FCC RADIO TEST REPORT

Applicant	:	Ubiquiti Inc.
Address	:	685 Third Avenue, New York, New York 10017, USA
Equipment	:	Recessed Entry Sensor
Model No.	:	USL-Entry-R
Trade Name	:	UBIQUITI
FCC ID.	:	SWX-USLER

I HEREBY CERTIFY THAT :

The sample was received on May. 21, 2026 and the testing was completed on Jul. 01, 2026 at Cerpass Technology Corp. The test result refers exclusively to the test presented test model / sample. Without written approval of Cerpass Technology Corp., the test report shall not be reproduced except in full.

Approved by:

Mark Liao / Supervisor

Laboratory Accreditation:

Cerpass Technology Corporation Test Laboratory

CONTENTS

History of this test report

Report No.	Issued Date	Description
26050326-TRFCC01	Jul. 21, 2026	Original

1. Summary of Test Procedure and Test Results

1.1 Applicable Standards

ANSI C63.10-2020+Cor.1-2023+C63.10a-2024+Errata to C63.10a-2024

FCC Rules and Regulations Part 15 Subpart C §15.247

FCC Rule	. Description of Test	Result
15.203	. Antenna Requirement	PASS
15.207	. AC Power Line Conducted Emission	PASS
15.209 15.205	. Radiated Spurious Emission	PASS
15.247(d)	. Conducted Spurious Emission	PASS
15.247(a)(1)	. Channel Carrier Frequencies Separation	PASS
15.247(a)(1)	. 20dB Bandwidth	PASS
15.247(a)(1)	. Dwell Time	PASS
15.247(b)	. Number of Hopping Channels	PASS
15.247(b)	. Peak Output Power Measurement Data	PASS

*The lab has reduced the uncertainty risk factor from test equipment, environment and staff technicians which according to the standard on contract. Therefore, the test result will only be determined by standard requirement,measurement uncertainty evaluation is not considered.

2. Test Configuration of Equipment under Test

2.1 Feature of Equipment under Test

Operation Frequency Range	915~928MHz
Center Frequency Range	915.6~927.6MHz
Modulation Type	CSS
Modulation Spread Spectrum	FHSS
Antenna Type	PIFA Antenna
Antenna Gain	-4 dBi
CR2 battery	Brand: GREAT POWER Model: CR2

Note: 1. EUT Support SF5~SF12

2. For more details, please refer to the User's manual of the EUT.

2.2 Carrier Frequency of Channes

Frequency (MHz)			
***915.6**	918.8	922	925.2
915.8	919	922.2	925.4
916	919.2	922.4	925.6
916.2	919.4	922.6	925.8
916.4	919.6	922.8	926
916.6	919.8	923	926.2
916.8	920	923.2	926.4
917	920.2	923.4	926.6
917.2	920.4	923.6	926.8
917.4	920.6	923.8	927
917.6	920.8	924	927.2
917.8	921	924.2	927.4
918	921.2	924.4	***927.6**
918.2	921.4	924.6	
918.4	***921.6**	924.8	
918.6	921.8	925	

Note: Channels remarked * are selected to perform test.

(For Above 1GHz)
Below test Channel generated the worst case, they were reported as the final data.

	Frequency (MHz)	1GHz ~ 1.5GHz	1.5GHz ~ 10GHz
Lora	915.6	v	v
	921.6	v	v
	927.6	v	v

2.3 Test Mode & Test Software

a. During testing, the interface cables and equipment positions were varied according to ANSI C63.10
b. The complete test system included Notebook and EUT for RF test.
c. In the operating system, Telnet inputs the corresponding command to continuously transmit or receive signals.
d. The following test modes were performed for the test:

Radiated Emissions (30MHz ~ 1GHz)	
Test Mode	Operating Description
1	TX Mode, From Battery 3V, SF-5
Radiated Emissions (1GHz ~ 10GHz)	
Test Mode	Operating Description
1	TX Mode, From Battery 3V, SF-5

Modulation Type	TX CONFIGURATION
GFSK	1TX

2.4 Description of Test System

RF Conducted				
Equipment	Brand	Model	Length/Type	Power cord/Length/Type
Notebook	lenovo	S1GL2W	N/A	N/A
Testfixture	UBIQUITI	113-03875	N/A	N/A
TYPE-C(Blue)	kolin	KEX-DLCP08	1m / NS	N/A

Radiated Emissions				
Equipment	Brand	Model	Length/Type	Power cord/Length/Type
Notebook	lenovo	S1GL2W	N/A	N/A
Testfixture	UBIQUITI	113-03875	N/A	N/A
TYPE-C(Blue)	kolin	KEX-DLCP08	1m / NS	N/A

2.5 General Information of Test

Organization	Cerpass Technology Corp.	
☒ Test Site	Cerpass Technology Corporation Test Laboratory Address: No.10, Ln. 2, Lianfu St., Luzhu Dist., Taoyuan City 33848, Taiwan (R.O.C.) Tel: +886-3-3226-888 Fax: +886-3-3226-881	
	FCC	TW1439, TW1079
	ISED Company Number	4934E
	ISED CAB identifier	TW1439
Frequency Range Investigated	Conducted: from 150kHz to 30 MHz Radiation: from 9 kHz to 10,000MHz	
Test Distance	The test distance of radiated emission from antenna to EUT is 3 M.	

Test Item	Test Site	Test period	Environmental Conditions	Tested By
RF Conducted	RFCON02-NK	2026/05/29	24.5℃ / 50%	Peter Pan
RF Conducted	RFCON02-NK	2026/06/02	25.6℃ / 46%	Peter Pan
RF Conducted	RFCON02-NK	2026/06/29	26.6℃ / 47%	Peter Pan
Radiated Emissions	3M02-NK	2026/07/01	19.5℃ / 55%	Leon Huang

2.6 Measurement Uncertainty

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2)

Measurement Item	Uncertainty
Radiated Spurious Emission(9KHz~30MHz)	±3.4dB
Radiated Spurious Emission(30MHz~1GHz)	±5.2dB
Radiated Spurious Emission(1GHz~40GHz)	±5.2dB
Conducted Spurious Emission	±2.1dB
6dB Bandwidth	±4.4%
20dB Bandwidth	±4.5%
Occupied Bandwidth	±4.4%
Peak Output Power(Conducted Power Meter)	±1.1dB
Dwell Time / Deactivation Time	±3.5%
Power Spectral Density	±2.0dB
Duty Cycle	±3.5%

3. Test Equipment and Ancillaries Used for Tests

Test Item	Radiated Emissions				
Test Site	Semi Anechoic Room(3M02-NK)				
Instrument	Manufacturer	Model No	Serial No	Calibration Date	Valid Date
Bilog Antenna	Schwarzbeck	VULB9168	VULB 9168-1947	2026/02/10	2027/02/09
Active Loop Antenna	Schwarzbeck	FMZB 1513	00414	2026/02/04	2027/02/03
Double Ridged Guide Horn Antenna	RF SPAN	DRH18-E	210309A18-ES	2025/08/22	2026/08/21
Horn Antenna	RF SPIN	DRH0844	KV2E20A0844	2026/03/26	2027/03/25
EMI Receiver	ROHDE & SCHWARZ	ESCI	101423	2025/07/10	2026/07/09
Spectrum Analyzer	ROHDE & SCHWARZ	FSV 40-N	102151	2025/08/18	2026/08/17
Preamplifier	EMC INSTRUMENTS	EMC118A45V1SS	981069	2025/12/18	2026/12/17
Preamplifier	EMC INSTRUMENTS	EMC184045SEE	981159	2026/04/02	2027/04/01
Preamplifier	EM Electronics corp.	EM330	60659	2025/12/18	2026/12/17
Cable-4m(9k-3G)	EMEC	RG-223	18274M	2025/07/02	2026/07/01
Cable-1m(30M-1G)	EMC INSTRUMENTS	EMCCFD400-NM-NM-1000	260301	2026/04/10	2027/04/09
Cable-3m(30M-1G)	EMC INSTRUMENTS	EMCCFD400-NM-NM-3000	260302	2026/04/10	2027/04/09
Cable-7m(30M-1G)	EMC INSTRUMENTS	EMCCFD400-NM-NM-7000	260303	2026/04/10	2027/04/09
Cable-8m(10M-26.5G)	HUBER SUHNER	SF126E	587396/126E	2025/10/15	2026/10/14
Cable-3m(10M-26.5G)	HUBER SUHNER	SF126E	587399/126E	2025/10/15	2026/10/14
Cable-1m(1G-26.5G)	HUBER SUHNER	SF126E	589848/126E	2025/10/15	2026/10/14
Cable-1m(1G-40G)	EMC INSTRUMENTS	EMC104HS-KM-KM-1000	260304	2026/04/10	2027/04/09
Cable-3m(1G-40G)	EMC INSTRUMENTS	EMC104HS-KM-KM-3000	260305	2026/04/10	2027/04/09
Cable-7m(1G-40G)	EMC INSTRUMENTS	EMC104HS-KM-KM-7000	260306	2026/04/10	2027/04/09
E3	AUDIX	v8.2014-8-6	RK-000529	NA	NA
High Pass Filter	WOKEN	WFIL-H3000-18000F-03	WR377WC2B1	2025/10/13	2026/10/12
Highpass Filter	WOKEN	WFIL-H7000-18000F-01	WR468FWC2B1	2025/10/03	2026/10/02
Hipass Filter	Warison	WFIL-H7500-18000F-01	WRO5CFWC2B1	2025/10/13	2026/10/12
Highpass Filter	WOKEN	WFIL-H1400-10000F	WR866WC2B1	2026/06/10	2027/06/09

Test Item	RF Conducted				
Test Site	RFCON02-NK				
Instrument	Manufacturer	Model No	Serial No	Calibration Date	Valid Date
Spectrum Analyzer	ROHDE & SCHWARZ	FSP 40	100047	2026/02/24	2027/02/23
Attenuator	KEYSIGHT	8491B	MY39250703	2026/01/29	2027/01/28
Cable-0.5m(30M-40G)	HUBER SUHNER	SUCOFLEX 102	28420/2	2025/10/13	2026/10/12
Power Meter	Anritsu	ML2495A	1224005	2026/01/27	2027/01/26
Power Sensor	Anritsu	MA2411B	1207295	2026/01/27	2027/01/26
Switch Box	Theda	1-4	TW5451159	NA	NA

4. Antenna Requirements

4.1 Standard Applicable

For intentional device, according to FCC 47 CFR Section 15.203, 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.

And according to FCC 47 CFR Section 15.247 (b), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

4.2 Antenna Construction and Directional Gain

Antenna Type	PIFA
Antenna Gain	-4 dBi

Directional gain greater than 6dBi are used, the power limit shall be reduced by 1 dB.

5. Test of AC Power Line Conducted Emission

5.1 Test Limit

Conducted Emissions were measured from 150 kHz to 30 MHz with a bandwidth of 9 KHz, according to the methods defined in ANSI C63.10-2020+Cor.1-2023 and ANSI C63.10a-2024. The EUT was placed on a nonmetallic stand in a shielded room 0.8 meters above the ground plane. The interface cables and equipment positioning were varied within limits of reasonable applications to determine the position produced maximum conducted emissions.

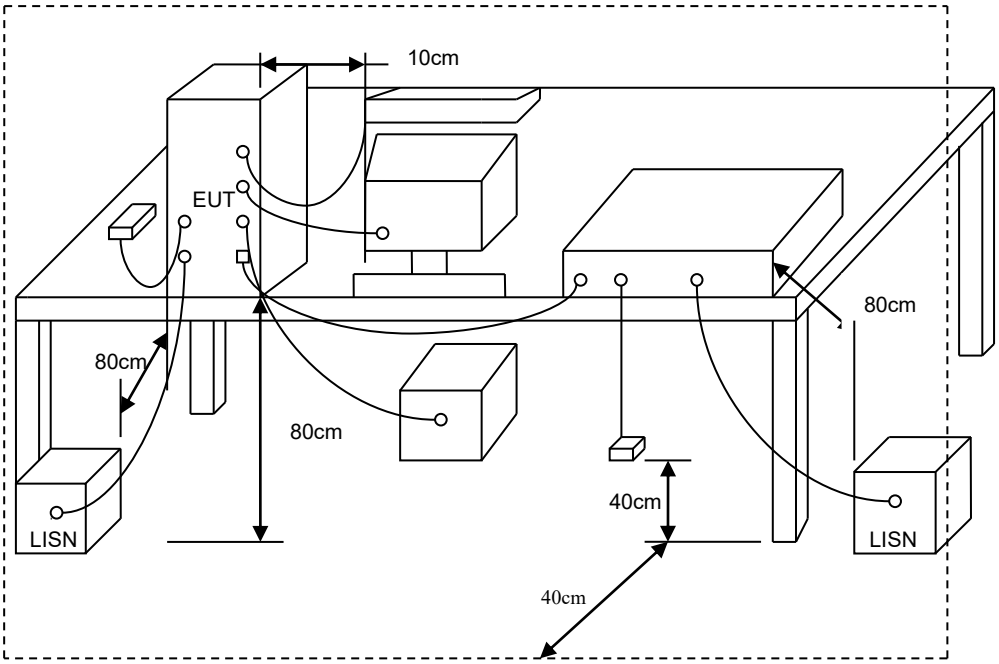
Frequency (MHz)	Quasi Peak (dB μ V)	Average (dB μ V)
0.15 – 0.5	66-56*	56-46*
0.5 – 5.0	56	46
5.0 – 30.0	60	50

*Decreases with the logarithm of the frequency.

5.2 Test Procedures

a. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
b. Connect EUT to the power mains through a line impedance stabilization network (LISN).
c. All the support units are connecting to the other LISN.
d. The LISN provides 50 ohm coupling impedance for the measuring instrument.
e. The FCC states that a 50 ohm, 50 micro-Henry LISN should be used.
f. Both sides of AC line were checked for maximum conducted interference.
g. The frequency range from 150 kHz to 30 MHz was searched.
h. Set the test-receiver system to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

5.3 Typical Test Setup



5.4 Test Result and Data

The EUT is powered from Battery, this test item is not applicable.

6. Test of Radiated Spurious Emission

6.1 Test Limit

In any 100kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. If the transmitter measurement is based on the maximum conducted output power, the attenuation required under this paragraph shall be 30dB instead of 20dB. In addition, radiated emissions which fall in section 15.205(a) the restricted bands must also comply with the radiated emission limit specified in section 15.209(a).

Frequency (MHz)	Field Strength (microvolt/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

6.2 Test Procedures

a. The EUT was placed on a rotatable table top 0.8 meter above ground.

b. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.

c. The table was rotated 360 degrees to determine the position of the highest radiation.

d. The antenna is a broadband antenna and its height is varied between one meter and four meters above ground to find the maximum value of the field strength both horizontal polarization and vertical polarization of the antenna are set to make the measurement.

e. For each suspected emission the EUT was arranged to its worst case and then tune the antenna tower (from 1 M to 4 M) and turn table (from 0 degree to 360 degrees) to find the maximum reading.

f. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function and specified bandwidth with Maximum Hold Mode.

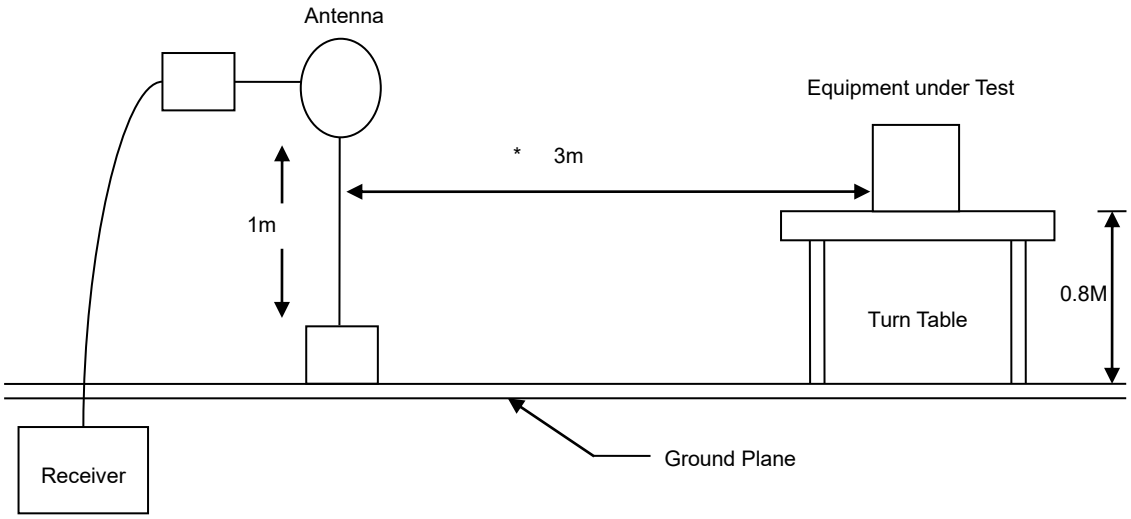
g. If the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method and reported.

h. For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than average limit (that means the emission level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.

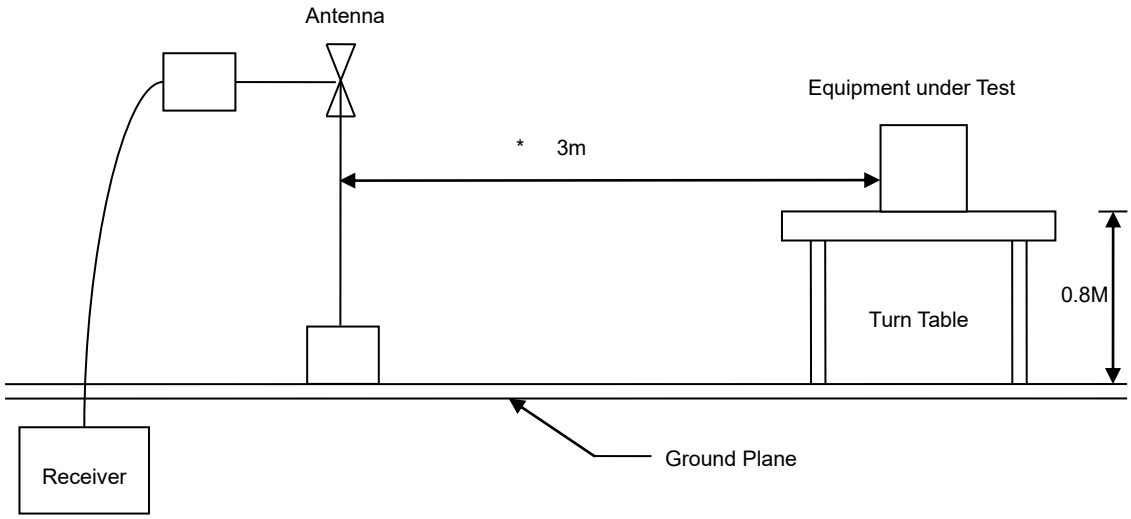
Note: The supporting fixture shall permit orientation of the EUT in each of three orthogonal axis positions such that emissions from the EUT are maximized.
(Z-AXIS is the worst.)

6.3 Typical Test Setup

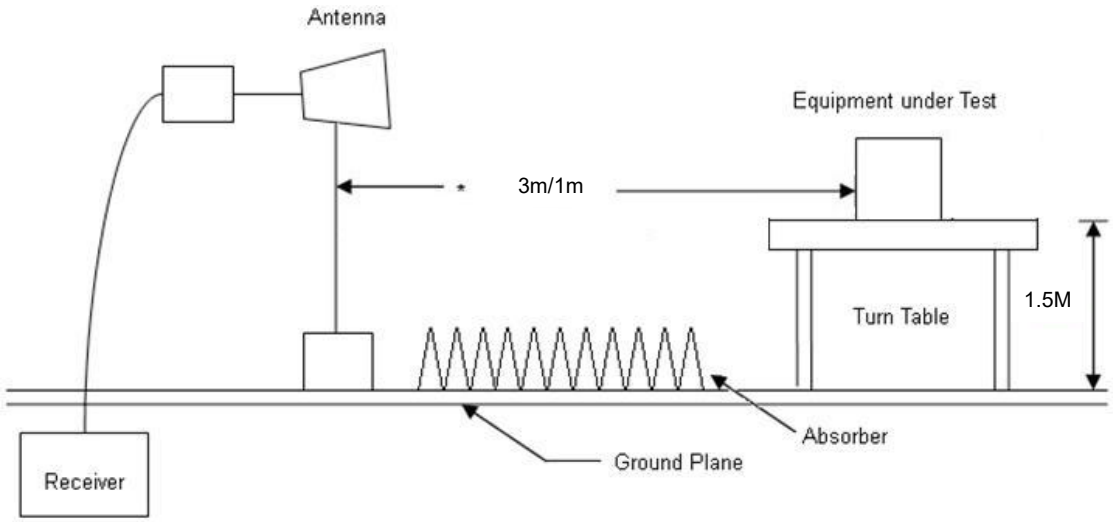
Below 30MHz test setup



30MHz- 1GHz Test Setup



Above 1GHz Test Setup

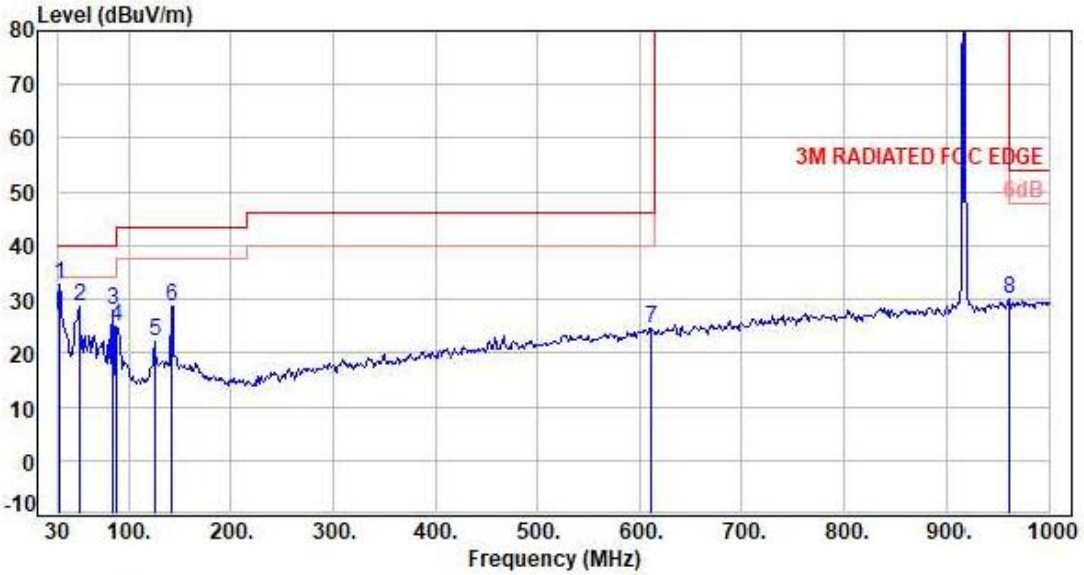


6.4 Test Result and Data (9kHz ~ 30MHz)

The 9kHz-30MHz spurious emission is under limit 20dB more.

6.5 Test Result and Data (30MHz ~ 1GHz)

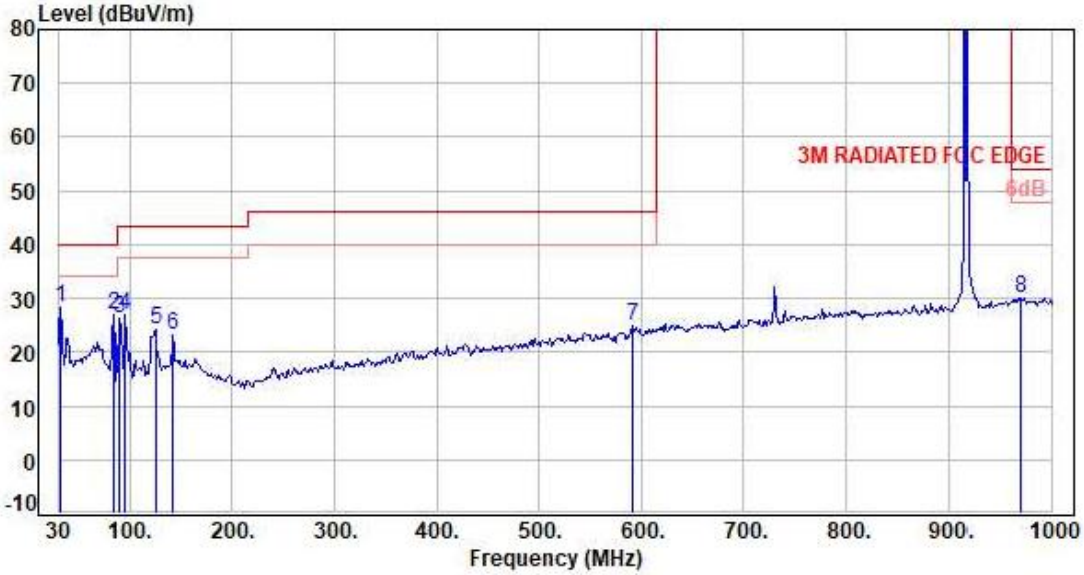
Test Mode : Lora 1TX 915.6MHz
Voltage : Battery 3V
Pol : Vertical



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	31.94	-10.94	43.78	32.84	40.00	-7.16	Peak	400	360	P
2	51.34	-9.78	38.34	28.56	40.00	-11.44	Peak	400	360	P
3	84.32	-15.95	44.00	28.05	40.00	-11.95	Peak	400	360	P
4	88.20	-16.37	41.25	24.88	43.50	-18.62	Peak	400	360	P
5	125.06	-12.83	35.07	22.24	43.50	-21.26	Peak	400	360	P
6	141.55	-11.17	39.88	28.71	43.50	-14.79	Peak	400	360	P
7	612.00	-2.67	27.21	24.54	46.00	-21.46	Peak	400	360	P
8	959.26	2.43	27.55	29.98	200.00	-170.02	Peak	400	360	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

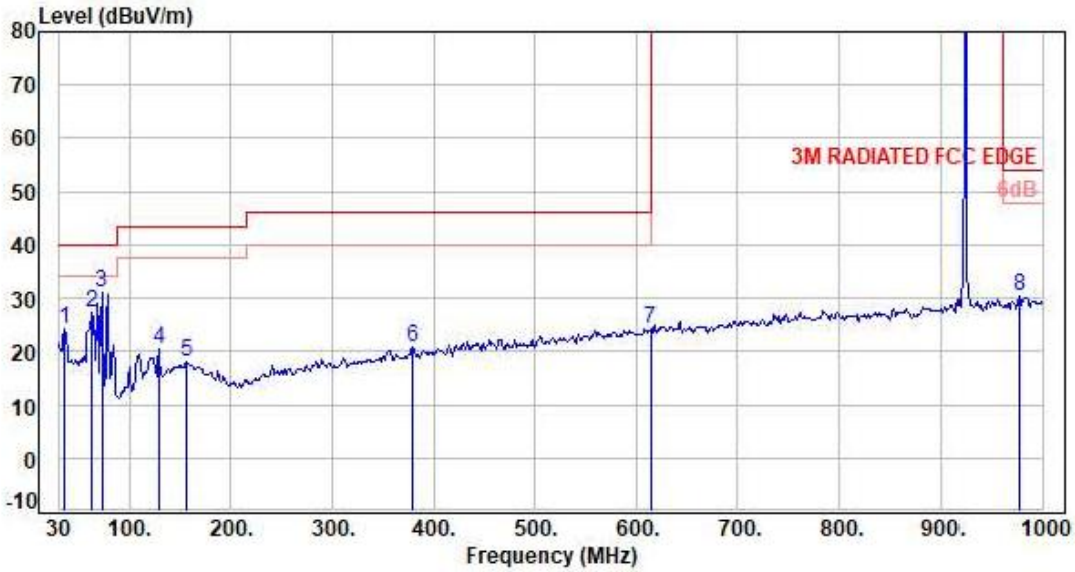
Test Mode : Lora 1TX 915.6MHz
Voltage : Battery 3V
Pol : Horizontal



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	31.94	-10.94	39.28	28.34	40.00	-11.66	Peak	400	360	P
2	84.32	-15.95	42.85	26.90	40.00	-13.10	Peak	400	360	P
3	90.14	-16.34	42.66	26.32	43.50	-17.18	Peak	400	360	P
4	95.96	-15.73	42.56	26.83	43.50	-16.67	Peak	400	360	P
5	125.06	-12.83	37.05	24.22	43.50	-19.28	Peak	400	360	P
6	142.52	-11.10	34.42	23.32	43.50	-20.18	Peak	400	360	P
7	590.66	-3.10	27.89	24.79	46.00	-21.21	Peak	400	360	P
8	968.96	2.46	27.72	30.18	54.00	-23.82	Peak	400	360	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

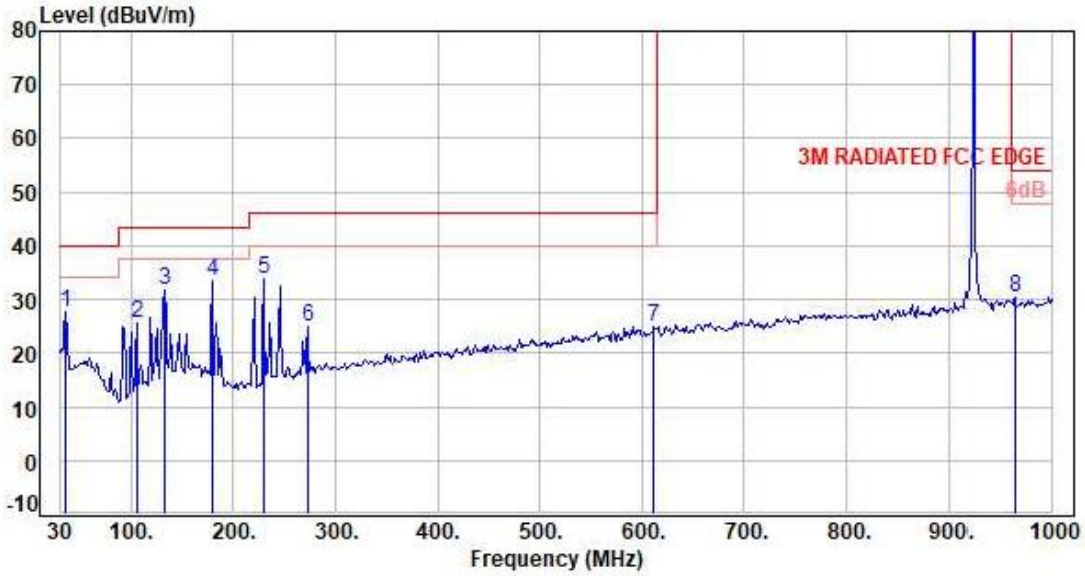
Test Mode : Lora 1TX 921.6MHz
Voltage : Battery 3V
Pol : Vertical



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	35.82	-11.26	35.44	24.18	40.00	-15.82	Peak	400	0	P
2	62.98	-10.78	38.03	27.25	40.00	-12.75	Peak	400	0	P
3	72.68	-13.16	44.27	31.11	40.00	-8.89	Peak	400	0	P
4	128.94	-12.52	33.02	20.50	43.50	-23.00	Peak	400	0	P
5	156.10	-10.34	28.46	18.12	43.50	-25.38	Peak	400	0	P
6	379.20	-7.57	28.25	20.68	46.00	-25.32	Peak	400	0	P
7	613.94	-2.67	26.97	24.30	46.00	-21.70	Peak	400	0	P
8	976.72	2.59	27.92	30.51	54.00	-23.49	Peak	400	0	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

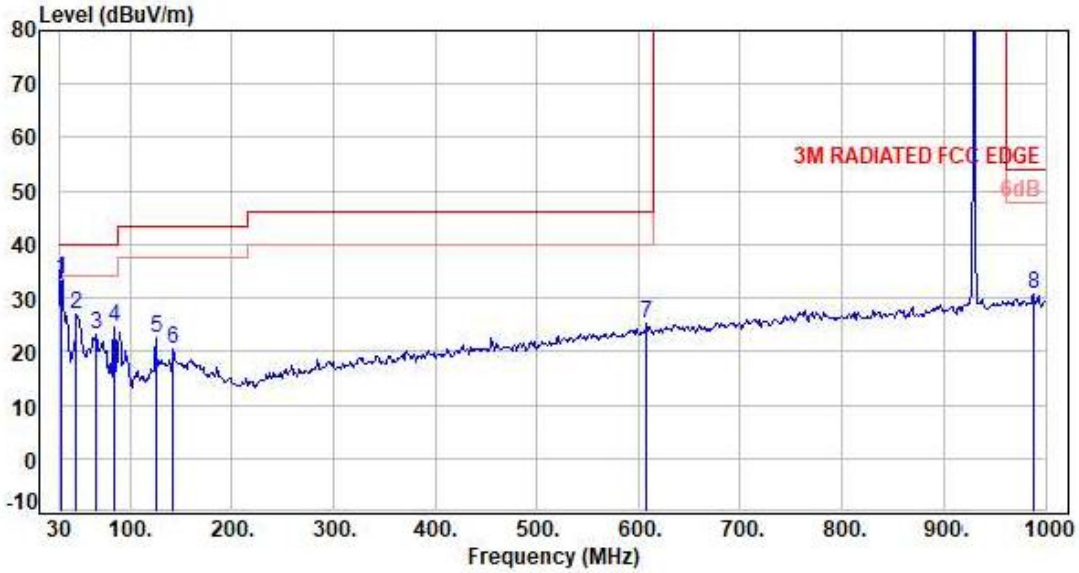
Test Mode : Lora 1TX 921.6MHz
Voltage : Battery 3V
Pol : Horizontal



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	35.82	-11.26	39.02	27.76	40.00	-12.24	Peak	400	0	P
2	105.66	-14.55	40.03	25.48	43.50	-18.02	Peak	400	0	P
3	132.82	-12.07	43.81	31.74	43.50	-11.76	Peak	400	0	P
4	179.38	-11.85	45.18	33.33	43.50	-10.17	Peak	400	0	P
5	229.82	-12.21	46.04	33.83	46.00	-12.17	Peak	400	0	P
6	272.50	-10.61	35.56	24.95	46.00	-21.05	Peak	400	0	P
7	612.00	-2.67	27.43	24.76	46.00	-21.24	Peak	400	0	P
8	963.14	2.44	27.82	30.26	54.00	-23.74	Peak	400	0	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

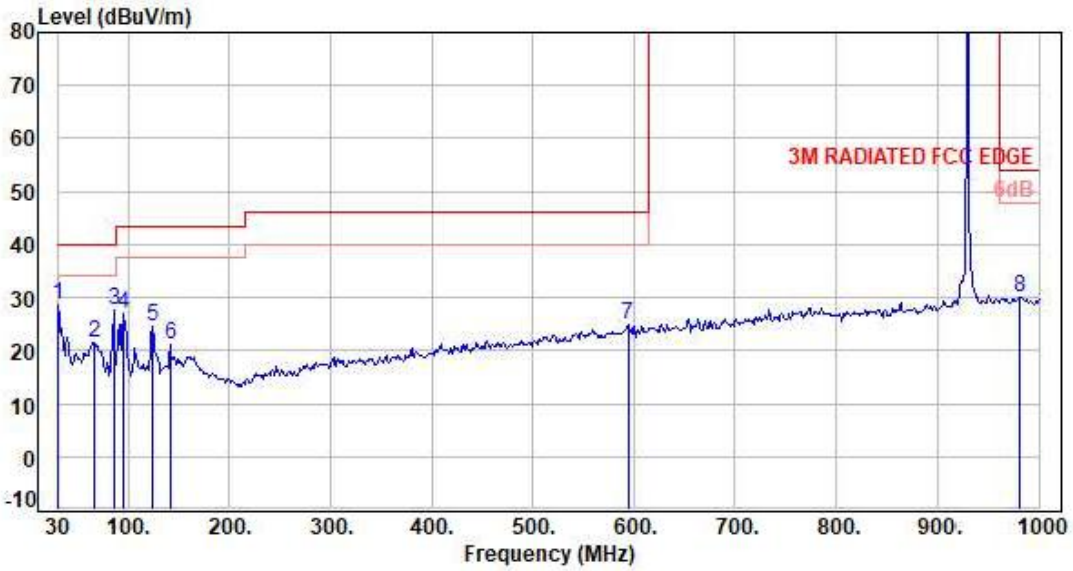
Test Mode : Lora 1TX 927.6MHz
Voltage : Battery 3V
Pol : Vertical



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	31.94	-10.94	44.30	33.36	40.00	-6.64	QP	100	360	P
2	47.46	-10.13	37.25	27.12	40.00	-12.88	Peak	400	0	P
3	66.86	-11.55	34.75	23.20	40.00	-16.80	Peak	400	0	P
4	84.32	-15.95	40.40	24.45	40.00	-15.55	Peak	400	0	P
5	125.06	-12.83	35.48	22.65	43.50	-20.85	Peak	400	0	P
6	142.52	-11.10	31.56	20.46	43.50	-23.04	Peak	400	0	P
7	608.12	-2.71	27.90	25.19	46.00	-20.81	Peak	400	0	P
8	986.42	2.56	28.11	30.67	54.00	-23.33	Peak	400	0	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

Test Mode : Lora 1TX 927.6MHz
Voltage : Battery 3V
Pol : Horizontal

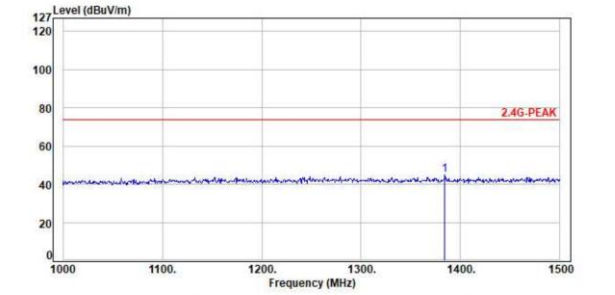


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	30.94	-11.22	40.01	28.79	40.00	-11.21	Peak	400	0	P
2	65.90	-11.34	32.95	21.61	40.00	-18.39	Peak	400	0	P
3	85.32	-16.06	43.76	27.70	40.00	-12.30	Peak	400	0	P
4	95.03	-16.10	43.07	26.97	43.50	-16.53	Peak	400	0	P
5	124.16	-13.10	37.58	24.48	43.50	-19.02	Peak	400	0	P
6	141.64	-11.16	32.23	21.07	43.50	-22.43	Peak	400	0	P
7	594.12	-3.02	27.76	24.74	46.00	-21.26	Peak	400	0	P
8	980.58	2.60	27.51	30.11	54.00	-23.89	Peak	400	0	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

6.6 Test Result and Data (1GHz ~ 1.5GHz)

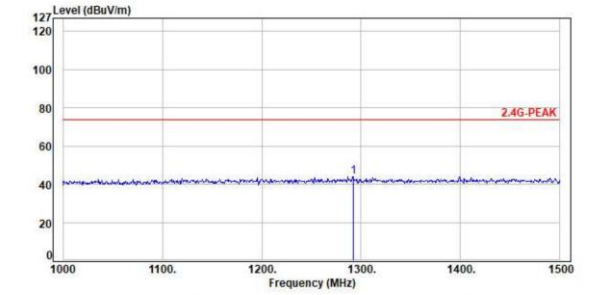
Test Mode : Lora 1TX 915.6MHz
Pol : Vertical Detector : Peak



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	1384.00	-9.53	54.20	44.67	74.00	-29.33	Peak	100	360	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

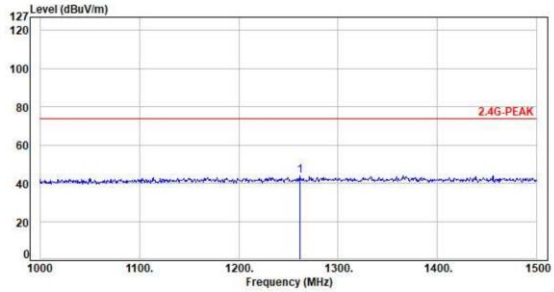
Test Mode : Lora 1TX 915.6MHz
Pol : Horizontal Detector : Peak



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	1292.00	-9.43	53.39	43.96	74.00	-30.04	Peak	100	0	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

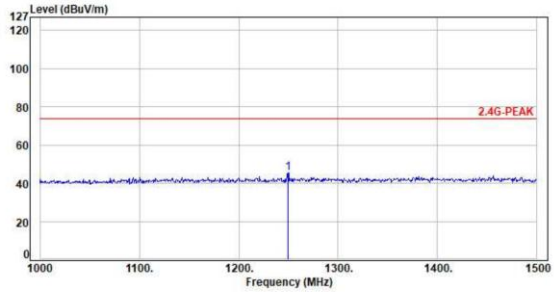
Test Mode : Lora 1TX 921.6MHz
Pol : Vertical Detector : Peak



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	1261.50	-9.60	53.71	44.11	74.00	-29.89	Peak	100	360	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

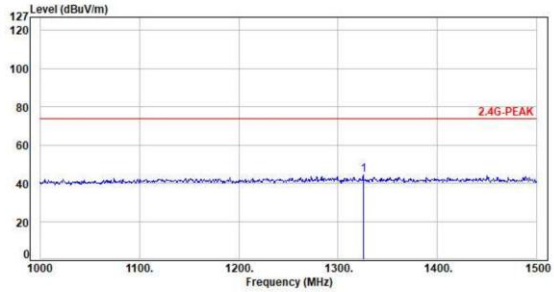
Test Mode : Lora 1TX 921.6MHz
Pol : Horizontal Detector : Peak



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	1249.50	-9.70	55.04	45.34	74.00	-28.66	Peak	100	0	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

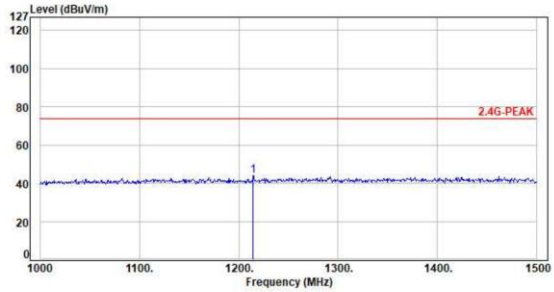
Test Mode : Lora 1TX 927.6MHz
Pol : Vertical Detector : Peak



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	1325.50	-9.62	54.07	44.45	74.00	-29.55	Peak	100	360	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

Test Mode : Lora 1TX 927.6MHz
Pol : Horizontal Detector : Peak

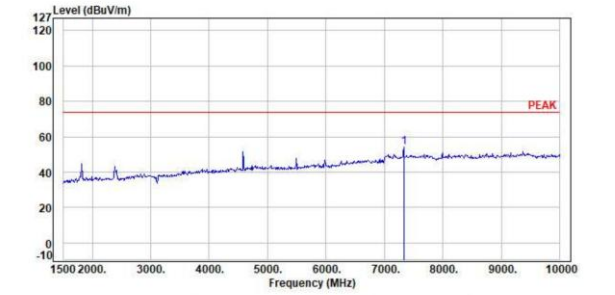


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	1214.50	-9.83	53.81	43.98	74.00	-30.02	Peak	100	0	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

6.7 Test Result and Data (1.5GHz ~ 10GHz)

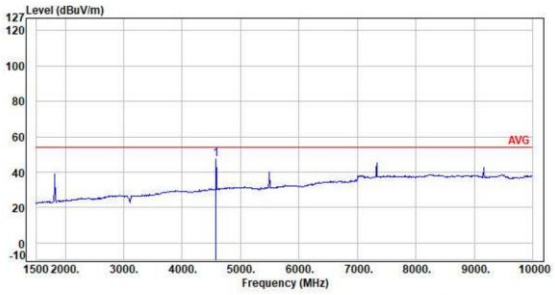
Test Mode : Lora 1TX 915.6MHz
Pol : Vertical Detector : Peak



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	7331.00	4.47	49.39	53.86	74.00	-20.14	Peak	100	0	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

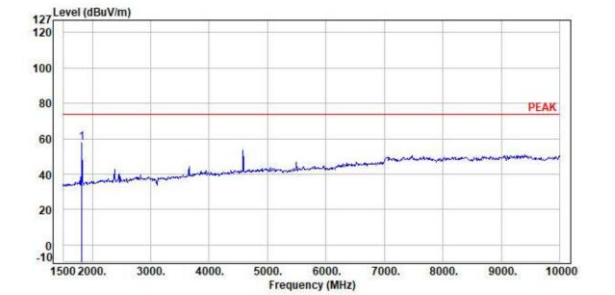
Test Mode : Lora 1TX 915.6MHz
Pol : Vertical Detector : Average



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	4577.00	-0.25	47.79	47.54	54.00	-6.46	Average	100	0	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

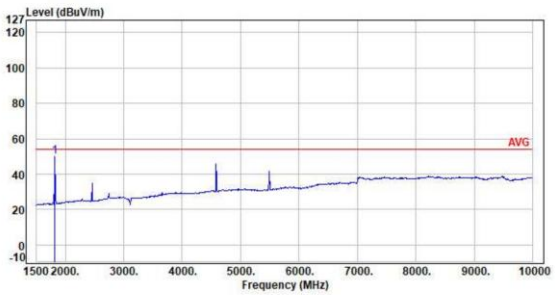
Test Mode : Lora 1TX 915.6MHz
Pol : Horizontal Detector : Peak



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	1823.00	-8.43	66.19	57.76	74.00	-16.24	Peak	100	360	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

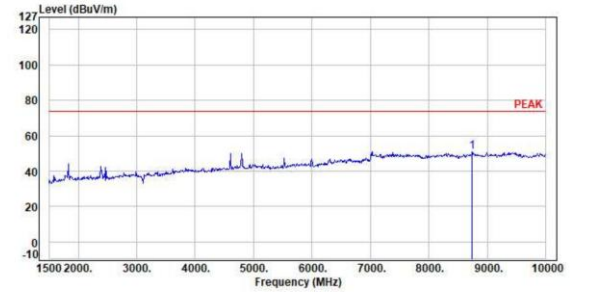
Test Mode : Lora 1TX 915.6MHz
Pol : Horizontal Detector : Average



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	1823.00	-8.43	58.40	49.97	54.00	-4.03	Average	100	360	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

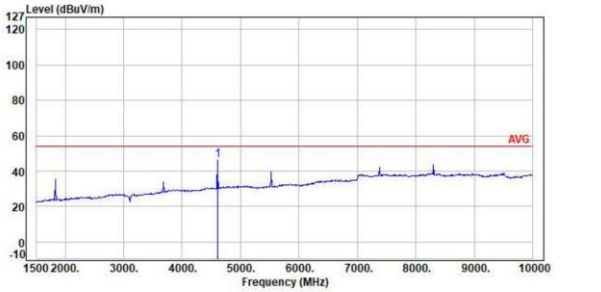
Test Mode : Lora 1TX 921.6MHz
Pol : Vertical Detector : Peak



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	8742.00	3.71	47.22	50.93	74.00	-23.07	Peak	100	0	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

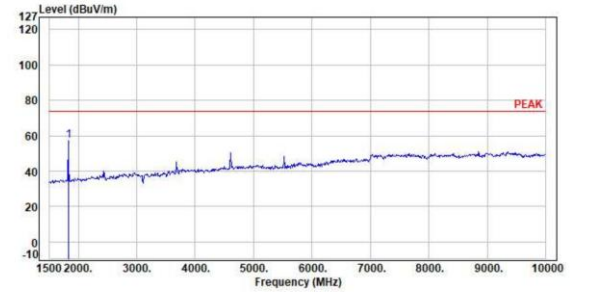
Test Mode : Lora 1TX 921.6MHz
Pol : Vertical Detector : Average



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	4602.50	-0.25	46.33	46.08	54.00	-7.92	Average	100	0	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

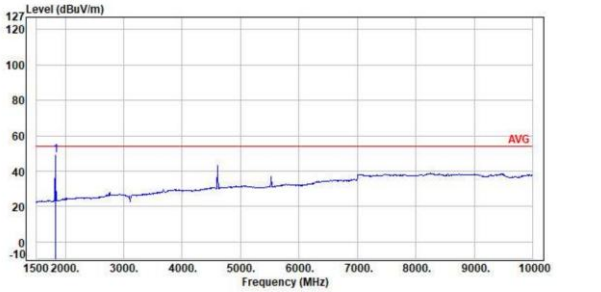
Test Mode : Lora 1TX 921.6MHz
Pol : Horizontal Detector : Peak



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	1831.50	-8.36	65.52	57.16	74.00	-16.84	Peak	100	360	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

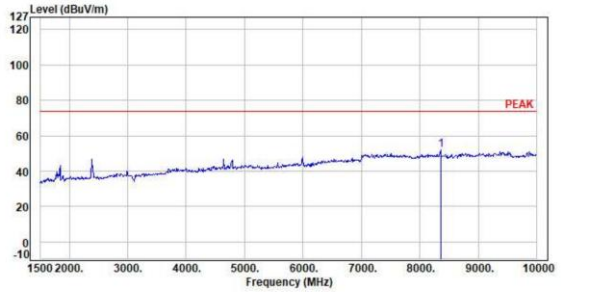
Test Mode : Lora 1TX 921.6MHz
Pol : Horizontal Detector : Average



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	1831.50	-8.36	57.30	48.94	54.00	-5.06	Average	100	360	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

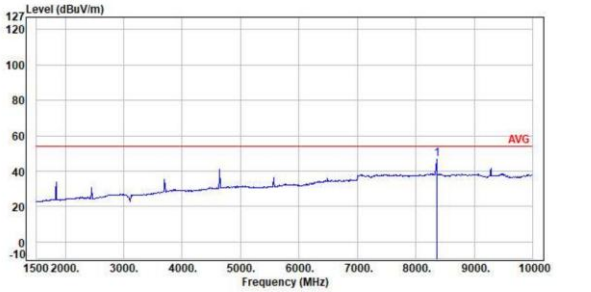
Test Mode : Lora 1TX 927.6MHz
Pol : Vertical Detector : Peak



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	8351.00	3.99	48.04	52.03	74.00	-21.97	Peak	100	360	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

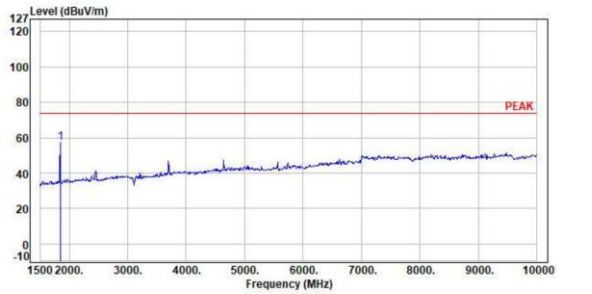
Test Mode : Lora 1TX 927.6MHz
Pol : Vertical Detector : Average



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	8351.00	3.99	42.81	46.80	54.00	-7.20	Average	100	360	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

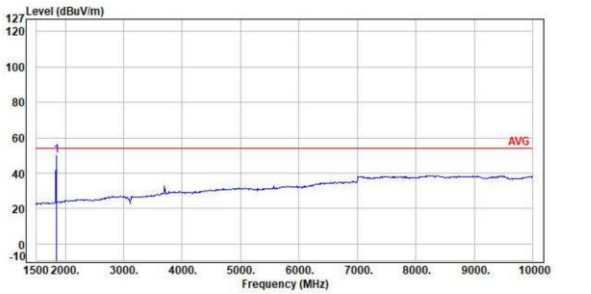
Test Mode : Lora 1TX 927.6MHz
Pol : Horizontal Detector : Peak



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	1848.50	-8.18	65.38	57.20	74.00	-16.80	Peak	100	0	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

Test Mode : Lora 1TX 927.6MHz
Pol : Horizontal Detector : Average



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	1848.50	-8.18	57.92	49.74	54.00	-4.26	Average	100	0	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

6.8 Restricted Bands of Operation

Only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.09000 – 0.11000	16.42000 – 16.42300	399.9 – 410.0	4.500 – 5.250
0.49500 – 0.505**	16.69475 – 16.69525	608.0 – 614.0	5.350 – 5.460
2.17350 – 2.19050	16.80425 – 16.80475	960.0 – 1240.0	7.250 – 7.750
4.12500 – 4.12800	25.50000 – 25.67000	1300.0 – 1427.0	8.025 – 8.500
4.17725 – 4.17775	37.50000 – 38.25000	1435.0 – 1626.5	9.000 – 9.200
4.20725 – 4.20775	73.00000 – 74.60000	1645.5 – 1646.5	9.300 – 9.500
6.21500 – 6.21800	74.80000 – 75.20000	1660.0 – 1710.0	10.600 – 12.700
6.26775 – 6.26825	108.00000 – 121.94000	1718.8 – 1722.2	13.250 – 13.400
6.31175 – 6.31225	123.00000 – 138.00000	2200.0 – 2300.0	14.470 – 14.500
8.29100 – 8.29400	149.90000 – 150.05000	2310.0 – 2390.0	15.350 – 16.200
8.36200 – 8.36600	156.52475 – 156.52525	2483.5 – 2500.0	17.700 – 21.400
8.37625 – 8.38675	156.70000 – 156.90000	2655.0 – 2900.0	22.010 – 23.120
8.41425 – 8.41475	162.01250 – 167.17000	3260.0 – 3267.0	23.600 – 24.000
12.29000 – 12.29300	167.72000 – 173.20000	3332.0 – 3339.0	31.200 – 31.800
12.51975 – 12.52025	240.00000 – 285.00000	3345.8 – 3358.0	36.430 – 36.500
12.57675 – 12.57725	322.00000 – 335.40000	3600.0 – 4400.0	Above 38.6
13.36000 – 13.41000			

**: Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz

7. Test of Conducted Spurious Emission

7.1 Test Limit

According to the methods defined in ANSI C63.10-2020 Section 11.11.1

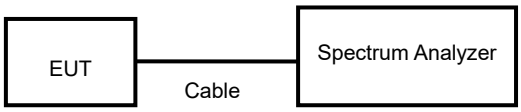
Below –30dB of the highest emission level of operating band (in 100kHz Resolution Bandwidth).

7.2 Test Procedure

According to the methods defined in ANSI C63.10-2020 Section 11.11.2 & 11.11.3

a. The transmitter output was connected to the spectrum analyzer via a low loss cable.
b. Set both RBW and VBW of spectrum analyzer to 100 KHz and 300 KHz with convenient frequency span including 100 KHz bandwidth from band edge.
c. The band edges was measured and recorded.

7.3 Test Setup Layout

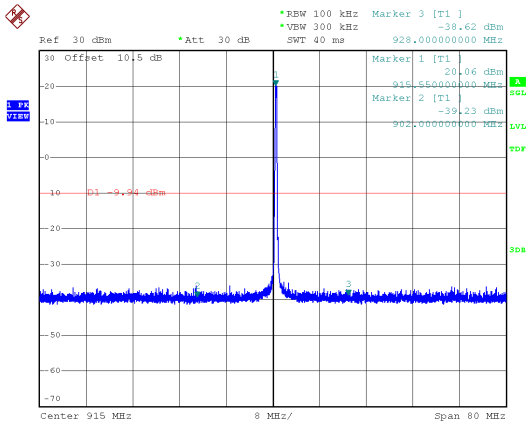


7.4 Test Result and Data

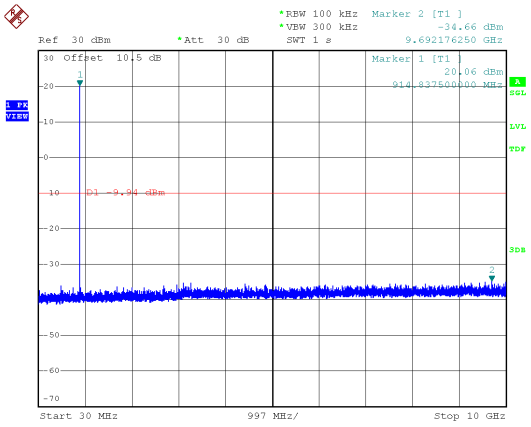
Note: Test plots refer to the following pages.

Modulation Type: GFSK

915.6MHz

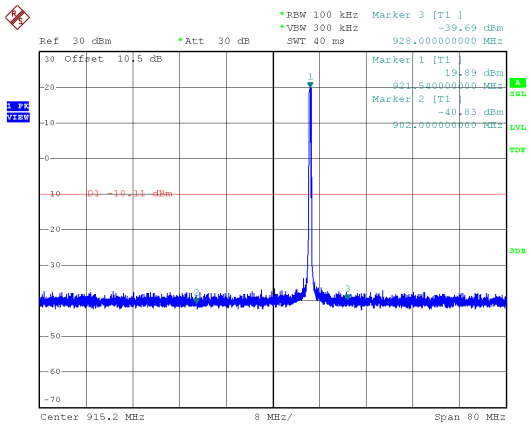


Date: 29.JUN.2026 13:57:31

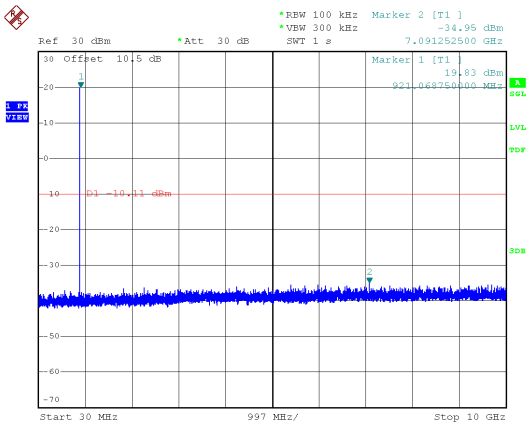


Date: 29.JUN.2026 13:59:15

921.6MHz

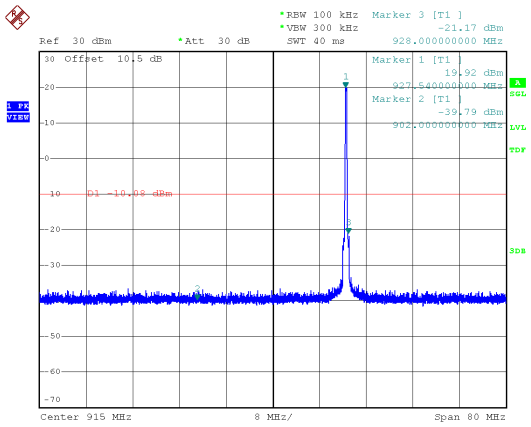


Date: 29.MAY.2026 14:16:38

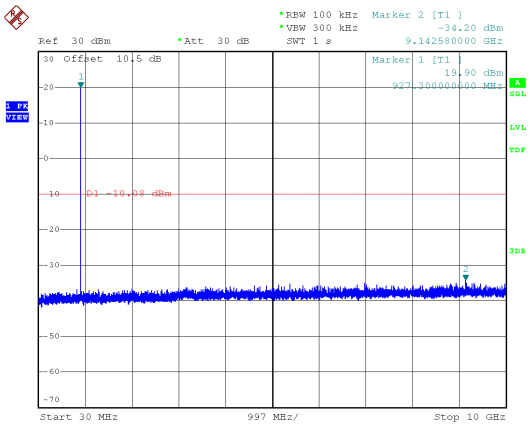


Date: 29.MAY.2026 14:17:21

927.6MHz

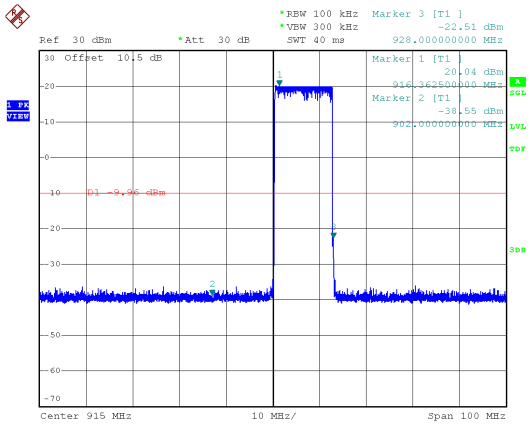


Date: 29.JUN.2026 14:05:12

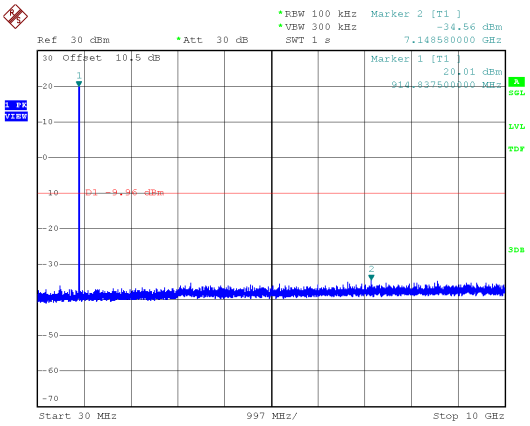


Date: 29.JUN.2026 14:06:55

Hopping Mode



Date: 29.JUN.2026 14:16:10



Date: 29.JUN.2026 14:18:35

8. 20dB Bandwidth Measurement Data

8.1 Test Limit

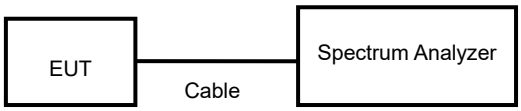
The maximum allowed 20 dB bandwidth of the hopping channel is 500 kHz..

8.2 Test Procedures

According to the methods defined in ANSI C63.10-2020+Cor.1-2023 and ANSI C63.10a-2024 Section 6.9

a. The transmitter output was connected to the spectrum analyzer.
b. Set RBW of spectrum analyzer to 3 KHz and VBW to 10 KHz.
c. The 20 dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 20 dB.

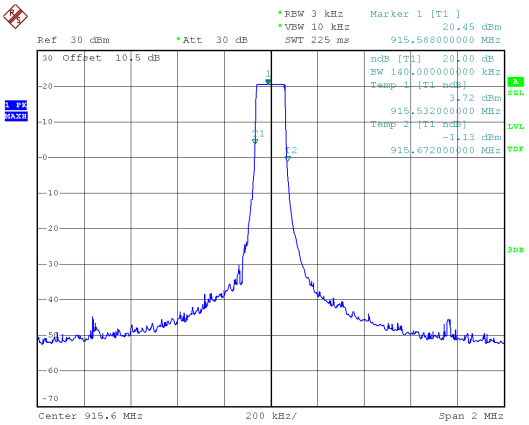
8.3 Test Setup Layout



8.4 Test Result and Data

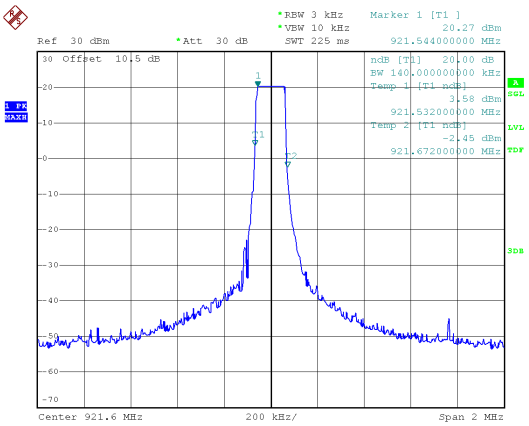
Modulation Type	Channel Frequency (MHz)	20dB Bandwidth (MHz)	Limit (MHz)
CSS	915.6	0.140	0.500
	921.6	0.140	0.500
	927.6	0.144	0.500

Modulation Type: CSS
915.6MHz



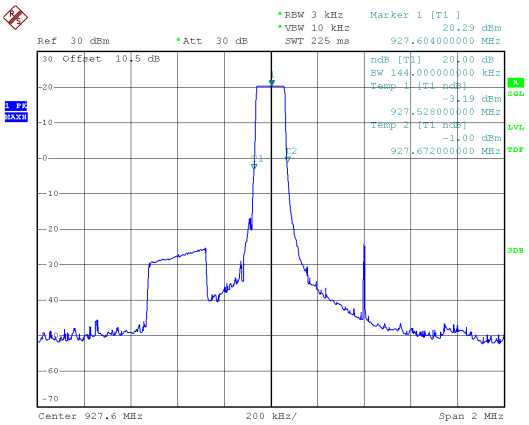
Date: 29.JUN.2026 13:54:12

921.6MHz



Date: 29.MAY.2026 14:15:18

927.6MHz



Date: 29.JUN.2026 14:01:53

9. Frequencies Separation

9.1 Test Limit

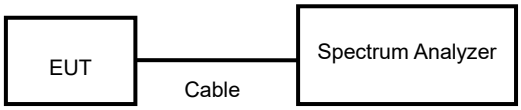
Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater.

9.2 Test Procedures

According to the methods defined in ANSI C63.10-2020+Cor.1-2023 and ANSI C63.10a-2024 Section 7.8.2

a. The transmitter output was connected to the spectrum analyzer.
b. Set RBW of spectrum analyzer to 30 KHz and VBW to 100 KHz.
c. By using the MaxHold function record the separation of two adjacent channels.
d. Measure the frequency difference of these two adjacent channels.

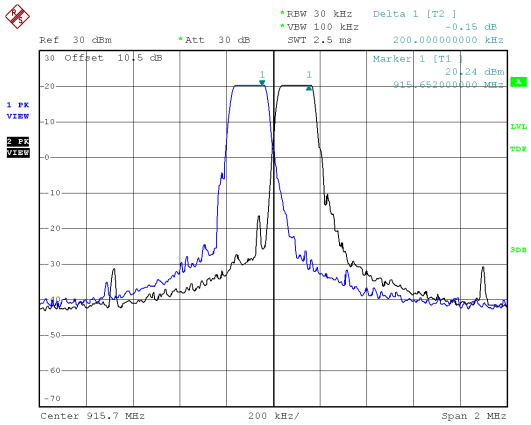
9.3 Test Setup Layout



9.4 Test Result and Data

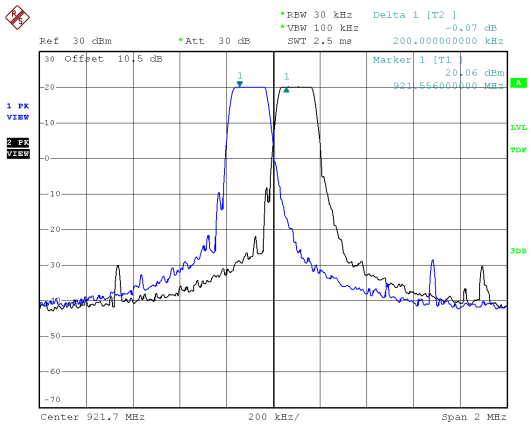
Modulation Type	Channel Frequency (MHz)	Channel Separation (MHz)	Limit (MHz)
CSS	915.6	0.20	0.14
	921.6	0.20	0.14
	927.6	0.20	0.14

Modulation Type: CSS
915.6MHz



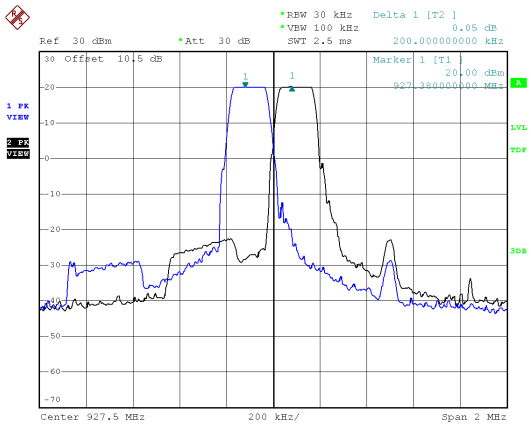
Date: 29.JUN.2026 14:28:46

921.6MHz



Date: 29.MAY.2026 15:00:20

927.6MHz



Date: 29.JUN.2026 14:30:57

10. Dwell Time on each channel

10.1 Test Limit

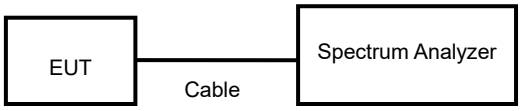
For frequency hopping systems operating in the 902-928 MHz band:
if the 20 dB bandwidth of the hopping channel is less than 250 kHz, the average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 20 second period;
if the 20 dB bandwidth of the hopping channel is 250 kHz or greater, the average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 10 second period.

10.2 Test Procedures

According to the methods defined in ANSI C63.10-2020 Section 7.8.4

1. The transmitter output was connected to the spectrum analyzer.
2. Adjust the center frequency to measure frequency, then set zero span mode.
2. Set RBW of spectrum analyzer to 1 MHz and VBW to 3 MHz.
4. Measure the time duration of one transmission on the measured frequency.

10.3 Test Setup Layout

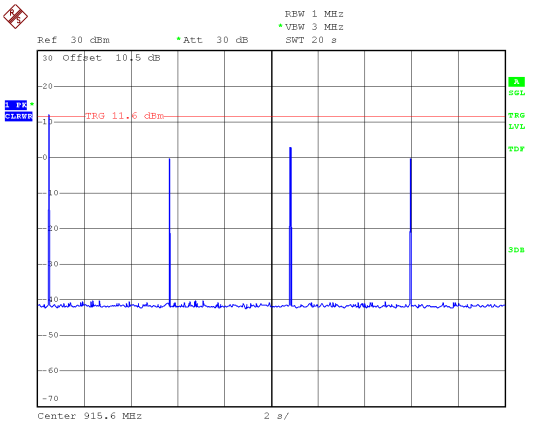


10.4 Test Result and Data

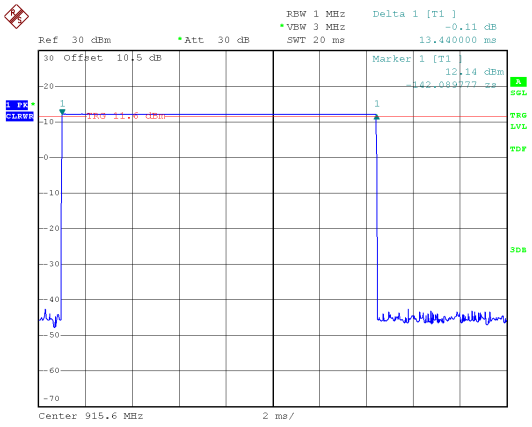
Channel Frequency (MHz)	Length of transmission time (ms)	Number of transmission in a 20s	Dwell Time (ms)	Limit (ms)
915.6	13.440	1.00	13.44	400
921.6	13.440	1.00	13.44	400
927.6	13.480	1.00	13.48	400

Modulation Type: CSS

915.6MHz

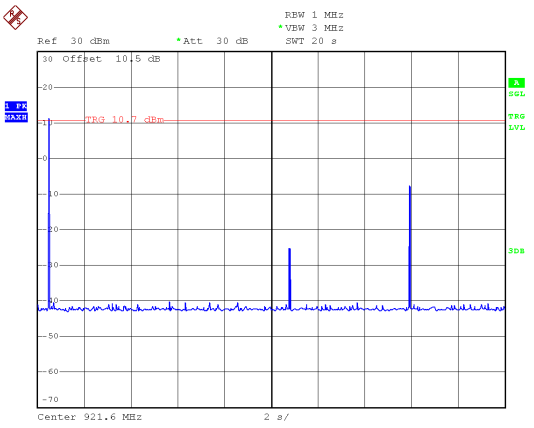


Date: 29.JUN.2026 14:34:22

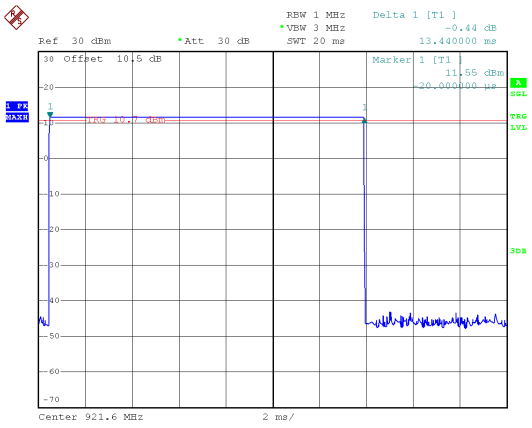


Date: 29.JUN.2026 14:52:54

921.6MHz

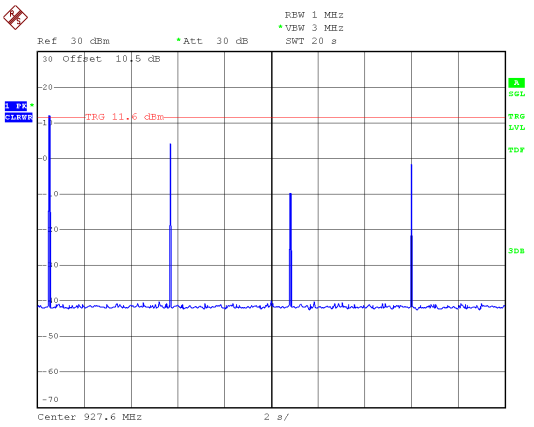


Date: 2.JUN.2026 15:05:01

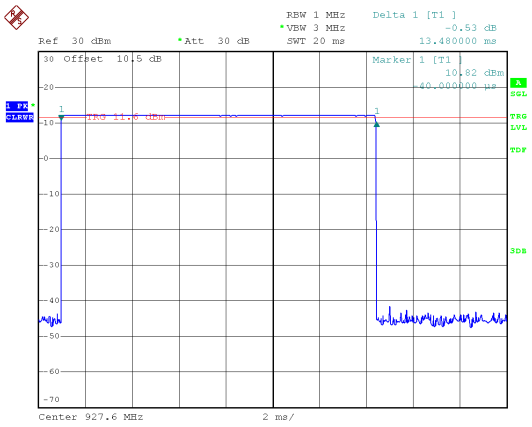


Date: 2.JUN.2026 15:05:54

927.6MHz



Date: 29.JUN.2026 14:40:50



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11. Number of Hopping Channels

11.1 Test Limit

For frequency hopping systems operating in the 902-928 MHz band:

if the 20 dB bandwidth of the hopping channel is less than 250 kHz, the system shall use at least 50 hopping frequencies

if the 20 dB bandwidth of the hopping channel is 250 kHz or greater, the system shall use at least 25 hopping frequencies

11.2 Test Procedures

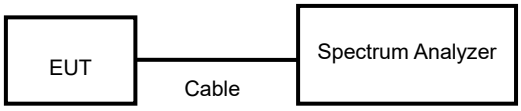
According to the methods defined in ANSI C63.10-2020+Cor.1-2023 and ANSI C63.10a-2024 Section 7.8.3

a. The transmitter output was connected to the spectrum analyzer.

b. 2. Set RBW of spectrum analyzer to 100 KHz and VBW to 300 KHz.

c. 3. Set the MaxHold function, and then keep the EUT in hopping mode. Record all the signals from each channel until each one has been record.

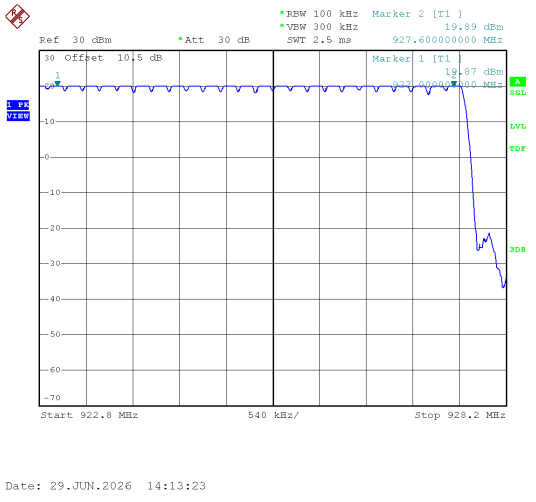
11.3 Test Setup Layout

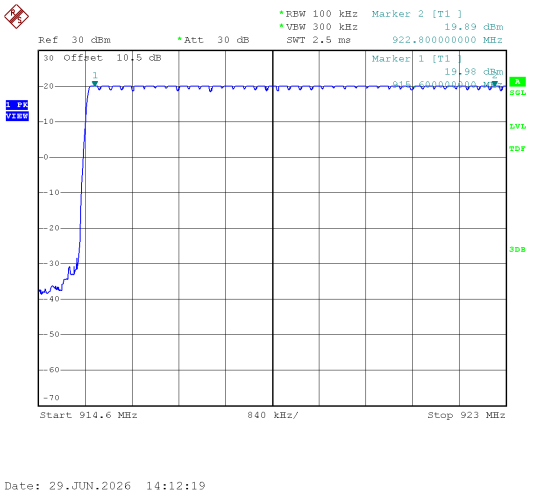


11.4 Test Result and Data

Modulation Type	Hopping Channels	Limit
CSS	61	50

Modulation Type: CSS





12. Maximum Peak Output Power

12.1 Test Limit

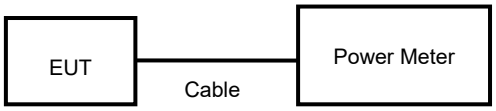
The Maximum Peak Output Power Measurement is 30dBm.

12.2 Test Procedures

According to the methods defined in ANSI C63.10-2020 Section 7.8.5

The antenna port(RF output)of the EUT was connected to the input(RF input)of a power meter. Power was read directly from the meter and cable loss connection was added to the reading to obtain power at the EUT antenna terminal. The EUT Output Power was set to maximum to produce the worse case test result.

12.3 Test Setup Layout



12.4 Test Result and Data

Setting	Modulation Type	Rata Data	Channel Frequency (MHz)	AV Output Power (dBm)	AV Output Power (mW)
21	CSS	125k/SF5	915.6	19.94	98.628
21		125k/SF5	921.6	19.82	95.940
21		125k/SF5	927.6	19.81	95.719

----------THE END OF REPORT----------