RF TEST REPORT

Product Name: Fixed RFID Reader

Model Name: FR901

FCC ID: SS4FR901

Issued For : Bluebird Inc.

3F, 115, Irwon-ro, Gangnam-gu, Seoul, Republic of Korea

Issued By : Shenzhen LGT Test Service Co., Ltd.

Room 205, Building 13, Zone B, Zhenxiong Industrial Park, No.177, Renmin West Road, Jinsha, Kengzi Street, Pingshan District, Shenzhen, Guangdong, China

Report Number:	LGT25K303RF04
Sample Received Date:	Nov. 28, 2025
Date of Test:	Nov. 28, 2025 ~ Dec. 31, 2025
Date of Issue:	Dec. 31, 2025

TEST REPORT CERTIFICATION

Applicant:	Bluebird Inc.
Address:	3F, 115, Irwon-ro, Gangnam-gu, Seoul, Republic of Korea
Manufacturer:	Bluebird Inc.
Address:	3F, 115, Irwon-ro, Gangnam-gu, Seoul, Republic of Korea
Factory 1:	Bluebird Inc.
Address:	SSang-young IT Twin tower-B 7~8F), 531, Dunchon-daero, Jungwon-gu, Seongnam-si, Gyeonggi-do, Korea
Factory 2:	DSGLOBAL VINA CO.,LTD
Address:	Lot XN3-1E, Dai An expansion Industrial Zone, Lai Cach town Cam Giang district, HaiDuong province, Vietnam
Product Name:	Fixed RFID Reader
Trademark:	BLUEBIRD A TSC Company
Model Name:	FR901
Sample Status:	Normal

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
FCC Part 15.247, Subpart C ANSI C63.10-2020	PASS

Prepared by:

Zane Shan

Zane Shan
Engineer

Approved by:

Vita Li
Technical Director

SHENZHEN LGT TEST SERVICE CO., LTD. 领冠检测

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Revision History

Rev.	Issue Date	Contents
00	Dec. 31, 2025	Initial Issue

1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:
KDB 558074 D01 15.247 Meas Guidance v05r02.

FCC Part 15.247, Subpart C			
Standard Section	Test Item	Judgment	Remark
15.207	Conducted Emission	PASS	--
15.247(a)(1)	Hopping Channel Separation	PASS	--
15.247(a)(1)&(b)(1)	Output Power	PASS	--
15.209	Radiated Spurious Emission	PASS	--
15.247(d)	Conducted Spurious & Band Edge Emission	PASS	--
15.247(a)(1)(iii)	Number of Hopping Frequency	PASS	--
15.247(a)(1)(iii)	Dwell Time	PASS	--
15.247(a)(1)	Bandwidth	PASS	--
15.205	Restricted bands of operation	PASS	--
Part 15.247(d)/part 15.209(a)	Band Edge Emission	PASS	--
15.203	Antenna Requirement	PASS	--

NOTE:

(1) 'N/A' denotes test is not applicable in this Test Report.

(2) All tests are according to ANSI C63.10-2020.

1.1 TEST LABORATORY

Company Name:	Shenzhen LGT Test Service Co., Ltd.
Address:	Room 205, Building 13, Zone B, Zhenxiong Industrial Park, No.177, Renmin West Road, Jinsha, Kengzi Street, Pingshan District, Shenzhen, Guangdong, China
Accreditation Certificate:	FCC Registration No.: 746540
	CAB ID: CN0136

1.2 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement **y** ± **U**, where expended uncertainty **U** is based on a standard uncertainty multiplied by a coverage factor of **k=2**, providing a level of confidence of approximately **95** %.

No.	Item	Uncertainty
1	Occupied Channel Bandwidth	±0.46%
2	RF Output Power, Conducted	±0.71dB
3	Power Spectral Density, Conducted	±1.57dB
4	Unwanted Emission, Conducted	±0.63dB
5	Conducted emission	±2.80dB
6	All Emissions, Radiated (0.009-30MHz)	±2.16dB
7	All Emissions, Radiated (30MHz-1GHz)	±4.61dB
8	All Emissions, Radiated (1GHz-18GHz)	±5.49dB
9	Temperature	±0.5°C
10	Humidity	±2%
11	Duty Cycle	±2.3%

Note: The measurement uncertainty is not included in the test result.

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF THE EUT

<table>
<tr><td>Product Name:</td><td>Fixed RFID Reader</td></tr>
<tr><td>Test Model Name:</td><td>FR901</td></tr>
<tr><td>Series Name:</td><td>N/A</td></tr>
<tr><td>Model Difference:</td><td>N/A</td></tr>
<tr><td>Product Description:</td><td>
<table>
<tr><td>Operation Frequency:</td><td>902.75-927.25 MHz</td></tr>
<tr><td>Modulation Type:</td><td>DSB-ASK</td></tr>
<tr><td>Number Of Channel:</td><td>50</td></tr>
<tr><td>Antenna Designation:</td><td>AN970: Circular Polarity Antenna
AN971: Circular Polarity Antenna
ANS961: Circular Polarity Antenna
ANS981: Circular Polarity Antenna</td></tr>
<tr><td>Antenna Gain (dBi)</td><td>AN970: 6
AN971: 6
ANS961: 5.5
ANS981: 3.5</td></tr>
</table>
</td></tr>
<tr><td>Channel List:</td><td>Please refer to the Note 3.</td></tr>
<tr><td>Adapter:</td><td>Input: 100-240V 50/60Hz 2.5A
Output: 24V 4.0A</td></tr>
<tr><td>Rating:</td><td>POE+(30W): 56V 0.53A</td></tr>
<tr><td>Hardware Version:</td><td>Rev 0V2</td></tr>
<tr><td>Software Version:</td><td>N/A</td></tr>
<tr><td>Connecting I/O Port(s):</td><td>Please refer to the Note 1.</td></tr>
</table>

Note:

1. For a more detailed features description, please refer to the manufacturer’s specifications or the User Manual.
2. The antenna information refers to the manufacturer provide report, applicable only to the tested sample identified in the report. Due to the incorrect antenna information, a series of problems such as the accuracy of the test results will be borne by the customer.

3.

Channel List					
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	902.75	21	912.75	41	922.75
2	903.25	22	913.25	42	923.25
3	903.75	23	913.75	43	923.75
4	904.25	24	914.25	44	924.25
5	904.75	25	914.75	45	924.75
6	905.25	26	915.25	46	925.25
7	905.75	27	915.75	47	925.75
8	906.25	28	916.25	48	926.25
9	906.75	29	916.75	49	926.75
10	907.25	30	917.25	50	927.25
11	907.75	31	917.75	--	--
12	908.25	32	918.25	--	--
13	908.75	33	918.75	--	--
14	909.25	34	919.25	--	--
15	909.75	35	919.75	--	--
16	910.25	36	920.25	--	--
17	910.75	37	920.75	--	--
18	911.25	38	921.25	--	--
19	911.75	39	921.75	--	--
20	912.25	40	922.25	--	--

2.2 DESCRIPTION OF THE TEST MODES

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

Worst Mode	Frequency (MHz)
Mode 1	902.75
Mode 2	915.25
Mode 3	927.25

Note:

(1) The measurements are performed at all Bit Rate of Transmitter, the worst data was reported.

(2) We tested for all available U.S. voltage and frequencies (For 120V, 50/60Hz and 240V, 50/60Hz) for which the device is capable of operation, and the worst case of 120V/ 60Hz is shown in the report.

(3) The RF ID of EUT has 8 antenna ports, which cannot transmit simultaneously. Each antenna port is tested, and the report only reflects the test data of the worst antenna port.

For AC Conducted Emission

Test Case	
AC Conducted Emission	Mode 4: Keeping TX

2.3 TABLE OF PARAMETERS OF TEST SOFTWARE SETTING

During testing channel & power controlling software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product power parameters of FHSS.

Frequency Range	Test program: RFID	
	CH	Power Setting
Rainbowpearl_v1.3.5	Low Ch	29
	Mid Ch	29
	High CH	29

2.4 DESCRIPTION OF NECESSARY ACCESSORIES AND SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Accessories Equipment

Description	Manufacturer	Model	S/N	Rating
Adapter	Foshan shunde Guanyude PowerSupply co.. Ltd.	GM95-240400-F	N/A	Input: 100-240V 50/60Hz 2.5A Output: 24V, 4A
Power Cord	N/A	N/A	N/A	N/A

Auxiliary Equipment

Description	Manufacturer	Model	S/N	Rating
Laptop	ASUS	UX3407Q	N/A	N/A

Note:

(1) For detachable type I/O cable should be specified the length in cm in『Length』column.

(2) “YES” is means “with core”; “NO” is means “without core”.

2.6 EQUIPMENTS LIST

Conducted Emission					
Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Cal. Date**	**Cal. Until**
EMI Test Receiver	R&S	ESU8	100372	2025.03.06	2026.03.05
LISN	COM-POWER	LI-115	02032	2025.03.05	2026.03.04
LISN	SCHWARZBECK	NNLK 8122	00160	2025.03.05	2026.03.04
Transient Limiter	CYBERTEK	EM5010A	E2250100049	2025.03.05	2026.03.04
Coaxial cables (9kHz-30MHz)	Juncoax	JMR600-NMNM-2M	N.A	2025.03.06	2026.03.05
Temperature & Humidity	JINGCHUANG	BT-3	N.A	2025.03.10	2026.03.09
Testing Software	EMC-I_V1.4.0.3_SKET				

Radiated Test equipment					
Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Cal. Date**	**Cal. Until**
EMI Test Receiver	R&S	ESU8	100372	2025.03.06	2026.03.05
Active loop Antenna	ETS	6502	00049544	2025.03.11	2028.03.10
Spectrum Analyzer	Keysight	N9010B	MY60242508	2025.03.05	2026.03.04
Trilog Broadband Antenna (30M-1G)	SCHWARZBECK	VULB 9168	2705	2024.05.17	2027.05.16
Horn Antenna(1-18G)	SCHWARZBECK	3115	10SL0060	2025.03.10	2028.03.09
Horn Antenna(18-40G)	SCHWARZBECK	BBHA 9170	685	2023.10.23	2026.10.22
Pre-amplifier(30M-1G)	EMtrace	RP01A	02019	2025.03.06	2026.03.05
Pre-amplifier(1-26.5G)	Agilent	8449B	3008A4722	2025.03.06	2026.03.05
Pre-amplifier(18-40G)	SCHWARZBECK	BBV 9721	9721-019	2025.10.20	2026.10.19
Coaxial cables (9kHz-1GHz)	Juncoax	JMR600-NMNM-8M	N.A	2025.03.06	2026.03.05
Coaxial cables (1GHz-18GHz)	TaiHe	UCD460B-NMSM-1M9	N.A	2025.03.06	2026.03.05
Coaxial cables (18GHz-40GHz)	Junkosha Inc.	MWX241-05000KMSKMS	N.A	2025.03.08	2026.03.07
Temperature& Humidity test chamber	AISRY	LX-1000L	171200018	2025.07.30	2026.07.29
Antenna Tower	SAEMC	BK-4AT-BS-D	SK2021093008	N.A	N.A
Temperature & Humidity	JINGCHUANG	BT-3	N.A	2025.03.10	2026.03.09
Testing Software	EMC-I_V1.4.0.3_SKET				

RF Conducted Test equipment					
Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Cal. Date**	**Cal. Until**
Signal Analyzer	Keysight	N9020A	MY50530994	2025.03.05	2026.03.04
Power Sensor	R&S	NRP8S	104963	2025.03.06	2026.03.05
RF Automatic Test system	TST	TST PASS	293	2025.07.15	2026.07.14
MXG Vector Signal Generator	Keysight	N5182B	MY59100717	2025.03.05	2026.03.04
Temperature& Humidity test chamber	AISRY	LX-1000L	171200018	2025.07.30	2026.07.29
Attenuator	eastsheep	90db	N.A	2025.03.06	2026.03.05

Temperature & Humidity	JINGCHUANG	BT-3	N.A	2025.03.10	2026.03.09
Digital multimeter	MASTECH	MS8261	MBGBC83053	2025.03.05	2026.03.04
DC source	Keysight	E3634A	MY58036468	2025.03.06	2026.03.05
Testing Software	TST Pass_2.0.2				

3. EMC EMISSION TEST

3.1 CONDUCTED EMISSION MEASUREMENT

3.1.1 POWER LINE CONDUCTED EMISSION LIMITS

The radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table.

FREQUENCY (MHz)	Conducted Emissionlimit (dBuV)	
	Quasi-peak	Average
0.15 -0.5	66 - 56 *	56 - 46 *
0.50 -5.0	56.00	46.00
5.0 -30.0	60.00	50.00

Note:

(1) The tighter limit applies at the band edges.

(2) The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

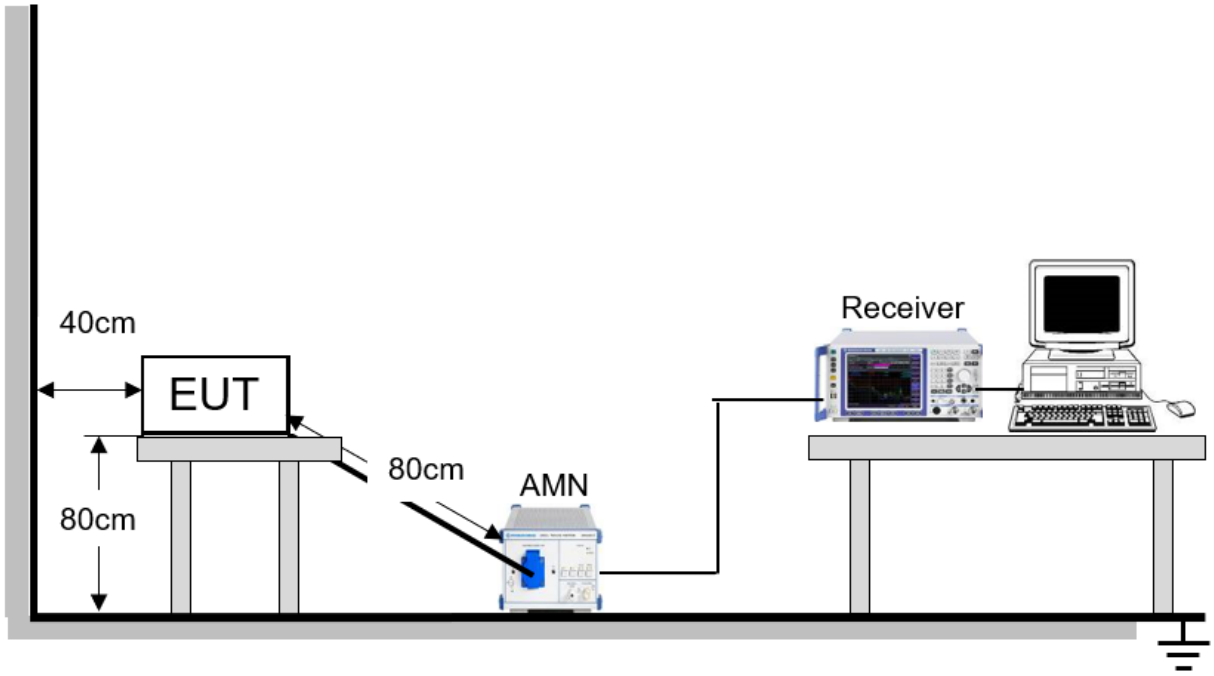
The following table is the setting of the receiver

Receiver Parameters	**Setting**
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz

3.1.2 TEST PROCEDURE

a. The EUT is 0.8 m from the horizontal ground plane and 0.4 m from the vertical ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments are powered from additional LISN(s). The LISN provides 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
c. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
d. LISN is at least 80 cm from the nearest part of EUT chassis.
e. For the actual test configuration, please refer to the related Item –EUT Test Photos.

3.1.3 TEST SETUP

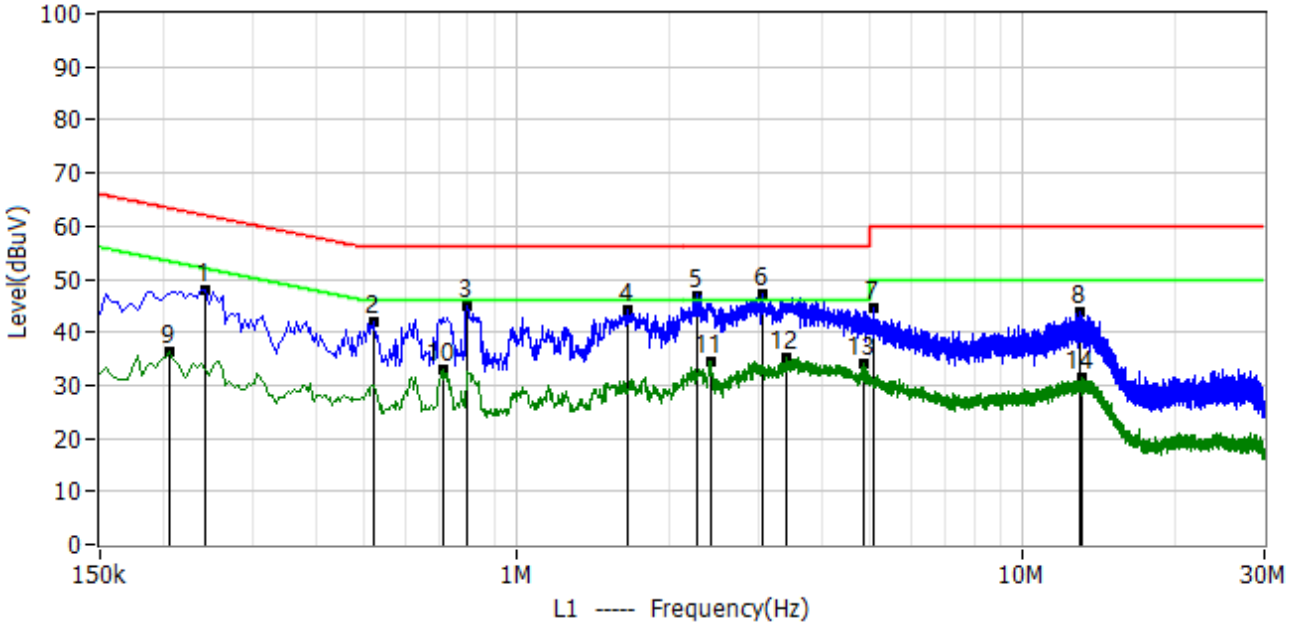


3.1.4 EUT OPERATING CONDITIONS

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

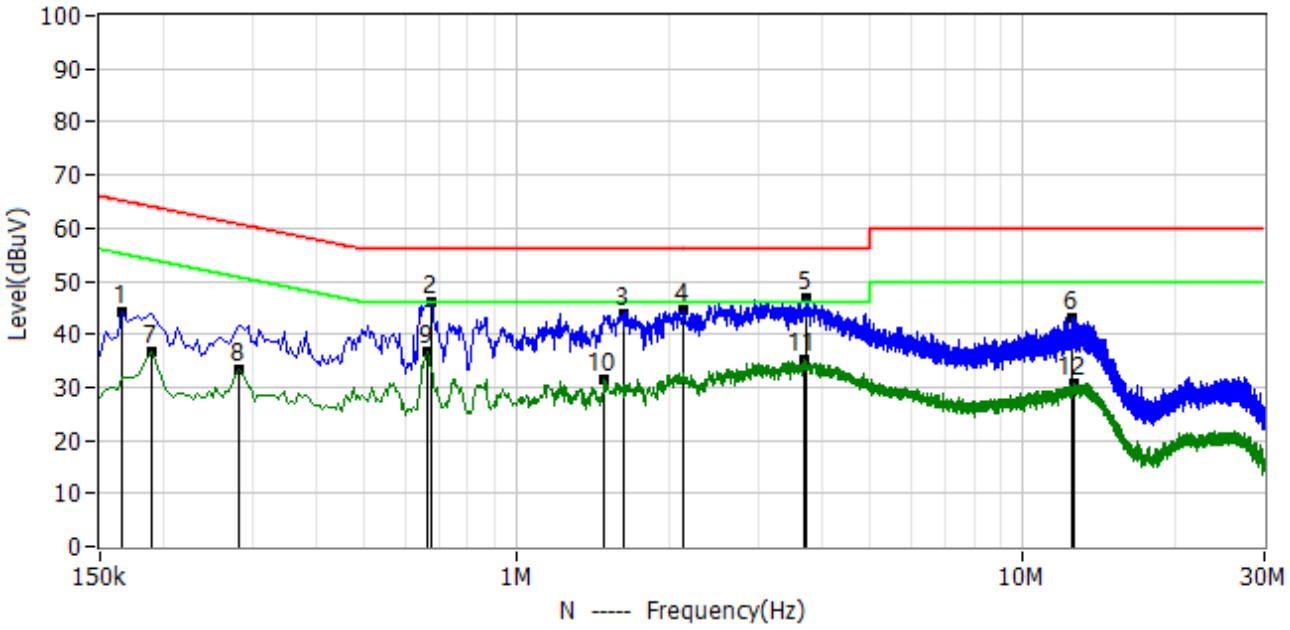
3.1.5 TEST RESULT

Project: LGT25K303	Test Engineer: LiuH
EUT: Fixed RFID Reader	Temperature: 21.7℃
M/N: FR901	Humidity: 50%RH
Test Voltage: AC 120V/60Hz	Test Data: 2025-12-17
Test Mode: TX	
Note:	



No.	Frequency MHz	Reading dBuV	Factor dB	Result dBuV	Limit dBuV	Margin dB	Detector	Polar
1*	0.242	37.20	10.78	47.98	62.03	-14.05	QP	L1
2*	0.522	30.88	10.93	41.81	56.00	-14.19	QP	L1
3*	0.798	34.16	10.88	45.04	56.00	-10.96	QP	L1
4*	1.650	33.25	11.13	44.38	56.00	-11.62	QP	L1
5*	2.274	35.87	11.13	47.00	56.00	-9.00	QP	L1
6*	3.058	35.82	11.33	47.15	56.00	-8.85	QP	L1
7*	5.046	33.07	11.34	44.41	60.00	-15.59	QP	L1
8*	12.994	32.27	11.63	43.90	60.00	-16.10	QP	L1
9*	0.206	25.71	10.73	36.44	53.37	-16.93	AV	L1
10*	0.714	22.25	10.83	33.08	46.00	-12.92	AV	L1
11*	2.410	23.36	11.15	34.51	46.00	-11.49	AV	L1
12*	3.402	23.79	11.29	35.08	46.00	-10.92	AV	L1
13*	4.838	22.74	11.32	34.06	46.00	-11.94	AV	L1
14*	13.046	19.80	11.63	31.43	50.00	-18.57	AV	L1

Project: LGT25K303	Test Engineer: LiuH
EUT: Fixed RFID Reader	Temperature: 21.7℃
M/N: FR901	Humidity: 50%RH
Test Voltage: AC 120V/60Hz	Test Data: 2025-12-17
Test Mode: TX	
Note:	



No.	Frequency MHz	Reading dBuV	Factor dB	Result dBuV	Limit dBuV	Margin dB	Detector	Polar
1*	0.166	33.68	10.64	44.32	65.16	-20.84	QP	N
2*	0.678	35.03	10.86	45.89	56.00	-10.11	QP	N
3*	1.622	32.88	11.11	43.99	56.00	-12.01	QP	N
4*	2.138	33.41	11.15	44.56	56.00	-11.44	QP	N
5*	3.718	35.64	11.26	46.90	56.00	-9.10	QP	N
6*	12.482	31.63	11.57	43.20	60.00	-16.80	QP	N
7*	0.190	25.92	10.67	36.59	54.04	-17.45	AV	N
8*	0.282	22.76	10.74	33.50	50.76	-17.26	AV	N
9*	0.666	25.79	10.86	36.65	46.00	-9.35	AV	N
10*	1.490	20.19	11.09	31.28	46.00	-14.72	AV	N
11*	3.706	23.77	11.26	35.03	46.00	-10.97	AV	N
12*	12.654	19.16	11.58	30.74	50.00	-19.26	AV	N

3.2 RADIATED EMISSION MEASUREMENT

3.2.1 RADIATED EMISSION LIMITS

In any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the Restricted band specified on Part15.205 (a)&209(a) limit in the table and according to ANSI C63.10-2020 below has to be followed.

LIMITS OF RADIATED EMISSION MEASUREMENT (0.009MHz - 1000MHz)

Frequencies (MHz)	Field Strength (micorvolts/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

LIMITS OF RADIATED EMISSION MEASUREMENT (1GHz-25 GHz)

FREQUENCY (MHz)	(dBuV/m) (at 3M)	
	PEAK	AVERAGE
Above 1000	74	54

Notes:

(1) The limit for radiated test was performed according to FCC PART 15C.

(2) The tighter limit applies at the band edges.

(3) Emission level (dBuV/m)=20log Emission level (uV/m).

LIMITS OF RESTRICTED FREQUENCY BANDS

FREQUENCY (MHz)	FREQUENCY (MHz)	FREQUENCY (MHz)	FREQUENCY (GHz)
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	Above 38.6
13.36-13.41			

For Radiated Emission

Spectrum Parameter	Setting
Attenuation	Auto
Detector	Peak/QP/AV
Start Frequency	9 KHz/150KHz (Peak/QP/AV)
Stop Frequency	150KHz/30MHz (Peak/QP/AV)
RB / VB (emission in restricted band)	200Hz (From 9kHz to 0.15MHz)/ 9KHz (From 0.15MHz to 30MHz); 200Hz (From 9kHz to 0.15MHz)/ 9KHz (From 0.15MHz to 30MHz)

Spectrum Parameter	Setting
Attenuation	Auto
Detector	Peak/QP
Start Frequency	30 MHz (Peak/QP)
Stop Frequency	1000 MHz (Peak/QP)
RB / VB (emission in restricted band)	120 KHz / 300 KHz

Spectrum Parameter	Setting
Attenuation	Auto
Detector	Peak
Start Frequency	1000 MHz (Peak/AV)
Stop Frequency	10th carrier hamonic (Peak/AV)
RB / VB (emission in restricted band)	1 MHz / 3 MHz(Peak) 1 MHz/1/T MHz(AVG)

For Restricted band

Spectrum Parameter	Setting
Detector	Peak
Start/Stop Frequency	Lower Band Edge: 2310 to 2410 MHz Upper Band Edge: 2476 to 2500 MHz
RB / VB	1 MHz / 3 MHz(Peak) 1 MHz/1/T MHz(AVG)

Receiver Parameter	**Setting**
Attenuation	Auto
Start ~ Stop Frequency	9kHz~90kHz / RB 200Hz for PK & AV
Start ~ Stop Frequency	90kHz~110kHz / RB 200Hz for QP
Start ~ Stop Frequency	110kHz~490kHz / RB 200Hz for PK & AV
Start ~ Stop Frequency	490kHz~30MHz / RB 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RB 120kHz for QP

3.2.2 TEST PROCEDURE

a. The measuring distance at 3 m shall be used for measurements at frequency 0.009MHz up to 1GHz, and above 1GHz.
b. The EUT was placed on the top of a rotating table 0.8 m (above 1GHz is 1.5 m) above the ground at a 3 m anechoic chamber test site. The table was rotated 360 degree to determine the position of the highest radiation.
c. The height of the equipment shall be 0.8 m (above 1GHz is 1.5 m); the height of the test antenna shall vary between 1 m to 4 m. Horizontal and vertical polarization of the antenna are set to make the measurement.
d. The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and QuasiPeak detector mode will be re-measured.
e. If the Peak Mode measured value is compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and no additional QP Mode measurement was performed.
f. For the actual test configuration, please refer to the related Item –EUT Test Photos.

   Note:

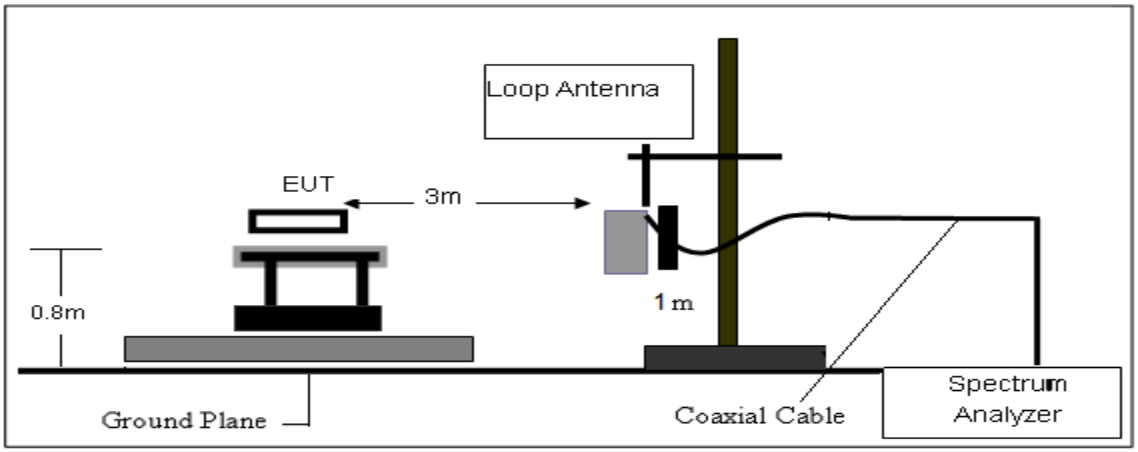
   Both horizontal and vertical antenna polarities were tested and performed pretest to three orthogonal axis. The worst case emissions were reported.

3.2.3 DEVIATION FROM TEST STANDARD

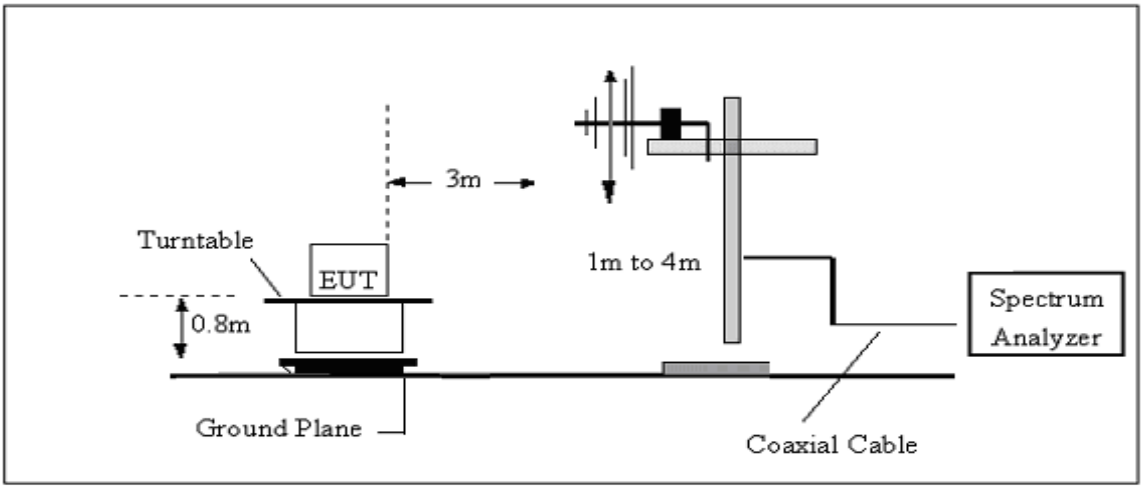
No deviation.

3.2.4 TESTSETUP

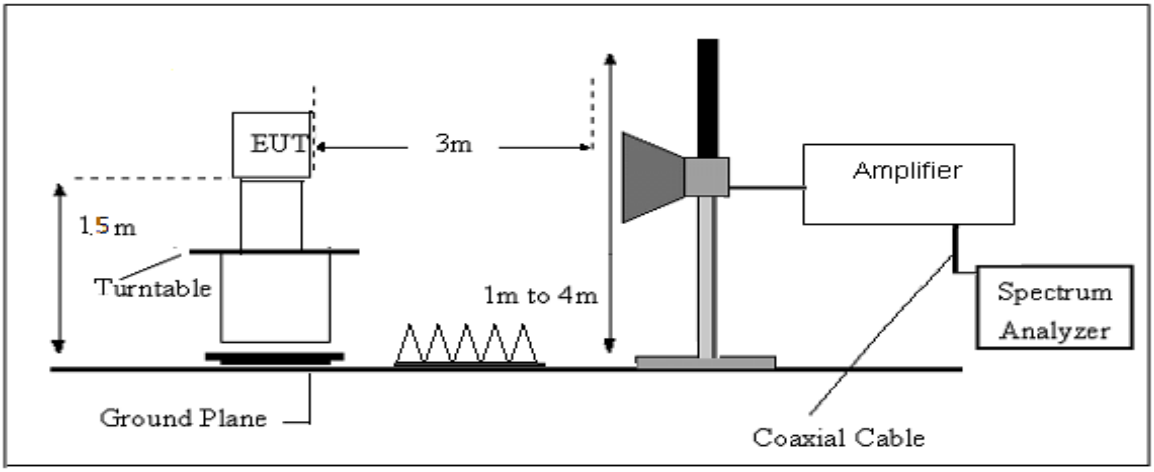
(A) Radiated Emission Test-Up Frequency Below 30MHz



(B) Radiated Emission Test-Up Frequency 30MHz~1GHz



(C) Radiated Emission Test-Up Frequency Above 1GHz



3.2.5 EUT OPERATING CONDITIONS

Please refer to section 3.1.4 of this report.

3.2.6 FIELD STRENGTH CALCULATION

The field strength is calculated by adding the Antenna Factor and Cable Factor and subtracting the Amplifier Gain and Duty Cycle Correction Factor (if any) from the measured reading. The basic equation with a sample calculation is as follows:

FS = RA + AF + CL - AG

Where

FS = Field Strength

CL = Cable Attenuation Factor (Cable Loss)

RA = Reading Amplitude

AG = Amplifier Gain

AF = Antenna Factor

For example

Frequency	FS	RA	AF	CL	AG	Factor
(MHz)	(dBμV/m)	(dBμV/m)	(dB)	(dB)	(dB)	(dB)
300	40	58.1	12.2	1.6	31.9	-18.1

Factor=AF+CL-AG

3.2.7 TEST RESULTS

Results of Radiated Emissions (9 KHz~30MHz)

No.	Frequency	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Detector	Remark
1*	-	-	-	-	-	-	-	See Note

Note:

The emission from 9 kHz to 30MHz was pre-tested and found the result was 20dB lower than the limit, and the permissible value has no need to be reported.

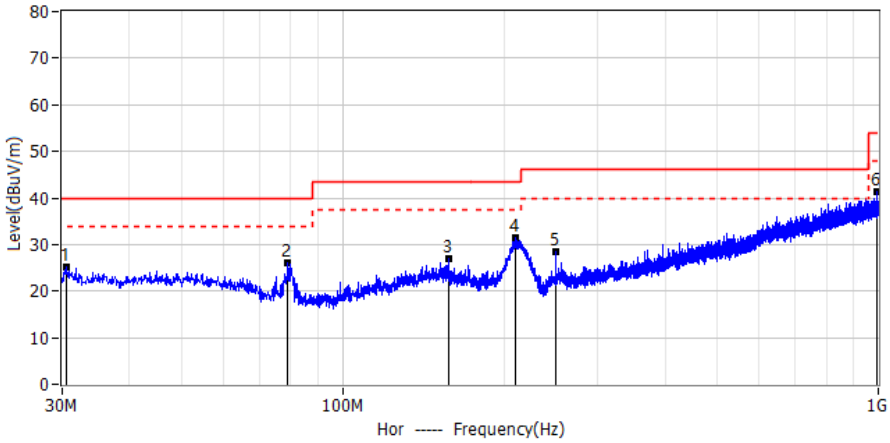
Distance extrapolation factor = 40 log (specific distance / test distance) (dB);

Limit line = specific limits (dBuV) + distance extrapolation factor.

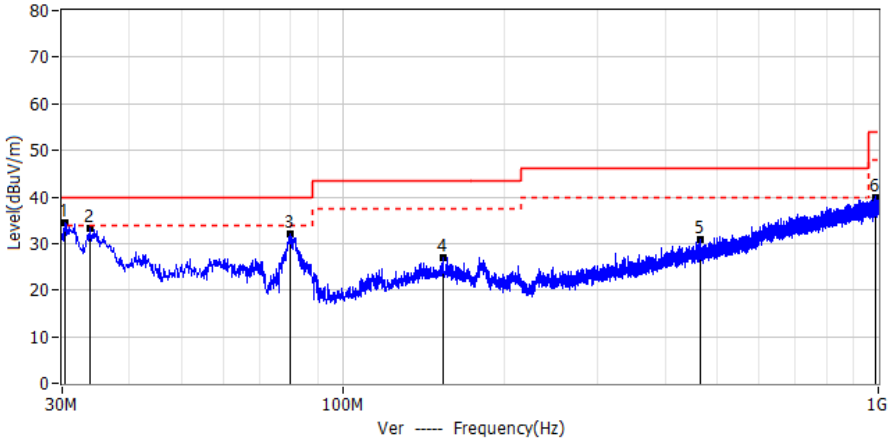
Results of Radiated Emissions (30MHz~1000MHz)

Note:1. All mode has been tested, only shown the worst case data.

Project: LGT25K303	Test Engineer: zhangyangda
EUT: Fixed RFID Reader	Temperature: 23.0℃
M/N: FR901	Humidity: 45%RH
Test Voltage: AC 120V/60Hz	Test Data: 2025-12-12
Test Mode: TX	
Note:	



No.	Frequency MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Detector	Polar
1*	30.606	5.49	19.62	25.11	40.00	-14.89	QP	Hor
2*	79.106	9.20	16.76	25.96	40.00	-14.04	QP	Hor
3*	158.040	4.89	22.05	26.94	43.50	-16.56	QP	Hor
4*	210.056	13.66	17.88	31.54	43.50	-11.96	QP	Hor
5*	249.948	8.24	20.08	28.32	46.00	-17.68	QP	Hor
6*	991.513	6.18	35.03	41.21	54.00	-12.79	QP	Hor



No.	Frequency MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Detector	Polar
1*	30.364	14.95	19.57	34.52	40.00	-5.48	QP	Ver
2*	33.880	13.29	19.84	33.13	40.00	-6.87	QP	Ver
3*	79.713	15.36	16.58	31.94	40.00	-8.06	QP	Ver
4*	153.796	4.84	22.04	26.88	43.50	-16.62	QP	Ver
5*	466.500	4.32	26.69	31.01	46.00	-14.99	QP	Ver
6*	985.935	4.58	35.42	40.00	54.00	-14.00	QP	Ver

Results of Radiated Emissions (Above 1000MHz)

Note:1. All mode has been tested, only shown the worst case data.

AN970 Antenna

Frequency (MHz)	Reading (dBμV)	Corrected Factor (dB)	Result (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector	Polarity
Low Channel (902.75 MHz)							
1805.08	55.57	-12.59	42.98	74.00	-31.02	PK	Vertical
1805.08	45.41	-12.59	32.82	54.00	-21.18	AV	Vertical
1805.12	55.01	-12.59	42.42	74.00	-31.58	PK	Horizontal
1805.12	46.87	-12.59	34.28	54.00	-19.72	AV	Horizontal
2707.97	54.93	-10.65	44.28	74.00	-29.72	PK	Vertical
2707.97	45.58	-10.65	34.93	54.00	-19.07	AV	Vertical
2707.93	55.40	-10.65	44.75	74.00	-29.25	PK	Horizontal
2707.93	44.22	-10.65	33.57	54.00	-20.43	AV	Horizontal
3610.63	57.31	-8.73	48.58	74.00	-25.42	PK	Vertical
3610.63	47.70	-8.73	38.97	54.00	-15.03	AV	Vertical
3610.71	57.47	-8.73	48.74	74.00	-25.26	PK	Horizontal
3610.71	47.98	-8.73	39.25	54.00	-14.75	AV	Horizontal
4513.30	60.27	-7.82	52.45	74.00	-21.55	PK	Vertical
4513.30	50.11	-7.82	42.29	54.00	-11.71	AV	Vertical
4513.36	59.89	-7.82	52.07	74.00	-21.93	PK	Horizontal
4513.36	50.49	-7.82	42.67	54.00	-11.33	AV	Horizontal
Middle Channel (915.25 MHz)							
1830.27	55.97	-12.59	43.38	74.00	-30.62	PK	Vertical
1830.27	46.89	-12.59	34.30	54.00	-19.70	AV	Vertical
1830.13	55.79	-12.59	43.20	74.00	-30.80	PK	Horizontal
1830.13	45.21	-12.59	32.62	54.00	-21.38	AV	Horizontal
2745.28	55.07	-10.65	44.42	74.00	-29.58	PK	Vertical
2745.28	44.99	-10.65	34.34	54.00	-19.66	AV	Vertical
2745.46	54.90	-10.65	44.25	74.00	-29.75	PK	Horizontal
2745.46	45.53	-10.65	34.88	54.00	-19.12	AV	Horizontal
3660.65	56.73	-8.73	48.00	74.00	-26.00	PK	Vertical
3660.65	48.32	-8.73	39.59	54.00	-14.41	AV	Vertical
3660.59	56.61	-8.73	47.88	74.00	-26.12	PK	Horizontal
3660.59	47.11	-8.73	38.38	54.00	-15.62	AV	Horizontal
4575.89	59.62	-7.82	51.80	74.00	-22.20	PK	Vertical
4575.89	50.59	-7.82	42.77	54.00	-11.23	AV	Vertical
4575.78	59.59	-7.82	51.77	74.00	-22.23	PK	Horizontal
4575.78	50.13	-7.82	42.31	54.00	-11.69	AV	Horizontal

High Channel (927.25 MHz)							
1854.07	56.06	-12.59	43.47	74.00	-30.53	PK	Vertical
1854.07	45.88	-12.59	33.29	54.00	-20.71	AV	Vertical
1854.21	56.09	-12.59	43.50	74.00	-30.50	PK	Horizontal
1854.21	45.45	-12.59	32.86	54.00	-21.14	AV	Horizontal
2781.37	55.31	-10.65	44.66	74.00	-29.34	PK	Vertical
2781.37	45.58	-10.65	34.93	54.00	-19.07	AV	Vertical
2781.39	54.47	-10.65	43.82	74.00	-30.18	PK	Horizontal
2781.39	44.47	-10.65	33.82	54.00	-20.18	AV	Horizontal
3708.72	57.45	-8.73	48.72	74.00	-25.28	PK	Vertical
3708.72	47.20	-8.73	38.47	54.00	-15.53	AV	Vertical
3708.60	57.21	-8.73	48.48	74.00	-25.52	PK	Horizontal
3708.60	47.44	-8.73	38.71	54.00	-15.29	AV	Horizontal
4635.97	59.97	-7.82	52.15	74.00	-21.85	PK	Vertical
4635.97	50.11	-7.82	42.29	54.00	-11.71	AV	Vertical
4635.78	59.72	-7.82	51.90	74.00	-22.10	PK	Horizontal
4635.78	49.87	-7.82	42.05	54.00	-11.95	AV	Horizontal

AN971 Antenna

Frequency (MHz)	Reading (dBμV)	Corrected Factor (dB)	Result (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector	Polarity
Low Channel (902.75 MHz)							
1805.16	55.14	-12.59	42.55	74.00	-31.45	PK	Vertical
1805.16	46.92	-12.59	34.33	54.00	-19.67	AV	Vertical
1805.22	55.62	-12.59	43.03	74.00	-30.97	PK	Horizontal
1805.22	46.97	-12.59	34.38	54.00	-19.62	AV	Horizontal
2707.89	55.32	-10.65	44.67	74.00	-29.33	PK	Vertical
2707.89	44.83	-10.65	34.18	54.00	-19.82	AV	Vertical
2707.88	54.50	-10.65	43.85	74.00	-30.15	PK	Horizontal
2707.88	45.26	-10.65	34.61	54.00	-19.39	AV	Horizontal
3610.74	56.77	-8.73	48.04	74.00	-25.96	PK	Vertical
3610.74	48.03	-8.73	39.30	54.00	-14.70	AV	Vertical
3610.63	57.39	-8.73	48.66	74.00	-25.34	PK	Horizontal
3610.63	47.21	-8.73	38.48	54.00	-15.52	AV	Horizontal
4513.47	60.03	-7.82	52.21	74.00	-21.79	PK	Vertical
4513.47	50.35	-7.82	42.53	54.00	-11.47	AV	Vertical
4513.38	61.01	-7.82	53.19	74.00	-20.81	PK	Horizontal
4513.38	49.82	-7.82	42.00	54.00	-12.00	AV	Horizontal
Middle Channel (915.25 MHz)							

1830.29	56.38	-12.59	43.79	74.00	-30.21	PK	Vertical
1830.29	46.70	-12.59	34.11	54.00	-19.89	AV	Vertical
1830.20	55.49	-12.59	42.90	74.00	-31.10	PK	Horizontal
1830.20	45.61	-12.59	33.02	54.00	-20.98	AV	Horizontal
2745.49	55.24	-10.65	44.59	74.00	-29.41	PK	Vertical
2745.49	44.66	-10.65	34.01	54.00	-19.99	AV	Vertical
2745.40	54.30	-10.65	43.65	74.00	-30.35	PK	Horizontal
2745.40	44.52	-10.65	33.87	54.00	-20.13	AV	Horizontal
3660.80	56.72	-8.73	47.99	74.00	-26.01	PK	Vertical
3660.80	47.05	-8.73	38.32	54.00	-15.68	AV	Vertical
3660.54	57.55	-8.73	48.82	74.00	-25.18	PK	Horizontal
3660.54	48.31	-8.73	39.58	54.00	-14.42	AV	Horizontal
4575.77	60.40	-7.82	52.58	74.00	-21.42	PK	Vertical
4575.77	50.32	-7.82	42.50	54.00	-11.50	AV	Vertical
4575.75	59.78	-7.82	51.96	74.00	-22.04	PK	Horizontal
4575.75	50.75	-7.82	42.93	54.00	-11.07	AV	Horizontal
High Channel (927.25 MHz)							
1854.07	55.87	-12.59	43.28	74.00	-30.72	PK	Vertical
1854.07	45.76	-12.59	33.17	54.00	-20.83	AV	Vertical
1854.25	55.05	-12.59	42.46	74.00	-31.54	PK	Horizontal
1854.25	46.02	-12.59	33.43	54.00	-20.57	AV	Horizontal
2781.41	54.63	-10.65	43.98	74.00	-30.02	PK	Vertical
2781.41	45.46	-10.65	34.81	54.00	-19.19	AV	Vertical
2781.43	55.17	-10.65	44.52	74.00	-29.48	PK	Horizontal
2781.43	45.24	-10.65	34.59	54.00	-19.41	AV	Horizontal
3708.70	57.89	-8.73	49.16	74.00	-24.84	PK	Vertical
3708.70	47.13	-8.73	38.40	54.00	-15.60	AV	Vertical
3708.72	57.38	-8.73	48.65	74.00	-25.35	PK	Horizontal
3708.72	48.00	-8.73	39.27	54.00	-14.73	AV	Horizontal
4635.79	60.22	-7.82	52.40	74.00	-21.60	PK	Vertical
4635.79	49.74	-7.82	41.92	54.00	-12.08	AV	Vertical
4635.82	59.70	-7.82	51.88	74.00	-22.12	PK	Horizontal
4635.82	49.74	-7.82	41.92	54.00	-12.08	AV	Horizontal

ANS961 Antenna

Frequency (MHz)	Reading (dBμV)	Corrected Factor (dB)	Result (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector	Polarity
Low Channel (902.75 MHz)							
1805.16	55.97	-12.59	43.38	74.00	-30.62	PK	Vertical
1805.16	45.14	-12.59	32.55	54.00	-21.45	AV	Vertical

1805.09	55.78	-12.59	43.19	74.00	-30.81	PK	Horizontal
1805.09	45.23	-12.59	32.64	54.00	-21.36	AV	Horizontal
2707.85	54.33	-10.65	43.68	74.00	-30.32	PK	Vertical
2707.85	44.88	-10.65	34.23	54.00	-19.77	AV	Vertical
2708.03	54.41	-10.65	43.76	74.00	-30.24	PK	Horizontal
2708.03	44.19	-10.65	33.54	54.00	-20.46	AV	Horizontal
3610.72	57.33	-8.73	48.60	74.00	-25.40	PK	Vertical
3610.72	47.40	-8.73	38.67	54.00	-15.33	AV	Vertical
3610.67	57.17	-8.73	48.44	74.00	-25.56	PK	Horizontal
3610.67	47.03	-8.73	38.30	54.00	-15.70	AV	Horizontal
4513.49	60.57	-7.82	52.75	74.00	-21.25	PK	Vertical
4513.49	49.91	-7.82	42.09	54.00	-11.91	AV	Vertical
4513.31	59.90	-7.82	52.08	74.00	-21.92	PK	Horizontal
4513.31	50.88	-7.82	43.06	54.00	-10.94	AV	Horizontal
Middle Channel (915.25 MHz)							
1830.15	55.65	-12.59	43.06	74.00	-30.94	PK	Vertical
1830.15	46.13	-12.59	33.54	54.00	-20.46	AV	Vertical
1830.07	55.25	-12.59	42.66	74.00	-31.34	PK	Horizontal
1830.07	45.23	-12.59	32.64	54.00	-21.36	AV	Horizontal
2745.53	54.69	-10.65	44.04	74.00	-29.96	PK	Vertical
2745.53	44.63	-10.65	33.98	54.00	-20.02	AV	Vertical
2745.50	54.75	-10.65	44.10	74.00	-29.90	PK	Horizontal
2745.50	44.45	-10.65	33.80	54.00	-20.20	AV	Horizontal
3660.68	57.30	-8.73	48.57	74.00	-25.43	PK	Vertical
3660.68	47.96	-8.73	39.23	54.00	-14.77	AV	Vertical
3660.59	57.72	-8.73	48.99	74.00	-25.01	PK	Horizontal
3660.59	47.32	-8.73	38.59	54.00	-15.41	AV	Horizontal
4575.94	60.35	-7.82	52.53	74.00	-21.47	PK	Vertical
4575.94	50.13	-7.82	42.31	54.00	-11.69	AV	Vertical
4575.97	60.37	-7.82	52.55	74.00	-21.45	PK	Horizontal
4575.97	50.97	-7.82	43.15	54.00	-10.85	AV	Horizontal
High Channel (927.25MHz)							
1854.26	55.29	-12.59	42.70	74.00	-31.30	PK	Vertical
1854.26	46.36	-12.59	33.77	54.00	-20.23	AV	Vertical
1854.13	56.11	-12.59	43.52	74.00	-30.48	PK	Horizontal
1854.13	45.63	-12.59	33.04	54.00	-20.96	AV	Horizontal
2781.37	54.84	-10.65	44.19	74.00	-29.81	PK	Vertical
2781.37	44.24	-10.65	33.59	54.00	-20.41	AV	Vertical
2781.38	54.29	-10.65	43.64	74.00	-30.36	PK	Horizontal

2781.38	45.58	-10.65	34.93	54.00	-19.07	AV	Horizontal
3708.63	57.99	-8.73	49.26	74.00	-24.74	PK	Vertical
3708.63	47.24	-8.73	38.51	54.00	-15.49	AV	Vertical
3708.61	56.70	-8.73	47.97	74.00	-26.03	PK	Horizontal
3708.61	47.16	-8.73	38.43	54.00	-15.57	AV	Horizontal
4635.99	60.28	-7.82	52.46	74.00	-21.54	PK	Vertical
4635.99	50.94	-7.82	43.12	54.00	-10.88	AV	Vertical
4635.80	60.07	-7.82	52.25	74.00	-21.75	PK	Horizontal
4635.80	49.89	-7.82	42.07	54.00	-11.93	AV	Horizontal

ANS981 Antenna

Frequency (MHz)	Reading (dBμV)	Corrected Factor (dB)	Result (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector	Polarity
Low Channel (902.75 MHz)							
1805.17	56.32	-12.59	43.73	74.00	-30.27	PK	Vertical
1805.17	45.72	-12.59	33.13	54.00	-20.87	AV	Vertical
1805.02	55.42	-12.59	42.83	74.00	-31.17	PK	Horizontal
1805.02	46.81	-12.59	34.22	54.00	-19.78	AV	Horizontal
2707.99	54.76	-10.65	44.11	74.00	-29.89	PK	Vertical
2707.99	45.07	-10.65	34.42	54.00	-19.58	AV	Vertical
2707.86	55.23	-10.65	44.58	74.00	-29.42	PK	Horizontal
2707.86	45.23	-10.65	34.58	54.00	-19.42	AV	Horizontal
3610.70	57.18	-8.73	48.45	74.00	-25.55	PK	Vertical
3610.70	48.28	-8.73	39.55	54.00	-14.45	AV	Vertical
3610.51	57.69	-8.73	48.96	74.00	-25.04	PK	Horizontal
3610.51	48.40	-8.73	39.67	54.00	-14.33	AV	Horizontal
4513.37	60.90	-7.82	53.08	74.00	-20.92	PK	Vertical
4513.37	49.92	-7.82	42.10	54.00	-11.90	AV	Vertical
4513.52	60.31	-7.82	52.49	74.00	-21.51	PK	Horizontal
4513.52	50.93	-7.82	43.11	54.00	-10.89	AV	Horizontal
Middle Channel (915.25 MHz)							
1830.10	55.21	-12.59	42.62	74.00	-31.38	PK	Vertical
1830.10	46.57	-12.59	33.98	54.00	-20.02	AV	Vertical
1830.21	55.81	-12.59	43.22	74.00	-30.78	PK	Horizontal
1830.21	45.88	-12.59	33.29	54.00	-20.71	AV	Horizontal
2745.35	55.01	-10.65	44.36	74.00	-29.64	PK	Vertical
2745.35	44.30	-10.65	33.65	54.00	-20.35	AV	Vertical
2745.27	55.24	-10.65	44.59	74.00	-29.41	PK	Horizontal
2745.27	44.65	-10.65	34.00	54.00	-20.00	AV	Horizontal

3660.51	56.79	-8.73	48.06	74.00	-25.94	PK	Vertical
3660.51	47.20	-8.73	38.47	54.00	-15.53	AV	Vertical
3660.55	57.32	-8.73	48.59	74.00	-25.41	PK	Horizontal
3660.55	47.12	-8.73	38.39	54.00	-15.61	AV	Horizontal
4575.97	60.61	-7.82	52.79	74.00	-21.21	PK	Vertical
4575.97	50.01	-7.82	42.19	54.00	-11.81	AV	Vertical
4575.80	60.67	-7.82	52.85	74.00	-21.15	PK	Horizontal
4575.80	49.92	-7.82	42.10	54.00	-11.90	AV	Horizontal
High Channel (927.25 MHz)							
1854.01	56.03	-12.59	43.44	74.00	-30.56	PK	Vertical
1854.01	46.32	-12.59	33.73	54.00	-20.27	AV	Vertical
1854.00	56.31	-12.59	43.72	74.00	-30.28	PK	Horizontal
1854.00	46.43	-12.59	33.84	54.00	-20.16	AV	Horizontal
2781.51	55.03	-10.65	44.38	74.00	-29.62	PK	Vertical
2781.51	44.37	-10.65	33.72	54.00	-20.28	AV	Vertical
2781.44	55.48	-10.65	44.83	74.00	-29.17	PK	Horizontal
2781.44	44.51	-10.65	33.86	54.00	-20.14	AV	Horizontal
3708.78	57.97	-8.73	49.24	74.00	-24.76	PK	Vertical
3708.78	48.07	-8.73	39.34	54.00	-14.66	AV	Vertical
3708.67	56.91	-8.73	48.18	74.00	-25.82	PK	Horizontal
3708.67	48.23	-8.73	39.50	54.00	-14.50	AV	Horizontal
4635.94	60.74	-7.82	52.92	74.00	-21.08	PK	Vertical
4635.94	50.44	-7.82	42.62	54.00	-11.38	AV	Vertical
4635.82	60.25	-7.82	52.43	74.00	-21.57	PK	Horizontal
4635.82	49.61	-7.82	41.79	54.00	-12.21	AV	Horizontal

4. CONDUCTED SPURIOUS & BAND EDGE EMISSION

4.1 LIMIT

According to FCC section 15.247(d), 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.

4.2 TEST PROCEDURE

Spectrum Parameter	Setting
Detector	Peak
Start/Stop Frequency	30 MHz to 10th carrier harmonic
RB / VB (emission in restricted band)	100 KHz/300 KHz
Trace-Mode:	Max hold

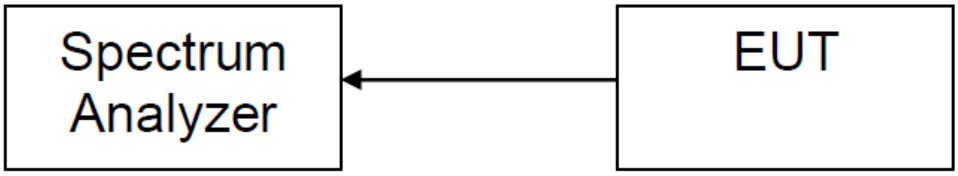
For Band edge

Spectrum Parameter	Setting
Detector	Peak
Start/Stop Frequency	Lower Band Edge: 800 – 904 MHz Upper Band Edge: 924 – 1000 MHz
RB / VB (emission in restricted band)	100 KHz/300 KHz
Trace-Mode:	Max hold

For Hopping Band edge

Spectrum Parameter	Setting
Detector	Peak
Start/Stop Frequency	Lower Band Edge: 800 – 904 MHz Upper Band Edge: 924 – 1000 MHz
RB / VB (emission in restricted band)	100 KHz/300 KHz
Trace-Mode:	Max hold

4.3 TEST SETUP



The EUT is connected to the Spectrum Analyzer; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading. Tune the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 100 kHz. In order to make an accurate measurement, the span is set to be greater than RBW.

4.4 EUT OPERATION CONDITIONS

Please refer to section 3.1.4 of this report.

4.5 TEST RESULTS

For the measurement records, refer to the appendix I.

Note: Not recorded emission from 9 KHz to 30 MHz as emission level at least 20dBc lower than emission limit.

5. NUMBER OF HOPPING CHANNEL

5.1 LIMIT

FCC Part 15.247, Subpart C				
Section	Test Item	Limit	Note	Result
15.247 (a)(1)(i)	Number of Hopping Channel	≥25	if the 20 dB bandwidth ≥250 kHz	PASS
		≥50	if the 20 dB bandwidth ≤250 kHz	

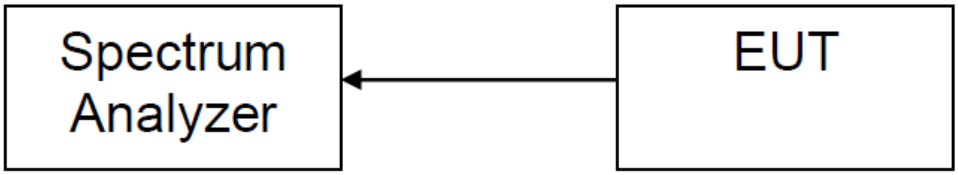
5.2 TEST PROCEDURE

a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.

b.

Spectrum Parameters	Setting
Attenuation	Auto
Span Frequency	> Operating FrequencyRange
RB	22KHz
VB	22KHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

5.3 TEST SETUP



5.4 EUT OPERATION CONDITIONS

Please refer to section 3.1.4 of this report.

5.5 TEST RESULTS

For the measurement records, refer to the appendix I.

6. AVERAGE TIME OF OCCUPANCY

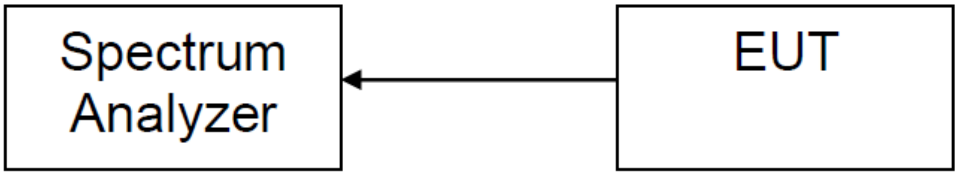
6.1 LIMIT

FCC Part 15.247, Subpart C				
Section	Test Item	Limit	FrequencyRange (MHz)	Result
15.247 (a)(1)(i)	Average Time of Occupancy	0.4sec	902-928	PASS

6.2 TEST PROCEDURE

a. The transmitter output (antenna port) was connected to the spectrum analyzer.
b. Set RBW =470KHz/VBW =470KHz.
c. Use a video trigger with the trigger level set to enable triggering only on full pulses.
d. Sweep Time is more than once pulse time.
e. Set the center frequency on any frequency would be measure and set the frequency span to zero span.
f. Measure the maximum time duration of one single pulse.

6.3 TEST SETUP



6.4 EUT OPERATION CONDITIONS

Please refer to section 3.1.4 of this report.

6.5 TEST RESULTS

For the measurement records, refer to the appendix I.

7. HOPPING CHANNEL SEPARATION MEASUREMEN

7.1 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 and 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 system shall use at least 25 hopping frequencies.

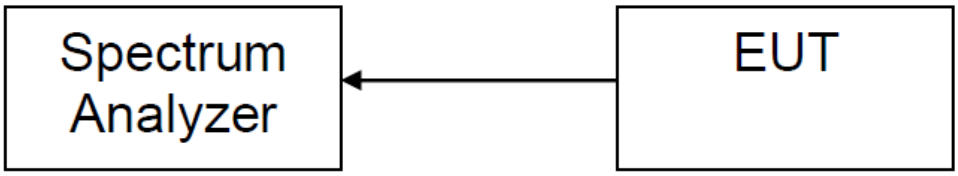
7.2 TEST PROCEDURE

a. The transmitter output (antenna port) was connected to the spectrum analyser in peak hold mode.

b.

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	> 20 dB Bandwidth or Channel Separation
RB	2 kHz (20dB Bandwidth) / 150 kHz (Channel Separation)
VB	6.2 kHz (20dB Bandwidth) / 150 kHz (Channel Separation)
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

7.3 TEST SETUP



7.4 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

7.5 TEST RESULTS

For the measurement records, refer to the appendix I.

8. BANDWIDTH TEST

8.1 LIMIT

FCC Part15 15.247, Subpart C				
Section	Test Item	Limit	FrequencyRange (MHz)	Result
15.247 (a)(1) (i)	20dB Bandwidth	500KHz	902-928	PASS

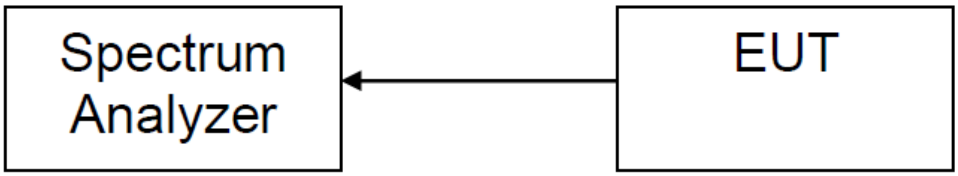
8.2 TEST PROCEDURE

a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.

b.

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	> Measurement Bandwidth or Channel Separation
RB	2 kHz (20dB Bandwidth) / 150 kHz (Channel Separation)
VB	6.2 kHz (20dB Bandwidth) / 150 kHz (Channel Separation)
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

8.3 TEST SETUP



8.4 EUT OPERATION CONDITIONS

Please refer to section 3.1.4 of this report.

8.5 TEST RESULTS

For the measurement records, refer to the appendix I.

9. OUTPUT POWER TEST

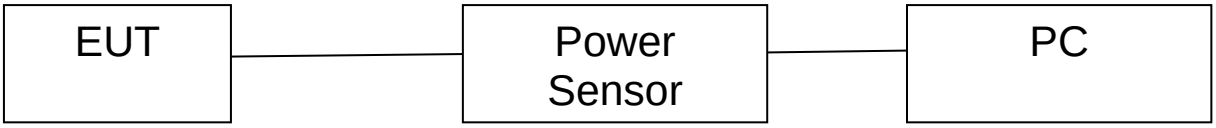
9.1 LIMIT

FCC Part 15.247, Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247 (b)(2)	Output Power	If the number channels ≥ 50, the output power of the system shall not exceed 1 W (30dBm)	902-928	PASS
		If the number channels ≥ 25 and < 50, the output power of the system shall not exceed 0.25W (24dBm)		

9.2 TEST PROCEDURE

This is an RF-conducted test to evaluate maximum peak output power. Use a direct connection between the antenna port of the unlicensed wireless device and the spectrum analyzer, through suitable attenuation. The hopping shall be disabled for this test:
PKPM1 Peak power sensor method:
The maximum peak conducted output power may be measured using a broadband peak RF power sensor. The power sensor shall have a video bandwidth that is greater than or equal to the DSS bandwidth and shall use a fast-responding diode detector.

9.3 TEST SETUP



9.4 EUT OPERATION CONDITIONS

Please refer to section 3.1.4 of this report.

9.5 TEST RESULTS

For the measurement records, refer to the appendix I.

10. ANTENNA REQUIREMENT

10.1 STANDARD REQUIREMENT

15.203 requirement: For intentional device, according to 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.

10.2 EUT ANTENNA

The EUT antenna is AN970 Antenna/AN971 Antenna/ANS961 Antenna/ANS981 Antenna. It comply with the standard requirement.

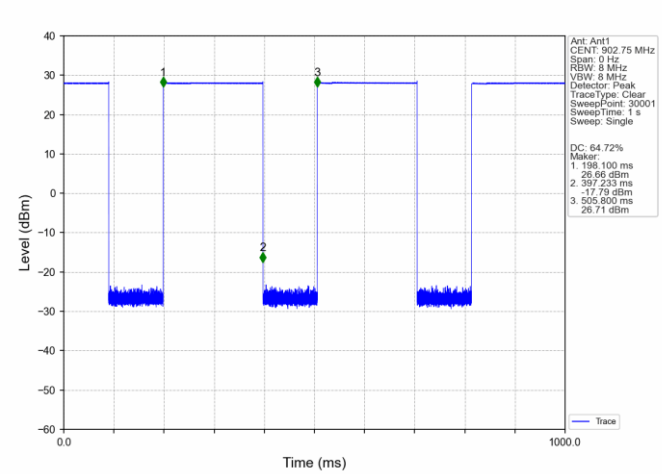
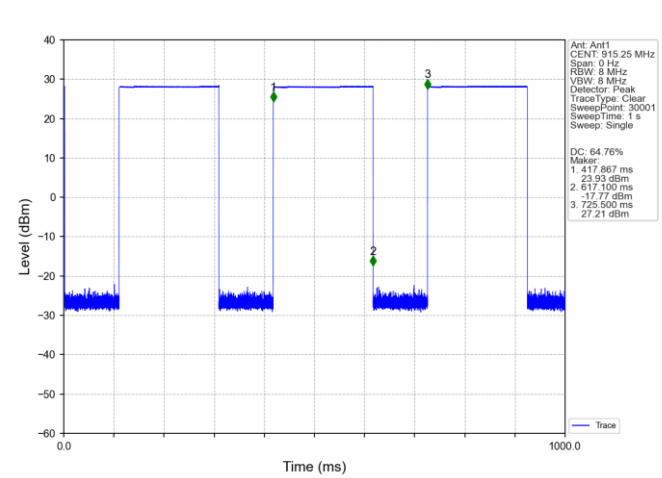
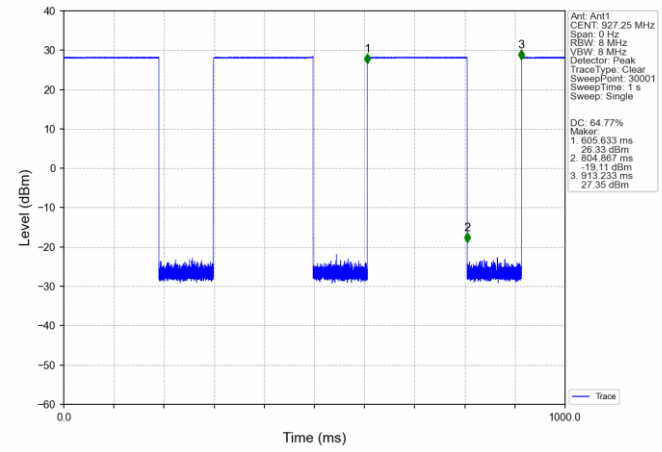
APPENDIX I - TEST RESULTS

1. Duty Cycle
1.1 Test Result
1.1.1 Ant6

Ant6							
Mode	TX Type	Frequency (MHz)	T_on (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	Max. DC Variation (%)
RF ID	SISO	902.75	199.133	307.700	64.72	1.89	0.01
		915.25	199.233	307.633	64.76	1.89	0.01
		927.25	199.234	307.600	64.77	1.89	0.03

1.2 Test Graph

1.2.1 Ant6

RF ID_LCH_902.75MHz_Ant6_NTNV

RF ID_MCH_915.25MHz_Ant6_NTNV

RF ID_HCH_927.25MHz_Ant6_NTNV


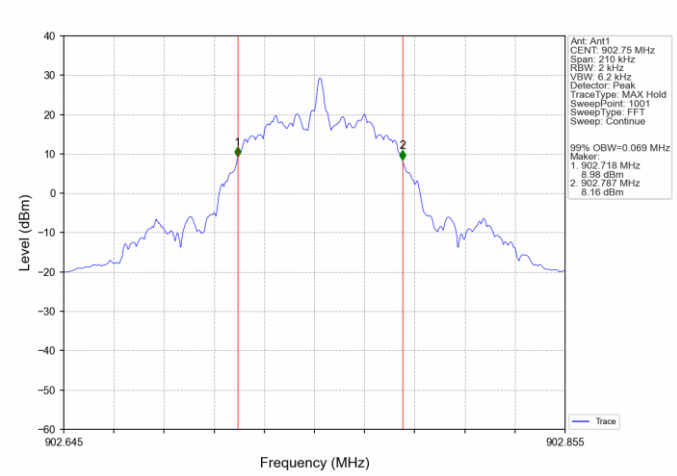
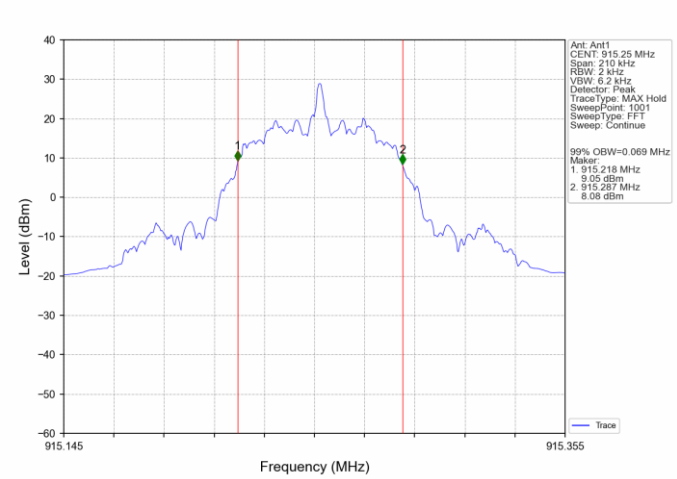
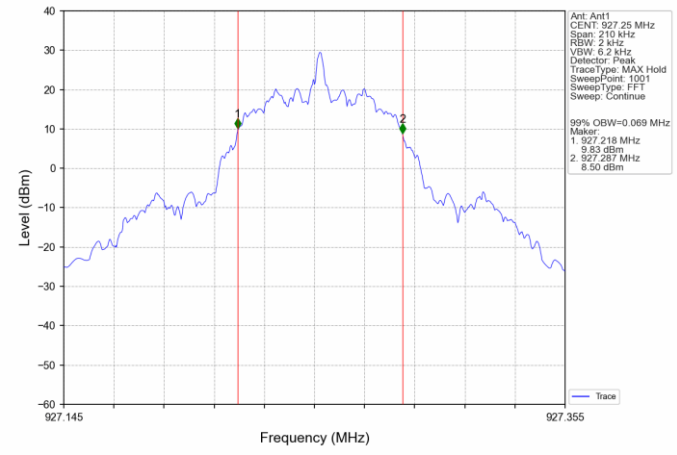
2. Bandwidth
2.1 Test Result
2.1.1 OBW

Mode	TX Type	Frequency (MHz)	ANT	99% Occupied Bandwidth (MHz)		Verdict
				Result	Limit	
RF ID	SISO	902.75	6	0.069	/	Pass
		915.25	6	0.069	/	Pass
		927.25	6	0.069	/	Pass

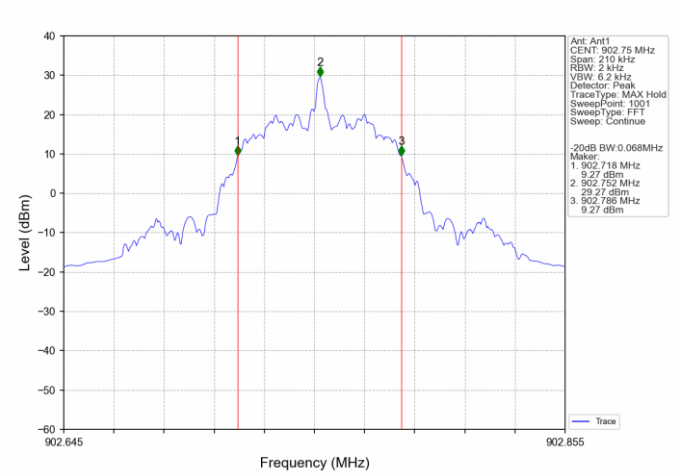
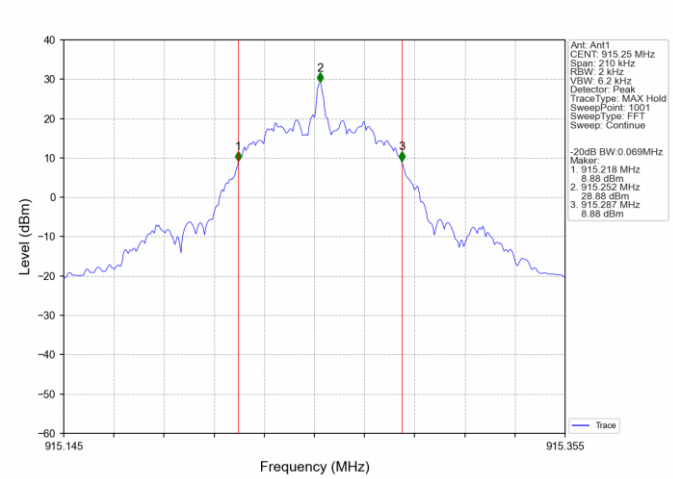
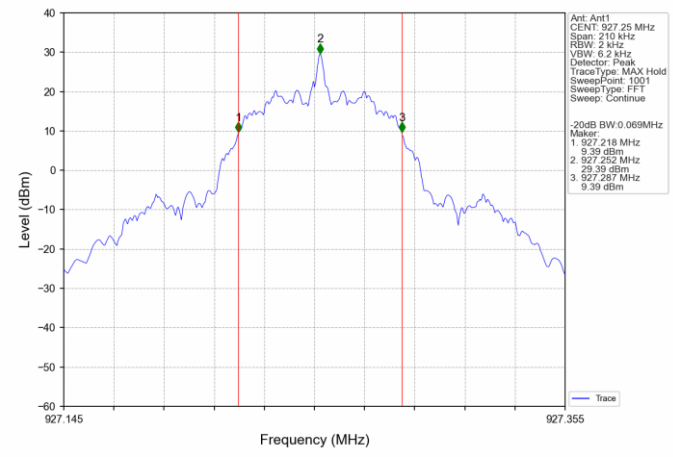
2.1.2 20dB BW

Mode	TX Type	Frequency (MHz)	ANT	20dB Bandwidth (MHz)		Verdict
				Result	Limit	
RF ID	SISO	902.75	6	0.068	0.5	Pass
		915.25	6	0.069	0.5	Pass
		927.25	6	0.069	0.5	Pass

2.2 Test Graph
2.2.1 OBW

RF ID_LCH_902.75MHz_Ant6_NTNV

RF ID_MCH_915.25MHz_Ant6_NTNV

RF ID_HCH_927.25MHz_Ant6_NTNV


2.2.2 20dB BW

RF ID_LCH_902.75MHz_Ant6_NTNV

RF ID_MCH_915.25MHz_Ant6_NTNV

RF ID_HCH_927.25MHz_Ant6_NTNV


3. Maximum Conducted Output Power
3.1 Test Result
3.1.1 Power

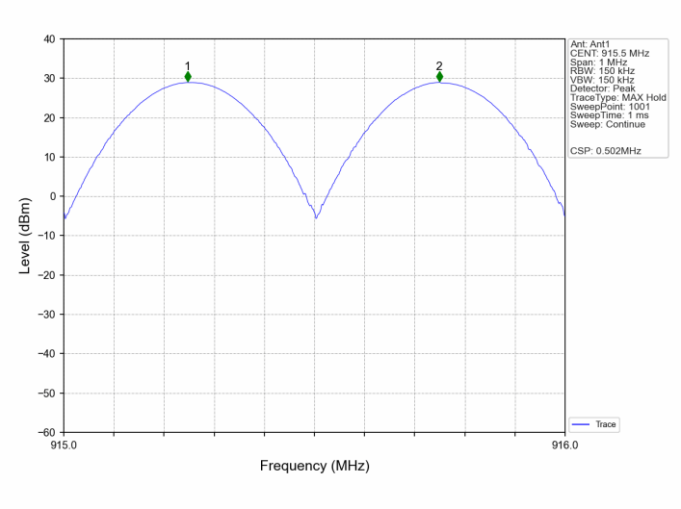
Mode	TX Type	Antenna	Frequency (MHz)	Maximum Peak Conducted Output Power (dBm)	Limit	Verdict
RF ID	SISO	Ant1	902.75	29.231	<=30	Pass
			915.25	28.823	<=30	Pass
			927.25	29.322	<=30	Pass
		Ant2	902.75	29.353	<=30	Pass
			915.25	28.925	<=30	Pass
			927.25	29.457	<=30	Pass
		Ant3	902.75	29.33	<=30	Pass
			915.25	28.879	<=30	Pass
			927.25	29.418	<=30	Pass
		Ant4	902.75	29.305	<=30	Pass
			915.25	28.892	<=30	Pass
			927.25	29.411	<=30	Pass
		Ant5	902.75	29.279	<=30	Pass
			915.25	28.83	<=30	Pass
			927.25	29.347	<=30	Pass
		Ant6	902.75	29.384	<=30	Pass
			915.25	29.047	<=30	Pass
			927.25	29.481	<=30	Pass
		Ant7	902.75	29.339	<=30	Pass
			915.25	28.943	<=30	Pass
			927.25	29.46	<=30	Pass
		Ant8	902.75	29.341	<=30	Pass
			915.25	28.872	<=30	Pass
			927.25	29.404	<=30	Pass
Note1: Antenna Gain: AN970: 6.00dBi; AN971: 6.00dBi; ANS961: 5.50dBi; ANS981: 3.5dBi;						

4. Carrier Frequency Separation
4.1 Test Result
4.1.1 Ant6

Ant6						
Mode	TX Type	Frequency (MHz)	Channel Separation (MHz)	20dB Bandwidth (MHz)	Limit (MHz)	Verdict
RF ID	SISO	HOPP	0.502	0.069	>=0.069	Pass

4.2 Test Graph

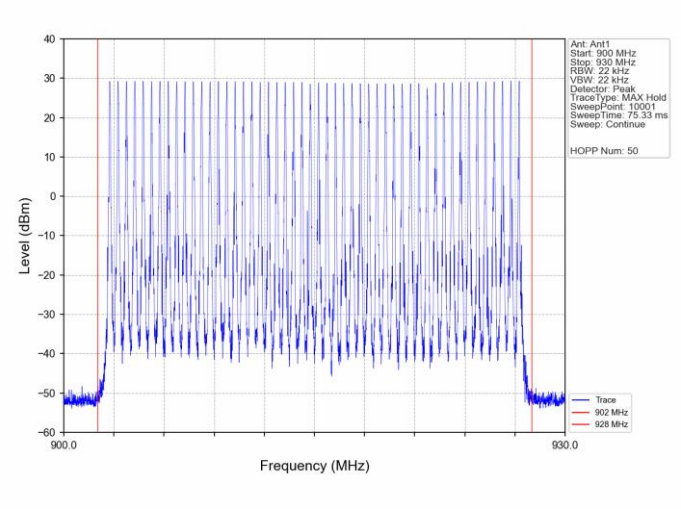
4.2.1 Ant6

RF ID_HOPP_Ant6_NTNV


5. Number of Hopping Frequencies
5.1 Test Result
5.1.1 HoppNum

Mode	TX Type	Frequency (MHz)	Num of Hopping Frequencies		Verdict
			ANT6	Limit	
RF ID	SISO	HOPP	50	>=50	Pass

5.2 Test Graph
5.2.1 HoppNum

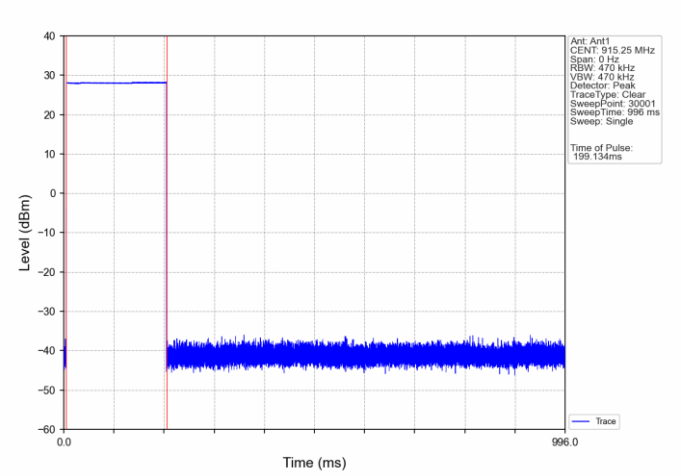
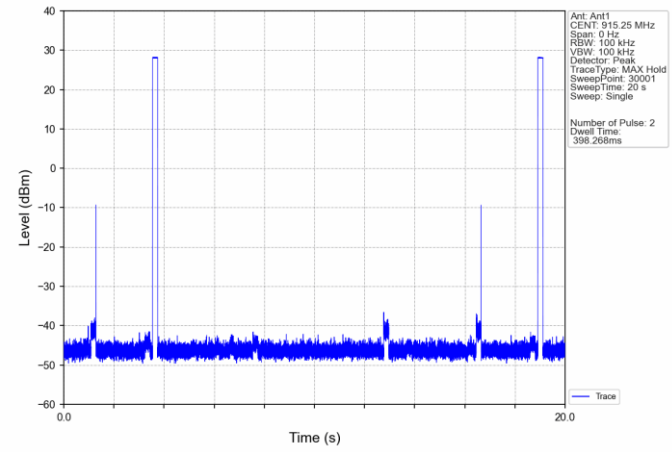
RF ID_HOPP_Ant6_NTNV


6. Time of Occupancy (Dwell Time)
6.1 Test Result
6.1.1 Ant6

Ant6								
Mode	TX Type	Frequency (MHz)	Duration of Single Pulse (ms)	Observation Period (s)	Num of Pulse in Observation Period	Dwell Time (ms)	Limit (ms)	Verdict
RF ID	SISO	HOPP	199.134	20.000	2	398.268	<=400	Pass

6.2 Test Graph

6.2.1 Ant6

RF ID_HOPP_Ant6_NTNV

RF ID_HOPP_Ant6_NTNV


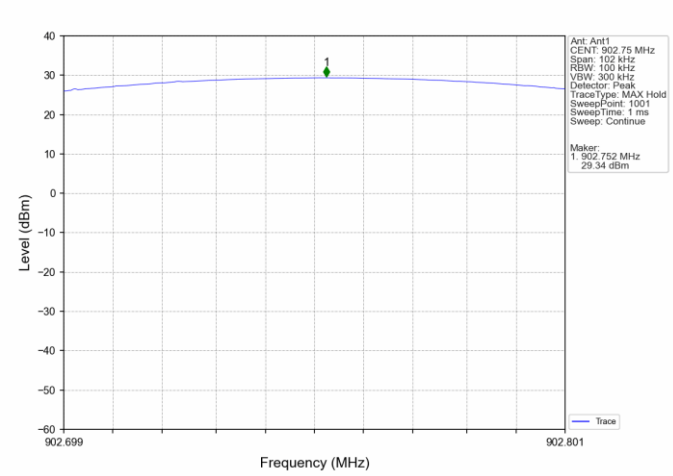
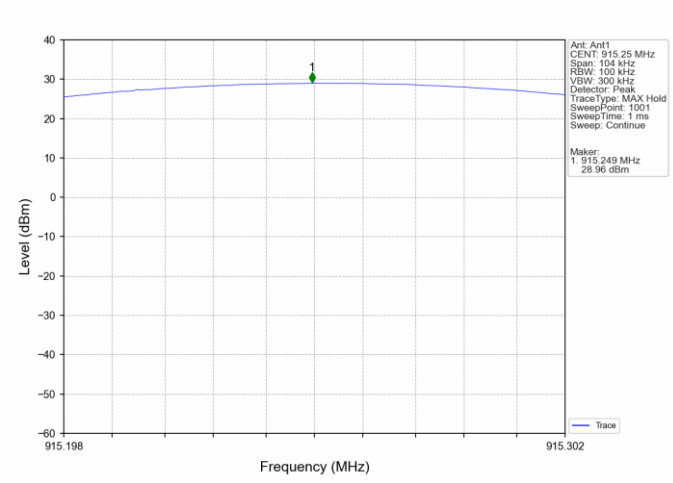
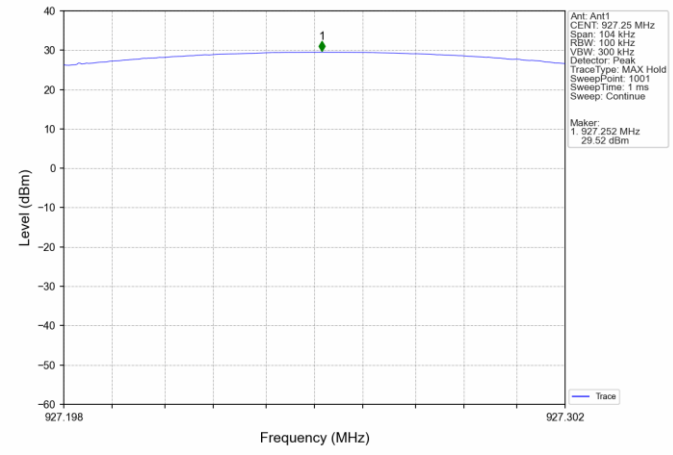
7. Unwanted Emissions In Non-restricted Frequency Bands
7.1 Test Result
7.1.1 Ref

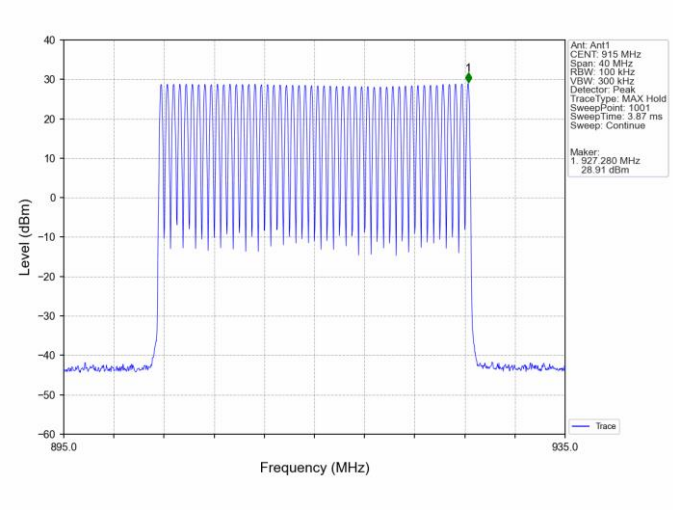
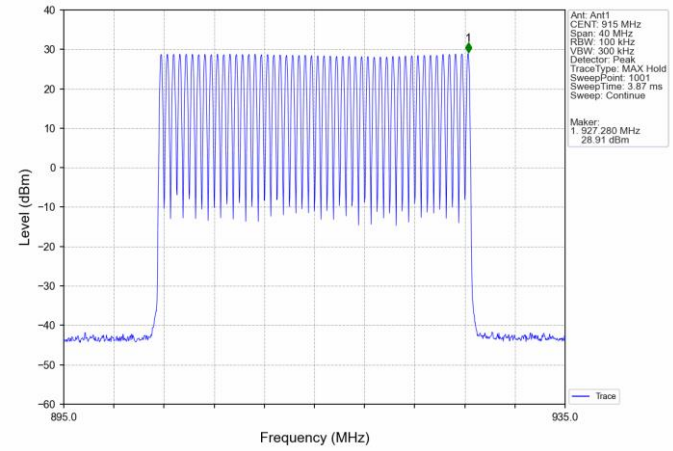
Mode	TX Type	Frequency (MHz)	ANT	Level of Reference (dBm)
RF ID	SISO	902.75	6	29.34
		915.25	6	28.96
		927.25	6	29.52
		HOPP	6	28.91
				28.91
Note1: Refer to FCC Part 15.247 (d) and ANSI C63.10-2020, the channel contains the maximum PSD level was used to establish the reference level.				

7.1.2 CSE

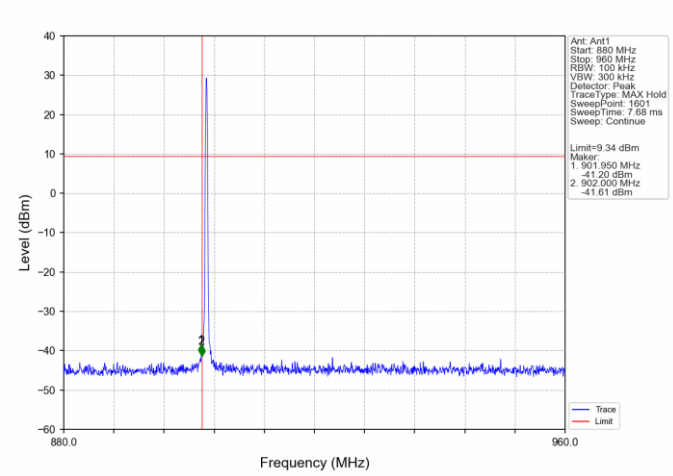
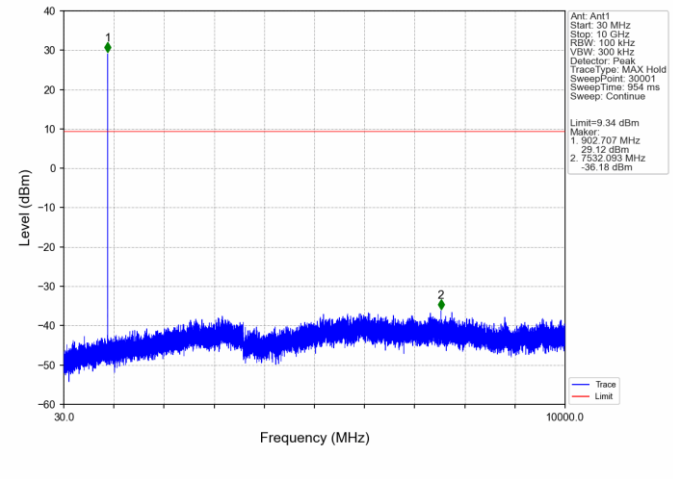
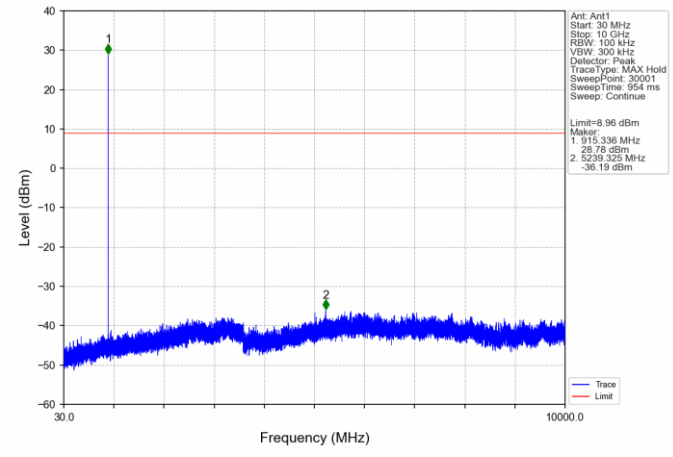
Mode	TX Type	Frequency (MHz)	ANT	Level of Reference (dBm)	Limit (dBm)	Verdict
RF ID	SISO	902.75	6	29.34	9.34	Pass
		915.25	6	28.96	8.96	Pass
		927.25	6	29.52	9.52	Pass
		HOPP	6	28.91	8.91	Pass
				28.91	8.91	Pass
Note1: Refer to FCC Part 15.247 (d) and ANSI C63.10-2020, the channel contains the maximum PSD level was used to establish the reference level.						

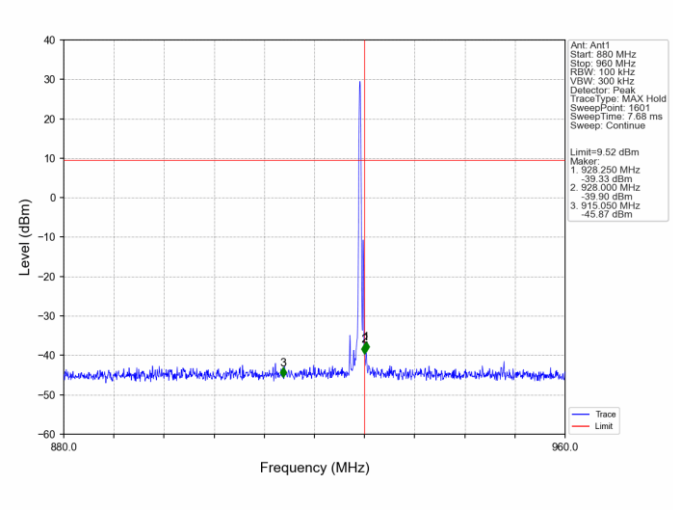
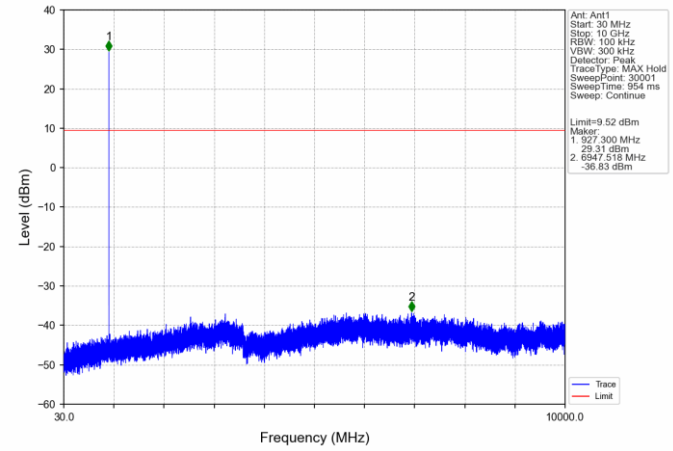
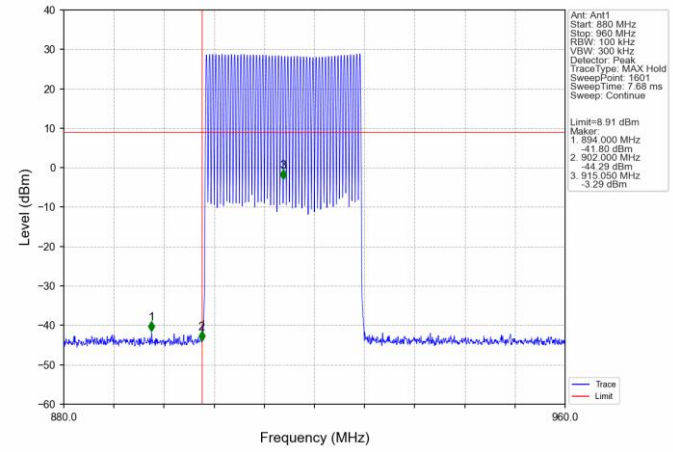
7.2 Test Graph
7.2.1 Ref

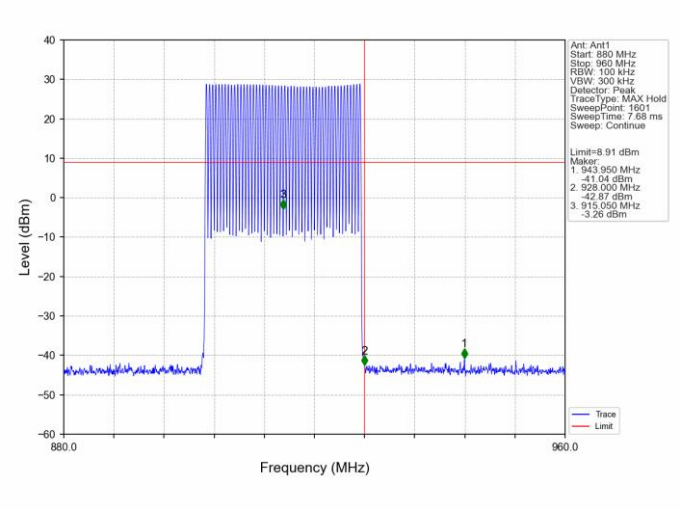
RF ID_LCH_902.75MHz_Ant6_NTNV

RF ID_MCH_915.25MHz_Ant6_NTNV

RF ID_HCH_927.25MHz_Ant6_NTNV


RF ID_HOPP_Ant6_NTNV

RF ID_HOPP_Ant6_NTNV


7.2.2 CSE

RF ID_LCH_902.75MHz_Ant6_NTNV

RF ID_LCH_902.75MHz_Ant6_NTNV

RF ID_MCH_915.25MHz_Ant6_NTNV


RF ID_HCH_927.25MHz_Ant6_NTNV

RF ID_HCH_927.25MHz_Ant6_NTNV

RF ID_HOPP_Ant6_NTNV


RF ID_HOPP_Ant6_NTNV


APPENDIX II - MEASUREMENT PHOTOS

Note: Please see the attached RF_Test Setup photos for FCC ID & IC.

※※※※※END OF THE REPORT※※※※※