



TEST REPORT

Application No.: GZCR2108020824AT
Applicant: LIDL US LLC
Address of Applicant: 3500 S Clark Street, Arlington Virginia 22202, United States
Manufacturer: LIDL US LLC
Address of Manufacturer: 3500 S Clark Street, Arlington Virginia 22202, United States
Factory: FUJIAN YOUTONG INDUSTRIES CO., LTD
Address of Factory: North part of 1st, 2nd-3rd floor, Building 1#, M9511 industries park, No.18, Majiang Road, Mawei District, Fuzhou City, Fujian, China
Equipment Under Test (EUT):
EUT Name: Wireless charger
Model No.: HG08305A-US, HG08305B-US
Trade Mark: Silvercrest
Standard(s): 47 CFR Part 15, Subpart C
Date of Receipt: 2021-08-20
Date of Test: 2021-08-21 to 2021-08-25
Date of Issue: 2021-08-26

Table with 2 columns: Test Result, Pass*

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

Handwritten signature of Kobe Jian

Kobe Jian
EMC Laboratory Manager



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Revision Record				
Version	Chapter	Date	Modifier	Remark
01		2021-08-26		Original

Authorized for issue by:			
			
		<hr/> Kevin Zhang/Project Engineer	
			
		<hr/> Ricky Liu/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	N/A	47 CFR Part 15, Subpart C 15.203	Pass

Radio Spectrum Matter Part				
Item	Standard	Method	Requirement	Result
20dB Bandwidth	47 CFR Part 15, Subpart C	ANSI C63.10 (2013) Section 6.9.2	47 CFR Part 15, Subpart C 15.215	Pass
Conducted Emissions at AC Mains Power Port (150kHz-30MHz)		ANSI C63.10 (2013) Section 6.2	47 CFR Part 15, Subpart C 15.207	Pass
Radiated Emissions (30MHz-1GHz)		ANSI C63.10 (2013) Section 6.5	47 CFR Part 15, Subpart C 15.205 & 15.209	Pass
Radiated Emissions (9kHz-30MHz)		ANSI C63.10 (2013) Section 6.4	47 CFR Part 15, Subpart C 15.205 & 15.209	Pass
Restricted band		ANSI C63.10 (2013) Section 6.10.5	47 CFR Part 15, Subpart C 15.205	Pass

Note:

E.U.T./EUT means Equipment Under Test.

Pass means the test result passed the test standard requirement, please find the detailed decision rule in the report relative section.

Declaration of EUT Family Grouping:

Model No.: HG08305A-US, HG08305B-US

Only the model HG08305A-US was tested, since according to the declaration from the applicant, the electrical circuit design, PCB layout, components used and internal wiring and functions were identical for the above models, with only difference on model No. and colour.



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 中国·广州·经济技术开发区科学城科珠路198号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com

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4 General Information

4.1 Details of E.U.T.

Power Supply: Input:5V/3A
Output: 2X5W max
or
Input: 9V/3A ,12V/2.25V, 15V/2A
WPC Output:
Up to 10W(each)
Total power: 20W max

Cable: Type C cable: 100cm shielded

Antenna Type: Loop Antenna

Modulation Type: Load Modulation

Operation Frequency: 111.38kHz to 128.21kHz

Remark: Tests were conducted in all load modes and the worst case modes were reported in each test item.

4.2 Description of Support Units

Description	Manufacturer	Model No.		Serial No.
Adapter	ANKER	A2636	AFYMSUOB16 561396	Radiated Emissions (30MHz-1GHz) Radiated Emissions (9KHz-30MHz)
Adapter:	TRONIC	HG08421A	Client supply	Conducted Emissions at AC Mains Power Port (150kHz-30MHz)
Mobile Phone	Nexus	MRA58K	REF. No.SEA16P00	All
Mobile Phone	Nexus	MRA58K	REF. No.SEA16P01	All
iPhone 8	Apple	A1863	REF. No.SEA16J00	All
iPhone 8	Apple	A1863	REF. No.SEA16J01	All
SAMSUNG Galaxy S8	SAMSUNG	SM-G9500	REF. No.SEA16M00	All
SAMSUNG Galaxy S8	SAMSUNG	SM-G9500	REF. No.SEA16M01	All



4.3 Test Mode Description

Keep the EUT charging, the specific combination for coil A and coil B are as follow:

Adapter type:	Input	Coil A	Coil B	Test mode
Normal adapter	5V/3A above	5W		d
Normal adapter	5V/3A above		5W	b
Normal adapter	5V/3A above	5W	5W	c
PD or QC adapter	9V/3A , 12V/2.25V, 15V/2A above	10W	10W	a
PD or QC adapter	9V/3A , 12V/2.25V, 15V/2A above	10W		e
PD or QC adapter	9V/3A , 12V/2.25V, 15V/2A above		10W	f
PD or QC adapter	9V/3A , 12V/2.25V, 15V/2A above	10W	7.5W	g
PD or QC adapter	9V/3A , 12V/2.25V, 15V/2A above	7.5W	10W	h
PD or QC adapter	9V/3A , 12V/2.25V, 15V/2A above	10W	5W	i
PD or QC adapter	9V/3A , 12V/2.25V, 15V/2A above	5W	10W	j
PD or QC adapter	9V/3A , 12V/2.25V, 15V/2A above	7.5W	7.5W	k
PD or QC adapter	9V/3A , 12V/2.25V, 15V/2A above	7.5W	5W	l
PD or QC adapter	9V/3A , 12V/2.25V, 15V/2A above	5W	7.5W	m
PD or QC adapter	9V/3A , 12V/2.25V, 15V/2A above	5W	5W	n
PD or QC adapter	9V/3A , 12V/2.25V, 15V/2A above	5W		o
PD or QC adapter	9V/3A , 12V/2.25V, 15V/2A above		5W	p
PD or QC adapter	9V/3A , 12V/2.25V, 15V/2A above	7.5W		q
PD or QC adapter	9V/3A , 12V/2.25V, 15V/2A above		7.5W	r

4.4 Measurement Uncertainty

Test Item	Measurement Uncertainty
20dB Bandwidth	+/-3%
Conducted Emissions at AC Mains Power Port (150kHz-30MHz)	3.12dB
Radiated Emissions (30MHz-1GHz)	5.06dB (3m)
	4.46dB (10m)
Radiated Emissions (9kHz-30MHz)	± 4.5dB
Restricted band	± 3%

Remark:

The U_{lab} (lab Uncertainty) is less than U_{CISPR} (CISPR Uncertainty), so the test results

- compliance is deemed to occur if no measured disturbance level exceeds the disturbance limit;
- non-compliance is deemed to occur if any measured disturbance level exceeds the disturbance limit.



4.5 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd., Guangzhou Branch EMC Laboratory,
 198 Kezhu Road, Sciencetech Park, Guangzhou Economic & Technology Development District,
 Guangzhou, China 510663

Tel: +86 20 82155555 Fax: +86 20 82075059

No tests were sub-contracted.

4.6 Test Facility

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

- **NVLAP (Lab Code: 200611-0)**

SGS-CSTC Standards Technical Services Co., Ltd., Guangzhou EMC Laboratory is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP/NIST). NVLAP Code: 200611-0.

The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

- **ACMA**

SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory can also perform testing for the Australian/New Zealand Regulatory Compliance Mark (RCM).

- **SGS UK(Certificate No.: 32), SGS-TUV SAARLAND and SGS-FIMKO**

Have approved SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory as a supplier of EMC TESTING SERVICES and SAFETY TESTING SERVICES.

- **CNAS (Lab Code: L0167)**

SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory has been assessed and in compliance with CNAS-CL01:2018 accreditation criteria for testing laboratories (identical to ISO/IEC 17025:2017 General Requirements) for the Competence of Testing Laboratories.

- **FCC Recognized Accredited Test Firm(Registration No.: 486818)**

SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory has been accredited and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Designation Number: CN5016, Test Firm Registration Number: 486818.

- **ISED (Registration No.: 4620B, CAB identifier: CN0052)**

SGS-CSTC Standards Technical Services Co., Ltd., has been registered by Innovation Science and Economic Development Canada for Wireless Device Testing laboratories to test to Canadian radio equipment requirements. Registration No. 4620B, CAB identifier: CN0052.

- **VCCI (Registration No.: R-12460, C-12584, G-20107 and T-11179)**

The 10m Semi-anechoic chamber, 966 Anechoic Chamber and Shielded Room of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-12460, C-12584, G-20107 and T-11179 respectively.

- **CBTL (Lab Code: TL129)**

SGS-CSTC Standards Technical Services Co., Ltd., E&E Laboratory has been assessed and fully comply with the requirements of ISO/IEC 17025:2017, the Basic Rules, IECEE 01 and Rules of procedure IECEE 02, 广州 and the relevant IECEE CB-Scheme Operational documents.



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4.7 Deviation from Standards

None

4.8 Abnormalities from Standard Conditions

None



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5 Equipment List

20dB Bandwidth					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
Signal Analyzer (20Hz-26.5GHz)	Rohde & Schwarz	FISQ 26	EMC0069	2020-11-13	2021-11-12
6dB Attenuator	HP	8491A	EMC2062	2020-04-15	2022-04-14
MI CABLE	SGS-EMC	0.8M	EMC2136	2019-11-02	2021-11-01

Conducted Emissions at AC Mains Power Port (150kHz-30MHz)					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
Shielding Room	ChangZhou ZhongYu	8m x 3m x 3.8m	EMC0306	N/A	N/A
Two-Line V-Network	Rohde & Schwarz	ENV216	EMC0118	2021-01-08	2022-01-06
Two-Line V-Network-GZ	Rohde & Schwarz	ENV216	EMC2135	2020-09-25	2021-09-24
Coaxial Cable	HangTianXing	2m	EMC0107	2020-09-09	2022-09-08
Test Software E3c	Audix	Ver. 5.4.1221b	GZE100-62	N/A	N/A
EMI Test Receiver(9kHz-3.6GHz)	Rohde & Schwarz	ESR4	EMC2221	2021-06-01	2022-05-31

Radiated Emissions (30MHz-1GHz)					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
Chamber cable	HangTianXing	N/A	EMC0542	2020-09-09	2022-09-08
Trilog Broadband Antenna(25MHz-1GHz)-Lab	SCHWARZBECK MESS-ELEKTRONIK	VULB 9168	SEM003-18	2019-02-22	2022-02-22
Amplifier(9kHz-1.3GHz)	HP	8447F	EMC2065	2021-05-19	2022-05-18
10m Semi-Anechoic Chamber	ETS	N/A	EMC0530	2019-10-20	2022-10-19
Test Software E3	Audix	Ver.6.120110a	GZE100-61	N/A	N/A
EMI Test Receiver(1Hz-8GHz)	Rohde & Schwarz	ESW8	EMC2220	2021-05-26	2022-05-25

Radiated Emissions (9kHz-30MHz)					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
Chamber cable	HangTianXing	N/A	EMC0542	2020-09-09	2022-09-08
Amplifier(9kHz-1.3GHz)	HP	8447F	EMC2065	2021-05-19	2022-05-18
Active Loop Antenna-RED	ETS-Lindgren	6502	EMC2190	2019-12-27	2021-12-26
10m Semi-Anechoic Chamber	ETS	N/A	EMC0530	2019-10-20	2022-10-19
Test Software E3	Audix	Ver.6.120110a	GZE100-61	N/A	N/A



EMI Test Receiver(1Hz-8GHz)	Rohde & Schwarz	ESW8	EMC2220	2021-05-26	2022-05-25
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Restricted band					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
Signal Analyzer (20Hz-26.5GHz)	Rohde & Schwarz	FISQ 26	EMC0069	2020-11-13	2021-11-12
6dB Attenuator	HP	8491A	EMC2062	2020-04-15	2022-04-14
MI CABLE	SGS-EMC	0.8M	EMC2136	2019-11-02	2021-11-01

General used equipment					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
DMM	Fluke	73	EMC0006	2021-07-05	2022-07-05
DMM	Fluke	73	EMC0007	2021-07-05	2022-07-05



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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 permanently attached antenna or of an antenna that use an unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.

The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

This requirement does not apply to carrier current devices or to devices operated under the provisions of §§ 15.211, 15.213, 15.217, 15.219, 15.221, or § 15.236. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with § 15.31(d), must be measured at the installation site.

However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.

EUT Antenna:

The antenna is integrated on the main PCB and no consideration of replacement.

Please refer to internal photos.



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7 Radio Spectrum Matter Test Results

7.1 20dB Bandwidth

Test Requirement 47 CFR Part 15, Subpart C 15.215
 Test Method: ANSI C63.10 (2013) Section 6.9.2
 Limit: For report reference only

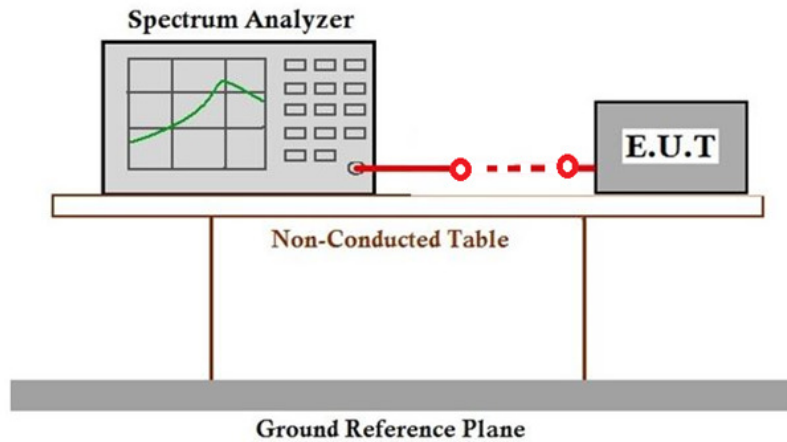
7.1.1 E.U.T. Operation

Operating Environment:
 Temperature: 21.5 °C Humidity: 53.2 % RH Atmospheric Pressure: 995 mbar

7.1.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	e	Charge mode_Keep the EUT charging (coil A 10W)
Final test	f	Charge mode_Keep the EUT charging (coil B 10W)

7.1.3 Test Setup Diagram

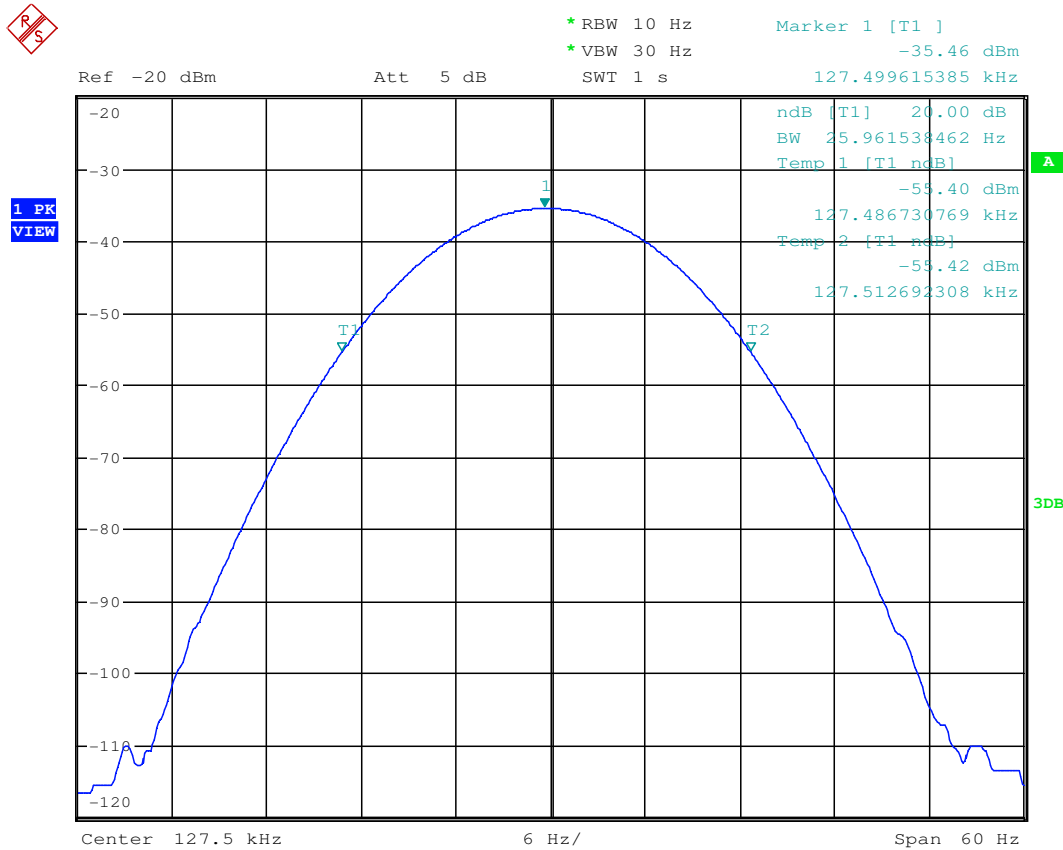


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7.1.4 Measurement Procedure and Data

Mode e:

Test Frequency(KHz)	20dB bandwidth (KHz)	Limit (KHz)	Results
127.50	0.026	N/A	Pass



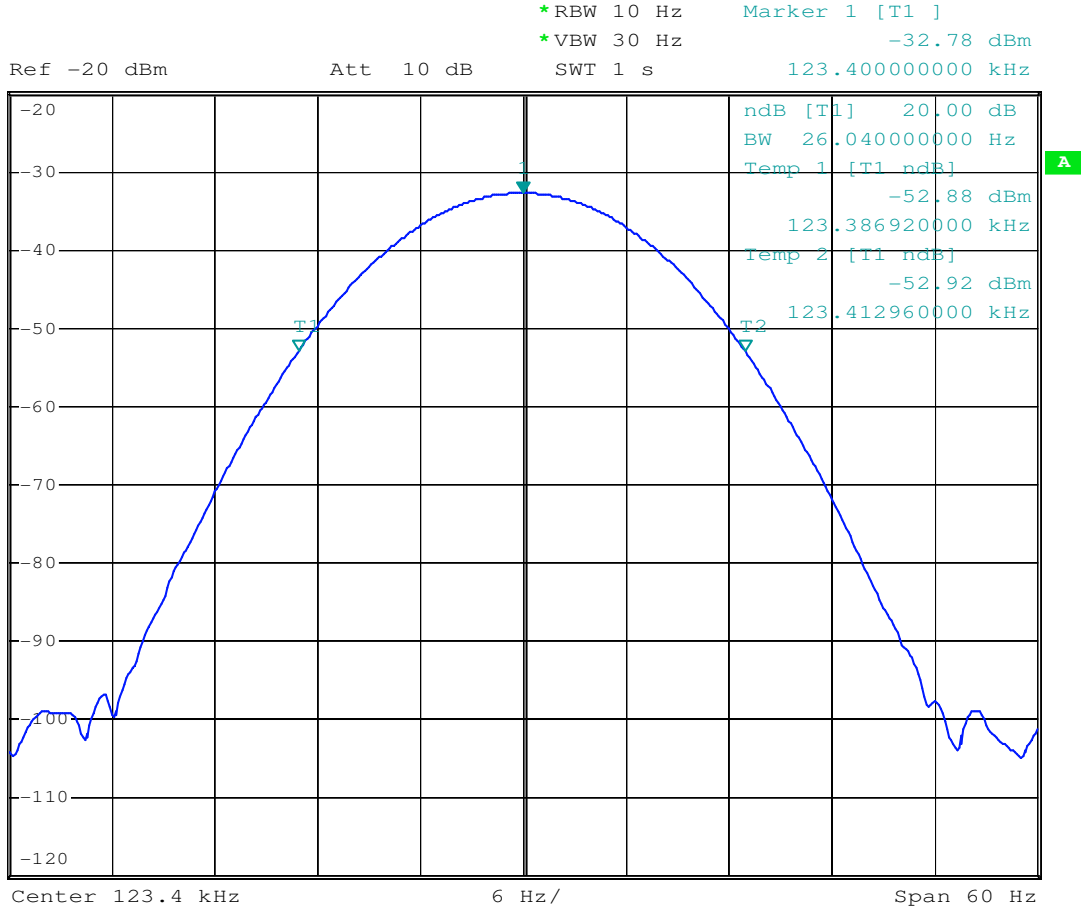
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Mode f:

Test Frequency(KHz)	20dB bandwidth (KHz)	Limit (KHz)	Results
123.40	0.026	N/A	Pass



1 PK
VIEW



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 Guangzhou Branch Testing Center EEC Laboratory. 中国·广州·经济技术开发区科学城科珠路198号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com

7.2 Conducted Emissions at AC Mains Power Port (150kHz-30MHz)

Test Requirement 47 CFR Part 15, Subpart C 15.207

Test Method: ANSI C63.10 (2013) Section 6.2

Limit:

Frequency of emission(MHz)	Conducted limit(dBμV)	
	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.

Detector: Peak for pre-scan (9kHz resolution bandwidth) 0.15M to 30MHz

7.2.1 E.U.T. Operation

Operating Environment:

Temperature: 22.5 °C

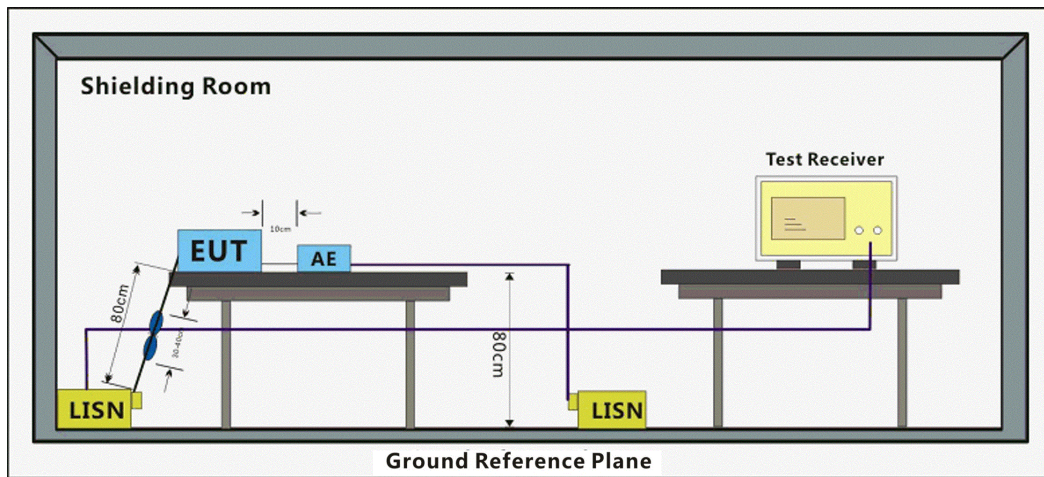
Humidity: 53.9 % RH

Atmospheric Pressure: 995 mbar

7.2.2 Test Mode Description

Pre-scan / Mode	Description
Final test Code	
Final test a	Charge mode_Keep the EUT charging via coil A (7.5W) and coil B (10W)

7.2.3 Test Setup Diagram



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7.2.4 Measurement Procedure and Data

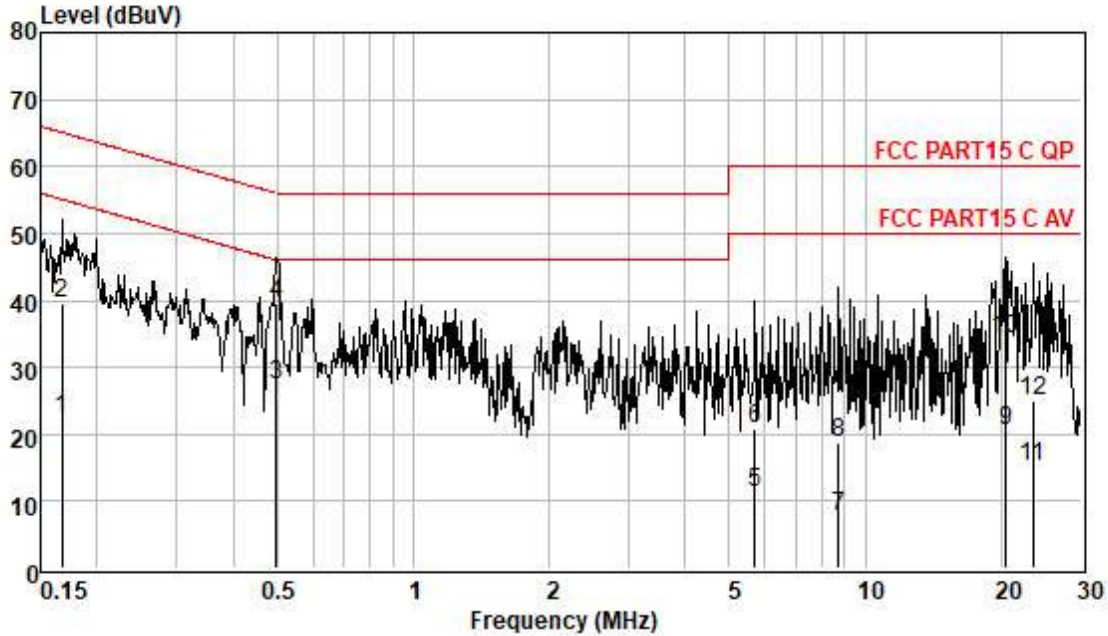
- 1) The mains terminal disturbance voltage test was conducted in a shielded room.
- 2) The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a 50ohm/50μH + 5ohm linear impedance. The power cables of all other units of the EUT were connected to 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: LISN=Read Level+ Cable Loss+ LISN Factor



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Test Mode: a; Line: Live line



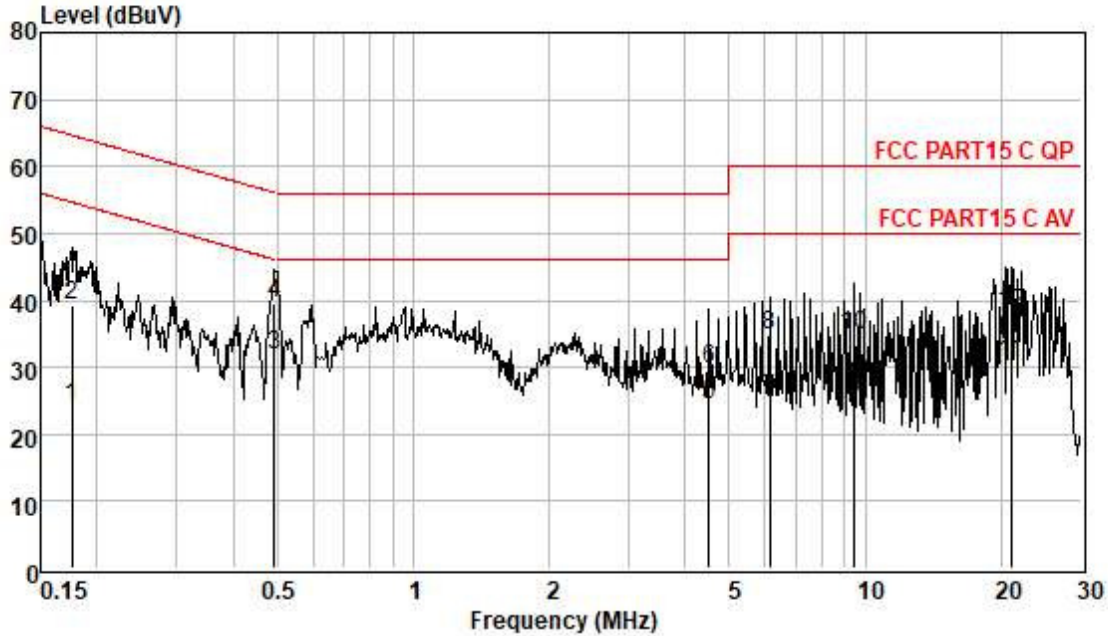
Pol :LINE
Mode :
Model :

Frequec MHz	Read Level dBuV	Cable Loss dB	LISN Factor dB	Measured Level dBuV	Limit Line dBuV	Over Limit dB	Remark
0.17	12.75	0.06	9.62	22.43	55.08	-32.65	Average
0.17	30.02	0.06	9.62	39.70	65.08	-25.38	QP
0.50	17.58	0.07	9.63	27.28	46.01	-18.73	Average
0.50	29.74	0.07	9.63	39.44	56.01	-16.57	QP
5.68	1.53	0.19	9.66	11.38	50.00	-38.62	Average
5.68	10.89	0.19	9.66	20.74	60.00	-39.26	QP
8.73	-2.26	0.22	9.68	7.64	50.00	-42.36	Average
8.73	8.77	0.22	9.68	18.67	60.00	-41.33	QP
20.49	10.35	0.37	9.77	20.49	50.00	-29.51	Average
20.49	23.99	0.37	9.77	34.13	60.00	-25.87	QP
23.51	4.96	0.39	9.85	15.20	50.00	-34.80	Average
23.51	14.66	0.39	9.85	24.90	60.00	-35.10	QP



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Test Mode: a; Line: Neutral Line



Pol : NEUTRAL
Mode :
Model :

Freque MHz	Read Level dBuV	Cable Loss dB	LISN Factor dB	Measured Level dBuV	Limit Line dBuV	Over Limit dB	Remark
0.18	14.45	0.06	9.55	24.06	54.68	-30.62	Average
0.18	29.57	0.06	9.55	39.18	64.68	-25.50	QP
0.49	22.14	0.07	9.55	31.76	46.10	-14.34	Average
0.49	29.91	0.07	9.55	39.53	56.10	-16.57	QP
4.50	14.60	0.17	9.56	24.33	46.00	-21.67	Average
4.50	19.94	0.17	9.56	29.67	56.00	-26.33	QP
6.15	15.60	0.20	9.57	25.37	50.00	-24.63	Average
6.15	25.03	0.20	9.57	34.80	60.00	-25.20	QP
9.45	15.43	0.23	9.59	25.25	50.00	-24.75	Average
9.45	24.89	0.23	9.59	34.71	60.00	-25.29	QP
20.92	20.49	0.37	9.70	30.56	50.00	-19.44	Average
20.92	27.91	0.37	9.70	37.98	60.00	-22.02	QP



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7.3 Radiated Emissions (30MHz-1GHz)

Test Requirement 47 CFR Part 15, Subpart C 15.205 & 15.209
 Test Method: ANSI C63.10 (2013) Section 6.5
 Measurement Distance: 10m
 Limit:

Frequency(MHz)	Field strength(microvolts/meter)	Measurement distance(meters)
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

Remark: The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90kHz, 110-490kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.

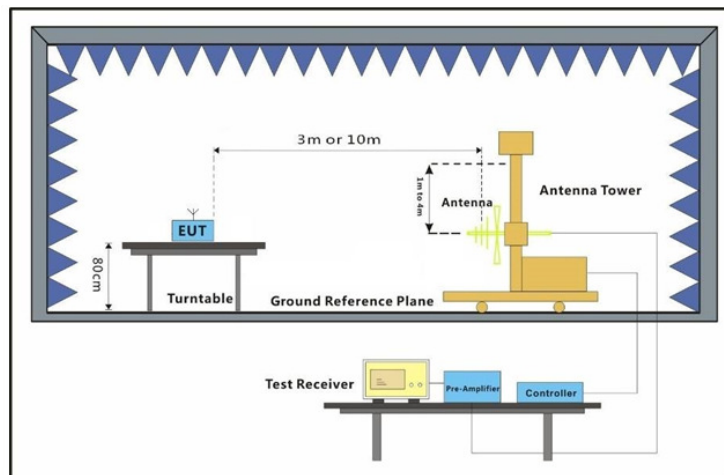
7.3.1 E.U.T. Operation

Operating Environment:
 Temperature: 21.5 °C Humidity: 53.1 % RH Atmospheric Pressure: 995 mbar

7.3.2 Test Mode Description

Pre-scan / Mode	Description
Final test Code	
Final test a	Charge mode_Keep the EUT charging via coil A (7.5W) and coil B (10W)

7.3.3 Test Setup Diagram



7.3.4 Measurement Procedure and Data

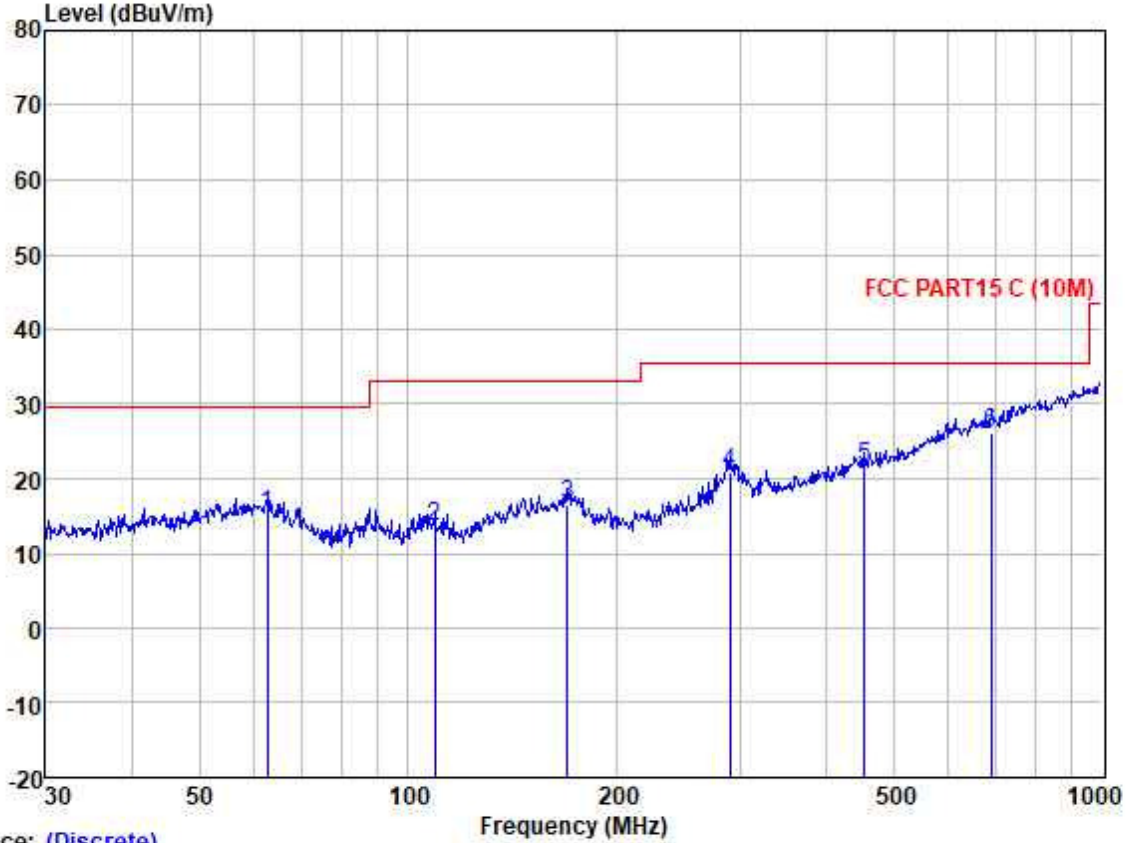
- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 10 meters away from the interference-receiving antenna, which was mounted 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. Test the EUT in the lowest channel, the middle channel, the Highest channel.
- h. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.
- j. Repeat above procedures until all frequencies measured was complete.

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



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Test Mode: a; Polarity: Horizontal



Trace: (Discrete)

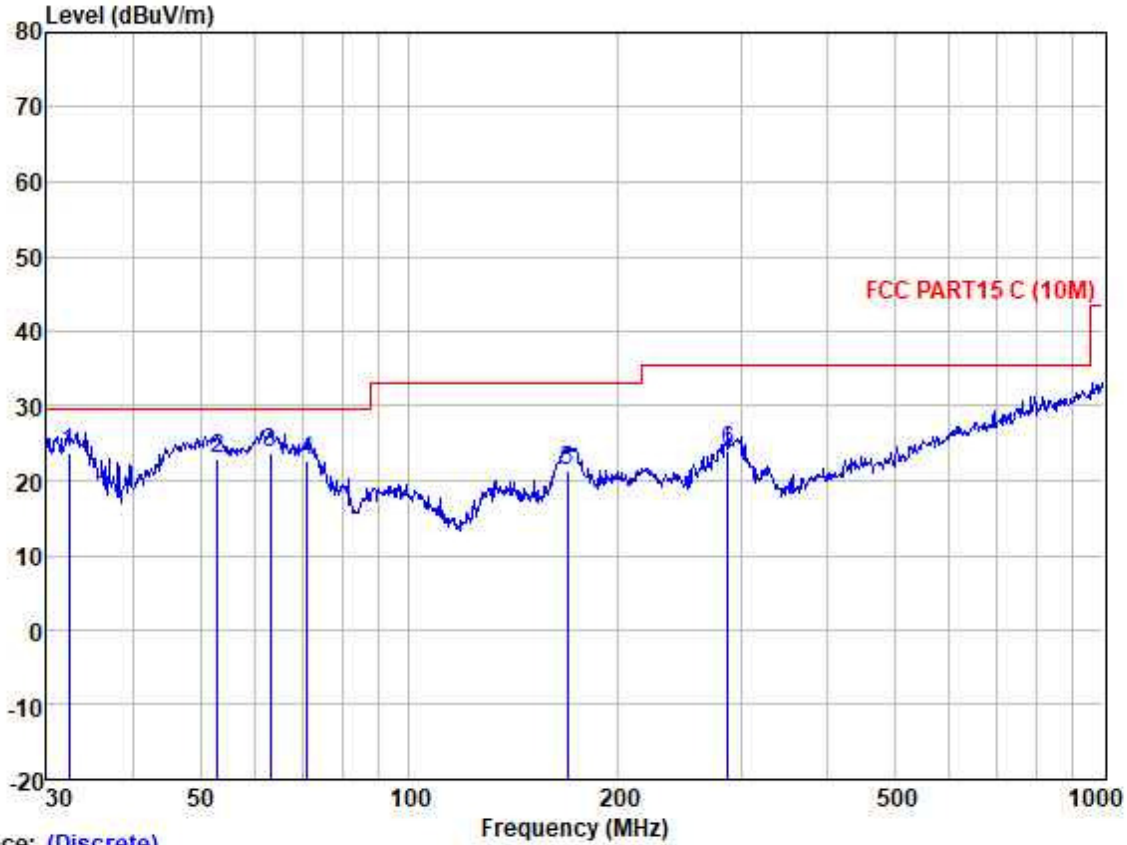
Site : SGS
 Condition : FCC PART15 C (10M)
 Job :
 Model :
 Power :
 Test Mode :

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Measured Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dBuV		
1	62.65	28.12	13.04	1.31	27.15	15.32	29.50	-14.18	HORIZONTAL	QP
2	109.03	28.58	10.35	1.78	27.06	13.65	33.10	-19.45	HORIZONTAL	QP
3	169.60	27.89	13.15	2.39	26.77	16.66	33.10	-16.44	HORIZONTAL	QP
4	291.04	30.83	13.42	3.14	26.56	20.83	35.60	-14.77	HORIZONTAL	QP
5	454.31	27.71	17.40	4.22	27.74	21.59	35.60	-14.01	HORIZONTAL	QP
6	691.99	27.67	21.00	5.73	28.16	26.24	35.60	-9.36	HORIZONTAL	QP



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Test Mode: a; Polarity: Vertical



Trace: (Discrete)

Site : SGS
 Condition : FCC PART15 C (10M)
 Job :
 Model :
 Power :
 Test Mode :

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Measured Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dBuV		
1	32.29	37.04	12.71	1.05	27.19	23.61	29.50	-5.89	VERTICAL	QP
2	52.95	35.11	13.90	1.17	27.17	23.01	29.50	-6.49	VERTICAL	QP
3	63.09	36.58	13.00	1.31	27.15	23.74	29.50	-5.76	VERTICAL	QP
4	71.33	36.68	11.64	1.42	27.12	22.62	29.50	-6.88	VERTICAL	QP
5	169.01	32.59	13.20	2.39	26.77	21.41	33.10	-11.69	VERTICAL	QP
6	287.99	34.02	13.37	3.12	26.56	23.95	35.60	-11.65	VERTICAL	QP



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The test was performed at a 10m test site. According to below formulate and the test data at 10m test distance,

$$L_3 / L_{10} = D_{10} / D_3$$

Note:

L₃: Level @ 3m distance. Unit: uV/m;

L₁₀: Level @ 10m distance. Unit: uV/m;

D₃: 3m distance. Unit: m

D₁₀: 10m distance. Unit: m

The level at 3m test distance is below:

Mode a:

Frequency (MHz)	Level 10m (dBuV/m) @	Level @ 10m (uV/m)	Level @ 3m (uV/m)	Level @ 3m (dBuV/m)	Limit @ 3m (dBuV/m)	Margin (dB)	Ant. Polarization
32.290	23.61	15.15	50.51	34.07	40.00	-5.93	V
52.950	23.01	14.14	47.14	33.47	40.00	-6.53	V
63.090	23.74	15.38	51.27	34.20	40.00	-5.80	V
71.330	22.62	13.52	45.07	33.08	40.00	-6.92	V
169.010	21.41	11.76	39.21	31.87	43.50	-11.63	V
287.990	23.95	15.76	52.53	34.41	46.00	-11.59	V
62.650	15.32	5.83	19.45	25.78	40.00	-14.22	H
109.030	13.65	4.81	16.05	24.11	43.50	-19.39	H
169.600	16.66	6.81	22.69	27.12	43.50	-16.38	H
291.040	20.83	11.00	36.68	31.29	46.00	-14.71	H
454.310	21.59	12.01	40.03	32.05	46.00	-13.95	H
691.990	26.24	20.51	68.37	36.70	46.00	-9.30	H



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7.4 Radiated Emissions (9kHz-30MHz)

Test Requirement 47 CFR Part 15, Subpart C 15.205 & 15.209
 Test Method: ANSI C63.10 (2013) Section 6.4
 Measurement Distance: 3m
 Limit:

Frequency(MHz)	Field strength(microvolts/meter)	Measurement distance(meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30

Remark: The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90kHz, 110-490kHz. Radiated emission limits in these three bands are based on measurements employing an average detector, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.

If field strength is measured at only a single point, then that point shall be at the radial from the EUT that produces the maximum emission at the frequency being measured, as described in 5.4. If that point is closer to the EUT than $\lambda/2\pi$ and the limit distance is greater than $\lambda/2\pi$, the measurement shall be extrapolated to the limit distance by conservatively presuming that the field strength decreases at a 40 dB/decade of distance rate to the $\lambda/2\pi$ distance, and at a 20 dB/decade of distance rate beyond $\lambda/2\pi$. This shall be accomplished using Equation (2):

$$FS_{(10m)} = FS_{(30/300m)} + 40\log\{d_{(near\ field)}/d_{(10m)}\} + 20\log\{d_{(30/300m)}/d_{(near\ field)}\} \quad (2)$$

If the single point measured is at a distance greater than $\lambda/2\pi$, then extrapolation to the limit distance shall be calculated using Equation (3):

$$FS_{(10m)} = FS_{(30/300m)} + 20\log\{d_{(30/300m)}/d_{(10m)}\} \quad (3)$$

If both the single point and the limit distance are equal to or closer to the EUT than $\lambda/2\pi$, then extrapolation to the limit distance shall be calculated using Equation (4):

$$FS_{(10m)} = FS_{(30/300m)} + 40\log\{d_{(30/300m)}/d_{(10m)}\} \quad (4)$$

Remark:

$$d_{near\ field} = 47.77 / f_{MHz}$$

where f_{MHz} is the frequency of the emission being measured in MHz.



7.4.1 E.U.T. Operation

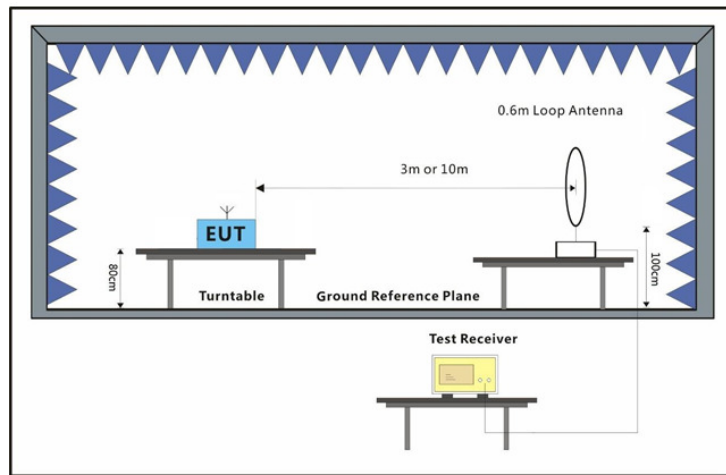
Operating Environment:

Temperature: 21.5 °C Humidity: 53.2 % RH Atmospheric Pressure: 995 mbar

7.4.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	a	Charge mode_Keep the EUT charging via coil A (7.5W) and coil B (10W)

7.4.3 Test Setup Diagram



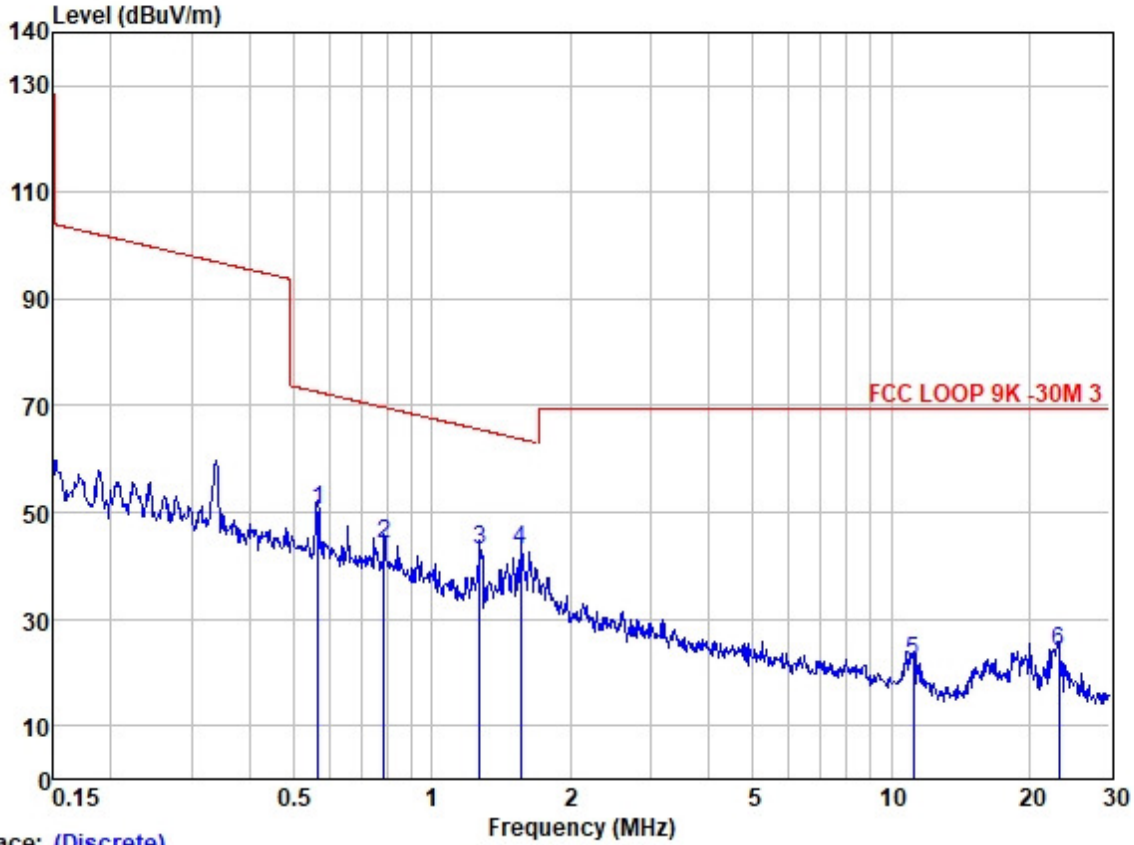
7.4.4 Measurement Procedure and Data

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.



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Test Mode: a; Polarity: Coplanar



Trace: (Discrete)

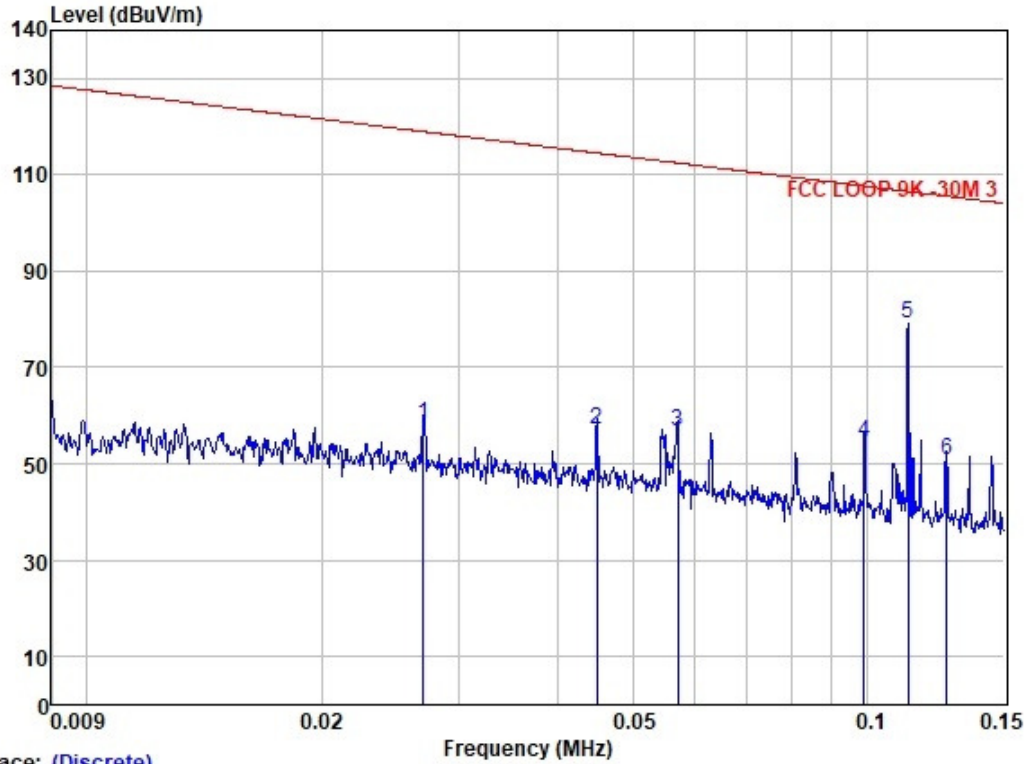
Site : SGS
 Condition : FCC LOOP 9K -30M 3 HORIZONTAL
 Job :
 Model :
 Power :
 Test Mode :

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Measured Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dBuV		
1	0.56	69.03	10.67	0.09	29.42	50.37	72.58	-22.21	HORIZONTAL	QP
2	0.79	62.83	10.48	0.12	29.41	44.02	69.68	-25.66	HORIZONTAL	QP
3	1.27	61.66	10.54	0.15	29.40	42.95	65.54	-22.59	HORIZONTAL	QP
4	1.56	61.16	10.84	0.17	29.39	42.78	63.74	-20.96	HORIZONTAL	QP
5	11.20	40.90	9.81	0.54	29.28	21.97	69.54	-47.57	HORIZONTAL	QP
6	23.14	43.80	8.33	0.87	29.17	23.83	69.54	-45.71	HORIZONTAL	QP



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Test Mode: a; Polarity: Coplanar



Trace: (Discrete)

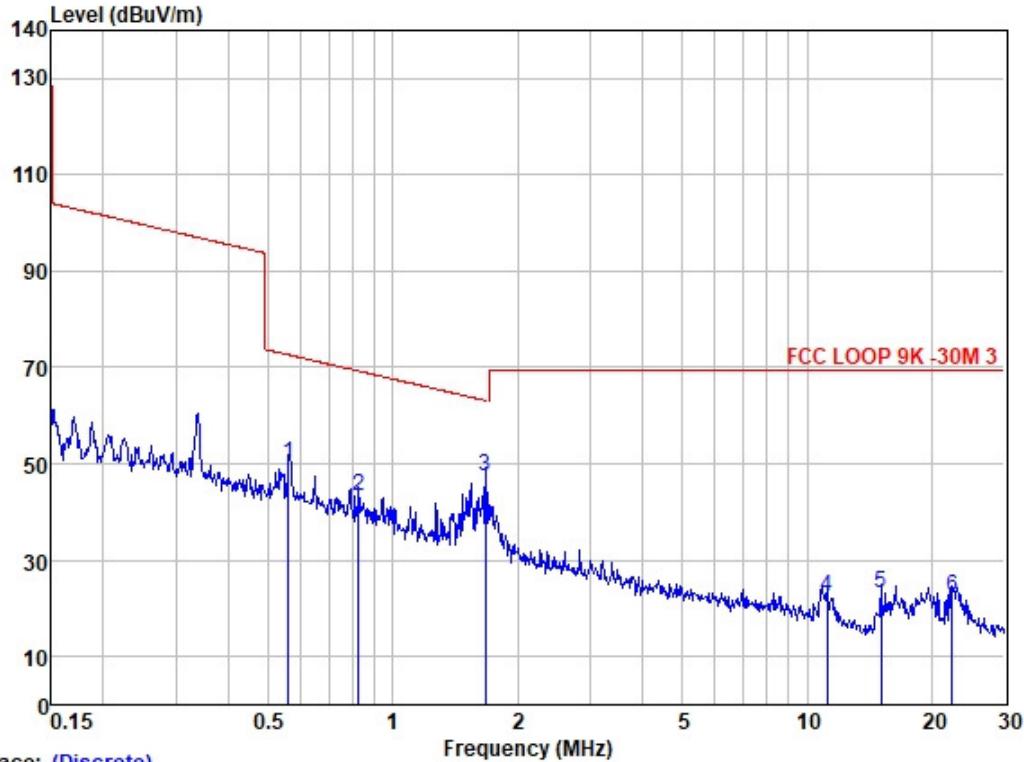
Site : SGS
 Condition : FCC LOOP 9K -30M 3 HORIZONTAL
 Job :
 Model :
 Power :
 Test Mode :

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Measured Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dBuV		
1	0.03	74.07	12.76	0.05	28.61	58.27	118.99	-60.72	HORIZONTAL	Average
2	0.04	74.46	11.96	0.05	29.24	57.23	114.54	-57.31	HORIZONTAL	Average
3	0.06	74.40	11.73	0.05	29.33	56.85	112.46	-55.61	HORIZONTAL	Average
4	0.10	73.63	10.41	0.05	29.47	54.62	107.70	-53.08	HORIZONTAL	QP
5	0.12	97.98	10.44	0.05	29.47	79.00	106.55	-27.55	HORIZONTAL	Average
6	0.13	69.72	10.50	0.05	29.47	50.80	105.57	-54.77	HORIZONTAL	Average



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Test Mode: a; Polarity: Coaxial



Trace: (Discrete)

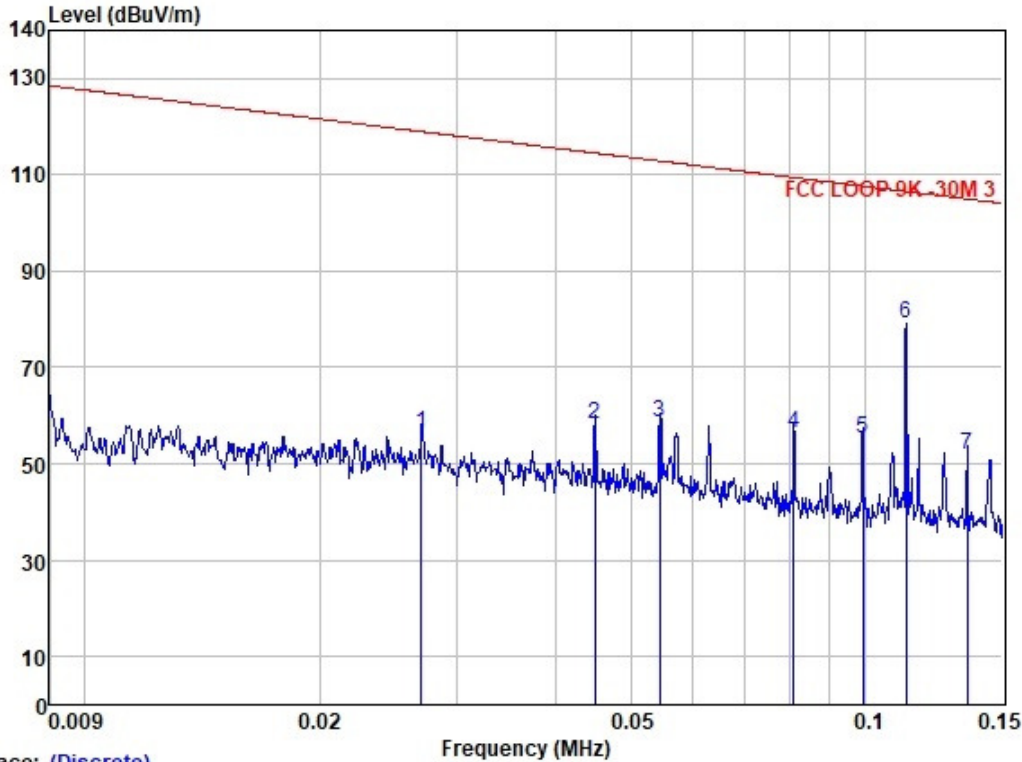
Site : SGS
 Condition : FCC LOOP 9K -30M 3 VERTICAL
 Job :
 Model :
 Power :
 Test Mode :

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Measured Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dBuV		
1	0.56	68.74	10.67	0.09	29.42	50.08	72.62	-22.54	VERTICAL	QP
2	0.83	62.15	10.45	0.12	29.41	43.31	69.26	-25.95	VERTICAL	QP
3	1.67	65.66	10.90	0.17	29.39	47.34	63.14	-15.80	VERTICAL	QP
4	11.20	41.44	9.81	0.54	29.28	22.51	69.54	-47.03	VERTICAL	QP
5	15.07	43.09	8.70	0.61	29.24	23.16	69.54	-46.38	VERTICAL	QP
6	22.42	42.47	8.35	0.83	29.17	22.48	69.54	-47.06	VERTICAL	QP



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 中国·广州·经济技术开发区科学城科珠路198号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com

Test Mode: a; Polarity: Coaxial



Trace: (Discrete)

Site : SGS
 Condition : FCC LOOP 9K -30M 3 VERTICAL
 Job :
 Model :
 Power :
 Test Mode :

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Measured Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dBuV		
1	0.03	72.19	12.76	0.05	28.61	56.39	118.99	-62.60	VERTICAL	Average
2	0.04	75.32	11.96	0.05	29.24	58.09	114.54	-56.45	VERTICAL	Average
3	0.05	75.92	11.80	0.05	29.32	58.45	112.88	-54.43	VERTICAL	Average
4	0.08	75.06	10.70	0.05	29.43	56.38	109.43	-53.05	VERTICAL	Average
5	0.10	74.37	10.41	0.05	29.47	55.36	107.67	-52.31	VERTICAL	QP
6	0.12	98.31	10.44	0.05	29.47	79.33	106.55	-27.22	VERTICAL	Average
7	0.14	70.80	10.54	0.05	29.46	51.93	104.99	-53.06	VERTICAL	Average



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7.5 Restricted band

Test Requirement 47 CFR Part 15, Subpart C 15.205
 Test Method: ANSI C63.10 (2013) Section 6.10.5
 Limit:

The fundamental wave could not fall in the restricted band 90KHz-110KHz

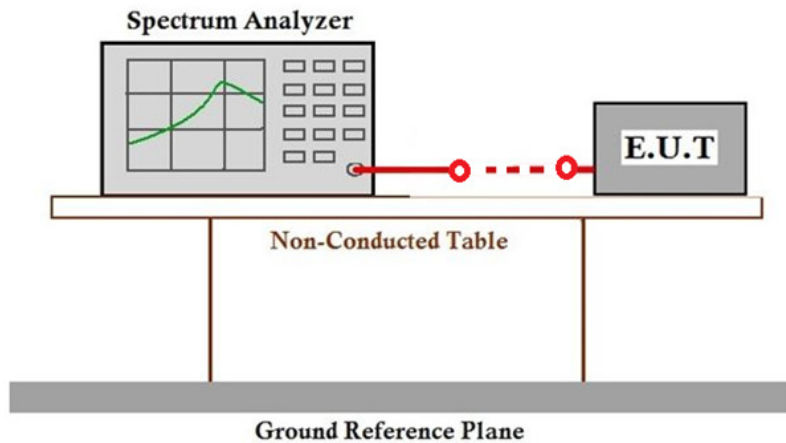
7.5.1 E.U.T. Operation

Operating Environment:
 Temperature: 23.3 °C Humidity: 54.7 % RH Atmospheric Pressure: 995 mbar

7.5.2 Test Mode Description

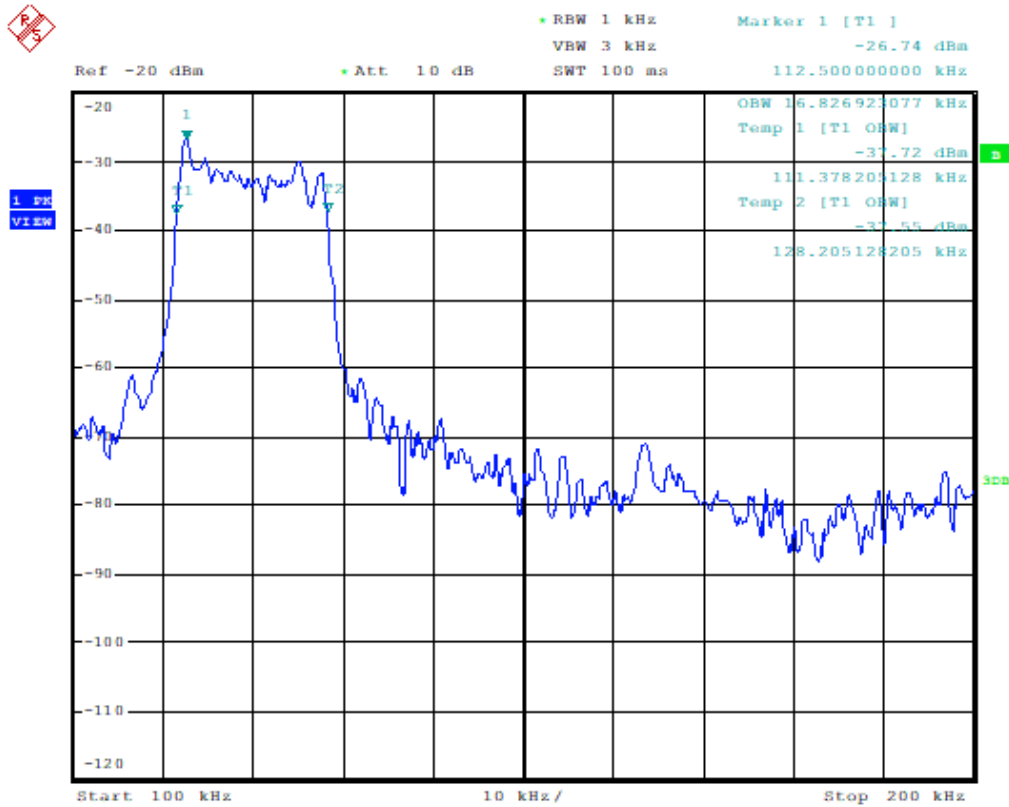
Pre-scan / Final test	Mode Code	Description
Final test	e	Charge mode_Keep the EUT charging (coil A 10W)
Final test	f	Charge mode_Keep the EUT charging (coil B 10W)

7.5.3 Test Setup Diagram



7.5.4 Measurement Procedure and Data

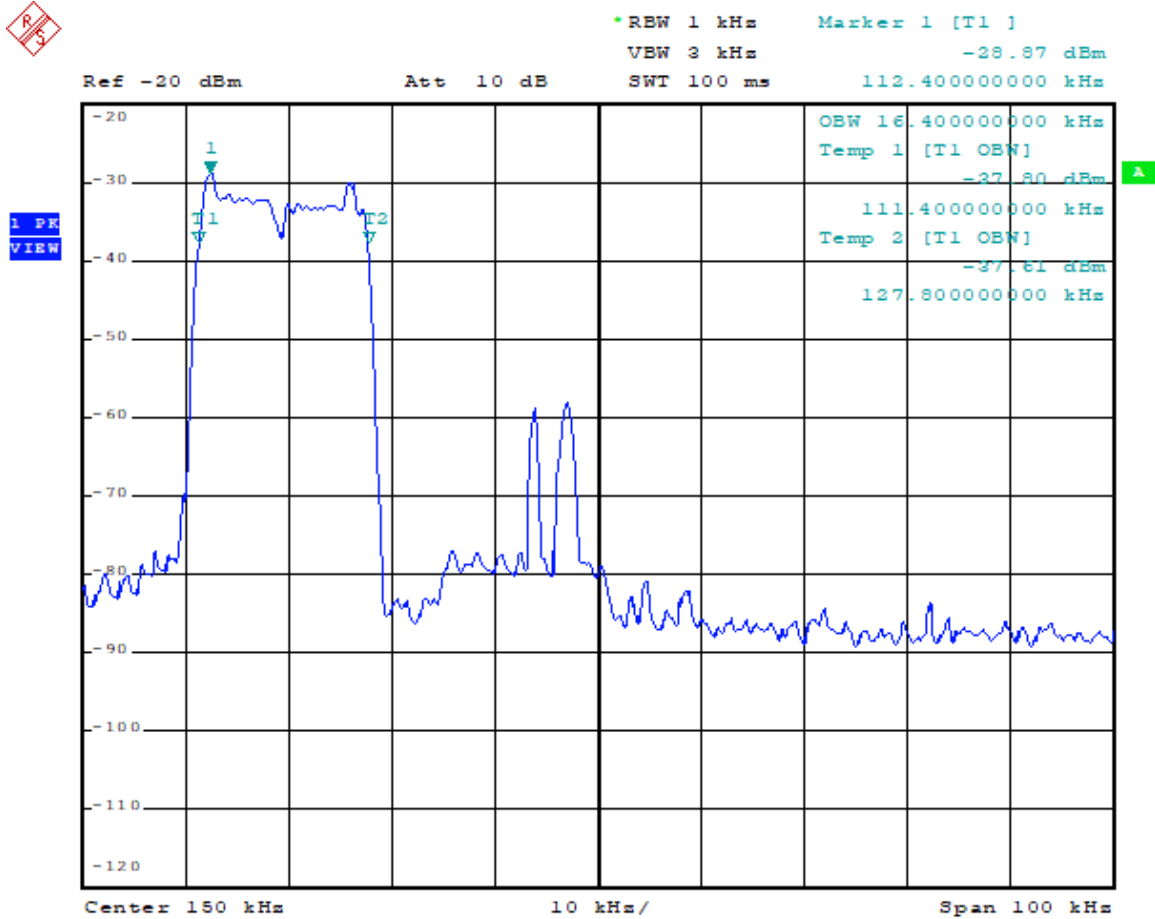
Mode e:



According to the test data above, the fundamental wave is not fall in the restricted band 90KHz-110KHz, the field strength also meets the 15.209 requirement, please refer to clause 7.4.



Mode f:



According the test data above, the fundamental wave is not fall in the restricted band 90KHz-110KHz, the field strength also meets the 15.209 requirement, please refer to clause 7.4.

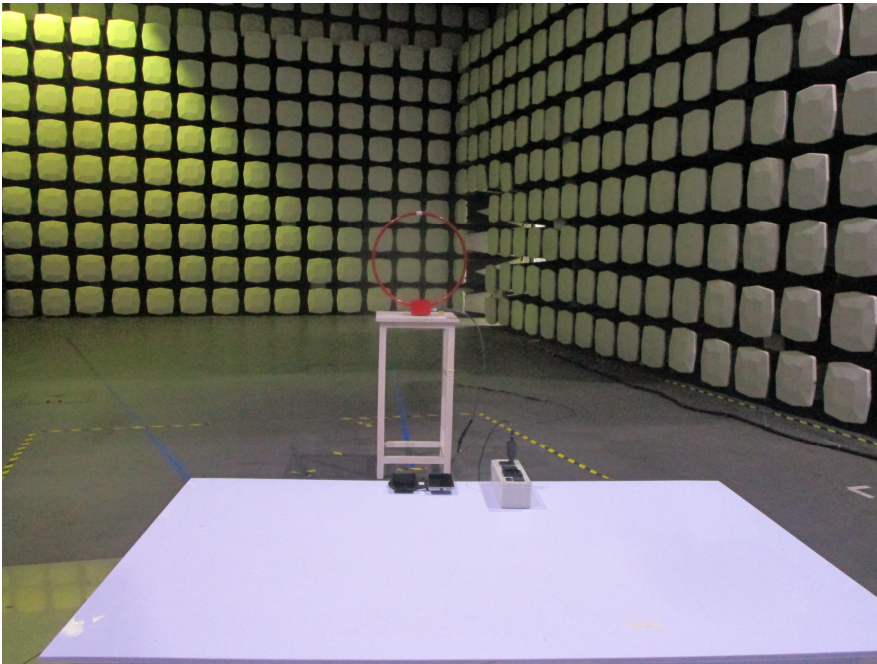


8 Test Setup Photo

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

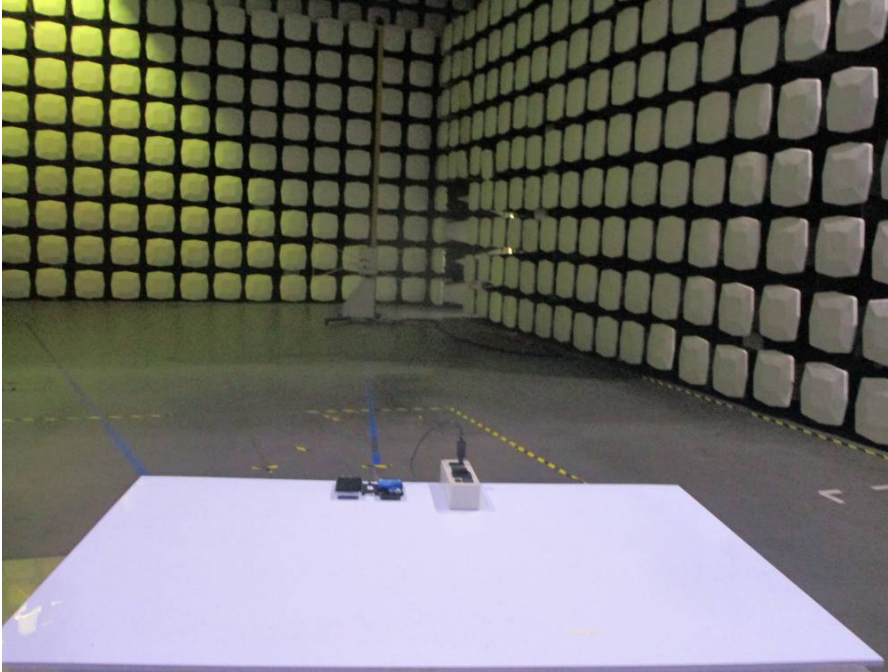


Radiated Emissions (9kHz-30MHz) Test Setup



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Radiated Emissions (30MHz-1GHz) Test Setup



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9 EUT Constructional Details (EUT Photos)

Refer to appendix - external and internal photos for GZCR2108020824AT

- End of the Report -



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