



### FCC RADIO TEST REPORT

**FCC ID** : 2AIP8-SR00300W

Equipment : Smartphone **Brand Name** : SIRIN LABS **Model Name** : SR00300-W

: SIRIN LABS AG **Applicant** 

Freier Platz 10, 8200 Schaffhausen, Switzerland

Manufacturer : SIRIN LABS AG

Freier Platz 10, 8200 Schaffhausen, Switzerland

Standard : FCC 47 CFR Part 2, and 90(S)

The product was received on Oct. 05, 2018 and testing was started from Oct. 18, 2018 and completed on Nov. 21, 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 INTERNATIONAL INC. EMC & Wireless Communications Laboratory, the test report shall not be reproduced except in full.

Approved by: Joseph Lin

SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory

No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)

TEL: 886-3-327-3456 : 1 of 21 Page Number FAX: 886-3-328-4978 Issued Date : Nov. 21, 2018

#### **Table of Contents**

Report No. : FG8O0518E

His	story o	of this test report	3
		y of Test Result	
1	Gene	eral Description	Ę
	1.1	Feature of Equipment Under Test	
	1.2	Modification of EUT	
	1.3	Testing Site	
	1.4	Applied Standards	
2	Test	Configuration of Equipment Under Test	
	2.1	Test Mode	
	2.2	Connection Diagram of Test System	8
	2.3	Support Unit used in test configuration and system	
	2.4	Measurement Results Explanation Example	
	2.5	Frequency List of Low/Middle/High Channels	
3	Cond	ducted Test Items	10
	3.1	Measuring Instruments	10
	3.2	Conducted Output Power Measurement and ERP Measurement	11
	3.3	Peak-to-Average Ratio	12
	3.4	99% Occupied Bandwidth and 26dB Bandwidth Measurement	
	3.5	Emissions Mask Measurement	14
	3.6	Emissions Mask – Out Of Band Emissions Measurement	15
	3.7	Frequency Stability Measurement	16
	3.8	Field Strength of Spurious Radiation Measurement	17
4	List	of Measuring Equipment	19
5	Unce	ertainty of Evaluation	21
Αp	pendi	x A. Test Results of Conducted Test	
Αp	pendi	x B. Test Results of ERP and Radiated Test	
Δn	nendi	y C. Test Setup Photographs	

TEL: 886-3-327-3456 Page Number : 2 of 21 FAX: 886-3-328-4978 Issued Date : Nov. 21, 2018

### History of this test report

Report No. : FG8O0518E

Report No.	Version	Description	Issued Date
FG8O0518E	01	Initial issue of report	Nov. 21, 2018

TEL: 886-3-327-3456 Page Number : 3 of 21 FAX: 886-3-328-4978 Issued Date : Nov. 21, 2018

### **Summary of Test Result**

Report No. : FG8O0518E

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
3.2	§2.1046 §90.635	Conducted Output Power and Effective Radiated Power	Pass	-
3.3	-	Peak-to-Average Ratio	Reporting only	-
3.4	§2.1049 §90.209	Occupied Bandwidth and 26dB Bandwidth	Reporting only	-
3.5	§2.1051 §90.691	Emission masks – In-band emissions	Pass	-
3.6	§2.1051 §90.691	Emission masks – Out of band emissions	Pass	-
3.7	§2.1055 §90.213	Frequency Stability for Temperature & Voltage	Pass	-
3.8	§2.1053 §90.691	Field Strength of Spurious Radiation	Pass	Under limit 27.18 dB at 2444.000 MHz

Reviewed by: Wii Chang Report Producer: Yimin Ho

TEL: 886-3-327-3456 Page Number : 4 of 21 FAX: 886-3-328-4978 Issued Date : Nov. 21, 2018

### 1 General Description

#### 1.1 Feature of Equipment Under Test

GSM/CDMA/WCDMA/LTE, Bluetooth, Wi-Fi 2.4GHz 802.11b/g/n, Wi-Fi 5GHz 802.11a/n/ac, NFC, and GNSS.

Report No.: FG8O0518E

Product Specification subjective to this standard							
Antenna Type	WWAN: PIFA Antenna WLAN: <ant. 1="">: PIFA Antenna <ant. 2="">: PIFA Antenna Bluetooth: PIFA Antenna GPS/Glonass/BDS/Galileo: PIFA Antenna NFC: Loop Antenna</ant.></ant.>						

#### 1.2 Modification of EUT

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

#### 1.3 Testing Site

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code: 1190) and the FCC designation No. TW1190 and TW0007 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC Test.

Test Site	SPORTON INTERNATIONAL INC.					
Test Site Location	No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.) TEL: +886-3-327-3456 FAX: +886-3-328-4978					
Test Site No.	Sporton Site No. TH05-HY					

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

Test Site	SPORTON INTERNATIONAL INC.					
Test Site Location	No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.) TEL: +886-3-327-0868 FAX: +886-3-327-0855					
Test Site No.	Sporton Site No. 03CH12-HY					

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

TEL: 886-3-327-3456 Page Number : 5 of 21 FAX: 886-3-328-4978 Issued Date : Nov. 21, 2018

#### 1.4 Applied Standards

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

Report No.: FG8O0518E

- FCC 47 CFR Part 2, 90
- ANSI / TIA-603-E
- ANSI C63.26-2015
- FCC KDB 971168 D01 Power Meas. License Digital Systems v03r01
- FCC KDB 412172 D01 Determining ERP and EIRP v01r01
- Interim Guidance for Equipment Authorization of Devices with Channel Bandwidths Combined Across Two Contiguous Service Rule Allocations OET/Lab/EACB, June 6, 2013

#### Remark:

- All test items were verified and recorded according to the standards and without any deviation during the test.
- 2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.

TEL: 886-3-327-3456 Page Number : 6 of 21 FAX: 886-3-328-4978 Issued Date : Nov. 21, 2018

### 2 Test Configuration of Equipment Under Test

#### 2.1 Test Mode

During all testing, EUT is in link mode with base station emulator at maximum power level.

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

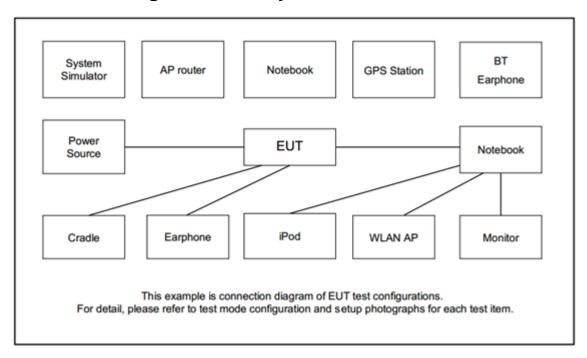
Report No.: FG8O0518E

Frequency range investigated for radiated emission is 30 MHz to 9000 MHz.

Conducted	David	Bandwidth (MHz)				Modulation			RB#			Test Channel				
Test Cases	Band	1.4	3	5	10	15	20	QPSK	16QAM	64QAM	1	Half	Full	L	М	Н
Max. Output Power	26	٧	٧	٧	v	v	ı	٧	v	v	٧	v	V	V	٧	٧
Peak-to-Average Ratio	26					v	-	V	v	v	٧		V	V	٧	٧
26dB and 99% Bandwidth	26	V	V	v	v	v	-	v	v	v			v	v	v	v
Emission masks In-band emissions	26	٧	٧	٧	v	v	1	V	v	v	٧		v	V		٧
Emission masks – Out of band emissions	26	٧	٧	٧	v	v	-	V	v	v	>			v	٧	٧
Frequency Stability	26	-	-		v	v	-	v	v	v			v		v	
E.R.P.	26					v	ı	>	v	v	>			V	>	>
Radiated Spurious Emission 26 Worst Case							V	٧	٧							
Remark	1. The mark "v" means that this configuration is chosen for testing 2. The mark "-" means that this bandwidth is not supported. 3. LTE Band26 transmit frequency for part22 rule is 824MHz-849MHz, for part90 rule is 814MHz-824M ERP over 15MHz bandwidth complies the ERP limit line of part22 rule, therefore ERP of the partial frequency spectrum which falls within part 22 also complies.					ИHz.										

TEL: 886-3-327-3456 Page Number : 7 of 21
FAX: 886-3-328-4978 Issued Date : Nov. 21, 2018

#### 2.2 Connection Diagram of Test System



Report No.: FG8O0518E

#### 2.3 Support Unit used in test configuration and system

Item	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 RF conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level will be exactly the RF output level.

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

Offset = RF cable loss + attenuator factor.

The following shows an offset computation example with RF cable loss 4.2 dB and a 10dB attenuator.

#### Example:

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

$$= 4.2 + 10 = 14.2 (dB)$$

TEL: 886-3-327-3456 Page Number : 8 of 21 FAX: 886-3-328-4978 Issued Date : Nov. 21, 2018

### 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	26765	-	-					
15	Frequency	821.5	-	-					
40	Channel	-	26740	-					
10	Frequency	-	819	-					
5	Channel	26715	26740	26765					
5	Frequency	816.5	819	821.5					
3	Channel	26705	26740	26775					
3	Frequency	815.5	819	822.5					
1.4	Channel	26697	26740	26783					
1.4	Frequency	814.7	819	823.3					

Report No. : FG8O0518E

TEL: 886-3-327-3456 Page Number : 9 of 21 FAX: 886-3-328-4978 Issued Date : Nov. 21, 2018

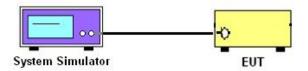
#### 3 Conducted Test Items

#### 3.1 Measuring Instruments

See list of measuring instruments of this test report.

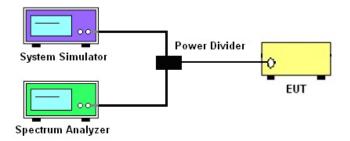
#### 3.1.1 Test Setup

#### 3.1.2 Conducted Output Power

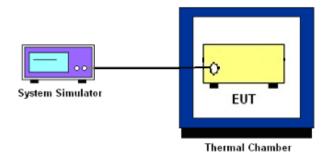


Report No.: FG8O0518E

# 3.1.3 Peak-to-Average Ratio, Occupied Bandwidth, Conducted Band-Edge, Emission Mask, Emissions Mask – Out Of Band Emissions, and Conducted Spurious Emission



#### 3.1.4 Frequency Stability



#### 3.1.5 Test Result of Conducted Test

Please refer to Appendix A.

TEL: 886-3-327-3456 Page Number : 10 of 21 FAX: 886-3-328-4978 Issued Date : Nov. 21, 2018

#### 3.2 Conducted Output Power Measurement and ERP Measurement

## 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 enforce EUT transmitting at the maximum power. The measured power in the radio frequency on the transmitter output terminals shall be reported.

Report No.: FG8O0518E

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

According to KDB 412172 D01 Power Approach,

 $EIRP = P_T + G_T - L_C$ , where

 $P_T$  = transmitter output power in dBm

 $G_T$  = 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 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.

TEL: 886-3-327-3456 Page Number : 11 of 21 FAX: 886-3-328-4978 Issued Date : Nov. 21, 2018

#### 3.3 Peak-to-Average Ratio

#### 3.3.1 Description of the PAR Measurement

Reporting only

#### 3.3.2 Test Procedures

- 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.

Report No.: FG8O0518E

- 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.

TEL: 886-3-327-3456 Page Number : 12 of 21 FAX: 886-3-328-4978 Issued Date : Nov. 21, 2018

#### 3.4 99% Occupied Bandwidth and 26dB Bandwidth Measurement

#### 3.4.1 Description of (Occupied) Bandwidth Limitations Measurement

The 99% 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.

Report No.: FG8O0518E

The emission bandwidth is defined as the width of the signal between two points, located at the 2 sides of the carrier frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

#### 3.4.2 Test Procedures

- 1. The EUT was connected to spectrum analyzer and system simulator via a power divider.
- 2. The 26dB and 99% occupied bandwidth (BW) of the middle channel for the highest RF power with full RB sizes were measured.

TEL: 886-3-327-3456 Page Number : 13 of 21 FAX: 886-3-328-4978 Issued Date : Nov. 21, 2018

#### 3.5 Emissions Mask Measurement

#### 3.5.1 Description of Emissions Mask Measurement

Equipment used in this licensed to EA or non-EA systems shall comply with the emission mask provisions of FCC Part 90.691.(a)

Report No.: FG8O0518E

- (a) Out-of-band emission requirement shall apply only to the "outer" channels included in an EA license and to spectrum adjacent to interior channels used by incumbent licensees. The emission limits are as follows:
- (1) For any frequency removed from the EA licensee's frequency block by up to and including 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least 116  $\log_{10}(f/6.1)$  decibels or 50 + 10  $\log_{10}(P)$  decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 12.5 kHz.
- (2) For any frequency removed from the EA licensee's frequency block greater than 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least  $43 + 10 \text{Log}_{10}$  (P) decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 37.5 kHz.

#### 3.5.2 Test Procedures

- 1. The EUT was connected to spectrum analyzer and base station via power divider.
- 2. The emissions mask of low and high channels for the highest RF powers were measured.
- 3. The measured RBW and the VBW set 3 times of RBW are then set in spectrum analyzer, and
- the RBW correction factor 10log (1% of OBW/measured RBW)(dB) was compensated, if required.
- 5. The test results were shown below plots with a correction offset factor including cable loss, insertion loss of power divider.

TEL: 886-3-327-3456 Page Number : 14 of 21 FAX: 886-3-328-4978 Issued Date : Nov. 21, 2018

#### 3.6 Emissions Mask - Out Of Band Emissions Measurement

#### 3.6.1 Description of Conducted Emissions Out of band emissions measurement

The power of any emission FCC Part 90.691 (a)(2) on any frequency removed from the assigned frequency by out of the authorized bandwidth at least 43 + 10 log (P) dB. 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.

Report No.: FG8O0518E

#### 3.6.2 Test Procedures

- 1. The EUT was connected to spectrum analyzer and system simulator via a power divider.
- 2. 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, taking the record of maximum spurious emission.
- 6. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
- 7. The limit line is derived from 43 + 10log(P)dB below the transmitter power P(Watts)

TEL: 886-3-327-3456 Page Number : 15 of 21 FAX: 886-3-328-4978 Issued Date : Nov. 21, 2018

### 3.7 Frequency Stability Measurement

#### 3.7.1 Description of Frequency Stability Measurement

The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

Report No.: FG8O0518E

#### 3.7.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

#### 3.7.3 Test Procedures for Temperature Variation

- 1. The EUT was set up in the thermal chamber and connected with the base station.
- 1. With power OFF, the temperature was decreased to -30°C and the EUT was stabilized for three hours. Power was applied and the maximum change in frequency was recorded within one minute.
- 2. 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.

#### 3.7.4 Test Procedures for Voltage Variation

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

TEL: 886-3-327-3456 Page Number : 16 of 21 FAX: 886-3-328-4978 Issued Date : Nov. 21, 2018

#### 3.8 Field Strength of Spurious Radiation Measurement

#### 3.8.1 Description of Field Strength of Spurious Radiated Measurement

The radiated spurious emission was measured by substitution method according to ANSI / TIA-603-E. The power of any emission FCC Part 90.691 on any frequency removed from the assigned frequency by more than 250 percent of the authorized bandwidth at least 43 + 10 log (P) dB. The spectrum is scanned from 30 MHz up to a frequency including its 10th harmonic.

Report No.: FG8O0518E

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+10log<sub>10</sub>(P[Watts]) dB. The spectrum is scanned from 30 MHz up to a frequency including its 10th harmonic.

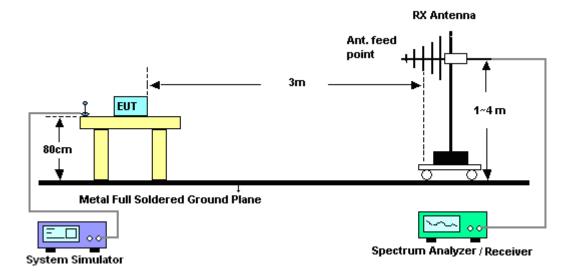
#### 3.8.2 Test Procedures

- 4. 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.
- 5. The EUT was set 3 meters from the receiving antenna, which was mounted on the antenna tower.
- 6. The table was rotated 360 degrees to determine the position of the highest spurious emission.
- 7. 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.
- 8. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, Sweep = 500ms, Taking the record of maximum spurious emission.
- 9. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
- 10. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
- 11. Taking the record of output power at antenna port.
- 12. Repeat step 7 to step 8 for another polarization.
- 13. EIRP (dBm) = S.G. Power Tx Cable Loss + Tx Antenna Gain
- 14. ERP (dBm) = EIRP 2.15
- 15. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
- 16. The limit line is derived from 43 + 10log(P) dB below the transmitter power P(Watts)

TEL: 886-3-327-3456 Page Number : 17 of 21 FAX: 886-3-328-4978 Issued Date : Nov. 21, 2018

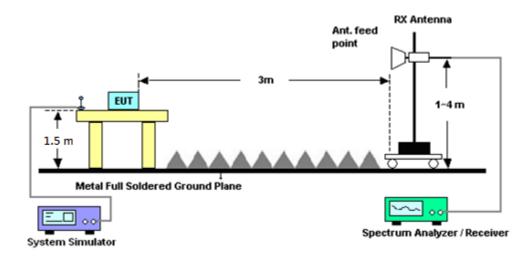
#### 3.8.3 Test Setup

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



Report No.: FG8O0518E

#### For radiated test above 1GHz



#### 3.8.4 Test Result of Field Strength of Spurious Radiated

Please refer to Appendix B.

TEL: 886-3-327-3456 Page Number : 18 of 21
FAX: 886-3-328-4978 Issued Date : Nov. 21, 2018

### 4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
LTE Base Station	Anritsu	MT8820C	620143282 1	GSM/GPRS /WCDMA/LTE	Oct. 14, 2018	Oct. 20, 2018 ~ Nov. 21, 2018	Oct. 13, 2019	Conducted (TH05-HY)
Base Station(Measure)	Anritsu	MT8821C	620166475 5	GSM / GPRS /WCDMA / LTE FDD/TDD with 44) /LTE-3CC DLCA,2CC ULCA	Mar. 26, 2018	Oct. 20, 2018 ~ Nov. 21, 2018	Mar. 25, 2019	Conducted (TH05-HY)
Spectrum Analyzer	Rohde & Schwarz	FSV40	101408	10Hz~40GHz	Jul. 30, 2018	Oct. 20, 2018 ~ Nov. 21, 2018	Jul. 29, 2019	Conducted (TH05-HY)
Temperature Chamber	ESPEC	SH-641	92013720	-40°C ~90°C	Aug. 29, 2018	Oct. 20, 2018 ~ Nov. 21, 2018	Aug. 28, 2019	Conducted (TH05-HY)
Programmable Power Supply	GW Instek	PSS-2005	EL890094	1V~20V 0.5A~5A	Oct. 02, 2018	Oct. 20, 2018 ~ Nov. 21, 2018	Oct. 01, 2019	Conducted (TH05-HY)
Coupler	Warison	1-18GHz 20d B 25WSMA Directional C oupler	#B	1G~18GHz	Dec. 04, 2017	Oct. 20, 2018 ~ Nov. 21, 2018	Dec. 03, 2018	Conducted (TH05-HY)
Coupler	Warison	0.5-18G 10d B 30W	DOM5CIW 3A1	0.5-18GHz	Feb. 21, 2018	Oct. 20, 2018 ~ Nov. 21, 2018	Feb. 20, 2019	Conducted (TH05-HY)
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100488	9 kHz~30 MHz	Nov. 23, 2017	Oct. 18, 2018 ~ Nov. 12, 2018	Nov. 22, 2018	Radiation (03CH12-HY)
Bilog Antenna	TESEQ	CBL 6111D&00802 N1D01N-06	47020&06	30MHz to 1GHz	Nov. 20, 2017	Oct. 18, 2018 ~ Nov. 12, 2018	Nov. 19, 2018	Radiation (03CH12-HY)
Horn Antenna	SCHWARZBE CK	BBHA 9120D	9120D-121 2	1GHz ~ 18GHz	May 10, 2018	Oct. 18, 2018 ~ Nov. 12, 2018	May 09, 2019	Radiation (03CH12-HY)
SHF-EHF Horn Antenna	SCHWARZBE CK	BBHA 9170	BBHA9170 584	18GHz ~ 40GHz	Nov. 27, 2017	Oct. 18, 2018 ~ Nov. 12, 2018	Nov. 26, 2018	Radiation (03CH12-HY)
Preamplifier	COM-POWER	PA-103	161075	10MHz~1GHz	Mar. 26, 2018	Oct. 18, 2018 ~ Nov. 12, 2018	Mar. 25, 2019	Radiation (03CH12-HY)
Preamplifier	Keysight	83017A	MY532701 48	1GHz~26.5GHz	Jan. 15, 2018	Oct. 18, 2018 ~ Nov. 12, 2018	Jan. 14, 2019	Radiation (03CH12-HY)
Preamplifier	MITEQ	AMF-7D-0010 1800-30-10P	1590074	1GHz~18GHz	May 21, 2018	Oct. 18, 2018 ~ Nov. 12, 2018	May 20, 2019	Radiation (03CH12-HY)
Preamplifier	EMEC	EM18G40G	060715	18GHz ~ 40GHz	Dec. 05, 2017	Oct. 18, 2018 ~ Nov. 12, 2018	Dec. 04, 2018	Radiation (03CH12-HY)
EMI Test Receiver	Rohde & Schwarz	ESU26	100390	20Hz~26.5GHz	Dec. 25, 2017	Oct. 18, 2018 ~ Nov. 12, 2018	Dec. 24, 2018	Radiation (03CH12-HY)
Spectrum Analyzer	Keysight	N9010A	MY553705 26	10Hz~44GHz	Mar. 15, 2018	Oct. 18, 2018 ~ Nov. 12, 2018	Mar. 14, 2019	Radiation (03CH12-HY)
Horn Antenna	SCHWARZBE CK	BBHA 9120D	9120D-152 2	1GHz ~ 18GHz	May 10, 2018	Oct. 18, 2018 ~ Nov. 12, 2018	May 09, 2019	Radiation (03CH12-HY)
Signal Generator	Rohde & Schwarz	SMF100A	101107	100kHz~40GHz	May 21, 2018	Oct. 18, 2018 ~ Nov. 12, 2018	May 20, 2019	Radiation (03CH12-HY)

Report No. : FG8O0518E

TEL: 886-3-327-3456 Page Number : 19 of 21 FAX: 886-3-328-4978 Issued Date : Nov. 21, 2018

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Base Station	Rohde & Schwarz	CMU200	106656	GSM/GPRS/WC DMA/CDMA	Nov. 15, 2016	Oct. 18, 2018 ~ Nov. 12, 2018	Nov. 14, 2018	Radiation (03CH12-HY)
Base Station	Anritsu	MT8821C	620143281 6	GSM / GPRS /WCDMA / LTE FDD/TDD with 44) /LTE-3CC DLCA,2CC ULCA	May 02, 2017	Oct. 18, 2018 ~ Nov. 12, 2018	May 01, 2019	Radiation (03CH12-HY)
Filter	Wainwright	WLKS1200-1 2SS	SN2	1.2GHz Low Pass	Mar. 21, 2018	Oct. 18, 2018 ~ Nov. 12, 2018	Mar. 20, 2019	Radiation (03CH12-HY)
Notch Filter	Wainwright	WRCD1800/2 000-20/40-10 SSK	SN1	LTE Band 25	Aug. 23, 2018	Oct. 18, 2018 ~ Nov. 12, 2018	Aug. 22, 2019	Radiation (03CH12-HY)
Notch Filter	Wainwright	WTRCD10-17 10-1785-20-4 0-40SSK	SN1	1710-1785	May 22, 2018	Oct. 18, 2018 ~ Nov. 12, 2018	May 21, 2019	Radiation (03CH12-HY)
Notch Filter	Wainwright	WRCT/800/96 0-0.2/40-8SS K	SN11	GSM850	Aug. 23, 2018	Oct. 18, 2018 ~ Nov. 12, 2018	Aug. 22, 2019	Radiation (03CH12-HY)
Notch Filter	Wainwright	WRCT2300/2 500-20/40-10 SSK	SN1	2300/2500	May 23, 2018	Oct. 18, 2018 ~ Nov. 12, 2018	May 22, 2019	Radiation (03CH12-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 126E	0058/126E	30M-18G	Mar. 14, 2018	Oct. 18, 2018 ~ Nov. 12, 2018	Mar. 13, 2019	Radiation (03CH12-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	505134/2	30M~40GHz	Oct. 16, 2018	Oct. 18, 2018 ~ Nov. 12, 2018	Oct. 15, 2019	Radiation (03CH12-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	800740/2	30M~40GHz	Oct. 16, 2018	Oct. 18, 2018 ~ Nov. 12, 2018	Oct. 15, 2019	Radiation (03CH12-HY)
Antenna Mast	EMEC	AM-BS-4500- B	N/A	1m~4m	N/A	Oct. 18, 2018 ~ Nov. 12, 2018	N/A	Radiation (03CH12-HY)
Turn Table	EMEC	TT2000	N/A	0~360 Degree	N/A	Oct. 18, 2018 ~ Nov. 12, 2018	N/A	Radiation (03CH12-HY)
Software	Audix	E3 6.2009-8-24	RK-00098 9	N/A	N/A	Oct. 18, 2018 ~ Nov. 12, 2018	N/A	Radiation (03CH12-HY)

Report No. : FG8O0518E

TEL: 886-3-327-3456 Page Number : 20 of 21 FAX: 886-3-328-4978 Issued Date : Nov. 21, 2018

### 5 Uncertainty of Evaluation

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

Measuring Uncertainty for a Level of	3.36
Confidence of 95% (U = 2Uc(y))	3.30

Report No.: FG8O0518E

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

Measuring Uncertainty for a Level of	3.70
Confidence of 95% (U = 2Uc(y))	3.70

#### <u>Uncertainty of Radiated Emission Measurement (18 GHz ~ 40 GHz)</u>

Measuring Uncertainty for a Level of	3.98
Confidence of 95% (U = 2Uc(y))	3.96

TEL: 886-3-327-3456 Page Number : 21 of 21 FAX: 886-3-328-4978 Issued Date : Nov. 21, 2018



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

### Conducted Output Power(Average power)

		LTE	Band 26 Ma	ximum Average Po	ower [dBm]	
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0		22.91	-	-
15	1	37		22.82	-	-
15	1	74		22.71	-	-
15	36	0	QPSK	21.89	-	-
15	36	20		21.87	-	-
15	36	39		21.78	-	-
15	75	0		21.82	-	-
15	1	0		22.00	-	-
15	1	37		21.99	-	-
15	1	74		21.99	-	-
15	36	0	16-QAM	20.96	-	-
15	36	20		20.93	-	-
15	36	39		20.88	-	-
15	75	0		20.90	-	-
15	1	0		21.00	-	-
15	1	37		20.95	-	-
15	1	74		20.98	-	-
15	36	0	64-QAM	19.98	-	-
15	36	20		19.97	-	-
15	36	39		19.90	-	-
15	75	0		19.92	-	-
10	1	0		-	22.77	-
10	1	25		-	22.79	-
10	1	49		-	22.72	-
10	25	0	QPSK	-	21.79	-
10	25	12		-	21.78	-
10	25	25		-	21.80	-
10	50	0		-	21.74	-
10	1	0		-	22.00	-
10	1	25		-	21.97	-
10	1	49		-	21.99	-
10	25	0	16-QAM	-	20.86	-
10	25	12		-	20.81	-
10	25	25		-	20.88	-
10	50	0		-	20.81	-
10	1	0		-	20.93	-
10	1	25		-	20.99	-
10	1	49		-	20.96	-
10	25	0	64-QAM	-	19.86	-
10	25	12		-	19.85	-
10	25	25		-	19.89	-
10	50	0		-	19.84	-



### SPORTON LAB. FCC RADIO TEST REPORT

LTE Band 26 Maximum Average Power [dBm]									
BW [MHz]	RB Size	RB Offset	Mod Mod	Lowest	Middle	Highest			
			WIOG	22.89	22.73	22.83			
5 5	1	0 12		22.88	22.78	22.77			
5	1	24		22.86	22.77	22.74			
5 5	12	0	QPSK	22.86	21.73	21.84			
5		7	QF3K		21.73	21.83			
5	12 12	13		21.93 21.90	21.73	21.83			
5						21.80			
5	25	0		21.90 22.00	21.73 21.92	22.00			
	1	12							
5 5	1	24		22.00	21.97	21.98 21.94			
			46 O A M	22.00	21.96				
5	12	0	16-QAM	20.93	20.83	20.95			
5	12	7		20.93	20.82	20.92			
5	12	13		20.96	20.89	20.87			
5	25	0		20.97	20.77	20.92			
5	1	0		21.00	20.98	20.97			
5	1	12		21.00	21.00	21.00			
5	1	24		20.97	20.97	20.99			
5	12	0	64-QAM	19.97	19.89	19.99			
5	12	7		19.97	19.86	19.95			
5	12	13		19.93	19.94	19.92			
5	25	0		20.00	19.82	19.88			
3	1	0		22.90	22.70	22.78			
3	1	8		22.88	22.79	22.75			
3	1	14		22.89	22.78	22.76			
3	8	0	QPSK	21.92	21.75	21.82			
3	8	4		21.94	21.77	21.83			
3	8	7		21.88	21.84	21.78			
3	15	0		21.90	21.74	21.81			
3	1	0		22.20	21.95	22.09			
3	1	8		22.21	22.03	22.06			
3	1	14		22.19	22.09	22.05			
3	8	0	16-QAM	21.05	20.83	20.93			
3	8	4		21.05	20.87	20.95			
3	8	7		21.01	20.94	20.89			
3	15	0		21.01	20.82	20.89			
3	1	0		21.15	20.95	21.01			
3	1	8		21.14	21.00	21.00			
3	1	14		21.10	21.01	20.98			
3	8	0	64-QAM	20.04	19.88	19.90			
3	8	4		20.07	19.86	19.94			
3	8	7		20.02	19.92	19.90			
3	15	0		19.99	19.81	19.88			

Report No. : FG8O0518E



		LTE	Band 26 Ma	ximum Average Po	ower [dBm]	
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
1.4	1	0		22.83	22.63	22.68
1.4	1	3		22.87	22.79	22.75
1.4	1	5		22.81	22.73	22.65
1.4	3	0	QPSK	22.87	22.65	22.72
1.4	3	1		22.89	22.70	22.75
1.4	3	3		22.83	22.75	22.70
1.4	6	0		21.85	21.64	21.72
1.4	1	0	16-QAM	22.10	21.98	22.00
1.4	1	3		22.20	22.13	22.02
1.4	1	5		22.12	22.03	21.94
1.4	3	0		21.93	21.75	21.78
1.4	3	1		21.96	21.74	21.79
1.4	3	3		21.89	21.83	21.76
1.4	6	0		20.99	20.81	20.87
1.4	1	0		21.07	20.84	20.92
1.4	1	3		21.13	21.02	20.97
1.4	1	5		21.07	20.92	20.91
1.4	3	0	64-QAM	21.06	20.88	20.92
1.4	3	1		21.13	20.90	20.96
1.4	3	3		21.06	20.98	20.89
1.4	6	0		19.95	19.74	19.81

Report No. : FG8O0518E

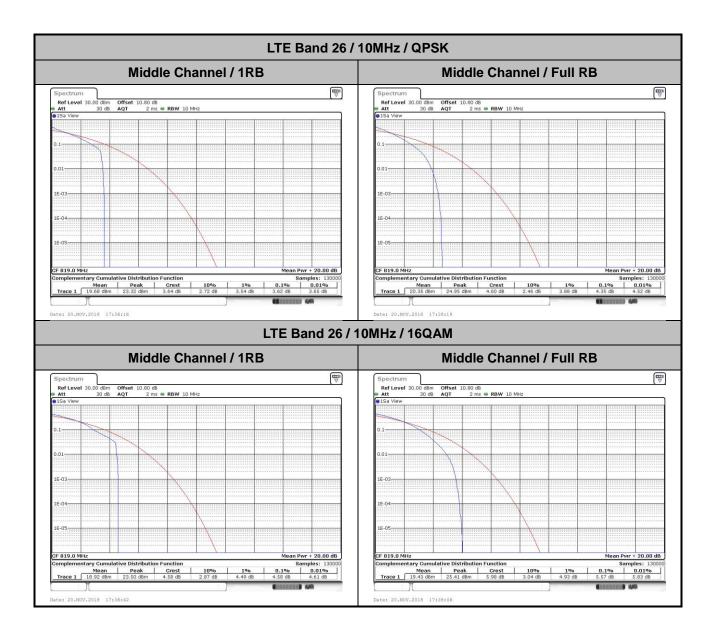
### LTE Band 26\_Part 90S

### Peak-to-Average Ratio

Mode		LTE Band 26 / 10MHz								
Mod.	QP	SK	160	Limit: 13dB						
RB Size	1RB Full RB		1RB	Full RB	Result					
Lowest CH			-	-						
Middle CH	3.62	4.35	4.58	5.57	PASS					
Highest CH	-	-	-	-						
Mode		LTE Band 26 / 10MHz								
Mod.	64Q	AM			Limit: 13dB					
RB Size	1RB	Full RB			Result					
Lowest CH	-	-	-	-						
Middle CH	5.74	6.23	-	-	PASS					
Highest CH	-	-	-	-						

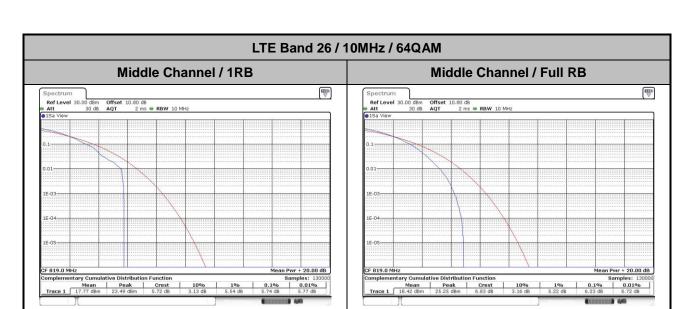
Report No.: FG8O0518E

TEL: 886-3-327-3456 Page Number : A2-1 of 45



Report No.: FG8O0518E

TEL: 886-3-327-3456 Page Number : A2-2 of 45



Report No.: FG8O0518E

TEL: 886-3-327-3456 Page Number: A2-3 of 45

### 26dB Bandwidth

Mode		LTE Band 26 : 26dB BW(MHz)										
BW	1.4MHz 3MHz				5M	5MHz 10MHz			15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	1.23	1.23	3.02	3.02	4.89	4.96	-	-	14.27	14.42	-	-
Middle CH	1.23	1.23	3.03	3.02	4.91	4.87	9.81	9.81	-	-	-	-
Highest CH	1.24	1.23	2.98	3.05	4.92	4.88	-	-	-	-	-	-
Mode					LTE Ba	and 26 :	26dB BV	V(MHz)				
BW	1.4	ИНz	3M	lHz	5MHz 10MHz			15MHz		20MHz		
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	1.23	-	2.97	-	4.87	-	-	-	14.51	-	-	-
Middle CH	1.23	-	2.97	-	4.88	-	9.67	-	-	-	-	-
Highest CH	1.23	-	3.04	-	4.84	-	-	-	-	-	-	-

Report No. : FG8O0518E

TEL: 886-3-327-3456 Page Number : A2-4 of 45

LTE Band 26 Lowest Channel / 1.4MHz / QPSK Lowest Channel / 1.4MHz / 16QAM 15.84 dBi 814.78670 MF 26.00 d 1.225200000 MF 10 dBm 665 -10 dBm -20 dBm 290 dB 1000 M MAN WWW mm de dBm-Span 2.8 MHz CF 814.7 MHz Span 2.8 MHz X-value 814.7867 MHz 814.0902 MHz 815.3154 MHz Type Ref Trc Type | Ref | Trc | Middle Channel / 1.4MHz / QPSK Middle Channel / 1.4MHz / 16QAM 10.80 dB • RBW 30 kHz 63.2 µs • VBW 100 kHz Mode Auto FFT 10.80 dB • RBW 30 kHz 63.2 µs • VBW 100 kHz Mode Auto FFT 15.42 dBn 818.8098n 15.59 dBn 819.15660 MH 26.00 dt 1.233600000 MH 664. 26.00 de 40 dBn 40 dBm Function Result 1,2336 MHz 26,00 dB 664,1 Function Result 1.2336 MHz 26.00 dB 663.8 
 X-value
 Y-value
 Function

 819,1566 MHz
 15,59 dBm
 nd8 down

 818,3818 MHz
 -10,79 dBm
 nd8

 819,6154 MHz
 -10,25 dBm
 Q factor
 Type | Ref | Trc | Type | Ref | Trc | Date: 5.NOV.2018 21:45:26 Date: 5.NOV.2018 21:45:38 Highest Channel / 1.4MHz / QPSK Highest Channel / 1.4MHz / 16QAM Offset 10.80 dB • RBW 30 kHz SWT 63.2 µs • VBW 100 kHz Mode Auto FFT Att 30 dB
 SGL Count 100/100
 1Pk Max 14.11 dBr. 822.92800 ML 15.04 dB 822.88040 MH Function Result 1.2392 MHz Type | Ref | Trc | Type | Ref | Trc | 
 X-value
 Y-value
 Function

 822.8804 MHz
 15.04 dBm
 ndB down

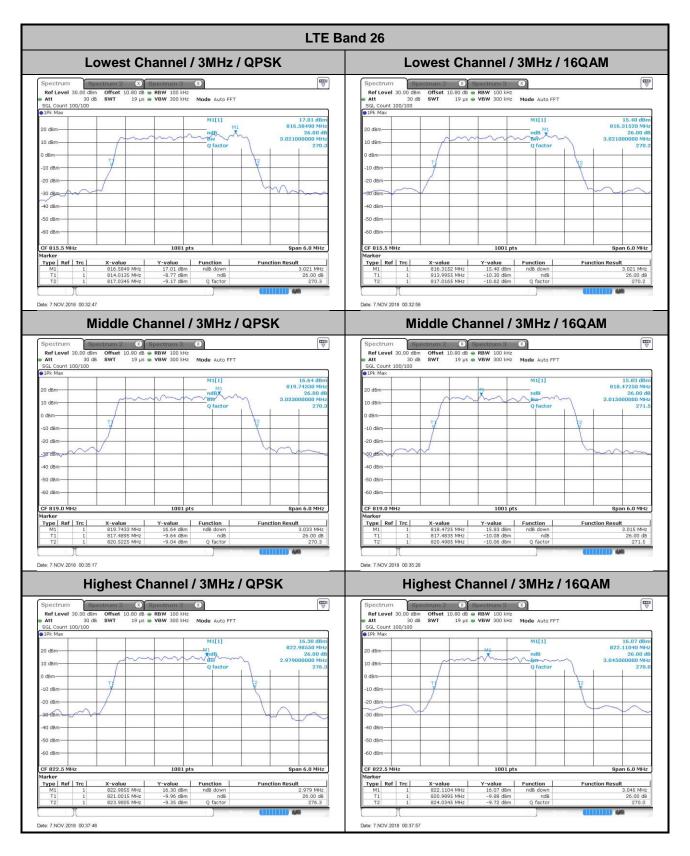
 X-value
 Y-value
 Function

 822.928 MHz
 14.11 dBm
 ndB down
 822.6818 MHz 823.9126 MHz

Report No.: FG8O0518E

TEL: 886-3-327-3456 Page Number : A2-5 of 45

Report No.: FG800518E



TEL: 886-3-327-3456 Page Number : A2-6 of 45

Report No.: FG800518E LTE Band 26 Lowest Channel / 5MHz / QPSK Lowest Channel / 5MHz / 16QAM Ref Level 30.00 dem Offset 10.80 de RBW 100 kHz

Att 30 de SWT 19 µs = VBW 300 kHz Mode Auto FFT

SGL Count 100/100

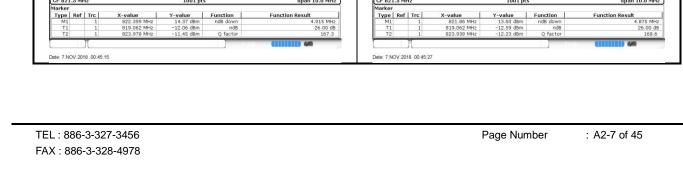
1Pk Max 12.51 dBn 815.66100 MH 26.00 dl 4.955000000 MH 14.77 dBi 816.76000 MF 26.00 d 4.885000000 MF M1[1] M1[1] 167 164 -10 dBm -10 dBr -20 dBm 40 dBm 40 dBm Span 10.0 MHz CF 816.5 MHz Span 10.0 MHz X-value 816.76 MHz 814.032 MHz 818.918 MHz Y-value 14.77 dBm -11.58 dBm -10.94 dBm Type Ref Trc Type | Ref | Trc | -13.81 dBm -13.08 dBm Date: 7.NOV.2018 00:40:27 Middle Channel / 5MHz / QPSK Middle Channel / 5MHz / 16QAM 0 dBm Offset 10.80 dB • RBW 100 kHz 30 dB SWT 19 µs • VBW 300 kHz Mode Auto FFT 13.65 dBn 818.59000 \*\*\* 13.78 dBi 819.01000 Mi-M1[1] 26.00 MH 26.00 MH 168. An April 40 dBm 40 dBm 50 d8m 50 d8m CF 819.0 MHz Span 10.0 MHz Function Result 4.865 MHz 26.00 dB 168.3 Type | Ref | Trc | 
 X-value
 Y-value
 Function

 819.01 MHz
 13.78 dBm
 ndB down

 816.522 MHz
 -11.81 dBm
 ndB

 821.428 MHz
 -12.33 dBm
 Q factor
 Type Ref Trc Function n ndB down Function Result 4,905 MHz Date: 7.NOV.2018 00:42:45 Date: 7.NOV.2018 00:42:57 Highest Channel / 5MHz / 16QAM Highest Channel / 5MHz / QPSK Spectrum 2 X Spectrum 3 X SGL Count 100/100

1Pk Max 0 dBm Offset 30 dB SWT 10.80 dB **© RBW** 100 kHz 19 μs **© VBW** 300 kHz **Mode** Auto FFT 10.80 dB • RBW 100 kHz 19 µs • VBW 300 kHz Mode Auto FFT 14.37 dB: 822.39900 MI 13.60 dBr 821.86000 Mr M1[1] M1[1] 20 dBm -50 dBm



Function Result
4.915 MHz

 X-value
 Y-value
 Function

 822.399 MHz
 14.37 dBm
 ndB down

Type | Ref | Trc |

CF 821.5 MH

Type | Ref | Trc |

 X-value
 Y-value
 Function

 821.86 MHz
 13.60 dBm
 ndB down

LTE Band 26 Middle Channel / 10MHz / QPSK Middle Channel / 10MHz / 16QAM Spectrum 2 X Spectrum 3 X Ref Level 30.00 dBm Offset 10.80 dB RBW 300 kHz

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

SGL Count 100/100 15.54 dBi 820.3590 MF 26.00 d 9.810000000 MF 14.88 dBn 820.2190 MH 26.00 dl 9.810000000 MH M1[1] 10 dBm 83. -10 dBm 40 dBm CF 819.0 MHz Span 20.0 MHz CF 819.0 MHz Span 20.0 MHz X-value 820.219 MHz 814.105 MHz 823.915 MHz Type Ref Trc Type Ref Trc Date: 7.NOV.2018 00:47:46 Date: 7.NOV.2018 00:47:58 Lowest Channel / 15MHz / QPSK Lowest Channel / 15MHz / 16QAM **□** 00 dBm Offset 10.80 dB • RBW 300 kHz 30 dB SWT 12.6 µs • VBW 1 MHz Mode Auto FFT 13.61 dBn 816.4950 M 14.98 dBn 816.9150 MH 26.00 df 14.266000000 MH 57.: M1[1] 26.00 di 0000 MH 56. 40 dBm 50 d8m CF 821.5 MHz Function Result 14.266 MHz 26.00 dB 57.3 Function Result 14.416 MHz 26.00 dB 56.6 Type Ref Trc Type | Ref | Trc | 
 X-value
 Y-value
 Function

 816.915 MHz
 14.98 dBm
 ndB down

 914.427 MHz
 -11.72 dBm
 ndB

 828.693 MHz
 -11.10 dBm
 Q factor
 Function n ndB down

Date: 7.NOV.2018 00:50:27

Report No.: FG800518E

TEL: 886-3-327-3456 Page Number : A2-8 of 45

FAX: 886-3-328-4978

Date: 7.NOV.2018 00:50:15

LTE Band 26 Lowest Channel / 1.4MHz / 64QAM Lowest Channel / 3MHz / 64QAM Ref Level 30.00 dem Offset 10.80 de RBW 100 kHz

Att 30 de SWT 19 µs = VBW 300 kHz Mode Auto FFT

SGL Count 100/100

1Pk Max 14.12 dBi 814.69440 MF 26.00 d 1.225200000 MF 10 dBm 665 274 -10 dBm -20 dBm 40 dBm CF 814.7 MHz Span 2.8 MHz CF 815.5 MHz 6.0 MHz Type Ref Trc Type | Ref | Trc | -11.91 dBm -11.53 dBm Date: 7.NOV.2018 00:20:55 Middle Channel / 1.4MHz / 64QAM Middle Channel / 3MHz / 64QAM 10.80 dB • RBW 30 kHz 63.2 µs • VBW 100 kHz Mode Auto FFT 15.23 dBn 819.80320 \*\*\* M1[1] 14.11 dBr 819.10350 MH 26.00 d 1.225200000 MH 668. 26.00 di 0000 MH 275. 40 dBm 50 d8m 50 d8m Function Result 1.2252 MHz 26.00 dB 668.6 Type | Ref | Trc | 
 X-value
 Y-value
 Function

 819.1035 MHz
 14.11 dBm
 ndB down

 818.379 MHz
 -11.53 dBm
 ndB

 819.6042 MHz
 -12.00 dBm
 Q factor
 Type | Ref | Trc | **Function Result** Date: 5.NOV.2018 21:50:37 Date: 7.NOV.2018 00:22:09 Highest Channel / 1.4MHz / 64QAM Highest Channel / 3MHz / 64QAM SGL Count 100/100

1Pk Max 10.80 dB • RBW 100 kHz 19 µs • VBW 300 kHz Mode Auto FFT M1[1] M1[1] 14.14 dB 823.29160 MH 13.82 dBn 822.10440 MH CF 822.5 M Function Result

3.045 MHz
26.00 dB
270.0

Report No.: FG8O0518E

TEL: 886-3-327-3456 Page Number : A2-9 of 45

Function Result

Type | Ref | Trc |

 X-value
 Y-value
 Function

 822.1044 MHz
 13.82 dBm
 ndB down

820.9715 MHz 824.0165 MHz

FAX: 886-3-328-4978

Type | Ref | Trc |

 X-value
 Y-value
 Function

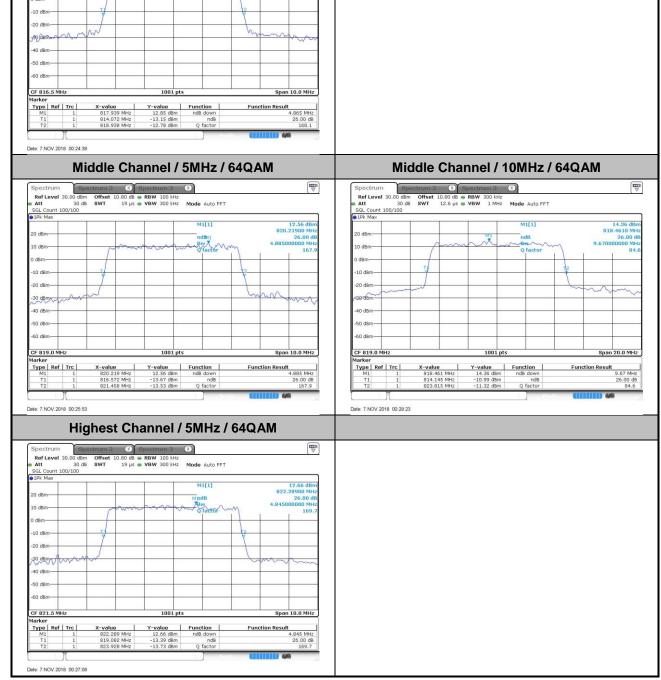
 823.2916 MHz
 14.14 dBm
 ndB down

FCC RADIO TEST REPORT Report No.: FG8O0518E LTE Band 26 Lowest Channel / 5MHz / 64QAM M1[1] Span 10.0 MHz Middle Channel / 10MHz / 64QAM Middle Channel / 5MHz / 64QAM 00 dBm Offset 10.80 dB • RBW 100 kHz 30 dB SWT 19 µs • VBW 300 kHz Mode Auto FFT 12.56 dBn 820.21900 MH 26.00 di 4.885000000 MH 167.1 CF 819.0 MHz Function Result 4.885 MHz 26.00 dB 167.9 
 X-value
 Y-value
 Function

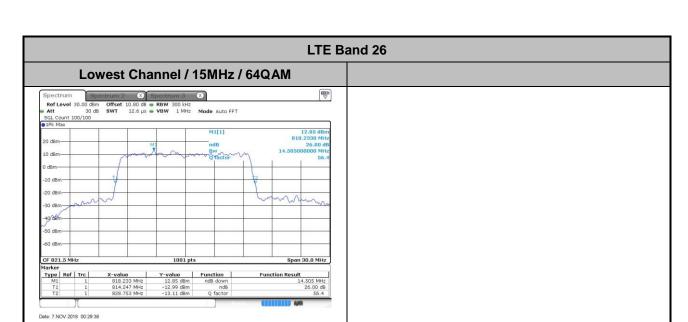
 820.219 MHz
 12.56 dBm
 ndB down

 816.572 MHz
 -13.67 dBm
 ndB

 821.458 MHz
 -13.53 dBm
 Q factor
 Type Ref Trc **Function Result** Date: 7.NOV.2018 00:28:23 Highest Channel / 5MHz / 64QAM



TEL: 886-3-327-3456 Page Number : A2-10 of 45 FAX: 886-3-328-4978



Report No.: FG8O0518E

TEL: 886-3-327-3456 Page Number: A2-11 of 45

### Occupied Bandwidth

Mode		LTE Band 26 : 99%OBW(MHz)										
BW	1.4MHz 3MHz				5M	5MHz 10MHz			15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	1.08	1.09	2.72	2.73	4.49	4.49	-	-	13.52	13.43	-	-
Middle CH	1.1	1.09	2.74	2.72	4.5	4.48	9.01	8.99	-	-	-	-
Highest CH	1.1	1.09	2.73	2.7	4.48	4.51	-	-	-	-	-	-
Mode					LTE Ba	and 26 :	99%OBV	V(MHz)				
BW	1.4	ИНz	3M	lHz	5MHz 10MHz			15MHz		20MHz		
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	1.09	-	2.73	-	4.51	-	-	-	13.40	-	•	-
Middle CH	1.09	-	2.69	-	4.49	-	9.05	-	-	-	-	-
Highest CH	1.09	-	2.73	-	4.49	-	-	-	-	-	-	-

Report No. : FG8O0518E

TEL: 886-3-327-3456 Page Number : A2-12 of 45

LTE Band 26 Lowest Channel / 1.4MHz / QPSK Lowest Channel / 1.4MHz / 16QAM Ref Level 30.00 dBm Att 30 dB SGL Count 100/100 14.51 dBn 815.08040 MH 1.090909091 MH -20 dBm -20 dBm--30 dBm 40 dBm 
 X-value
 Y-value
 Function

 814.4762 MHz
 15.79 dBm
 819.14 dBm

 814.16014 MHz
 9.11 dBm
 Occ Bw

 815.23986 MHz
 8.95 dBm
 Type | Ref | Trc | **Function Result** Type Ref Trc 1.07972028 MHz 1.090909091 MHz Middle Channel / 1.4MHz / QPSK Middle Channel / 1.4MHz / 16QAM Ref Level 30.0 Att 14.84 dBi 818.90210 MH 1.096503497 MH MILII 30/dem-Type | Ref | Trc | 
 X-value
 Y-value
 Function

 818.9021 MHz
 14.84 dBm
 Type | Ref | Trc | Function Result 818.9021 MHz 14.84 dBm 818.44895 MHz 8.27 dBm Occ Bw 819.54545 MHz 9.68 dBm 7.69 dBm Occ Bw 9.71 dBm 1.096503497 MHz 1.088111888 MHz Date: 5.NOV.2018 21:45:15 Highest Channel / 1.4MHz / QPSK Highest Channel / 1.4MHz / 16QAM Ref Level 30.00 dBm

Att 30 dB

SGL Count 100/100

1Pk Max 14.93 dBn M1[1] 10 dBm-10 dBm--10 dBm -40 dBn 40 dBm -60 dBm Type | Ref | Trc | Type | Ref | Trc |

Report No.: FG8O0518E

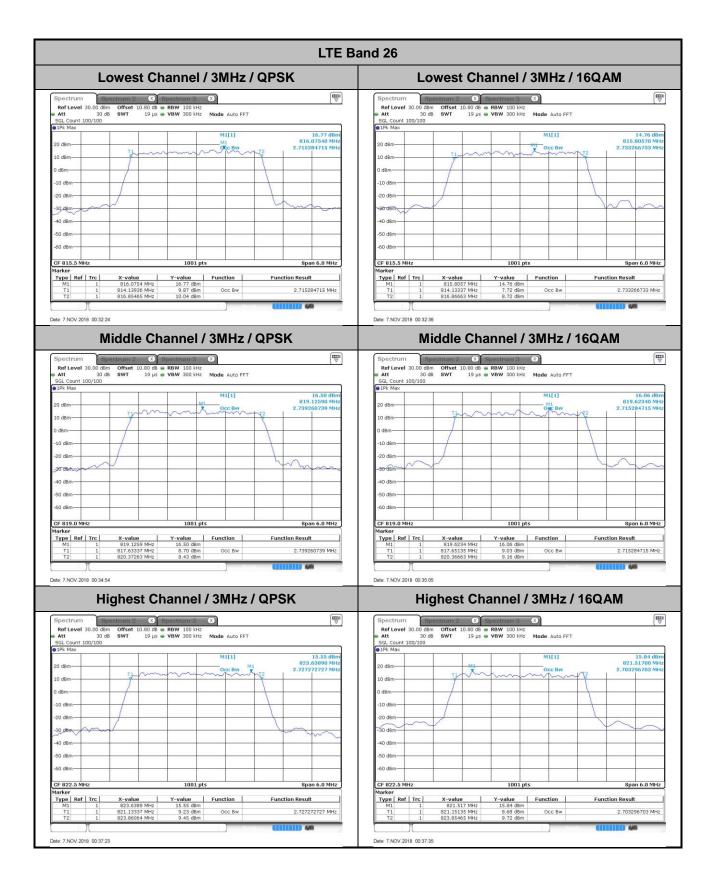
TEL: 886-3-327-3456 Page Number: A2-13 of 45

Date: 5.NOV.2018 21:47:24

FAX: 886-3-328-4978

Date: 5.NOV.2018 21:47:13

CC RADIO TEST REPORT Report No. : FG800518E



TEL: 886-3-327-3456 Page Number : A2-14 of 45

CF 821.5 M

Type | Ref | Trc |

FAX: 886-3-328-4978

10.29 dBm Occ Bw 9.03 dBm

LTE Band 26 Lowest Channel / 5MHz / QPSK Lowest Channel / 5MHz / 16QAM Ref Level 30.00 dBm Offset 10.80 db RBW 100 bHz
Att 30 db SWT 19 µs WBW 300 kHz Mode Auto FFT

61Pk Max 13.75 dBn 818.53800 MH 4.485514486 MH M1[1] 15.08 dBi 816.82000 MH 4.485514486 MH 10 dBm -10 dBn -10 dBm -20 dBm -40 dBm 40 dBm 60 dBm 1001 pts Span 10.0 MHz CF 816.5 MHz X-value 816.82 MHz 814.26224 MHz 818.74775 MHz X-value 818.538 MHz 814.27223 MHz 818.75774 MHz Y-value 13.75 dBm 8.97 dBm 8.30 dBm Type | Ref | Trc | Type | Ref | Trc | Date: 7.NOV.2018 00:40:04 Middle Channel / 5MHz / QPSK Middle Channel / 5MHz / 16QAM Spectrum 2 X Spectrum 3 X 0 dBm Offset 10.80 dB • RBW 100 kHz 30 dB SWT 19 µs • VBW 300 kHz Mode Auto FFT SGL Count 100/100 14.32 dBr 819.93900 MH 4.495504496 MH 13.77 dBn 818.37100 MH: 4.475524476 MH: 40 dBm 40 dBm-50 d8m 50 d8m CF 819.0 MHz 
 X-value
 Y-value
 Function

 818.371 MHz
 13.77 dBm
 815.7624 MHz
 7.36 dBm
 Occ Bw

 821.23776 MHz
 8.30 dBm
 Occ Bw
 Type | Ref | Trc | 
 X-value
 Y-value
 Function

 819,939 MHz
 14,32 dBm
 816.75224 MHz
 8.60 dBm
 Occ Bw

 821,25774 MHz
 8.04 dBm
 Occ Bw
 Type Ref Trc **Function Result Function Result** 4.495504496 MHz 4.475524476 MHz Date: 7.NOV.2018 00:42:22 Date: 7.NOV.2018 00:42:34 Highest Channel / 5MHz / QPSK Highest Channel / 5MHz / 16QAM Spectrum 2 X Spectrum 3 X Spectrum 2 X Spectrum 3 X SGL Count 100/100

100 dBm Offset SWT

SGL Count 100/100 10.80 dB • RBW 100 kHz 19 µs • VBW 300 kHz Mode Auto FFT M1[1] 14.26 dB 820.89100 MH 4.475524476 MH M1[1] 20 dBm -10 dBm -50 dBm -50 dBm-

Report No.: FG800518E

TEL: 886-3-327-3456 Page Number : A2-15 of 45

Function Result

4.475524476 MHz

CF 821.5 MH

 Type
 Ref
 Trc
 X-value
 Y-value
 Function

 M1
 1
 822.989 MHz
 13.28 dBm

**Function Result** 

4.505494505 MHz

Occ Bw

LTE Band 26 Middle Channel / 10MHz / QPSK Middle Channel / 10MHz / 16QAM Spectrum 2 X Spectrum 3 X Spectrum 2 X Spectrum 3 X Ref Level 30.00 dBm Offset 10.80 dB RBW 300 kHz

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

SGL count 100/100 15.17 dBi 818.1410 MF 9.010989011 MF 15.68 dBn 817.2420 MH 8.991008991 MH M1[1] 10 dBm -10 dBm -10 dBm -20 dBm 30 dBm--40 dBm 40 dBm -60 dBm CF 819.0 MHz Span 20.0 MHz CF 819.0 MHz 1001 pts Span 20.0 MHz Y-value 15.17 dBm 10.10 dBm 10.13 dBm Y-value 15.68 dBm 8.31 dBm 8.44 dBm X-value 818.141 MHz 814.5045 MHz 823.5155 MHz Type | Ref | Trc | Function Function Result Type | Ref | Trc | Occ Bw 9.010989011 MHz 8.991008991 MHz Date: 7.NOV.2018 00:47:23 Date: 7.NOV.2018 00:47:35 LTE Band 26 Lowest Channel / 15MHz / QPSK Lowest Channel / 15MHz / 16QAM Spectrum 2 X Spectrum 3 X Level 30.00 dBm Offset 10.80 dB RBW 300 kHz 30 dB SWT 12.6 µs WBW 1 MHz Mode Auto FFT Ref Level 30.00 Att 3 13.94 dBr 823.4780 MH 13.516483516 MH 13.91 dBn 828.0330 MH 126573427 MH M1[1] M1[1] 20 dBm 10 dBm--10 dBm--50 dBm--60 dBm Marker Type | Ref | Trc | Type Ref Trc 
 X-value
 Y-value
 Function

 823.478 MHz
 13.94 dBm
 **Function Result** 13.94 dBm 8.84 dBm Occ Bw 9.31 dBm Occ Bw 13.516483516 MHz 13.426573427 MHz

Report No.: FG800518E

TEL: 886-3-327-3456 Page Number : A2-16 of 45

LTE Band 26 Lowest Channel / 1.4MHz / 64QAM Lowest Channel / 3MHz / 64QAM Spectrum 2 X Spectrum 3 X Ref Level 30.00 dBm Offset 10.80 dB RBW 100 kHz
Att 30 dB SWT 19 µs VBW 300 kHz Mode Auto FFT
SGL Count 100/100 13.51 dBi 814.88460 MH 1.090909091 MH -20 dBm -20 dBm-CF 815.5 MHz 
 X-value
 Y-value
 Function

 814.8846 MHz
 13.51 dBm
 814.15455 MHz

 814.15455 MHz
 6.88 dBm
 Occ Bw

 815.24545 MHz
 6.98 dBm

 X-value
 Y-value
 Function

 816.3871 MHz
 14.29 dBm
 914.13936 MHz

 814.13936 MHz
 8.49 dBm
 Occ Bw

 916.87263 MHz
 8.30 dBm
 Type | Ref | Trc | **Function Result** Type Ref Trc **Function Result** 1.090909091 MHz 2.733266733 MHz Date: 7 NOV 2018 00:20:43 Middle Channel / 1.4MHz / 64QAM Middle Channel / 3MHz / 64QAM Spectrum Spectrum 2 2 Spectrum 3 2 Ref Level 30.00 dBm Offset 10.80 db RBW 100 kHz Att 0.30 db SWT 19 µs VBW 300 kHz Mode Auto FFT SGL Count 100/100 14.79 dBi 819.23780 MH 1.085314685 MH MILII MILII 30 dam -30 dBnr Type | Ref | Trc | 
 X-value
 Y-value
 Function

 819.2378 MHz
 14.79 dBm

 818.45734 MHz
 7.49 dBm
 Occ Bw

 819.54266 MHz
 7.95 dBm
 Type | Ref | Trc | Function Result 817.65135 MHz 820.34266 MHz 7.79 dBm Occ Bw 8.13 dBm 1.085314685 MHz 2.691308691 MHz Date: 7.NOV.2018 00:21:58 Highest Channel / 1.4MHz / 64QAM Highest Channel / 3MHz / 64QAM Ref Level 30.00 dBm

Att 30 dB

SGL Count 100/100

Pk Max Offset 10.80 dB ● RBW 100 kHz SWT 19 µs ● VBW 300 kHz Mode Auto FFT M1[1] 13.87 dB M1[1] 15.02 dBn 10 dBm-10 dBm--10 dBm 40 dBm 60 dBm--60 dBm-

Report No.: FG8O0518E

2.733266733 MHz

TEL: 886-3-327-3456 Page Number : A2-17 of 45

Type | Ref | Trc |

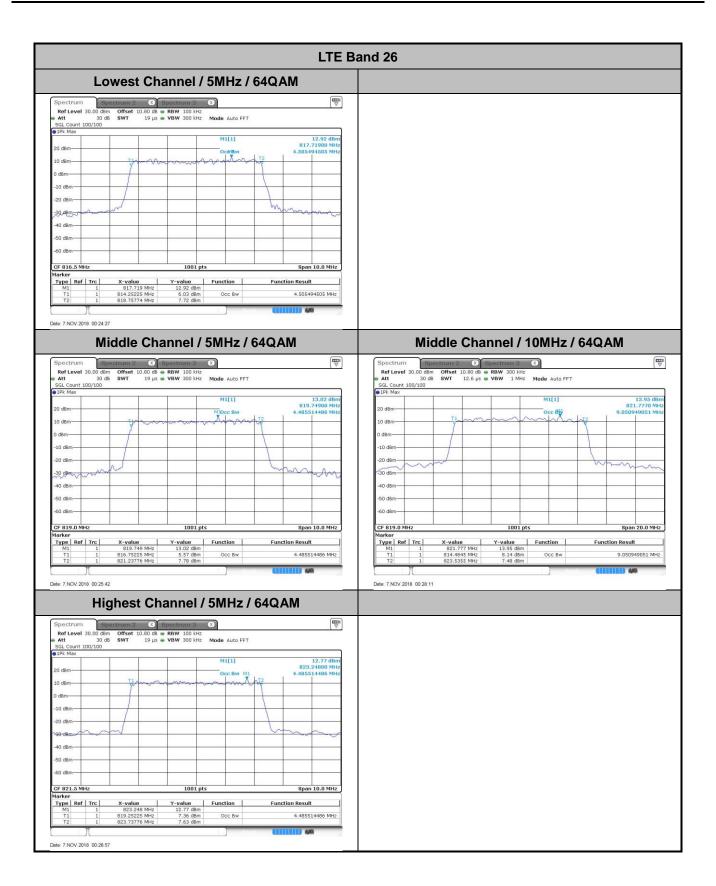
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FAX: 886-3-328-4978

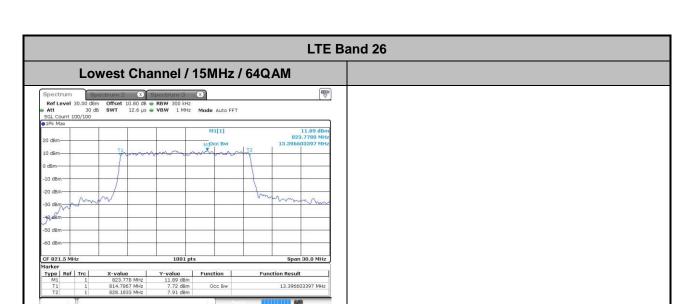
Type | Ref | Trc |

Date: 5.NOV.2018 21:51:30

CC RADIO TEST REPORT Report No. : FG800518E



TEL: 886-3-327-3456 Page Number : A2-18 of 45



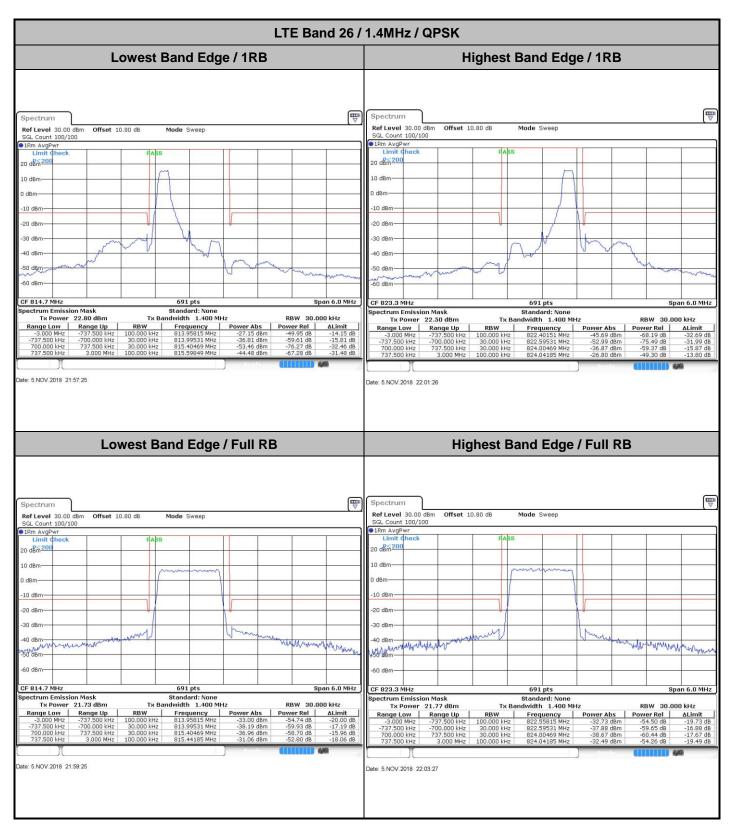
Report No.: FG8O0518E

TEL: 886-3-327-3456 Page Number : A2-19 of 45

FAX: 886-3-328-4978

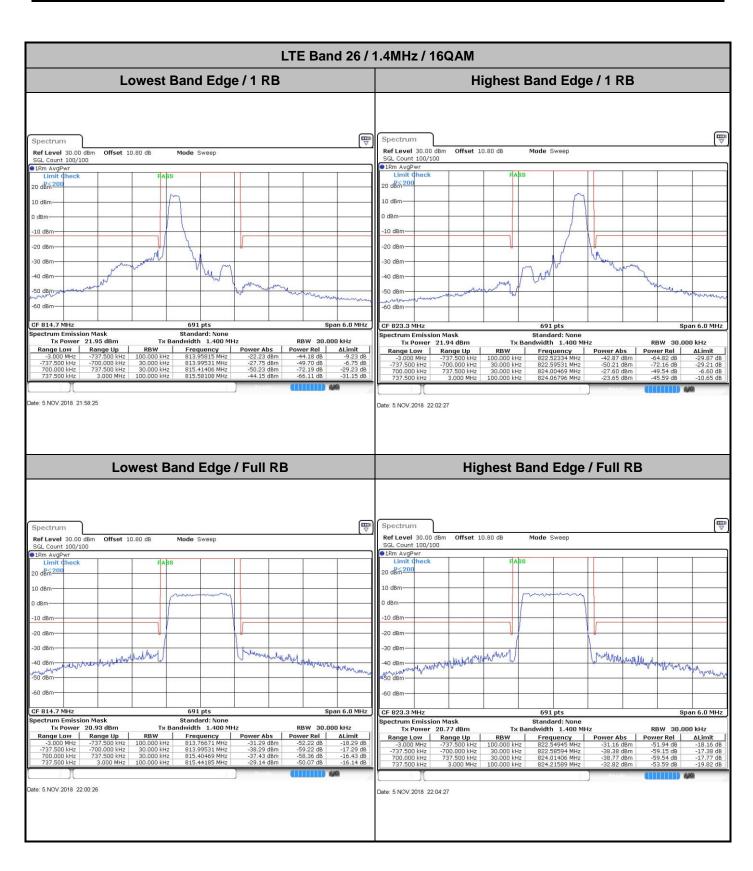
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### **Conducted Band Edge**



Report No.: FG800518E

TEL: 886-3-327-3456 Page Number: A2-20 of 45



Report No.: FG8O0518E

TEL: 886-3-327-3456 Page Number: A2-21 of 45