

FCC RF Test Report

APPLICANT : TCL Communication Ltd.

EQUIPMENT : Tablet PC

BRAND NAME ALCATEL ONETOUCH

MODEL NAME : 9007T

MARKETING NAME : ONETOUCH PIXI 3 (7)

FCC ID : 2ACCJB010

STANDARD : FCC 47 CFR Part 2, 90(S)

CLASSIFICATION : PCS Licensed Transmitter (PCB)

The product was received on Apr. 24, 2015 and testing was completed on Aug. 13, 2015. We, SPORTON INTERNATIONAL (SHENZHEN) INC., would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI / TIA / EIA-603-C-2004 and shown compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL (SHENZHEN) INC., the test report shall not be reproduced except in full.

Reviewed by: Joseph Lin / Supervisor

Approved by: Jones Tsai / Manager

SPORTON INTERNATIONAL (SHENZHEN) INC.

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SPORTON INTERNATIONAL (SHENZHEN) INC.

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ACCJB010 Page Number : 1 of 80
Report Issued Date : Aug. 13, 2015

Report No.: FW542408

Report Version : Rev. 02

TABLE OF CONTENTS

RE	VISIO	N HISTORY	3
eu	R#R# A F	RY OF TEST RESULT	
30	IVIIVIAT	RT OF TEST RESULT	4
1	GENI	ERAL DESCRIPTION	5
	1.1	Applicant	5
	1.2	Manufacturer	
	1.3	Feature of Equipment Under Test	5
	1.4	Product Specification of Equipment Under Test	5
	1.5	Accessories and Support Equipment	6
	1.6	Modification of EUT	
	1.7	Maximum Frequency Tolerance and Emission Designator	7
	1.8	Testing Site	
	1.9	Applied Standards	8
2	TEST	CONFIGURATION OF EQUIPMENT UNDER TEST	g
	2.1	Test Mode	g
	2.2	Connection Diagram of Test System	
	2.3	Support Unit used in test configuration and system	10
	2.4	Measurement Results Explanation Example	11
3	TEST	RESULT	12
	3.1	Conducted Output Power Measurement	12
	3.2	99% Occupied Bandwidth and 26dB Bandwidth Measurement	
	3.3	Emissions Mask Measurement	
	3.4	Emissions Mask – Out Of Band Emissions Measurement	58
	3.5	Field Strength of Spurious Radiation Measurement	
	3.6	Frequency Stability Measurement	76
4	LIST	OF MEASURING EQUIPMENT	79
5	UNCI	ERTAINTY OF EVALUATION	80
ΑP	PEND	IX A. SETUP PHOTOGRAPHS	

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ACCJB010 Page Number : 2 of 80
Report Issued Date : Aug. 13, 2015
Report Version : Rev. 02

REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FW542408	Rev. 01	Initial issue of report	Aug. 04, 2015
FW542408	Rev. 02	Added the test result of conducted band edge, conducted power, CSE and OBW for Ch26765 (821.5MHz).	Aug. 13, 2015

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ACCJB010 Page Number : 3 of 80
Report Issued Date : Aug. 13, 2015
Report Version : Rev. 02

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.1	§2.1046	Conducted Output Power	Reporting only	PASS	-
3.2	§2.1049 §90.209	Occupied Bandwidth and 26dB Bandwidth	Reporting only	PASS	-
3.3	§2.1051 §90.691	Emission masks – In-band emissions	< 50+10log ₁₀ (P[Watts])	PASS	-
3.4	§2.1051 §90.691	Emission masks – Out of band emissions	< 43+10log ₁₀ (P[Watts])	PASS	-
3.5	§2.1053 Field Strength of Spurious §90.691 Radiation		< 43+10log ₁₀ (P[Watts])	PASS	Under limit 33.41 dB at 1654.000MHz
3.6	§2.1055 §90.213	Frequency Stability for Temperature & Voltage	< 2.5 ppm	PASS	-

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ACCJB010 Page Number : 4 of 80
Report Issued Date : Aug. 13, 2015
Report Version : Rev. 02

General Description 1

1.1 Applicant

TCL Communication Ltd.

5F, C building, No. 232, Liang Jing Road ZhangJiang High-Tech Park, Pudong Area Shanghai, P. R. China. 201203

Report No.: FW542408

1.2 Manufacturer

TCL Communication Ltd.

5F, C building, No. 232, Liang Jing Road ZhangJiang High-Tech Park, Pudong Area Shanghai, P. R. China. 201203

1.3 Feature of Equipment Under Test

Product Feature & Specification							
Equipment	Tablet PC						
Brand Name	ALCATEL ONETOUCH						
Model Name	9007T						
Marketing Name	ONETOUCH PIXI 3 (7)						
FCC ID	2ACCJB010						
EUT supports Radios application	LTE/WLAN 2.4GHz 802.11b/g/n HT20/ Bluetooth v3.0+EDR/Bluetooth v4.1 LE						
HW Version	V05						
SW Version	A2J						
EUT Stage	Production Unit						

1.4 Product Specification of Equipment Under Test

Product Specification subjective to this standard							
Tx Frequency	LTE Band 26: 814.7 ~ 823.3 MHz						
Rx Frequency	LTE Band 26 : 859.7 ~ 868.3 MHz						
Bandwidth	1.4MHz/3MHz/5MHz/10MHz//15MHz						
Maximum Output Power to Antenna	22.54 dBm						
Antenna Type	PIFA Antenna						
Type of Modulation	QPSK / 16QAM						

Remark: This test report recorded only product characteristics and test results of PCS Licensed Transmitter (PCB).

SPORTON INTERNATIONAL (SHENZHEN) INC.

: 5 of 80 Page Number Report Issued Date: Aug. 13, 2015 TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 Report Version : Rev. 02

FCC ID: 2ACCJB010

1.5 Accessories and Support Equipment

Specification of Accessory									
	Brand Name	ALCATELONETOUCH	Model Name	UC13US					
AC Adapter	Power Rating	I/P: 100-240Vac, 0.5A, O/P: 5Vdc, 2A							
	P/N	CBA0059AG1C1							
	Brand Name	ALCATEL ONETOUCH	Model Name	TLp040D2					
Battery	Power Rating	3.8V 4000mAh							
	P/N	C400000C2Y2Z77K							
USB Cable	Brand Name	NA	Model Name	NA					
Capie	Signal Line Type	1.0meter, shielded cable,	without ferrite of	core					

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ACCJB010 Page Number : 6 of 80
Report Issued Date : Aug. 13, 2015
Report Version : Rev. 02

1.6 Modification of EUT

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

1.7 Maximum Frequency Tolerance and Emission Designator

FCC Rule	System	Type of Modulation	BW	Frequency Tolerance (ppm)	Emission Designator
Part 90S	LTE Band 26	QPSK	1.4 MHz	-	1M10G7D
Part 90S	LTE Band 26	16QAM	1.4 MHz	-	1M10W7D
Part 90S	LTE Band 26	QPSK	3 MHz	-	2M73G7D
Part 90S	LTE Band 26	16QAM	3 MHz	-	2M73W7D
Part 90S	LTE Band 26	QPSK	5 MHz	-	4M50G7D
Part 90S	LTE Band 26	16QAM	5 MHz	-	4M51W7D
Part 90S	LTE Band 26	QPSK	10 MHz	0.0147 ppm	9M07G7D
Part 90S	LTE Band 26	16QAM	10 MHz	-	8M99W7D
Part 90S	LTE Band 26	QPSK	15 MHz	-	13M4G7D
Part 90S	LTE Band 26	16QAM	15 MHz	-	13M4W7D

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ACCJB010 Page Number : 7 of 80
Report Issued Date : Aug. 13, 2015
Report Version : Rev. 02

Testing Site 1.8

Test Site	SPORTON INTERN	SPORTON INTERNATIONAL (SHENZHEN) INC.							
Test Site Location	warehouse, Nansha	No. 3 Building, the third floor of south, Shahe River west, Fengzeyuan warehouse, Nanshan District, Shenzhen, Guangdong, P. R. China TEL: +86-755- 3320-2398							
Test Site No.	Sporto	n Site No.	FCC Registration No.						
	TH01-SZ	03CH01-SZ	831040						

Note: The test site complies with ANSI C63.4 2009 requirement.

1.9 **Applied Standards**

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

- FCC 47 CFR Part 2, 90(S)
- FCC KDB 971168 D01 Power Meas. License Digital Systems v02r02
- ANSI / TIA / EIA-603-C-2004

Remark:

- 1. 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: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ACCJB010

Page Number : 8 of 80 Report Issued Date: Aug. 13, 2015

Report No.: FW542408

Report Version : Rev. 02

Test Configuration of Equipment Under Test 2

2.1 **Test Mode**

During all testing, EUT is in link mode with base station emulator at maximum power level. The spurious emission measurements were carried out in semi-anechoic chamber with 3-meter test range, and EUT is rotated on three test planes to find out the worst emission.

Test Items	Band		Ва	ndwi	dth (M	Hz)		Mod	Modulation RB#			Test Channel			
rest items	Band	1.4	3	5	10	15	20	QPSK	16QAM	1	Half	Full	L	М	Н
Max. Output Power	26	٧	V	٧	v	٧	•	>	v	v	v	v	٧	>	v
26dB and 99% Bandwidth	26	v	v	v	v	v	-	v	v			v	v	v	v
Conducted Band Edge	26	٧	v	v	v	v	-	v	v	v		v	v		v
Conducted Spurious Emission	26	٧	v	v	v	v	-	v	v	v	v		v	v	v
Frequency Stability	26				v		-	٧				v		٧	
Radiated Spurious Emission	26	>	v	v	v	1	1	٧	v	v				>	
Note	 The mark "v" means that this configuration is chosen for testing The mark "-" means that this bandwidth is not supported. The device is investigated from 30MHz to 10 times of fundamental signal for radiated spurious emission test under different RB size/offset and modulations in exploratory test. Subsequently, only the worst case emissions are reported. 														

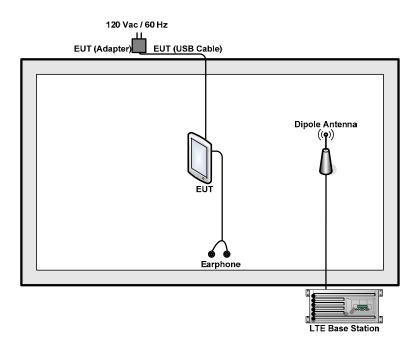
TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ACCJB010

: 9 of 80 Page Number Report Issued Date: Aug. 13, 2015

Report No.: FW542408

Report Version : Rev. 02

2.2 Connection Diagram of Test System



2.3 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model No.	FCC ID	Data Cable	Power Cord
1.	LTE Base Station	Anritsu	MT8820C	N/A	N/A	Unshielded, 1.8 m
2.	DC Power Supply	GW INSTEK	GPS-3030D	N/A	N/A	Unshielded, 1.8 m
3.	Earphone	Apple	MC690ZP/A	FCC DoC	Unshielded, 1.6 m	N/A

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ACCJB010 Page Number : 10 of 80
Report Issued Date : Aug. 13, 2015
Report Version : Rev. 02

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.

Example:

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 4.5 dB and 10dB attenuator.

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

= 4.5 + 10 = 14.5 (dB)

Page Number : 11 of 80
Report Issued Date : Aug. 13, 2015
Report Version : Rev. 02

3 Test Result

3.1 Conducted Output Power Measurement

3.1.1 Description of the Conducted Output Power Measurement

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

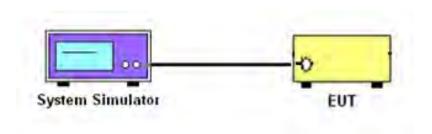
3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

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

3.1.4 Test Setup



TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ACCJB010 Page Number : 12 of 80
Report Issued Date : Aug. 13, 2015
Report Version : Rev. 02

3.1.5 Test Result of Conducted Output Power

<LTE Band 26 Conducted Power>

BW [MHz]	Modulation	RB Size	RB Offset	Power (dBm) Low Ch. / Freq.	Power (dBm) Middle Ch. / Freq.	Power (dBm) High Ch. / Freq.
	Char				26765	
	Frequenc	y (MHz)			821.5	
15	QPSK	1	0		22.40	
15	QPSK	1	37		22.13	
15	QPSK	1	74		21.96	
15	QPSK	36	0		21.33	
15	QPSK	36	18		21.15	
15	QPSK	36	37		21.22	
15	QPSK	75	0		21.21	
15	16QAM	1	0		21.33	
15	16QAM	1	37		20.89	
15	16QAM	1	74		20.77	
15	16QAM	36	0		20.22	
15	16QAM	36	18		20.08	
15	16QAM	36	37		20.28	
15	16QAM	75	0		20.03	
	Char	nnel			26740	
	Frequenc	y (MHz)			819	
10	QPSK	1	0		22.26	
10	QPSK	1	24		22.40	
10	QPSK	1	49		22.33	
10	QPSK	25	0		21.47	
10	QPSK	25	12		21.26	
10	QPSK	25	24		21.29	
10	QPSK	50	0		21.41	
10	16QAM	1	0		21.72	
10	16QAM	1	24		21.65	
10	16QAM	1	49		21.51	
10	16QAM	25	0		20.47	
10	16QAM	25	12		20.37	
10	16QAM	25	24		20.39	
10	16QAM	50	0		20.31	
	Char	nnel		26715	26740	26765
	Frequenc		816.5	819	821.5	
5	QPSK	1	0	22.28	22.36	22.38
5	QPSK	1	12	22.50	22.47	22.44
5	QPSK	1	24	22.21	22.24	22.32
5	QPSK	12	0	21.33	21.49	21.30
5	QPSK	12	6	21.44	21.28	21.31
5	QPSK	12	11	21.35	21.28	21.38
5	QPSK	25	0	21.43	21.30	21.31

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ACCJB010 Page Number : 13 of 80

Report Issued Date : Aug. 13, 2015

Report Version : Rev. 02

	Cha	nnel	26715	26740	26765	
	Frequen	cv (MHz)		816.5	819	821.5
5	16QAM	1	0	21.73	21.86	21.52
5	16QAM	1	12	21.52	21.51	21.51
5	16QAM	1	24	21.33	21.29	21.49
5	16QAM	12	0	20.30	20.38	20.28
5	16QAM	12	6	20.47	20.18	20.31
5	16QAM	12	11	20.31	20.26	20.22
5	16QAM	25	0	20.40	20.21	20.14
				Power (dBm)	Power (dBm)	Power (dBm)
BW	Modulation	RB	RB	Low	Middle	High
[MHz]		Size	Offset	Ch. / Freq.	Ch. / Freq.	Ch. / Freq.
	Cha	nnel		26705	26740	26775
	Frequen	cy (MHz)		815.5	819	822.5
3	QPSK	1	0	22.34	22.42	22.41
3	QPSK	1	7	22.42	22.47	22.49
3	QPSK	1	14	22.33	22.43	22.32
3	QPSK	8	0	21.34	21.55	21.40
3	QPSK	8	4	21.40	21.34	21.46
3	QPSK	8	7	21.36	21.38	21.48
3	QPSK	15	0	21.39	21.34	21.41
3	16QAM	1	0	21.86	22.08	22.06
3	16QAM	1	7	21.85	21.94	21.98
3	16QAM	1	14	21.74	21.90	22.00
3	16QAM	8	0	20.40	20.53	20.51
3	16QAM	8	4	20.57	20.54	20.21
3	16QAM	8	7	20.44	20.36	20.40
3	16QAM	15	0	20.38	20.22	20.44
	Cha	nnel		26697	26740	26783
	Frequen	cy (MHz)		814.7	819	823.3
1.4	QPSK	1	0	22.08	22.29	22.17
1.4	QPSK	1	2	22.21	22.39	22.27
1.4	QPSK	1	5	22.12	22.05	22.34
1.4	QPSK	3	0	22.10	22.42	22.40
1.4	QPSK	3	1	22.18	22.44	<mark>22.54</mark>
1.4	QPSK	3	2	22.15	22.24	22.39
1.4	QPSK	6	0	21.30	21.32	21.49
1.4	16QAM	1	0	21.36	21.43	21.62
1.4	16QAM	1	2	21.41	21.54	21.65
1.4	16QAM	1	5	21.42	21.50	21.50
1.4	16QAM	3	0	21.66	21.76	21.75
1.4	16QAM	3	1	21.74	21.72	21.54
1.4	16QAM	3	2	21.68	21.64	21.67
1.4	16QAM	6	0	20.11	20.25	20.25

Note: Maximum average power for LTE.

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ACCJB010 Page Number : 14 of 80
Report Issued Date : Aug. 13, 2015
Report Version : Rev. 02

3.2 99% Occupied Bandwidth and 26dB Bandwidth Measurement

3.2.1 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.

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.

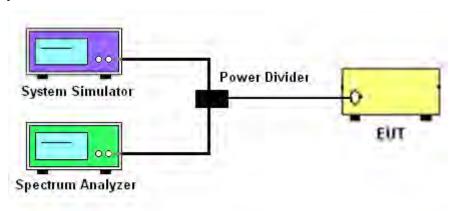
3.2.2 Measuring Instruments

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

3.2.3 Test Procedures

- 1. The EUT was connected to Spectrum Analyzer and Base Station via power divider.
- 2. The 99% and 26 dB occupied bandwidth (BW) of the middle channel for the highest RF powers were measured.

3.2.4 Test Setup



TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ACCJB010 Page Number : 15 of 80
Report Issued Date : Aug. 13, 2015
Report Version : Rev. 02

3.2.5 Test Result of 99% Occupied Bandwidth and 26dB Bandwidth

Modes	LTE Band 26											
BW / Mod.	1.4MHz / QPSK			1.4MHz / 16QAM			3MHz / QPSK			3MHz / 16QAM		
	Low	Mid.	High	Low	Mid.	High	Low	Mid.	High	Low	Mid.	High
99% OBW (MHz)	1.10	1.09	1.10	1.10	1.10	1.10	2.73	2.72	2.73	2.73	2.73	2.72
26dB BW (MHz)	1.28	1.28	1.28	1.30	1.30	1.30	3.05	3.05	3.05	3.05	3.05	3.05
BW / Mod.	5MHz / QPSK		5MHz / 16QAM		10MHz / QPSK		10MHz / 16QAM					
	Low	Mid.	High	Low	Mid.	High	Low	Mid.	High	Low	Mid.	High
99% OBW (MHz)	4.50	4.50	4.50	4.51	4.50	4.50		9.07			8.99	
26dB BW (MHz)	5.04	5.04	5.04	5.06	5.05	5.01		10.01			9.81	
BW / Mod.	15MHz / QPSK			15MHz / 16QAM								
	Low	Mid.	High	Low	Mid.	High						
99% OBW (MHz)		13.43			13.40							
26dB BW (MHz)		14.57			14.66							

Note:

The maximum RB configurations of the 99% Occupied Bandwidth and 26dB Bandwidth summary as below:

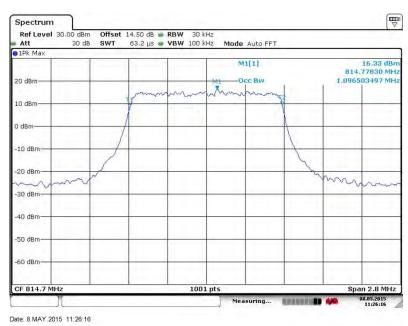
BW1.4MHz RB setting: RB Size 6, RB offset 0
BW3.0MHz RB setting: RB Size 15, RB offset 0
BW5.0MHz RB setting: RB Size 25, RB offset 0
BW10MHz RB setting: RB Size 50, RB offset 0
BW15MHz RB setting: RB Size 75, RB offset 0

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ACCJB010 Page Number : 16 of 80
Report Issued Date : Aug. 13, 2015
Report Version : Rev. 02

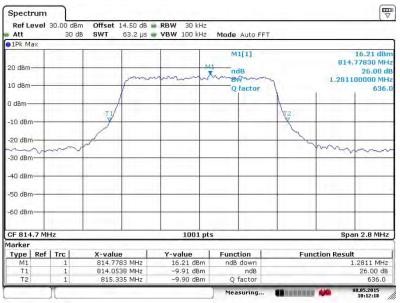
3.2.6 Test Result (Plots) of 99% Occupied Bandwidth and 26dB Bandwidth

Band :	LTE Band 26	BW / Mod. :	1.4MHz / QPSK
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99% Occupied Bandwidth Plot on Channel 26697



26dB Bandwidth Plot on Channel 26697



Date: 8.MAY.2015 10:12:17

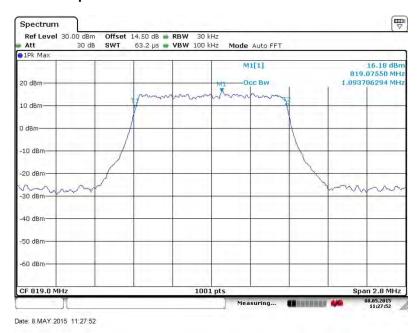
SPORTON INTERNATIONAL (SHENZHEN) INC.

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ACCJB010 Page Number : 17 of 80 Report Issued Date : Aug. 13, 2015

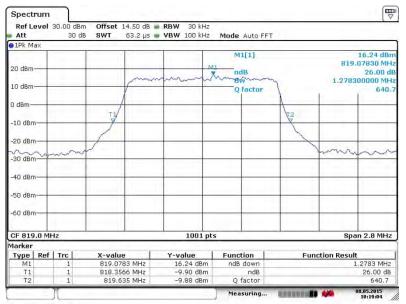
Report No.: FW542408

Report Version : Rev. 02





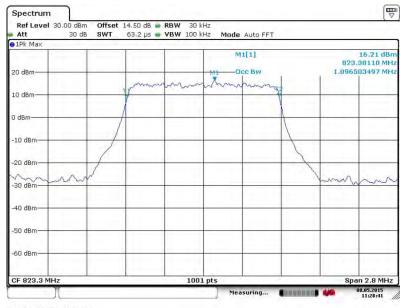
26dB Bandwidth Plot on Channel 26740



Date: 8.MAY.2015 10:19:04

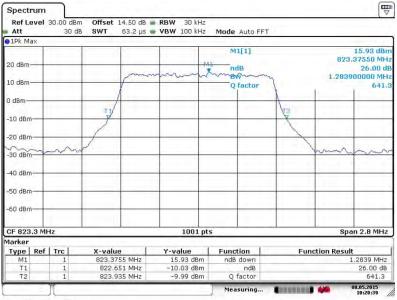
TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ACCJB010 Page Number : 18 of 80
Report Issued Date : Aug. 13, 2015
Report Version : Rev. 02





Date: 8.MAY.2015 11:28:41

26dB Bandwidth Plot on Channel 26783



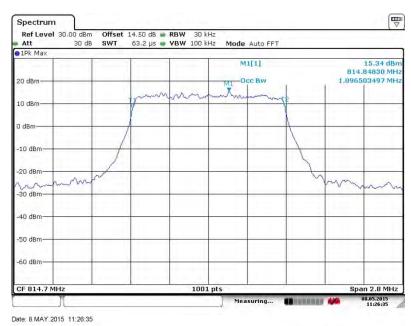
Date: 8.MAY 2015 10:20:38

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ACCJB010 Page Number : 19 of 80
Report Issued Date : Aug. 13, 2015
Report Version : Rev. 02

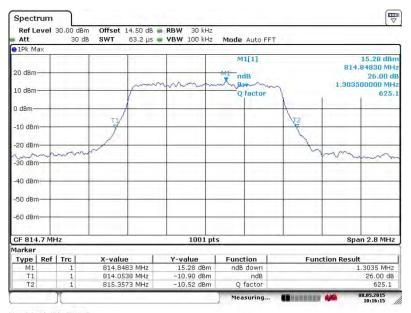


LTE Band 26 BW / Mod.: 1.4MHz / 16QAM Band:

99% Occupied Bandwidth Plot on Channel 26697



26dB Bandwidth Plot on Channel 26697



Date: 8.MAY.2015 10:16:15

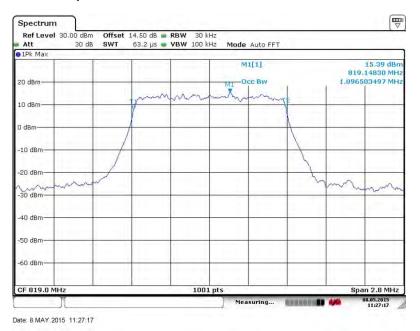
SPORTON INTERNATIONAL (SHENZHEN) INC.

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ACCJB010

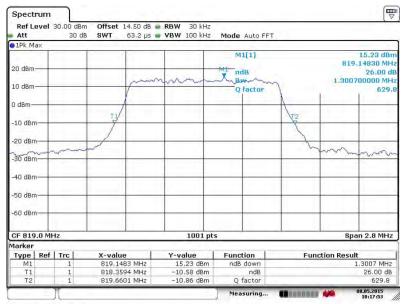
Page Number : 20 of 80 Report Issued Date: Aug. 13, 2015

Report Version : Rev. 02





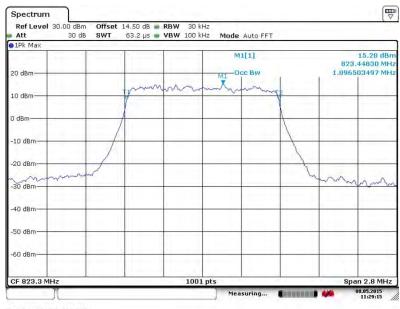
26dB Bandwidth Plot on Channel 26740



Date: 8.MAY.2015 10:17:54

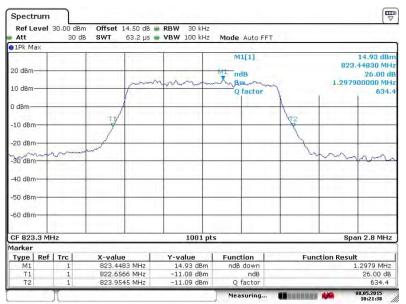
TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ACCJB010 Page Number : 21 of 80
Report Issued Date : Aug. 13, 2015
Report Version : Rev. 02





Date: 8.MAY.2015 11:29:15

26dB Bandwidth Plot on Channel 26783



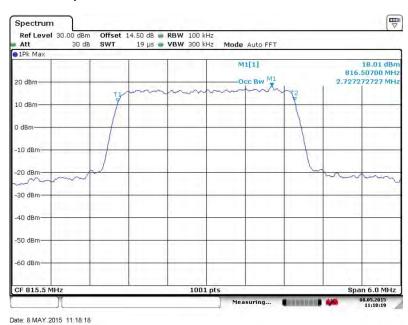
Date: 8.MAY.2015 10:21:37

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ACCJB010 Page Number : 22 of 80
Report Issued Date : Aug. 13, 2015
Report Version : Rev. 02

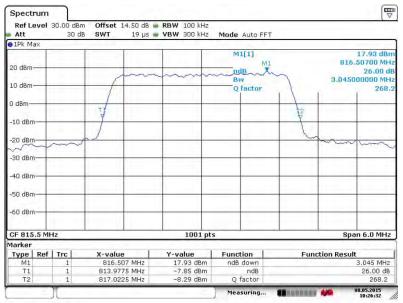


LTE Band 26 3MHz / QPSK Band: BW / Mod.:

99% Occupied Bandwidth Plot on Channel 26705



26dB Bandwidth Plot on Channel 26705



Date: 8.MAY.2015 10:26:31

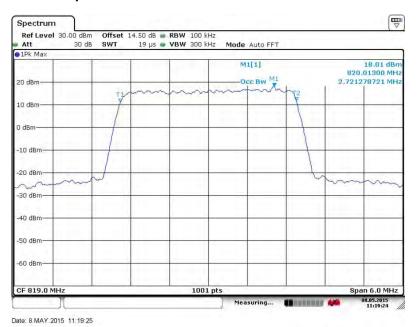
SPORTON INTERNATIONAL (SHENZHEN) INC.

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ACCJB010

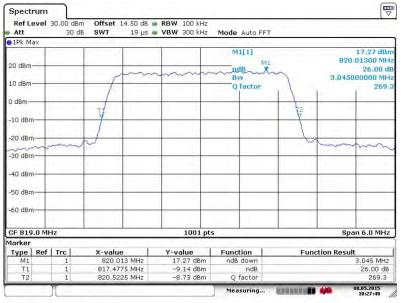
Page Number : 23 of 80 Report Issued Date: Aug. 13, 2015

Report Version : Rev. 02





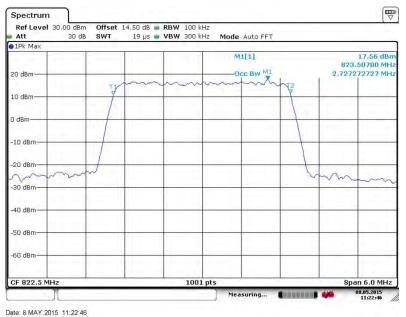
26dB Bandwidth Plot on Channel 26740



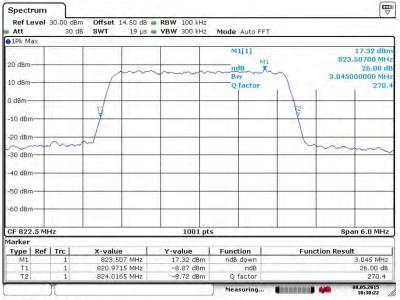
Date: 8.MAY.2015 10:27:48

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ACCJB010 Page Number : 24 of 80
Report Issued Date : Aug. 13, 2015
Report Version : Rev. 02





26dB Bandwidth Plot on Channel 26775



Date: 8.MAY.2015 10:30:22

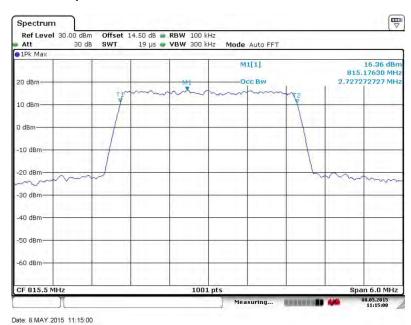
TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ACCJB010

: 25 of 80 Page Number Report Issued Date: Aug. 13, 2015 Report Version : Rev. 02

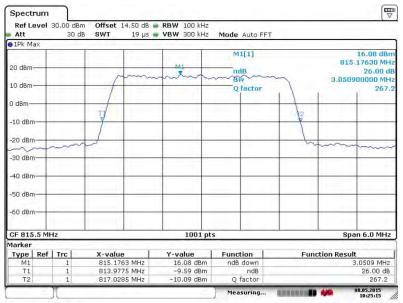


 Band :
 LTE Band 26
 BW / Mod. :
 3MHz / 16QAM

99% Occupied Bandwidth Plot on Channel 26705



26dB Bandwidth Plot on Channel 26705

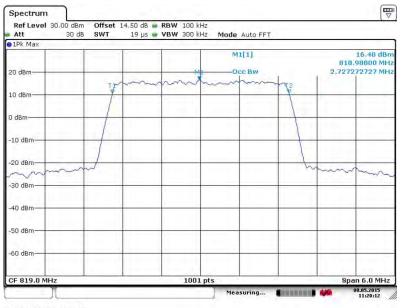


Date: 8.MAY.2015 10:25:14

SPORTON INTERNATIONAL (SHENZHEN) INC.

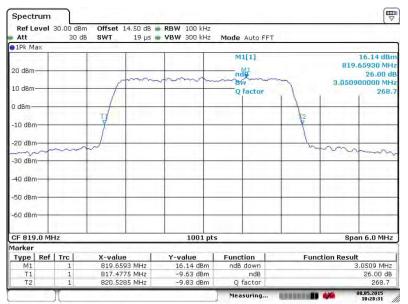
TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ACCJB010 Page Number : 26 of 80
Report Issued Date : Aug. 13, 2015
Report Version : Rev. 02





Date: 8.MAY.2015 11:20:12

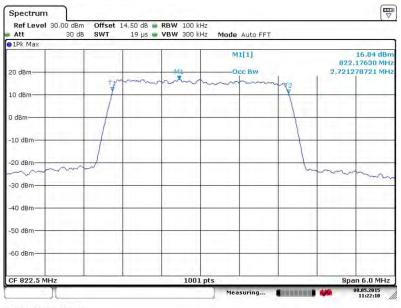
26dB Bandwidth Plot on Channel 26740



Date: 8.MAY.2015 10:28:31

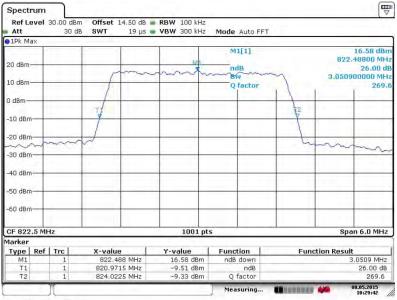
TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ACCJB010 Page Number : 27 of 80
Report Issued Date : Aug. 13, 2015
Report Version : Rev. 02





Date: 8.MAY.2015 11:22:10

26dB Bandwidth Plot on Channel 26775



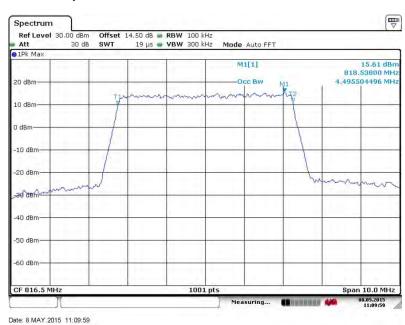
Date: 8.MAY 2015 10:29:42

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ACCJB010 Page Number : 28 of 80
Report Issued Date : Aug. 13, 2015
Report Version : Rev. 02

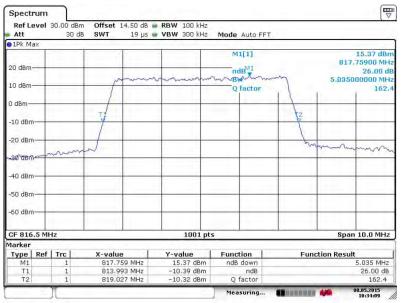


Band: LTE Band 26 BW / Mod.: 5MHz / QPSK

99% Occupied Bandwidth Plot on Channel 26715



26dB Bandwidth Plot on Channel 26715

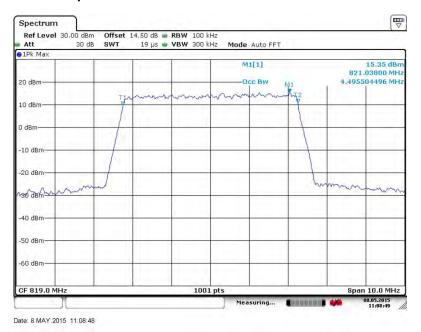


Date: 8.MAY.2015 10:34:09

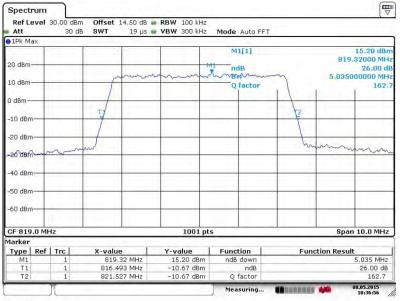
 ${\it SPORTON\ INTERNATIONAL\ (SHENZHEN)\ INC.}$

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ACCJB010 Page Number : 29 of 80
Report Issued Date : Aug. 13, 2015
Report Version : Rev. 02





26dB Bandwidth Plot on Channel 26740

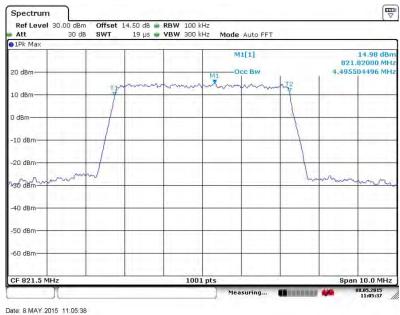


Date: 8.MAY.2015 10:36:56

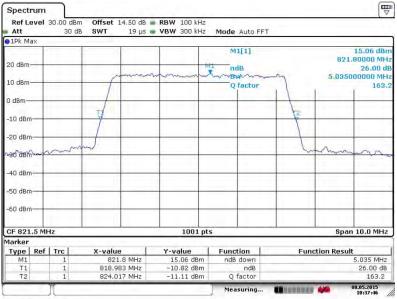
TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ACCJB010 Page Number : 30 of 80 Report Issued Date : Aug. 13, 2015

Report Version : Rev. 02





26dB Bandwidth Plot on Channel 26765



Date: 8.MAY 2015 10:37:46

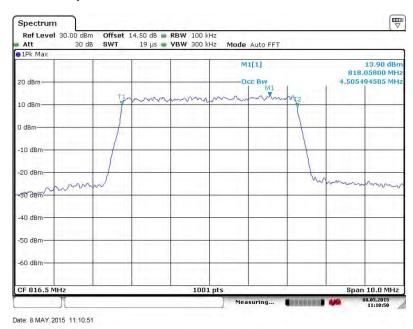
TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ACCJB010

Page Number : 31 of 80 Report Issued Date: Aug. 13, 2015 Report Version : Rev. 02

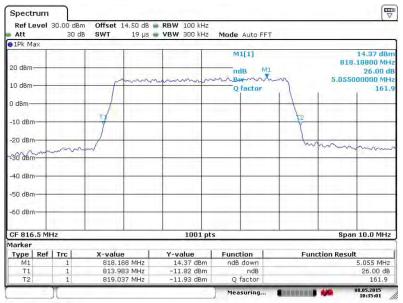


 Band :
 LTE Band 26
 BW / Mod. :
 5MHz / 16QAM

99% Occupied Bandwidth Plot on Channel 26715



26dB Bandwidth Plot on Channel 26715

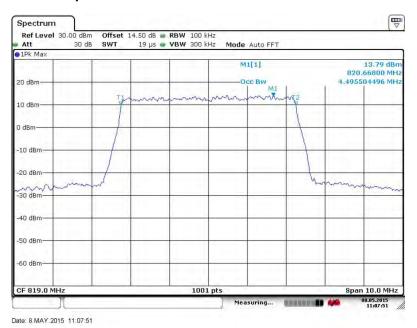


Date: 8.MAY.2015 10:35:00

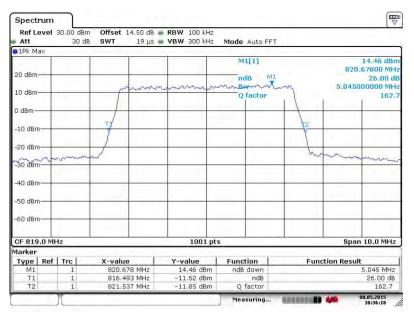
SPORTON INTERNATIONAL (SHENZHEN) INC.

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ACCJB010 Page Number : 32 of 80
Report Issued Date : Aug. 13, 2015
Report Version : Rev. 02





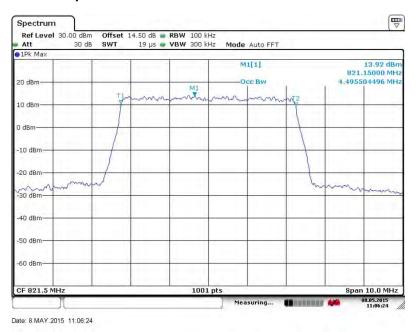
26dB Bandwidth Plot on Channel 26740



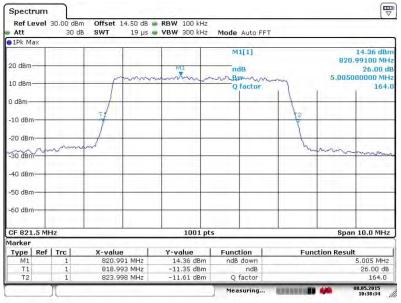
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TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ACCJB010 Page Number : 33 of 80
Report Issued Date : Aug. 13, 2015
Report Version : Rev. 02





26dB Bandwidth Plot on Channel 26765



Date: 8.MAY.2015 10:38:34

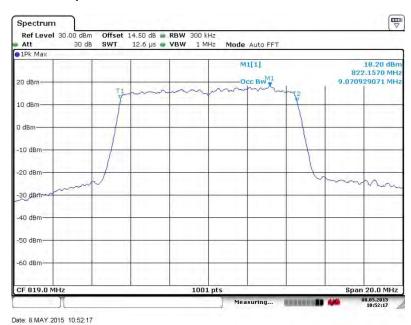
TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ACCJB010 Page Number : 34 of 80
Report Issued Date : Aug. 13, 2015

Report Version : Rev. 02

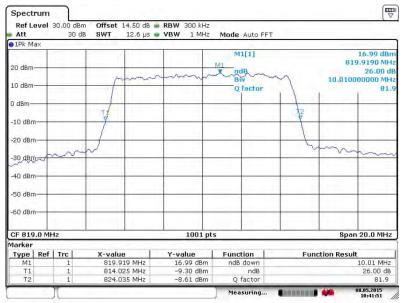


LTE Band 26 BW / Mod.: 10MHz / QPSK Band:

99% Occupied Bandwidth Plot on Channel 26740



26dB Bandwidth Plot on Channel 26740



Date: 8.MAY.2015 10:41:52

SPORTON INTERNATIONAL (SHENZHEN) INC.

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ACCJB010

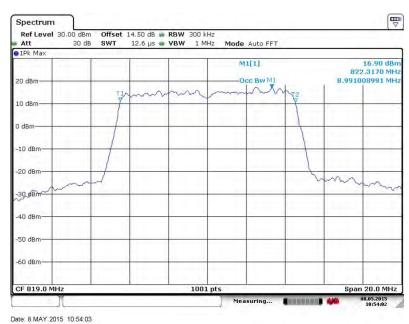
: 35 of 80 Page Number Report Issued Date: Aug. 13, 2015

Report Version : Rev. 02

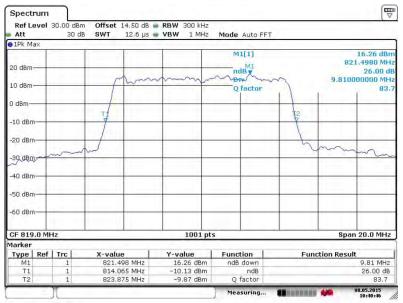


Band: LTE Band 26 BW / Mod.: 10MHz / 16QAM

99% Occupied Bandwidth Plot on Channel 26740



26dB Bandwidth Plot on Channel 26740



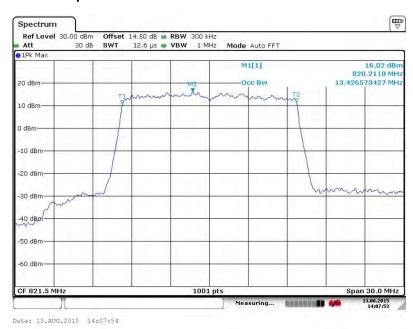
Date: 8.MAY.2015 10:40:46

 ${\it SPORTON\ INTERNATIONAL\ (SHENZHEN)\ INC.}$

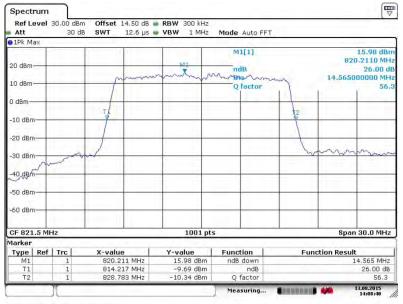
TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ACCJB010 Page Number : 36 of 80
Report Issued Date : Aug. 13, 2015
Report Version : Rev. 02

Band: LTE Band 26 BW / Mod.: 15MHz / QPSK

99% Occupied Bandwidth Plot on Channel 26765



26dB Bandwidth Plot on Channel 26765



Date: 13.AUG.2015 14:08:40

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ACCJB010 Page Number : 37 of 80
Report Issued Date : Aug. 13, 2015

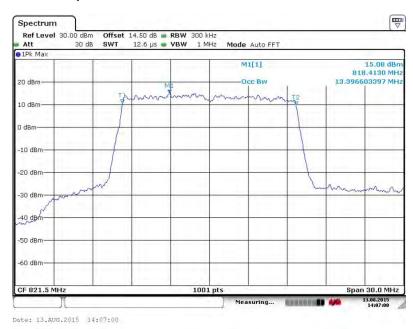
Report No.: FW542408

Report Version : Rev. 02

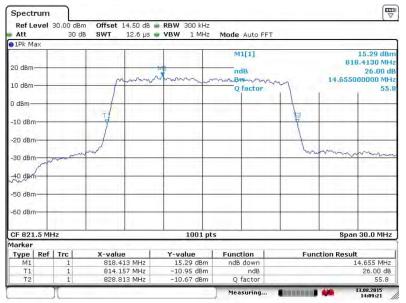


 Band :
 LTE Band 26
 BW / Mod. :
 15MHz / 16QAM

99% Occupied Bandwidth Plot on Channel 26765



26dB Bandwidth Plot on Channel 26765



Date: 13.AUG.2015 14:09:21

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ACCJB010 Page Number : 38 of 80
Report Issued Date : Aug. 13, 2015
Report Version : Rev. 02

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)

- (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 Log₁₀(f/6.1) decibels or 50 + 10 Log₁₀(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 + 10Log₁₀(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.

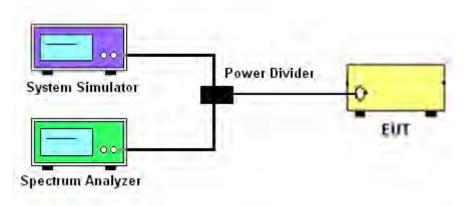
3.3.2 Measuring Instruments

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

3.3.3 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.

3.3.4 Test Setup



TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ACCJB010 Page Number : 39 of 80
Report Issued Date : Aug. 13, 2015

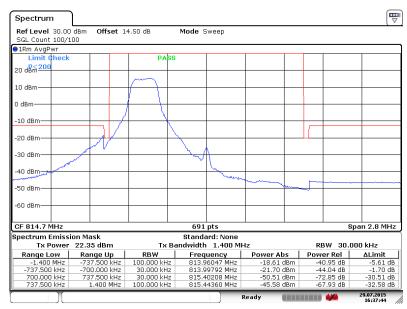
Report No.: FW542408

Report Version : Rev. 02

3.3.5 Test Result (Plots) of Conducted Emissions Mask

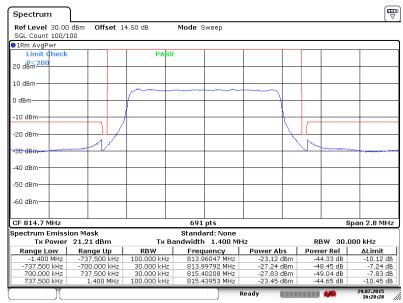
Band: LTE Band 26 Band Width	: 1.4MHz / QPSK
------------------------------	-----------------

Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0



Date: 29 JUL 2015 16:37:44

Lower Band Edge Plot for QPSK-RB Size 6, RB Offset 0



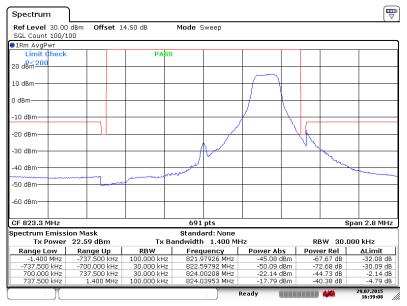
Date: 29 JUL 2015 16:28:27

SPORTON INTERNATIONAL (SHENZHEN) INC.

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ACCJB010 Page Number : 40 of 80
Report Issued Date : Aug. 13, 2015
Report Version : Rev. 02

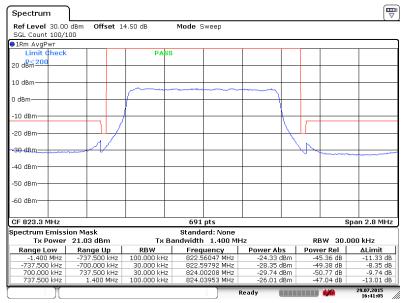
SPORTON LAB. FCC RF Test Report

Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 5



Date: 29 JUL 2015 16:39:07

Higher Band Edge Plot for QPSK-RB Size 6, RB Offset 0



Date: 29 JUL 2015 16:41:05

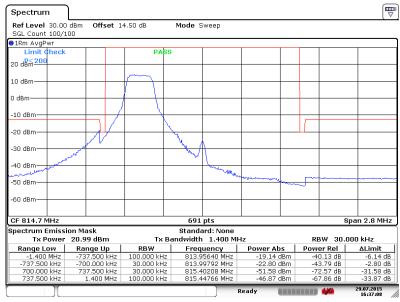
TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ACCJB010

Page Number : 41 of 80 Report Issued Date: Aug. 13, 2015

Report No.: FW542408

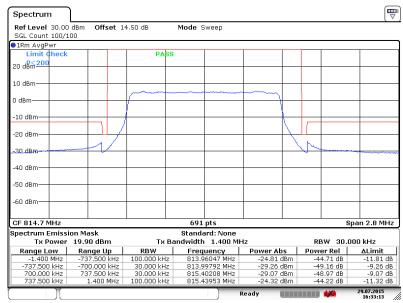
Report Version : Rev. 02 Band: LTE Band 26 Band Width: 1.4MHz / 16QAM

Lower Band Edge Plot for 16QAM -RB Size 1, RB Offset 0



Date: 29 JUL 2015 16:37:07

Lower Band Edge Plot for 16QAM-RB Size 6, RB Offset 0

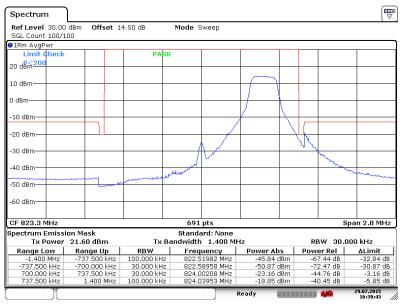


Date: 29 JUL 2015 16:33:13

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ACCJB010 Page Number : 42 of 80
Report Issued Date : Aug. 13, 2015
Report Version : Rev. 02

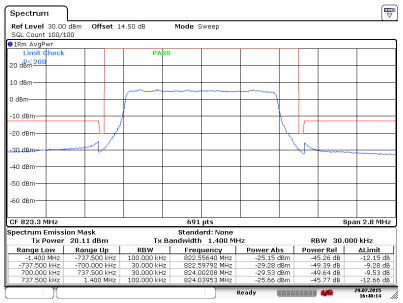


Higher Band Edge Plot for 16QAM-RB Size 1, RB Offset 5



Date: 29 JUL 2015 16:39:43

Higher Band Edge Plot for 16QAM-RB Size 6, RB Offset 0



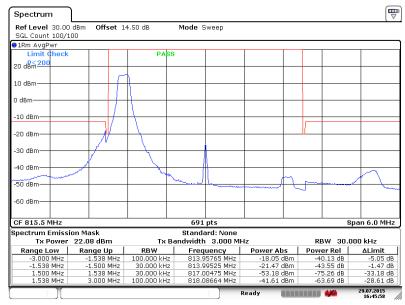
Date: 29 JUL 2015 16:40:15

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ACCJB010 Page Number : 43 of 80
Report Issued Date : Aug. 13, 2015
Report Version : Rev. 02

Band:

Band Width:

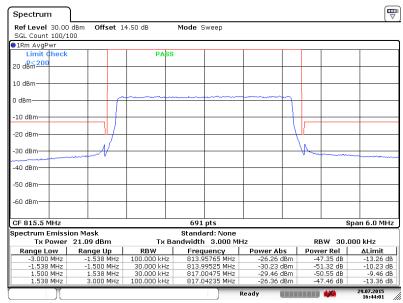
Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0



Date: 29 JUL 2015 16:45:58

LTE Band 26

Lower Band Edge Plot for QPSK-RB Size 15, RB Offset 0



Date: 29 JUL 2015 16:44:01

SPORTON INTERNATIONAL (SHENZHEN) INC.

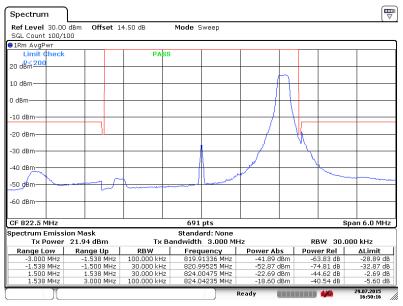
TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ACCJB010 Page Number : 44 of 80
Report Issued Date : Aug. 13, 2015
Report Version : Rev. 02

Report No.: FW542408

3MHz / QPSK

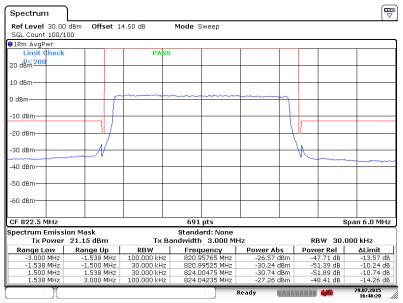


Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 14



Date: 29 JUL 2015 16:50:16

Higher Band Edge Plot for QPSK-RB Size 15, RB Offset 0

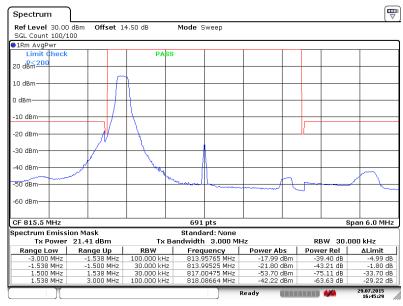


Date: 29 JUL 2015 16:48:20

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ACCJB010 Page Number : 45 of 80
Report Issued Date : Aug. 13, 2015
Report Version : Rev. 02

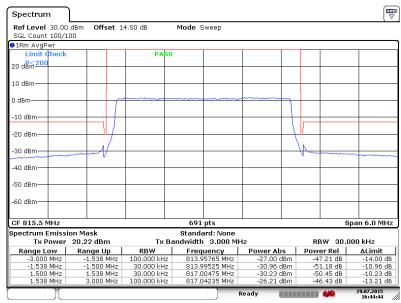
Band: LTE Band 26 Band Width: 3MHz / 16QAM

Lower Band Edge Plot for 16QAM-RB Size 1, RB Offset 0



Date: 29 JUL 2015 16:45:29

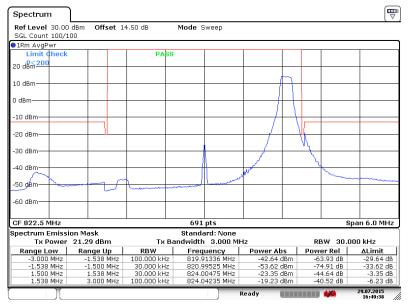
Lower Band Edge Plot for 16QAM-RB Size 15, RB Offset 0



Date: 29 JUL 2015 16:44:45

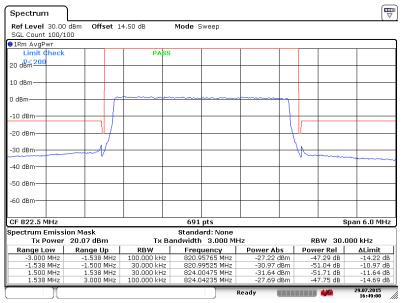
TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ACCJB010 Page Number : 46 of 80
Report Issued Date : Aug. 13, 2015
Report Version : Rev. 02

Higher Band Edge Plot for 16QAM-RB Size 1, RB Offset 14



Date: 29 JUL 2015 16:49:38

Higher Band Edge Plot for 16QAM-RB Size 15, RB Offset 0

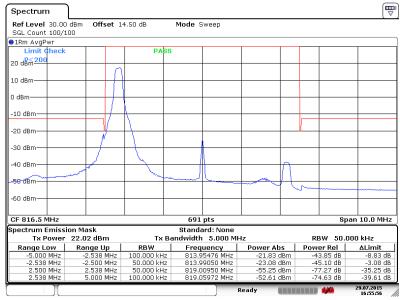


Date: 29 JUL 2015 16:49:00

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ACCJB010 Page Number : 47 of 80
Report Issued Date : Aug. 13, 2015
Report Version : Rev. 02

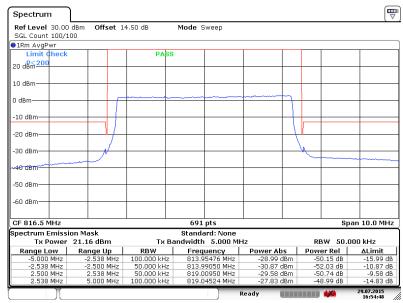
Band: LTE Band 26 Band Width: 5MHz / QPSK

Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0



Date: 29 JUL 2015 16:55:56

Lower Band Edge Plot for QPSK-RB Size 25, RB Offset 0



Date: 29 JUL 2015 16:54:48

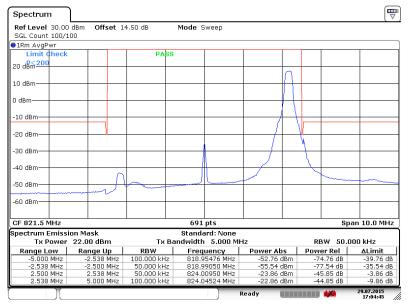
SPORTON INTERNATIONAL (SHENZHEN) INC.

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ACCJB010 Page Number : 48 of 80 Report Issued Date : Aug. 13, 2015

Report No.: FW542408

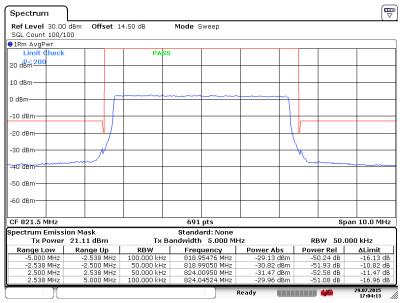
Report Version : Rev. 02

Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 24



Date: 29 JUL 2015 17:04:45

Higher Band Edge Plot for QPSK-RB Size 25, RB Offset 0

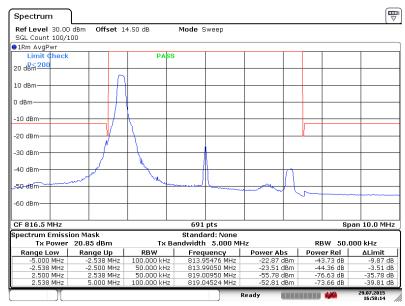


Date: 29 JUL 2015 17:04:13

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ACCJB010 Page Number : 49 of 80
Report Issued Date : Aug. 13, 2015
Report Version : Rev. 02

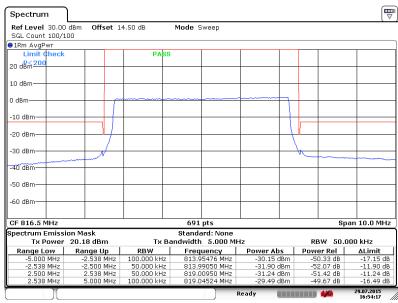
Band: LTE Band 26 Band Width: 5MHz / 16QAM

Lower Band Edge Plot for 16QAM-RB Size 1, RB Offset 0



Date: 29 JUL 2015 16:58:15

Lower Band Edge Plot for 16QAM-RB Size 25, RB Offset 0



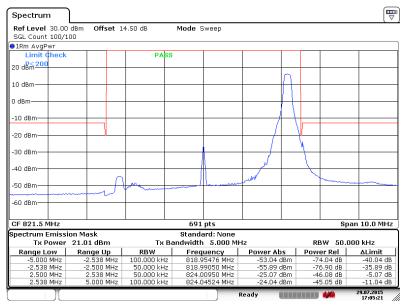
Date: 29 JUL 2015 16:54:17

SPORTON INTERNATIONAL (SHENZHEN) INC.

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ACCJB010 Page Number : 50 of 80
Report Issued Date : Aug. 13, 2015
Report Version : Rev. 02

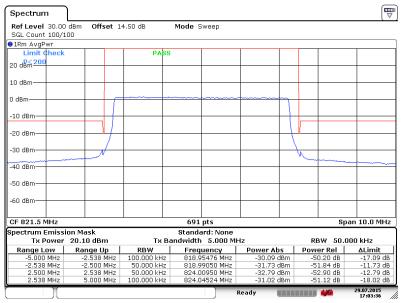


Higher Band Edge Plot for 16QAM-RB Size 1, RB Offset 24



Date: 29 JUL 2015 17:05:21

Higher Band Edge Plot for 16QAM-RB Size 25, RB Offset 0

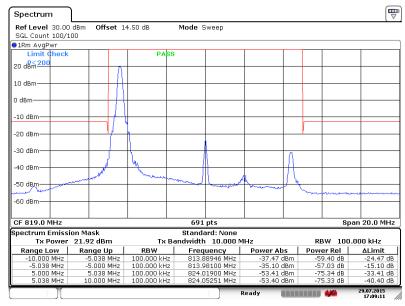


Date: 29 JUL 2015 17:03:36

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ACCJB010 Page Number : 51 of 80
Report Issued Date : Aug. 13, 2015
Report Version : Rev. 02

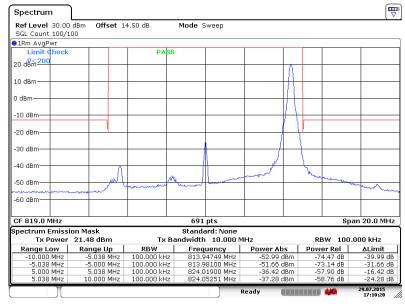
Band: LTE Band 26 Band Width: 10MHz / QPSK

Band Edge Plot for QPSK-RB Size 1, RB Offset 0



Date: 29 JUL 2015 17:09:11

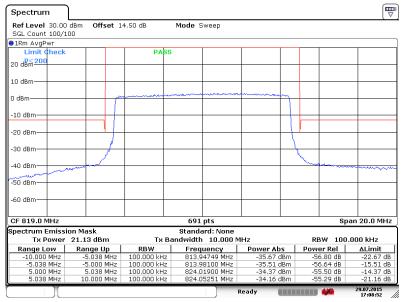
Band Edge Plot for QPSK-RB Size 1, RB Offset 49



Date: 29 JUL 2015 17:10:20

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ACCJB010 Page Number : 52 of 80
Report Issued Date : Aug. 13, 2015
Report Version : Rev. 02

Band Edge Plot for QPSK-RB Size 50 RB Offset 0



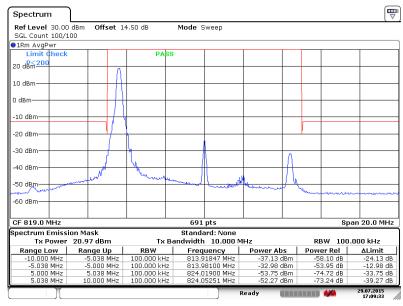
Date: 29 JUL 2015 17:08:52

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ACCJB010

Page Number : 53 of 80 Report Issued Date: Aug. 13, 2015 Report Version : Rev. 02

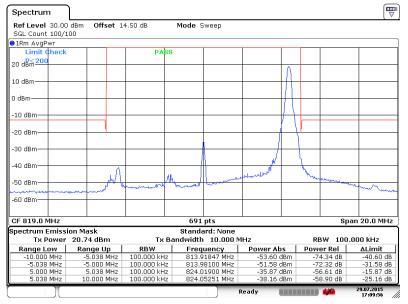
Band: LTE Band 26 Band Width: 10MHz / 16QAM

Band Edge Plot for 16QAM-RB Size 1, RB Offset 0



Date: 29 JUL 2015 17:09:32

Band Edge Plot for 16QAM-RB Size 1, RB Offset 49

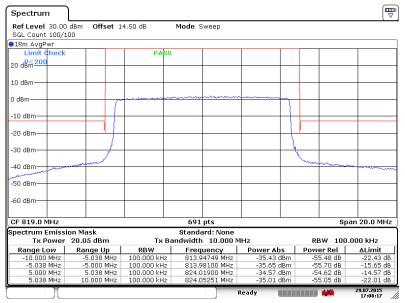


Date: 29 JUL 2015 17:09:56

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ACCJB010 Page Number : 54 of 80
Report Issued Date : Aug. 13, 2015
Report Version : Rev. 02



Band Edge Plot for 16QAM-RB Size 50 RB Offset 0



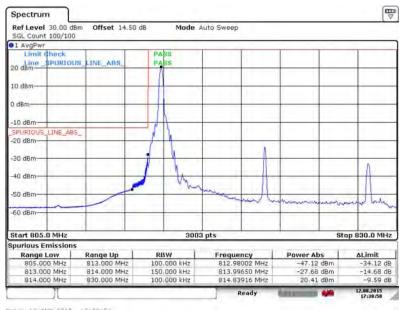
Date: 29 JUL 2015 17:08:17

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ACCJB010

Page Number : 55 of 80 Report Issued Date: Aug. 13, 2015 Report Version : Rev. 02

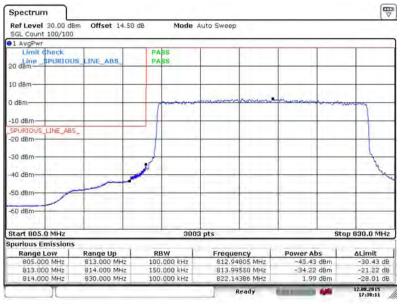
15MHz / QPSK LTE Band 26 **Band Width:** Band:

Band Edge Plot for QPSK-RB Size 1, RB Offset 0



Date: 12.AUG.2015 17:38:50

Band Edge Plot for QPSK-RB Size 75, RB Offset 0



Date: 12.AUG.2015 17:38:12

SPORTON INTERNATIONAL (SHENZHEN) INC.

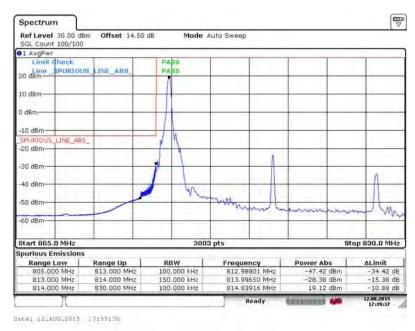
TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ACCJB010

Page Number : 56 of 80 Report Issued Date: Aug. 13, 2015 Report Version : Rev. 02

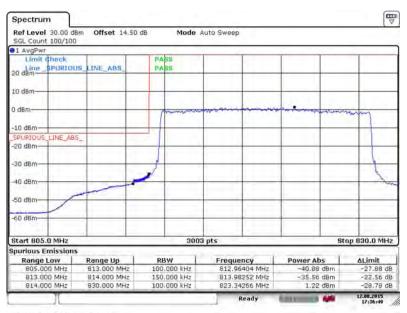


Band: LTE Band 26 Band Width: 15MHz / 16QAM

Band Edge Plot for 16QAM-RB Size 1, RB Offset 0



Band Edge Plot for 16QAM-RB Size 75, RB Offset 0



Date: 12.AUU.2015 17:36:50

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ACCJB010 Page Number : 57 of 80
Report Issued Date : Aug. 13, 2015
Report Version : Rev. 02

3.4 Emissions Mask – Out Of Band Emissions Measurement

3.4.1 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 10th harmonic.

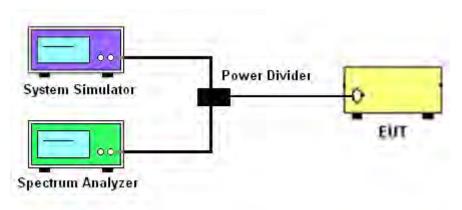
3.4.2 Measuring Instruments

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

3.4.3 Test Procedures

- 1. The EUT was connected to spectrum analyzer and base station via power divider.
- 2. The middle channel for the highest RF power within the transmitting frequency was measured.
- 3. The conducted spurious emission for the whole frequency range was taken.
- 4. The final test results were shown below plots with a correction offset factor including cable loss, insertion loss of power divider.

3.4.4 Test Setup

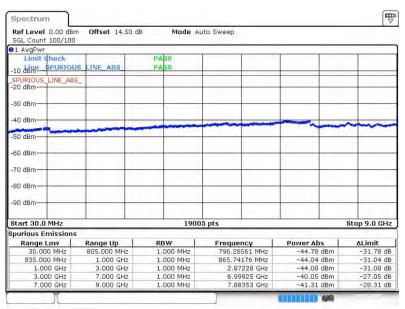


TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ACCJB010 Page Number : 58 of 80
Report Issued Date : Aug. 13, 2015
Report Version : Rev. 02

Test Result (Plots) of Conducted Emission

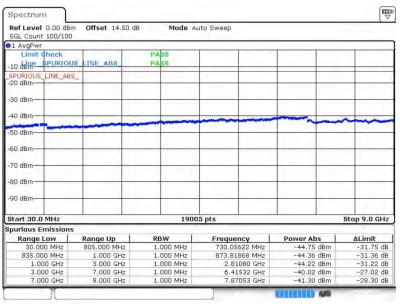
Band :	LTE Band 26	Channel:	CH26697 (Low)
Band Width:	1.4MHz		

QPSK (RB Size 1 RB Offset 2)



Date: 8.MAY.2015 11:57:47

16QAM (RB Size 3, RB Offset 1)



Date: 8.MAY.2015 11:58:57

SPORTON INTERNATIONAL (SHENZHEN) INC.

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ACCJB010

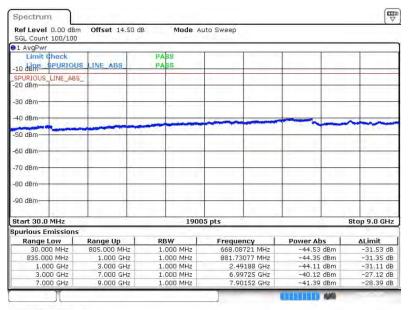
: 59 of 80 Page Number Report Issued Date: Aug. 13, 2015

Report No.: FW542408

Report Version : Rev. 02 Band: LTE Band 26 Channel: CH26740 (Middle)

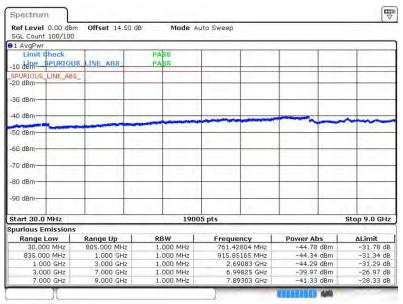
Band Width: 1.4MHz

QPSK (RB Size 3, RB Offset 1)



Date: 8.MAY.2015 12:00:07

16QAM (RB Size 3, RB Offset 0)



Date: 8.MAY.2015 12:01:17

SPORTON INTERNATIONAL (SHENZHEN) INC.

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ACCJB010 Page Number : 60 of 80
Report Issued Date : Aug. 13, 2015
Report Version : Rev. 02

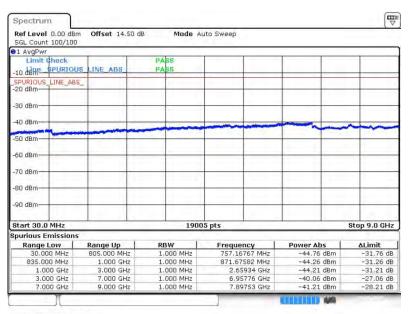
Channel:

Band Width: 1.4MHz

Band:

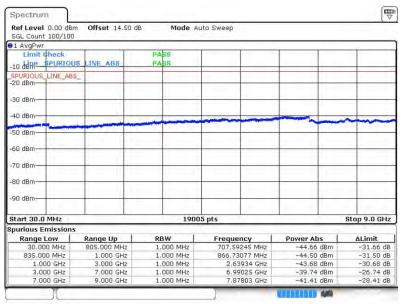
LTE Band 26

QPSK (RB Size 3, RB Offset 1)



Date: 8.MAY.2015 12:02:27

16QAM (RB Size 3, RB Offset 0)



Date: 8.MAY.2015 12:03:37

SPORTON INTERNATIONAL (SHENZHEN) INC.

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ACCJB010 Page Number : 61 of 80
Report Issued Date : Aug. 13, 2015
Report Version : Rev. 02

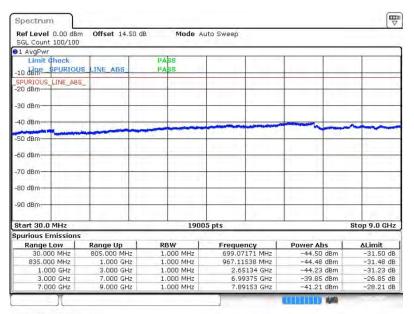
Report No.: FW542408

CH26783 (High)

Report No. : FW542408

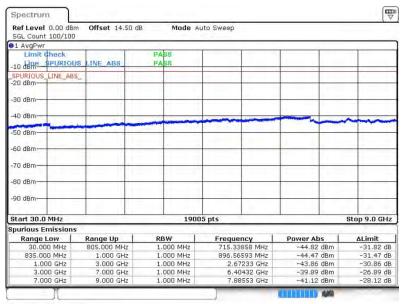
Band :	LTE Band 26	Channel:	CH26705 (Low)
Band Width:	3MHz		

QPSK (RB Size 1, RB Offset 7)



Date: 8.MAY.2015 12:04:47

16QAM (RB Size 1, RB Offset 0)



Date: 8.MAY.2015 12:05:57

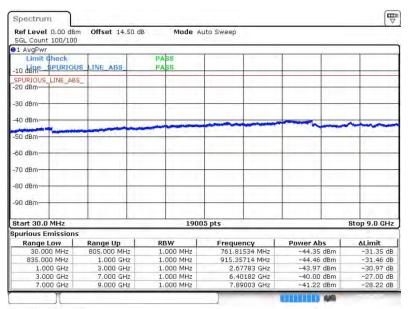
SPORTON INTERNATIONAL (SHENZHEN) INC.

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ACCJB010 Page Number : 62 of 80
Report Issued Date : Aug. 13, 2015

Report Version : Rev. 02

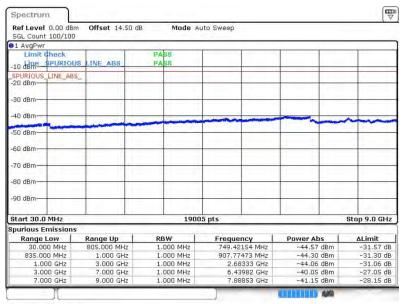
Band: LTE Band 26 Channel: CH26740 (Middle)
Band Width: 3MHz

QPSK (RB Size 1, RB Offset 7)



Date: 8.MAY 2015 12:07:06

16QAM (RB Size 1, RB Offset 0)



Date: 8.MAY.2015 12:08:16

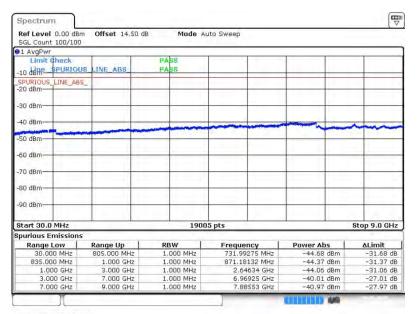
SPORTON INTERNATIONAL (SHENZHEN) INC.

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ACCJB010 Page Number : 63 of 80
Report Issued Date : Aug. 13, 2015
Report Version : Rev. 02

Report No.: FW542408

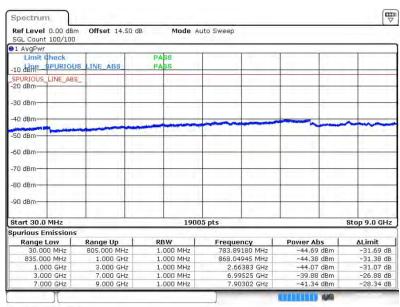
Band :	LTE Band 26	Channel:	CH26775 (High)
Band Width:	3MHz		

QPSK (RB Size 1, RB Offset 7)



Date: 8.MAY.2015 12:09:26

16QAM (RB Size 1, RB Offset 0)



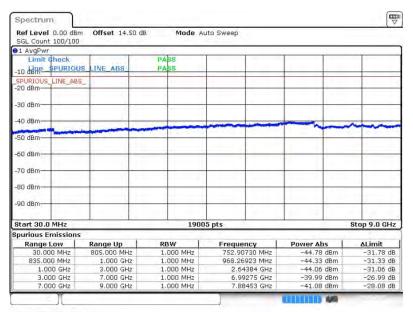
Date: 8.MAY.2015 12:10:36

SPORTON INTERNATIONAL (SHENZHEN) INC.

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ACCJB010 Page Number : 64 of 80
Report Issued Date : Aug. 13, 2015
Report Version : Rev. 02

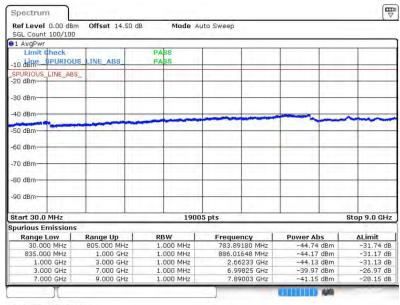
Band: LTE Band 26 Channel: CH26715 (Low)
Band Width: 5MHz

QPSK (RB Size 1, RB Offset 12)



Date: 8.MAY.2015 12:11:46

16QAM (RB Size 1, RB Offset 0)



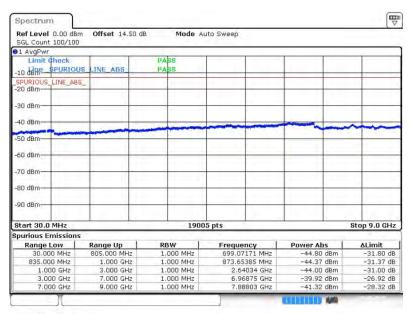
Date: 8.MAY.2015 12:12:56

SPORTON INTERNATIONAL (SHENZHEN) INC.

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ACCJB010 Page Number : 65 of 80
Report Issued Date : Aug. 13, 2015
Report Version : Rev. 02

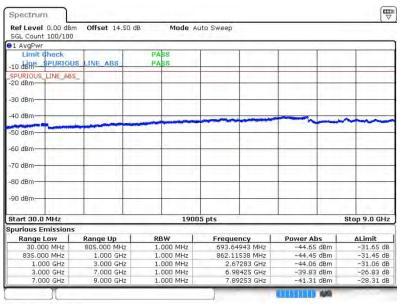
Band: LTE Band 26 Channel: CH26740 (Middle)
Band Width: 5MHz

QPSK (RB Size 1, RB Offset 12)



Date: 8.MAY.2015 12:14:06

16QAM (RB Size 1, RB Offset 0)



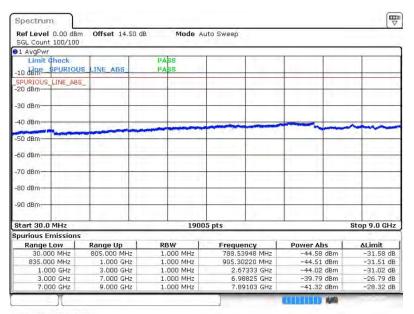
Date: 8.MAY.2015 12:15:16

SPORTON INTERNATIONAL (SHENZHEN) INC.

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ACCJB010 Page Number : 66 of 80
Report Issued Date : Aug. 13, 2015
Report Version : Rev. 02

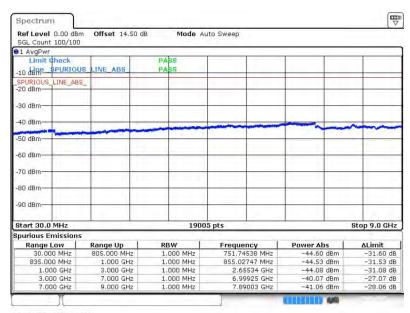
Band: LTE Band 26 Channel: CH26765 (High)
Band Width: 5MHz

QPSK (RB Size 1, RB Offset 12)



Date: 8.MAY.2015 12:16:25

16QAM (RB Size 1, RB Offset 0)



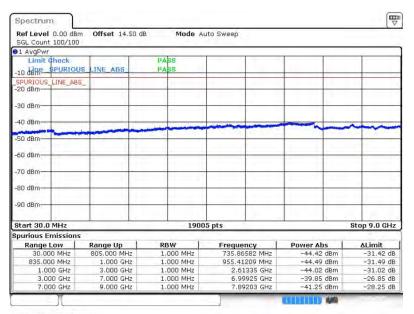
Date: 8.MAY.2015 12:17:35

SPORTON INTERNATIONAL (SHENZHEN) INC.

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ACCJB010 Page Number : 67 of 80
Report Issued Date : Aug. 13, 2015
Report Version : Rev. 02

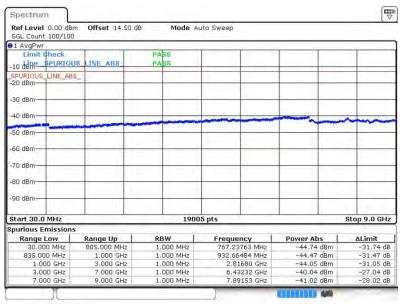
Band: LTE Band 26 Channel: CH26740 (Middle)
Band Width: 10MHz

QPSK (RB Size 1, RB Offset 24)



Date: 8.MAY.2015 12:50:56

16QAM (RB Size 1, RB Offset 0)



Date: 8.MAY.2015 12:50:21

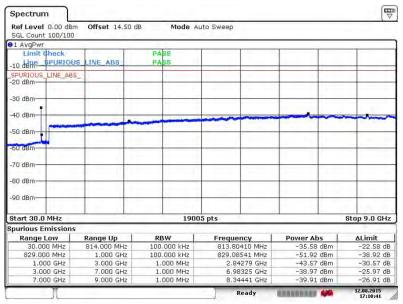
SPORTON INTERNATIONAL (SHENZHEN) INC.

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ACCJB010 Page Number : 68 of 80
Report Issued Date : Aug. 13, 2015
Report Version : Rev. 02

Report No.: FW542408

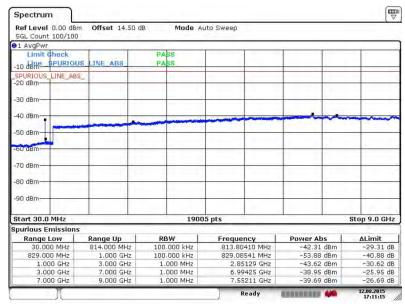
Band :	LTE Band 26	Channel:	CH26765 (Middle)
Band Width:	15MHz		

QPSK (RB Size 1, RB Offset 0)



Date: 12.AUG.2015 17:10:42

16QAM (RB Size 1, RB Offset 0)



Date: 12.AUG.2015 17:11:16

SPORTON INTERNATIONAL (SHENZHEN) INC.

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ACCJB010 Page Number : 69 of 80
Report Issued Date : Aug. 13, 2015
Report Version : Rev. 02

3.5 **Field Strength of Spurious Radiation Measurement**

3.5.1 **Description of Field Strength of Spurious Radiated Measurement**

The radiated spurious emission was measured by substitution method according to ANSI / TIA / EIA-603-C-2004. 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.

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+10log₁₀(P[Watts]) dB. The spectrum is scanned from 30 MHz up to a frequency including its 10th harmonic.

3.5.2 **Measuring Instruments**

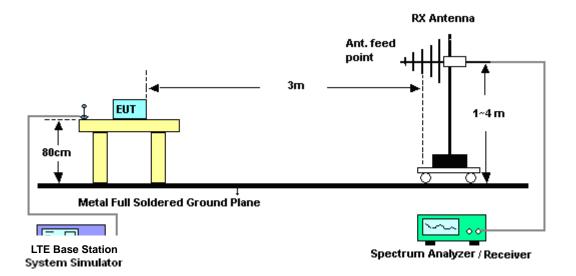
The measuring equipment is listed in the section 4 of this test report.

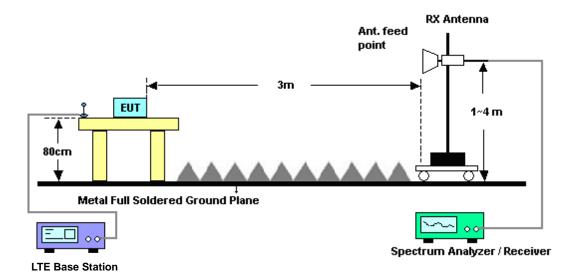
3.5.3 **Test Procedures**

- 1. The EUT was placed on a rotatable wooden table with 0.8 meter about 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.
- The height of the receiving antenna is varied between one meter and four meters to search the 4. maximum spurious emission for both horizontal and vertical polarizations.
- 5. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, Sweep = 500ms, 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.
- Tune the output power of signal generator to the same emission level with EUT maximum 7. spurious emission.
- 8. Taking the record of output power at antenna port.
- 9. Repeat step 7 to step 8 for another polarization.
- 10. EIRP (dBm) = S.G. Power Tx Cable Loss + Tx Antenna Gain
- 11. ERP (dBm) = EIRP 2.15
- 12. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
- 13. The limit line is derived from 43 + 10log(P) dB below the transmitter power P(Watts)
 - = P(W) [43 + 10log(P)] (dB)
 - = [30 + 10log(P)] (dBm) [43 + 10log(P)] (dB)
 - = -13dBm.

3.5.4 Test Setup







Page Number : 71 of 80
Report Issued Date : Aug. 13, 2015
Report Version : Rev. 02

3.5.5 Test Result of Field Strength of Spurious Radiated

Band :		LTE Band	26			Temperature :			23~25°C		
Test Mode	:	1.4MHz QPSK RB Size 1 Offset 0 Relativ					ve Humidity: 48~52%				
Test Engin	eer:	Wei Xiao Polarization :					Hori	zontal			
Remark :	!	Spurious emissions within 30-1000MHz were found						n 20d	dB below limit	line.	
Frequency	ERP	Limit	Over	SPA	S.G.	TX Cable	TX Anto	enna	Polarization	Result	
			Limit	Reading	Powe	er loss	Gai	n			
(MHz)	(dBm) (dBm)	(dB)	(dBm)	(dBm) (dB)	(dB	i)	(H/V)		
1663	-47.7	7 -13	-34.77	-63.27	-54.4	5 0.57	9.40)	Н	Pass	
2494.5	-49.7	7 -13	-36.77	-70.69	-57.4	7 0.75	10.6	0	Н	Pass	
3326	-47.62	2 -13	-34.62	-72.18	-57.20	0.87	12.6	0	Н	Pass	

Band :		LTE Band 2		Temperature :			23~2	23~25°C			
Test Mode	:	1.4MHz QF	et 0	Relativ	e Humi	dity :	48~5	52%			
Test Engin	eer :	Wei Xiao Polarization : Vertical					cal				
Remark :		Spurious emissions within 30-1000Mh					e found r	nore tha	n 20	dB below limit	line.
Frequency	ERP	Limit	Over	SPA	S.G.	. т	X Cable	TX Ante	enna	Polarization	Result
			Limit	Reading	Powe	er	loss	Gai	n		
(MHz)	(dBm) (dBm)	(dB)	(dBm)	(dBm	ı)	(dB)	(dBi	i)	(H/V)	
1663	-50.10	6 -13	-37.16	-66.00	-56.8	4	0.57	9.40)	V	Pass
2494.5	-47.79	9 -13	-34.79	-71.01	-55.4	9	0.75	10.6	0	V	Pass
3326	-47.40) -13	-34.40	-73.38	-56.9	8	0.87	12.6	0	V	Pass

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ACCJB010 Page Number : 72 of 80
Report Issued Date : Aug. 13, 2015
Report Version : Rev. 02

Band :		LTE Band 2		Temperature :			23~2	23~25°C			
Test Mode :		3MHz QPS	K RB Si	ze 1 Offset	0	Relati	ve Humi	dity:	48~5	52%	
Test Engine	er:	Wei Xiao Polarization :					Horiz	zontal			
Remark :		Spurious emissions within 30-1000N				dz wer	e found n	nore thai	ո 20c	IB below limit	line.
Frequency	ERF	Limit	Over	SPA	S.G	. т	X Cable	TX Ante	enna	Polarization	Result
			Limit	Reading	Powe	er	loss	Gaiı	า		
(MHz)	(dBn	n) (dBm)	(dB)	(dBm)	(dBn	າ)	(dB)	(dBi)	(H/V)	
1663	-48.1	1 -13	-35.11	-63.48	-54.7	9	0.57	9.40)	Н	Pass
2494.5	-51.5	60 -13	-38.50	-71.53	-59.2	.0	0.75	10.6	0	Н	Pass
3326	-48.8	-13	-35.81	-73.18	-58.3	9	0.87	12.6	0	Н	Pass

Band :		LTE Band 26					Temperature :			23~25°C		
Test Mode		3MHz QPSK RB Size 1 Offset 0 Relative Humidity: 48~52%										
Test Engine	er:	Wei Xiao Polarization : Vertical										
Remark :		Spurious e	1000MI	Hz we	ere found n	nore tha	n 20c	B below limit	line.			
Frequency	ERF	Limit	Over	SPA	S.G	•	TX Cable	TX Ante	enna	Polarization	Result	
			Limit	Reading	Powe	er	loss	Gaiı	า			
(MHz)	(dBm	n) (dBm)	(dB)	(dBm)	(dBn	n)	(dB)	(dBi)	(H/V)		
1663	-51.2	2 -13	-38.22	-66.80	-57.9	00	0.57	9.40)	V	Pass	
2494.5	-50.2	7 -13	-37.27	-71.93	-57.9	7	0.75	10.6	0	V	Pass	
3326	-47.2	4 -13	-34.24	-73.31	-56.8	32	0.87	12.6	0	V	Pass	

Page Number : 73 of 80
Report Issued Date : Aug. 13, 2015
Report Version : Rev. 02

Band :		LTE Band 2	26			Temperatu	re:	23~25°C	23~25°C		
Test Mode :		5MHz QPS	K RB Si	ze 1 Offset	0	Relative H	umidity :	48~52%			
Test Engine	er:	Wei Xiao				Polarizatio	n :	Horizontal			
Remark :		Spurious emissions within 30-1000N				Hz were fou	nd more tha	n 20dB below	limit line.		
Frequency	ERP	Limit	Over	SPA	S.G	. TX Ca	ble TX Anto	enna Polarizat	ion Result		
			Limit	Reading	Powe	er loss	s Gai	n			
(MHz)	(dBm	n) (dBm)	(dB)	(dBm)	(dBn	n) (dB) (dB	i) (H/V)			
1663	-46.8	5 -13	-33.85	-62.72	-53.5	3 0.57	9.40) Н	Pass		
2494.5	-52.2	8 -13	-39.28	-71.94	-59.9	0.75	10.6	60 H	Pass		
3326	-48.8	0 -13	-35.80	-73.17	-58.3	8 0.87	12.6	60 H	Pass		

Band :		LTE Band 26				Temperature :			23~25°C		
Test Mode	:	5MHz QPSK RB Size 1 Offset 0				Rela	tive Humi	dity :	48~5	52%	
Test Engine	eer:	Wei Xiao Polari				rization :		Verti	cal		
Remark :		Spurious emissions within 30-1000M				Hz w	ere found n	nore tha	n 20c	B below limit	line.
Frequency	ERP	Limit	Over	SPA	S.G		TX Cable	TX Ante	enna	Polarization	Result
			Limit	Reading	Powe	er	loss	Gaiı	า		
(MHz)	(dBm) (dBm)	(dB)	(dBm)	(dBm	1)	(dB)	(dBi)	(H/V)	
1663	-48.9	5 -13	-35.95	-65.12	-55.6	3	0.57	9.40)	V	Pass
2494.5	-47.4	4 -13	-34.44	-70.76	-55.1	4	0.75	10.6	0	V	Pass
3326	-47.4	2 -13	-34.42	-73.39	-57.0	0	0.87	12.6	0	V	Pass

Page Number : 74 of 80
Report Issued Date : Aug. 13, 2015
Report Version : Rev. 02

Band :		LTE Band 2	26				Temperature :	23~	25°C
Test Mode :		10MHz QP	0MHz QPSK RB Size 1 Offset 0 Relative Humidity: 48~52%						
Test Engine	er:	Wei Xiao	Vei Xiao Polarization :						zontal
Remark:		Spurious er	missions	within 30-	1000MHz v	d more than 20d	B below lir	mit line.	
Frequency	ERF	Limit	Over	SPA	S.G.	TX Cab	le TX Antenna	Polarizatio	n Result
			Limit	Reading	Power	loss	Gain		
(MHz)	(dBn	n) (dBm)	(dB)	(dBm)	(dBm)	(dB)	(dBi)	(H/V)	
1654	-46.4	1 -13	-33.41	-62.40	-53.09	0.57	9.40	Н	Pass
2481	-48.1	8 -13	-35.18	-69.50	-55.88	0.75	10.60	Н	Pass
3308	-48.0	1 -13	-35.01	-72.38	-57.59	0.87	12.60	Н	Pass

Band :		LTE Band 2	26				Temperature :	23	3~25°C
Test Mode	:	10MHz QPSK RB Size 1 Offset 0					Relative Humidity: 48~52%		
Test Engine	er:	Wei Xiao					Polarization :	ertical	
Remark :		Spurious e	missions	within 30-	1000MHz v	vere foun	d more than 20d	dB below	limit line.
Frequency	ERP	Limit	Over	SPA	S.G.	TX Cab	le TX Antenna	Polariza	tion Result
			Limit	Reading	Power	loss	Gain		
(MHz)	(dBm	n) (dBm)	(dB)	(dBm)	(dBm)	(dB)	(dBi)	(H/V))
1654	-50.4	2 -13	-37.42	-66.22	-57.10	0.57	9.40	V	Pass
2481	-46.9	6 -13	-33.96	-70.41	-54.66	0.75	10.60	V	Pass
3308	-47.9	5 -13	-34.95	-73.63	-57.53	0.87	12.60	V	Pass

Page Number : 75 of 80
Report Issued Date : Aug. 13, 2015
Report Version : Rev. 02

3.6 Frequency Stability Measurement

3.6.1 Description of Frequency Stability Measurement

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 ±0.00025% (±2.5ppm) of the center frequency according to FCC Part 90.213.

3.6.2 Measuring Instruments

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

3.6.3 Test Procedures for Temperature Variation

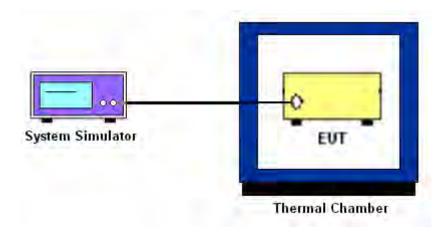
- 1. The EUT was set up in the thermal chamber and connected with the base station.
- With power OFF, the temperature was decreased to -30°C and the EUT was stabilized for three
 hours. Power was applied and the maximum change in frequency was recorded within one
 minute.
- 3. With power OFF, the temperature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

3.6.4 Test Procedures for Voltage Variation

- 1. The EUT was placed in a temperature chamber at 25±5° C and connected with the base station.
- 2. 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: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ACCJB010 Page Number : 76 of 80
Report Issued Date : Aug. 13, 2015
Report Version : Rev. 02

3.6.5 Test Setup



TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ACCJB010 Page Number : 77 of 80
Report Issued Date : Aug. 13, 2015
Report Version : Rev. 02

3.6.6 Test Result of Temperature Variation

Band :	LTE Band 26 (QPSK)	Limit (ppm):	25
Daliu .	LIL Dalid 20 (QI SIN)	Lillia (ppili).	2.0

	BW 10MHz	
Temperature (°C)	Deviation (ppm)	Result
50	0.0122	
40	0.0134	
30	0.0012	
20(Ref.)	0.0000	
10	0.0012	PASS
0	0.0134	
-10	0.0012	
-20	0.0122	
-30	0.0147	

3.6.7 Test Result of Voltage Variation

Band	Bandwidth	Voltage (Volt)	Deviation (ppm)	Limit (ppm)	Result	
1.TE D 1.00		3.5	0.0134		PASS	
LTE Band 26 (QPSK)	10M	Normal	0.0000	2.5		
(QF SK)		4.35	0.0147			

Remark:

- 1. Normal Voltage = 3.9V.
- 2. The manufacturer declared that the EUT could work properly between voltage 3.5V ~ 4.35V.

SPORTON INTERNATIONAL (SHENZHEN) INC.

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ACCJB010 Page Number : 78 of 80
Report Issued Date : Aug. 13, 2015
Report Version : Rev. 02

4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSV40	101078	9kHz~40GHz	May 05, 2015	May 08, 2015~ Aug. 13, 2015	May 04, 2016	Conducted (TH01-SZ)
Thermal Chamber	Ten Billion	LP-150U	H2014081803	-40~+150°C	Sep. 16, 2014	May 08, 2015~ Aug. 13, 2015	Sep. 15, 2015	Conducted (TH01-SZ)
EMI Test Receiver&SA	Agilent Technologies	N9038A	MY52260185	20Hz~26.5GHz	May 26, 2014	May 12, 2015	May 25, 2015	Radiation (03CH01-SZ)
Spectrum Analyzer	R&S	FSV40	101041	10kHz~40GHz;Ma x 30dBm	Sep. 25, 2014	May 12, 2015	Sep. 24, 2015	Radiation (03CH01-SZ)
Bilog Antenna	TeseQ	CBL6112D	23188	30MHz~2GHz	Nov. 07, 2014	May 12, 2015	Nov. 06, 2015	Radiation (03CH01-SZ)
Double Ridge Horn Antenna	ETS-Lindgren	3117	00119436	1GHz~18GHz	Oct. 15, 2014	May 12, 2015	Oct. 14, 2015	Radiation (03CH01-SZ)
SHF-EHF Horn	com-power	AH-840	101071	18GHz~40GHz	Sep. 04, 2014	May 12, 2015	Sep. 03, 2015	Radiation (03CH01-SZ)
Amplifier	ADVANTEST	BB525C	E9007003	9kHz~3000MHz / 30 dB	Jan. 28, 2015	May 12, 2015	Jan. 27, 2016	Radiation (03CH01-SZ)
Amplifier	Yiai	AV3860B	04030	2GHz~26.5GHz	May 05, 2015	May 12, 2015	May 04, 2016	Radiation (03CH01-SZ)
Amplifier	Agilent Technologies	83017A	MY39501302	500MHz~26.5GHz	Jan. 28, 2015	May 12, 2015	Jan. 27, 2016	Radiation (03CH01-SZ)
AC Power Source	Chroma	61601	616010001985	N/A	NCR	May 12, 2015	NCR	Radiation (03CH01-SZ)
Turn Table	EM	EM1000	N/A	0~360 degree	NCR	May 12, 2015	NCR	Radiation (03CH01-SZ)
Antenna Mast	EM	EM1000	N/A	1 m~4 m	NCR	May 12, 2015	NCR	Radiation (03CH01-SZ)

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ACCJB010 Page Number : 79 of 80
Report Issued Date : Aug. 13, 2015
Report Version : Rev. 02



5 Uncertainty of Evaluation

<u>Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)</u>

Measuring Uncertainty for a Level of	3.9 dB		
Confidence of 95% (U = 2Uc(y))	3.9 UB		

SPORTON INTERNATIONAL (SHENZHEN) INC.

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ACCJB010 Page Number : 80 of 80
Report Issued Date : Aug. 13, 2015
Report Version : Rev. 02