

Report No.: FG951441B



# **FCC RADIO TEST REPORT**

FCC ID : 2AM8R-DCM-NA1-100

Equipment : DCM-NA1-100 (Device Connectivity Module)

Brand Name : DriverI/DCM

Model Name : DCM-NA1-100

Applicant : Netradyne Inc

9191 Towne Centre Drive, Suite 200, San

**Diego, CA 92122** 

Manufacturer : VVDN Technology

B-22, Infocity Sector-34,

Gurgaon-122001, Haryana, India

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

The product was received on May 14, 2019 and testing was started from May 29, 2019 and completed on Sep. 02, 2019. We, SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, 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 partial 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: Jones Tsai

Jones Tsur

SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory

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

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# History of this test report

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Report No.	Version	Description	Issued Date	
FG951441B	01	Initial issue of report	Aug. 29, 2019	
FG951441B	02	Add test data for Emission masks – In-band emissions	Sep. 04, 2019	

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### **Summary of Test Result**

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Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
3.2	§2.1046 §90.635	Conducted Output Power	Pass	-
3.3	§2.1051 §90.691	Emission masks – In-band emissions	Pass	-
3.4	§2.1053 §90.691	Field Strength of Spurious Radiation	Pass	Under limit 13.58 dB at 2448.000 MHz

#### **Declaration of Conformity:**

The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.

#### **Comments and Explanations:**

The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

Reviewed by: Wii Chang

Report Producer: Aileen Huang

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### 1 General Description

### 1.1 Feature of Equipment Under Test

LTE and GNSS.

Product Specification subjective to this standard				
Antenna Type	LTE: Coupling type (LDS) Antenna GPS / Glonass: Ceramic Patch Antenna			

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### 1.2 Modification of EUT

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

### 1.3 Testing Site

Test Site	SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory					
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.					
rest site No.	TH05-HY					
Test Engineer	Jacky Wang					
Temperature	<b>23~25</b> °ℂ					
Relative Humidity 52~55%						

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

Test Site	SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory					
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.					
rest site No.	03CH12-HY					
Test Engineer	Jack Cheng, Lance Chiang and Chuan Chu					
Temperature	23~24°ℂ					
Relative Humidity	63~66%					

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

FCC Designation No.: TW1190 and TW0007

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### 1.4 Applied Standards

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

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- FCC 47 CFR Part 2, 90
- ANSI / TIA-603-E
- ANSI C63.26-2015
- FCC KDB 971168 D01 Power Meas. License Digital Systems v03r01
- 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.

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### 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.

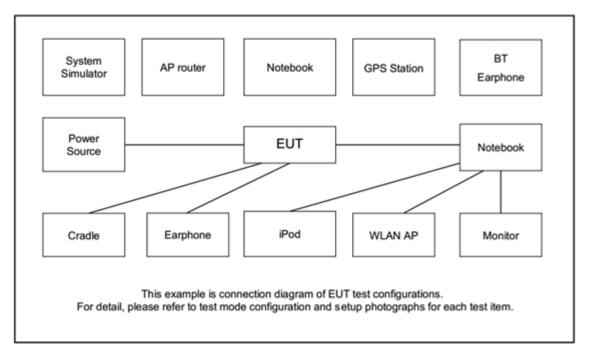
For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases (Z plane) were recorded in this report.

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

Conducted	Dand	Bandwidth (MHz)			Modulation		RB#		:	Test Channel					
Test Cases	Band	1.4	3	5	10	15	20	QPSK	16QAM	1	Half	Full	L	М	Н
Max. Output Power	26	٧	>	٧	V	V	1	٧	٧	v	v	٧	V	>	٧
Emission masks In-band emissions	26	٧	٧	٧	V	V	ı	V	٧	v		v	V		٧
Radiated Spurious Emission	26	Worst Case							v	v	v				
	1. Th	ne marl	k " <b>v</b> " n	neans t	that this	s confi	guratio	n is chosen for	testing						
	2. Th	ne marl	k "-" me	eans th	at this	bandw	idth is	not supported	•						
Remark  3. LTE Band26 transmit frequency for part22 rule is 824MHz-849MHz, for part90 rule is 814  ERP over 15MHz bandwidth complies the ERP limit line of part22 rule, therefore ERP of the second se							LTE Band26 transmit frequency for part22 rule is 824MHz-849MHz, for part90 rule is 814MHz-824MHz.						ЛHz.		
							f the p	artial							
	fre	equenc	y spec	trum w	hich fa	lls with	in part	22 also compl	ies.						

### 2.2 Connection Diagram of Test System



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## 2.3 Support Unit used in test configuration and system

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

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# 2.4 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	-	-				
10	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				

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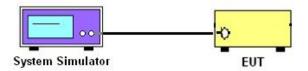
### 3 Conducted Test Items

### 3.1 Measuring Instruments

See list of measuring instruments of this test report.

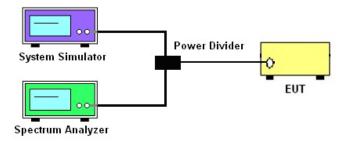
### 3.1.1 Test Setup

### 3.1.2 Conducted Output Power



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### 3.1.3 Conducted Band-Edge, Emission Mask



#### 3.1.4 Test Result of Conducted Test

Please refer to Appendix A.

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### 3.2 Conducted Output Power Measurement

#### 3.2.1 Description of the Conducted Output Power 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.

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#### 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.

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#### 3.3 Emissions Mask Measurement

#### 3.3.1 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)

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- (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.

#### 3.3.2 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. Set RBW and VBW 3 times of RBW to make the measurement with the spectrum analyzer's, and according to KDB 971168 D02 Misc Rev Approve License Devices v02r01 standards, set RBW = 300 Hz to make offsets less than 37.5 kHz from a channel edge, RBW = 100 kHz to make offsets greater than 37.5 kHz, that is allowed.
- 4. The test results were shown below plots with a correction offset factor including cable loss, insertion loss of power divider.

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### 3.4 Field Strength of Spurious Radiation Measurement

#### 3.4.1 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.

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

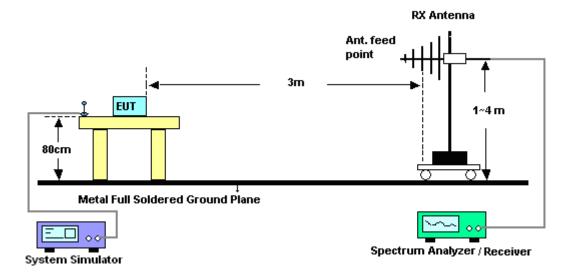
#### 3.4.2 Test Procedures

- 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. For testing below 1GHz, make the measurement with the spectrum analyzer's RBW = 100 kHz, VBW = 3MHz, Sweep = 500ms, Taking the record of maximum spurious emission.
- 6. For testing above 1GHz, make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, Sweep = 500ms, Taking the record of maximum spurious emission.
- 7. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
- 8. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
- 9. Taking the record of output power at antenna port.
- 10. Repeat step 7 to step 8 for another polarization.
- 11. EIRP (dBm) = S.G. Power Tx Cable Loss + Tx Antenna Gain
- 12. ERP (dBm) = EIRP 2.15
- 13. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
- 14. The limit line is derived from 43 + 10log(P) dB below the transmitter power P(Watts)

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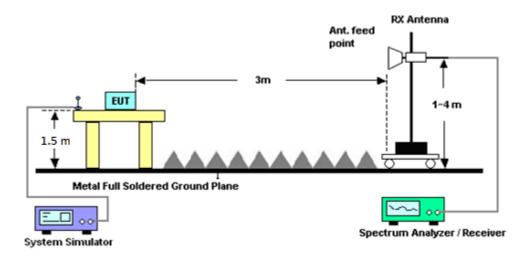
#### 3.4.3 Test Setup

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



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#### For radiated test above 1GHz



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

Please refer to Appendix B.

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# 4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100488	9 kHz~30 MHz	Jan. 07, 2019	May 31, 2019	Jan. 06, 2020	Radiation (03CH12-HY)
Bilog Antenna	TESEQ	CBL 6111D&00800 N1D01N-06	37059&01	30MHz~1GHz	Oct. 13, 2018	May 31, 2019	Oct. 12, 2019	Radiation (03CH12-HY)
Horn Antenna	SCHWARZBE CK	BBHA 9120D	9120D-132 8	1GHz ~ 18GHz	Oct. 19, 2018	May 31, 2019	Oct. 18, 2019	Radiation (03CH12-HY)
Horn Antenna	SCHWARZBE CK	BBHA 9120D	9120D-132 6	1GHz ~ 18GHz	Oct. 30, 2018	May 31, 2019	Oct. 29, 2019	Radiation (03CH12-HY)
SHF-EHF Horn Antenna	SCHWARZBE CK	BBHA 9170	BBHA9170 584	18GHz ~ 40GHz	Dec. 05, 2018	May 31, 2019	Dec. 04, 2019	Radiation (03CH12-HY)
Preamplifier	COM-POWER	PA-103	161075	10MHz~1GHz	Mar. 25, 2019	May 31, 2019	Mar. 24, 2020	Radiation (03CH12-HY)
Preamplifier	Agilent	8449B	3008A023 75	1GHz~26.5Ghz	May 28, 2018	May 31, 2019	May 27, 2020	Radiation (03CH12-HY)
Preamplifier	Jet-Power	JPA0118-55-3 03	171000180 0055007	1GHz~18GHz	Apr. 01, 2019	May 31, 2019	Mar. 31, 2020	Radiation (03CH12-HY)
Preamplifier	EMEC	EM18G40G	060715	18GHz ~ 40GHz	Dec. 06, 2018	May 31, 2019	Dec. 05, 2019	Radiation (03CH12-HY)
EMI Test Receiver	Rohde & Schwarz	ESU26	100390	20Hz~26.5GHz	Dec. 26, 2018	May 31, 2019	Dec. 25, 2019	Radiation (03CH12-HY)
Signal Generator	Rohde & Schwarz	SMB100A	175727	100kHz~40GHz	Dec. 23, 2018	May 31, 2019	Dec. 22, 2019	Radiation (03CH12-HY)
Filter	Wainwright	WLK4-1000-1 530-6000-40S S	SN11	1 GHz Lowpass	Sep. 16, 2018	May 31, 2019	Sep. 15, 2019	Radiation (03CH12-HY)
Filter	Wainwright	WHKX12-108 0-1200-1500- 60SS	SN2	1.2G High Pass	Sep. 16, 2018	May 31, 2019	Sep. 15, 2019	Radiation (03CH12-HY)
Filter	Wainwright	WHKX12-270 0-3000-18000 -60ST	SN3	3GHz High Pass	Jul. 05, 2018	May 31, 2019	Jul. 04, 2019	Radiation (03CH12-HY)
Filter	Woken	WHKX8-5272. 5-6750-18000 -40ST	SN2	6.75G Highpass	Sep. 17, 2018	May 31, 2019	Sep.16, 2019	Radiation (03CH12-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 126E	0058/126E	30M-18G	Mar. 13, 2019	May 31, 2019	Mar. 12, 2020	Radiation (03CH12-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	505134/2	30M~40GHz	Oct. 16, 2018	May 31, 2019	Oct. 15, 2019	Radiation (03CH12-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	800740/2	30M~40GHz	Oct. 16, 2018	May 31, 2019	Oct. 15, 2019	Radiation (03CH12-HY)
Antenna Mast	EMEC	AM-BS-4500- B	N/A	1m~4m	N/A	May 31, 2019	N/A	Radiation (03CH12-HY)
Turn Table	EMEC	TT2000	N/A	0~360 Degree	N/A	May 31, 2019	N/A	Radiation (03CH12-HY)
Software	Audix	E3 6.2009-8-24	RK-00098 9	N/A	N/A	May 31, 2019	N/A	Radiation (03CH12-HY)

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Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Base Station	Anritsu	MT8820C	620102648 0	-	Dec. 24, 2018	May 29, 2019	Dec. 23, 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. 03, 2019	Sep. 02, 2019	Mar. 02, 2020	Conducted (TH05-HY)
Spectrum Analyzer	Rohde & Schwarz	FSV40	101397	10Hz~40GHz	Nov. 13, 2018	Sep. 02, 2019	Nov. 12, 2019	Conducted (TH05-HY)
Coupler	Warison	20dB 25W S MA Direction al Coupler	#A	1-18GHz	Jan. 14, 2019	Sep. 02, 2019	Jan. 13, 2020	Conducted (TH05-HY)

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# 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

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

Measuring Uncertainty for a Level of	2.70
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))	3.90

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

### Conducted Output Power(Average power)

LTE Band 26 Maximum Average Power [dBm]									
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest			
15	1	0		22.80	-	-			
15	1	37		22.85	-	-			
15	1	74		22.83	-	-			
15	36	0	QPSK	21.61	-	-			
15	36	20		21.66	-	-			
15	36	39		21.62	-	-			
15	75	0		21.59	-	-			
15	1	0		21.90	-	-			
15	1	37		21.95	-	-			
15	1	74		21.73	-	-			
15	36	0	16-QAM	20.70	-	-			
15	36	20		20.65	-	-			
15	36	39		20.59	-	-			
15	75	0		20.59	-	-			
10	1	0		-	22.88	-			
10	1	25		-	22.89	-			
10	1	49		-	22.60	-			
10	25	0	QPSK	-	21.84	-			
10	25	12		-	21.83	-			
10	25	25		-	21.82	-			
10	50	0		-	21.61	-			
10	1	0		-	21.88	-			
10	1	25		-	21.84	-			
10	1	49		-	21.72	-			
10	25	0	16-QAM	-	20.79	-			
10	25	12		-	20.78	-			
10	25	25		-	20.77	-			
10	50	0		-	20.58	-			

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	LTE Band 26 Maximum Average Power [dBm]										
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest					
5	1	0		22.89	22.98	22.68					
5	1	12		22.88	22.85	22.65					
5	1	24		22.89	22.89	22.85					
5	12	0	QPSK	21.92	21.88	21.71					
5	12	7		21.91	21.85	21.70					
5	12	13		21.83	21.84	21.82					
5	25	0		21.84	21.74	21.60					
5	1	0		21.76	21.80	21.71					
5	1	12		21.71	21.86	21.72					
5	1	24		21.82	21.90	21.61					
5	12	0	16-QAM	20.88	20.82	20.65					
5	12	7		20.87	20.83	20.77					
5	12	13		20.79	20.94	20.88					
5	25	0		20.79	20.79	20.66					
3	1	0		22.97	22.96	22.71					
3	1	8		22.96	23.05	22.75					
3	1	14		22.83	22.86	22.79					
3	8	0	QPSK	22.00	21.94	21.78					
3	8	4		21.96	21.92	21.79					
3	8	7		21.90	21.84	21.89					
3	15	0		21.86	21.91	21.76					
3	1	0		21.86	22.04	21.69					
3	1	8		21.83	21.73	21.59					
3	1	14		21.82	21.85	21.67					
3	8	0	16-QAM	20.96	20.93	20.81					
3	8	4		21.00	20.92	20.73					
3	8	7		20.89	20.89	20.79					
3	15	0		20.89	20.89	20.79					

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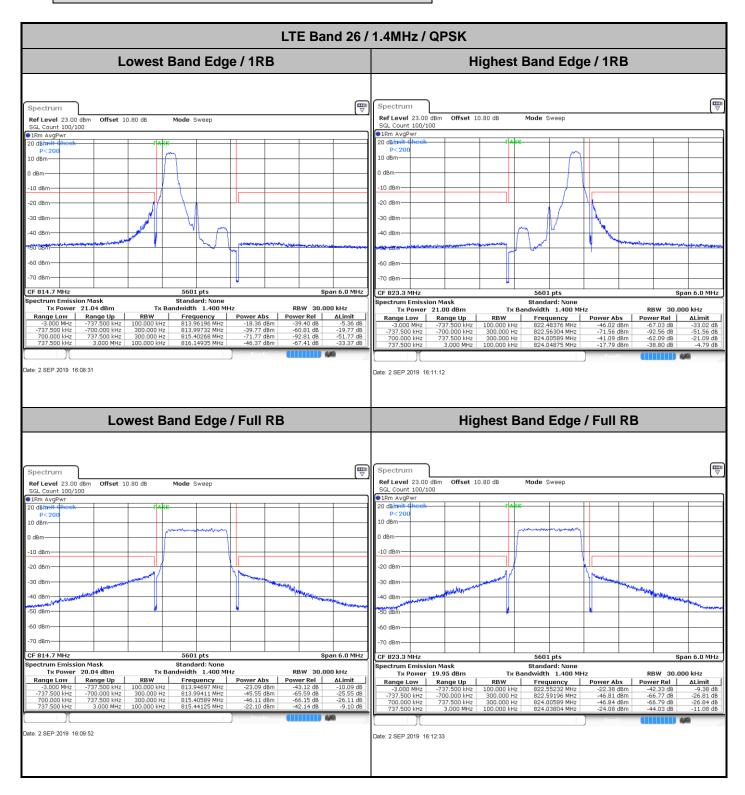
	LTE Band 26 Maximum Average Power [dBm]										
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest					
1.4	1	0		22.88	22.91	22.79					
1.4	1	3		22.82	22.88	22.82					
1.4	1	5		22.92	22.79	22.93					
1.4	3	0	QPSK	22.86	22.88	22.80					
1.4	3	1		22.83	22.92	22.76					
1.4	3	3		22.98	22.80	22.90					
1.4	6	0		21.95	21.91	21.83					
1.4	1	0		21.78	21.90	21.83					
1.4	1	3		21.78	21.75	21.78					
1.4	1	5		21.93	21.81	21.81					
1.4	3	0	16-QAM	21.84	21.98	21.71					
1.4	3	1		21.86	21.88	21.71					
1.4	3	3		21.95	21.88	21.58					
1.4	6	0		20.93	20.95	20.93					

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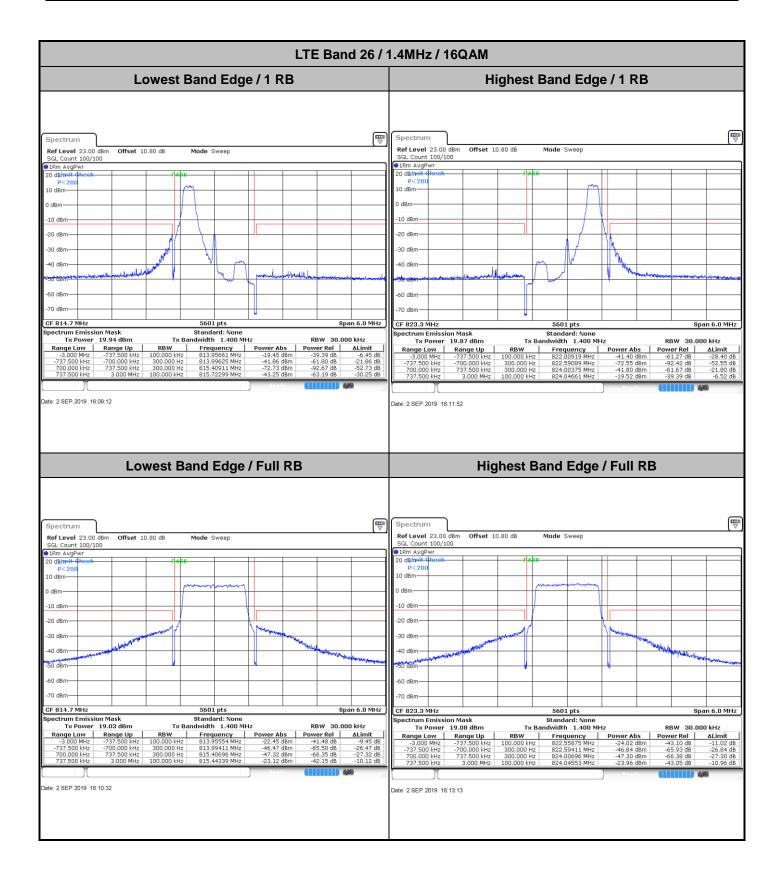
### LTE Band 26\_Part 90S

### Emission masks - In-band emissions



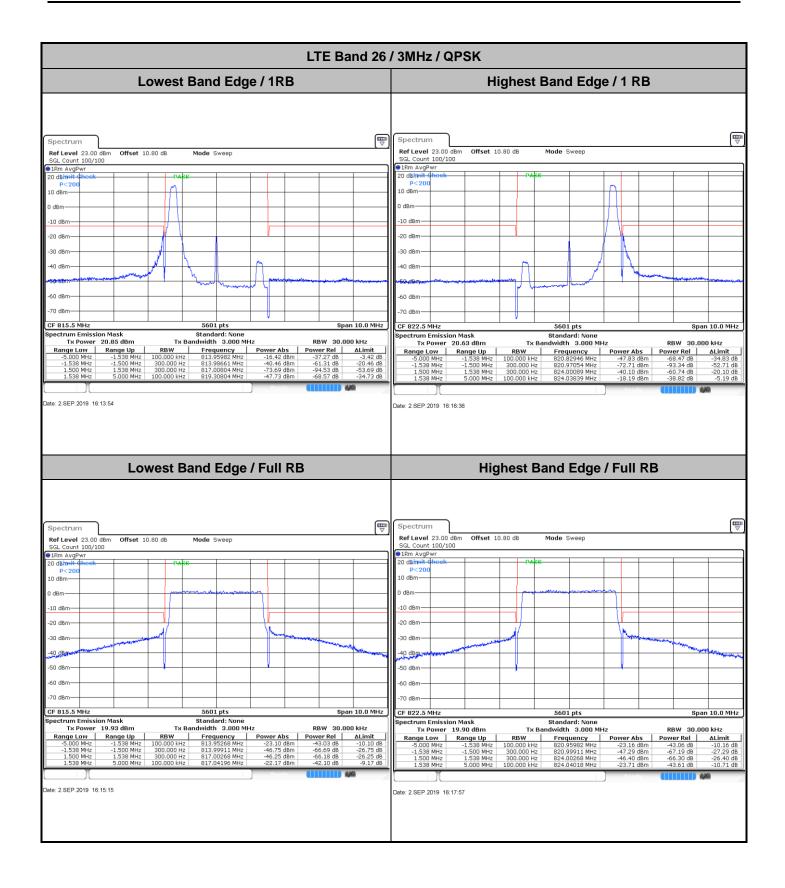
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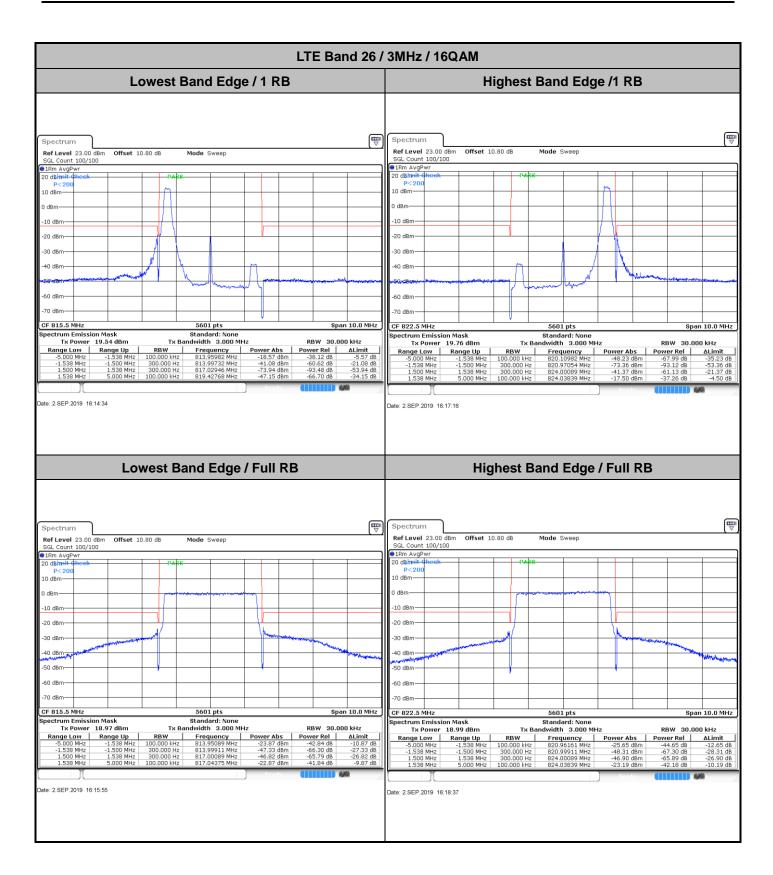


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LTE Band 26 / 5MHz / QPSK Lowest Band Edge / 1 RB Highest Band Edge / 1 RB Spectrum Ref Level 23.00 dBm Offset 10.80 dB Mode Sweep Ref Level 23.00 Offset 10.80 dB Mode Sweep Count 100/100 AvgPwr SGL Count 100/100 20 dBr 20 dBm 5601 pts 5601 pts Span 15.0 MHz | Telephone | Tele Standard: None lwidth 5.000 MHz RBW 50.000 kHz Frequency 813.95580 MHz Date: 2.SEP.2019 16:19:18 Lowest Band Edge / Full RB **Highest Band Edge / Full RB** Spectrum Ref Level 23.00 dBm Offset 10.80 dB Ref Level 23.00 dBm Offset 10.80 dB SGL Count 100/100 Mode Sweep Mode Sweep SGL Count 100/100 1Rm AvgPwr 40 dBro 40 dBm Span 15.0 MHz CF 821.5 MHz 5601 pts ectrum Emission Mask Tx Power 19.80 dBm Standard: None Tx Bandwidth 5.000 MHz Standard: None Tx Bandwidth 5.000 MHz Tx Power 19.79 dBm

Range Low Range Up

-7 500 MHz -2 538 MHz RBW 50.000 kHz ### Prequency | Power Abs | 13.95848 MHz | -26.50 dBm | 813.99866 MHz | -50.63 dBm | 819.01205 MHz | -49.75 dBm | 819.04152 MHz | -23.66 dBm | -23.66 dBm Power Rel ALimit

-46.47 dB -13.68 dB
-71.25 dB -31.46 dB
-69.61 dB -29.82 dB
-46.27 dB -13.48 dB Range Up Frequency Power Abs ate: 2.SEP.2019 16:20:38 Date: 2.SEP.2019 16:23:19

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LTE Band 26 / 5MHz / 16QAM Lowest Band Edge / 1RB Highest Band Edge / 1 RB Spectrum Ref Level 23.00 dBm Offset 10.80 dB Mode Sweep Ref Level 23.00 Offset 10.80 dB Mode Sweep Count 100/100 AvgPwr SGL Count 100/100 20 dBr 20 dBm 60 dBr 5601 pts 5601 pts Span 15.0 MHz | Telephone | Tele Standard: None ndwidth 5.000 MHz RBW 50.000 kHz Frequency 813.96116 MHz Date: 2.SEP.2019 16:19:58 Lowest Band Edge / Full RB **Highest Band Edge / Full RB** Spectrum Ref Level 23.00 dBm Offset 10.80 dB Ref Level 23.00 dBm Offset 10.80 dB SGL Count 100/100 Mode Sweep Mode Sweep SGL Count 100/100 1Rm AvgPwr Span 15.0 MHz CF 821.5 MHz 5601 pts ectrum Emission Mask Tx Power 18.83 dBm Standard: None Tx Bandwidth 5.000 MHz Standard: None Tx Bandwidth 5.000 MHz Tx Power 18.80 dBm

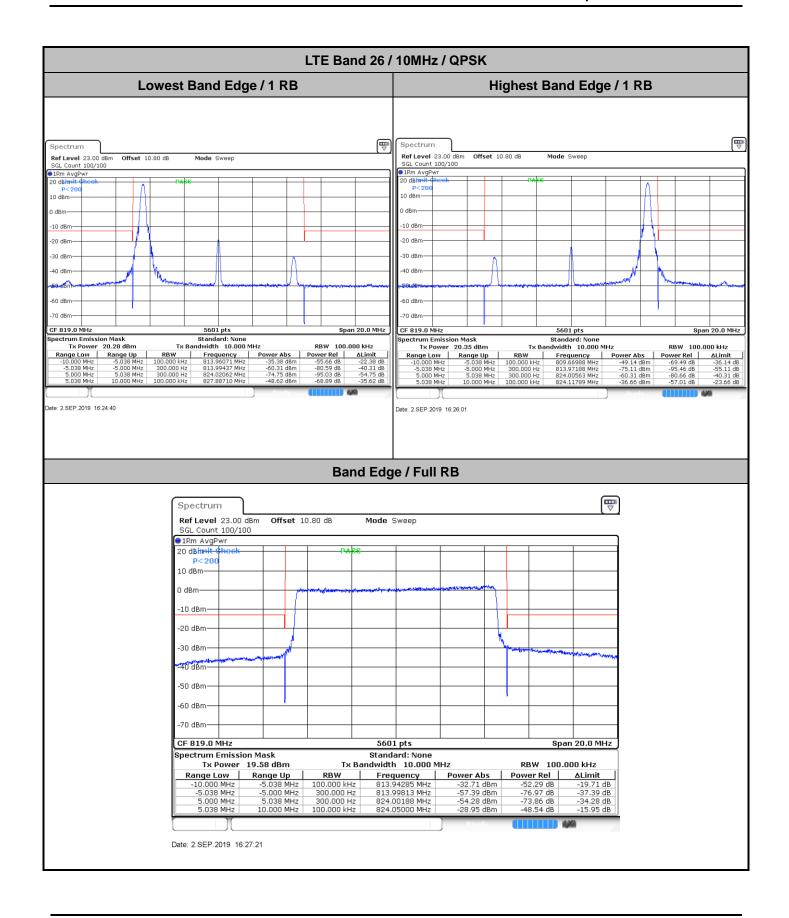
Range Low | Range Up

-7 500 MHz -2 538 MHz RBW 50.000 kHz Frequency Power Abs
813.94240 MHz -27.68 dBm
813.99866 MHz -51.75 dBm
819.02545 MHz -50.88 dBm
819.07099 MHz -26.44 dBm Range Up Frequency Power Abs Power Rel ALimit ate: 2.SEP.2019 16:21:19 Date: 2.SEP.2019 16:24:00

Report No.: FG951441B

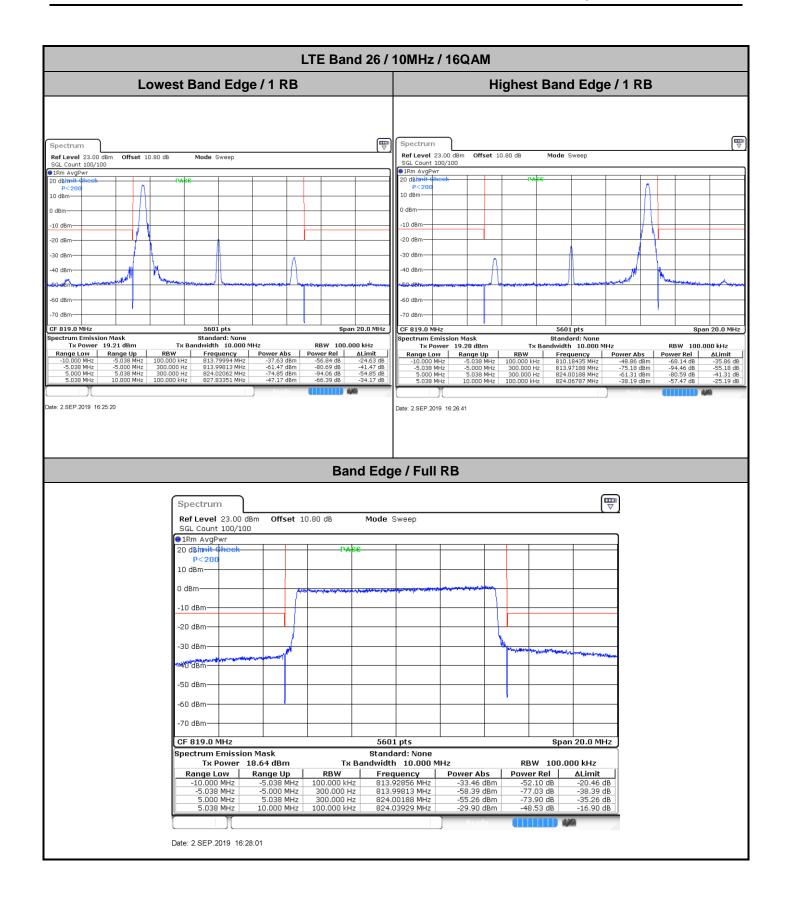
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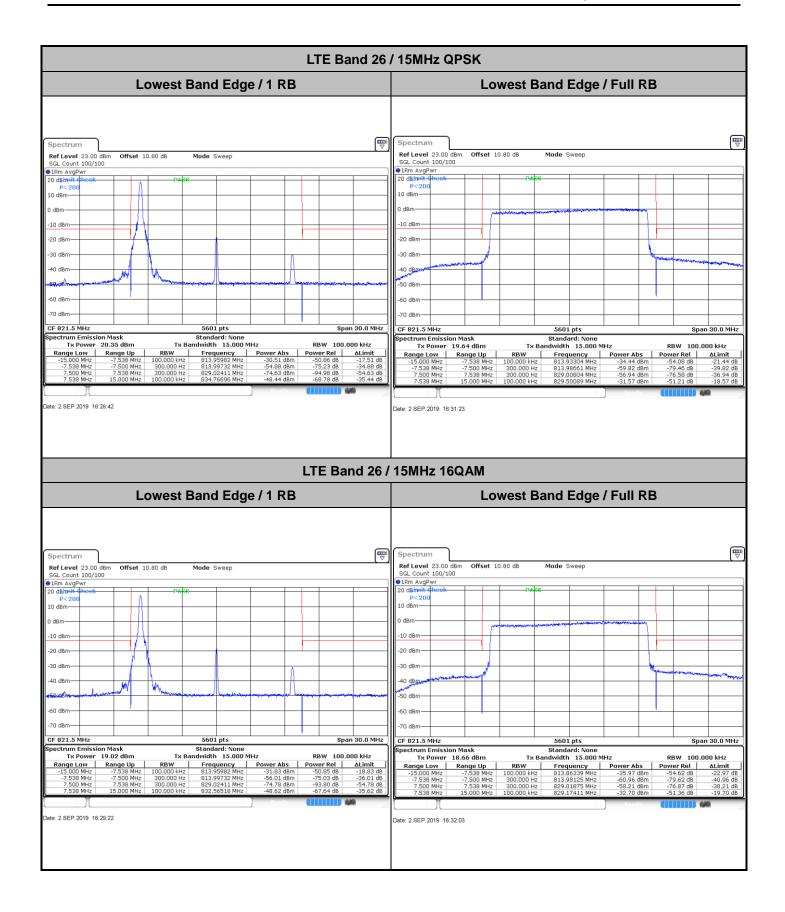


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# **Appendix B. Test Results of Radiated Test**

# **Radiated Spurious Emission**

### LTE Band 26

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			L	TE Band 26	/ 3MHz / QP	SK			
Channel	Frequency (MHz)	EIRP (dBm)	Limit ( dBm )	Over Limit ( dB )	SPA Reading (dBm)	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain (dBi)	Polarization (H/V)
	1632	-31.02	-13	-18.02	-54.06	-36.56	0.91	8.60	Н
	2448	-35.13	-13	-22.13	-62.45	-42.47	1.14	10.63	Н
	3264	-41.29	-13	-28.29	-70.03	-49.76	1.32	11.93	Н
									Н
									Н
									Н
Lawast									Н
Lowest	1632	-27.35	-13	-14.35	-49.92	-32.89	0.91	8.60	V
	2448	-26.58	-13	-13.58	-54	-33.92	1.14	10.63	V
	3264	-41.20	-13	-28.20	-70.42	-49.67	1.32	11.93	V
									V
									V
									V
									V

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1640 -41.72 -13 -28.72 -51.81 -47.28 0.92 8.63 Н 2456 -48.94 -13 -35.94 -63.27 -56.29 1.14 10.64 Η 3280 -50.79 -13 -37.79 -66.49 -59.29 1.32 11.97 Н Η Н Н Н Middle -38.42 -25.42 -47.97 0.92 ٧ 1640 -13 -43.98 8.63 2456 -38.43 -13 -25.43 -52.89 -45.78 1.14 10.64 ٧ 3280 -51.36 -13 -38.36 -67.53 -59.86 1.32 11.97 V ٧ ٧ ٧ V 1648 -39.48 -13 -26.48 -49.58 -45.07 0.92 8.66 Н 2472 -49.26 -13 -36.26 -63.58 -56.63 1.14 10.66 Н 3288 -47.82 -13 -34.82 -63.48 -56.34 1.32 11.99 Η Н Н Н Н Highest V 16448 -35.65 -13 -22.65 -45.21 -46.20 3.12 15.82 2472 -41.54 -13 -28.54 -56.04 -48.91 1.14 10.66 V V 3288 -49.91 -13 -36.91 -66.03 -58.43 1.32 11.99 ٧ V V V

Report No.: FG951441B

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

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			Ľ	TE Band 26	/ 10MHz / QF	PSK			
Channel	Frequency ( MHz )	EIRP (dBm)	Limit ( dBm )	Over Limit ( dB )	SPA Reading (dBm)	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain (dBi)	Polarization (H/V)
	1640	-41.38	-13	-28.38	-51.47	-46.94	0.92	8.63	Н
	2456	-49.28	-13	-36.28	-63.61	-56.63	1.14	10.64	Н
	3280	-50.90	-13	-37.90	-66.6	-59.40	1.32	11.97	Н
									Н
									Н
									Н
Middle									Н
Middle	1640	-38.58	-13	-25.58	-47.41	-44.15	0.92	8.63	V
	2456	-39.51	-13	-26.51	-53.97	-46.86	1.14	10.64	V
	3280	-51.57	-13	-38.57	-67.74	-60.07	1.32	11.97	V
									V
									V
									V
									V

Report No. : FG951441B

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

TEL: 886-3-327-3456 Page Number: B3 of B4

			Ľ	TE Band 26	/ 15MHz / QF	PSK			
Channel	Frequency ( MHz )	EIRP (dBm)	Limit ( dBm )	Over Limit ( dB )	SPA Reading (dBm)	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain (dBi)	Polarization (H/V)
	1640	-40.59	-13	-27.59	-50.68	-46.15	0.92	8.63	Н
	2464	-50.89	-13	-37.89	-65.21	-58.25	1.14	10.65	Н
	3288	-47.33	-13	-34.33	-62.99	-55.85	1.32	11.99	Н
									Н
									Н
									Н
Lowest									Н
Lowest	1640	-36.86	-13	-23.86	-46.41	-42.42	0.92	8.63	V
	2464	-42.62	-13	-29.62	-57.07	-49.98	1.14	10.65	V
	3288	-49.45	-13	-36.45	-65.57	-57.97	1.32	11.99	V
									V
									V
									V
									V

Report No. : FG951441B

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

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