

FCC TEST REPORT

For

Amplimax

Model Number: EPRL16, EPRL20

FCC ID: 2AZC5-01

Report Number : WT218000512

Test Laboratory : Shenzhen Academy of Metrology and Quality Inspection

Site Location : NETC Building, No.4 Tongfa Rd., Xili, Nanshan, Shenzhen, China

Tel : 0086-755-86928965

Fax : 0086-755-86009898-31396

Web : www.smq.com.cn

E-mail : emcrf@smq.com.cn

TEST REPORT DECLARATION

Applicant : ELSYS EQUIPAMENTOS ELETRONICOS LTDA
Address : RUA DOUTOR ALCIDES GOMES MIRANDA, 251 Valinhos
SP 13277-220 Brazil
Manufacturer : ELSYS EQUIPAMENTOS ELETRONICOS LTDA
Address : RUA DOUTOR ALCIDES GOMES MIRANDA, 251 Valinhos
SP 13277-220 Brazil
EUT Description : Amplimax
Model No : EPRL16, EPRL20
Trade mark : ELSYS
FCC ID : 2AZC5-01

Test Standards:

FCC Part 2.1091 (2019)

The EUT described above is tested by Shenzhen Academy of Metrology and Quality Inspection EMC Laboratory to determine the maximum emissions from the EUT. Shenzhen Academy of Metrology and Quality Inspection EMC Laboratory is assumed full responsibility for the accuracy of the test results.

The test report is valid for above tested sample only and shall not be reproduced in part without written approval of the laboratory.

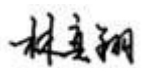
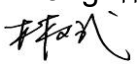
Project Engineer:	 (Zhou li 周立)	Date:	Apr.30,2021
Checked by:	 (Lin Yi Xiang 林奕翔)	Date:	Apr.30,2021
Approved by:	 (Lin Bin 林斌)	Date:	Apr.30,2021

TABLE OF CONTENTS

TEST REPORT DECLARATION.....	2
1. TEST RESULTS SUMMARY.....	4
2. GENERAL INFORMATION.....	5
2.1. Report information.....	5
2.2. Laboratory Accreditation and Relationship to Customer.....	5
3. PRODUCT DESCRIPTION.....	6
3.1. EUT Description.....	6
4. RF EXPOSURE.....	7
4.1. LIMIT FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE).....	7
4.2. MPE Calculation Method.....	7
4.3. CALCULATED RESULT.....	8

1. TEST RESULTS SUMMARY

Table 1 Test Results Summary

Test Items	Test Results
RF Exposure	Pass

2. GENERAL INFORMATION

2.1. Report information

This report is not a certificate of quality; it only applies to the sample of the specific product/equipment given at the time of its testing. The results are not used to indicate or imply that they are application to the similar items. In addition, such results must not be used to indicate or imply that SMQ approves recommends or endorses the manufacture, supplier or use of such product/equipment, or that SMQ in any way guarantees the later performance of the product/equipment.

The sample/s mentioned in this report is/are supplied by Applicant, SMQ therefore assumes no responsibility for the accuracy of information on the brand name, model number, origin of manufacture or any information supplied.

Additional copies of the report are available to the Applicant at an additional fee. No third part can obtain a copy of this report through SMQ, unless the applicant has authorized SMQ in writing to do so.

The lab will not be liable for any loss or damage resulting for false, inaccurate, inappropriate or incomplete product information provided by the applicant/manufacturer.

2.2. Laboratory Accreditation and Relationship to Customer

The testing report were performed by the Shenzhen Academy of Metrology and quality Inspection EMC Laboratory (Guangdong EMC compliance testing center), in their facilities located at NETC Building, No.4 Tongfa Rd., Xili, Nanshan, Shenzhen, China. At the time of testing, Laboratory is accredited by the following organizations:

China National Accreditation Service for Conformity Assessment (CNAS) accredits the Laboratory for conformance to FCC standards, EMC international standards and EN standards. The Registration Number is CNAS L0579.

The Laboratory is Accredited Testing Laboratory of FCC with Designation number CN1165 and Site registration number 582918.

The Laboratory is registered to perform emission tests with Innovation, Science and Economic Development (ISED), and the registration number is 11177A.

The Laboratory is registered to perform emission tests with VCCI, and the registration number are C-20048, G20076, R-20077, R-20078 and T-20047.

The Laboratory is Accredited Testing Laboratory of American Association for Laboratory Accreditation (A2LA) and certificate number is 3292.01.

3. PRODUCT DESCRIPTION

3.1.EUT Description

Table 2 Specification of the Equipment under Test

Product Type:	Amplimax
Hardware Version:	02
Software Version :	1.7.1.1
FCC ID:	2AZC5-01
Frequency:	WCDMA 850: TX 824MHz~849MHz RX 869MHz~894MHz WCDMA 1700: TX: 1710MHz~1755MHz RX 2110MHz~2155MHz WCDMA 1900: TX 1850MHz~1910MHz RX 1930MHz~1990MHz LTE Band 2: TX 1850MHz~1910MHz RX 1930MHz~1990MHz LTE Band 4: TX: 1710MHz~1755MHz RX 2110MHz~2155MHz LTE Band 5: TX 824MHz~849MHz RX 869MHz~894MHz LTE Band 12: TX 699MHz ~ 716MHz RX 729 ~ 746MHz LTE Band 13: TX 777MHz ~ 787MHz RX 746~ 756MHz LTE Band 14: TX 788MHz ~ 798MHz RX 758~ 768MHz LTE Band 66: TX:1710MHz~1780MHz RX 2110MHz~2200MHz LTE Band 71: TX:663MHz~698MHz RX 617MHz~652MHz
Type(s) of Modulation:	WCDMA:QPSK LTE:QPSK, 16QAM
Antenna Type:	WCDMA/LTE: Internal antenna
Operating voltage:	DC11.4V (Low)/DC12~24V (Nominal)/ DC25.2V (Max)
Remark: All models are identical except that EPRL 16 does not have the voice feature and components related to the voice feature. Unless otherwise specified, the model EPRL 20 was chosen as representative model to perform all the tests.	

4. RF EXPOSURE

4.1.LIMIT FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

This product can be classified as mobile device, so the 20cm separation distance warning is required. In this section, the power density at 20cm location is calculated to examine if it is lower than the limit.

(B) Limits for General Population/Uncontrolled Exposure				
Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm ²)	Averaging Time (minutes)
0.3–1.34	614	1.63	*(100)	30
1.34–30	824/f	2.19/f	*(180/f)	30
30–300	27.5	0.073	0.2	30
300–1500	/	/	ƒ/1500	30
1500–100,000	/	/	1.0	30

4.2.MPE Calculation Method

Power Density: $Pd(mW/cm^2) = P \cdot G / 4\pi d^2$

P=Peak RF output power (mW)

G=EUT Antenna numeric gain (numeric)

Pi=3.14

d=Separation distance between radiator and human body (cm)

4.3.CALCULATED RESULT

Band	Maximum Conducted Output Power (dBm)	MAX. antenna gain (dBi)	PG		Test Result (mW/cm ²)	Limit Value (mW/cm ²)	Conclusion
			(dBm)	(mW)			
WCDMA II	23.19	8.67	31.86	1534.6	0.305	1.00	Pass
WCDMA IV	23.46	6.65	30.11	1025.7	0.204	1.00	Pass
WCDMA V	23.69	5.66	29.35	861.0	0.171	0.55	Pass
LTE Band 2	23.29	8.67	31.96	1570.4	0.312	1.00	Pass
LTE Band 4	23.33	6.65	29.98	995.4	0.198	1.00	Pass
LTE Band 5	24.19	5.66	29.85	966.1	0.192	0.55	Pass
LTE Band 12	23.74	5.62	29.36	863.0	0.171	0.47	Pass
LTE Band 13	23.85	5.28	29.13	818.5	0.163	0.52	Pass
LTE Band 14	23.88	5.28	29.16	824.1	0.164	0.53	Pass
LTE Band 66	23.82	6.65	30.47	1114.3	0.222	1.00	Pass
LTE Band 71	23.47	4.00	27.47	558.5	0.111	0.45	Pass
Note: R=20cm Pi=3.14							

-----END-----