TEST REPORT

REPORT NUMBER: I12GC0833-FCC-RF

ON

Type of Equipment: Wireless Modules
Type of Designation: MC7355
Manufacturer: Sierra Wireless Inc.

ACCORDING TO
FCC CFR Part 2, FREQUENCY ALLOCATIONS AND RADIO TREATY MATTERS; GENERAL RULES AND REGULATIONS; e-CFR, Oct 1, 2011
PART 22, PUBLIC MOBILE SERVICES ,Oct 1, 2011
PART 24, PERSONAL COMMUNICATIONS SERVICES ,Oct 1, 2011
PART 27, MISCELLANEOUS WIRELESS COMMUNICATIONS SERVICES, Oct 1, 2011
PART 90, PRIVATE LAND MOBILE RADIO SERVICES Oct 1, 2011

China Telecommunication Technology Labs.

Month date, year
Oct, 15, 2012

Signature

He Guili
Director

FCC ID: N7NMC7355

Report Date: 2012-10-15

Test Firm Name: China Telecommunication Technology Labs

Registration Number: 840587

Statement

The measurements shown in this report were made in accordance with the procedures described on test pages. All reported tests were carried out on a sample equipment to demonstrate limited compliance with FCC CFR 47 Parts 2, 22, 24, 27 and 90. The sample tested was found to comply with the requirements defined in the applied rules.

CONTENTS

1 General Information

1.1 Notes

All reported tests were carried out on a sample equipment to demonstrate limited compliance with FCC CFR 47 Parts 2, 22, 24, 27and 90.

The test results of this test report relate exclusively to the item(s) tested as specified in section 2.

The following deviation from, additions to, or exclusions from the test specifications have been made. See Annex C.

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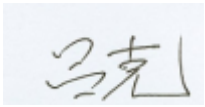
1.2 Testers

Name: Lv ke

Position: Engineer

Department: Department of EMC test

Date: 2012-10-15

Signature: 

Editor of this test report:

Name: Pan Yang

Position: Engineer

Department: Department of EMC test

Date: 2012-10-15

Signature: 

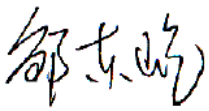
Technical responsibility for area of testing:

Name: Zou Dongyi

Position: Manager

Department: Department of EMC test

Date: 2012-10-15

Signature: 

1.3 Testing Laboratory information

1.3.1 Location

Name:	China Telecommunication Technology Labs.
Address:	No. 11, Yue Tan Nan Jie, Xi Cheng District BEIJING P. R. CHINA, 100083
Tel:	+86 10 68094053
Fax:	+86 10 68011404
Email:	emc@chinattl.com

1.3.2 Details of accreditation status

Accredited by:	China National Accreditation Service for Conformity Assessment (CNAS)
Registration number:	CNAS Registration No. CNAS L0570
Standard:	ISO/IEC 17025:2005

1.3.3 Test location, where different from section 1.3.1

Name:	------
Street:	------
City:	------
Country:	------
Telephone:	------
Fax:	------
Postcode:	------

1.4 Details of applicant or manufacturer

1.4.1 Applicant

Name:	Sierra Wireless Inc.
Address:	13811, Wireless Way, Richmond, British Columbia
Country:	Canada
Telephone:	--
Fax:	--
Contact:	--
Telephone:	--
Email:	--

1.4.2 Manufacturer (if different from applicant in section 1.4.1)

Name:	--
Address:	--
City:	--
Country:	--

1.4.3 Manufactory (if different from applicant in section 1.4.1)

Name:	--
Address:	--
City:	--
Country:	--

2 Test Item

2.1 General Information

Manufacturer:	Sierra Wireless Inc.
Name:	Wireless Modules
Model Number:	MC7355
Serial Number:	-----
Production Status:	Product
Receipt date of test item:	2012-09-14

2.2 Outline of EUT

EUT is a model supporting GSM/GPRS/EGPRS 850/1900 bands and WCDMA/HSDPA/HSUPA FDD II/V/IV bands. For GPRS, the multi class is 12 (maximum 4 up timeslots) and for EGPRS, it is 12 (maximum 4 up timeslots),and LTE FDD 2/4/5/13/17/25 bands, and CDMA 1X/EVDO 850/190/800 bands.

2.3 Modifications Incorporated in EUT

The EUT has not been modified from what is described by the brand name and unique type identification stated above.

2.4 Equipment Configuration

Equipment configuration list:

Item	Generic Description	Manufacturer	Type	Serial No.	Remarks
A	Wireless modules	Sierra Wireless Inc.	MC7355	--	None

2.5 Other Information

None

3 Summary of Test Results

A brief summary of the tests carried out is shown as following.

Specification Clause	Name of Test	Result
2.1051,22.917, 24.238, 27.5	Radiated Spurious Emission	Pass
Note: --		

Test equipment Used:

Asset Number	Description	Manufacturer	Model Number	Serial Number	Cal Due	State
7805	EMI Test Receiver	R/S	ESI26	100211	2013-01-11	Normal
7330	Ultra Broadband Antenna	R/S	VULB 9160	vulb9160－3252	2013-09-05	Normal
7330	Double-Ridged Horn Antenna	R/S	HF906	100037	2014-01-23	Normal
713	Fully-Anechoic Chamber	ETS	11.8m×6.5m×6.3m	--	2013-11-16	Normal
7330-2	Radio Communications Analyzer	Anritsu	MT8820B	6200772659	2013-01-27	Normal
7330-2	Radio Communications Analyzer	Anritsu	MT8820c	6201026477	2013-08-04	Normal
7330	Signal Generator	R/S	SMY02	100024	2012-10-13	Normal

4 Test Results

4.1 Radiated Spurious Emission

Specifications:	2.1051, 22.917, 24.238, 27.53, 90.669
Date of Tests	2012-09-24~2012-09-28, 2012-10-8~14
Test conditions:	Ambient Temperature:15℃-35℃ Relative Humidity:30%-60% Air pressure: 86-106kPa
Operation Mode	TX on, channel 190 and 661 for GSM/GPRS/EGPRS mode, channel 4175, 1412 and 9400 for WCDMA/HSUPA/HSDPA mode ,channel 18900,20175,20525,23230,23790 and 26365 BandWidth 5MHz/10MHz for LTE mode, channel 384,600 and 560 for 1x/EVDO mode.
Test Results:	Pass

Limit Level Construction:

Part 22:

According to Part 22.917(a), i.e., Out of band emissions, the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log (P) dB, so the limit level is:

P(dBm) – (43 + 10 log(P)) dB= -13dBm

Part 24:

According to Part 24.238 (a), i.e., Out of band emissions, the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log (P) dB, so the limit level is:

P(dBm) – (43 + 10 log(P)) dB= -13dBm

Part 27:

According to the Part 27.53, for the 700/1700 MHz band, the emission power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log (P) dB, so the limit level is:

P(dBm) – (43 + 10 log(P)) dB= -13dBm

Part 27:

According to the Part 90.669, Out of band emissions, the emission power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log (P) dB, so the limit level is:

P(dBm) – (43 + 10 log(P)) dB= -13dBm

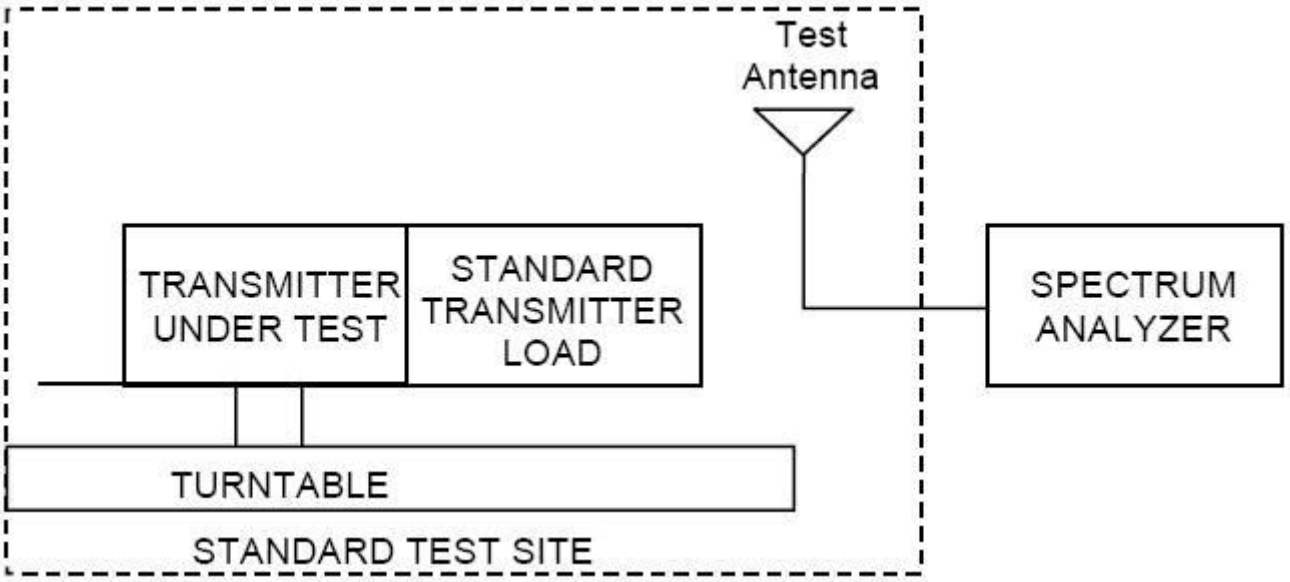
Test Setup:

The EUT was placed in an anechoic chamber. The Wireless Communications Test Set was used to set the TX channel and power level and modulate the TX signal with different bit patterns.

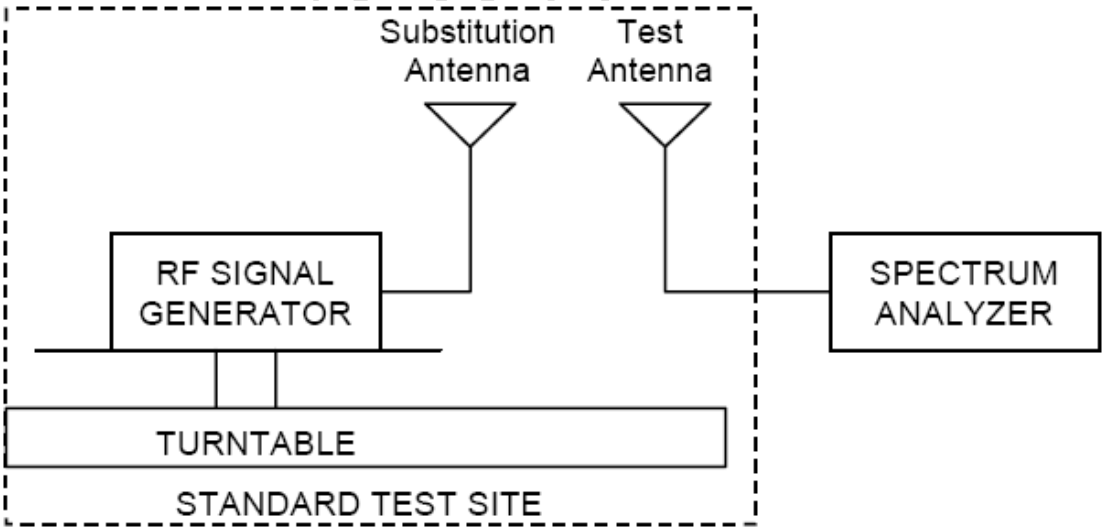
Test Method:

The measurement method is substitution method accordance with section 2.2.12 of ANSI/TIA-603-C: *Land Mobile FM or PM Communications Equipment Measurement and Performance Standards*.

(a) Connect the equipment as illustrated and measure the spurious emissions as the method as above.



(b) Reconnect the equipment as illustrated.



(c) Remove the transmitter and replace it with a substitution antenna. The center of the substitution antenna should be approximately at the same location as the center of the transmitter.

(d) Feed the substitution antenna at the transmitter end with a signal generator connected to the antenna by means of a non-radiating cable. With the antennas at both ends horizontally polarized, and with the signal generator tuned to a particular spurious frequency, raise and lower the test antenna to obtain a

maximum reading at the spectrum analyzer. Adjust the level of the signal generator output until the previously recorded maximum reading for this set of conditions is obtained. This should be done carefully repeating the adjustment of the test antenna and generator output.

(e) Repeat step d) with both antennas vertically polarized for each spurious frequency.

(f) Calculate power in dBm into a reference ideal half-wave dipole antenna by reducing the readings obtained in steps d) and e) by the power loss in the cable between the generator and the antenna, and further corrected for the gain of the substitution antenna used relative to an ideal half-wave dipole antenna by the following formula:

$$P_d\text{(dBm)} = P_g\text{(dBm)} - \textit{cable loss}\ \text{(dB)} + \textit{antenna gain}\ \text{(dB)}$$

where:

P_d is the dipole equivalent power and

P_g is the generator output power into the substitution antenna.

Test Data （GSM channel 190）

Frequency [GHz]	Generator output power(P_g) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (P_d) [dBm]	Antenna Polarization [H/V]
1673.2	-59.9	7.2	8.6	-58.5	V
2509.8	-56.8	9.1	10	-55.9	V
3346.4	-60.5	11	9.9	-61.6	V
4183	-53.4	12.6	9.8	-56.2	V
5019.6	-57.6	14.2	10	-61.8	V
5856.2	-57.7	15.9	11.2	-62.4	V
1673.2	-34.5	7.2	8.6	-33.1	H
2509.8	-56	9.1	10	-55.1	H
3346.4	-59.5	11	9.9	-60.6	H
4183	-51.4	12.6	9.8	-54.2	H
5019.6	-61.1	14.2	10	-65.3	H
5856.2	-59.2	15.9	11.2	-63.9	H

Test Data （GSM channel 661）

Frequency [GHz]	Generator output power(P_g) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (P_d) [dBm]	Antenna Polarization [H/V]
3760	-59.4	13.6	9.8	-63.2	V
5640	-50.6	15.1	10.9	-54.8	V
7520	-55.2	18.8	11.4	-62.6	V
9400	-48.5	22.9	12	-59.4	V
11280	-46.3	28.4	13.4	-61.3	V
13160	-39.3	36.7	13.4	-62.6	V
3760	-57	13.6	9.8	-60.8	H
5640	-55.6	15.1	10.9	-59.8	H
7520	-55.4	18.8	11.4	-62.8	H
9400	-49.4	22.9	12	-60.3	H
11280	-45.7	28.4	13.4	-60.7	H
13160	-39.0	36.7	13.4	-62.3	H

Test Data （GPRS channel 190）

Frequency [GHz]	Generator output power(P_g) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (P_d) [dBm]	Antenna Polarization [H/V]
1673.2	-61.9	7.2	8.6	-60.5	V
2509.8	-62.6	9.1	10	-61.7	V
3346.4	-59.9	11	9.9	-61.0	V
4183	-54.5	12.6	9.8	-57.3	V
5019.6	-56.1	14.2	10	-60.3	V
5856.2	-58.5	15.9	11.2	-63.2	V
1673.2	-61.1	7.2	8.6	-59.7	H
2509.8	-60.9	9.1	10	-60.0	H
3346.4	-62.8	11	9.9	-63.9	H
4183	-54.8	12.6	9.8	-57.6	H
5019.6	-58.5	14.2	10	-62.7	H
5856.2	-57.3	15.9	11.2	-62.0	H

Test Data （GPRS channel 661）

Frequency [GHz]	Generator output power(P_g) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (P_d) [dBm]	Antenna Polarization [H/V]
3760	-57.1	13.6	9.8	-60.9	V
5640	-53.7	15.1	10.9	-57.9	V
7520	-52.8	18.8	11.4	-60.2	V
9400	-48.7	22.9	12	-59.6	V
11280	-45.2	28.4	13.4	-60.2	V
13160	-39.6	36.7	13.4	-62.9	V
3760	-56.4	13.6	9.8	-60.2	H
5640	-58.6	15.1	10.9	-62.8	H
7520	-50.9	18.8	11.4	-58.3	H
9400	-48.3	22.9	12	-59.2	H
11280	-46.5	28.4	13.4	-61.5	H
13160	-39.9	36.7	13.4	-63.2	H

Test Data （EGPRS channel 190）

Frequency [GHz]	Generator output power(P_g) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (P_d) [dBm]	Antenna Polarization [H/V]
1673.2	-51.9	7.2	8.6	-50.5	V
2509.8	-57.9	9.1	10	-57.0	V
3346.4	-60.3	11	9.9	-61.4	V
4183	-56	12.6	9.8	-58.8	V
5019.6	-56.4	14.2	10	-60.6	V
5856.2	-54.9	15.9	11.2	-59.6	V
1673.2	-34.7	7.2	8.6	-33.3	H
2509.8	-57.4	9.1	10	-56.5	H
3346.4	-59.4	11	9.9	-60.5	H
4183	-54.4	12.6	9.8	-57.2	H
5019.6	-56	14.2	10	-60.2	H
5856.2	-54.9	15.9	11.2	-59.6	H

Test Data （EGPRS channel 661）

Frequency [GHz]	Generator output power(P_g) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (P_d) [dBm]	Antenna Polarization [H/V]
3760	-55.6	13.6	9.8	-59.4	V
5640	-51.8	15.1	10.9	-56.0	V
7520	-54.2	18.8	11.4	-61.6	V
9400	-47.5	22.9	12	-58.4	V
11280	-46	28.4	13.4	-61.0	V
13160	-39.2	36.7	13.4	-62.5	V
3760	-55.6	13.6	9.8	-59.4	H
5640	-51.9	15.1	10.9	-56.1	H
7520	-52.1	18.8	11.4	-59.5	H
9400	-49	22.9	12	-59.9	H
11280	-45.2	28.4	13.4	-60.2	H
13160	-38.6	36.7	13.4	-61.9	H

Test Data （WCDMA channel 4175）

Frequency [GHz]	Generator output power(P_g) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (P_d) [dBm]	Antenna Polarization [H/V]
1670	-58.9	7.2	8.6	-57.5	V
2505	-59.8	9.1	10	-58.9	V
3340	-59.5	11	9.9	-60.6	V
4175	-53.4	12.6	9.8	-56.2	V
5010	-57.6	14.2	10	-61.8	V
5845	-57.7	15.9	11.2	-62.4	V
1670	-58.8	7.2	8.6	-57.4	H
2505	-58	9.1	10	-57.1	H
3340	-59.5	11	9.9	-60.6	H
4175	-54.4	12.6	9.8	-57.2	H
5010	-61.1	14.2	10	-65.3	H
5845	-59.2	15.9	11.2	-63.9	H

Test Data （WCDMA channel 9400）

Frequency [GHz]	Generator output power(P_g) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (P_d) [dBm]	Antenna Polarization [H/V]
3760	-52.4	13.6	9.8	-56.2	V
5640	-54.6	15.1	10.9	-58.8	V
7520	-55.2	18.8	11.4	-62.6	V
9400	-48.5	22.9	12	-59.4	V
11280	-46.3	28.4	13.4	-61.3	V
13160	-39.3	36.7	13.4	-62.6	V
3760	62.3	13.6	9.8	58.5	H
5640	-53.6	15.1	10.9	-57.8	H
7520	-55.4	18.8	11.4	-62.8	H
9400	-49.4	22.9	12	-60.3	H
11280	-45.7	28.4	13.4	-60.7	H
13160	-39	36.7	13.4	-62.3	H

Test Data （WCDMA channel 1412）

Frequency [GHz]	Generator output power(P_g) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (P_d) [dBm]	Antenna Polarization [H/V]
3464.8	-54.7	11.3	9.8	-56.2	V
5197.2	-58.3	14.4	10.9	-61.8	V
6929.6	-57.7	16.3	11.4	-62.6	V
8662	-49.9	21.5	12	-59.4	V
10394.4	-48.6	26.1	13.4	-61.3	V
12126.8	-44.1	31.9	13.4	-62.6	V
3464.8	-57	11.3	9.8	-58.5	H
5197.2	-54.3	14.4	10.9	-57.8	H
6929.6	-57.9	16.3	11.4	-62.8	H
8662	-50.8	21.5	12	-60.3	H
10394.4	-48	26.1	13.4	-60.7	H
12126.8	-43.8	31.9	13.4	-62.3	H

Test Data （HSDPA channel 4175）

Frequency [GHz]	Generator output power(P_g) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (P_d) [dBm]	Antenna Polarization [H/V]
1670	-54.9	7.2	8.6	-53.5	V
2505	-61.6	9.1	10	-60.7	V
3340	-59.9	11	9.9	-61.0	V
4175	-54.5	12.6	9.8	-57.3	V
5010	-56.1	14.2	10	-60.3	V
5845	-58.5	15.9	11.2	-63.2	V
1670	-52.1	7.2	8.6	-50.7	H
2505	-60.9	9.1	10	-60.0	H
3340	-62.8	11	9.9	-63.9	H
4175	-54.8	12.6	9.8	-57.6	H
5010	-58.5	14.2	10	-62.7	H
5845	-57.3	15.9	11.2	-62.0	H

Test Data （HSDPA channel 9400）

Frequency [GHz]	Generator output power(P_g) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (P_d) [dBm]	Antenna Polarization [H/V]
3760	-51.1	13.6	9.8	-54.9	V
5640	-48.7	15.1	10.9	-52.9	V
7520	-52.8	18.8	11.4	-60.2	V
9400	-48.7	22.9	12	-59.6	V
11280	-45.2	28.4	13.4	-60.2	V
13160	-39.6	36.7	13.4	-62.9	V
3760	-46.2	13.6	9.8	-50.0	H
5640	-48.6	15.1	10.9	-52.8	H
7520	-50.9	18.8	11.4	-58.3	H
9400	-48.3	22.9	12	-59.2	H
11280	-46.5	28.4	13.4	-61.5	H
13160	-39.9	36.7	13.4	-63.2	H

Test Data （HSDPA channel 1412）

Frequency [GHz]	Generator output power(P_g) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (P_d) [dBm]	Antenna Polarization [H/V]
3464.8	-55.7	11.3	9.8	-57.2	V
5197.2	-57.3	14.4	10.9	-60.8	V
6929.6	-58.7	16.3	11.4	-63.6	V
8662	-48.9	21.5	12	-58.4	V
10394.4	-47.6	26.1	13.4	-60.3	V
12126.8	-42.1	31.9	13.4	-60.6	V
3464.8	-58	11.3	9.8	-59.5	H
5197.2	-55.3	14.4	10.9	-58.8	H
6929.6	-56.9	16.3	11.4	-61.8	H
8662	-52.8	21.5	12	-62.3	H
10394.4	-49	26.1	13.4	-61.7	H
12126.8	-41.8	31.9	13.4	-60.3	H

Test Data （HSUPA channel 4175）

Frequency [GHz]	Generator output power(P_g) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (P_d) [dBm]	Antenna Polarization [H/V]
1670	-55.6	7.2	8.6	-54.2	V
2505	-55.9	9.1	10	-55.0	V
3340	-60.3	11	9.9	-61.4	V
4175	-56	12.6	9.8	-58.8	V
5010	-56.4	14.2	10	-60.6	V
5845	-54.9	15.9	11.2	-59.6	V
1670	-47.5	7.2	8.6	-46.1	H
2505	-56.4	9.1	10	-55.5	H
3340	-59.4	11	9.9	-60.5	H
4175	-54.4	12.6	9.8	-57.2	H
5010	-56	14.2	10	-60.2	H
5845	-54.9	15.9	11.2	-59.6	H

Test Data （HSUPA channel 9400）

Frequency [GHz]	Generator output power(P_g) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (P_d) [dBm]	Antenna Polarization [H/V]
3760	-43.6	13.6	9.8	-47.4	V
5640	-49.8	15.1	10.9	-54.0	V
7520	-54.2	18.8	11.4	-61.6	V
9400	-47.5	22.9	12	-58.4	V
11280	-46	28.4	13.4	-61.0	V
13160	-39.2	36.7	13.4	-62.5	V
3760	-45.6	13.6	9.8	-49.4	H
5640	-48.9	15.1	10.9	-53.1	H
7520	-50.1	18.8	11.4	-57.5	H
9400	-49	22.9	12	-59.9	H
11280	-45.2	28.4	13.4	-60.2	H
13160	-38.6	36.7	13.4	-61.9	H

Test Data （HSUPA channel 1412）

Frequency [GHz]	Generator output power(P_g) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (P_d) [dBm]	Antenna Polarization [H/V]
3464.8	-56.7	11.3	9.8	-58.2	V
5197.2	-54.3	14.4	10.9	-57.8	V
6929.6	-57.7	16.3	11.4	-62.6	V
8662	-49.9	21.5	12	-59.4	V
10394.4	-48.6	26.1	13.4	-61.3	V
12126.8	-44.1	31.9	13.4	-62.6	V
3464.8	-59	11.3	9.8	-60.5	H
5197.2	-56.3	14.4	10.9	-59.8	H
6929.6	-57.9	16.3	11.4	-62.8	H
8662	-50.8	21.5	12	-60.3	H
10394.4	-48	26.1	13.4	-60.7	H
12126.8	-43.8	31.9	13.4	-62.3	H

Test Data （LTE channel 18900 BW 10MHz, 1RB, 25RB offset, QPSK）

Frequency [GHz]	Generator output power(P_g) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (P_d) [dBm]	Antenna Polarization [H/V]
3760	-54.4	13.6	9.8	-58.2	V
5640	-53.2	15.1	10.9	-57.4	V
7520	-47.4	18.8	11.4	-54.8	V
9400	-44.1	22.9	12	-55.0	V
11280	-39.4	28.4	13.4	-54.4	V
13160	-32.2	36.7	13.4	-55.5	V
3760	-57.2	13.6	9.8	-61.0	H
5640	-54.2	15.1	10.9	-58.4	H
7520	-51.1	18.8	11.4	-58.5	H
9400	-50	22.9	12	-60.9	H
11280	-44.2	28.4	13.4	-59.2	H
13160	-34.6	36.7	13.4	-57.9	H

Test Data （LTE channel 18900 BW 5MHz, 1RB, 25RB offset, QPSK）

Frequency [GHz]	Generator output power(P_g) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (P_d) [dBm]	Antenna Polarization [H/V]
3760	-51.9	13.6	9.8	-55.7	V
5640	-53.3	15.1	10.9	-57.5	V
7520	-54.2	18.8	11.4	-61.6	V
9400	-46.1	22.9	12	-57.0	V
11280	-45.1	28.4	13.4	-60.1	V
13160	-34.2	36.7	13.4	-57.5	V
3760	-51.4	13.6	9.8	-55.2	H
5640	-49.8	15.1	10.9	-54.0	H
7520	-52.7	18.8	11.4	-60.1	H
9400	-50.5	22.9	12	-61.4	H
11280	-43.3	28.4	13.4	-58.3	H
13160	-32.8	36.7	13.4	-56.1	H

Test Data （LTE channel 20175 BW 10MHz, 1RB, 25RB offset, QPSK）

Frequency [GHz]	Generator output power(P_g) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (P_d) [dBm]	Antenna Polarization [H/V]
3465	-59.1	11.3	9.8	-60.6	V
5197.5	-60.4	14.4	10.9	-63.9	V
6930	-55.9	16.3	11.4	-60.8	V
8662.5	-47.5	21.5	12	-57.0	V
10395	-42.7	26.1	13.4	-55.4	V
12127.5	-43	31.9	13.4	-61.5	V
3465	-54	11.3	9.8	-55.5	H
5197.5	-50.3	14.4	10.9	-53.8	H
6930	-53.6	16.3	11.4	-58.5	H
8662.5	-47.4	21.5	12	-56.9	H
10395	-42.5	26.1	13.4	-55.2	H
12127.5	-37.4	31.9	13.4	-55.9	H

Test Data （LTE channel 20175 BW 5MHz, 1RB, 25RB offset, QPSK）

Frequency [GHz]	Generator output power(P_g) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (P_d) [dBm]	Antenna Polarization [H/V]
3465	-57.5	11.3	9.8	-59.0	V
5197.5	-55.1	14.4	10.9	-58.6	V
6930	-58.7	16.3	11.4	-63.6	V
8662.5	-47.5	21.5	12	-57.0	V
10395	-47.4	26.1	13.4	-60.1	V
12127.5	-39	31.9	13.4	-57.5	V
3465	-60.4	11.3	9.8	-61.9	H
5197.5	-59.3	14.4	10.9	-62.8	H
6930	-58.2	16.3	11.4	-63.1	H
8662.5	-50.9	21.5	12	-60.4	H
10395	-43.6	26.1	13.4	-56.3	H
12127.5	-36.6	31.9	13.4	-55.1	H

Test Data （LTE channel 20525 BW 10MHz, 1RB, 25RB offset, QPSK）

Frequency [GHz]	Generator output power(P_g) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (P_d) [dBm]	Antenna Polarization [H/V]
1673	-63.6	7.2	8.6	-62.2	V
2509.5	-66.3	9.1	10	-65.4	V
3346	-54.7	11	9.9	-55.8	V
4182.5	-54.2	12.6	9.8	-57.0	V
5019	-50.2	14.2	10	-54.4	V
5855.5	-51.8	15.9	11.2	-56.5	V
1673	-52.4	7.2	8.6	-51.0	H
2509.5	-59.3	9.1	10	-58.4	H
3346	-57.4	11	9.9	-58.5	H
4182.5	-58.1	12.6	9.8	-60.9	H
5019	-51	14.2	10	-55.2	H
5855.5	-52.2	15.9	11.2	-56.9	H

Test Data （LTE channel 20525 BW 5MHz, 1RB, 25RB offset, QPSK）

Frequency [GHz]	Generator output power(P_g) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (P_d) [dBm]	Antenna Polarization [H/V]
1673	-66.1	7.2	8.6	-64.7	V
2509.5	-67.4	9.1	10	-66.5	V
3346	-62.5	11	9.9	-63.6	V
4182.5	-54.2	12.6	9.8	-57.0	V
5019	-55.9	14.2	10	-60.1	V
5855.5	-56.8	15.9	11.2	-61.5	V
1673	-61.6	7.2	8.6	-60.2	H
2509.5	-63.9	9.1	10	-63.0	H
3346	-62	11	9.9	-63.1	H
4182.5	-59.6	12.6	9.8	-62.4	H
5019	-54.1	14.2	10	-58.3	H
5855.5	-57.4	15.9	11.2	-62.1	H

Test Data （LTE channel 23230 BW 10MHz, 1RB, 25RB offset, QPSK）

Frequency [GHz]	Generator output power(P_g) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (P_d) [dBm]	Antenna Polarization [H/V]
1564	-62.3	6.9	8.6	-60.6	V
2346	-65.2	8.7	10	-63.9	V
3128	-69.2	5.5	9.9	-64.8	V
3910	-54.3	10.5	9.8	-55.0	V
4692	-55.1	13.5	11.2	-57.4	V
5474	-57.4	15	10.9	-61.5	V
1564	-67.2	6.9	8.6	-65.5	H
2346	-55.1	8.7	10	-53.8	H
3128	-62.9	5.5	9.9	-58.5	H
3910	-60.2	10.5	9.8	-60.9	H
4692	-57.9	13.5	11.2	-60.2	H
5474	-57.8	15	10.9	-61.9	H

Test Data （LTE channel 23230 BW 5MHz, 1RB, 25RB offset, QPSK）

Frequency [GHz]	Generator output power(P_g) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (P_d) [dBm]	Antenna Polarization [H/V]
1564	-63.7	6.9	8.6	-62.0	V
2346	-63.9	8.7	10	-62.6	V
3128	-68	5.5	9.9	-63.6	V
3910	-56.3	10.5	9.8	-57.0	V
4692	-57.8	13.5	11.2	-60.1	V
5474	-57.4	15	10.9	-61.5	V
1564	-64.6	6.9	8.6	-62.9	H
2346	-64.1	8.7	10	-62.8	H
3128	-67.5	5.5	9.9	-63.1	H
3910	-61.7	10.5	9.8	-62.4	H
4692	-56	13.5	11.2	-58.3	H
5474	-58	15	10.9	-62.1	H

Test Data （LTE channel 23790 BW 10MHz, 1RB, 25RB offset, QPSK）

Frequency [GHz]	Generator output power(P_g) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (P_d) [dBm]	Antenna Polarization [H/V]
1420	-64.3	6.5	8.6	-62.2	V
2130	-61.3	8.4	9.3	-60.4	V
2840	-59.8	9.9	9.9	-59.8	V
3550	-53.3	11.6	9.9	-55.0	V
4260	-55.3	12.7	10.6	-57.4	V
4970	-55.1	14.2	10.8	-58.5	V
1420	-63.1	6.5	8.6	-61.0	H
2130	-59.3	8.4	9.3	-58.4	H
2840	-58.5	9.9	9.9	-58.5	H
3550	-59.2	11.6	9.9	-60.9	H
4260	-58.1	12.7	10.6	-60.2	H
4970	-58.5	14.2	10.8	-61.9	H

Test Data （LTE channel 23790 BW 5MHz, 1RB, 25RB offset, QPSK）

Frequency [GHz]	Generator output power(P_g) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (P_d) [dBm]	Antenna Polarization [H/V]
1420	-62.8	6.5	8.6	-60.7	V
2130	-60.4	8.4	9.3	-59.5	V
2840	-63.6	9.9	9.9	-63.6	V
3550	-55.3	11.6	9.9	-57.0	V
4260	-58	12.7	10.6	-60.1	V
4970	-58.1	14.2	10.8	-61.5	V
1420	-62.3	6.5	8.6	-60.2	H
2130	-53.9	8.4	9.3	-53.0	H
2840	-63.1	9.9	9.9	-63.1	H
3550	-60.7	11.6	9.9	-62.4	H
4260	-56.2	12.7	10.6	-58.3	H
4970	-58.7	14.2	10.8	-62.1	H

Test Data （LTE channel 26365 BW 10MHz, 1RB, 25RB offset, QPSK）

Frequency [GHz]	Generator output power(P_g) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (P_d) [dBm]	Antenna Polarization [H/V]
3765	-56.8	13.6	9.8	-60.6	V
5647.5	-59.7	15.1	10.9	-63.9	V
7530	-51.4	18.8	11.4	-58.8	V
9412.5	-44.1	22.9	12	-55.0	V
11295	-42.4	28.4	13.4	-57.4	V
13177.5	-32.2	36.7	13.4	-55.5	V
3765	-54.7	13.6	9.8	-58.5	H
5647.5	-51.6	15.1	10.9	-55.8	H
7530	-51.1	18.8	11.4	-58.5	H
9412.5	-45	22.9	12	-55.9	H
11295	-35.2	28.4	13.4	-50.2	H
13177.5	-29.6	36.7	13.4	-52.9	H

Test Data （LTE channel 26365 BW 5MHz, 1RB, 25RB offset, QPSK）

Frequency [GHz]	Generator output power(P_g) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (P_d) [dBm]	Antenna Polarization [H/V]
3765	-55.2	13.6	9.8	-59.0	V
5647.5	-48.4	15.1	10.9	-52.6	V
7530	-56.2	18.8	11.4	-63.6	V
9412.5	-46.1	22.9	12	-57.0	V
11295	-40.1	28.4	13.4	-55.1	V
13177.5	-31.2	36.7	13.4	-54.5	V
3765	-53.1	13.6	9.8	-56.9	H
5647.5	-54.6	15.1	10.9	-58.8	H
7530	-52.7	18.8	11.4	-60.1	H
9412.5	-49.5	22.9	12	-60.4	H
11295	-43.3	28.4	13.4	-58.3	H
13177.5	-28.8	36.7	13.4	-52.1	H

Test Data （CDMA1X channel 384）

Frequency [GHz]	Generator output power(P_g) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (P_d) [dBm]	Antenna Polarization [H/V]
1673	-52	7.2	8.6	-50.6	V
2509.5	-64.8	9.1	10	-63.9	V
3346	-58.7	11	9.9	-59.8	V
4182.5	-57.2	12.6	9.8	-60.0	V
5019	-53.2	14.2	10	-57.4	V
5855.5	-56.8	15.9	11.2	-61.5	V
1673	-52.9	7.2	8.6	-51.5	H
2509.5	-64.7	9.1	10	-63.8	H
3346	-57.4	11	9.9	-58.5	H
4182.5	-58.1	12.6	9.8	-60.9	H
5019	-56	14.2	10	-60.2	H
5855.5	-57.2	15.9	11.2	-61.9	H

Test Data （CDMA1X channel 600）

Frequency [GHz]	Generator output power(P_g) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (P_d) [dBm]	Antenna Polarization [H/V]
3760	-55.2	13.6	9.8	-59.0	V
5640	-58.4	15.1	10.9	-62.6	V
7520	-50.2	18.8	11.4	-57.6	V
9400	-46.1	22.9	12	-57.0	V
11280	-40.1	28.4	13.4	-55.1	V
13160	-28.2	36.7	13.4	-51.5	V
3760	-53.1	13.6	9.8	-56.9	H
5640	-58.6	15.1	10.9	-62.8	H
7520	-50.7	18.8	11.4	-58.1	H
9400	-46.5	22.9	12	-57.4	H
11280	-43.3	28.4	13.4	-58.3	H
13160	-31.8	36.7	13.4	-55.1	H

Test Data （CDMA1X channel 560）

Frequency [GHz]	Generator output power(P_g) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (P_d) [dBm]	Antenna Polarization [H/V]
1640	-63.9	7.2	8.9	-62.2	V
2640	-61	9.4	10	-60.4	V
3280	-58.7	11	9.9	-59.8	V
4100	-52.3	12.5	9.8	-55.0	V
4920	-53.4	13.8	10.8	-56.4	V
5740	-51.4	15.3	11.2	-55.5	V
1640	-62.7	7.2	8.9	-61.0	H
2640	-59	9.4	10	-58.4	H
3280	-57.4	11	9.9	-58.5	H
4100	-55.2	12.5	9.8	-57.9	H
4920	-54.2	13.8	10.8	-57.2	H
5740	-51.8	15.3	11.2	-55.9	H

Test Data （EVDO channel 384）

Frequency [GHz]	Generator output power(P_g) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (P_d) [dBm]	Antenna Polarization [H/V]
1673	-63.1	7.2	8.6	-61.7	V
2509.5	-59.4	9.1	10	-58.5	V
3346	-62.5	11	9.9	-63.6	V
4182.5	-54.2	12.6	9.8	-57.0	V
5019	-55.9	14.2	10	-60.1	V
5855.5	-56.8	15.9	11.2	-61.5	V
1673	-61.6	7.2	8.6	-60.2	H
2509.5	-59.9	9.1	10	-59.0	H
3346	-62	11	9.9	-63.1	H
4182.5	-59.6	12.6	9.8	-62.4	H
5019	-54.1	14.2	10	-58.3	H
5855.5	-57.4	15.9	11.2	-62.1	H

Test Data （EVDO channel 600）

Frequency [GHz]	Generator output power(P_g) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (P_d) [dBm]	Antenna Polarization [H/V]
3760	-56.8	13.6	9.8	-60.6	V
5640	-54.7	15.1	10.9	-58.9	V
7520	-47.4	18.8	11.4	-54.8	V
9400	-44.1	22.9	12	-55.0	V
11280	-42.4	28.4	13.4	-57.4	V
13160	-30.2	36.7	13.4	-53.5	V
3760	-53.7	13.6	9.8	-57.5	H
5640	-53.6	15.1	10.9	-57.8	H
7520	-51.1	18.8	11.4	-58.5	H
9400	-50	22.9	12	-60.9	H
11280	-42.2	28.4	13.4	-57.2	H
13160	-32.6	36.7	13.4	-55.9	H

Test Data （EVDO channel 560）

Frequency [GHz]	Generator output power(P_g) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (P_d) [dBm]	Antenna Polarization [H/V]
1640	-60.7	7.2	8.9	-59.0	V
2640	-63.2	9.4	10	-62.6	V
3280	-62.5	11	9.9	-63.6	V
4100	-54.3	12.5	9.8	-57.0	V
4920	-57.1	13.8	10.8	-60.1	V
5740	-57.4	15.3	11.2	-61.5	V
1640	-58.6	7.2	8.9	-56.9	H
2640	-63.4	9.4	10	-62.8	H
3280	-62	11	9.9	-63.1	H
4100	-59.7	12.5	9.8	-62.4	H
4920	-55.3	13.8	10.8	-58.3	H
5740	-54	15.3	11.2	-58.1	H

Annex A External Photos

See the attachment.

Annex B Internal Photos

See the attachment.

ANNEX C Deviations from Prescribed Test Methods

No deviation from Prescribed Test Methods.

The End of this Report