



TEST REPORT

Application No.: GZEM2004011804CR
Applicant: LUCKYSTAR ELECTRONIC TECHNOLOGY CO.,LTD.
Address of Applicant: 10# Fusheng Road, Hecheng street, Gaoming District, Foshan City, Guangdong, CHINA
Manufacturer: The same as applicant.
Address of Manufacturer: The same as applicant.
Factory: The same as applicant.
Address of Factory: The same as applicant.
Equipment Under Test (EUT):
FCC ID: 2AWAH-LS9A10
EUT Name: LED Strip Light
Model No.: LS9A10-32FT, LS9A128-1-01 ✕
✕ Please refer to section 2 of this report which indicates which model was actually tested and which were electrically identical.
Trade Mark: LSL /LUCKYSTAR
Standard(s): 47 CFR Part 15, Subpart C 15.231
Date of Receipt: 2020-07-14
Date of Test: 2020-07-27 to 2020-08-13
Date of Issue: 2020-08-27

Test Result:	Pass*
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* In the configuration tested, the EUT complied with the standards specified above.

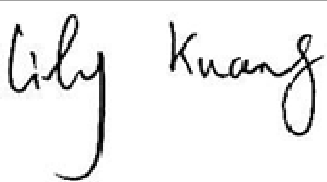
Kobe Jian

EMC Laboratory Manager



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Revision Record				
Version	Chapter	Date	Modifier	Remark
01		2020-08-27		Original

Authorized for issue by:			
Tested By	 Lily_Kuang /Project Engineer	2020-07-27 to 2020-08-13 Date	
Checked By	 Ricky_Liu /Reviewer	2020-08-27 Date	



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2 Test Summary

Radio Spectrum Technical Requirement				
Item	Standard	Method	Requirement	Result
Antenna Requirement	47 CFR Part 15, Subpart C 15.231	N/A	47 CFR Part 15, Subpart C 15.203	Pass

N/A: Not applicable

Radio Spectrum Matter Part				
Item	Standard	Method	Requirement	Result
20dB Bandwidth	47 CFR Part 15, Subpart C 15.231	ANSI C63.10 (2013) Section 6.9	47 CFR Part 15, Subpart C 15.231(c)	Pass
Dwell Time (15.231(a))	47 CFR Part 15, Subpart C 15.231	ANSI C63.10 (2013) Section 7.8.4	47 CFR Part 15, Subpart C 15.231(a)	Pass
Field Strength of the Fundamental Signal (15.231(b))	47 CFR Part 15, Subpart C 15.231	ANSI C63.10 (2013) Section 6.5	47 CFR Part 15, Subpart C 15.231(b)	Pass
Radiated Emissions & Restricted bands	47 CFR Part 15, Subpart C 15.231 & 15.209	ANSI C63.10 (2013) Section 6.4&6.5&6.6	47 CFR Part 15, Subpart C 15.231(b) & 15.209	Pass

✧ Declaration of EUT Family Grouping:

Model No.: LS9A10-32FT, LS9A128-1-01

According to the declaration from the applicant, the electrical circuit design, layout, components used and internal wiring were identical for all models, only their item no.'s and outer decoration are different.

Therefore only one model LS9A10-32FT was tested in this report.



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4 General Information

4.1 Details of E.U.T.

Power Supply:	For Remote controller (LS9A10-32FT-1): DC 3V for Tx (1*CR1632) For Light: The details of AC/DC adapter as below: Model No.: XY50SA-240200VQ-UT Input: 100-120V~50/60Hz 1.2A Max Output: 24V=== 2.0A
Test Voltage:	DC 3V
Antenna Gain	0 dBi declared by applicant
Antenna Type	Integral
Number of Channels	1
Operation Frequency	433.92MHz
SN	A1
Hardware	ZSJ-4410-03
Software	SV01
Power setting	Default

4.2 Description of Support Units

The EUT has been tested as an independent unit.

4.3 Measurement Uncertainty

No.	Item	Measurement Uncertainty
1	Radio Frequency	$\pm 5.5 \times 10^{-8}$
2	Duty cycle	$\pm 0.57\%$
3	Occupied Bandwidth	$\pm 3\%$
4	RF Conducted power	$\pm 0.68\text{dB}$
5	RF Power Density	$\pm 1.50\text{dB}$
6	Conducted Spurious Emissions	$\pm 1.04\text{dB}$
7	RF Radiated Power	$\pm 4.5\text{dB}$ (below 1GHz)
		$\pm 4.8\text{dB}$ (above 1GHz)
8	Radiated Spurious Emission Test	$\pm 4.5\text{dB}$ (30MHz-1GHz)
		$\pm 4.8\text{dB}$ (1GHz-18GHz)
9	Temperature	$\pm 0.4^\circ\text{C}$
10	Humidity	$\pm 1.3\%$
11	Supply Voltages	$\pm 1.5\%$
12	Time	$\pm 3\%$



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4.4 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.



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4.5 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 C-Tick mark as a result of our NVLAP accreditation.

● **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 2.948 Listed Test Firm(Registration No.: 282399)**

SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration 282399, May 31, 2002.

● **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, Jul 13, 2017.

● **Industry Canada (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-10449 and T-11179)**

The 10m Semi-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-10449 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 17025:2005, the Basic Rules, IECEE 01 and Rules of procedure IECEE 02, and the relevant IECEE CB-Scheme Operational documents.



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4.6 Deviation from Standards

None

4.7 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
EXA Signal Analyzer	AgilentTechnologies	N9010A	EMC2138	2019-11-18	2020-11-17
6dB Attenuator	HP	8491A	EMC2062	2020-04-15	2022-04-14
Test Software JS1120-3	HangTianXing	V2.6	GZE100-69	N/A	N/A
MI CABLE	SGS-EMC	0.8M	EMC2136	2019-11-02	2021-11-01
MI CABLE	SGS-EMC	0.8M	EMC2137	2019-11-02	2021-11-01

Dwell Time (15.231(a))					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
EXA Signal Analyzer	AgilentTechnologies	N9010A	EMC2138	2019-11-18	2020-11-17
6dB Attenuator	HP	8491A	EMC2062	2020-04-15	2022-04-14
Test Software JS1120-3	HangTianXing	V2.6	GZE100-69	N/A	N/A
MI CABLE	SGS-EMC	0.8M	EMC2136	2019-11-02	2021-11-01
MI CABLE	SGS-EMC	0.8M	EMC2137	2019-11-02	2021-11-01

Radiated Emissions					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
EMI Test Receiver	Rohde & Schwarz	ESIB26	EMC0522	2020-01-10	2021-01-09
EMI Test Receiver	Rohde & Schwarz	ESCI	EMC0056	2020-01-10	2021-01-09
Chamber cable	HangTianXing	N/A	EMC0542	2019-06-28	2021-06-27
Trilog Broadband Antenna 25MHz-1GHz	SCHWARZBECKME SS-ELEKTRONIK	VULB 9168	EMC2174	2018-09-06	2021-09-05
Trilog Broadband Antenna 30MHz-1GHz	SCHWARZBECKME SS-ELEKTRONIK	VULB 9168	SEM003-18	2019-02-22	2022-02-22
Bi-log Type Antenna	Schaffner Chase	CBL6143	EMC0519	2020-06-08	2023-06-07
Horn Antenna 1GHz-18GHz	Rohde & Schwarz	HF906	EMC0518	2018-09-02	2021-09-01
1GHz-26.5 GHz Pre-Amplifier	Agilent	8449B	EMC0521	2020-01-10	2021-01-09
Amplifier	HP	8447F	EMC2065	2020-05-26	2021-05-25
Pre-Amplifier MH648A	ANRITSU CORP	MH648A	EMC2086	2019-11-18	2020-11-17
Active Loop Antenna	ETS-Lindgren	6502	EMC2190	2019-12-27	2021-12-26
High Pass Filter	WAINWRIGHT INSTRUMENTS GMBH	WHKS650-10S S	EMC2092	2020-01-10	2021-01-09
2.4GHz Filter	Micro-Tronics	BRM 50702	EMC2069	2020-01-10	2021-01-09
10m Semi-Anechoic Chamber	ETS	N/A	EMC0530	2019-10-20	2022-10-19



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966 Anechoic Chamber	C.R.T	9m x 6m x 6m	EMC2142	2017-12-19	2020-12-18
MXE EMI Receiver	Keysight	N9038A	EMC2139	2019-11-18	2020-11-17
EXA Signal Analyzer	Keysight	N9010A	EMC2138	2019-11-18	2020-11-17
Test Software E3	Audix	Ver.6.120110a	GZE100-61	N/A	N/A

General used equipment					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
DMM	Fluke	73	EMC0006	2020-07-16	2021-07-15
DMM	Fluke	73	EMC0007	2020-07-16	2021-07-15



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Member of the SGS Group (SGS SA)

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 integrated on the main PCB and no consideration of replacement. The best case gain of the antenna is 0dBi.



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7 Radio Spectrum Matter Test Results

7.1 20dB Bandwidth

Test Requirement 47 CFR Part 15, Subpart C 15.231(c)

Test Method: ANSI C63.10 (2013) Section 6.9

Limit:

Frequency range(MHz)	Limit
70-900	No wider than 0.25% of the center frequency
Above 900	No wider than 0.5% of the center frequency

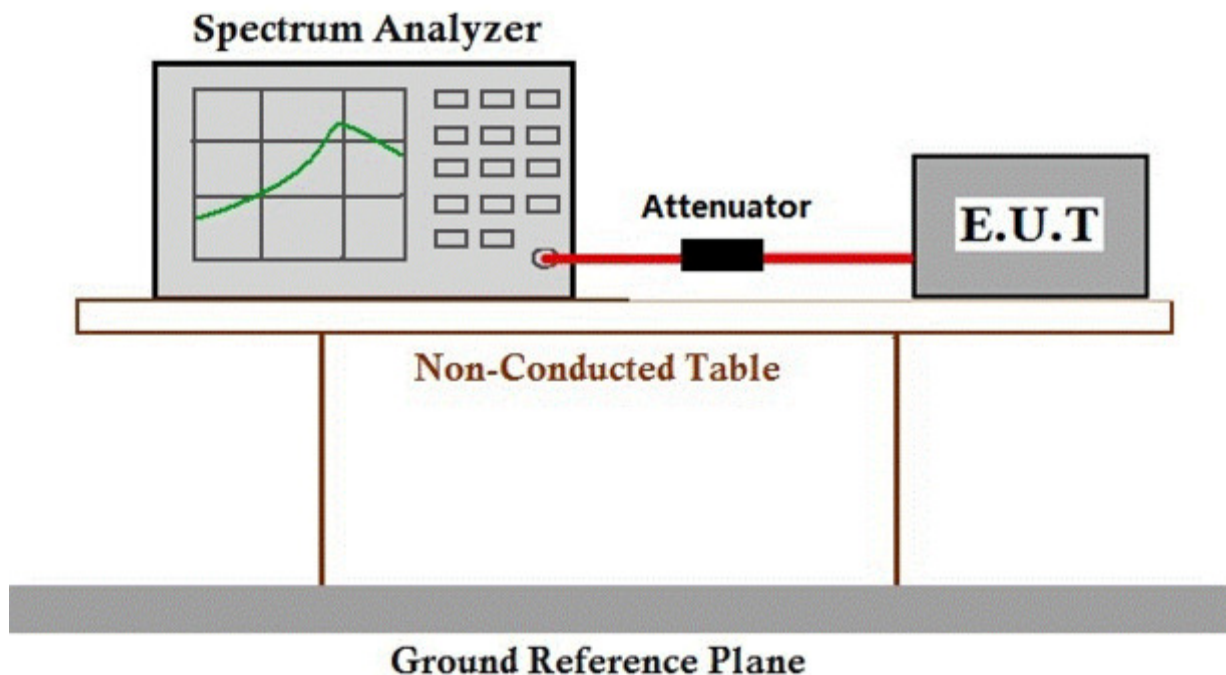
7.1.1 E.U.T. Operation

Operating Environment:

Temperature: 26.6 °C Humidity: 58.8 % RH Atmospheric Pressure: 1020 mbar

Test mode a:TX mode_Keep the EUT in transmitting with modulation mode.

7.1.2 Test Setup Diagram



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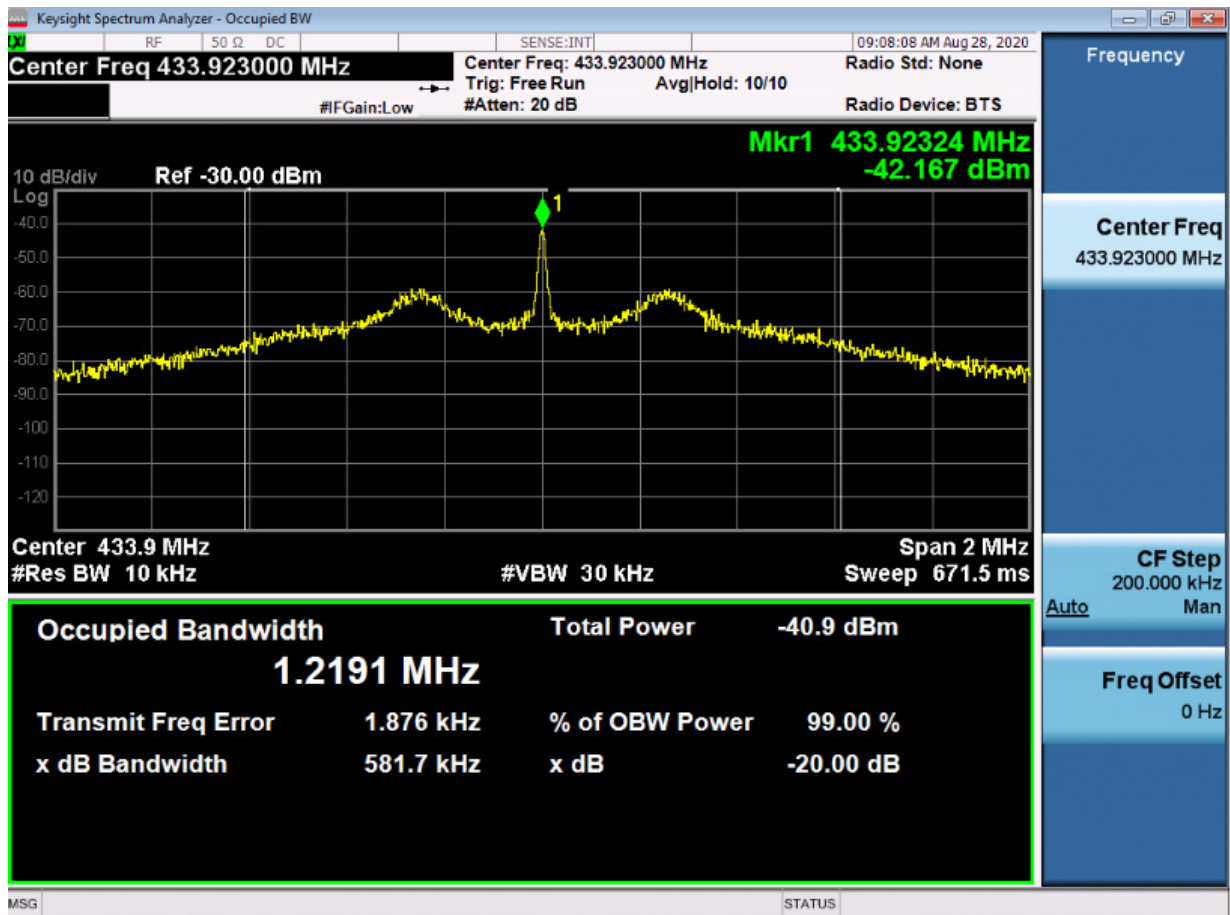
7.1.3 Measurement Procedure and Data

Mode:a

Test Result:

Test Channel	Bandwidth	Limit	Verdict
433.92MHz	581.7kHz	<1.08 MHz	PASS

Test Plot:



7.2 Dwell Time (15.231(a))

Test Requirement 47 CFR Part 15, Subpart C 15.231(a)

Test Method: ANSI C63.10 (2013) Section 7.8.4

Limit:

Device type	Limit
Manually operated transmitter	The switch automatically deactivate the transmitter within not more than 5 seconds of being released
Automatically active transmitter	Cease transmission within 5 seconds after activation
Periodic transmissions to determine system integrity of transmitters used in security or safety applications	The total transmission time does not exceed 2 seconds per hour

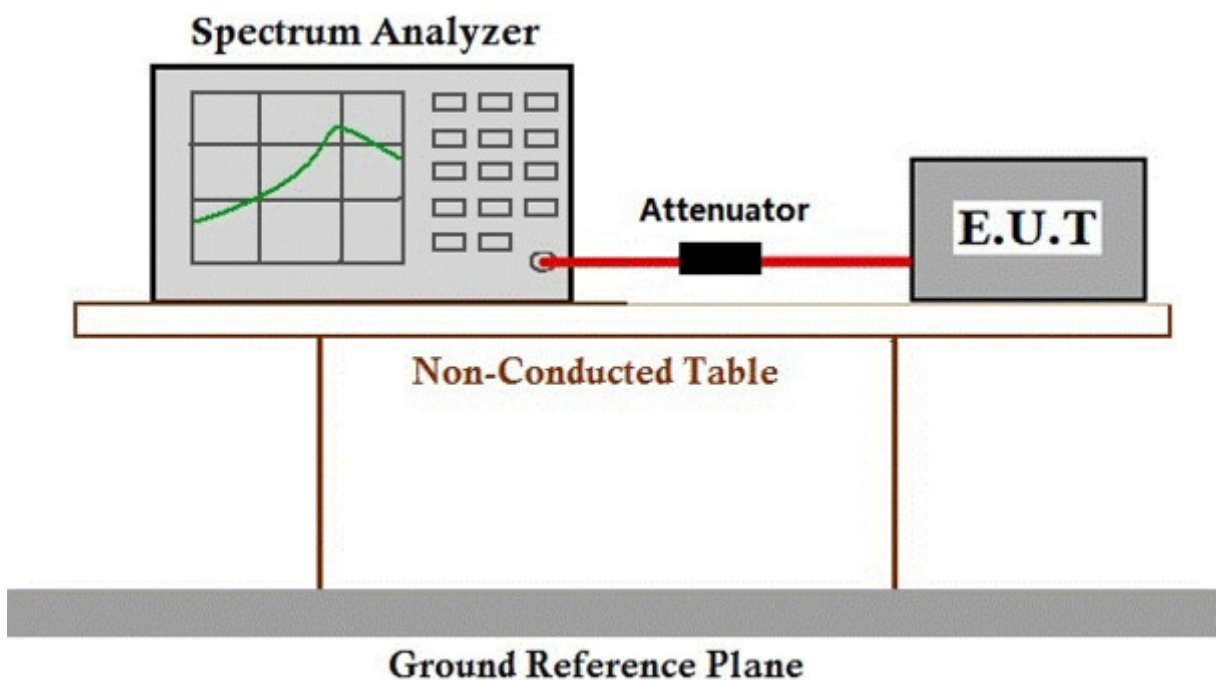
7.2.1 E.U.T. Operation

Operating Environment:

Temperature: 26.6 °C Humidity: 58.8 % RH Atmospheric Pressure: 1020 mbar

Test mode a:TX mode_Keep the EUT in transmitting with modulation mode.

7.2.2 Test Setup Diagram



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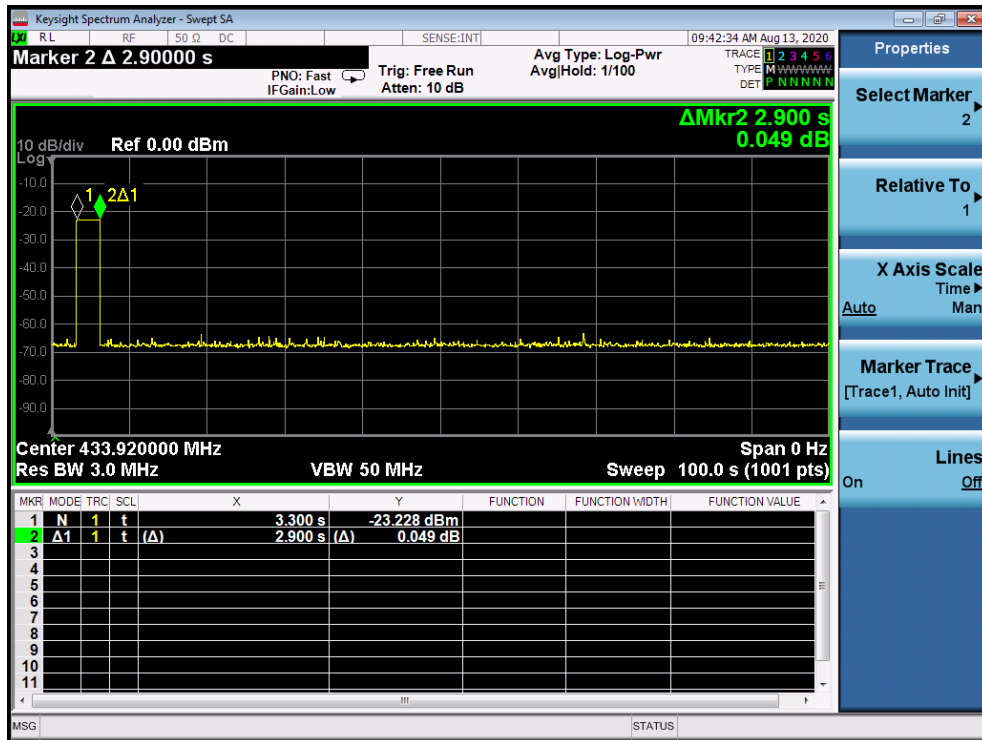
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7.2.3 Measurement Procedure and Data

Carrier Frequency	Shutdown Time	Limit	Verdict
433.9MHz	2.9s	≤5s	PASS

Mode:a



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7.3 Field Strength of the Fundamental Signal (15.231(b))

Test Requirement 47 CFR Part 15, Subpart C 15.231(b)

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

Measurement Distance: 3m

Limit:

Fundamental Frequency MHz	Field Strength of Fundamental (dBμV/m @ 3 m)	Field Strength of Harmonics and Spurious Emissions (dBμV/m @ 3 m)
40.66 to 40.70	67.04	47.04
70 to 130	61.94	41.94
130 to 174	61.94 to 71.48	41.94 to 51.48
174 to 260	71.48	51.48
260 to 470	71.48 to 81.94	51.48 to 61.94
Above 470	81.94	61.94
Detector:	Peak for pre-scan	
	QP for 30MHz to 1000 MHz: 120 kHz resolution bandwidth	
	Peak for Above 1 GHz: 1 MHz resolution bandwidth	

** linear interpolations

[Where F is the frequency in MHz, the formulas for calculating the maximum permitted fundamental field strengths are as follows: for the band 130-174 MHz, $\mu\text{V/m}$ at 3 meters = $56.81818(F) - 6136.3636$; for the band 260-470 MHz, $\mu\text{V/m}$ at 3 meters = $41.6667(F) - 7083.3333$. The maximum permitted unwanted emission level is 20 dB below the maximum permitted fundamental level.]

The fundamental frequency of the EUT is 433.92 MHz

The limit for average or QP field strength dBμV/m for the fundamental emission= 80.83 dBμV/m

No fundamental is allowed in the restricted bands.

The limit for average field strength dBμV/m for the spurious emission=60.83 dBμV/m. Spurious in the restricted bands must be less than 60.83 dBμV/m or 15.209, whichever limit permits a higher field strength.



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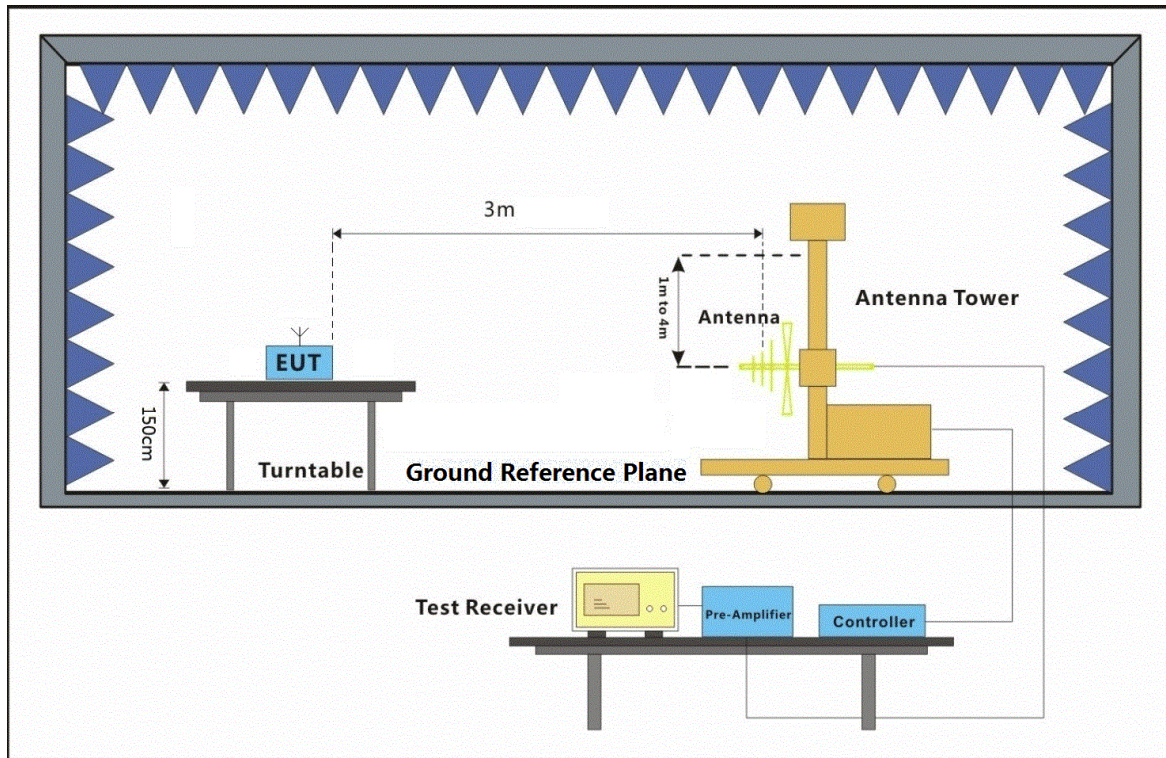
7.3.1 E.U.T. Operation

Operating Environment:

Temperature: 22 °C Humidity: 52 % RH Atmospheric Pressure: 1020 mbar

Test mode a:TX mode_Keep the EUT in transmitting with modulation mode.

7.3.2 Test Setup Diagram



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7.3.3 Measurement Procedure and Data

And according 15.35(a)

15.35(a) On any frequency or frequencies below or equal to 1000 MHz, the limits shown are based on measuring equipment employing a CISPR quasi-peak detector function and related measurement bandwidths, unless otherwise specified. The specifications for the measuring instrument using the CISPR quasi-peak detector can be found in Publication 16 of the International Special Committee on Radio Interference (CISPR) of the International Electrotechnical Commission. As an alternative to CISPR quasi-peak measurements, the responsible party, at its option, may demonstrate compliance with the emission limits using measuring equipment employing a peak detector function, properly adjusted for such factors as pulse desensitization, as long as the same bandwidths as indicated for CISPR quasi-peak measurements are employed.

Note: For pulse modulated devices with a pulse-repetition frequency of 20 Hz or less and for which CISPR quasi-peak measurements are specified, compliance with the regulations shall be demonstrated using measuring equipment employing a peak detector function, properly adjusted for such factors as pulse desensitization, using the same measurement bandwidths that are indicated for CISPR quasi-peak measurements.

According to 15.35 (b) Unless otherwise specified, on any frequency or frequencies above 1000 MHz, the radiated emission limits are based on the use of measurement instrumentation employing an average detector function. Unless otherwise specified, measurements above 1000 MHz shall be performed using a minimum resolution bandwidth of 1 MHz. When average radiated emission measurements are specified in this part, including average emission measurements below 1000 MHz, there also is a limit on the peak level of the radio frequency emissions. Unless otherwise specified, e.g., see §§ 15.250, 15.252, 15.255, and 15.509-15.519 of this part, the limit on peak radio frequency emissions is 20 dB above the maximum permitted average emission limit applicable to the equipment under test. This peak limit applies to the total peak emission level radiated by the device, e.g., the total peak power level. Note that the use of a pulse desensitization correction factor may be needed to determine the total peak emission level. The instruction manual or application note for the measurement instrument should be consulted for determining pulse desensitization factors, as necessary.

The average correction factor is computed by analyzing the on time in 100ms over one complete pulse train. Analysis of the remote transmitter on time in one complete pulse train, therefore the average value of fundamental frequency is: Average = Peak value + 20log (Duty cycle), where the duty factor is calculated from following formula:

$$20\log(\text{Duty cycle}) = 20\log\left(\frac{T_{\text{pulse}}}{52.6}\right) = 20\log(0.33) = -9.71\text{dB}$$

$$\text{Here } T_{\text{pulse}} = (1 \times 12 + 0.4 \times 13) = 17.2 \text{ (ms)}$$

Please refer to below plots for more details.

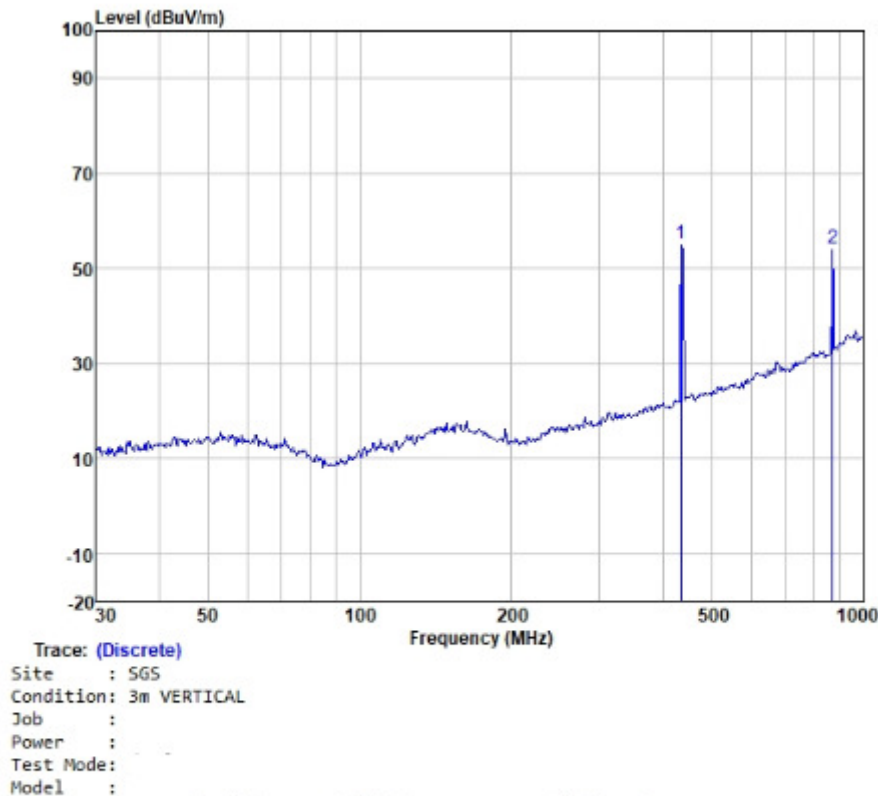


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1) Fundamental emission:

Antenna polarization: Horizontal:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Remark
433.923	71.07	16.85	3.81	27.97	63.76	100.83	-37.07	Peak
433.923	N/A	N/A	N/A	N/A	54.05	80.83	-26.78	Average



	Read	Antenna	Cable	Preamplifier	Level	Limit	Over		
Freq	Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1 433.943	62.57	16.85	3.81	27.97	55.26	-----	-----	VERTICAL	QP
2 867.843	53.50	22.90	5.91	28.03	54.28	-----	-----	VERTICAL	QP

Remarks: 867.843MHz is the harmonics of Field Strength, so please reference the clause 7.4

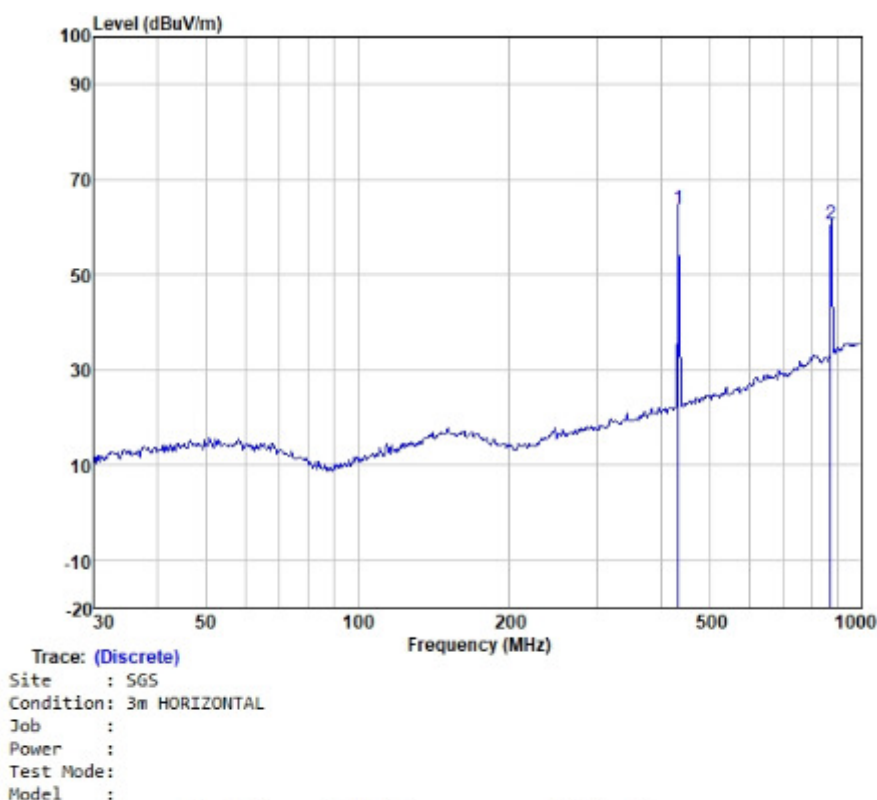


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Antenna polarization: Vertical

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Remark
433.943	62.57	16.85	3.81	27.97	55.26	100.83	-45.57	Peak
433.943	N/A	N/A	N/A	N/A	45.55	80.83	-35.28	Average



	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Limit Level	Over Limit	Pol/Phase	Remark
Freq	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	433.923	71.07	16.85	3.81	27.97	63.76	-----	HORIZONTAL QP
2	867.865	59.70	22.90	5.91	28.03	60.48	-----	HORIZONTAL QP

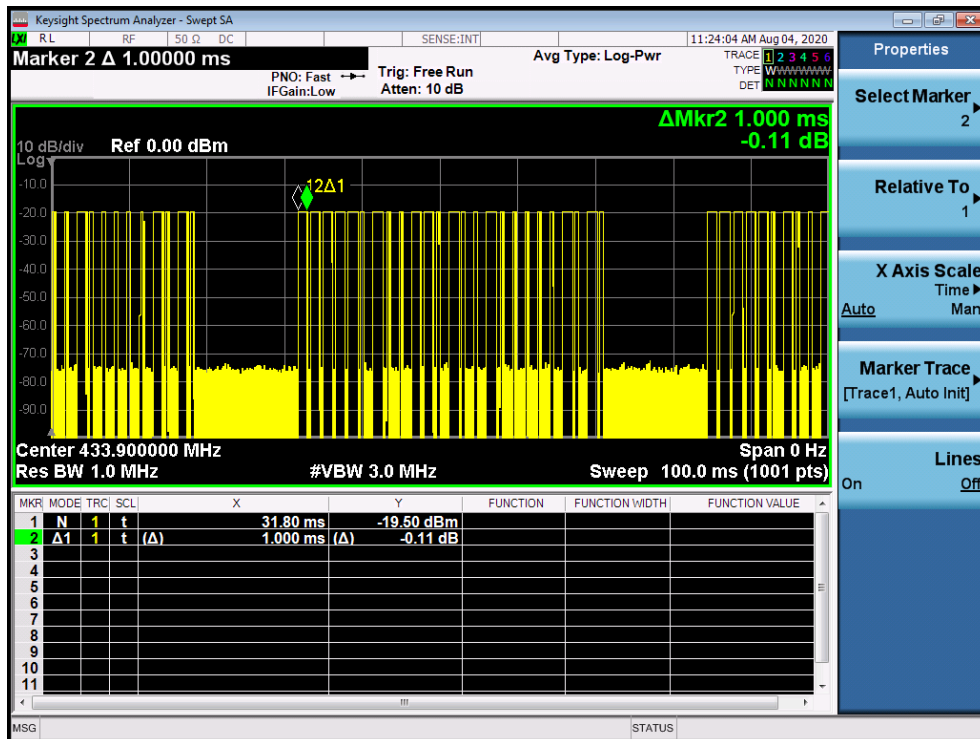
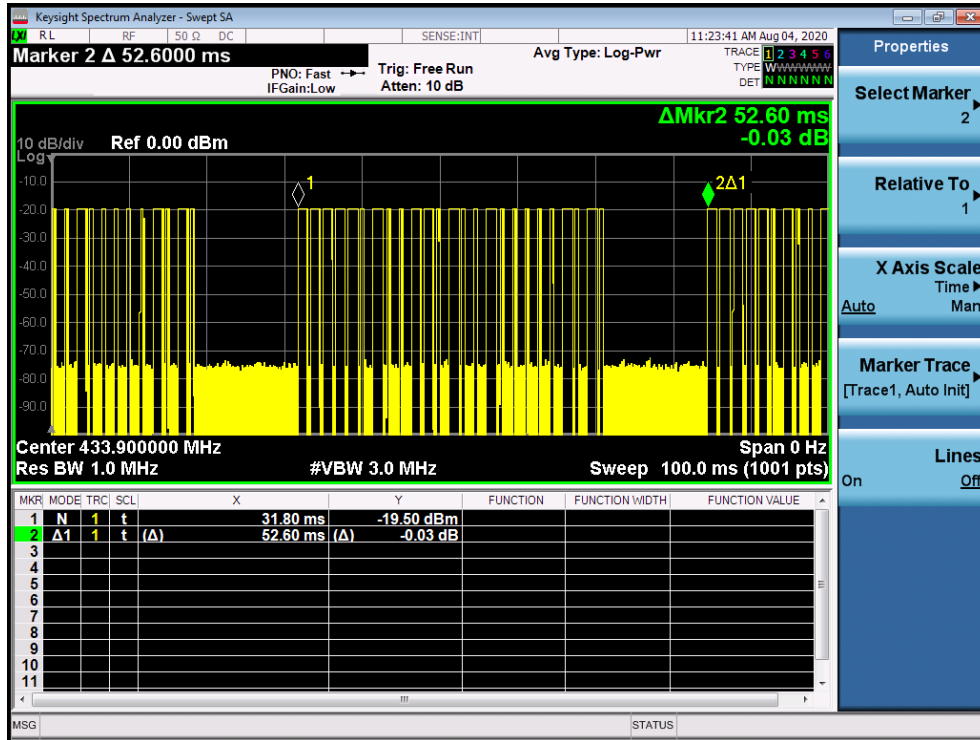
Remarks: 867.843MHz is the harmonics of Field Strength, so please reference the clause 7.4



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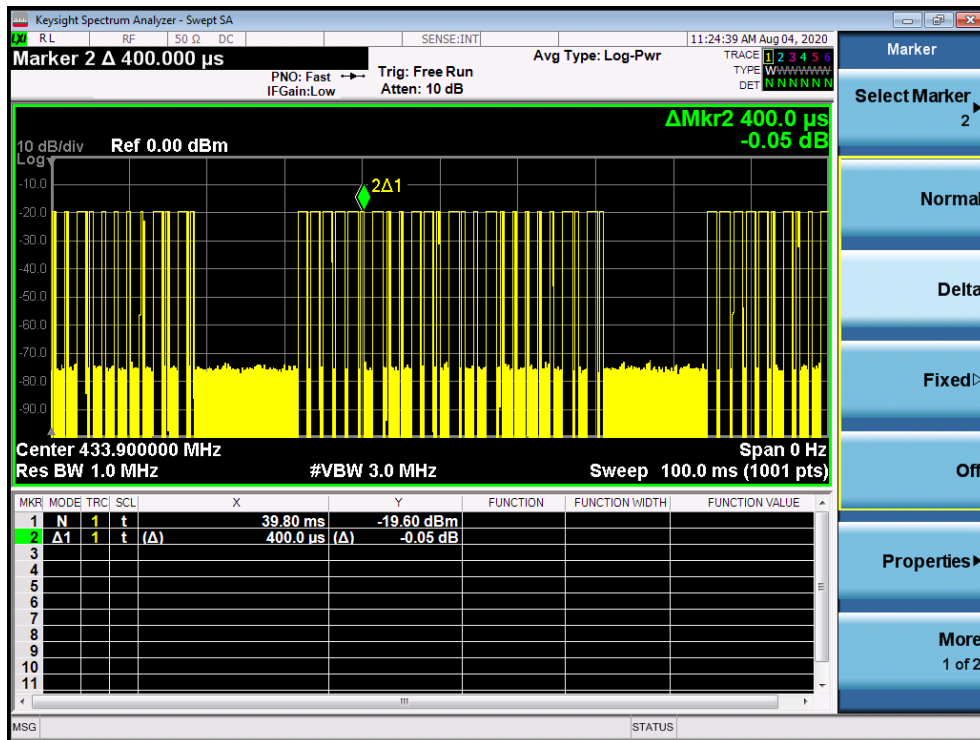
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Test plot



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7.4 Radiated Emissions & Restricted bands

Test Requirement 47 CFR Part 15, Subpart C 15.231(b) & 15.209

Test Method: ANSI C63.10 (2013) Section 6.4&6.5&6.6

Measurement Distance: 3m

Limit:

For Restricted bands

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
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.

For Other bands

Fundamental Frequency MHz	Field Strength of Fundamental (dBμV/m @ 3 m)	Field Strength of Harmonics and Spurious Emissions (dBμV/m @ 3 m)
40.66 to 40.70	67.04	47.04
70 to 130	61.94	41.94
130 to 174	61.94 to 71.48	41.94 to 51.48
174 to 260	71.48	51.48
260 to 470	71.48 to 81.94	51.48 to 61.94
Above 470	81.94	61.94
Detector:	Peak for pre-scan	
	QP for 30MHz to 1000 MHz: 120 kHz resolution bandwidth	
	Peak for Above 1 GHz: 1 MHz resolution bandwidth	

7.4.1 E.U.T. Operation

Operating Environment:

Temperature: 23.5 °C Humidity: 56.5 % RH Atmospheric Pressure: 1020 mbar

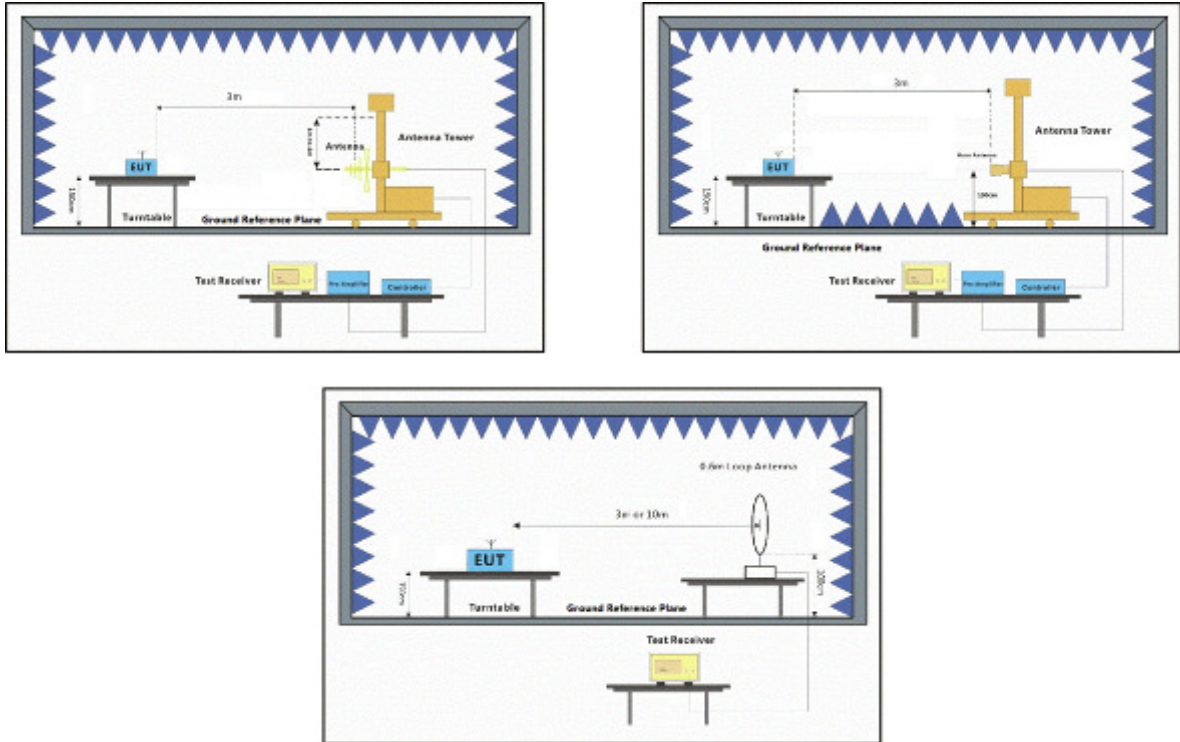
Test mode a:TX mode_Keep the EUT in transmitting with modulation mode.



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7.4.2 Test Setup Diagram



7.4.3 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.

Measured Level $L = \text{Read Level} + \text{Antenna Factor} + \text{Cable Loss} - \text{Preamp Factor}$

Radiated emission below 30MHz

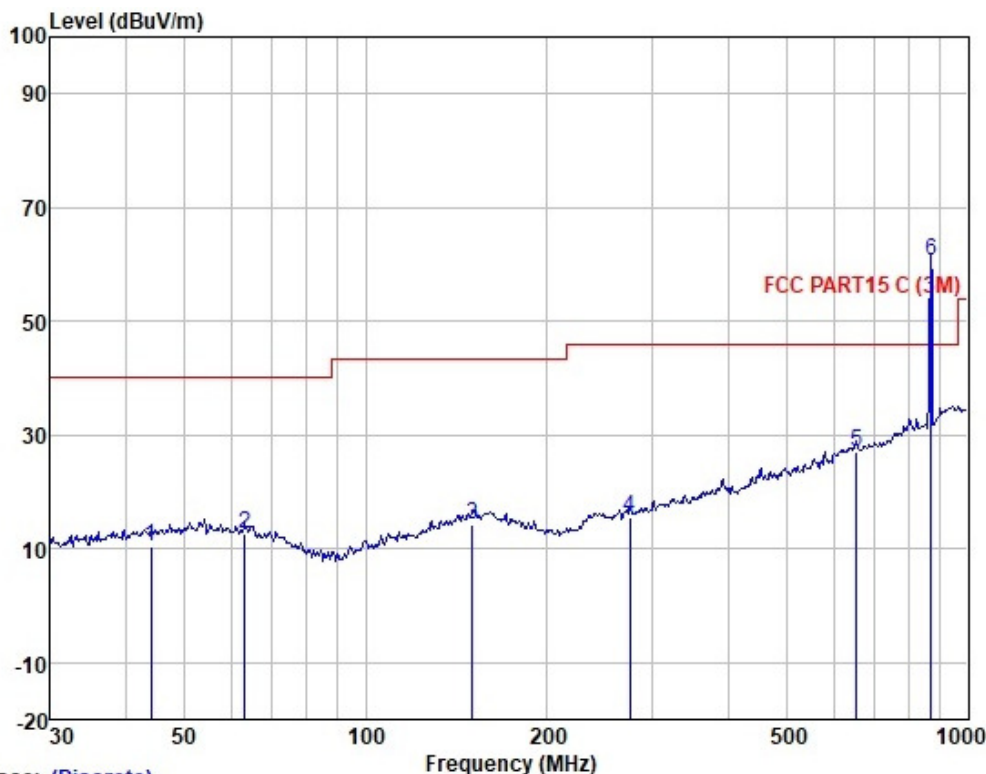
The measurements with active loop antenna were greater than 20dB below the limit, so the test data were not recorded in the test report.



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30MHz- 1G: Field Strength of Unwanted Emissions. Quasi-Peak Measurement



Trace: (Discrete)

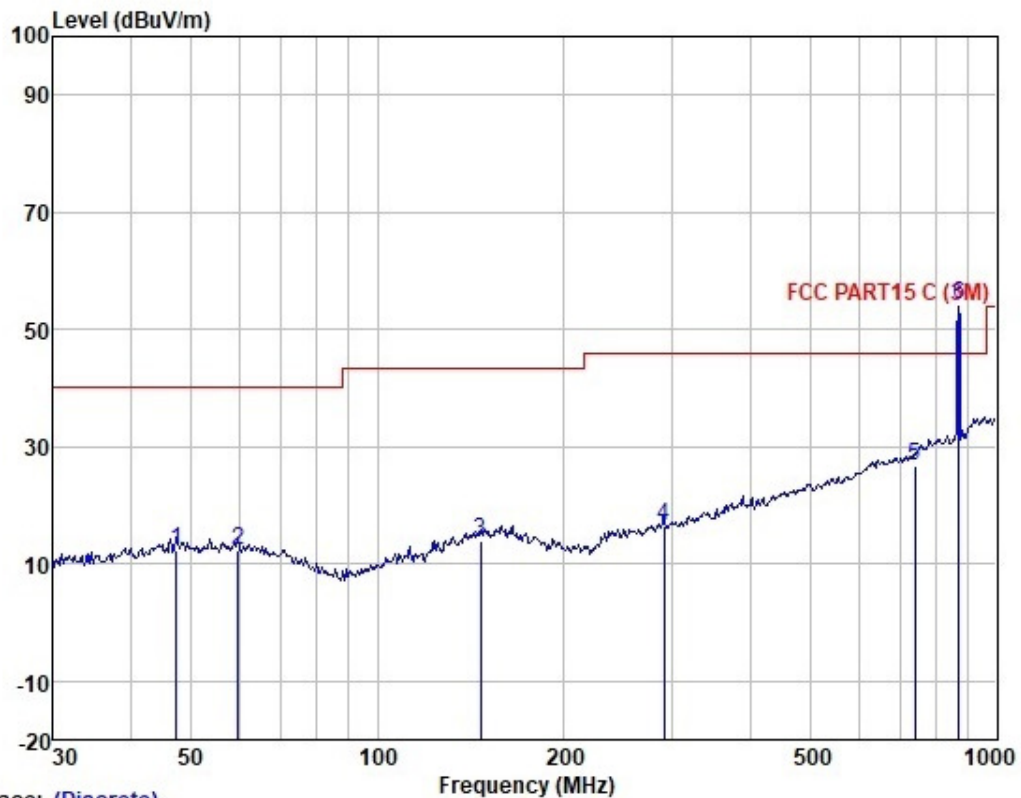
Site : SGS
 Condition: FCC PART15 C (3M) 3m HORIZONTAL
 Job :
 Power :
 Test Mode:
 Model :

		ReadAntenna	Cable	Preamp				
	Freq	Level	Factor	Loss	Factor	Level	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m		
1	44.120	22.63	13.81	1.17	27.17	10.44	HORIZONTAL	QP
2	63.092	25.52	13.00	1.31	27.16	12.67	HORIZONTAL	QP
3	150.538	25.37	13.80	2.06	26.88	14.35	HORIZONTAL	QP
4	274.194	26.72	12.93	2.76	27.04	15.37	HORIZONTAL	QP
5	651.942	29.77	20.52	4.92	28.10	27.11	HORIZONTAL	QP
6 *	867.865	59.70	22.90	5.91	28.03	60.48	HORIZONTAL	QP

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Remark
44.120	22.63	13.81	1.17	27.17	10.44	40.0	-29.56	QP
63.092	25.52	13.00	1.31	27.16	12.67	40.0	-27.33	QP
150.538	25.37	13.80	2.06	26.88	14.35	43.5	-29.15	QP
274.194	26.72	12.93	2.76	27.04	15.37	46.0	-30.63	QP
651.942	29.77	20.52	4.92	28.10	27.11	46.0	-18.89	QP
*867.865	59.70	22.90	5.91	28.03	60.48	60.83	-0.35	QP

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Trace: (Discrete)

Site : SGS
 Condition: FCC PART15 C (3M) 3m VERTICAL
 Job :
 Power :
 Test Mode:
 Model :

		ReadAntenna	Cable	Preamp				
	Freq	Level	Factor	Loss	Factor	Level	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m		
1	47.326	24.45	13.97	1.19	27.17	12.44	VERTICAL	QP
2	59.649	24.57	13.44	1.32	27.16	12.17	VERTICAL	QP
3	146.888	24.97	13.70	2.03	26.90	13.80	VERTICAL	QP
4	290.017	27.40	13.40	2.88	27.13	16.55	VERTICAL	QP
5	737.071	27.66	21.95	5.24	28.11	26.74	VERTICAL	QP
6 *	867.843	53.50	22.90	5.91	28.03	54.28	VERTICAL	QP

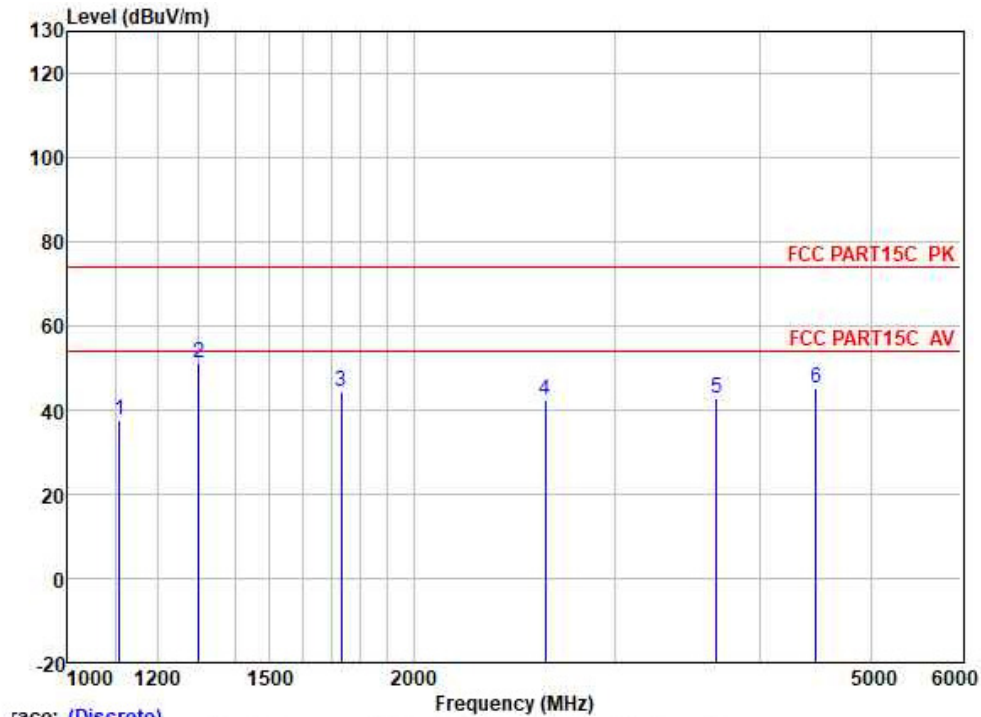
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Remark
47.326	24.45	13.97	1.19	27.17	12.44	40.00	-27.56	QP
59.649	24.57	13.44	1.32	27.16	12.17	40.00	-27.83	QP
146.888	24.97	13.70	2.03	26.90	13.80	43.50	-29.70	QP
290.017	27.40	13.40	2.88	27.13	16.55	46.00	-29.45	QP
737.071	27.66	21.95	5.24	28.11	26.74	46.00	-19.26	QP
*867.843	53.50	22.90	5.91	28.03	54.28	60.83	-6.55	QP

*Remarks: the limit of this point not falling in Restricted bands for the spurious emission is 60.83 dBuV/m.



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1GHz~5 GHz Field Strength of Unwanted Emissions Measurement

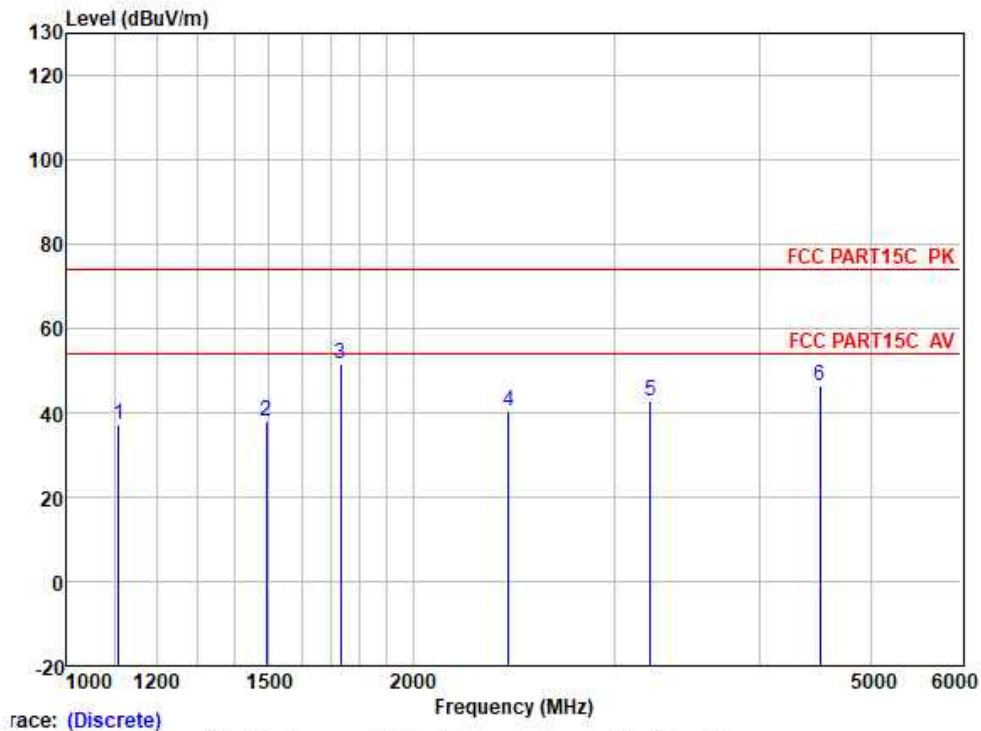


Frequency (MHz)	Read Level (dBUV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBUV/m)	Limit Line (dBUV/m)	Over Limit (dB)	Remark
1109.514	48.39	24.39	2.27	37.37	37.68	74.00	-36.32	Peak
1109.514	N/A	N/A	N/A	N/A	27.97	54.00	-26.03	Average
1301.332	60.62	25.20	2.60	37.30	51.12	74.00	-22.88	Peak
1301.332	N/A	N/A	N/A	N/A	41.41	54.00	-12.59	Average
1730.272	52.60	25.80	2.85	37.04	44.21	80.83	-36.62	Peak
1730.272	N/A	N/A	N/A	N/A	34.50	60.83	-26.33	Average
2603.351	48.11	27.63	3.50	36.85	42.39	80.83	-38.44	Peak
2603.351	N/A	N/A	N/A	N/A	32.68	60.83	-28.15	Average
3672.297	45.39	29.17	4.54	36.43	42.67	74.00	-31.33	Peak
3672.297	N/A	N/A	N/A	N/A	32.96	54.00	-21.04	Average
4480.357	45.99	30.78	4.99	36.43	45.33	80.83	-35.5	Peak
4480.357	N/A	N/A	N/A	N/A	35.62	60.83	-25.21	Average



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	ReadAntenna	Cable	Preamp		Limit	Over			
Freq	Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1109.514	47.85	24.39	2.27	37.37	37.14	74.00	-36.86	VERTICAL Peak
2	1491.172	46.86	25.49	2.79	37.12	38.02	74.00	-35.98	VERTICAL Peak
3	1730.272	59.87	25.80	2.85	37.04	51.48	74.00	-22.52	VERTICAL Peak
4	2423.297	46.32	27.39	3.45	36.91	40.25	74.00	-33.75	VERTICAL Peak
5	3216.286	46.54	28.61	4.01	36.50	42.66	74.00	-31.34	VERTICAL Peak
6	4520.676	46.73	30.83	5.16	36.44	46.28	74.00	-27.72	VERTICAL Peak

Frequency (MHz)	Read Level (dBUV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBUV/m)	Limit Line (dBUV/m)	Over Limit (dB)	Remark
1109.514	47.85	24.39	2.27	37.37	37.14	74.00	-36.86	Peak
1109.514	N/A	N/A	N/A	N/A	27.43	54.00	-26.57	Average
1491.172	46.86	25.49	2.79	37.12	38.02	74.00	-35.98	Peak
1491.172	N/A	N/A	N/A	N/A	28.31	54.00	-25.69	Average
1730.272	59.87	25.80	2.85	37.04	51.48	80.83	-29.35	Peak
1730.272	N/A	N/A	N/A	N/A	41.77	60.83	-19.06	Average
2423.297	46.32	27.39	3.45	36.91	40.25	80.83	-40.58	Peak
2423.297	N/A	N/A	N/A	N/A	30.54	60.83	-30.29	Average
3216.286	46.54	28.61	4.01	36.50	42.66	80.83	-38.17	Peak
3216.286	N/A	N/A	N/A	N/A	32.95	60.83	-27.88	Average
4520.676	46.73	30.83	5.16	36.44	46.28	74.00	-27.72	Peak
4520.676	N/A	N/A	N/A	N/A	36.57	54.00	-17.43	Average

Remark: The convert factor of Peak to Average please refer to section 7.3.

--End of Report--



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