.812000	26.1	9.000	Off	N	9.7	19.9	46.0
0.828000	24.0	9.000	Off	N	9.7	22.0	46.0
0.832000	24.6	9.000	Off	N	9.7	21.4	46.0
0.840000	25.5	9.000	Off	N	9.7	20.5	46.0
0.924000	24.8	9.000	Off	N	9.7	21.2	46.0
1.010000	24.6	9.000	Off	N	9.7	21.4	46.0
1.016000	26.0	9.000	Off	N	9.7	20.0	46.0
1.032000	26.0	9.000	Off	N	9.7	20.0	46.0
1.036000	25.8	9.000	Off	N	9.7	20.2	46.0
1.048000	24.8	9.000	Off	N	9.7	21.2	46.0
15.704000	19.4	9.000	Off	N	10.2	30.6	50.0
15.708000	19.3	9.000	Off	N	10.2	30.7	50.0
17.340000	19.7	9.000	Off	N	10.2	30.3	50.0
17.344000	19.0	9.000	Off	N	10.2	31.0	50.0
17.376000	18.8	9.000	Off	N	10.2	31.2	50.0
17.738000	17.2	9.000	Off	N	10.2	32.8	50.0

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10. LIST OF TEST EQUIPMENT 10.1 LIST OF TEST EQUIPMENT(Conducted Test)

Manufacturer	Model / Equipment	Calibration Date	Calibration Interval	Serial No.
Rohde & Schwarz	ENV216 / LISN	12/28/2015	Annual	100073
Rohde & Schwarz	ESCI / Test Receiver	12/28/2015	Annual	100584
Agilent	N9020A / Signal Analyzer	06/30/2015	Annual	MY51110085
Agilent	N9030A / Signal Analyzer	11/24/2015	Annual	MY49431210
Agilent	N1911A / Power Meter	07/09/2015	Annual	MY45100523
Agilent	N1921A / Power Sensor	03/11/2016	Annual	MY52260025
Agilent	87300B / Directional Coupler	11/30/2015	Annual	3116A03621
Hewlett Packard	11667B / Power Splitter	06/14/2016	Annual	05001
Hewlett Packard	E3632A / DC Power Supply	03/09/2016	Annual	KR75303962
Agilent	8493C / Attenuator(10 dB)	07/21/2015	Annual	07560
Rohde & Schwarz	CBT / Bluetooth Tester	05/16/2016	Annual	100422



10.2 LIST OF TEST EQUIPMENT(Radiated Test)

Manufacturer	Model / Equipment	Calibration Date	Calibration Interval	Serial No.
Audix	AM4000 / Antenna Position Tower	N/A	N/A	N/A
Audix	Turn Table	N/A	N/A	N/A
Audix	EM1000 / Controller	N/A	N/A	060520
Rohde & Schwarz	Loop Antenna	02/23/2016	Biennial	1513-175
Schwarzbeck	VULB 9168 / Hybrid Antenna	04/15/2015	Biennial	255
Schwarzbeck	BBHA 9120D / Horn Antenna	05/07/2015	Biennial	937
Schwarzbeck	BBHA9170 / Horn Antenna(15 GHz ~ 40 GHz)	09/03/2015	Biennial	BBHA9170541
Rohde & Schwarz	FSP / Spectrum Analyzer	09/24/2015	Annual	100688
Rohde & Schwarz	FSV40-N / Spectrum Analyzer	09/23/2015	Annual	101068-SZ
Wainwright Instruments	WHK3.0/18G-10EF / High Pass Filter	06/29/2015	Annual	8
Wainwright Instruments	WHFX7.0/18G-8SS / High Pass Filter	05/13/2016	Annual	29
Wainwright Instruments	WRCJV2400/2483.5-2370/2520-60/12SS / Band Reject Filter	07/06/2015	Annual	2
Wainwright Instruments	WRCJV5100/5850-40/50-8EEK / Band Reject Filter	01/26/2016	Annual	2
Agilent	8493C-10 / Attenuator(10 dB)	08/20/2015	Annual	76649
CERNEX	CBLU1183540 / Power Amplifier	07/21/2015	Annual	22964
CERNEX	CBL06185030 / Power Amplifier	07/21/2015	Annual	22965
CERNEX	CBL18265035 / Power Amplifier	07/27/2015	Annual	22966
CERNEX	CBL26405040 / Power Amplifier	07/09/2015	Annual	25956
TESCOM	TC-3000C / Bluetooth Tester	04/01/2016	Annual	3000C000276