

Report No.: SHEM200300156705

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TEST REPORT

Application No.: SHEM2003001567CR

FCC ID: 2AH25F4E00

Applicant: Shanghai Sunmi Technology Co.,Ltd.

Address of Applicant: Room 605,Block 7,KIC Plaza,No.388 Song Hu Road Yang Pu

District, Shanghai, China

Manufacturer: Shanghai Sunmi Technology Co.,Ltd.

Address of Manufacturer: Room 605, Block 7, KIC Plaza, No. 388 Song Hu Road Yang Pu

District, Shanghai, China

Factory: BYD Precision Manufacture Co.,Ltd

Address of Factory: No.3001,Bao He Road,Baolong Industry Zone,Longgang Sub-

district, Longgang District, Shenzhen, Guangdong Province, China

Equipment Under Test (EUT):

EUT Name: Self-Checkout Kiosk

Model No.: F4E00 Trade mark: SUNMI

Standard(s): 47 CFR Part 15, Subpart C 15.225

Date of Receipt: 2020-03-19

Date of Test: 2020-05-15 to 2020-05-26

Date of Issue: 2020-05-27

Test Result: Pass*

parlan shan

Parlam Zhan E&E Section Manager

The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards. Any mention of SGS International Electrical Approvals or testing done by SGS International Electrical Approvals in connection with, distribution or use of the product described in this report must be approved by SGS International Electrical Approvals in writing.

检验检测专用章 Sensection & Testing Services

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NO.588 West Jindu Road,Songjiang District,Shanghai,China 201612 中国・上海・松江区金都西路588号 邮编: 201612 t(86-21) 61915666 f(86-21) 61915678 www.sgsgroup.com.cn t(86-21) 61915666 f(86-21) 61915678 e sgs.china@sgs.com

^{*} In the configuration tested, the EUT complied with the standards specified above.



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Revision Record								
Version Description Date Remark								
00	Original	2020-05-27	1					

Authorized for issue by:			
	Michael Nil		
	Micheal Niu / Project Engineer	-	
	Darlam Zhan		
	Parlam Zhan / Reviewer	_	



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2 Test Summary

Radio Spectrum Technical Requirement								
Item	Standard	Method	Requirement	Result				
Antenna Requirement	47 CFR Part 15, Subpart C 15.225	N/A	47 CFR Part 15, Subpart C 15.203	Pass				

Radio Spectrum Matter Part									
Item	Standard	Method	Requirement	Result					
Conducted Emissions at AC Power Line (150kHz-30MHz)	47 CFR Part 15, Subpart C 15.225	ANSI C63.10 (2013) Section 6.2	47 CFR Part 15, Subpart C 15.207	Pass					
20dB Bandwidth	47 CFR Part 15, Subpart C 15.225	ANSI C63.10 (2013) Section 6.9	47 CFR Part 15, Subpart C 15.215	Pass					
Emission Mask	47 CFR Part 15, Subpart C 15.225	ANSI C63.10 (2013) Section 6.4	47 CFR Part 15, Subpart C 15.225(a)&(b)&(C	Pass*					
Frequency tolerance	47 CFR Part 15, Subpart C 15.225	ANSI C63.10 (2013) Section 6.8	47 CFR Part 15, Subpart C 15.225(e)	Pass					
Radiated Emissions(9kHz- 30MHz)	47 CFR Part 15, Subpart C 15.225	ANSI C63.10 (2013) Section 6.4&6.5	47 CFR Part 15, Subpart C 15.225(d) & 15.209	Pass					
Radiated Emissions(30MHz- 1GHz)	47 CFR Part 15, Subpart C 15.225	ANSI C63.10 (2013) Section 6.4&6.5	47 CFR Part 15, Subpart C 15.225(d) & 15.209	Pass					

Note *: The test level of the fundamental signal is below the limit of general spurious emission, so the test item doesn't be performed.

Remark: The product has two kinds of scan header optional, EM20-80 and 3450Vsi. Both two scan headers have evaluated EMC and won't affect RF characteristics.



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4 General Information

4.1 Details of E.U.T.

Power supply: AC 100~240V 50/60Hz

Test voltage: AC 120V/60Hz
Antenna Type Loop Antenna

Modulation Type ASK Number of Channels 1

Operation Frequency 13.56MHz

4.2 Description of Support Units

Description	Manufacturer	Model No.	Serial No.	
N/A	N/A	N/A	N/A	

4.3 Measurement Uncertainty

No.	Item	Measurement Uncertainty
1	Radio Frequency	±8.4 x 10 ⁻⁸
2	Timeout	±2s
3	Duty cycle	±0.37%
4	Occupied Bandwidth	±3%
5	RF conducted power	±0.6dB
6	RF power density	±2.84dB
7	Conducted Spurious emissions	±0.75dB
8	DE Dedicted newer	±4.6dB (Below 1GHz)
0	RF Radiated power	±4.1dB (Above 1GHz)
		±4.2dB (Below 30MHz)
9	Redicted Sourious emission test	±4.4dB (30MHz-1GHz)
9	Radiated Spurious emission test	±4.8dB (1GHz-18GHz)
		±5.2dB (Above 18GHz)
10	Temperature test	±1°C
11	Humidity test	±3%
12	Supply voltages	±1.5%
13	Time	±3%

Note: The measurement uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.



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4.4 Test Location

All tests were performed at:

Compliance Certification Services (Kunshan) Inc.

No.10 Weiye Rd, Innovation park, Eco&Tec, Development Zone, Kunshan City, Jiangsu, China.

Tel: +86 512 5735 5888 Fax: +86 512 5737 0818

No tests were sub-contracted.

4.5 Test Facility

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

CNAS (No. CNAS L4354)

CNAS has accredited Compliance Certification Services (Kunshan) Inc. to ISO/IEC 17025:2017 General Requirements for the Competence of Testing and Calibration Laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing.

• A2LA (Certificate No. 2541.01)

Compliance Certification Services (Kunshan) Inc. is accredited by the American Association for Laboratory Accreditation (A2LA). Certificate No. 2541.01.

• FCC (Designation Number: CN1172)

Compliance Certification Services Inc. has been recognized as an accredited testing laboratory.

Designation Number: CN1172.

• ISED (CAB identifier: CN0072)

Compliance Certification Services (Kunshan) Inc. has been recognized by Innovation, Science and Economic Development Canada (ISED) as an accredited testing laboratory.

CAB Identifier: CN0072.

• VCCI (Member No.: 1938)

The 3m and 10m Semi-anechoic chamber and Shielded Room of Compliance Certification Services (Kunshan) Inc. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-1600, C-1707, T-1499, G-10216 respectively.

4.6 Deviation from Standards

None

4.7 Abnormalities from Standard Conditions

None



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5 Equipment List

	Equipment List									
Item	Equipment	Manufacturer	Model	Serial Number	Cal Date	Cal. Due Date				
	nducted Emission at Mains Term	•		100704						
1	EMI Test Receive	R&S	ESCI	100781	02/24/2020	02/23/2021				
2	LISN LISN	R&S	ENV216	101604	10/24/2019	10/23/2020				
3	Pulse Limiter	Schwarzbeck R&S	NNLK 8129 ESH3-Z2	8129-143	10/24/2019	10/23/2020				
5			/	100609	02/24/2020	02/23/2021				
	CE test Cable	Thermax	/	14	02/24/2020	02/23/2021				
l	F Conducted Test	A sile set	E4440A	NAV/44000454	07/00/0040	07/00/0000				
1	Spectrum Analyzer	Agilent	E4446A	MY44020154	07/03/2019	07/02/2020				
2	Spectrum Analyzer	Keysight	N9020A	MY55370209	12/19/2019	12/18/2020				
3	Signal Generator	Agilent	E8257C	MY43321570	10/24/2019	10/23/2020				
4	Vector Signal Generator	R&S	SMU 200A	102744	02/24/2020	02/23/2021				
5	Universal Radio Communication Tester	R&S	CMU200	109525	12/19/2019	12/18/2020				
6	Universal Radio Communication Tester	R&S	CMW500	159275	12/19/2019	12/18/2020				
7	Power Meter	Anritsu	ML2495A	1445010	04/21/2020	04/20/2021				
8	Switcher	CCSRF	FY562	KS301219	12/20/2019	12/19/2020				
9	AC Power Source	EXTECH	6605	1570106	N.C.R	N.C.R				
10	DC Power Supply	Aglient	E3632A	MY50340053	N.C.R	N.C.R				
11	6dB Attenuator	Mini-Circuits	NAT-6-2W	15542-1	N.C.R	N.C.R				
12	Power Divider	AISI	IOWOPE2068	PE2068	N.C.R	N.C.R				
13	Filter	MICRO-TRONICS	BRM50701	5	N.C.R	N.C.R				
14	Conducted test cable	/	RF01-RF04	/	04/21/2020	04/22/2021				
15	Temp. / Humidity Chamber	TERCHY	MHK-120AK	X30109	04/21/2020	04/20/2021				
RF F	Radiated Test									
1	Spectrum Analyzer	R&S	FSV40	101493	01/08/2020	01/07/2021				
2	Signal Generator	Agilent	E8257C	MY43321570	10/24/2019	10/23/2020				
3	Loop Antenna	Schwarzbeck	HXYZ9170	9170-108	02/24/2020	02/23/2021				
4	Bilog Antenna	TESEQ	CBL 6112D	35403	06/22/2019	06/21/2020				
5	Bilog Antenna	SCHWARZBECK	VULB9160	9160-3342	04/29/2019	04/28/2021				
6	Horn-antenna(1-18GHz)	Schwarzbeck	BBHA9120D	267	11/04/2018	11/03/2020				
7	Horn-antenna(1-18GHz)	ETS-LINDGREN	3117	00143290	02/25/2019	02/24/2021				
8	Horn Antenna(18-40GHz)	Schwarzbeck	BBHA9170	BBHA9170171	02/27/2018	02/26/2021				
9	Pre-Amplifier(30MHz~18GHz)	CCSRF	AMP1277	1	12/19/2019	12/18/2020				
10	Pre-Amplifier(0.1~26.5GHz)	EMCI	EMC012645	980060	07/03/2019	07/02/2020				
11	Low Pass Filter	MICRO-TRONICS	VLFX-950	RV142900829	N.C.R	N.C.R				
12	High Pass Filter	Mini-Circuits	VHF-1200	15542	N.C.R	N.C.R				
13	Filter (5450MHz~5770 MHz)		BRC50704-01	2	N.C.R	N.C.R				
14	Filter (5690 MHz~5930 MHz)		BRC50705-01	4	N.C.R	N.C.R				
15	Filter (5150 MHz~5350 MHz)	MICRO-TRONICS		2	N.C.R	N.C.R				
16	Filter (885 MHz~915 MHz)	MICRO-TRONICS	BRM14698	1	N.C.R	N.C.R				
17	Filter (815 MHz~860 MHz)	MICRO-TRONICS	BRM14697	1	N.C.R	N.C.R				
18	Filter (1745 MHz~1910 MHz)	MICRO-TRONICS	BRM14700	1	N.C.R	N.C.R				
19	Filter (1922 MHz~1977 MHz)	MICRO-TRONICS	BRM50715	1	N.C.R	N.C.R				
20	Filter (2550 MHz)	MICRO-TRONICS	HPM13362	5	N.C.R	N.C.R				
21	Filter (1532 MHz~1845 MHz)	MICRO-TRONICS	BRM50713	1	N.C.R	N.C.R				
22	Filter (2.4GHz)	MICRO-TRONICS	BRM50701	5	N.C.R	N.C.R				
23	RE test cable	/	RE01-RE04	/	04/21/2020	04/22/2021				
		·		·	5 1/2 1/2020	0 1/ LLI LUL 1				



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6 Radio Spectrum Technical Requirement

6.1 Antenna Requirement

6.1.1 Test Requirement:

47 CFR Part 15, Subpart C 15.203

6.1.2 Conclusion

Standard Requirement:

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit permanently attached antenna or of an so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

EUT Antenna:

The antenna is Loop and no consideration of replacement.

Antenna location: Refer to Appendix(Internal Photos)



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7 Radio Spectrum Matter Test Results

7.1 Conducted Emissions at AC Power Line (150kHz-30MHz)

Test Requirement 47 CFR Part 15, Subpart C 15.207 Test Method: ANSI C63.10 (2013) Section 6.2

Limit:

Fraguerou rongo (MIII-)	Limit (dBu'	V)
Frequency range (MHz)	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

^{*} Decreases with the logarithm of the frequency.

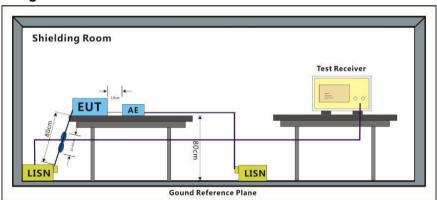
7.1.1 E.U.T. Operation

Operating Environment:

Temperature: 22 °C Humidity: 50 % RH Atmospheric Pressure: 1020 mbar

Test mode j:TX mode_Keep the EUT in continuously transmitting mode

7.1.2 Test Setup Diagram





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7.1.3 Measurement Procedure and Data

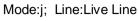
- 1) The mains terminal disturbance voltage test was conducted in a shielded room.
- 2) The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a $50 \text{ohm}/50 \mu\text{H} + 5 \text{ohm}$ linear impedance. The power cables of all other units of the EUT were connected to a second LISN 2, which was bonded to the ground reference plane in the same way as the LISN 1 for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not exceeded.
- 3) The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane.
- 4) The test was performed with a vertical ground reference plane. The rear of the EUT shall be 0.4 m from the vertical ground reference plane. The vertical ground reference plane was bonded to the horizontal ground reference plane. The LISN 1 was placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane for LISNs mounted on top of the ground reference plane. This distance was between the closest points of the LISN 1 and the EUT. All other units of the EUT and associated equipment was at least 0.8 m from the LISN 2.
- 5) In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10 on conducted measurement.

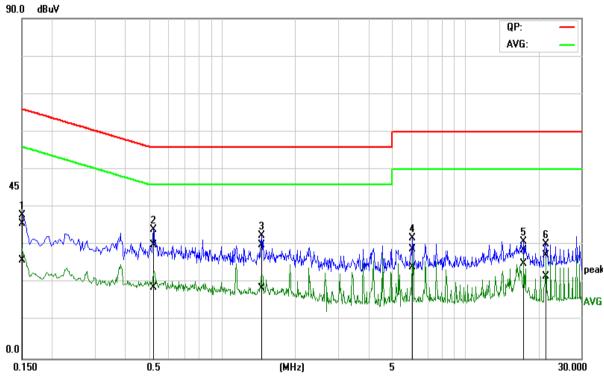
 Remark:
- 1.LISN=Read Level+ Cable Loss+ LISN Factor



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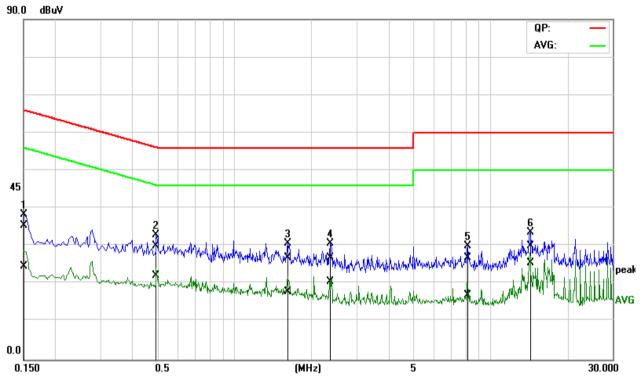
No.	Frequency	QuasiPeak reading	Average reading	Correction factor	QuasiPeak result	Average result	QuasiPeak limit	Average limit	QuasiPeak margin	Average margin	Remark
		reading	reading	140101	resun	resuit			margin	margin	
	(MHz)	(dBuV)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dBuV)	(dBuV)	(dB)	(dB)	
1	0.1500	16.06	6.51	19.52	35.58	26.03	65.99	56.00	-30.41	-29.97	Pass
2	0.5220	10.57	-0.72	19.57	30.14	18.85	56.00	46.00	-25.86	-27.15	Pass
3	1.4620	10.21	-1.15	19.72	29.93	18.57	56.00	46.00	-26.07	-27.43	Pass
4	6.0860	8.89	4.29	19.96	28.85	24.25	60.00	50.00	-31.15	-25.75	Pass
5*	17.3940	8.28	4.84	20.30	28.58	25.14	60.00	50.00	-31.42	-24.86	Pass
6	21.4820	6.88	1.18	20.45	27.33	21.63	60.00	50.00	-32.67	-28.37	Pass



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No.	Frequency	QuasiPeak	Average	Correction	QuasiPeak	Average	QuasiPeak	Average	QuasiPeak	Average	Remark
		reading	reading	factor	result	result	limit	limit	margin	margin	
	(MHz)	(dBuV)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dBuV)	(dBuV)	(dB)	(dB)	
1	0.1500	16.05	5.22	19.47	35.52	24.69	65.99	56.00	-30.47	-31.31	Pass
2*	0.4940	10.53	2.65	19.49	30.02	22.14	56.10	46.10	-26.08	-23.96	Pass
3	1.6220	7.25	-1.86	19.71	26.96	17.85	56.00	46.00	-29.04	-28.15	Pass
4	2.3820	7.20	0.93	19.76	26.96	20.69	56.00	46.00	-29.04	-25.31	Pass
5	8.1820	7.01	-2.99	19.95	26.96	16.96	60.00	50.00	-33.04	-33.04	Pass
6	14.2140	9.94	5.42	20.13	30.07	25.55	60.00	50.00	-29.93	-24.45	Pass



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7.2 20dB Bandwidth

Test Requirement 47 CFR Part 15, Subpart C 15.215 Test Method: ANSI C63.10 (2013) Section 6.9

Limit: N/A

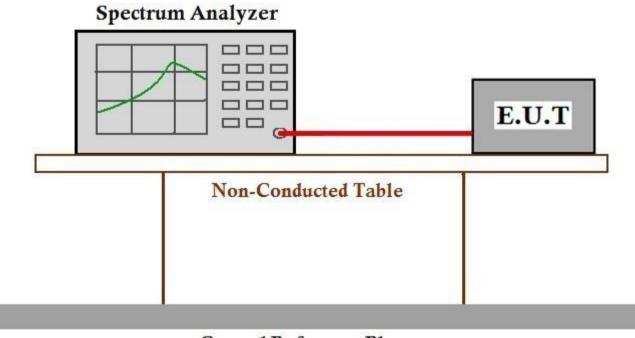
7.2.1 E.U.T. Operation

Operating Environment:

Temperature: 22 °C Humidity: 50 % RH Atmospheric Pressure: 1002 mbar

Test mode j:TX mode_Keep the EUT in continuously transmitting mode

7.2.2 Test Setup Diagram



Ground Reference Plane

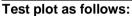
7.2.3 Measurement Procedure and Data

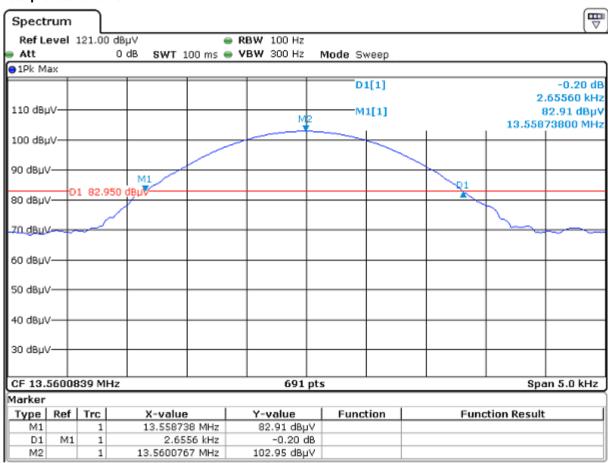


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20dB bandwidth (kHz)	B bandwidth (kHz) F _L (MHz)		Limit(MHz)	Result	
2.656	13.5587	13.5614	13.110 – 14.010	Pass	







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7.3 Emission Mask

Test Requirement RSS-210 Issue 9 B6 (a)&(b)&(C)
Test Method: ANSI C63.10 (2013) Section 6.4

Limit:

(a) The field strength of any emissions within the band 13.553-13.567 MHz shall not exceed 15.848 microvolts/meter at 30 meters.

- (b) Within the bands 13.410-13.553 MHz and 13.567-13.710 MHz, the field strength of any emissions shall not exceed 334 microvolts/meter at 30 meters.(c) Within the bands 13.110-13.410 MHz and 13.710-14.010 MHz the field strength of any emissions shall not exceed 106 microvolts/meter at 30 meters.
- (d) The field strength of any emissions appearing outside of the 13.110-14.010 MHz band shall not exceed the general radiated emission limits in § 15.209.

7.3.1 E.U.T. Operation

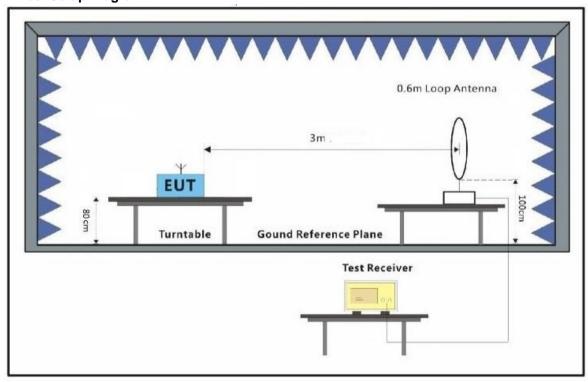
Operating Environment:

Temperature: 22 °C Humidity: 50 % RH Atmospheric Pressure: 1002 mbar

Test mode j:TX mode Keep the EUT in continuously transmitting mode with GFSK

modulation

7.3.2 Test Setup Diagram



7.3.3 Measurement Procedure and Data

For testing performed with the loop antenna, the center of the loop was positioned 1 m above the ground and positioned with its plane vertical at the specified distance from the EUT. During testing the loop was rotated about its vertical axis for maximum response at each azimuth and also investigated with the loop positioned in the horizontal plane. Only the worst position of vertical was shown in the report.

Note :The test level of the fundamental signal is below the limit of general spurious emission, so the test item doesn't be performed.



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7.4 Frequency tolerance

Test Requirement 47 CFR Part 15, Subpart C 15.225(e)
Test Method: ANSI C63.10 (2013) Section 6.8

Limit: 1.356kHz

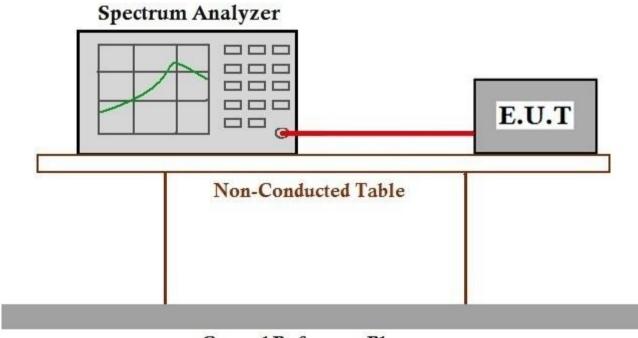
7.4.1 E.U.T. Operation

Operating Environment:

Temperature: 22 °C Humidity: 50 % RH Atmospheric Pressure: 1002 mbar

Test mode j:TX mode_Keep the EUT in continuously transmitting mode

7.4.2 Test Setup Diagram



Ground Reference Plane

7.4.3 Measurement Procedure and Data



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Nominal Operation Frequency: 13.56MHz

Test Conditions		Test Result	Deviation	Limit	Decel	
Temp (°C)	Volt (V AC)	(MHz)	(kHz)	(kHz)	Result	
T _{nom} (0)	V _{nom} (120)	13.56006	0.06		Pass	
T _{nom} (10)	V _{nom} (120)	13.56003	0.03		Pass	
T _{nom} (20)	V _{nom} (120)	13.56005	0.05		Pass	
T _{nom} (30)	V _{nom} (120)	13.56005	0.05	±0.01% (1.3560kHz)	Pass	
T _{nom} (40)	V _{nom} (120)	13.56004	0.04	,	Pass	
T _{nom} (20)	V _{min} (102)	13.56004	0.04		Pass	
	V _{max} (138)	13.56006	0.06		Pass	

Note: Deviation (kHz) = (Test Result-13.56MHz)*1000



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7.5 Radiated Emissions(9kHz-30MHz)

Test Requirement 47 CFR Part 15, Subpart C 15.225(d) & 15.209

Test Method: ANSI C63.10 (2013) Section 6.4&6.5

Limit:

Frequency(MHz)	Field strength (microvolts/meter)	Limit (dBuV/m)	Detector	Measurement Distance (meters)
0.009-0.490	2400/F(kHz)	-	-	300
0.490-1.705	24000/F(kHz)	-	-	30
1.705-30	30	-	-	30
30-88	100	40.0	QP	3
88-216	150	43.5	QP	3
216-960	200	46.0	QP	3
960-1000	500	54.0	QP	3
Above 1000	500	54.0	AV	3

NOTE:

(1) For test distance other than what is specified, but fulfilling the requirements of section 15.31(f) (2) the field strength is calculated by adding additionally an extrapolation factor of 40dB/decade (inverse linear distance for field strength measurements).

So the Distance Extrapolation Factor in dB is $40*log (D_{TEST} / D_{SPEC})$ where $D_{TEST} = Test Distance$ and $D_{SPEC} = Specified Distance$.

Field strength limit (dB μ V/m)@test distance= Field strength limit (dB μ V/m)@specified distance +Distance Extrapolation Factor

(2) The lower limit shall apply at the transition frequencies.

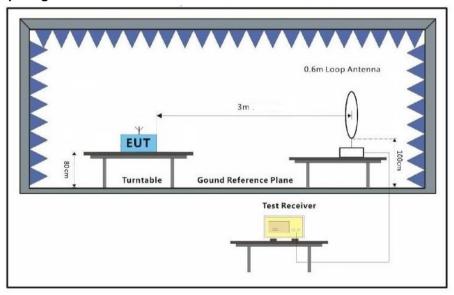
7.5.1 E.U.T. Operation

Operating Environment:

Temperature: 22 °C Humidity: 50 % RH Atmospheric Pressure: 1002 mbar

Test mode j:TX mode_Keep the EUT in continuously transmitting mode

7.5.2 Test Setup Diagram



NO.588 West Jindu Road, Songjiang District, Shanghai, China 201612 中国・上海・松江区金都西路588号 邮編: 201612 $\begin{array}{lll} t(86\text{-}21)\, 61915666 & f(86\text{-}21)\, 61915678 & \text{www.sgsgroup.com.cn} \\ t(86\text{-}21)\, 61915666 & f(86\text{-}21)\, 61915678 & \text{e sgs.china@sgs.com} \end{array}$



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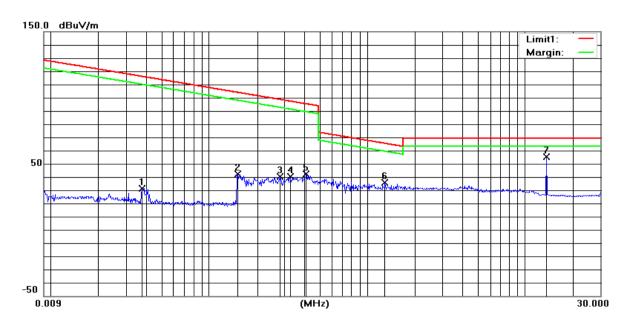
7.5.3 Measurement Procedure and Data

For testing performed with the loop antenna, the center of the loop was positioned 1 m above the ground and positioned with its plane vertical at the specified distance from the EUT. During testing the loop was rotated about its vertical axis for maximum response at each azimuth and also investigated with the loop positioned in the horizontal plane. Only the worst position of vertical was shown in the report.



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Item	Freq.	Reading	Factor	Result Level@3m	Result Level@SPE C	Limit Line@SPEC	Over Limit	Detector
(Mark)	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	0.0374	16.63	14.85	31.48	-48.52	36.13	-84.65	QP
2	0.1516	27.24	15.18	42.42	-37.58	23.98	-61.56	QP
3	0.2802	24.80	15.21	40.01	-39.99	18.65	-58.64	QP
4	0.3251	25.05	15.22	40.27	-39.73	17.36	-57.09	QP
5	0.4082	26.91	15.24	42.15	-37.85	15.39	-53.24	QP
6	1.2960	20.44	15.26	35.70	-4.30	25.38	-29.68	QP
7	13.5621	39.59	15.49	55.08	15.08	29.5	-14.42	Peak



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7.6 Radiated Emissions(30MHz-1GHz)

Test Requirement 47 CFR Part 15, Subpart C 15.225(d) & 15.209

Test Method: ANSI C63.10 (2013) Section 6.4&6.5

Limit:

Frequency	Field strength (microvolt/meter)	Limit (dBuV/m)	Remark	Measurement distance (m)
30MHz-88MHz	100	40.0	Quasi-peak	3
88MHz-216MHz	150	43.5	Quasi-peak	3
216MHz-960MHz	200	46.0	Quasi-peak	3
960MHz-1GHz	500	54.0	Quasi-peak	3

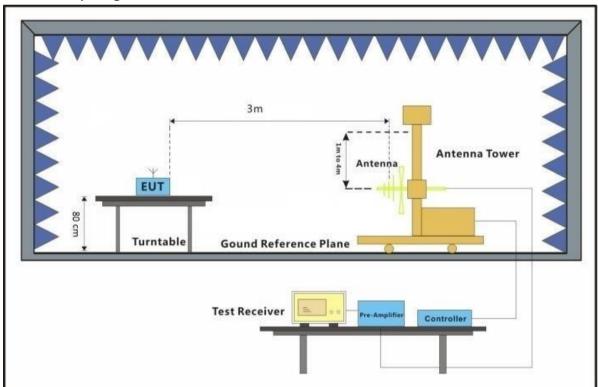
7.6.1 E.U.T. Operation

Operating Environment:

Temperature: 22 °C Humidity: 50 % RH Atmospheric Pressure: 1002 mbar

Test mode j:TX mode_Keep the EUT in continuously transmitting mode

7.6.2 Test Setup Diagram





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7.6.3 Measurement Procedure and Data

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground for below 1GHz at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.
- g. The radiation measurements are performed in X, Y, Z axis positioning. And found the X axis positioning which it is worse case, only the test worst case mode is recorded in the report.

Remark: Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor



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Horizontal





No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	138.6400	19.00	19.84	38.84	43.50	-4.66	200	47	QP
2	252.1300	20.72	19.49	40.21	46.00	-5.79	400	1	QP
3	295.7800	18.69	20.56	39.25	46.00	-6.75	200	314	QP
4	444.1900	16.79	24.43	41.22	46.00	-4.78	100	325	QP
5	591.6300	13.75	26.48	40.23	46.00	-5.77	100	22	QP
6	888.4500	11.44	28.68	40.12	46.00	-5.88	300	157	QP

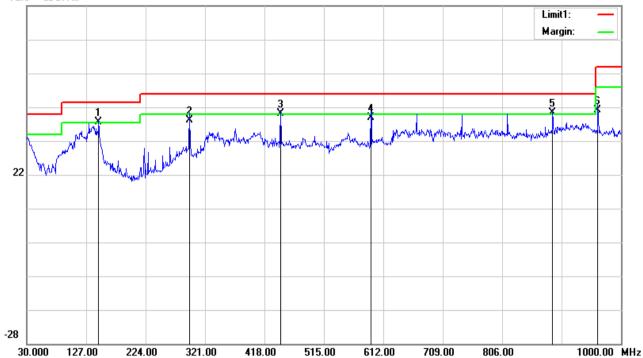


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Vertical





No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	147.3700	17.42	20.12	37.54	43.50	-5.96	400	46	QP
2	295.7800	17.69	20.56	38.25	46.00	-7.75	100	169	QP
3	444.1900	15.58	24.43	40.01	46.00	-5.99	200	325	QP
4	591.6300	12.47	26.48	38.95	46.00	-7.05	300	25	QP
5	888.4500	11.68	28.68	40.36	46.00	-5.64	200	12	QP
6	962.1700	12.02	29.21	41.23	54.00	-12.77	100	147	QP



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8 Test Setup Photographs

Refer to the < Test Setup photos-FCC>.

9 EUT Constructional Details

Refer to the < External Photos > & < Internal Photos >.

- End of the Report -