



FCC RF Test Report

APPLICANT : Gosuncn Technology Group Co., Ltd.
EQUIPMENT : LTE Module
BRAND NAME : GOSUNCN
MODEL NAME : GM500-U1G
FCC ID : 2APNR-GM500U1G1
STANDARD : 47 CFR Part 2, and 90(S)
CLASSIFICATION : PCS Licensed Transmitter (PCB)
TEST DATE(S) : Aug. 23, 2022

We, Sporton International Inc. (Shenzhen), would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.26-2015 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 Inc. (Shenzhen), the test report shall not be reproduced except in full.

Jason Jia

Approved by: Jason Jia



Sporton International Inc. (ShenZhen)

1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan, Shenzhen, 518055

People's Republic of China



TABLE OF CONTENTS

REVISION HISTORY.....	3
1 GENERAL DESCRIPTION	4
1.1 Applicant.....	4
1.2 Manufacturer	4
1.3 Feature of Equipment Under Test.....	4
1.4 Product Specification of Equipment Under Test	4
1.5 Modification of EUT	4
1.6 Testing Site.....	5
1.7 Test Software	5
1.8 Applied Standards	5
2 RE-USE OF MEASURED DATA	6
2.1 Introduction Section.....	6
2.2 Model Difference Information	6
2.3 Reference detail Section:	6
2.4 Spot Check Verification Data Section	7
3 LIST OF MEASURING EQUIPMENT	8
4 UNCERTAINTY OF EVALUATION	9
APPENDIX A. TEST SETUP PHOTOGRAPHS	
APPENDIX B. REFERENCE REPORT	



REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FW272912	Rev. 01	Initial issue of report	Aug. 26, 2022



1 General Description

1.1 Applicant

Gosuncn Technology Group Co., Ltd.

6F, 2819 KaiChuang Blvd., Science Town, Huangpu District, Guangzhou City, Guangdong, China.

1.2 Manufacturer

Gosuncn Technology Group Co., Ltd.

6F, 2819 KaiChuang Blvd., Science Town, Huangpu District, Guangzhou City, Guangdong, China.

1.3 Feature of Equipment Under Test

Product Feature	
Equipment	LTE Module
Brand Name	GOSUNCN
Model Name	GM500-U1G
FCC ID	2APNR-GM500U1G1
IMEI Code	Radiation: 863175050000963
HW Version	GM500-U1G.H01
SW Version	GM500U1GV1.0B01
EUT Stage	Identical Prototype

Remark: The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

1.4 Product Specification of Equipment Under Test

Product Specification subjective to this standard	
Tx Frequency	LTE Band 26 : 814 MHz ~ 824 MHz
Rx Frequency	LTE Band 26 : 859 MHz ~ 869 MHz
Bandwidth	LTE Band 26 : 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz
Antenna Type	Fixed External Antenna
Type of Modulation	QPSK / 16QAM / 64QAM (Downlink only)

1.5 Modification of EUT

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

1.6 Testing Site

Sporton International Inc. (Shenzhen) is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.01.

Test Firm	Sporton International Inc. (Shenzhen)		
Test Site Location	1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan, Shenzhen, 518055 People's Republic of China TEL: +86-755-86379589 FAX: +86-755-86379595		
Test Site No.	Sporton Site No.	FCC Designation No.	FCC Test Firm Registration No.
	TH01-SZ	CN1256	421272

Test Firm	Sporton International Inc. (Shenzhen)		
Test Site Location	101, 1st Floor, Block B, Building 1, No. 2, Tengfeng 4th Road, Fenghuang Community, Fuyong Street, Baoan District, Shenzhen City Guangdong Province China 518103 TEL: +86-755-33202398		
Test Site No.	Sporton Site No.	FCC Designation No.	FCC Test Firm Registration No.
	03CH01-SZ	CN1256	421272

1.7 Test Software

Item	Site	Manufacturer	Name	Version
1.	03CH01-SZ	AUDIX	E3	6.2009-8-24

1.8 Applied Standards

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

- ♦ 47 CFR Part 2, 90(S)
- ♦ ANSI C63.26-2015
- ♦ FCC KDB 971168 D01 Power Meas. License Digital Systems v03r01
- ♦ FCC KDB 971168 D02 Misc Rev Approv License Devices v02r01

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.



2 Re-use of Measured Data

2.1 Introduction Section

This application re-uses data collected on a similar device. The subject device of this application (Model: GM500-U1G, FCC ID: 2APNR-GM500U1G1) is electrically identical to the reference device (Model: GM500-U1G_A, FCC ID: 2APNR-GM500U1G) for the portions of the circuitry corresponding to the data being re-used. Based on their similarity, the FCC Part 90S for LTE Band 26 (equipment class: PCB) reuse the original model's result and do spot-check, following the FCC KDB 484596 D01 v01.

The applicant takes full responsibility that the test data as referenced in this report represent compliance for this FCC ID: 2APNR-GM500U1G1

2.2 Model Difference Information

The **main** difference between FCC ID: 2APNR-GM500U1G and FCC ID: 2APNR-GM500U1G1 is as below:

- Add WCDMA band IV and LTE band 66.

The details of above information can be found in the confidential documents (GM500-U1G_Operational Description of Product Equality Declaration).

2.3 Reference detail Section:

Rule Part	Equipment Class	Frequency Band	Reference FCC ID (Parent)	Reference Title	Report Title/Section
90S	PCB	Band 26	2APNR-GM500U1G	FW0D0333	All sections applicable



2.4 Spot Check Verification Data Section

Conducted power and radiated spurious emission test against the variant model based on the worst-case condition from the original model was performed in this filing to demonstrate the test data from original model remains representative for the variant model

Summary for power and RSE spot check for each rule entry and technology is listed as below:

Test Item	Mode	2APNR-GM500U1G (Parent) Worst Result	2APNR-GM500U1G1 (Variant) Check Result	Difference (dB)
Conducted Power (dBm)	LTE Band 26	22.58	22.57	0.01
Radiated Spurious Emission(dBm)	LTE Band 26	-40.70	-29.79	10.91

Conclusion:

Radiated spurious emission test against the variant model based on the worst-case condition from the original model was performed in this filing to demonstrate the test data from original model remains representative for the variant model.

Based on the spot check test result, the test data from the original model is representative for the variant model. The power level and RSE spot check are shown within expected level compliant to limit line.

We confirm that the test data reuse policy of FCC KDB 484596 D01 Referencing Test Data v01 has been followed and the test data as referenced from the parent model report represents compliance with new FCC ID.



3 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSV40	101078	10Hz~40GHz	Apr. 07, 2022	Aug. 23, 2022	Apr. 06, 2023	Conducted (TH01-SZ)
Power Divider	TOJOIN	PS-2SM-04 265	60.06.020.007 7	0.4GHz~26.5GHz	Dec. 25, 2021	Aug. 23, 2022	Dec. 24, 2022	Conducted (TH01-SZ)
EMI Test Receiver&SA	Agilent	N9038A	MY52260185	20Hz~26.5GHz	Dec. 27, 2021	Aug. 23, 2022	Dec. 26, 2022	Radiation (03CH01-SZ)
Loop Antenna	R&S	HFH2-Z2	100354	9kHz~30MHz	Jun. 21, 2022	Aug. 23, 2022	Jun. 20, 2023	Radiation (03CH01-SZ)
HF Amplifier	KEYSIGHT	83017A	MY53270105	0.5GHz~26.5GHz	Oct. 22, 2021	Aug. 23, 2022	Oct. 21, 2022	Radiation (03CH01-SZ)
Bilog Antenna	TeseQ	CBL6112D	35407	30MHz-2GHz	Sep. 28, 2021	Aug. 23, 2022	Sep. 27, 2022	Radiation (03CH01-SZ)
Double Ridge Horn Antenna	SCHWARZBECK	BBHA9120D	9120D-1474	1GHz~18GHz	Jul. 07, 2022	Aug. 23, 2022	Jul. 06, 2023	Radiation (03CH01-SZ)
SHF-EHF Horn	com-power	AH-840	101071	18GHz-40GHz	Apr. 10, 2022	Aug. 23, 2022	Apr. 09, 2023	Radiation (03CH01-SZ)
LF Amplifier	Burgeon	BPA-530	102209	0.01~3000Mhz	Apr. 06, 2022	Aug. 23, 2022	Apr. 05, 2023	Radiation (03CH01-SZ)
HF Amplifier	MITEQ	AMF-7D-00 101800-30-1 0P-R	1943528	1GHz~18GHz	Oct. 22, 2021	Aug. 23, 2022	Oct. 21, 2022	Radiation (03CH01-SZ)
HF Amplifier	MITEQ	TTA1840-35 -HG	1871923	18GHz~40GHz	Jul. 06, 2022	Aug. 23, 2022	Jul. 05, 2023	Radiation (03CH01-SZ)
AC Power Source	Chroma	61601	616010001985	N/A	NCR	Aug. 23, 2022	NCR	Radiation (03CH01-SZ)
Turn Table	EM	EM1000	N/A	0~360 degree	NCR	Aug. 23, 2022	NCR	Radiation (03CH01-SZ)
Antenna Mast	EM	EM1000	N/A	1 m~4 m	NCR	Aug. 23, 2022	NCR	Radiation (03CH01-SZ)

NCR: No Calibration Required



4 Uncertainty of Evaluation

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI 63.26-2015. All the measurement uncertainty value were shown with a coverage $K=2$ to indicate 95% level of confidence. The measurement data show herein meets or exceeds the CISPR measurement uncertainty values specified in CISPR 16-4-2 and can be compared directly to specified limit to determine compliance.

Uncertainty of Conducted Measurement

Test Item	Uncertainty
Conducted Power	± 1.34 dB

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	2.48dB
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Uncertainty of Radiated Emission Measurement (1000 MHz ~ 18000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	3.53dB
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Uncertainty of Radiated Emission Measurement (18 GHz ~ 40 GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	4.02dB
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Appendix B. Reference Report

Please refer to Sporton report number FW0D0333 which is issued separately.