

GSM TEST REPORT

No. I13GC9474 -RF-GSM

for

SIM800H

with

Hardware: V1.02

Software Version: SIM800 R13.08

Issued Date: 2013-08-22



Note:

The test results in this test report relate only to the devices specified in this report. This report shall not be reproduced except in full without the written approval of CTTL Beijing.

Test Laboratory:

CTTL Beijing, China Telecommunication Technology Labs

No.52, Huayuan North Road Haidian District, Beijing, P.R.C, 100191

Tel: +86(0)10-62300300, Fax: +86(0)10-62300505 Email: CTTL@chinaTTL.com. www.chinaTTL.com

CONTENTS

1. TEST LABORATORY	4
1.1. TESTING LOCATION	4
1.2. TESTING ENVIRONMENT	4
1.3. PROJECT DATA	4
1.4. SIGNATURE	4
2. CLIENT INFORMATION	5
2.1. APPLICANT INFORMATION	5
1.1. MANUFACTURER INFORMATION	5
3. EQUIPMENT UNDER TEST (EUT) AND ANCILLARY EQUIPMENT (AE)	6
3.1. ABOUT EUT	6
3.2. INTERNAL IDENTIFICATION OF EUT	6
3.3. INTERNAL IDENTIFICATION OF AE	6
4. REFERENCE DOCUMENTS	7
4.1. DOCUMENTS SUPPLIED BY APPLICANT	7
4.2. REFERENCE DOCUMENTS FOR TESTING	7
5. TEST RESULTS	8
5.1. SUMMARY OF TEST RESULTS	8
5.2. STATEMENTS	8
6. TEST EQUIPMENTS UTILIZED	9
6.1. RS TS8950G	9
6.2. RSE TEST SYSTEM	10
6.3. CLIMATE CHAMBER	10
6.4. VIBRATION TABLE	10
7. MEASUREMENT UNCERTAINTY	11
ANNEX A: EUT PHOTOGRAPH	12
ANNEX B: PICS/PIXIT INFORMATION	13
ANNEX C: DETAILED TEST RESULTS	14
ANNEX C.1 MAIN TERMS	14
ANNEX C.2 TERMS USED IN CONDITION COLUMN	14
ANNEX C.3 TERMS USED IN VERDICT COLUMN	14

ANNEX C.4 TERMS USED IN NOTE COLUMN.....	14
ANNEX C.5 TESTCASES LIST	15
ANNEX D: CONDUCTED MAXIMUM OUTPUT POWER	19
ANNEX E: SPURIOUS EMISSIONS RESULTS	20

1. Test Laboratory

1.1. Testing Location

Company Name: CTTL Beijing, China Telecommunication Technology Labs
Address: No.52,Huayuan North Road Haidian District,Beijing, P.R.C,
Postal Code: 100191
Telephone: 00861062300300
Fax: 00861062300505

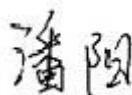
1.2. Testing Environment

Normal Temperature: 15-35°C
Extreme Temperature: -10/+55°C
Relative Humidity: 20-75%

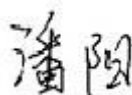
1.3. Project data

Testing Start Date: 2013-08-18
Testing End Date: 2013-08-20

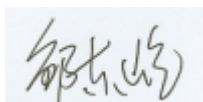
1.4. Signature



Pan Yang
(Tester)



Pan Yang
(Prepared this test report)



Zou Dong Yi
(Reviewed this test report)



He Gui Li
Deputy Director of the laboratory
(Approved this test report)

2. Client Information

2.1. Applicant Information

Company Name: Shanghai SIMCom Wireless Solutions Co.,Ltd.
Address: Building A,SIM Technology Building,No.633,Jinzhong
Road,Changning District,Shanghai R.R.China
City: Shanghai
Postal Code: 200335
Country: China
Telephone: +86-021-32523300
Fax: +86-021-32523020

2.2 Manufacturer Information

Company Name: Shenyang Simcom Technology Ltd.
Address: No.37, Shenbei Rd, Shenbei New Aear, Shenyang,P.R.China
City: Shenyang
Postal Code:
Country: China
Telephone: +86-024-88922222
Fax: +86-024-88922225

3. Equipment Under Test (EUT) and Ancillary Equipment (AE)

3.1. About EUT

Description	GSM/GPRS(850/900/1800/1900MHz)+BT Wireless Data Module
Model	SIM800H
UMTS Frequency Band	N/A
GSM Frequency Band	GSM900/GSM1800/PCS1900/GSM850
Type of modulation	GMSK/8PSK
	GSM900:4, DCS1800:1,
GPRS Multislot Class	12
EGPRS Multislot Class	N/A
Extreme Temperature	-10/+55℃
Normal Voltage	3.8V
Extreme Low Voltage	3.6V
Extreme High Voltage	4.2V

Note: Photographs of EUT are shown in ANNEX A of this test report.

3.2. Internal Identification of EUT

EUT ID*	SN or IMEI	HW Version	SW Version	Date of receipt
N01	860719020042085	V1.02	SIM800 R13.08	2013-8-15

*EUT ID: is used to identify the test sample in the lab internally.

3.3. Internal Identification of AE

AE ID*	Description	SN
N/A	--	---

*AE ID: is used to identify the test sample in the lab internally.

4. Reference Documents

4.1. Documents supplied by applicant

PICS/PIXIT, referring to Annex B for detailed information, is supplied by the client or manufacturer, which is the basis of testing.

4.2. Reference Documents for testing

The following documents listed in this section are referred for testing.

Reference	Title	Version
3GPP TS 51.010-1	3rd Generation Partnership Project; Technical Specification Group GSM/EDGE Radio Access Network Digital cellular telecommunications system (Phase 2+); Mobile Station (MS) conformance specification; Part 1: Conformance specification	V11.0.0
ETSI EN 301 511	Global System for Mobile communications (GSM); Harmonized EN for mobile stations in the GSM 900 and GSM 1800 bands covering essential requirements under article 3.2 of the R&TTE directive (1999/5/EC)	V9.0.2

5. Test Results

5.1. Summary of Test Results

	GSM900	GSM1800
Pass	64	64
Fail	0	0
Inc	0	0
Declare	0	0
BR	0	0
total	64	64

Note: please refer to Annex C in this test report for the detailed test results.

The following terms are used in the above table.

Pass	Amount of testcases with pass results in the given frequency band.
Fail	Amount of testcases with fail results in the given frequency band.
Inc	Amount of testcases with ambiguous results in the given frequency band.
Declare	Amount of testcases with conformity declaration from the client in the given frequency band.
BR	Testcase was tested with Pass result for the initial model.

5.2. Statements

The SIM800H, supporting GPRS/GSM, manufactured by Shenyang Simcom Technology Ltd., is a new product for testing.

CTTL has verified that the compliance of the tested device specified in section 3 of this test report is successfully evaluated according to the procedure and test methods as defined in type certification requirement listed in section 4 of this test report.

6. Test Equipments Utilized

6.1. RS TS8950G

TP9a/27-R&S TS8950G-GSM/GPRS/AMR/EGPRS RF test system						
Hardware						
No.	Name	Type	SN	Qty	Manufacturer	Cal.Due Date
1	Vector Signal Generator	SMU200A	103393	1	Rohde&Schwarz	2013-09-17
2	Spectrum Analyzer	FSU26	200786	1	Rohde&Schwarz	2013-9-17
3	Protocol Slave	CRTU-S	100383	1	Rohde&Schwarz	2013-9-17
4	Baseband Fading Simulator	ABFS	100275	1	Rohde&Schwarz	2013-9-17
5	rubidium frequency standard	8040C	712014037	1	Rohde&Schwarz	2013-11-16
6	Power Supply	NGSM	5210	1	Rohde&Schwarz	2014-1-12
7	Signal Generator	SMF100A	100545	1	Rohde&Schwarz	2013-10-10
8	Power Sensor	NRP-Z21	102408	1	Rohde&Schwarz	2013-9-17
9	Power Sensor	NRP-Z21	102407	1	Rohde&Schwarz	2013-9-17
10	Switching and Signal Conditioning Unit	SSCU-GW	100119	1	Rohde&Schwarz	--
11	Advanced Switching Control Unit	ASCU-G1	100018	1	Rohde&Schwarz	--

6.2. RSE Test System

RSE test system						
Hardware						
No.	Name	Type	SN	Qty	Manufacture	Cal.Due Date
1	EMI Test Receiver	ES126	100211	1	Rohde & Schwarz	2014-01-09
2	Ultra Broadband Antenna	VULB 9160	VULB9160-3252	1	Rohde & Schwarz	2013-09-05
3	Double-Ridged Horn Antenna	HF906	100037	1	Rohde & Schwarz	2014-01-23
4	Radio Communications Analyzer	MT8820B	6200772659	1	Anritsu	2014-01-26
5	Signal Generator	SMY02	100024	1	Rohde & Schwarz	2013-10-25
6	Fully-Anechoic Chamber	11.8m*6.5m*6.3m	--	1	ETS	2013-11-16

6.3. Climate Chamber

Climate Chamber						
No.	Name	Type	SN	Qty	Manufacturer	Cal.Due Date
1	Climate Chamber	SH-241	92001145	1	ESPEC	2014-5-12

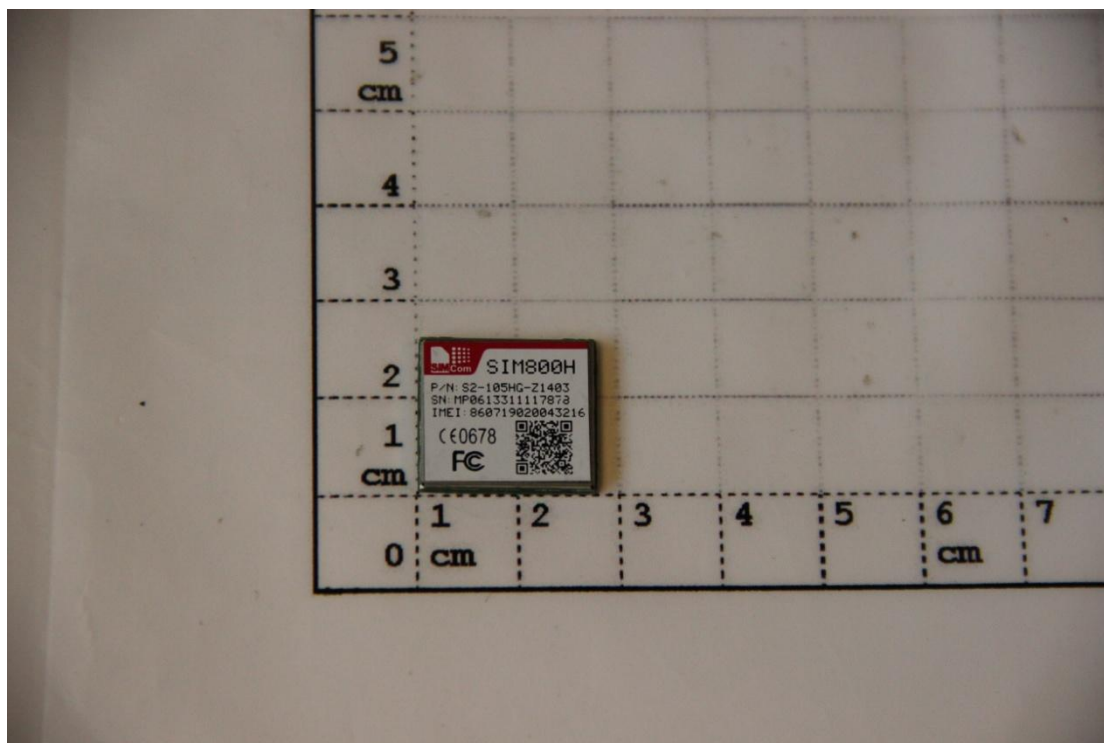
6.4. Vibration table

Vibration table						
No.	Name	Type	SN	Qty	Manufacturer	Cal.Due Date
1	vibration table	V406M4-CE/353B02	1021482-7/128052	1	LDS	2014-5-16

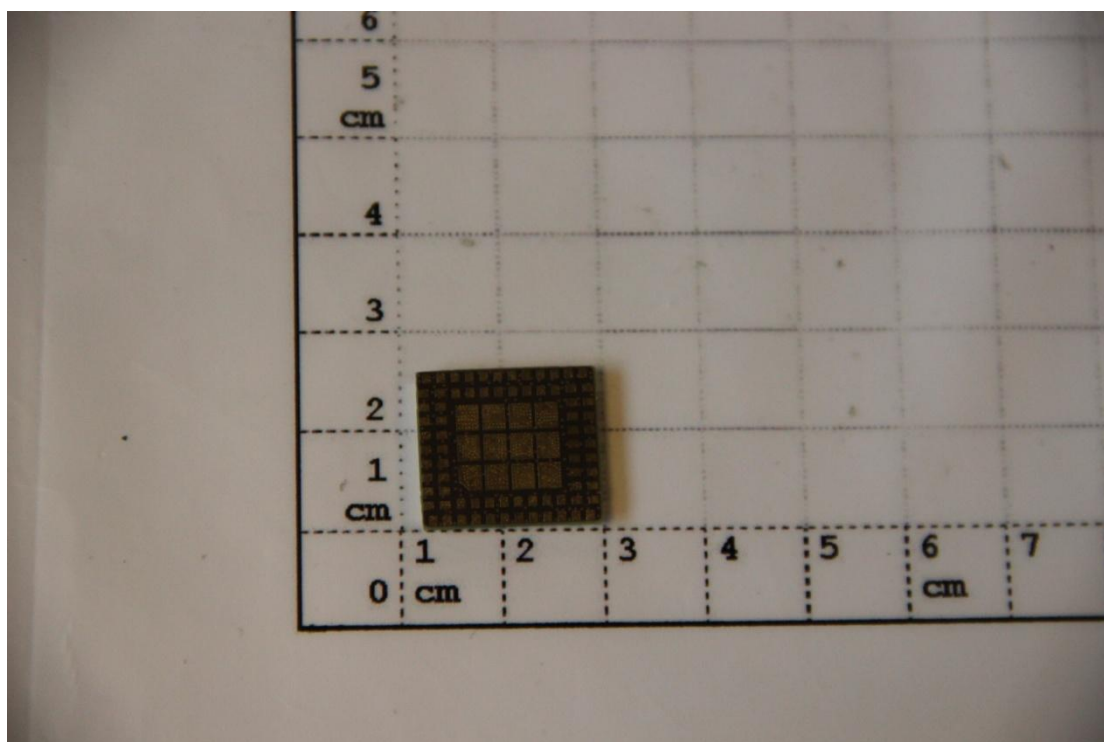
7. Measurement Uncertainty

Measurement uncertainty for all the testing in this report are within the limit specified in 3GPP TS 51.010-1 Annex 5 for GSM . The detailed measurement uncertainty is defined in CTTL documents.

ANNEX A: EUT photograph



Pic A-1 EUT



Pic A-2 EUT

ANNEX B: PICS/PIXIT information

Item	Type of Mobile Station	Support	Mnemonic
1	HSCSD Multislot MS	No	Type_HSCSD_Multislot
2	R-GSM MS	No	Type_R-GSM
3	Support of GPRS Multislot class on the uplink	Yes	Type_GPRS_Multislot_uplink
4	EGPRS	No	Type_EGPRS
5	EGPRS capable of 8PSK in Uplink, of all Multislot classes	No	Type_EGPRS_8PSK_uplink
Item	Additional Information	Support	Mnemonic
1	Telephony.	Yes	TSPC_Serv_TS11
2	Permanent Antenna Connector.	Yes	TSPC_AddInfo_PermAntenna

ANNEX C: Detailed Test Results

Annex C.1 Main Terms

Testcases	Testcase identification number and description in 3GPP test specification.
Verdict	Verdict of each testcase.

Annex C.2 Terms used in Condition column

NTC	Nominal voltage, Normal Temperature
VH	High voltage, Normal Temperature
VL	Low voltage, Normal Temperature
THVH	high voltage, High Temperature
THVL	high voltage, Low Temperature
TLVH	Low voltage, High Temperature
TLVL	Low voltage, Low Temperature
Vib	Vibration

Annex C.3 Terms used in Verdict column

Pass	This testcase has been tested, and EUT is conformant to the applied standards in the given frequency band.
Fail	This testcase has been tested, but EUT is not conformant to the applied standards in the given frequency band.
N/A	This test case is either not required/not applicable in the specified band or is not applicable according to the specific PICS/PIXIT for the EUT.
Inc	Test case result is ambiguous in the given frequency band.
Decl	Declaration is received from the client to demonstrate the conformity to the relevant specification in the given frequency band.
BR	This testcase is not tested in the given frequency band, but this testcase was tested with pass result for the initial model in the given frequency band.

Annex C.4 Terms used in Note column

EUT ID	EUT ID (e.g N01, N02.....) is used to identify the EUT tested used for each testcase as specified in section 3 of this test report.
Lab Code	Lab code is used to identify the subcontracted lab if this testcase is performed in the subcontracted lab.

Subcontracted test lab code

No subcontracted test lab code used.

Annex C.5 Testcases list

Item	Testcase description	Test Condition	GSM900 result		GSM1800 result	
			Verdict	EUT	Verdict	EUT
12.1.1	Conducted spurious emissions - MS allocated a channel	NTC	Pass	N01	Pass	N01
12.1.1	Conducted spurious emissions - MS allocated a channel	VH	Pass	N01	Pass	N01
12.1.1	Conducted spurious emissions - MS allocated a channel	VL	Pass	N01	Pass	N01
12.1.2	Conducted spurious emissions - MS in idle mode	NTC	Pass	N01	Pass	N01
12.1.2	Conducted spurious emissions - MS in idle mode	VH	Pass	N01	Pass	N01
12.1.2	Conducted spurious emissions - MS in idle mode	VL	Pass	N01	Pass	N01
12.2.1	Radiated spurious emissions - MS allocated a channel	NTC	Pass	N01	Pass	N01
12.2.2	Radiated spurious emissions - MS in idle mode	NTC	Pass	N01	Pass	N01
13.1	Transmitter – Frequency error and phase error	NTC	Pass	N01	Pass	N01
13.1	Transmitter – Frequency error and phase error	THVH	Pass	N01	Pass	N01
13.1	Transmitter – Frequency error and phase error	THVL	Pass	N01	Pass	N01
13.1	Transmitter – Frequency error and phase error	TLVH	Pass	N01	Pass	N01
13.1	Transmitter – Frequency error and phase error	TLVL	Pass	N01	Pass	N01
13.1	Transmitter – Frequency error and phase error	Vib-x	Pass	N01	Pass	N01
13.1	Transmitter – Frequency error and phase error	Vib-y	Pass	N01	Pass	N01
13.1	Transmitter – Frequency error and phase error	Vib-z	Pass	N01	Pass	N01
13.2	Transmitter – Frequency error under multipath and interference conditions	NTC	Pass	N01	Pass	N01
13.2	Transmitter – Frequency error under multipath and interference conditions	THVH	Pass	N01	Pass	N01
13.2	Transmitter – Frequency error under multipath and interference conditions	THVL	Pass	N01	Pass	N01

Item	Testcase description	Test Condition	GSM900 result		GSM1800 result	
			Verdict	EUT	Verdict	EUT
13.2	Transmitter – Frequency error under multipath and interference conditions	TLVH	Pass	N01	Pass	N01
13.2	Transmitter – Frequency error under multipath and interference conditions	TLVL	Pass	N01	Pass	N01
13.3.4.1	Transmitter output power and burst timing - MS with permanent antenna	NTC	Pass	N01	Pass	N01
13.3.4.1	Transmitter output power and burst timing - MS with permanent antenna	THVH	Pass	N01	Pass	N01
13.3.4.1	Transmitter output power and burst timing - MS with permanent antenna	THVL	Pass	N01	Pass	N01
13.3.4.1	Transmitter output power and burst timing - MS with permanent antenna	TLVH	Pass	N01	Pass	N01
13.3.4.1	Transmitter output power and burst timing - MS with permanent antenna	TLVL	Pass	N01	Pass	N01
13.4	Transmitter - Output RF spectrum	modulation, normal	Pass	N01	Pass	N01
13.4	Transmitter - Output RF spectrum	modulation, detailed	Pass	N01	Pass	N01
13.4	Transmitter - Output RF spectrum	spurious	Pass	N01	Pass	N01
13.4	Transmitter - Output RF spectrum	switching, normal	Pass	N01	Pass	N01
13.4	Transmitter - Output RF spectrum	THVH, modulation	Pass	N01	Pass	N01
13.4	Transmitter - Output RF spectrum	THVH, switching	Pass	N01	Pass	N01
13.4	Transmitter - Output RF spectrum	THVL, modulation	Pass	N01	Pass	N01
13.4	Transmitter - Output RF spectrum	THVL, switching	Pass	N01	Pass	N01
13.4	Transmitter - Output RF spectrum	TLVH, modulation	Pass	N01	Pass	N01
13.4	Transmitter - Output RF spectrum	TLVH, switching	Pass	N01	Pass	N01
13.4	Transmitter - Output RF spectrum	TLVL, modulation	Pass	N01	Pass	N01
13.4	Transmitter - Output RF spectrum	TLVL, switching	Pass	N01	Pass	N01
13.16.1	Frequency error and phase error in GPRS multislot configuration	NTC	Pass	N01	Pass	N01

Item	Testcase description	Test Condition	GSM900 result		GSM1800 result	
			Verdict	EUT	Verdict	EUT
13.16.1	Frequency error and phase error in GPRS multislot configuration	THVH	Pass	N01	Pass	N01
13.16.1	Frequency error and phase error in GPRS multislot configuration	THVL	Pass	N01	Pass	N01
13.16.1	Frequency error and phase error in GPRS multislot configuration	TLVH	Pass	N01	Pass	N01
13.16.1	Frequency error and phase error in GPRS multislot configuration	TLVL	Pass	N01	Pass	N01
13.16.1	Frequency error and phase error in GPRS multislot configuration	Vib-x	Pass	N01	Pass	N01
13.16.1	Frequency error and phase error in GPRS multislot configuration	Vib-y	Pass	N01	Pass	N01
13.16.1	Frequency error and phase error in GPRS multislot configuration	Vib-z	Pass	N01	Pass	N01
13.16.2-1	Transmitter output power in GPRS multislot configuration - MS with permanent antenna connector	NTC	Pass	N01	Pass	N01
13.16.2-1	Transmitter output power in GPRS multislot configuration - MS with permanent antenna connector	THVH	Pass	N01	Pass	N01
13.16.2-1	Transmitter output power in GPRS multislot configuration - MS with permanent antenna connector	THVL	Pass	N01	Pass	N01
13.16.2-1	Transmitter output power in GPRS multislot configuration - MS with permanent antenna connector	TLVH	Pass	N01	Pass	N01
13.16.2-1	Transmitter output power in GPRS multislot configuration - MS with permanent antenna connector	TLVL	Pass	N01	Pass	N01
13.16.3	Output RF spectrum in GPRS multislot configuration	modulation, normal	Pass	N01	Pass	N01
13.16.3	Output RF spectrum in GPRS multislot configuration	modulation, detailed	Pass	N01	Pass	N01
13.16.3	Output RF spectrum in GPRS multislot configuration	spurious	Pass	N01	Pass	N01
13.16.3	Output RF spectrum in GPRS multislot configuration	switching, normal	Pass	N01	Pass	N01
13.16.3	Output RF spectrum in GPRS multislot configuration	THVH, modulation	Pass	N01	Pass	N01

Item	Testcase description	Test Condition	GSM900 result		GSM1800 result	
			Verdict	EUT	Verdict	EUT
13.16.3	Output RF spectrum in GPRS multislot configuration	THVH, switching	Pass	N01	Pass	N01
13.16.3	Output RF spectrum in GPRS multislot configuration	THVL, modulation	Pass	N01	Pass	N01
13.16.3	Output RF spectrum in GPRS multislot configuration	THVL, switching	Pass	N01	Pass	N01
13.16.3	Output RF spectrum in GPRS multislot configuration	TLVH, modulation	Pass	N01	Pass	N01
13.16.3	Output RF spectrum in GPRS multislot configuration	TLVH, switching	Pass	N01	Pass	N01
13.16.3	Output RF spectrum in GPRS multislot configuration	TLVL, modulation	Pass	N01	Pass	N01
13.16.3	Output RF spectrum in GPRS multislot configuration	TLVL, switching	Pass	N01	Pass	N01
14.7.1	Blocking and spurious response - TCH/FS	NTC	Pass	N01	Pass	N01

ANNEX D: Conducted Maximum Output Power

Type	GSM900(dBm)	GSM1800(dBm)
GSM	31.7	29.3
GPRS	32.8	30.4

ANNEX E: Spurious emissions results

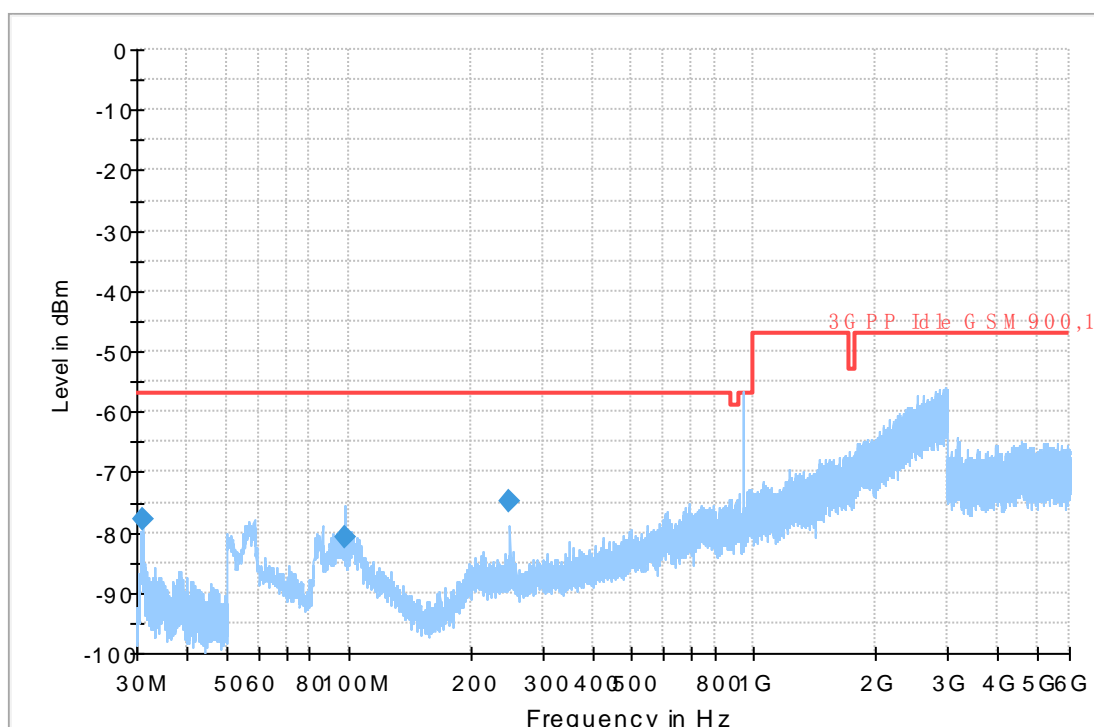


Fig1 Radiated Spurious emissions (900MHz, Horizontal/Vertical, Idle mode, Normal voltage)

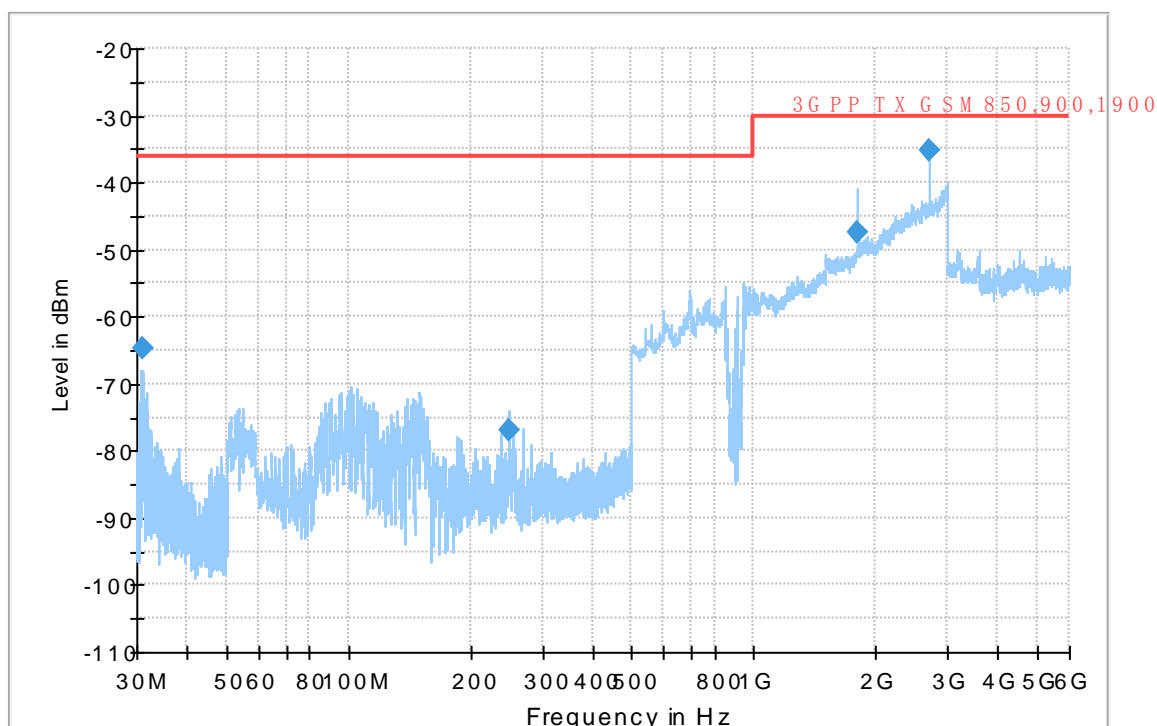


Fig2 Radiated Spurious emissions (900MHz, Horizontal/Vertical, Traffic mode, Normal voltage)

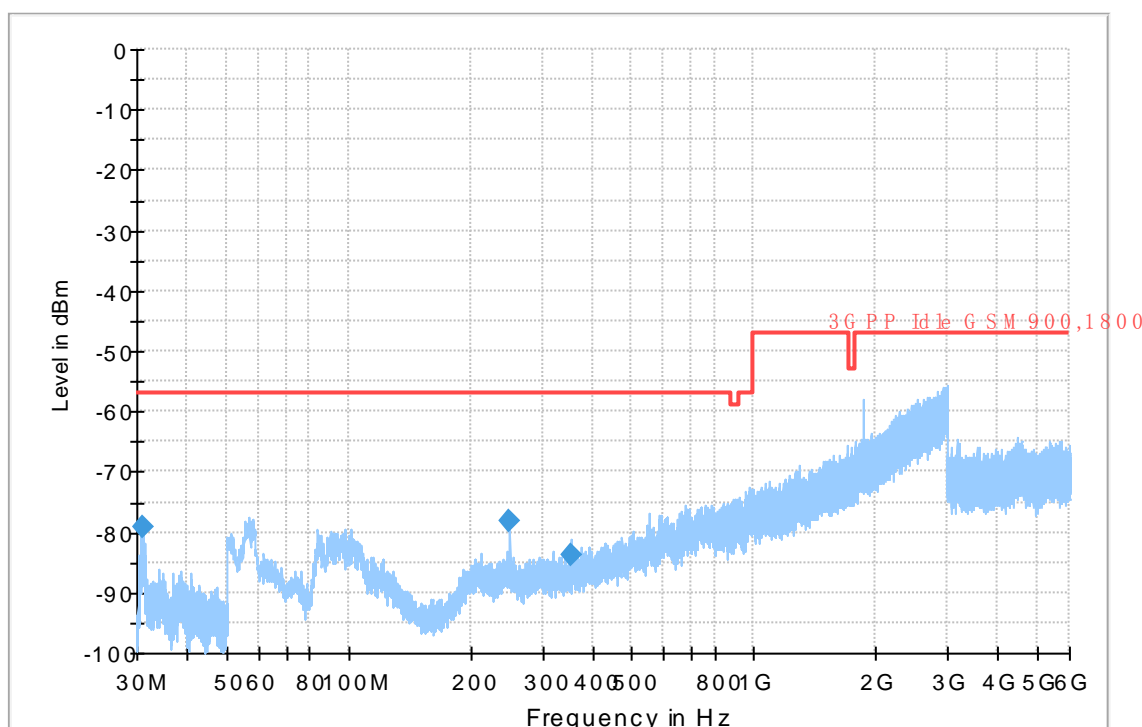


Fig3 Radiated Spurious emissions (1800MHz, Horizontal/Vertical, Idle mode, Normal voltage)

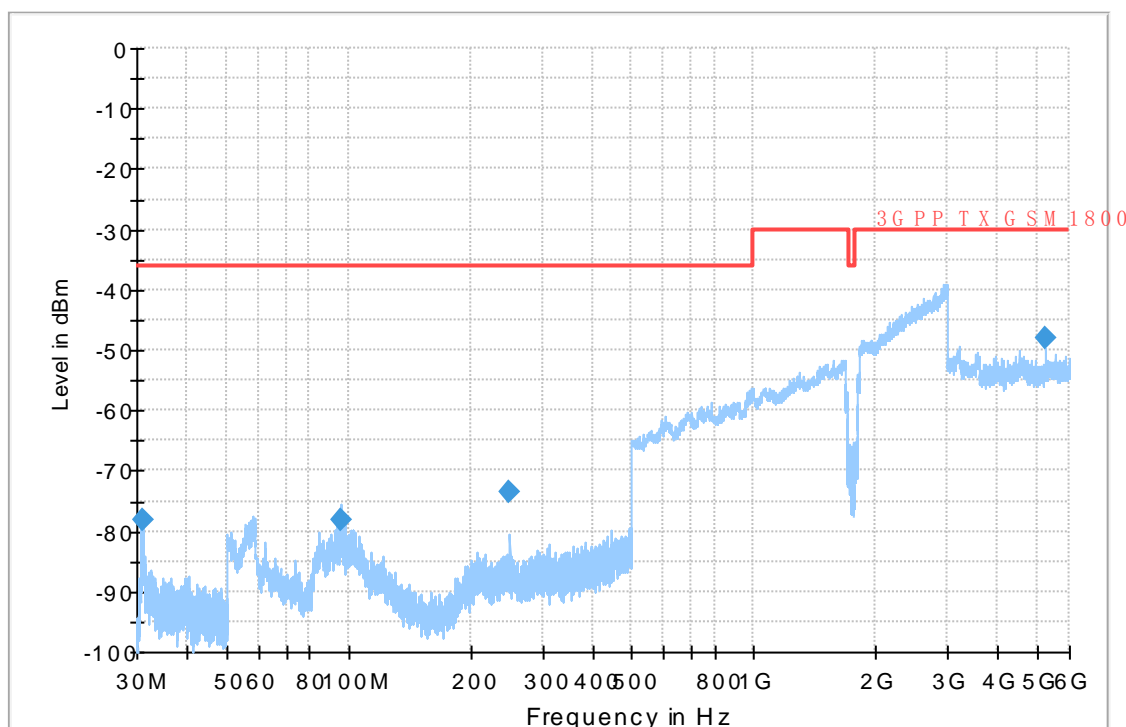


Fig4 Radiated Spurious emissions (1800MHz, Horizontal/Vertical, Traffic mode, Normal voltage)

*****END OF REPORT*****