# FCC RADIO TEST REPORT

FCC ID : QISLYA-LX9 Equipment : Smartphone

Brand Name : HUAWEI

Model Name : LYA-L29, LYA-L09

Applicant : Huawei Technologies Co., Ltd.

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

Report No.: FG880204A

P.R.C

Manufacturer : Huawei Technologies Co., Ltd.

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

P.R.C

Standard : 47 CFR Part 2, 22(H)

The product was received on Aug. 02, 2018 and testing was started from Aug. 15, 2018 and completed on Aug. 18, 2018. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the test procedures given in ANSI / TIA-603-E and has been in compliance with the applicable technical standards.

The report must not be used by the client to claim product certification, approval, or endorsement by TAF or any agency of government.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERTIONAL INC. EMC & Wireless Communications Laboratory, the test report shall not be reproduced except in full.

Approved by: Eric Shih / Manager

Fire Shih

Sporton International (Shenzhen) Inc.

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Report Template No.: BU5-FGLTE Version 2.1

Report Version : 01

NVLAP LAB CODE 600156-0

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Appendix B. Test Results of ERP and Radiated Test

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# History of this test report

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Report No.	Version	Description	Issued Date
FG880204A	01	Initial issue of report	Sep. 11, 2018

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# **Summary of Test Result**

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Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
	§2.1046	Conducted Output Power	Reporting only	
3.2	§22.913 (a)(2)	Effective Radiated Power (Band 26)	Pass	-
3.3	-	Peak-to-Average Ratio	Reporting only	-
3.4	§2.1049	Occupied Bandwidth	Reporting only	-
3.5	§2.1051 §22.917 (a)	Conducted Band Edge Measurement (Band 26)	Pass	-
3.6	§2.1051 §22.917 (a)	Conducted Spurious Emission (Band 26)	Pass	-
3.7	§2.1055 §22.355	Frequency Stability Temperature & Voltage	Pass	-
4.2	§2.1053 §22.917 (a)	Radiated Spurious Emission (Band 26)	Pass	Under limit 52.48 dB at 3299.000 MHz

Reviewed by: Wii Chang Report Producer: Polly Tsai

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# 1 General Description

# 1.1 Product Feature of Equipment Under Test

	Product Feature
Equipment	Smartphone
Brand Name	HUAWEI
Model Name	LYA-L29, LYA-L09
FCC ID	QISLYA-LX9
EUT supports Radios application	GSM/WCDMA/HSPA/LTE/NFC/GNSS/WPC WLAN 11a/b/g/n HT20/HT40 WLAN 11ac VHT20/VHT40/VHT80/VHT160 Bluetooth BR/EDR/LE
HW Version	HL2LAYAM
SW Version	9.0.0.82(C432E82R1P7)
EUT Stage	Production Unit

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		Accessories Information					
	Brand Name	Huawei Technologies Co., Ltd.	Model Name	HW-100400A00			
	Manufacturer	Huawei Technologies Co., Ltd.	Woder Name	1100-100-000			
AC Adapter 1	Wallulacture	I/P: 100 - 240 Vac~50/60Hz, 1.2	۸٠				
	Power Rating	O/P: 5V === 2A or 9V === 2A or 1	•				
	Brand Name	Huawei Technologies Co., Ltd.	Model Name	HW-100400U00			
	Manufacturer	Huawei Technologies Co., Ltd.	model Name	1111 100-100000			
AC Adapter 2		I/P: 100 - 240 Vac~50/60Hz, 1.2	Δ.				
	Power Rating	O/P: 5V === 2A or 9V === 2A or 1	•				
	Brand Name	Huawei Technologies Co., Ltd.	Model Name	HW-100400E00			
	Manufacturer	Huawei Technologies Co., Ltd.	in out it unit	1111 100 100 200			
AC Adapter 3		I/P: 100 - 240 Vac~50/60Hz, 1.2	Α.				
	Power Rating	O/P: 5V === 2A or 9V === 2A or 1	•				
	Brand Name	Huawei Technologies Co., Ltd.	Model Name	HW-100400B00			
<b> </b>	Manufacturer	Huawei Technologies Co., Ltd.		1			
AC Adapter 4		I/P: 100 - 240 Vac~50/60Hz, 1.2 A;					
	Power Rating	O/P: 5V === 2A or 9V === 2A or 10V === 4A					
	Brand Name	Huawei Technologies Co., Ltd.	Model Name	HB486486ECW			
Battery 1		Nominal Voltage: ===+3.82Vdc					
Battery I	Power Rating	Charging Voltage: ===+4.4V	Туре	Li-ion Polymer			
		Rated Capacity: 4100mAh					
	Brand Name	Huawei Technologies Co., Ltd.	Model Name	HB486486ECW			
Battery 2		Nominal Voltage: ===+3.82Vdc					
	Power Rating	Charging Voltage: ===+4.4V	Туре	Li-ion Polymer			
		Rated Capacity: 4100mAh					
	Brand Name	Huawei Technologies Co., Ltd.	Model Name	HB486486ECW			
Battery 3	B	Nominal Voltage: ===+3.82Vdc	<b>T</b>	lui e B			
	Power Rating	Charging Voltage: ===+4.4V	Туре	Li-ion Polymer			
	Drand Name	Rated Capacity: 4100mAh	 	<u>+</u>			
Earphone 1	Brand Name Model Name	Jiangxi Lianchuang Hongsheng MEND1632B729003	Number	22040325			
			Maninger	22040325			
Earphone 2	Brand Name Model Name	GoerTek Inc.	Number	22040225			
		Windy-S	Number	22040325			
Earphone 3	Brand Name	Boluo County Quancheng Electr		22040225			
	Model Name	1331-3301-6001-TC-088	Number	22040325			
Earphone 4	Brand Name	Boluo County Quancheng Electr		I NI/A			
	Model Name	630276	Number	N/A			

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**Note:** Regarding to more detail and other information, please refer to user manual.

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# 1.2 Product Specification of Equipment Under Test

Standards-related Product Specification							
Tx Frequency	LTE Band 26 : 824.7MHz ~ 848.3 MHz						
Rx Frequency	LTE Band 26 : 869.7MHz ~ 893.3MHz						
Bandwidth	LTE Band 26: 1.4MHz/3MHz/5MHz/10MHz/15MHz						
Maximum Output Power to Antenna	<up antenna=""> LTE Band 26 : 23.46 dBm &lt; Down Antenna &gt; LTE Band 26 : 24.17 dBm</up>						
Antenna Gain	LTE Band 26 : -5.35 dBi for Up Antenna LTE Band 26 : -4.05 dBi for Down Antenna						
Antennta Type	IFA Antenna						
Type of Modulation	QPSK / 16QAM / 64QAM						

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## 1.3 Modification of EUT

No modifications are made to the EUT during all test items.

# 1.4 Maximum ERP Power, Frequency Tolerance, and Emission Designator

#### <For Up Antenna>

Ľ	ΓE Band 26		QPSK			16QAM		64QAM			
BW (MHz)	Frequency Range (MHz)	nge Designator Tolerance Maximum ERP(W)		Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum ERP(W)		
1.4	824.7 ~ 848.3	1M09G7D	-	0.0392	1M11W7D	-	0.0317	1M10W7D	-	0.0316	
3	825.5 ~ 847.5	2M75G7D	-	0.0389	2M74W7D	-	0.0333	2M73W7D	-	0.0318	
5	826.5 ~ 846.5	4M52G7D	-	0.0390	4M50W7D	-	0.0352	4M53W7D	-	0.0310	
10	829.0 ~ 844.0	9M03G7D	0.0096	0.0392	9M07W7D	-	0.0346	9M09W7D	-	0.0264	
15	831.5 ~ 841.5	13M4G7D	-	0.0394	13M6W7D	-	0.0336	13M5W7D	-	0.0257	

#### <For Down Antenna>

Ľ	TE Band 26		QPSK			16QAM		64QAM			
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum ERP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum ERP(W)	
1.4	824.7 ~ 848.3	1M09G7D	-	0.0618	1M11W7D	-	0.0521	1M10W7D	-	0.0447	
3	825.5 ~ 847.5	2M75G7D	-	0.0622	2M74W7D	-	0.0525	2M73W7D	-	0.0366	
5	826.5 ~ 846.5	4M52G7D	-	0.0615	4M50W7D	-	0.0516	4M53W7D	-	0.0404	
10	829.0 ~ 844.0	9M03G7D	0.0096	0.0621	9M07W7D	-	0.0520	9M09W7D	-	0.0434	
15	831.5 ~ 841.5	13M4G7D	-	0.0627	13M6W7D	-	0.0520	13M5W7D	-	0.0468	

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# 1.5 Testing Location

Sporton Lab is accredited to ISO 17025 by National Voluntary Laboratory Accreditation Program (NVLAP code: 600155-0).

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Test Site	Sporton Internationa	Sporton International (Kunshan) Inc.							
	No. 1098, Pengxi North Road, Kunshan Economic Development Zone,								
Test Site Location	Jiangsu Province 215335, China								
lest Site Location	TEL: 86-512-57900158								
	FAX: 86-512-57900	FAX: 86-512-57900958							
Test Site No.	Sporton Site No.	FCC designation No.	FCC Test Firm Registration No.						
lest Site No.	TH01-KS	630927							

**Note:** The test site complies with ANSI C63.4 2014 requirement.

Sporton International (Shenzhen) Inc. is accredited to ISO 17025 by National Voluntary Laboratory Accreditation Program (NVLAP code: 600156-0) and the FCC designation No are CN5018 and CN5019.

Test Site	Sporton International (Shenzhen) Inc.							
Test Site Location	No. 3 Bldg the third floor of south, Shahe River west, Fengzeyuan Warehouse, Nanshan District Shenzhen City Guangdong Province 518055 China FEL: +86-755-3320-2398							
Took Site No	Sporton Site No.	FCC Test Firm Registration No.						
Test Site No. 03CH01-SZ 577730								

Note: The test site complies with ANSI C63.4 2014 requirement.

# 1.6 Applicable Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- ANSI C63.26-2015
- ANSI / TIA-603-E
- 47 CFR Part 2, 22(H)
- FCC KDB 971168 D01 Power Meas. License Digital Systems v03r01
- FCC KDB 412172 D01 Determining ERP and EIRP v01r01

**Remark:** All test items were verified and recorded according to the standards and without any deviation during the test.

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# 2 Test Configuration of Equipment Under Test

## 2.1 Test Mode

Antenna port conducted and radiated test items listed below are performed according to KDB 971168 D01 Power Meas. License Digital Systems v03r01 with maximum output power.

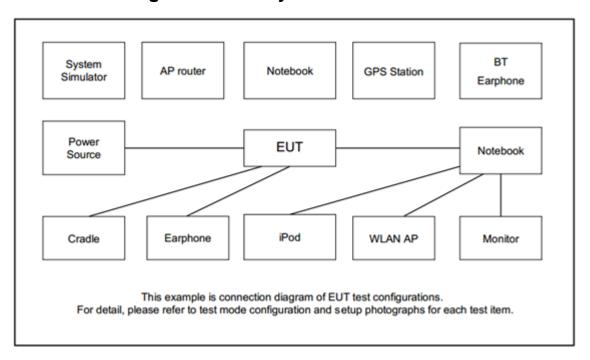
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For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases (X plane) were recorded in this report.

			В	andwic	Ith (MF	lz)		N	lodulatio	n		RB#		Tes	t Char	nel
Test Items	Band	1.4	3	5	10	15	20	QPSK	16QAM	64QAM	1	Half	Full	L	М	Н
Max. Output Power	26	v	v	v	v	v	-	v	v	v	v	v	v	v	v	v
Peak-to-Av erage Ratio	26					٧	-	v	v	v	٧		<b>v</b>	٧	V	V
26dB and 99% Bandwidth	26	v	>	v	v	>	-	v	v	v			>	>	>	>
Conducted Band Edge	26	v	v	v	v	٧	-	v	v	٧	٧		<b>&gt;</b>	v		v
Conducted Spurious Emission	26	v	٧	v	v	٧	-	v	v	v	٧			٧	٧	٧
Frequency Stability	26				v		-	v					>		>	
E.R.P	26	v	٧	v	v	>	•	v	v	v	>	v		>	>	>
Radiated Spurious Emission	urious 26 Worst Case							٧	>	٧						
1. The mark "v" means that this configuration is chosen for testing 2. The mark "-" means that this bandwidth is not supported. 3. The device is investigated from 30MHz to 10 times of fundamental signal for radia different RB size/offset and modulations in exploratory test. Subsequently, only the reported. 4. All the radiated test cases were performed with Earphone 1 and USB Cable 1.									nder							

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## 2.2 Connection Diagram of Test System



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## 2.3 Support Unit used in test configuration and system

ltem	Equipment	Trade Name	Model No.	FCC ID Data Cable		Power Cord	
1.	System Simulator	Anritsu	MT8820C	N/A	N/A	Unshielded, 1.8 m	

# 2.4 Measurement Results Explanation Example

#### For all conducted test items:

The offset level is set in the spectrum analyzer to compensate the RF cable loss and attenuator factor between EUT conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level is exactly the EUT RF output level.

The spectrum analyzer offset is derived from RF cable loss and attenuator factor.

Offset = RF cable loss + attenuator factor.

Following shows an offset computation example with cable loss 4.2 dB and 10dB attenuator.

#### Example:

 $Offset(dB) = RF \ cable \ loss(dB) + attenuator \ factor(dB).$ 

= 4.2 + 10 = 14.2 (dB)

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# 2.5 Frequency List of Low/Middle/High Channels

	LTE Band 26 Channel and Frequency List									
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest						
15	Channel	26865	26915	26965						
15	Frequency	831.5	836.5	841.5						
40	Channel	26840	26915	26990						
10	Frequency	829	836.5	844						
5	Channel	26815	26915	27015						
5	Frequency	826.5	836.5	846.5						
3	Channel	26805	26915	27025						
3	Frequency	825.5	836.5	847.5						
1.4	Channel	26797	26915	27033						
1.4	Frequency	824.7	836.5	848.3						

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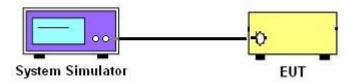
## 3 Conducted Test Items

# 3.1 Measuring Instruments

See list of measuring instruments of this test report.

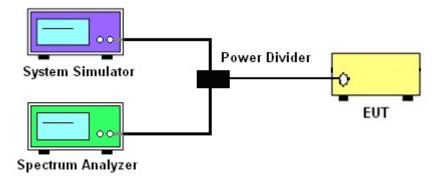
## 3.1.1 Test Setup

## 3.1.2 Conducted Output Power

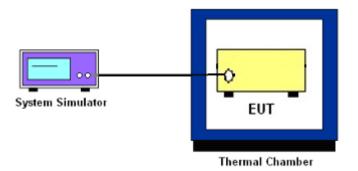


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# 3.1.3 Peak-to-Average Ratio, Occupied Bandwidth ,Conducted Band-Edge and Conducted Spurious Emission



## 3.1.4 Frequency Stability



#### 3.1.5 Test Result of Conducted Test

Please refer to Appendix A.

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## 3.2 Conducted Output Power and ERP

# 3.2.1 Description of the Conducted Output Power Measurement and ERP Measurement

A system simulator was used to establish communication with the EUT. Its parameters were set to force the EUT transmitting at maximum output power. The measured power in the radio frequency on the transmitter output terminals shall be reported.

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The ERP of mobile transmitters must not exceed 7 Watts for LTE Band 26.

According to KDB 412172 D01 Power Approach,

 $EIRP = P_T + G_T - L_C$ , ERP = EIRP -2.15, where

 $P_T$  = transmitter output power in dBm

G<sub>T</sub> = gain of the transmitting antenna in dBi

L<sub>C</sub> = signal attenuation in the connecting cable between the transmitter and antenna in dB

#### 3.2.2 Test Procedures

- 1. The transmitter output port was connected to the system simulator.
- 2. Set EUT at maximum power through the system simulator.
- 3. Select lowest, middle, and highest channels for each band and different modulation.
- 4. Measure and record the power level from the system simulator.

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## 3.3 Peak-to-Average Ratio

## 3.3.1 Description of the PAR Measurement

Power Complementary Cumulative Distribution Function (CCDF) curves provide a means for characterizing the power peaks of a digitally modulated signal on a statistical basis. A CCDF curve depicts the probability of the peak signal amplitude exceeding the average power level. Most contemporary measurement instrumentation include the capability to produce CCDF curves for an input signal provided that the instrument's resolution bandwidth can be set wide enough to accommodate the entire input signal bandwidth. In measuring transmissions in this band using an average power technique, the peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.

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#### 3.3.2 Test Procedures

The testing follows FCC KDB 971168 D01 v03r01 Section 5.7.1

- 1. The EUT was connected to spectrum and system simulator via a power divider.
- 2. Set the CCDF (Complementary Cumulative Distribution Function) option in spectrum analyzer.
- 3. The highest RF powers were measured and recorded the maximum PAPR level associated with a probability of 0.1 %.
- 4. Record the deviation as Peak to Average Ratio.

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3.4 Occupied Bandwidth

3.4.1 Description of Occupied Bandwidth Measurement

The occupied bandwidth is the width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5% of the

total mean transmitted power.

The 26 dB emission bandwidth is defined as the frequency range between two points, one above and

one below the carrier frequency, at which the spectral density of the emission is attenuated 26 dB

below the maximum in-band spectral density of the modulated signal. Spectral density (power per unit

bandwidth) is to be measured with a detector of resolution bandwidth equal to approximately 1.0% of

the emission bandwidth.

3.4.2 Test Procedures

The testing follows FCC KDB 971168 D01 v03r01 Section 4.2

1. The EUT was connected to spectrum analyzer and system simulator via a power divider.

2. The spectrum analyzer center frequency is set to the nominal EUT channel center frequency.

The span range for the spectrum analyzer shall be between two and five times the anticipated

OBW.

3. The nominal resolution bandwidth (RBW) shall be in the range of 1 to 5 % of the anticipated

OBW, and the VBW shall be at least 3 times the RBW.

4. Set the detection mode to peak, and the trace mode to max hold.

5. Determine the reference value: Set the EUT to transmit a modulated signal. Allow the trace to

stabilize. Set the spectrum analyzer marker to the highest level of the displayed trace.

(this is the reference value)

Determine the "-26 dB down amplitude" as equal to (Reference Value -X). 6.

7. Place two markers, one at the lowest and the other at the highest frequency of the envelope of

the spectral display such that each marker is at or slightly below the "-X dB down amplitude"

determined in step 6. If a marker is below this "-X dB down amplitude" value it shall be placed

as close as possible to this value. The OBW is the positive frequency difference between the

two markers.

8. Use the 99 % power bandwidth function of the spectrum analyzer and report the measured

bandwidth.

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## 3.5 Conducted Band Edge

#### 3.5.1 Description of Conducted Band Edge Measurement

22.917(a)

For operations in the 824 - 849 MHz band, the FCC limit is  $43 + 10\log_{10}(P[Watts])$  dB below the transmitter power P(Watts) in a 100kHz bandwidth. However, in the 1MHz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

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#### 3.5.2 Test Procedures

The testing follows FCC KDB 971168 D01 v03r01 Section 6.0.

- 1. The EUT was connected to spectrum analyzer and system simulator via a power divider.
- 2. The band edges of low and high channels for the highest RF powers were measured.
- 3. Set RBW >= 1% EBW in the 1MHz band immediately outside and adjacent to the band edge.
- 4. Beyond the 1 MHz band from the band edge, RBW=1MHz was used.
- 5. Set spectrum analyzer with RMS detector.
- The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
- Checked that all the results comply with the emission limit line.
   The limit line is derived from 43 + 10log(P)dB below the transmitter power P(Watts)

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## 3.6 Conducted Spurious Emission

#### 3.6.1 Description of Conducted Spurious Emission Measurement

The power of any emission outside of the authorized operating frequency ranges must be lower than the transmitter power (P) by a factor of at least 43 + 10 log (P) dB.

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It is measured by means of a calibrated spectrum analyzer and scanned from 30 MHz up to a frequency including its 10<sup>th</sup> harmonic.

#### 3.6.2 Test Procedures

The testing follows FCC KDB 971168 D01 v03r01 Section 6.0.

- 1. The EUT was connected to spectrum analyzer and system simulator via a power divider.
- The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator.
   The path loss was compensated to the results for each measurement.
- 3. The middle channel for the highest RF power within the transmitting frequency was measured.
- 4. The conducted spurious emission for the whole frequency range was taken.
- 5. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz.
- 6. Set spectrum analyzer with RMS detector.
- 7. Taking the record of maximum spurious emission.
- 8. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
- 9. The limit line is derived from 43 + 10log(P)dB below the transmitter power P(Watts)

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## 3.7 Frequency Stability

#### 3.7.1 Description of Frequency Stability Measurement

22.355

The frequency stability shall be measured by variation of ambient temperature and variation of primary supply voltage to ensure that the fundamental emission stays within the authorized frequency block. The frequency stability of the transmitter shall be maintained within  $\pm 0.00025\%$  ( $\pm 2.5$ ppm) of the center frequency.

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## 3.7.2 Test Procedures for Temperature Variation

The testing follows FCC KDB 971168 D01 v03r01 Section 9.0.

- 1. The EUT was set up in the thermal chamber and connected with the system simulator.
- 2. With power OFF, the temperature was decreased to -30°C and the EUT was stabilized before testing. Power was applied and the maximum change in frequency was recorded within one minute.
- 3. With power OFF, the temperature was raised in 10°C step up to 50°C. The EUT was stabilized at each step for at least half an hour. Power was applied and the maximum frequency change was recorded within one minute.

#### 3.7.3 Test Procedures for Voltage Variation

The testing follows FCC KDB 971168 D01 v03r01 Section 9.0.

- 1. The EUT was placed in a temperature chamber at 20±5° C and connected with the system simulator.
- 2. The power supply voltage to the EUT was varied from 85% to 115% of the nominal value measured at the input to the EUT.
- 3. The variation in frequency was measured for the worst case.

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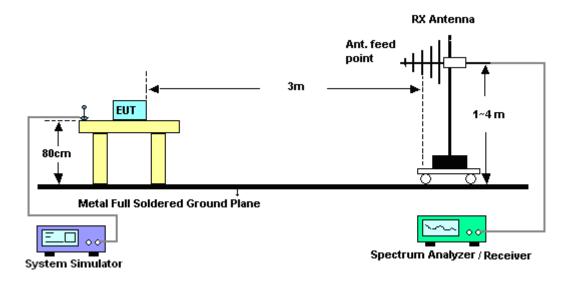
## 4 Radiated Test Items

## 4.1 Measuring Instruments

See list of measuring instruments of this test report.

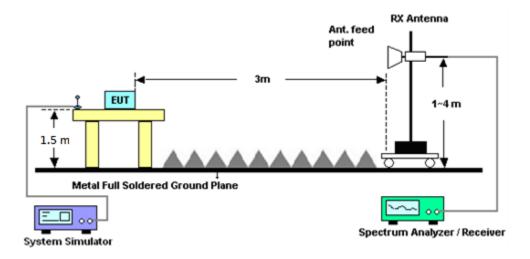
## 4.1.1 Test Setup

#### For radiated test from 30MHz to 1GHz



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#### For radiated test above 1GHz



#### 4.1.2 Test Result of Radiated Test

Please refer to Appendix B.

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## 4.2 Radiated Spurious Emission

#### 4.2.1 Description of Radiated Spurious Emission

The radiated spurious emission was measured by substitution method according to ANSI / TIA-603-E.

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The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least 43 + 10 log (P) dB.

The spectrum is scanned from 30 MHz up to a frequency including its 10th harmonic.

#### 4.2.2 Test Procedures

The testing follows FCC KDB 971168 D01 v03r01 Section 5.8 and ANSI / TIA-603-E Section 2.2.12.

- 1. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
- 2. The EUT was set 3 meters from the receiving antenna, which was mounted on the antenna tower.
- 3. The table was rotated 360 degrees to determine the position of the highest spurious emission.
- 4. The height of the receiving antenna is varied between one meter and four meters to search the maximum spurious emission for both horizontal and vertical polarizations.
- 5. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking the record of maximum spurious emission.
- 6. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
- 7. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
- 8. Taking the record of output power at antenna port.
- 9. Repeat step 7 to step 8 for another polarization.
- The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

The limit line is derived from 43 + 10log(P)dB below the transmitter power P(Watts)

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# 5 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSP40	100319	9kHz~40GHz	Oct.12, 2017	Aug. 18, 2018	Oct.11, 2018	Conducted (TH01-KS)
Spectrum Analyzer	R&S	FSV30	101338	10Hz~30GHz	Apr. 19, 2018	Aug. 18, 2018	Apr. 18, 2019	Conducted (TH01-KS)
Spectrum Analyzer	R&S	FSV40	101040	10Hz~40GHz	Aug. 07, 2018	Aug. 18, 2018	Aug. 06, 2019	Conducted (TH01-KS)
Thermal Chamber	Ten Billion	TTC-B3S	TBN-9605 02	-40~+150°C	Oct.12, 2017	Aug. 18, 2018	Oct. 11, 2018	Conducted (TH01-KS)
EMI Test Receiver&SA	Agilent	N9038A	MY522601 85	20Hz~26.5GHz	Apr. 19, 2018	Aug. 15, 2018	Apr. 18, 2019	Radiation (03CH01-SZ)
Bilog Antenna	TeseQ	CBL6112D	35408	30MHz-2GHz	Apr. 19, 2018	Aug. 15, 2018	Apr. 18, 2019	Radiation (03CH01-SZ)
Double Ridge Horn Antenna	ETS Lindgren	3117	119436	1GHz~18GHz	Jul. 28, 2018	Aug. 15, 2018	Jul. 27, 2019	Radiation (03CH01-SZ)
SHF-EHF Horn	com-power	AH-840	101071	18Ghz-40GHz	Mar. 30, 2018	Aug. 15, 2018	Mar. 29, 2019	Radiation (03CH01-SZ)
LF Amplifier	Burgeon	BPA-530	102209	0.01~3000Mhz	Apr. 19, 2018	Aug. 15, 2018	Apr. 18, 2019	Radiation (03CH01-SZ)
HF Amplifier	MITEQ	AMF-7D-0010 1800-30-10P- R	1707137	1GHz~18GHz	Oct.19, 2017	Aug. 15, 2018	Oct. 18, 2018	Radiation (03CH01-SZ)
HF Amplifier	KEYSIGHT	83017A	MY532701 04	0.5GHz~26.5Gh z	Oct.19, 2017	Aug. 15, 2018	Oct. 18, 2018	Radiation (03CH01-SZ
HF Amplifier	MITEQ	TTA1840-35- HG	1871923	18GHz~40GHz	Jul. 30, 2018	Aug. 15, 2018	Jul. 30, 2019	Radiation (03CH01-SZ)
AC Power Source	Chroma	61601	616010001 985	N/A	NCR	Aug. 15, 2018	NCR	Radiation (03CH01-SZ)
Turn Table	EM	EM1000	N/A	0~360 degree	NCR	Aug. 15, 2018	NCR	Radiation (03CH01-SZ)
Antenna Mast	EM	EM1000	N/A	1 m~4 m	NCR	Aug. 15, 2018	NCR	Radiation (03CH01-SZ)

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# 6 Uncertainty of Evaluation

#### Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of	2.5
Confidence of 95% (U = 2Uc(y))	2.5

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#### **Uncertainty of Radiated Emission Measurement (1 GHz ~ 18 GHz)**

Measuring Uncertainty for a Level of	2.5
Confidence of 95% (U = 2Uc(y))	3.3

## **Uncertainty of Radiated Emission Measurement (18 GHz ~ 40 GHz)**

Measuring Uncertainty for a Level of	4.0
Confidence of 95% (U = 2Uc(y))	4.0

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# **Appendix A. Test Results of Conducted Test**

# Conducted Output Power(Average power)

<Up Antenna>

	LTE Band 26 Maximum Average Power [dBm]								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest			
15	1	0		23.43	23.46	23.33			
15	1	37		23.22	23.25	22.79			
15	1	74		23.35	23.38	23.34			
15	36	0	QPSK	22.40	22.43	22.41			
15	36	20		22.38	22.41	22.48			
15	36	39	-	22.34	22.37	22.55			
15	75	0		22.38	22.41	22.49			
15	1	0		22.60	22.63	22.37			
15	1	37		22.67	22.70	22.45			
15	1	74		22.73	22.76	22.53			
15	36	0	16-QAM	21.41	21.44	21.34			
15	36	20		21.25	21.28	21.47			
15	36	39		21.26	21.29	21.42			
15	75	0		21.40	21.43	21.30			
15	1	0		21.33	21.36	21.46			
15	1	37		21.04	21.07	21.08			
15	1	74	64-QAM	21.56	21.59	21.60			
15	36	0		20.15	20.18	20.28			
15	36	20		20.18	20.21	20.37			
15	36	39		20.25	20.28	20.36			
15	75	0		20.22	20.25	20.32			
10	1	0	QPSK	23.29	23.32	23.41			
10	1	25		23.16	23.19	22.73			
10	1	49		23.40	23.43	23.18			
10	25	0		22.26	22.29	22.52			
10	25	12		22.40	22.43	22.36			
10	25	25		22.36	22.39	22.45			
10	50	0		22.33	22.36	22.40			
10	1	0		22.70	22.73	22.57			
10	1	25		22.33	22.36	22.88			
10	1	49		22.86	22.89	22.44			
10	25	0	16-QAM	21.30	21.33	21.33			
10	25	12		21.28	21.31	21.53			
10	25	25		21.24	21.27	21.24			
10	50	0		21.19	21.22	21.31			
10	1	0		21.68	21.71	21.44			
10	1	25		21.51	21.54	21.46			
10	1	49		21.34	21.37	21.21			
10	25	0	64-QAM	20.33	20.36	20.51			
10	25	12		20.18	20.21	20.33			
10	25	25		20.15	20.18	20.37			
10	50	0		20.30	20.33	20.25			



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	LTE Band 26 Maximum Average Power [dBm]								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest			
5	1	0		23.38	23.41	23.40			
5	1	12		23.04	23.07	23.15			
5	1	24		23.20	23.23	23.32			
5	12	0	QPSK	22.40	22.43	22.49			
5	12	7		22.34	22.37	22.47			
5	12	13		22.38	22.41	22.39			
5	25	0		22.33	22.36	22.37			
5	1	0		22.87	22.90	22.69			
5	1	12		22.94	22.97	22.70			
5	1	24		22.68	22.71	22.64			
5	12	0	16-QAM	21.26	21.29	21.36			
5	12	7		21.21	21.24	21.36			
5	12	13		21.17	21.20	21.52			
5	25	0		21.32	21.35	21.37			
5	1	0		22.32	22.35	22.25			
5	1	12		22.21	22.24	22.16			
5	1	24		22.39	22.42	22.28			
5	12	0	64-QAM	21.16	21.19	21.40			
5	12	7		21.13	21.16	21.19			
5	12	13		21.23	21.26	21.44			
5	25	0		21.19	21.22	21.22			
3	1	0		23.32	23.35	23.37			
3	1	8		23.09	23.12	23.03			
3	1	14		23.31	23.34	23.40			
3	8	0	QPSK	22.37	22.40	22.42			
3	8	4		22.01	22.04	22.37			
3	8	7		22.18	22.21	22.27			
3	15	0		22.25	22.28	22.40			
3	1	0		22.55	22.58	22.40			
3	1	8		22.34	22.37	22.21			
3	1	14		22.70	22.73	22.26			
3	8	0	16-QAM	21.51	21.54	21.58			
3	8	4		21.30	21.33	21.51			
3	8	7		21.23	21.26	21.21			
3	15	0		21.30	21.33	21.37			
3	1	0		22.50	22.53	22.42			
3	1	8		22.32	22.35	22.24			
3	1	14		22.22	22.25	22.23			
3	8	0	64-QAM	21.26	21.29	21.45			
3	8	4		21.25	21.28	21.12			
3	8	7		21.24	21.27	21.10			
3	15	0		21.23	21.26	21.35			



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	LTE Band 26 Maximum Average Power [dBm]									
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest				
1.4	1	0		23.40	23.43	23.35				
1.4	1	3		23.40	23.43	23.32				
1.4	1	5		23.32	23.35	23.33				
1.4	3	0	QPSK	23.29	23.32	23.35				
1.4	3	1		23.25	23.28	22.90				
1.4	3	3		23.40	23.43	23.26				
1.4	6	0		22.23	22.26	22.31				
1.4	1	0		22.24	22.27	22.23				
1.4	1	3		22.08	22.11	22.40				
1.4	1	5		22.02	22.05	22.09				
1.4	3	0	16-QAM	22.29	22.32	22.28				
1.4	3	1		22.30	22.33	22.47				
1.4	3	3		22.48	22.51	22.10				
1.4	6	0		21.22	21.25	21.30				
1.4	1	0		22.46	22.49	22.23				
1.4	1	3		22.06	22.09	22.14				
1.4	1	5		22.44	22.47	22.31				
1.4	3	0	64-QAM	22.05	22.08	22.09				
1.4	3	1		22.13	22.16	22.40				
1.4	3	3		22.14	22.17	22.32				
1.4	6	0		21.07	21.10	21.39				



## <Down Antenna>

<down a<="" th=""><th></th><th></th><th>Band 26 Ma</th><th>ximum Average Po</th><th>ower [dBm]</th><th></th></down>			Band 26 Ma	ximum Average Po	ower [dBm]	
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0		24.14	24.17	24.04
15	1	37		23.68	23.71	23.54
15	1	74		24.08	24.11	24.00
15	36	0	QPSK	23.22	23.25	23.21
15	36	20		23.10	23.13	23.16
15	36	39	-	23.22	23.25	23.06
15	75	0		23.20	23.23	23.15
15	1	0		23.32	23.35	23.36
15	1	37		22.96	22.99	22.82
15	1	74		23.23	23.26	23.32
15	36	0	16-QAM	22.09	22.12	22.16
15	36	20		22.04	22.07	22.04
15	36	39		22.14	22.17	22.00
15	75	0		22.06	22.09	22.02
15	1	0		22.67	22.70	22.84
15	1	37		22.11	22.14	22.51
15	1	74		22.87	22.90	22.78
15	36	0	64-QAM	21.63	21.66	21.75
15	36	20		21.59	21.62	21.77
15	36	39		21.63	21.66	21.71
15	75	0		21.59	21.62	21.75
10	1	0	QPSK	24.04	24.04	24.13
10	1	25		23.85	23.85	23.77
10	1	49		24.11	24.11	23.98
10	25	0		23.02	23.02	23.02
10	25	12		22.98	22.98	22.99
10	25	25		23.06	23.06	23.00
10	50	0		23.02	23.02	23.04
10	1	0		23.33	23.33	23.33
10	1	25		23.13	23.13	22.91
10	1	49		23.36	23.36	23.18
10	25	0	16-QAM	21.96	21.96	22.05
10	25	12		21.94	21.94	21.95
10	25	25		21.98	21.98	22.00
10	50	0		21.93	21.93	21.92
10	1	0		22.57	22.57	21.80
10	1	25		22.42	22.42	21.75
10	1	49		22.48	22.48	21.88
10	25	0	64-QAM	21.55	21.55	20.64
10	25	12		21.57	21.57	20.66
10	25	25		21.56	21.56	20.64
10	50	0		21.54	21.54	20.77



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	LTE Band 26 Maximum Average Power [dBm]								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest			
5	1	0		24.00	24.03	24.02			
5	1	12		23.63	23.66	23.76			
5	1	24	QPSK	24.01	24.04	24.09			
5	12	0		23.07	23.10	23.02			
5	12	7		23.00	23.03	23.07			
5	12	13		23.07	23.10	23.06			
5	25	0		22.97	23.00	23.09			
5	1	0		23.26	23.29	23.24			
5	1	12		22.72	22.75	22.73			
5	1	24		23.30	23.33	23.20			
5	12	0	16-QAM	22.02	22.05	22.01			
5	12	7		21.93	21.96	22.06			
5	12	13		22.03	22.06	22.01			
5	25	0		21.94	21.97	21.97			
5	1	0		22.15	22.18	21.84			
5	1	12		22.08	22.11	21.45			
5	1	24		22.23	22.26	21.79			
5	12	0	64-QAM	21.61	21.64	20.68			
5	12	7		21.57	21.60	20.67			
5	12	13		21.60	21.63	20.70			
5	25	0		21.55	21.58	20.60			
3	1	0		24.08	24.11	24.05			
3	1	8		24.11	24.14	24.04			
3	1	14		24.10	24.13	23.94			
3	8	0	QPSK	22.93	22.96	23.03			
3	8	4		23.00	23.03	23.08			
3	8	7		23.04	23.07	22.96			
3	15	0		23.01	23.04	23.10			
3	1	0		23.37	23.40	23.28			
3	1	8		23.30	23.33	23.26			
3	1	14		23.37	23.40	23.22			
3	8	0	16-QAM	21.96	21.99	22.07			
3	8	4		22.04	22.07	22.04			
3	8	7		21.99	22.02	21.99			
3	15	0		21.97	22.00	22.07			
3	1	0		21.63	21.66	21.84			
3	1	8		21.24	21.27	21.41			
3	1	14		21.67	21.70	21.72			
3	8	0	64-QAM	21.52	21.55	20.68			
3	8	4		21.51	21.54	20.66			
3	8	7		21.45	21.48	20.55			
3	15	0		21.54	21.57	20.60			



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	LTE Band 26 Maximum Average Power [dBm]									
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest				
1.4	1	0		24.01	24.04	24.04				
1.4	1	3		23.84	23.87	23.67				
1.4	1	5		24.04	24.07	23.92				
1.4	3	0	QPSK	24.08	24.11	24.00				
1.4	3	1		23.92	23.95	23.93				
1.4	3	3		23.95	23.98	23.83				
1.4	6	0		23.06	23.09	22.90				
1.4	1	0		23.34	23.37	23.26				
1.4	1	3		22.99	23.02	22.95				
1.4	1	5		23.33	23.36	23.23				
1.4	3	0	16-QAM	22.95	22.98	22.84				
1.4	3	1		22.93	22.96	22.79				
1.4	3	3		22.96	22.99	22.76				
1.4	6	0		22.09	22.12	22.02				
1.4	1	0		22.67	22.70	21.80				
1.4	1	3		22.52	22.55	21.69				
1.4	1	5		22.65	22.68	21.82				
1.4	3	0	64-QAM	22.51	22.54	21.70				
1.4	3	1		22.57	22.60	21.73				
1.4	3	3		22.59	22.62	21.68				
1.4	6	0		21.56	21.59	20.60				

# LTE Band 26\_Part 22H

# Peak-to-Average Ratio

Mode		LTE Band 26 / 15MHz						
Mod.	QP	SK	1	16QAM				
RB Size	1RB	Full RB	1RB	Full RB	Result			
Lowest CH	4.06	5.25	4.96	6.03				
Middle CH	4.58	5.07	5.65	5.86	PASS			
Highest CH	4.78	5.1	5.22	5.91				
Mod.	64C	AM	Limit: 13dB					
RB Size	1RB	Full RB	Result					
Lowest CH	5.77	6.38						
Middle CH	6.49	6.41	PASS					
Highest CH	6.29	6.38						

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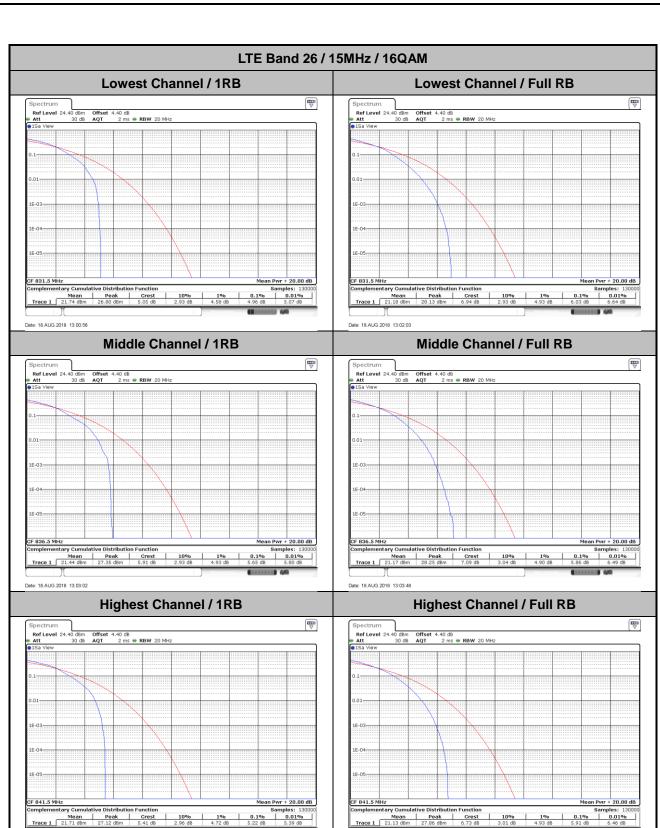
LTE Band 26 / 15MHz / QPSK **Lowest Channel / 1RB** Lowest Channel / Full RB Ref Level 24.40 dBm Att 30 dB Ref Level 24.40 Att CF 831.5 MH 8amples: 13000 0.1% 0.01% 4.06.4% 4.14.48 Date: 18.AUG.2018 13:00:42 Date: 18.AUG.2018 13:01:50 Middle Channel / 1RB Middle Channel / Full RB Date: 18.AUG.2018 13:02:50 Date: 18.AUG.2018 13:03:37 **Highest Channel / 1RB Highest Channel / Full RB** 

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Samples: 130000 0.1% 0.01% 5.10 dB 5.57 dB

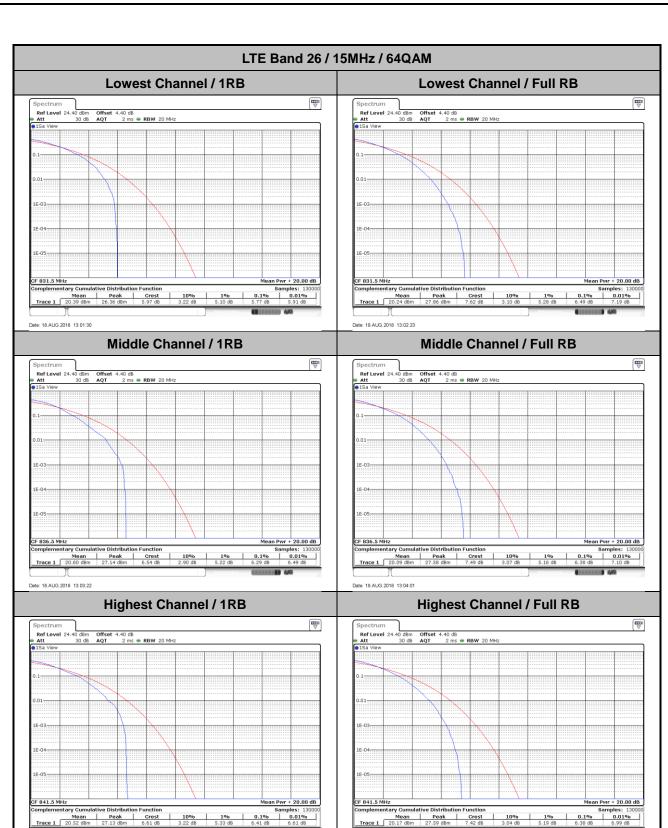
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Samples: 130000 0.1% 0.01% 4.78 dB 4.87 dB



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# 26dB Bandwidth

Mode		LTE Band 26 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz		
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	
Lowest CH	1.234	1.245	3.009	2.985	4.945	4.885	9.73	9.75	14.505	14.865	-	-	
Middle CH	1.231	1.248	3.009	3.009	4.965	4.915	9.77	9.83	14.535	14.595	-	-	
Highest CH	1.234	1.248	3.027	2.979	4.835	4.955	9.99	9.91	14.176	14.835	-	-	
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz		
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM				
Lowest CH	1.245		2.943		4.905		9.97		14.895		-	-	
Middle CH	1.253		3.009		4.905		9.81		14.356		-	-	
Highest CH	1.242		2.991		4.915		9.87		14.685		-	-	

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Date: 18.AUG.2018 10:30:56

FAX: +86-512-57900958

LTE Band 26 Lowest Channel / 1.4MHz / QPSK Lowest Channel / 1.4MHz / 16QAM Ref Level 24.40 dBm

Att 30 dB

SGL Count 100/100

1Pk Max 16.77 dB 15.28 dBr -10 dBm--50 dBm -50 dBn -60 dBm -60 dBm-CF 824.7 MHz Function Result 1.2336 MHz 26.00 dB 668.9 Function Result 1.2448 MHz 26.00 dB 662.9 Type Ref Trc Type Ref Trc 
 X-value
 Y-value
 Function

 825.1755 MHz
 16.77 dBm
 ndB down

 X-value
 Y-value
 Function

 825.0944 MHz
 15.28 dBm
 ndB down
 Middle Channel / 1.4MHz / QPSK Middle Channel / 1.4MHz / 16QAM Ref Level 24.40 dBm

Att 30 dB

SGL Count 100/100

1Pk Max -10 dBm -10 dBn -20 dBm -20 dBm--40 dBm -40 dBm--50 dBm--60 dBm -70 dBm 1001 pts Span 2.8 MHz 1001 pts Span 2.8 MHz CF 836.5 MHz CF 836.5 MHz 
 X-value
 Y-value
 Function

 836.8189 MHz
 16.22 dBm
 nd8 down

 835.879 MHz
 -9.60 dBm
 nd8

 837.1098 MHz
 -9.52 dBm
 Q factor
 Y-value 2 14.49 dBm 2 -11.58 dBm 2 -11.63 dBm Type | Ref | Trc | Date: 18 AUG 2018 10:29:45 Date: 18 AUG 2018 10:30:04 Highest Channel / 1.4MHz / QPSK Highest Channel / 1.4MHz / 16QAM 4.40 dB • RBW 30 kHz 63.2 μs • VBW 100 kHz Mode Auto FFT SGL Count 100/100 1Pk Max 14.61 dBm 848.55730 MT 17.38 dBn 848.66920 MH 20 dBmdBm--20 dBm -30 dBm -50 dBm -50 dBm-CF 848.3 MHz Span 2.8 MHz CF 848.3 MHz Span 2.8 MHz Function Result 1.2336 MHz 26.00 dB 688.0 Function Result 1.2476 MHz 26.00 dB 680.2 
 X-value
 Y-value
 Function

 848.6692 MHz
 17.38 dBm
 ndB down

 847.6818 MHz
 -9.90 dBm
 ndB

 849.9154 MHz
 -8.62 dBm
 Q factor
 | Type | Ref | Trc | X-value | Y-value | Function | M1 | 1 | 848.5573 MHz | 14.61 dBm | ndB down | 11 | 1 | 847.5752 MHz | 14.61 dBm | ndB down | 11 | 1 | 848.9238 MHz | -10.99 dBm | Q factor | 12 | 1 | 848.9238 MHz | -10.99 dBm | Q factor | 14.75 mark Type | Ref | Trc |

LTE Band 26 Lowest Channel / 3MHz / QPSK Lowest Channel / 3MHz / 16QAM Ref Level 24.40 dBm Offset 4.40 dB @ RBW 100 kHz

Att 30 dB SWT 19 µs @ VBW 300 kHz Mode Auto FFT

SGL Count 100/100

1Pk Max Ref Level 24.40 dBm Offset 4.40 dB RBW 100 kHz
Att 30 dB SWT 19 µs WBW 300 kHz Mode Auto FFT
SGL Count 100/100 16.98 dBr 274 -10 dBm--50 dBm -60 dBm -60 dBm 
 X-value
 Y-value
 Function

 825.3442 MHz
 18.25 dBm
 nd8 down

 823.9995 MHz
 -8.01 dBm
 nd8

 826.9985 MHz
 -7.32 dBm
 Q factor

 X-value
 Y-value
 Function

 824-9126 MHz
 16.98 dBm
 ndB down

 823-9955 MHz
 -8.96 dBm
 ndB

 826.9805 MHz
 -8.69 dBm
 Q factor
 Type Ref Trc Type Ref Trc Middle Channel / 3MHz / QPSK Middle Channel /3MHz / 16QAM Ref Level 24.40 dBm

Att 30 dB

SGL Count 100/100

1Pk Max -10 dBm -20 dBm 40 dBm -60 dBm -70 dBm 1001 pts Span 6.0 MHz 1001 pts Span 6.0 MHz CF 836.5 MHz CF 836.5 MHz Type | Ref | Trc | Function n ndB down Date: 18.AUG-2018 11:12:03 Date: 18 AUG 2018 11:12:25 Highest Channel /3MHz / QPSK Highest Channel /3MHz / 16QAM ▽ Offset 4.40 dB • RBW 100 kHz SWT 19 µs • VBW 300 kHz Mode Auto FFT ■ Att 30 dB SGL Count 100/100 ● 1Pk Max 16.28 dB 848.09340 MF 16.28 dBr 848.44710 MH 0 dBm 20 dBm--10 dBm -30 dBm--50 dBm-CF 847.5 MHz Function Result
2.979 MHz
26.00 dB
284.8 Function Result 3.027 MHz X-value Y-value Function 848.0934 MHz 16.28 dBm ndB down 
 Type
 Ref
 Trc
 X-value
 Y-value
 Function

 M1
 1
 848.4471 MHz
 16.28 dBm
 ndB down
 Type | Ref | Trc | 846.0015 MHz 848.9805 MHz

Date: 18.AUG.2018 11:35:01

LTE Band 26 Lowest Channel / 5MHz / QPSK Lowest Channel / 5MHz / 16QAM Ref Level 24.40 dBm Offset 4.40 dB @ RBW 100 kHz

Att 30 dB SWT 19 µs @ VBW 300 kHz Mode Auto FFT

SGL Count 100/100

1Pk Max Ref Level 24.40 dBm Offset 4.40 dB RBW 100 kHz
Att 30 dB SWT 19 µs WBW 300 kHz Mode Auto FFT
SGL Count 100/100 15.33 dB 166 169. -10 dBm--50 dBm -50 dBn -60 dBm -60 dBm-Function Result 4,945 MHz 26.00 dB 166.8 Function Result 4.885 MHz 26.00 dB 169.3 
 X-value
 Y-value
 Function

 825.061 MHz
 15.33 dBm
 nd8 down

 824.022 MHz
 -10.77 dBm
 nd8

 828.968 MHz
 -11.09 dBm
 Q factor

 X-value
 Y-value
 Function

 827.129 MHz
 16.26 dBm
 nd8 down

 824.042 MHz
 -9.90 dBm
 nd8

 828.928 MHz
 -9.36 dBm
 Q factor
 Type Ref Trc Type Ref Trc Middle Channel / 5MHz / QPSK Middle Channel / 5MHz / 16QAM Ref Level 24.40 dBm

Att 30 dB

SGL Count 100/100

1Pk Max 15.57 dBi 836.09000 MF 26.00 d 4.965000000 MF 168 -10 dBm -20 dBm-40 dBm -40 dBm--50 dBm--60 dBm -70 dBm 1001 pts Span 10.0 MHz 1001 pts Span 10.0 MHz CF 836.5 MHz CF 836.5 MHz 
 X-value
 Y-value
 Function

 836.09 MHz
 15.57 dBm
 nd8 down

 834.032 MHz
 -10.29 dBm
 nd8

 838.998 MHz
 -9.85 dBm
 Q factor

 X-value
 Y-value

 835.191 MHz
 14.50 dBm

 834.062 MHz
 -11.58 dBm

 838.978 MHz
 -11.66 dBm
 Type | Ref | Trc | Date: 18.AUG-2018 11:34:02 Date: 18.AUG-2018 11:34:21 Highest Channel / 5MHz / 16QAM Highest Channel / 5MHz / QPSK ♥ 1.40 dB **RBW** 100 kHz 19 µs **VBW** 300 kHz **Mode** Auto FFT Offset 4.40 dB ● RBW 100 kHz SWT 19 µs ● VBW 300 kHz Mode Auto FFT SGL Count 100/100 1Pk Max 15.17 dBn 845.55100 \*\*\* 15.74 dBn 846.650gn ML 20 dBm-26.00 d 26.00 d 35000000 MF 26.00 di 4.955000000 MH dBm-30 dBm-40 dBm -50 dBm -50 dBm-Span 10.0 MHz CF 846.5 MHz Span 10.0 MHz CF 846.5 MHz Function Result
4.835 MHz
26.00 dB
175.1 Function Result
4.955 MHz
26.00 dB
170.6 
 Marker
 Type
 Ref
 Trc
 X-value
 Y-value
 Function

 M1
 1
 840.65 MHz
 15.74 dBm
 nd8 dom
 nd8 dom

 T1
 1
 844.082 MHz
 -10.11 dBm
 nd8

 T2
 1
 846.918 MHz
 -10.12 dBm
 Q factor
 | Type | Ref | Trc | X-value | Y-value | Function | M1 | 1 | 844.5.51 | M12 | 15.17 dam | nd8 down | 11 | 1 | 844.928 | M12 | -11.09 dam | nd8 down | 12 | 1 | 844.988 | M142 | -11.10 dam | Q factor |

Date: 18.AUG.2018 11:55:44

LTE Band 26 Lowest Channel / 10MHz / QPSK Lowest Channel / 10MHz / 16QAM Ref Level 24.40 dBm Offset 4.40 dB @ RBW 300 kHz

Att 30 dB SWT 12.6 µs @ VBW 1 MHz Mode Auto FFT

SGL Count 100/100

1Pk Max Ref Level 24.40 dBm Offset 4.40 dB ● RBW 300 kHz
Att 30 dB SWT 12.6 µs ● VBW 1 MHz Mode Auto FFT
SGL Count 100/100 18.53 dB 17.95 dBr -10 dBm--50 dBm 50 dBn -60 dBm -60 dBm-Function Result 9,73 MHz 26,00 dB 84.8 
 X-value
 Y-value
 Function

 825.244 MHz
 18.53 dBm
 nd8 down

 824.055 MHz
 -7.58 dBm
 nd8

 833.795 MHz
 -6.76 dBm
 Q factor

 X-value
 Y-value
 Function

 826.193 MHz
 17.95 dBm
 nd8 down

 824.095 MHz
 -7.62 dBm
 nd8

 833.835 MHz
 -7.73 dBm
 Q factor
 Type Ref Trc Type Ref Trc Middle Channel / 10MHz / QPSK Middle Channel / 10MHz / 16QAM Ref Level 24.40 dBm

Att 30 dB

SGL Count 100/100

1Pk Max 
 Ref Level
 24.40 dBm
 Offset
 4.40 dB ● RBW
 300 kHz

 Att
 30 dB
 SWT
 12.6 μs ● VBW
 1 MHz
 Mode
 Auto FFT
 -10 dBm--20 dBm 40 dBm -40 dBm--50 dBm--60 dBm -70 dBm 1001 pts Span 20.0 MHz 1001 pts Span 20.0 MHz CF 836.5 MHz CF 836.5 MHz 
 Y-value
 Function

 2
 18.39 dBm
 ndB down

 2
 -7.50 dBm
 ndB

 z
 -7.75 dBm
 Q factor
 Type | Ref | Trc | Date: 18.AUG.2018 11:54:35 Date: 18.AUG.2018 11:54:53 Highest Channel / 10MHz / QPSK Highest Channel / 10MHz / 16QAM ♥ t 4.40 dB • RBW 300 kHz 12.6 µs • VBW 1 MHz Mode Auto FFT SGL Count 100/100 1Pk Max 17.21 dBn 841.1430 MH Mul 20 dBmdBm--20 dBm -30 dBm--50 dBm -50 dBm-Span 20.0 MHz CF 844.0 MHz Span 20.0 MHz | Marker | Trc | X-value | Y-value | Function | M1 | 1 | 840.384 MHz | 17.80 d8m | nd8 dmd | 171 | 1 | 899.025 MHz | -8.27 d8m | nd8 dmd | T2 | 1 | 849.015 MHz | -8.35 d8m | Q factor | Function Result Function Result

Date: 18.AUG.2018 12:45:24

LTE Band 26 Lowest Channel / 15MHz / QPSK Lowest Channel / 15MHz / 16QAM Ref Level 24.40 dBm Offset 4.40 dB @ RBW 300 kHz

Att 30 dB SWT 12.6 µs @ VBW 1 MHz Mode Auto FFT

SGL Count 100/100

1Pk Max Ref Level 24.40 dBm Offset 4.40 dB ● RBW 300 kHz
Att 30 dB SWT 12.6 µs ● VBW 1 MHz Mode Auto FFT
SGL Count 100/100 16.91 dB 15.45 dBr -10 dBm--50 dBm -50 dBn -60 dBm -60 dBm Function Result 14.505 MHz 26.00 dB 56.9 Function Result 14.865 MHz 26.00 dB 56.3 
 X-value
 Y-value
 Function

 837.614 MHz
 15.45 dBm
 nd8 down

 824.037 MHz
 -10.42 dBm
 nd8

 838.903 MHz
 -10.86 dBm
 Q factor
 Type Ref Trc 
 X-value
 Y-value
 Function

 825.146 MHz
 16.91 dBm
 ndB down
 Middle Channel / 15MHz / QPSK Middle Channel / 15MHz / 16QAM Ref Level 24.40 dBm

Att 30 dB

SGL Count 100/100

1Pk Max 
 Ref Level
 24.40 dBm
 Offset
 4.40 dB
 ⊕ RBW
 300 kHz

 Att
 30 dB
 SWT
 12.6 µs
 ⊕ VBW
 1 MHz
 Mode
 Auto FFT
 16.01 dBr 837.6690 MH 26.00 d 14.535000000 MH -10 dBm -10 dBm -20 dBmhom -40 dBm 40 dBm -50 dBm--60 dBm -70 dBm 1001 pts Span 30.0 MHz 1001 pts Span 30.0 MHz CF 836.5 MHz Function Result 14,535 MHz 26.00 dB 57.6 CF 836.5 MHz Function Result 14.595 MHz 26.00 dB 57.3 | Y-value | Function |
| 2 | 16.01 dBm | ndB down |
| 2 | -9.80 dBm | ndB |
| 2 | -9.65 dBm | Q factor | Y-value 2 14.07 dBm 2 -11.95 dBm 2 -11.73 dBm Type | Ref | Trc | Date: 18.AUG-2018 12:43:57 Date: 18 AUG 2018 12:44:31 Highest Channel / 15MHz / QPSK Highest Channel / 15MHz / 16QAM ♥ Offset 4.40 dB ● RBW 300 kHz SWT 12.6 µs ● VBW 1 MHz Mode Auto FFT SGL Count 100/100 14.88 dBn 840.3010 MH 15.87 dBn 841.8900 MH 20 dBm-26.00 d 14.176000000 MF 59. dBm-30 d8m -50 dBm -50 dBm-CF 841.5 MHz Span 30.0 MHz CF 841.5 MHz Span 30.0 MHz Function Result 14.176 MHz 26.00 dB 59.4 Function Result 14.835 MHz 26.00 dB 56.6 
 Marker
 Y-value
 Function

 M1
 1
 841.89 MHz
 15.87 dBm
 nd8 down

 T1
 1
 894.27 MHz
 -10.44 dBm
 nd8

 T2
 1
 894.603 MHz
 -9.98 dBm
 Q factor
 

Date: 18.AUG.2018 10:31:50

LTE Band 26 Lowest Channel / 1.4MHz / 64QAM Lowest Channel / 3MHz / 64QAM Ref Level 24.40 dBm Offset 4.40 dB @ RBW 100 kHz

Att 30 dB SWT 19 µs @ VBW 300 kHz Mode Auto FFT

SGL Count 100/100

1Pk Max 15.30 dB 15.82 dBr -10 dBm -10 dBm--50 dBm -50 dBm -60 dBm -60 dBm-CF 825.5 MHz Function Result 1.2448 MHz 26.00 dB 662.5 
 X-value
 Y-value
 Function

 824.6552 MHz
 15.30 dBm
 ndB down

 824.0818 MHz
 -10.62 dBm
 ndB

 825.3266 MHz
 -11.24 dBm
 Q factor

 X-value
 Y-value
 Function

 824.9306 MHz
 15.82 dBm
 ndb down

 824.0255 MHz
 -10.22 dBm
 ndb

 826.9685 MHz
 -10.23 dBm
 Q factor
 Type Ref Trc Type Ref Trc Middle Channel / 1.4MHz / 64QAM Middle Channel / 3MHz / 64QAM Ref Level 24.40 dBm

Att 30 dB

SGL Count 100/100

1Pk Max SGL Count 100/100 1Pk Max 14.31 dBr 836.25940 MH 26.00 d 1.253100000 MH 667. 10 dBm--10 dBm -10 dBm -20 dBm--20 dBm--40 dBm--50 dBm--60 dBm -70 dBm 1001 pts Span 2.8 MHz 1001 pts Span 6.0 MHz CF 836.5 MHz CF 836.5 MHz Y-value 2 15.59 dBm 2 -10.08 dBm 2 -10.58 dBm 
 X-value
 Y-value
 Function

 836.2594 MHz
 14.31 dBm
 nd8 down

 835.8734 MHz
 -11.89 dBm
 nd8

 837.1266 MHz
 -11.23 dBm
 Q factor
 Type | Ref | Trc | Date: 18.AUG-2018 10:30:27 Date: 18 AUG 2018 11:12:46 Highest Channel / 1.4MHz / 64QAM Highest Channel / 3MHz / 64QAM ♥ 0 dBm Offset 4.40 dB • RBW 30 kHz 30 dB SWT 63.2 µs • VBW 100 kHz Mode Auto FFT Offset 4.40 dB ● RBW 100 kHz SWT 19 µs ● VBW 300 kHz Mode Auto FFT SGL Count 100/100 1Pk Max SGL Count 100/100 91Pk Max 13.88 dBr 848.43430 MH 15.72 dBn 848.43510 MHz 20 dBmdBm-30.d6m-40 dBm -50 dBm -50 dBm-CF 848.3 MHz Span 2.8 MHz CF 847.5 MHz Span 6.0 MHz 
 X-value
 Y-value
 Function

 848.4343 MHz
 13.88 dbm
 nd8 down

 847.6762 MHz
 -11.90 dbm
 nd8

 848.9182 MHz
 -11.73 dbm
 Q factor
 Type | Ref | Trc | Function Result Function Result

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Date: 18.AUG.2018 11:35:40

LTE Band 26 Lowest Channel / 5MHz / 64QAM Lowest Channel / 10MHz / 64QAM Ref Level 24.40 dBm Offset 4.40 dB @ RBW 300 kHz

Att 30 dB SWT 12.6 µs @ VBW 1 MHz Mode Auto FFT

SGL Count 100/100

1Pk Max Ref Level 24.40 dBm Offset 4.40 dB RBW 100 kHz
Att 30 dB SWT 19 µs WBW 300 kHz Mode Auto FFT
SGL Count 100/100 14,56 dBr 168 82. -10 dBm--30 dBm -50 dBm -50 dBn -60 dBm -60 dBm 
 X-value
 Y-value
 Function

 825.051 MHz
 14.23 dBm
 nd8 down

 824.022 MHz
 -12.12 dBm
 nd8

 828.928 MHz
 -12.07 dBm
 Q factor

 X-value
 Y-value
 Function nids down

 826.522 MHz
 14.56 d8m nids down

 823.965 MHz
 -11.57 d8m nd8

 833.935 MHz
 -11.11 d8m Q factor
 Type Ref Trc Middle Channel / 5MHz / 64QAM Middle Channel / 10MHz / 64QAM Ref Level 24.40 dBm

Att 30 dB

SGL Count 100/100

1Pk Max 170 -10 dBm -20 dBm -20 dBm--40 dBm--50 dBm--60 dBm -70 dBm 1001 pts Span 10.0 MHz 1001 pts Span 20.0 MHz CF 836.5 MHz CF 836.5 MHz 
 Y-value
 Function

 2
 14.05 dBm
 ndB down

 2
 -12.26 dBm
 ndB

 2
 -12.25 dBm
 Q factor
 Y-value 2 15.53 dBm 2 -10.48 dBm 2 -10.89 dBm Type | Ref | Trc | Date: 18.AUG-2018 11:34:41 Date: 18.AUG.2018 11:55:15 Highest Channel / 5MHz / 64QAM Highest Channel / 10MHz / 64QAM ♥ 0 dBm Offset 30 dB SWT 1.40 dB **RBW** 100 kHz 19 µs **VBW** 300 kHz **Mode** Auto FFT : 4.40 dB **● RBW** 300 kHz 12.6 μs **● VBW** 1 MHz **Mode** Auto FFT SGL Count 100/100 1Pk Max 15.48 dBn 841.6620 MH 13.36 dBr 845.57100 MH 20 dBmdBm--30 dBm 30 dBm--50 dBm -50 dBm-Span 10.0 MHz CF 844.0 MHz Span 20.0 MHz CF 846.5 MHz Function Result
4.915 MHz
26.00 dB
172.0 
 Marker
 Y-value
 Function

 M1
 1
 845.571 MHz
 13.36 dBm
 nd8 dom

 T1
 1
 844.572 MHz
 -12.44 dBm
 nd8 dom

 T2
 1
 848.988 MHz
 -12.53 dBm
 Q factor
 | Mark | Trc | X-value | Y-value | Function | M1 | 1 | 841.662 MHz | 15.46 dam | ndB down | 11 | 1 | 839.055 MHz | 10.94 dam | ndB down | 12 | 1 | 848.935 MHz | -10.22 dam | Q factor | Function Result

LTE Band 26 Lowest Channel / 15MHz / 64QAM -60 dBm Function Result 14.895 MHz 26.00 dB 56.2 
 X-value
 Y-value
 Function

 837.644 MHz
 14.93 dBm
 nd8 down

 823.948 MHz
 -10.70 dBm
 nd8

 838.843 MHz
 -10.93 dBm
 Q factor
 Type Ref Trc Middle Channel / 15MHz / 64QAM 1001 pts Span 30.0 MHz CF 836.5 MHz 
 X-value
 Y-value
 Function

 840.156 MHz
 14.27 dBm
 nd8 down

 829.397 MHz
 -11.63 dBm
 nd8

 843.753 MHz
 -11.70 dBm
 Q factor
 Type Ref Trc Date: 18.AUG.2018 12:44:56 Highest Channel / 15MHz / 64QAM CF 841.5 MHz 
 Marker
 Type
 Ref
 Trc
 X-value
 Y-value
 Function
 Function Result

 M1
 1
 840.991 MHz
 13.41 dbm
 nd8 down
 14.665 MHz

 T1
 1
 834.187 MHz
 -12.41 dbm
 nd8
 26.00 db

 T2
 1
 848.873 MHz
 -12.80 dbm
 Q factor
 57.3

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Date: 18.AUG.2018 12:46:04

## Occupied Bandwidth

Mode	LTE Band 26 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	1.09	1.1	2.75	2.73	4.5	4.49	9.01	9.07	13.43	13.55	-	-
Middle CH	1.09	1.1	2.71	2.74	4.48	4.5	8.99	9.01	13.43	13.4	-	-
Highest CH	1.09	1.11	2.74	2.72	4.52	4.48	9.03	9.07	13.43	13.46	-	-
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM			
Lowest CH	1.1		2.73		4.51		9.09		13.43		-	-
Middle CH	1.09		2.72		4.48		8.99		13.43		-	-
Highest CH	1.09		2.7		4.53		9.09		13.49		-	-

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CF 848.3 MHz

Type | Ref | Trc |

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Att 30 dB
SGL Count 100/100 20 dBm-10 dBm--10 dBm--20 dBm--40 dBm -40 dBm--60 dBm -60 dBm-1001 pts Span 2.8 MHz CF 824.7 MHz Marker CF 824.7 MHz 1001 pts Y-value Function
17.65 dBm
11.28 dBm Occ Bw
10.39 dBm X-value 824.7364 MHz 824.14895 MHz 825.24266 MHz Y-value 16.45 dBm 7.78 dBm 8.94 dBm Type Ref Trc Function Function Result Type Ref Trc Middle Channel / 1.4MHz / QPSK Middle Channel / 1.4MHz / 16QAM SGL Count 100/100 SGL Count 100/100 20 dBm-0 dBm--10 dBm -20 dBm--20 dBn -30\dBm-40 dBm -50 dBm--50 dBm--70 dBm 1001 pts Span 2.8 MHz CF 836.5 MHz 1001 pts Span 2.8 MHz Function Result 1.090909091 MHz 1.102097902 MHz Date: 18.AUG.2018 10:29:55 Date: 18.AUG.2018 10:29:37 Highest Channel / 1.4MHz / QPSK Highest Channel / 1.4MHz / 16QAM Ref Level 24.40 dBm Offset 4.40 dB RBW 30 kHz
Att 30 dB SWT 63.2 µs VBW 100 kHz Mode Auto FFT
SGL Count 100/100

1Pk Max 16.31 dBn 848.05660 MH: 1.107692308 MH: \_\_\_M1[1]<sub>M1</sub> 20 dBm--10 dBm-~~~ 30 98 y \_ -40 dBm--50 dBm -50 dBn -60 dBm-

Span 2.8 MHz

1.090909091 MHz

CF 848.3 MHz

Type Ref Trc

Occ Bw

1.107692308 MHz

Date: 18.AUG.2018 11:12:58

LTE Band 26 Lowest Channel / 3MHz / QPSK Lowest Channel / 3MHz / 16QAM Ref Level 24.40 dBm Offset 4.40 dB • RBW 100 kHz Att 30 dB SWT 19 µs • VBW 300 kHz Mode Auto FFT SGL Count 100/100 Ref Level 24.40 dBm Offset 4.40 dB RBW 100 kHz
Att 30 dB SWT 19 µs WBW 300 kHz Mode Auto FFT
SGL Count 100/100 17.91 dBr 825.75170 MH 2.745254745 MH 10 dBm -10 dBm -10 dBm--50 dBm 50 dBm -60 dBm -60 dBm-CF 825.5 MHz 
 X-value
 Y-value
 Function
 Function Result

 825.7757 MHz
 17.22 dBm
 Punction Result

 824.13337 MHz
 10.56 dBm
 Occ Bw
 2.72727

 826.86064 MHz
 10.30 dBm
 Occ Bw
 2.72727
 Type Ref Trc Type Ref Trc 
 X-value
 Y-value
 Function
 Function Result

 825.7517 MHz
 17.91 dBm
 Function Result
 Middle Channel / 3MHz / QPSK Middle Channel / 3MHz / 16QAM Ref Level 24.40 dBm Offset 4.40 dB RBW 100 kHz
Att 36d SWT 19 µs VBW 300 kHz Mode Auto FFT
SGL Count 100/100

1Pk Max Ref Level 24.40 dBm Offset 4.40 dB ● RBW 100 kHz
Att 30 dB SWT 19 µs ● VBW 300 kHz Mode Auto FFT SGL Count 100/100 1Pk Max 10 dBm--10 dBm--20 dBm--40 dBm -40 dBm--50 dBm--60 dBm -70 dBm 1001 pts Span 6.0 MHz 1001 pts Span 6.0 MHz CF 836.5 MHz CF 836.5 MHz 
 X-value
 Y-value
 Function

 837,1054 MHz
 17.85 dBm

 835,15135 MHz
 10.96 dBm
 Occ Bw

 837,86064 MHz
 11.15 dBm

 X-value
 Y-value
 Function

 835,9845 MHz
 16,45 dBm
 835,13936 MHz
 10,58 dBm
 Occ Bw

 837,87862 MHz
 9,42 dBm
 Occ Bw
 Occ Bw
 Type | Ref | Trc | Function Result Function Result 2.709290709 MHz 2.739260739 MHz Date: 18.AUG-2018 11:11:46 Date: 18.AUG.2018 11:12:14 Highest Channel / 3MHz / QPSK Highest Channel / 3MHz / 16QAM 4.40 dB • RBW 100 kHz 19 µs • VBW 300 kHz Mode Auto FFT SGL Count 100/100 1Pk Max SGL Count 100/100 91Pk Max 17.73 dBn 847.94960 MH 2.739260739 MH 20 dBm-2.721278721 MH dBm--20 dBm--20 dBm--30 dBm-40 dBm 40 dBm -50 dBm -50 dBm--70 dBm CF 847.5 MHz 1001 pts CF 847.5 MHz 1001 pts Span 6.0 MHz Span 6.0 MHz 
 Marker
 Y-value
 Function
 Function Result

 M1
 1
 847,9496 MHz
 17.73 dbm
 Punction Result

 T1
 1
 846,12737 MHz
 11.18 dbm
 Occ 8w
 2.739260

 T2
 1
 848,86663 MHz
 11.71 dbm
 0cc 8w
 2.739260
 2.739260739 MHz 2.721278721 MHz

Date: 18.AUG.2018 11:34:53

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LTE Band 26 Lowest Channel / 5MHz / QPSK Lowest Channel / 5MHz / 16QAM Ref Level 24.40 dBm Offset 4.40 dB • RBW 100 kHz

Att 30 dB SWT 19 µs • VBW 300 kHz Mode Auto FFT

SGL Count 100/100

1Pk Max Ref Level 24.40 dBm Offset 4.40 dB RBW 100 kHz
Att 30 dB SWT 19 µs WBW 300 kHz Mode Auto FFT
SGL Count 100/100 16.43 dBr 824.44200 MH 4.495504496 MH 15.77 dBr 825.50100 MH 10 dBm -10 dBm--50 dBm--50 dBm -60 dBm -60 dBm- 
 X-value
 Y-value
 Function
 Function Result

 B24.442 MHz
 16.43 dbm
 B24.24226 MHz
 10.66 dbm
 Occ BW
 4.495504

 B28.73776 MHz
 11.25 dbm
 Occ BW
 4.495504
 Type Ref Trc 
 Type
 Ref
 Trc
 X-value
 Y-value
 Function
 Function Result

 M1
 1
 825.501 MHz
 15.77 dBm
 Function
 Function
 Middle Channel / 5MHz / QPSK Middle Channel / 5MHz / 16QAM Ref Level 24.40 dBm Offset 4.40 dB RBW 100 kHz

Att 30 dB SWT 19 µs VBW 300 kHz Mode Auto FFT

SGL Count 100/100

PIR Max Ref Level 24.40 dBm Offset 4.40 dB ● RBW 100 kHz
Att 30 dB SWT 19 µs ● VBW 300 kHz Mode Auto FFT SGL Count 100/100 1Pk Max 15.45 dBr 834.90200 MF 4.475524476 MF -10 dBm--10 dBm -20 dBm -20 dBmmm -40 dBm -40 dBm--50 dBm--60 dBm -70 dBm 1001 pts Span 10.0 MHz 1001 pts Span 10.0 MHz CF 836.5 MHz CF 836.5 MHz 
 X-value
 Y-value
 Function

 834,902 MHz
 15.45 dBm
 Section

 834,27223 MHz
 10.19 dBm
 Occ Bw

 838,74775 MHz
 11.33 dBm
 Type | Ref | Trc | Function Result Function Result 4.475524476 MHz 4.495504496 MHz Date: 18.AUG-2018 11:33:54 Date: 18.AUG.2018 11:34:13 Highest Channel / 5MHz / QPSK Highest Channel / 5MHz / 16QAM 4.40 dB • RBW 100 kHz 19 µs • VBW 300 kHz Mode Auto FFT SGL Count 100/100 1Pk Max SGL Count 100/100 91Pk Max 16.53 dBn 844.78200 MH 4.515484515 MH 15.36 dBm 847.85900 MHz 4.475524476 MHz 20 dBmdBm--10 dBm--20 dBm -20 dBm-40 dBm -50 dBm -50 dBm--70 dBm 1001 pts CF 846.5 MHz 1001 pts Span 10.0 MHz CF 846.5 MHz Span 10.0 MHz 
 Marker
 Trc
 X-value
 Y-value
 Function
 Function Result

 M1
 1
 844.792 MHz
 16.53 d8m
 Process
 4.515484

 T1
 1
 844.2522 MHz
 10.83 d8m
 Occ 8w
 4.515484

 T2
 1
 846.76773 MHz
 10.83 d8m
 Occ 8w
 4.515484
 4.515484515 MHz 4.475524476 MHz

Date: 18.AUG.2018 11:55:35

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LTE Band 26 Lowest Channel / 10MHz / QPSK Lowest Channel / 10MHz / 16QAM Ref Level 24.40 dBm Offset 4.40 db & RBW 300 kHz

\*\*Att 30 dB SWT 12.6 µs \*\*VBW 1 MHz Mode Auto FFT

\*\*SGL Count 100/100

\*\*PIX Max\*\* Ref Level 24.40 dBm Offset 4.40 dB ● RBW 300 kHz
Att 30 dB SWT 12.6 µs ● VBW 1 MHz Mode Auto FFT
SGL Count 100/100 17.94 dBr 824.9440 MH 10989011 MH 17.18 dBn 825.3840 MH 70929071 MH 10 dBm--10 dBm -10 dBm--20 dBm -50 dBm -50 dBn -60 dBm -60 dBm-CF 829.0 MHz 
 X-value
 Y-value
 Function
 Function Result

 824.944 MHz
 17.94 dbm
 Punction Result

 824.4945 MHz
 11.76 dbm
 Occ Bw
 9.01098

 833.4955 MHz
 10.88 dbm
 Occ Bw
 9.01098
 Type Ref Trc Date: 18.AUG.2018 11:53:47 Middle Channel / 10MHz / QPSK Middle Channel / 10MHz / 16QAM Ref Level 24.40 dBm

Att 30 dB

SGL Count 100/100

1Pk Max Ref Level 24.40 dBm Offset 4.40 dB ● RBW 300 kHz
Att 30 dB SWT 12.6 μs ● VBW 1 MHz Mode Auto FFT Offset 4.40 dB ● RBW 300 kHz SWT 12.6 µs ● VBW 1 MHz Mode Auto FFT SGL Count 100/100 -10 dBm--20 dBm -20 dBm--40 dBm -40 dBm--50 dBm--60 dBm -70 dBm 1001 pts Span 20.0 MHz 1001 pts Span 20.0 MHz CF 836.5 MHz CF 836.5 MHz | X-value | Y-value | Function | 837.619 MHz | 17.09 dBm | 832.0045 MHz | 9.59 dBm | Occ Bw | 841.0155 MHz | 10.10 dBm | 
 X-value
 Y-value
 Function

 837.579 MHz
 18.67 dBm
 832.0045 MHz

 832.0045 MHz
 11.78 dBm
 Occ Bw

 840.9955 MHz
 10.87 dBm
 Type Ref Trc Type | Ref | Trc | Function Result Function Result 8.991008991 MHz 9.010989011 MHz Date: 18.AUG-2018 11:54:26 Date: 18 AUG 2018 11:54:45 Highest Channel / 10MHz / QPSK Highest Channel / 10MHz / 16QAM SGL Count 100/100 1Pk Max SGL Count 100/100 91Pk Max 17.68 dBn 842.2420 MH: 30969031 MH: 16.46 dBn 841.9220 MH; 070929071 MH; 20 dBmdBm--10 dBm -20 dBm--20 dBm/ 40 dBm 40 dBm -50 dBm -50 dBm-CF 844.0 MHz 1001 pts CF 844.0 MHz 1001 pts Span 20.0 MHz Span 20.0 MHz 9.030969031 MHz 9.070929071 MHz

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FAX: +86-512-57900958

LTE Band 26 Lowest Channel / 15MHz / QPSK Lowest Channel / 15MHz / 16QAM Ref Level 24.40 dBm Offset 4.40 db & RBW 300 kHz

\*\*Att 30 dB SWT 12.6 µs \*\*VBW 1 MHz Mode Auto FFT

\*\*SGL Count 100/100

\*\*PIX Max\*\* Ref Level 24.40 dBm Offset 4.40 dB ⊕ RBW 300 kHz
Att 30 db SWT 12.6 µs ⊕ VBW 1 MHz Mode Auto FFT
SGL Count 100/100 16.13 dB 15.85 dBr 10 dBm--10 dBm--50 dBm--50 dBm -60 dBm -60 dBm- 
 X-value
 Y-value
 Function
 Function Result

 836.505 MHz
 16.13 dbm
 16.78 dbm
 0cc Bw
 13.426573

 824.7567 MHz
 10.78 dbm
 0cc Bw
 13.426573

 838.1833 MHz
 10.40 dbm
 0cc Bw
 13.426573
 Middle Channel / 15MHz / QPSK Middle Channel / 15MHz / 16QAM Ref Level 24.40 dBm
Att 30 dB
SGL Count 100/100
Pk Max Ref Level 24.40 dBm Offset 4.40 dB ● RBW 300 kHz
Att 30 dB SWT 12.6 μs ● VBW 1 MHz Mode Auto FFT **Offset** 4.40 dB **● RBW** 300 kHz **SWT** 12.6 μs **● VBW** 1 MHz **Mode** Auto FFT SGL Count 100/100 1Pk Max 10 dBm--10 dBm--10 dBm -20 dBm -20 dBm--3e dBm= 36 dBm--40 dBm -40 dBm--50 dBm -50 dBm--60 dBm -60 dBn -70 dBm 1001 pts Span 30.0 MHz 1001 pts Span 30.0 MHz CF 836.5 MHz CF 836.5 MHz 
 X-value
 Y-value
 Function

 842.284 MHz
 16.35 dBm
 0.00 mm

 829.7867 MHz
 10.77 dBm
 0cc Bw

 843.2133 MHz
 10.47 dBm

 X-value
 Y-value
 Function

 841.265 MHz
 15.78 dBm
 829.8467 MHz

 829.8467 MHz
 9.06 dBm
 Occ Bw

 843.2433 MHz
 9.93 dBm
 Type | Ref | Trc | Function Result Function Result 13.426573427 MHz 13.396603397 MHz Date: 18.AUG 2018 12:43:48 Date: 18 AUG 2018 12:44:22 Highest Channel / 15MHz / QPSK Highest Channel / 15MHz / 16QAM SGL Count 100/100 1Pk Max SGL Count 100/100 91Pk Max 16.45 dBn 839.4320 MH 13.426573427 MH 20 dBm-13.456543457 MF dBm--10 dBm -20 dBm 60 dBm 40 dBm 40 dBm -50 dBm -50 dBm-1001 pts CF 841.5 MHz 1001 pts Span 30.0 MHz CF 841.5 MHz Span 30.0 MHz 
 Marker
 Y-value
 Function
 Function Result

 M1
 1
 839.432 MHz
 16.45 dBm
 Punction
 Function

 T1
 1
 834.765 MHz
 9.97 dBm
 Occ BW
 13.426573

 T2
 1
 848.2133 MHz
 10.09 dBm
 Occ BW
 13.426573
 13.426573427 MHz 13.456543457 MHz

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LTE Band 26 Lowest Channel / 1.4MHz / 64QAM Lowest Channel / 3MHz / 64QAM Ref Level 24.40 dBm Offset 4.40 db @ RBW 100 kHz

Att 30 dB SWT 19 µs @ VBW 300 kHz Mode Auto FFT

SGL Count 100/100

1Pk Max Ref Level 24.40 dbm Offset 4.40 db e RBW 30 kHz
Att 30 db SWT 63.2 µs e VBW 100 kHz Mode Auto FFT
SGL Count 100/100 15.74 dBr 824.37270 MH 1.104895105 MH 16.55 dBn 10 dBm--10 dBm -10 dBm-30 dBm -40 dBm--50 dBm -50 dBm--60 dBm--60 dBm-CF 825.5 MHz 
 X-value
 Y-value
 Function
 Function Result

 824-3727 MHz
 15.74 dBm
 824.3227 MHz
 8.02 dBm
 Occ Bw
 1.10489

 824-14615 MHz
 8.02 dBm
 Occ Bw
 1.10489

 825.25105 MHz
 7.71 dBm
 7.71 dBm
 7.71 dBm
 | X-value | Y-value | Function | 826.0035 MHz | 16.55 dBm | 824.14535 MHz | 10.09 dBm | Occ Bw | 826.87263 MHz | 8.04 dBm | Type Ref Trc Type Ref Trc Middle Channel / 1.4MHz / 64QAM Middle Channel / 3MHz / 64QAM Ref Level 24.40 dBm Offset 4.40 dB @ RBW 100 kHz Att 0.00 dB SWT 19 µs @ VBW 300 kHz Mode Auto FFT SGL count 100/100 GPL Max V SGL Count 100/100 1Pk Max 10 dBm--10 dBm--10 dBm -20 dBm--20 dBm-40 dBm -40 dBm--50 dBm--60 dBm -70 dBm 1001 pts Span 2.8 MHz CF 836.5 MHz 1001 pts Span 6.0 MHz CF 836.5 MHz 
 X-value
 Y-value
 Function

 836.1923 MHz
 15.98 dBm
 835.95455 MHz

 835.95455 MHz
 5.58 dBm
 Occ Bw

 837.04266 MHz
 8.63 dBm

 X-value
 Y-value
 Function

 837.3971 MHz
 16.02 dBm
 935.15135 MHz

 935.15135 MHz
 9.17 dBm
 Occ Bw

 837.86663 MHz
 9.78 dBm
 Type Ref Trc Function Result Function Result 1.088111888 MHz 2.715284715 MHz Date: 18.AUG 2018 10:30:14 Date: 18 AUG 2018 11:12:36 Highest Channel / 1.4MHz / 64QAM Highest Channel / 3MHz / 64QAM 0 dBm Offset 4.40 dB • RBW 30 kHz 30 dB SWT 63.2 µs • VBW 100 kHz Mode Auto FFT SGL Count 100/100 1Pk Max SGL Count 100/100 14.64 dBn 848.64130 MH 1.090909091 MH 20 dBmdBm--10 dBm -20 dBm 30. dBm-40 dBm -50 dBm--50 dBm--70 dBm CF 848.3 MHz CF 847.5 MHz 1001 pts Span 6.0 MHz Span 2.8 MHz 1.090909091 MHz 2.703296703 MHz

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LTE Band 26 Lowest Channel / 5MHz / 64QAM Lowest Channel / 10MHz / 64QAM Offset 4.40 dB ● RBW 300 kHz SWT 12.6 µs ● VBW 1 MHz Mode Auto FFT 30 dB SGL Count 100/100 -20 dBm--20 dBm 30 dBm -50 dBm--50 dBm--70 dBm CF 826.5 MHz Marker Span 20.0 MHz 1001 pts Span 10.0 MHz CF 829.0 MHz 1001 pts 
 X-value
 Y-value
 Function

 825.211 MHz
 13.99 dBm
 824.24226 MHz

 824.24226 MHz
 9.35 dBm
 Occ Bw

 828.74775 MHz
 8.61 dBm
 Type Ref Trc Type | Ref | Trc | 
 X-value
 Y-value
 Function

 832.516 MHz
 15.55 dBm
 Schemar

 824.4246 MHz
 9.94 dBm
 Occ Bw

 833.5155 MHz
 9.51 dBm
 Function Result Function Result 4.505494505 MHz 9.090909091 MHz Date: 18.AUG.2018 11:54:05 Date: 18.AUG.2018 11:33:34 Middle Channel / 5MHz / 64QAM Middle Channel / 10MHz / 64QAM Ref Level 24.40 dBm Offset 4.40 dB RBW 300 kHz

Att 30 db SWT 12.6 ps VBW 1 MHz Mode Auto FFT

SGL Count 100/100

1Pk Max Ref Level 24.40 dBm Offset 4.40 dB → RBW 100 kHz
Att 30 dB SWT 19 µs → VBW 300 kHz Mode Auto FFT
SGL Count 100/100 10 dBm -10 dBm-30 dgm -50 dBm -50 dBm--60 dBm-Highest Channel / 5MHz / 64QAM Highest Channel / 10MHz / 64QAM **□**□□ Ref Level 24.40 dBm

Att 30 dB

SGL Count 100/100

1Pk Max Ref Level 24.40 dBm
Att 30 dB
SGL Count 100/100 15.97 dBn 842.3220 MH; 90909091 MH; -10 dBm--10 dBm 40 dBm--40 dBm--60 dBm 1001 pts Span 10.0 MHz CF 844.0 MHz 1001 pts Span 20.0 MHz X-value 842.322 MHz 839.4446 MHz 848.5355 MHz Type Ref Trc Function Result Type Ref Trc Y-value Function

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9.090909091 MHz

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Date: 18.AUG.2018 11:56:16

4.525474525 MHz

Date: 18.AUG.2018 11:35:31

LTE Band 26 Lowest Channel / 15MHz / 64QAM Ref Level 24.40 dBm Offset 4.40 dB ⊕ RBW 300 kHz

• Att 30 dB SWT 12.6 μs ⊕ VBW 1 MHz Mode Auto FFT

SGL Count 100/100

∋IPK Max -50 dBm -60 dBm-Middle Channel / 15MHz / 64QAM -40 dBm-CF 836.5 MHz 1001 pts 
 X-value
 Y-value
 Function

 839.347 MHz
 13.53 dBm
 829.7567 MHz

 829.7567 MHz
 9.40 dBm
 Occ Bw

 843.1833 MHz
 9.23 dBm
 Type Ref Trc Function Result 13.426573427 MHz Date: 18.AUG.2018 12:44:42 Highest Channel / 15MHz / 64QAM SGL Count 100/100 91Pk Max 13.14 dBn 836.8550 MH 13.486513487 MH -50 dBm-CF 841.5 MHz Span 30.0 MHz 
 Marker
 Trc
 X-value
 Y-value
 Function
 Function Result

 M1
 1
 836.855 MHz
 13.14 dBm
 Percentage
 11
 1
 836.755 MHz
 9.62 dBm
 Occ 8w
 13.486513

 T2
 1
 848.2433 MHz
 9.47 dBm
 Occ 8w
 13.486513

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13.486513487 MHz

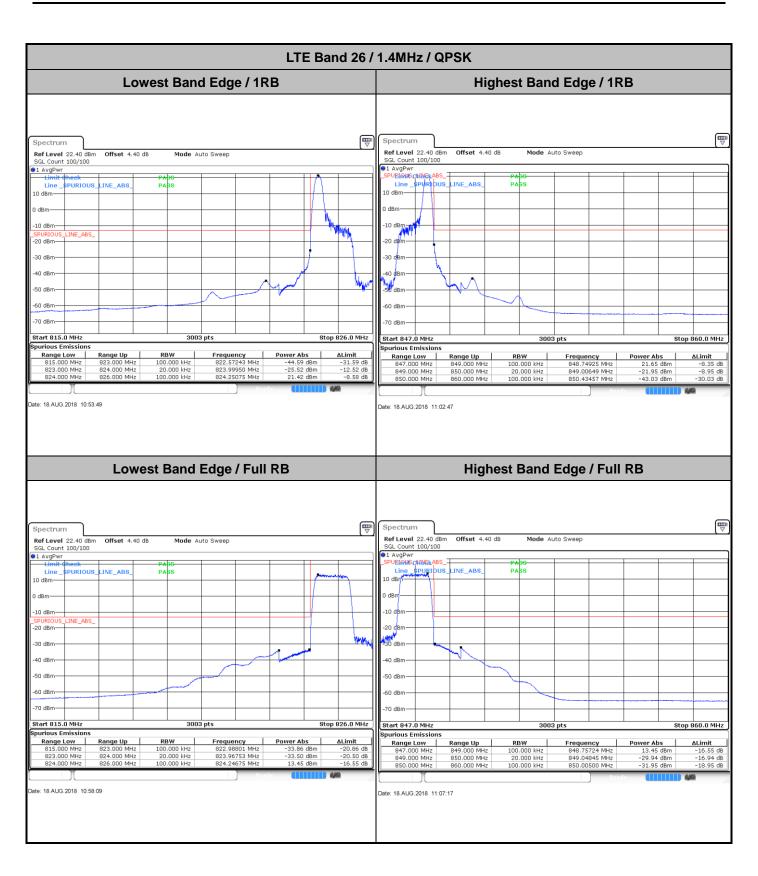
FAX: +86-512-57900958

Date: 18.AUG.2018 12:45:56

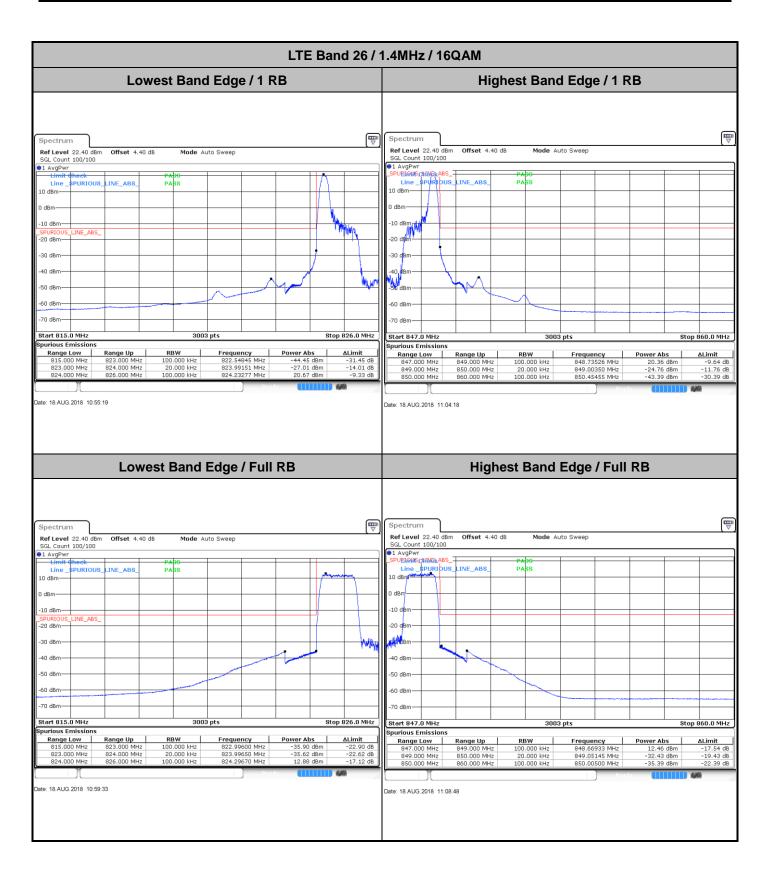
## **Conducted Band Edge**

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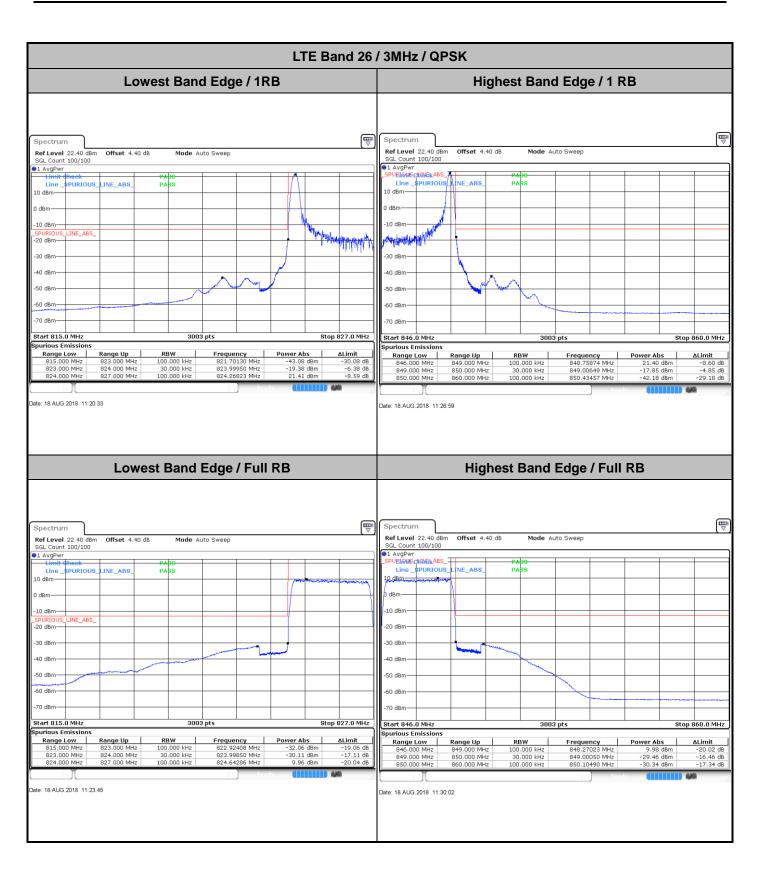
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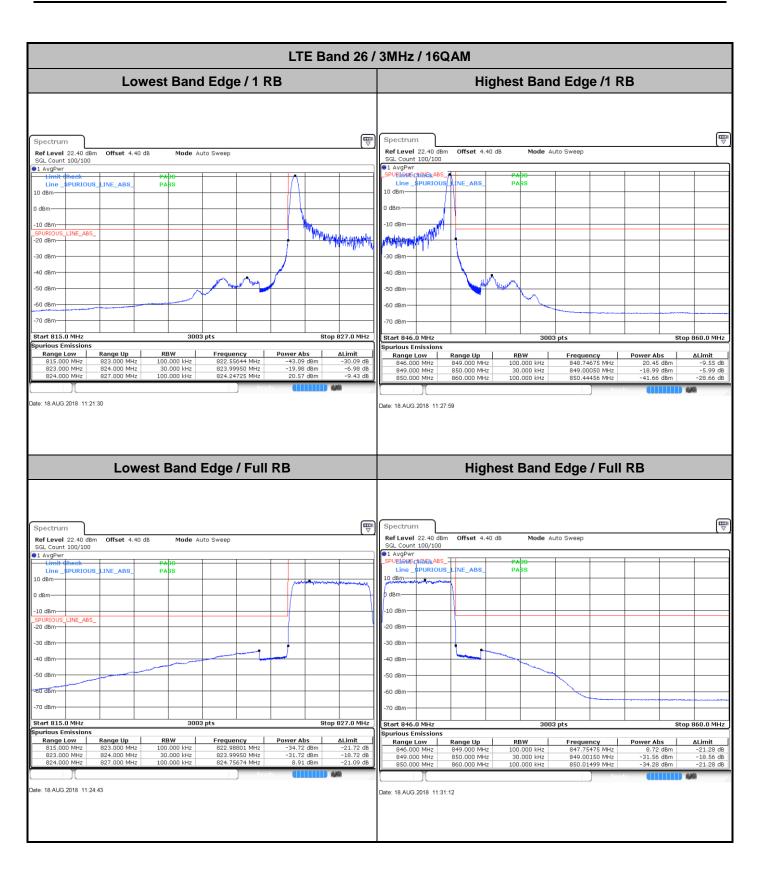
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