

Report No.: SZEM200500368502 Page: 1 of 20

## TEST REPORT

Application No.:	SZEM2005003685CR			
Applicant:	Zhengzhou F-wheel Industrial Co., Ltd			
Address of Applicant:	Zhengzhou City Lianyun Road 27 District No.123 Huanghe Science and Technology College Science and Technology Park (South) B			
Manufacturer:	Shenzhen Counterbalance Technology Co., Ltd			
Address of Manufacturer:	Room1503, Jia'anda Building, No.110, Huafan Road, Tongsheng Community, Dalang Street, Longhua District, Shenzhen, Guangdong Province, China			
Factory:	1.Komda Industrial(Dongguan)., LTD 2.HUIZHOU XIDESHENG BICYCLE CO., LTD			
Address of Factory:	1.Room101, No. 105 Pingshan Industrial Ave., Tangxia Dongguan, Guangdong, P.R.China			
	2.NO.3 QIUCHANG NORTH ROAD, LINGHU VILLA HUIZHOU, GUANGDONG 516000 CHINA			
<b>Equipment Under Test (EUT)</b>	:			
EUT Name:	Smart E Scooter, Smart E Bike			
Model No.:	BOLT, JBolt, JBolt-BLK, D1F, D1, B1, B2			
*	Please refer to section 2 of this report which indicates which model was actually tested and which were electrically identical.			
Trade Mark:	Jetson, DYU			
Standard(s) :	EN 301 489-1 V2.2.3			
	Draft EN 301 489-17 V3.2.2			
Date of Receipt:	2017-09-16(for original report SZEM170900964504)			
Date of Test:	2017-09-19 to 2017-10-13(for original report SZEM170900964504)			
Date of Issue:	2017-10-25(for original report SZEM170900964504)			
	2019-07-19(for report SZEM190701586306)			
	2020-05-13(for new report SZEM200500368502)			
Test Result:	Pass*			

\* In the configuration tested, the EUT complied with the standards specified above.

The CE mark as shown below can be used, under the responsibility of the manufacturer, after completion of an EU Declaration of Conformity and compliance with all relevant EU Directives.

Keny. Ku

Keny Xu EMC Laboratory Manager



Unless otherwise agreed in writing, this document is langed by the Company subject to the General Conditions of Service printed method, available on recurst or accessible at the linear aga portion Terms and Conditions allows and, for electronic format documents, unless its Terms and Conditions for Electronic Bocuments of the linear terms and Conditions allows and, for electronic format documents, available its Terms and Conditions for Electronic Bocuments of the linear spin control and the second aga Attendor is drawn to the tertainties of labeling independent and the states defined Terms and Conditions (the linear aga advect that information contained herein the Company's Independent of the states were used of the states and with the tertainties of the states of the states and with the terms of Diserts instructions, if any. The Company's sole responsibility in to the Cleant and this document, down and with the terms of encaded in fund, where prior written approved of the Company's Independent of a states of the states of the states and with the terms of scope in fusi, where prior written approved of the Company and the time of the states of the states



Ko.1 Workshop, M-12, Midde Seellon, Science & Technology Park, Shenchen, China 5180557 1 (36-755):28012053 1 (36-755):28710594 www.agsgmoup.com.ch 中国・課題・詳細語の上の種一種「酒」 修繕: 5180557 1 (36-755):28012053 1 (36-755):28710594 spin.china@ags.com



Report No.: SZEM200500368502 Page: 2 of 20

Revision Record						
Version Chapter Date Modifier Ren						
01	2020-05-13			Original		

Authorized for issue by:		
	Bive chen	
	Bill Chen /Project Engineer	
	Evic Fu	
	Eric Fu /Reviewer	



Unless atherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Bervice privide overhalf, enablish on nequest or accessible at <u>http://www.eps.com/en/Terms.and-Conditions.and</u>, for electronic formal documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.eps.com/en/Terms.and-Conditions.Te</u>

No.1 Winnering, U-Ti, Mathe Sackin, Sovera & Tachvelog Peri, Dieszten, Chira, 518057 (0年-755) 280702053 1 (86-755) 28710594 www.spagroup.com.cn 中国・県坦・科技資中区M-10様一号厂房 約第: 518057 1 (86-755) 280702053 1 (86-755) 28710594 agn.chira@agn.com



Report No.: SZEM200500368502 Page: 3 of 20

## 2 Test Summary

Emission Part					
Item	Standard	Method	Requirement	Result	
Radiated Emissions (30MHz-1GHz)	EN 301 489-1 V2.2.3 Draft EN 301 489-17 V3.2.2	EN 55032:2015	Class B	Pass	

Immunity Part						
Item	Standard	Method	Requirement	Result		
Electrostatic Discharge	EN 301 489-1 V2.2.3 Draft EN 301 489-17	EN 61000-4-2:2009	4kV Contact Discharge 8kV Air Discharge	Pass		
Radiated Immunity (80MHz-6GHz)	V3.2.2	EN 61000-4-3:2006 +A1:2008+A2:2010	3V/m, 80%, 1kHz Amp. Mod.	Pass		

#### Remark for the report SZEM190701586306:

Original model No. in report SZEM170900964504: D1

The model D1 was only tested in report SZEM170900964504

New model No. in report SZEM190701586306: BOLT, JBolt, JBolt-BLK, D1F, D1

This report was an additional report copied from the report SZEM170900964504, just added the trade mark and the factory, changed the address of applicant and manufacturer, changed the product name and model No.. Since the electrical circuit design, layout, components used and internal wiring for the models in this report were exactly the same as the model in the original report SZEM170900964504, with only difference on frame material.

Therefore original data were kept in this report.



Unless atherwise agreed in writing, this document is instand by the Company subject to its General Conditions of Bencice privated overheat, evaluation on request or accessible at http://www.ags.com/en/Terms.and/Conditions.app.and, for alectionic former documents, subject to Terms and Conditions for Electronic Documents at http://www.ags.com/en/Terms.and/Conditions.form.and/Conditions.former/Conditions.f

No. 1 Alexandre, M-12, Matche Saction, Science & Technology Perk, Diversitien, China, 5180.057 (1)(86–755) 28073053 (1)(86–755) 28710554 www.squagroup.com.or 中国・実現・純投資中区M-10橋一号厂房 起線: 5180.57 1 (86–755) 28073053 (1)(86–755) 28710554 squachtive@age.com



Report No.: SZEM200500368502 Page: 4 of 20

#### Remark for the report SZEM200500368502:

New model No. in report SZEM200500368502: BOLT, JBolt, JBolt-BLK, D1F, D1, B1, B2

This report was an additional report copied from the report SZEM190701586306, just changed the information of applicant, factory and model No.. Since the electrical circuit design, layout, components used and internal wiring for the models in this report were exactly the same as the models in the original report SZEM190701586306, with only difference on trade mark and model No..

Additionally, just updated the below standards.

Original report standard	The newest report standard
EN 301 489-1 V2.1.1	EN 301 489-1 V2.2.3
EN 301 489-17 V3.1.1	Draft EN 301 489-17 V3.2.2

Reviewed the updated standards, all the technical requirements for the EUT are identical between the original and the newest standards' version.

Therefore original data were kept in this report SZEM200500368502.



Unless atherwise agreed in writing, this document is unused by the Company subject to its General Conditions of Berrice privide overleaf, any unlesse or request or accountible at this reversing, com/en/ Terms-and-Conditions and, for releasing to comment, and a conditions of the second documents, and be an and the second documents at http://www.ags.com/en/ Terms-and-Conditions/Terms-a-Document age. Attention is there no the Imitalian of Factive, indemnification and unlessing accounting Terms-and-Conditions/Terms-and-Document age. Attention is there no the Imitalian of Factive, indemnification and unlessing active the second therein. Any holder of the Intervention age, advised that indevesting all there is related to the Company's findings at the firm of its Intervention expression of the Intervention and contents to a transmitter of the Intervention and contents to a transmitter of the Intervention and the Intervention and the Intervention and the Intervention and the Intervention of the Intervention and the Intervention of the Intervention and Intervention and the Intervention and Intervention and Intervention and Intervention and the Intervention and the Intervention and the Intervention and the Intervention and Intervention and Intervention and Intervention and Intervention and Intervention and Interventing and Intervention and Intervention and I

No. 1 Westering, M-12, Matter Saction, Science & Technology Perk, Diversitien, China, 5180057 (1)(86–755) 280702053 1 (86–755) 28710554 www.squagroup.com.or 中国・実知・科技論中区M-10橋一号厂湾 創業: 518057 1 (86–755) 280702053 1 (86–755) 28710554 squachive/Jings.com



Report No.: SZEM200500368502 Page: 5 of 20

## 3 Contents

		Page
1	COVER PAGE	1
2	TEST SUMMARY	3
3	CONTENTS	5
4	GENERAL INFORMATION	6
	4.1 DETAILS OF E.U.T.	6
	4.2 DESCRIPTION OF SUPPORT UNITS	6
	4.3 MEASUREMENT UNCERTAINTY	6
	4.4 TEST LOCATION	/ 7
	4.6 DEVIATION FROM STANDARDS	
	4.7 ABNORMALITIES FROM STANDARD CONDITIONS	7
	4.8 MONITORING OF EUT FOR ALL IMMUNITY TEST	7
5	EQUIPMENT LIST	8
6		10
0		
	6.1 RADIATED EMISSIONS (30MHz-1GHz)	
	6.1.1 E.U.I. Operation	10 10
	6.1.2 Neasurement Data	
7	IMMUNITY TEST RESULTS	14
	7.1 PERFORMANCE CRITERIA DESCRIPTION IN EN 301 489-1 V2 2 3	14
	<ul> <li>7.2 PERFORMANCE CRITERIA DESCRIPTION IN DRAFT EN 301 489-17 V3.2.2.</li> </ul>	
	7.3 ELECTROSTATIC DISCHARGE	17
	7.3.1 Test Setup Diagram	17
	7.3.2 E.U.T. Operation	
	7.4.1 Test Setun Diagram	
	7.4.2 E.U.T. Operation	
	7.4.3 Test Results:	18
8	PHOTOGRAPHS	19
	8.1 RADIATED EMISSIONS (30MHz-1GHz) TEST SETUP	19
	8.2 ELECTROSTATIC DISCHARGE TEST SETUP	19
	8.3 RADIATED IMMUNITY (80MHz-6GHz) TEST SETUP	20
	8.4 EUT CONSTRUCTIONAL DETAILS	20



Unless atterwise agreed in writing, this document is issued by the Company subject to its General Conditions of Berrice printed serviced, evaluation on necessities of <u>http://www.gas.com/ar/Terms.and-Conditions.ang</u>o.and, for electronic former documents, subject to Terms and Conditions for Electronic Documents at http://www.gas.com/ar/Terms.and-Conditions/Terms.do-Conditions/Terms.ang. Athencion is strawn to the Issued to a factority, indemnification and jurisdiction issues defined therein. Any holister of the Society and writin the limits of Charts instructions, in a statistic, indemnifications and jurisdiction issues defined therein. Any holister of the Society and writin the limits of Charts instructions, if any. The Company's such responsibility is to its Chart and this thockment does not owner the limits of transaction from exercising all their rights and obligatores under the Interestion, forget y or failefordian of the context of approach the transaction from exercising of the Company's Any memberized alternation, forget or failed and the limit to approach its document is universal and offendem may be provected to the failent extend of a subject of the law. Unless otherwise stated the results there and its interesting only in the antipies and offendem may be provected to the failent extend of a dark of the law. How any of the latter only is the approach in this take insport writing and offendem may be provected to the failent extend of a dark of 30 days only.

No.1 Winnering, U-Ti, Mathe Sackin, Sovera & Tachvelog Peri, Dieszten, Chira, 518057 (0年-755) 280702053 1 (86-755) 28710594 www.spagroup.com.cn 中国・県坦・科技資中区M-10様一号厂房 約第: 518057 1 (86-755) 280702053 1 (86-755) 28710594 agn.chira@agn.com



Report No.: SZEM200500368502 Page: 6 of 20

## 4 General Information

### 4.1 Details of E.U.T.

Power supply:	Li-ion power battery pack:
	Model: HA103
	Voltage: 36V
	Capacity: 10.4Ah
	Power: 374.4Wh
	Limited charging voltage: 42V
The highest working frequency	32MHz
(except RF modulator):	

### 4.2 Description of Support Units

Description	Description Manufacturer		Serial No.	
iPhone 4	Apple	A1349	C37HL4GXDP0N	

### 4.3 Measurement Uncertainty

No.	Item         Measurement Uncertainty		
1	Radiated emission	± 4.5dB (30MHz-1GHz)	
2	Radiated Immunity	± 1.64dB	
3	ESD	±6%	
4	Temperature test	± 1°C	
5	Humidity test	± 3%	



Unless otherwise agreed in writing. This document is maked by the Company subject to its General Conditions of Service printed overlast, availation on request or accessible at <u>this frawn, age converting Terms and Conditions</u>, ages and, for alectronic forms documenta, subject to Terms and Conditions for Electronic Decomations at <u>this (www.age.commin.Conditions.Conditions.Portug</u>), <u>Advention</u>, <u>Advention</u>, <u>and</u>, <u>a</u>

No. 1 Westering, M-15, Mattie Saction, Science & Technology Part, Directive, China 518057 1 (96–755) 280712053 1 (96–755) 28710594 www.spagroup.com.cn 中国・実知・科技論中区M-10様一号厂液 商業編: 518057 1 (96–755) 280712054 1 (96–755) 28710594 age.com



Report No.: SZEM200500368502 Page: 7 of 20

### 4.4 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen Branch

No. 1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, Guangdong, China. 518057.

Tel: +86 755 2601 2053 Fax: +86 755 2671 0594

No tests were sub-contracted.

#### 4.5 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

#### A2LA (Certificate No. 3816.01)

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 3816.01.

#### • VCCI

The 3m Fully-anechoic chamber for above 1GHz, 10m Semi-anechoic chamber for below 1GHz, Shielded Room for Mains Port Conducted Interference Measurement and Telecommunication Port Conducted Interference Measurement of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-20026, R-14188, C-12383 and T-11153 respectively.

#### • FCC – Designation Number: CN1178

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized as an accredited testing laboratory.

Designation Number: CN1178. Test Firm Registration Number: 406779.

#### Innovation, Science and Economic Development Canada

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized by ISED as an accredited testing laboratory.

CAB identifier: CN0006.

IC#: 4620C.

#### 4.6 Deviation from Standards

None

### 4.7 Abnormalities from Standard Conditions

None

### 4.8 Monitoring of EUT for All Immunity Test

Visual: Monitored the light and movement and Receiver and transmitter of the EUT Audio: None



Unless attempte agreed in writing, the document is insued by the Company subject to its General Conditions of Beroce private overland, multiante on request or accumulate at this river, and conjectiment and Songhinn along and, for electronic format documents, subject to Terms and Conditions for Electronic Decomponent at http://www.gas.com/ent/ferms-add-Conditions/Terms-e-Document.aspr. Attemption is stream to the limitation of Labeling, indexcripted/son and purchased to the terms of the intervention of the terms and/seed that informations and indexing, indexcripted/son and purchased to the terms of the intervention and your terms and/seed that informations containing and reading to the Company's findings to the terms of the intervention and your terms and/seed that informations containing at their subsective terms of the intervention and your terms and/seed that informations containing at their subsective terms of the intervention and your terms of the intervention of the strength of the Company's findings of the intervention and your terms of the interventions of control interventions of the strength of the Company's findings of the intervention of the interventions of the intervention of the terms of the company. Any unauffortune downmands, This document interventions of expension find and priori writing and offendame may be preventioned of the findings of the labor appresence of this document is unaveliated and offendame may be preventioned of the labor appresence of this document is unaveliated of the Company and unaveliated at the amplitude of the labor of the labor of the interventions of the interventions. This document is attempted and offendame may be prevented at the associated of the labor of the intervention of the interventions of the labor of the interventions of the labor of the intervention of the in

Na. 1 Australia, M-12, Matter Saction, Science & Technology Perk, Diversitive, China. 518057 1 (186–755) 28070255 1 (186–755) 28710554 www.apagroup.com.on 中国・実知・科技論中区M-10橋一号厂商 献編: 518057 1 (186–755) 28070265 1 (186–755) 28710554 apa.china@apa.com



Report No.: SZEM200500368502 Page: 8 of 20

## 5 Equipment List

Radiated Emissions (30MHz-1GHz)						
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date	
3m Semi-Anechoic Chamber	ETS-LINDGREN	N/A	SEM001-01	2017-08-05	2020-08-04	
Measurement Software	AUDIX	e3 V8.2014-6- 27	N/A	N/A	N/A	
Coaxial Cable	SGS	N/A	SEM025-01	2017-07-13	2018-07-12	
EMI Test Receiver	Agilent Technologies	N9038A	SEM004-05	2017-09-27	2018-09-26	
BiConiLog Antenna (26-3000MHz)	ETS-LINDGREN	3142C	SEM003-01	2017-06-27	2020-06-26	
Pre-amplifier (0.1-1300MHz)	Agilent Technologies	8447D	SEM005-01	2017-04-14	2018-04-13	

Electrostatic Discharge					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
ESD Ground Plane	SGS(3m*3m)	N/A	SEN006-01	N/A	N/A
ESD Generator	TESEQ AG	NSG 437	SEM019-02	2017-06-08	2018-06-07

Radiated Immunity (80MHz-6GHz)						
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date	
Fully-Anechoic Chamber 2	Chang Zhou Zhong Shuo	854	SEM001-05	2015-05-13	2018-05-12	
Measurement Software	Rohde & Schwarz	EMC32 V9.25.00	N/A	N/A	N/A	
Signal Generator	Rohde & Schwarz	SMB100A	SEM006-11	2017-04-14	2018-04-13	
Broadband Amplifier (80MHz-1GHz)	Rohde & Schwarz	BBA150- BC250	SEM005-12	2017-09-27	2018-09-26	
Broadband Amplifier (800MHz-3GHz)	Rohde & Schwarz	BBA150	EMC2092	2017-01-20	2018-01-19	
Broadband Amplifier (2.5GHz-6GHz)	Rohde & Schwarz	BBA150-E60	SEM005-16	2017-07-17	2018-07-16	
Power Sensor	Rohde & Schwarz	NRP-Z91	SEM009-09	2017-04-14	2018-04-13	
Power Sensor	Rohde & Schwarz	NRP-Z91	SEM009-08	2017-04-14	2018-04-13	
Stacked LogPer Broadband Antenna (70MHz-10GHz)	Schwarzbeck	STLP 9129	SEM003-25	N/A	N/A	
Universal Radio Communication Tester	Rohde & Schwarz	CMU 200	SEM010-01	2017-09-27	2018-09-26	



Unless atterretes agreed in writing, this document is issued by the Company subject to its General Conditions of Bervice private previous and the second se

No.1 Winnerey, M-To. Matter Sectors, Sovera & Technology Pert, Diescher, China 518057 1 (186–755) 28573050 1 (186–755) 28710594 www.spagroup.com.cn 中国・尾北・科技術中区M-10種一号厂商 約4歳: 518057 1 (186–755) 28710594 agn.chine@agn.com



Report No.: SZEM200500368502 Page: 9 of 20

Universal Radio Communication Tester	Rohde & Schwarz	CMW 500	SEM010-03	2017-04-14	2018-04-13
Conditioning Amplifier	Brüel & Kjaer	2690-OS2	SEM005-10	2017-06-19	2018-06-18
Mouth Simulator	Brüel & Kjaer	4227	SEM017-01	2017-04-21	2018-04-20
Signal Source	Brüel & Kjaer	4231	SEM017-02	2017-06-19	2018-06-18
Audio Analyzer	Rohde & Schwarz	UPV	SEM008-03	2017-09-27	2018-09-26

General used equipment					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
Humidity/ Temperature Indicator	Shanghai Meteorological Industry Factory	ZJ1-2B	SEM002-03	2017-09-29	2018-09-28
Humidity/ Temperature Indicator	Shanghai Meteorological Industry Factory	ZJ1-2B	SEM002-04	2017-09-29	2018-09-28
Humidity/ Temperature Indicator	Mingle	N/A	SEM002-08	2017-09-29	2018-09-28
Barometer	Changchun Meteorological Industry Factory	DYM3	SEM002-01	2017-04-18	2018-04-17



Unless atherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Bervice privide overlaaf, evaluatie on request or accessible at <u>Dito Hwww.eps.com/en/Terms.and-Conditions.app</u> and, for electronic formed documents, subject is. Terms and Conditions for Electronic Documents at <u>Information Conditions.Conditions.Terms.and</u> Conditions/Terms.and Athendon is of the Installant of Tablet, indeeroffication and <u>private the tare of the Internetion orly and write the Document approximation</u> advected that information of Tablety, indeeroffication and <u>private the tare of the Internetion orly and write the Document approximation</u> advected that information contained between reflects the Company's findings of the tare of the Internetion orly and write the Internet of Charles' introduces, if and the Company's subject to the Contained on the Internetion orly and write the Internet document approximation of the Internetion of the Company's findings of the Internetion, forget document approximation transaction from exercising at their rights and obligations under the transaction documents. The document accesses to the tochter or appresentation of the document is unlawful and offenders may be provedued to the first for the Understored of the Internetion, forget or Internetion, forget or Internetion, the termination, the Internetion of the Internetion of appresence of this document is unlawful and offenders may be provedued to the first for the Understored of the Internetion, forget or Internetion, forget or Internetion, forget or Internetion of the Internetion of the Internetion of the Internetion, forget or Internetion of the Inte

No.1 Winnering, U-Ti, Mathe Sackin, Sovera & Tachvelog Peri, Dieszten, Chira, 518057 (0年-755) 280702053 1 (86-755) 28710594 www.spagroup.com.cn 中国・県坦・科技資中区M-10様一号厂房 約第: 518057 1 (86-755) 280702053 1 (86-755) 28710594 agn.chira@agn.com



Report No.: SZEM200500368502 Page: 10 of 20

## 6 Emission Test Results

### 6.1 Radiated Emissions (30MHz-1GHz)

Test Requirement:	EN 301 489-1 V2.2.3
	Draft EN 301 489-17 V3.2.2
Test Method:	EN 55032:2015
Frequency Range:	30MHz to 1GHz
Measurement Distance:	3m
Limit:	
30MHz-230MHz	40 dB(μV/m) quasi-peak
230MHz-1GHz	47 dB(μV/m) quasi-peak
Detector:	Peak for pre-scan (120kHz resolution bandwidth) 30M to 1000MHz

### 6.1.1 E.U.T. Operation

**Operating Environment:** 

Temperature:	25	°C	Humidity:	55 % RH	Atmospheric Pressure:	1010	mbar
Pretest these	c:ldl	e_Keep the	EUT standb	by.			
mode to find the worst case:d:Operation(BT)_Pair the device with Smartpho playing.					hone via Bluetooth and k	eep the	e music
The worst case for final test:	d:Op play	peration(BT)	)_Pair the de	evice with Smartp	hone via Bluetooth and k	eep the	e music

#### 6.1.2 Test Setup Diagram





Unless atherwise agreed in writing, this document is insuled by the Company subject to its General Conditions of Benice privited overleaf, available on request or accessible all http://www.pix.com/artTerms.and.Conditions.ang.and. for electronic forms documents, subject to ferms and Conditions for Electronic Documents all http://www.pix.com/artTerms.and.Conditions.Forms.ang.Conditions.Forme.ang.Conditions.Forme.ang.Conditions.Forme.ang.Conditions.Forme.ang.Conditions.Forme.ang.Conditions.Forme.ang.Conditions.Forme.ang.Conditions.Forme.ang.Conditions.Forme.ang.Conditions.Forme.ang.Conditions.Forme.ang.Conditions.Forme.Conditions.Forme.Conditions.Forme.Conditions.Forme.Conditions.Forme.Conditions.Forme.Conditions.Forme.Conditions.Forme.Conditions.Forme.Conditions.Forme.Conditions.Forme.Conditions.Forme.Conditions.Forme.Conditions.Forme.Conditions.Forme.Conditions.Forme.Conditions.Forme.Forme.Conditions.Forme.Conditions.Forme.Conditions.Forme.Conditions.Forme.Conditions.Forme.F

No.1 Wentering, M-15, Matter Saction, Science & Technology Pert, Directive, China 518057 1 (166-755) 280712053 1 (166-755) 28710594 www.spagroup.com.cn 中国・実知・料投資中区M-10億一号厂商 配編: 518057 1 (166-755) 280712050 1 (166-755) 28710594 age.com



Report No.: SZEM200500368502 Page: 11 of 20

#### 6.1.3 Measurement Data

An initial pre-scan was performed in the chamber using the spectrum analyser in peak detection mode. Quasi-peak measurements were conducted based on the peak sweep graph. The EUT was measured by BiConiLog antenna with 2 orthogonal polarities.



Unless otherwise agreed in writing. This document is maked by the Company subject to its General Conditions of Berrice printed overheaf, analytic on request or accessible al http://www.egs.com/an/Terms.end/Conditions.ago and, for electronic formed documents, subject to Terms and Conditions for Electronic Decembers al http://www.egs.com/an/Terms.ed/Conditions.ago and, for electronic formed documents, subject to Terms and Conditions for Electronic Decembers al http://www.egs.com/an/Terms.ed/Conditions.ago and, for electronic formed documents, advected that information of ladots, indemnification and jurisdiction insues defined therein. Any holder of this document is advected that information containing in the company's some responsibility is to its Check and that incourses documents and excenter to thereased in this without price written approval of the Company, Ang unsubject and that incourses documents of the incourse interval of the incourse of the incourse of the incourse of the incourse interval of the incourse of

Na: 1 Wentering, M-15, Matche Saction, Science & Technology Part, Diversitier, China, 5180057 1 (166-755) 280712053 1 (166-755) 287110594 www.spageroup.com.um 中国・実知・科技術中区M-10種一号厂商 和4編: 518057 1 (166-755) 280712053 1 (166-755) 287110594 age.com



Report No.: SZEM200500368502 Page: 12 of 20

Mode:d; Polarization:Horizontal



Condition: 3m HORIZONTAL Job No. : 09645MD Test Mode: b

	<b>F</b>	Cable	Ant	Preamp	Read	1	Limit	0ver
	Freq	LOSS	Factor	Factor	rever	rever	Line	Limit
-	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	253.84	1.69	12.38	26.53	40.31	27.85	47.00	-19.15
2 pp	323.32	1.98	14.74	26.58	39.21	29.35	47.00	-17.65
3	352.94	2.07	14.15	26.81	39.93	29.34	47.00	-17.66
4	419.11	2.28	16.38	27.25	34.06	25.47	47.00	-21.53
5	578.67	2.68	19.20	27.57	30.83	25.14	47.00	-21.86
6	912.86	3.61	23.25	26.71	27.98	28.13	47.00	-18.87



Na: 1 Wintering, M-15, Match Saction, Science & Tachweing Perk, Dieszber, Chine, 518057 1 (186–755) 28070255 1 (186–755) 28710594 www.spagroup.com.cn 中国・尾切・料投資中区M-10種一号厂商 約編: 518057 1 (186–755) 280702553 1 (186–755) 28710594 age.com



Report No.: SZEM200500368502 Page: 13 of 20

Mode:d; Polarization:Vertical



Condition: 3m VERTICAL Job No. : 09645MD Test Mode: d

		Cable	Ant	Preamp	Read		Limit	0ver
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit
-	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	118.19	1.25	8.03	27.08	51.55	33.75	40.00	-6.25
2 pp	129.01	1.27	7.72	27.02	52.90	34.87	40.00	-5.13
3	216.02	1.49	11.03	26.64	38.11	23.99	40.00	-16.01
4	282.99	1.83	13.15	26.45	42.17	30.70	47.00	-16.30
5	475.50	2.51	17.80	27.58	31.95	24.68	47.00	-22.32
6	948.76	3.65	23.30	26.54	28.00	28.41	47.00	-18.59



Unless atheretise agreed in writing, this document is issued by the Company subject to its General Conditions of Bervice privited overlaaf, evaluatie on request or accessible at http://www.gas.com/an/Terms-and-Conditions.form - Document as subject to Remma and Conditions for Electronic Bocoments at http://www.gas.com/an/Terms-and-Conditions.form - Document as advised that information or Electronic Bocoments at http://www.gas.com/an/Terms-and-Conditions.form - Document as advised that information became refer bocoments at http://www.gas.com/an/Terms-and-Conditions.form - Document as advised that information became reference to Bocoments at http://www.gas.com/an/Terms-and-Conditions.form - Document as advised that information became reference to Bocoments at http://www.gas.com/an/Terms-and-Conditions.form - Document as advised that information became reference to Bocoments at http://www.gas.com/an/Terms-and-Conditions.form - Document as Cherrics instructions, if any. The Company's sume responsibility is to its Cherrit and the Invite at the Invite at Cherrics instructions, if any. The Company's sume responsibility is to its Cherrit and the Invite and excepter to a terms-action form exercising all their inplant and folgences under the Invite and America Instruction and not be represented encept in full, without prior written appreval of the Company. Any waarthorized alteration, forgery or faisification of the excepter as appearance of this document is unlawful and Offender new tee provided to the full extend alteration.for less convertes stated the results above in this set report refer only to the sample(a) tested and such sample(a) are retained for 30 dava only.

Na.1 Wentering, U-Ta, Matche Saction, Sovera & Tachvening: Peril, Directives, China. 518057 1 (166–755) 280710551 1 (86–755) 28710594 www.spagroup.com.cn 中国・尾北・科技現中区M-10種一号厂房 約編: 518057 1 (166–755) 280710594 age.com



Report No.: SZEM200500368502 Page: 14 of 20

## 7 Immunity Test Results

### 7.1 Performance Criteria Description in EN 301 489-1 V2.2.3

Performance criteria for	During the test, the equipment shall:
continuous phenomena	continue to operate as intended;
	not unintentionally transmit;
	<ul> <li>not unintentionally change its operating state;</li> </ul>
	<ul> <li>not unintentionally change critical stored data.</li> </ul>
Performance criteria for transient phenomena	For all ports and transient phenomena with the exception described below, the following applies:
	<ul> <li>The application of the transient phenomena shall not result in a change of the mode of operation</li> </ul>
	(e.g. unintended transmission) or the loss of critical stored data.
	<ul> <li>After application of the transient phenomena, the equipment shall operate as intended.</li> </ul>
	For surges applied to symmetrically operated wired network ports intended to be connected directly to outdoor lines the
	following criteria applies:
	<ul> <li>For products with only one symmetrical port intended for connection to outdoor lines, loss of function is</li> </ul>
	allowed, provided the function is self-recoverable, or can be otherwise restored. Information stored in
	non-volatile memory, or protected by a battery backup, shall not be lost.
	<ul> <li>For products with more than one symmetrical port intended for connection to outdoor lines, loss of function on</li> </ul>
	the port under test is allowed, provided the function is self-recoverable. Information stored in non-volatile
	memory, or protected by a battery backup, shall not be lost.



Unless otherwise agreed in writing, this document is asseed by the Company appart to its General Conditions of Bervice printed overheaf, analisate on request or accassible al http://www.gas.com/en/Terma-ansi-Conditions.ago, and, for alectorum, format documents, subject in Terma and Conditions for Electronic Documents at http://www.gas.com/en/Terma-ansi-Conditions.ago, and, for alectorum, format documents, activated is a traver to the limitations of liability, indeemfications and unlessed to be addened thereis. Any notable of this focuments as advected in a stream to the limitations of liability, indeemfications and unlessed to be addened thereis. Any notable of this focuments is advised that informations cardinate berear reflects the Company's findings at the time of its intervention only and within its limits of Chemics instructions, if any the right and obligations and unless the termsoftan document form and expenses to a transaction. There exercising all their rights and obligations under the termsoftan document, first document and except in full, without prior written approve of the Company. Any vasuation/ter alteration, forgery or failefication of the stored or expension of this document is an obligations. The company is provided by the full additional attention of the stored or responses. For exercising all there and obligations of the Company, any vasuation/ter alteration, forgery or failefication of the stored or expension of this document is altered and such sample(s) are instand for 20 days only.

Na.1Winnaroy, U-To, Matter Sacton, Soevan & Technology Pert, Dieschen, China. 518057 1 (186–755) 28070255 1 (186–755) 28710594 www.spagroup.com.cn 中国・尾北・科技術中区M-10種一号厂商 約4歳: 518057 1 (186–755) 280702653 1 (186–755) 28710594 agn.china@agn.com



Report No.: SZEM200500368502 Page: 15 of 20

### 7.2 Performance Criteria Description in Draft EN 301 489-17 V3.2.2

Class 1 SRD Equipment						
Criteria	During Test	After Test				
	Shall operate as intended. (see note 1).	Shall operate as intended.				
	Shall be no loss of function.	Shall be no degradation of performance (see note 3).				
Α	Shall be no unintentional transmissions.	Shall be no loss of function.				
		Shall be no loss of stored data or user programmable functions.				
	May show loss of function (one or more).	Functions shall be self-recoverable.				
	May show degradation of performance	Shall operate as intended after recovering.				
В	(see note 2).	Shall be no degradation of performance (see note 3).				
	Shall be no unintentional transmissions.	Shall be no loss of stored data or user programmable functions.				
	May be loss of function (one or more).	Functions shall be recoverable by the operator.				
С		Shall operate as intended after recovering.				
		Shall be no degradation of performance (see note 3).				
<b>Note 1:</b> Operate as intended during the test allows a level of degradation not below a minimum performance level specified by the manufacturer for the use of the apparatus as intended. In some cases the specified minimum performance level may be replaced by a permissible degradation of performance. If the minimum performance level or the permissible performance degradation is not specified by the manufacturer then either of these may be derived from the product description and documentation (including leaflets and advertising) and what the user may reasonably expect from the apparatus if used as intended.						
Note 2:	Degradation of performance during the test is understood as a degradation to a level not below a minimum performance level specified by the manufacturer for the use of the apparatus as intended. In some cases the specified minimum performance level may be replaced by a permissible degradation of performance.					
	If the minimum performance level or the permissible performance degradation is not specified by the manufacturer then either of these may be derived from the product description and documentation (including leaflets and advertising) and what the user may reasonably expect from the apparatus if used as intended.					
Note 3:	3: No degradation of performance after the test is understood as no degradation below a minimum performance level specified by the manufacturer for the use of the apparatus as intended. In some cases the specified minimum performance level may be replaced by a permissible degradation of performance. After the test no change of actual operating data or user retrievable data is allowed.					
	If the minimum performance level or the permissible performance degradation is not specified by the manufacturer then either of these may be derived from the product description and documentation (including leaflets and advertising) and what the user may reasonably expect from the apparatus if used as intended.					
Performar	nce criteria A for immunity tests with phenor	nena of a continuous nature;				
Performar	nce criteria B for immunity tests with phenor	nena of a transient nature;				
Performar	nce criteria C for immunity tests with power	interruptions exceeding a certain time.				



Unless atterwise agreed in writing, this document is issued by the Company appart to its General Conditions of Service privated overlaaf, evaluate on nequest or accessible of <u>Historievan gas</u> content <u>Harmannic Conditions</u> appoint. To electronic formet documents, subject to Terms and Conditions for Electronic Documents at http://www.ags.com/en/Terms.agd.conditions/Terms.agd.conditi

Na.1Winnergy, U-15, Mathe Sactor, Soeva & Technology Peri, Directive, Chira. 518057 1 (86–755) 28070255 1 (86–755) 28710594 www.spagroup.com.cn 中国・尾北・科技術中区M-10種一号厂商 配線: 518057 1 (86–755) 280702653 1 (86–755) 28710594 agn.chira@agn.com



Report No.: SZEM200500368502 Page: 16 of 20

#### Performance criteria for Continuous phenomena applied to Transmitters (CT)

The performance criteria A shall apply.

Tests shall be repeated with the EUT in standby mode (if applicable) to ensure that unintentional transmission does not occur. In systems using acknowledgement signals, it is recognized that an ACKnowledgement (ACK) or Not ACKnowledgement (NACK) transmission may occur, and steps should be taken to ensure that any transmission resulting from the application of the test is correctly interpreted.

#### Performance criteria for Transient phenomena applied to Transmitters (TT)

The performance criteria B shall apply, except for voltage dips of 100 ms and voltage interruptions of 5000 ms duration, for which performance criteria C shall apply.

Tests shall be repeated with the EUT in standby mode (if applicable) to ensure that unintentional transmission does not occur. In systems using acknowledgement signals, it is recognized that an acknowledgement (ACK) or not-acknowledgement (NACK) transmission may occur, and steps should be taken to ensure that any transmission resulting from the application of the test is correctly interpreted.

#### Performance criteria for Continuous phenomena applied to Receivers (CR)

The performance criteria A shall apply.

Where the EUT is a transceiver, under no circumstances, shall the transmitter operate unintentionally during the test. In systems using acknowledgement signals, it is recognized that an ACK or NACK transmission may occur, and steps should be taken to ensure that any transmission resulting from the application of the test is correctly interpreted.

#### Performance criteria for Transient phenomena applied to Receivers (TR)

The performance criteria B shall apply, except for voltage dips of 100 ms and voltage interruptions of 5000 ms duration for which performance criteria C shall apply.

Where the EUT is a transceiver, under no circumstances, shall the transmitter operate unintentionally during the test. In systems using acknowledgement signals, it is recognized that an ACK or NACK transmission may occur, and steps should be taken to ensure that any transmission resulting from the application of the test is correctly interpreted.



Na: 1-Wenterey, M-15, Matche Saction, Science & Technology Pert, Diversitien, China, 5180057 (1)(86–755) 28072053 1 (86–755) 28710594 www.spagroup.com.or 中国・実知・科技術中区M-1148一号厂液 約48: 518057 1 (86–755) 28072053 1 (86–755) 28710594 age.com



Report No.: SZEM200500368502 17 of 20 Page:

### 7.3 Electrostatic Discharge

Test Requirement:	EN 301 489-1 V2.2.3
	Draft EN 301 489-17 V3.2.2
Test Method:	EN 61000-4-2:2009
Performance Criterion:	В
Discharge Impedance:	330Ω/150pF
Number of Discharge:	Minimum 10 times at each test point
Discharge Mode:	Single Discharge
Discharge Period:	1 second minimum
Toot Sotup Diagram	

### 7.3.1 Test Setup Diagram



#### 7.3.2 E.U.T. Operation

**Operating Environment:** 

Temperature: 23 °C Humidity: 50 % RH Atmospheric Pressure: 1010 mbar Test mode: c:Idle Keep the EUT standby.

> d:Operation(BT) Pair the device with Smartphone via Bluetooth and keep the music playing.

#### 7.3.3 Test Results:

Observations:

#### Test Point:

- All insulated enclosure and seams. 1.
- 2. All accessible metal parts of the enclosure.
- All side 3.

Discharge type	Level (kV)	Polarity	Test Point	Result / Observations
Air Discharge	2,4,8	+	1	А
Air Discharge	2,4,8	-	1	А
Contact Discharge	4	+	2	А
Contact Discharge	4	-	2	А
Vertical Coupling	4	+	3	А
Vertical Coupling	4	-	3	А

#### **Results:**

A: No degradation in the performance of the EUT was observed.



Inflat flewer age com/s & Decements at http: indemocration and 5

www.spegroup.com.ce No. 1 Westing, M-12, Made Sector, Science & Technology Park, Direction, Chine. 518057 (08-755) 28012053 1 (08-755) 28710594 中国-深圳·科技资中区Ы-10都一号厂房 献编: 518057 1 (86-755) 28012053 1 (86-755) 28710594 ags.chira@ags.com



Report No.: SZEM200500368502 Page: 18 of 20

### 7.4 Radiated Immunity (80MHz-6GHz)

Test Requirement:	EN 301 489-1 V2.2.3
	Draft EN 301 489-17 V3.2.2
Test Method:	EN 61000-4-3:2006 +A1:2008+A2:2010
Performance Criterion:	A
Frequency Range:	80MHz to 6GHz
Antenna Polarisation:	Vertical and Horizontal
Modulation:	1kHz,80% Amp. Mod,1% increment
Test Setun Diagram	

### 7.4.1 Test Setup Diagram



#### 7.4.2 E.U.T. Operation

Operating Environment:

Temperature:24 °CHumidity:54 % RHAtmospheric Pressure:1010 mbarTest mode:c:Idle\_Keep the EUT standby.

d:Operation(BT)\_Pair the device with Smartphone via Bluetooth and keep the music playing.

#### 7.4.3 Test Results:

Frequency	Level (V/m)	EUT Face	Dwell time	Result / Observations
80MHz-6GHz	3	Front	2s	А
80MHz-6GHz	3	Back	2s	А
80MHz-6GHz	3	Left	2s	А
80MHz-6GHz	3	Right	2s	А
80MHz-6GHz	3	Тор	2s	А
80MHz-6GHz	3	Underside	2s	А

#### **Results:**

A: No degradation in the performance of the EUT was observed.



Unless atherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Bereice printed overleaf, evaluate on request or accessible of <u>Thichway gas</u> comfort<u>Terms and Conditions</u> Conditions for the electronic former documents, subject to forms and Conditions the Electronic Documents at http://www.ags.commin.Terms.and.Conditions forms documents, subject to the transaction of tability, indemnification and jurisdiction takes defined thereis. Any folder of this document is advised that information contained have non-forcis the Company's Endefining at the time of its intervention of the tank to be the table to the table of table of table of table

Na. 1 Wentering, M-12, Matche Saction, Science & Technology Part, Directiver, China 518057 1 (166–755) 2007(2053 1 (166–755) 2017(2054) www.spageroup.com.cn 中国・実机・料投資中区M-10機一号厂液 約歳: 518057 1 (166–755) 2017(2053 1 (166–755) 2017(2054) spartitive@spac.com



Report No.: SZEM200500368502 Page: 19 of 20

## 8 Photographs

8.1 Radiated Emissions (30MHz-1GHz) Test Setup



8.2 Electrostatic Discharge Test Setup





Unless attendes agreed in writing. His document is instead by the Company subject to its General Conditions of Berrice printed ordered in the constant's at http://www.gas.com/ar/Terra.and/Condition.doc.for electronic format documents at the instead of the Company subject to its General Conditions of Berrice printed ordered in the Instead of the Instead of the Condition of the Instead of the In

Na 1 Wentaring, M-TL Matche Saction, Science & Tachweinge Pers, Directive, China 518057 1 (166-755) 28071055 1 (166-755) 28710594 www.spagroup.com.cn 中国・実知・科技術中区M-10種一号厂商 創業: 518057 1 (166-755) 280710591 (166-755) 28710594 age.com



Report No.: SZEM200500368502 Page: 20 of 20

8.3 Radiated Immunity (80MHz-6GHz) Test Setup



### 8.4 EUT Constructional Details

Refer to Appendix A - Photographs of EUT Constructional Details for SZEM2005003685CR.

- End of the Report -



Unless atherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Berrice private overlast, available on request or accessible of http://www.gg.com/art/Terms.end/Conditions.form.form.end/Conditions.form.form.end/Conditions.form.form.end/Conditions.form.end/Conditions.form.end/Conditions.form.end/Conditions.form.end/Conditions.form.end/Conditions.form.end/Conditions.form.end/Conditions.form.end/Conditions.form.end/Conditions.form.end/Conditions.form.end/Conditions.form.form.end/Conditions.form.form.end/Conditions.form.form.end/Conditions.form.form.end/Conditions.form.form.end/Conditions.form.form.end/Conditions.form.form.end/Conditions.form.form.end/Conditions.form.end/Conditions.form.form.end/Conditions.form.end/Conditions.form.f

Na: 1 Alustaning, M-13, Matdia Saction, Science & Tachnelogy Part, Disection, China: 518057 1 (186–755) 280712053 1 (186–755) 287110594 www.spagroup.com.cn 中国・実知・科技調中区M-112種一号厂液 商業編: 518057 1 (186–755) 280712054 1 (186–755) 287110594 ages.china@age.com