FCC RADIO TEST REPORT

Applicant	:	Xema Inc.
Address	:	12960 Sunnyside, Santa Fe Springs, CA 90670
Equipment	:	UHF RFID 8-port Module
Model No.	:	M87P8
Trade Name	:	XEMA
FCC ID.	:	2BEYTM87P8

I HEREBY CERTIFY THAT :

The sample was received on Feb. 19, 2025 and the testing was completed on Mar. 06, 2025 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
25040579-TRFCC01	May 15, 2025	Derivative Report

Report Type		Description
☐	Original report	NA
■	Derivative Report	This sample provided has been confirmed to be identical to the original report sample. The only difference are as listed below. As it doesn’ t affect the test result, the original report number: 25020196-TRFCC01 and content will be used. 1. Applicant Info change. 2. Equipment name change. 3. Model No. change. 4. Trade name change. 5. FCC ID change. 6. External Photo add label information.

1. Summary of Test Procedure and Test Results

1.1 Applicable Standards

ANSI C63.10:2013

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	902MHz~928MHz
Modulation Type	ASK
Antenna Type	Patch Antenna
Antenna Gain	8 dBi
Antenna Cable Loss	0.5 dBi
Antenna Cable*8	Brand: N/A Model: N/A
Antenna*8	Brand: FAVITE Model: FS-GA204

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

2.2 Carrier Frequency of Channels

Channel	Frequency (MHz)	Channel	Frequency (MHz)
***01**	**902.750**	26	915.250
02	903.250	27	915.750
03	903.750	28	916.250
04	904.250	29	916.750
05	904.750	30	917.250
06	905.250	31	917.750
07	905.750	32	918.250
08	906.250	33	918.750
09	906.750	34	919.250
10	907.250	35	919.750
11	907.750	36	920.250
12	908.250	37	920.750
13	908.750	38	921.250
14	909.250	39	921.750
15	909.750	40	922.250
16	910.250	41	922.750
17	910.750	42	923.250
18	911.250	43	923.750
19	911.750	44	924.250
20	912.250	45	924.750
21	912.750	46	925.250
22	913.250	47	925.750
23	913.750	48	926.250
24	914.250	49	926.750
***25**	**914.750**	***50**	**927.250**

Note: Channels remarked * are selected to perform test.

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. An executive program, ” Docklight_ver. 1.9.21” under Windows OS system was executed to transmit and receive data via RFID.
d. The following test modes were performed for the test:

Conducted Emissions from the AC mains power ports	
Test Mode	Operating Description
1	TX Mode From DC 5V Power Supply(AC 120V/60Hz)
2	TX Mode From DC 5V Power Supply(AC 240V/60Hz)
caused “Test Mode 1” generated the worst case, it was reported as the final data.	
Radiation Emissions (30MHz ~ 1GHz)	
Test Mode	Operating Description
1	TX Mode From DC 5V Power Supply(AC 120V/60Hz)
2	TX Mode From DC 5V Power Supply(AC 240V/60Hz)
caused “Test Mode 1” generated the worst case, it was reported as the final data.	
Radiation Emissions (1GHz ~ 25GHz)	
Test Mode	Operating Description
1	TX Mode Power from DC 5V Power Supply(AC 120V/60Hz)

Note: There are 8 ports of EUT, Port1/2/3/4/5/6/7/8. After engineering evaluation, Port 6 is worst case, hence, is used at test report.

Modulation Type	TX CONFIGURATION
ASK	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
USB Type A to B Cable	POLYWELL	Type A to B	1.2m / NS	N/A
DC Power Supply	Gwinstek	GPR-360600	N/A	N/A
Test fixture	N/A	N/A	N/A	N/A
Antenna	N/A	N/A	N/A	N/A

Radiated Emissions				
Equipment	Brand	Model	Length/Type	Power cord/Length/Type
Notebook	DELL	Latitude E5470	N/A	Adapter / 1.8m / NS
Test fixture	N/A	N/A	N/A	N/A
USB Type A to B Cable	POLYWELL	Type A to B	1.2m / NS	N/A
DC Power Supply	Gwinstek	GPR-360600	N/A	N/A

AC Power Line Conducted Emission				
Equipment	Brand	Model	Length/Type	Power cord/Length/Type
Notebook	DELL	Latitude E5470	N/A	Adapter / 1.8m / NS
Test fixture	N/A	N/A	N/A	N/A
USB Type A to B Cable	POLYWELL	Type A to B	1.2m / NS	N/A
DC Power Supply	Gwinstek	GPR-360600	N/A	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
	IC	4934E-1, 4934E-2
Frequency Range Investigated	Conducted: from 150kHz to 30 MHz Radiation: from 30 MHz 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	RFCON01-NK	2025/03/04	25.1℃ / 50%	Leon Huang
Radiated Emissions	3M03-NK	2025/02/26	20.4℃ / 66%	Park Chen
Radiated Emissions	3M03-NK	2025/03/11	19.7℃ / 72%	Park Chen
AC Power Line Conducted Emission	CON02-NK	2025/03/06	25.2℃ / 62%	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
AC Power Line Conducted Emission	±3.2dB
Radiated Spurious Emission(9KHz~30MHz)	±3.5dB
Radiated Spurious Emission(30MHz~1GHz)	±5.1dB
Radiated Spurious Emission(1GHz~40GHz)	±5.2dB
Conducted Spurious Emission	±2.1dB
6dB Bandwidth	±5.4%
20dB Bandwidth	±4.4%
Occupied Bandwidth	±4.5%
Peak Output Power(Conducted Power Meter)	±1.1dB
Dwell Time / Deactivation Time	±7.6%
Power Spectral Density	±2.0dB
Duty Cycle	±3.5%

3. Test Equipment and Ancillaries Used for Tests

Test Item	Radiated Emissions(2/26)				
Test Site	Semi Anechoic Room(3M03-NK)				
Instrument	Manufacturer	Model No	Serial No	Calibration Date	Valid Date
Bilog Antenna	Sunol	JB1	A020514-1	2024/05/17	2025/05/16
Active Loop Antenna	EMCO	6507	00040855	2024/05/02	2025/05/01
Horn Anrenna	EMCO	3116	31974	2024/10/18	2025/10/17
Double Ridged Guide Horn Antenna	RF SPAN	DRH18-E	210309A18-ES	2024/08/28	2025/08/27
Spectrum Analyzer	ROHDE & SCHWARZ	FSV 40-N	102151	2024/02/27	2025/02/28
EMI Receiver	ROHDE & SCHWARZ	ESR 7	101906	2024/05/13	2025/05/12
Preamplifier	EMC INSTRUMENTS	EMC118A45V1SEE	980993	2024/10/24	2025/10/23
Preamplifier	EMC INSTRUMENTS	EMC184045	980065	2024/10/15	2025/10/14
Preamplifier	EM Electronics corp.	EM330	60820	2024/06/14	2025/06/13
Cable-3m(9k-3G)	N/A	EMC5D-BM-BM-6	130606	2024/03/13	2025/03/12
Cable-8m(10M-26.5G)	HUBER SUHNER	SF126E	587396/126E	2024/10/14	2025/10/13
Cable-3m(10M-26.5G)	HUBER SUHNER	SF126E	587399/126E	2024/10/14	2025/10/13
Cable-1m(10M-40G)	HUBER SUHNER	SF102	804398/2	2024/10/14	2025/10/13
Cable-1m(1G-26.5G)	HUBER SUHNER	SF126E	589848/126E	2024/10/14	2025/10/13
Cable-4m(30M-1G)	HUBER SUHNER	RG-214	02953M	2024/09/04	2025/09/03
Cable-1m(30M-1G)	HUBER SUHNER	RG-214	05094M	2024/09/04	2025/09/03
Cable-9m(30M-1G)	HUBER SUHNER	RG-214	00402M	2024/09/04	2025/09/03
E3	AUDIX	v8.2014-8-6	RK-000529	NA	NA
High Pass Filter	Warison	WFIL-H3000-18000F-03	WRJ5CFWC2J1	2024/07/03	2025/07/02
Notch Filter	Warison	WFIL-N5925-7125F-04	WRQ4BFWC4M1	2024/03/11	2025/03/10
Highpass Filter	Warison	WFIL-H7500-18000F	WRQ4BFWC2J1	2024/03/11	2025/03/10

Test Item	Radiated Emissions(3/11)				
Test Site	Semi Anechoic Room(3M03-NK)				
Instrument	Manufacturer	Model No	Serial No	Calibration Date	Valid Date
Bilog Antenna	Sunol	JB1	A020514-1	2024/05/17	2025/05/16
Active Loop Antenna	EMCO	6507	00040855	2024/05/02	2025/05/01
Horn Anrenna	EMCO	3116	31974	2024/10/18	2025/10/17
Double Ridged Guide Horn Antenna	RF SPAN	DRH18-E	210309A18-ES	2024/08/28	2025/08/27
Spectrum Analyzer	ROHDE & SCHWARZ	FSV 40-N	102151	2024/08/22	2025/08/21
EMI Receiver	ROHDE & SCHWARZ	ESR 7	101906	2024/05/13	2025/05/12
Preamplifier	EMC INSTRUMENTS	EMC0518A45SE	981069	2024/12/17	2025/12/16
Preamplifier	EMC INSTRUMENTS	EMC184045	980065	2024/10/15	2025/10/14
Preamplifier	EM Electronics corp.	EM330	60820	2024/06/14	2025/06/13
Cable-4m(9k-3G)	EMEC	RG-223	18274M	2024/08/08	2025/08/07
Cable-8m(10M-26.5G)	HUBER SUHNER	SF126E	587396/126E	2024/10/14	2025/10/13
Cable-3m(10M-26.5G)	HUBER SUHNER	SF126E	587399/126E	2024/10/14	2025/10/13
Cable-1m(10M-40G)	HUBER SUHNER	SF102	804398/2	2024/10/14	2025/10/13
Cable-1m(1G-26.5G)	HUBER SUHNER	SF126E	589848/126E	2024/10/14	2025/10/13
Cable-4m(30M-1G)	HUBER SUHNER	RG-214	02953M	2024/09/04	2025/09/03
Cable-1m(30M-1G)	HUBER SUHNER	RG-214	05094M	2024/09/04	2025/09/03
Cable-9m(30M-1G)	HUBER SUHNER	RG-214	00402M	2024/09/04	2025/09/03
E3	AUDIX	v8.2014-8-6	RK-000529	NA	NA
High Pass Filter	Warison	WFIL-H3000-18000F-03	WRJ5CFWC2J1	2024/07/03	2025/07/02
Highpass Filter	WOKEN	WFIL-H7000-18000F-01	WR377WC2B2	2024/10/15	2025/10/14

Test Item	RF Conducted				
Test Site	RFCON01-NK				
Instrument	Manufacturer	Model No	Serial No	Calibration Date	Valid Date
EXA Signal Analyzer	KEYSIGHT	N9010A	MY54200207	2024/04/24	2025/04/23
Attenuator	KEYSIGHT	8491B	MY39250703	2025/02/12	2026/02/11
Cable-0.5m(1G-26.5G)	HUBER SUHNER	SUCOFLEX 102	28422/2	2024/05/13	2025/05/12
Power Meter	Anritsu	ML2495A	1224005	2025/02/12	2026/02/11
Power Sensor	Anritsu	MA2411B	1207295	2025/02/12	2026/02/11
Switch Box	Theda	1-4	TW5451159	NA	NA

Test Item	AC Power Line Conducted Emission				
Test Site	CON02-NK				
Instrument	Manufacturer	Model No	Serial No	Calibration Date	Valid Date
EMI Receiver	ROHDE & SCHWARZ	ESR 7	101906	2024/05/13	2025/05/12
Two-Line V-Network	ROHDE & SCHWARZ	ENV216	102185	2024/08/27	2025/08/26
Cable-4m(9k-3G)	EMEC	RG-223	18274M	2024/08/08	2025/08/07
E3	AUDIX	v8.2014-8-6	RK-000536	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	Patch Antenna
Antenna Gain	8 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 C63.10-2013. 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.

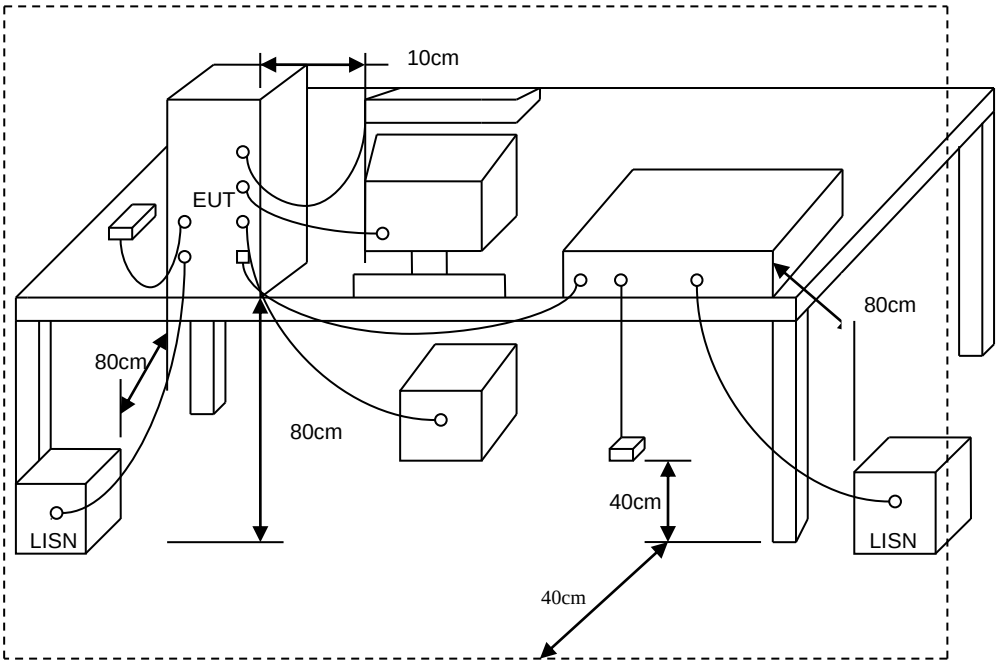
Frequency (MHz)	Quasi Peak (dB μ V)	Average (dB μ V)
0.15 – 0.5	66-56*	56-46*
0.5 – 5.0	56	46
5.0 – 30.0	60	50

*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.

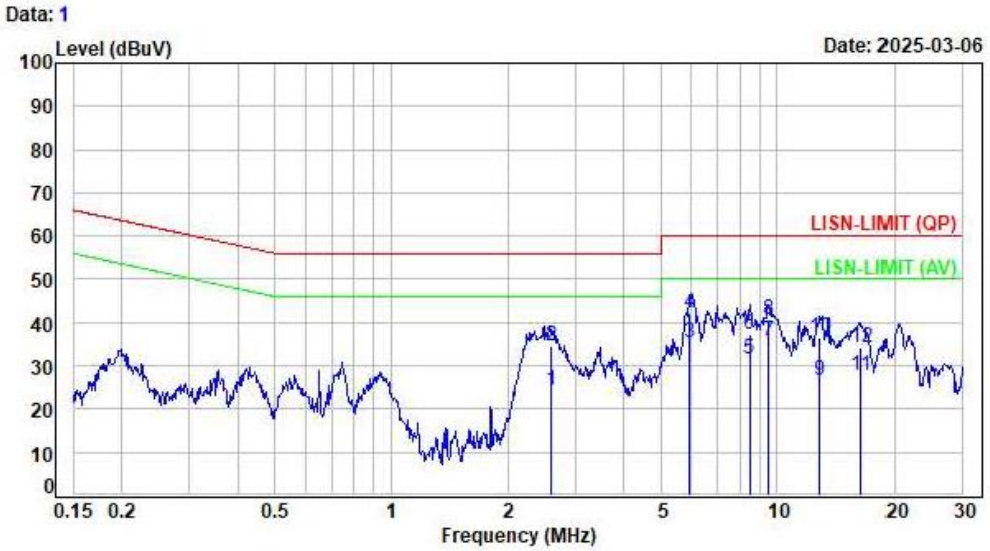
5.3 Typical Test Setup



5.4 Test Result and Data

Test Mode	Mode 1

Test Mode : RFID 1TX ASK 902.75Mhz
Voltage : DC 5V From Power Supply(AC120V/60Hz)
Phase : Line

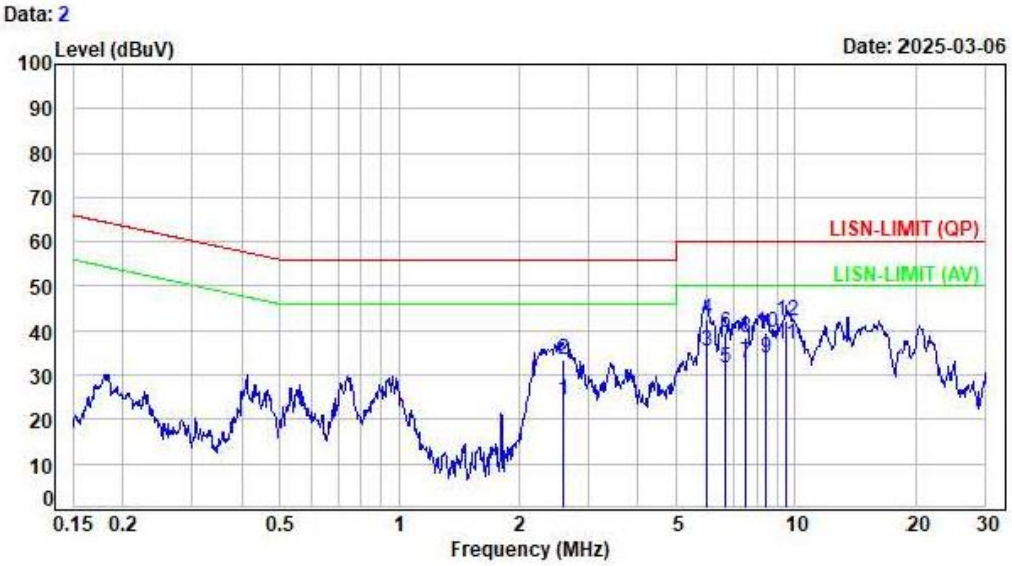


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	2.5967	9.70	14.68	24.38	46.00	-21.62	Average	P
2	2.5967	9.70	24.85	34.55	56.00	-21.45	QP	P
3	5.9311	9.77	25.44	35.21	50.00	-14.79	Average	P
4	5.9311	9.77	32.31	42.08	60.00	-17.92	QP	P
5	8.4756	9.80	21.72	31.52	50.00	-18.48	Average	P
6	8.4756	9.80	27.60	37.40	60.00	-22.60	QP	P
7	9.5204	9.82	25.81	35.63	50.00	-14.37	Average	P
8	9.5204	9.82	30.88	40.70	60.00	-19.30	QP	P
9	12.9191	9.86	16.85	26.71	50.00	-23.29	Average	P
10	12.9191	9.86	26.46	36.32	60.00	-23.68	QP	P
11	16.4279	9.87	18.05	27.92	50.00	-22.08	Average	P
12	16.4279	9.87	24.33	34.20	60.00	-25.80	QP	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=(LISN or ISN or Current Probe)Factor + Cable Loss

Test Mode	Mode 1

Test Mode : RFID 1TX ASK 902.75Mhz
Voltage : DC 5V From Power Supply(AC120V/60Hz)
Phase : Neutral

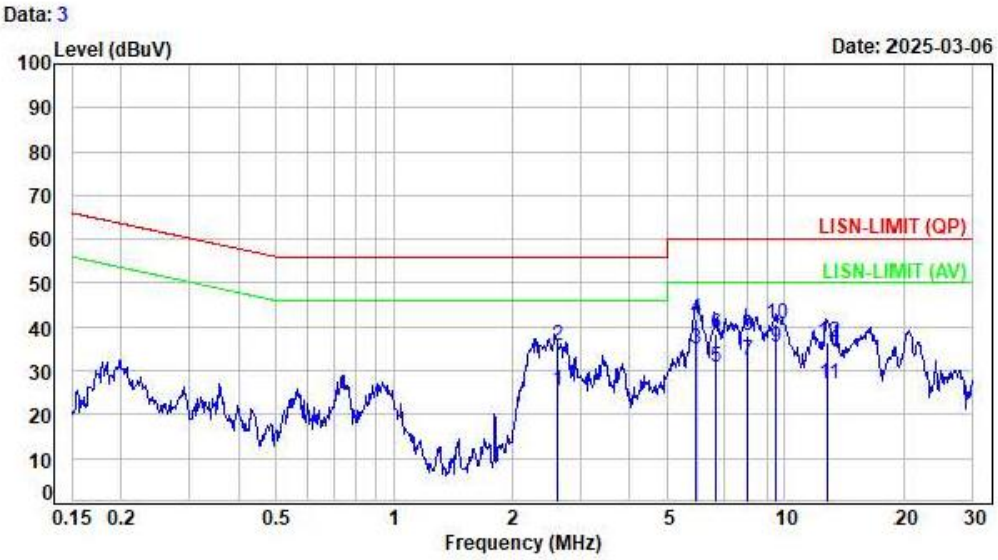


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	2.5877	9.68	14.62	24.30	46.00	-21.70	Average	P
2	2.5877	9.68	23.79	33.47	56.00	-22.53	QP	P
3	5.9784	9.76	25.75	35.51	50.00	-14.49	Average	P
4	5.9784	9.76	32.64	42.40	60.00	-17.60	QP	P
5	6.6355	9.77	21.85	31.62	50.00	-18.38	Average	P
6	6.6355	9.77	29.67	39.44	60.00	-20.56	QP	P
7	7.5183	9.79	23.00	32.79	50.00	-17.21	Average	P
8	7.5183	9.79	28.72	38.51	60.00	-21.49	QP	P
9	8.4379	9.80	23.94	33.74	50.00	-16.26	Average	P
10	8.4379	9.80	29.93	39.73	60.00	-20.27	QP	P
11	9.4800	9.82	27.17	36.99	50.00	-13.01	Average	P
12	9.4800	9.82	32.50	42.32	60.00	-17.68	QP	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=(LISN or ISN or Current Probe)Factor + Cable Loss

Test Mode	Mode 1

Test Mode : RFID 1TX ASK 914.75Mhz
Voltage : DC 5V From Power Supply(AC120V/60Hz)
Phase : Line

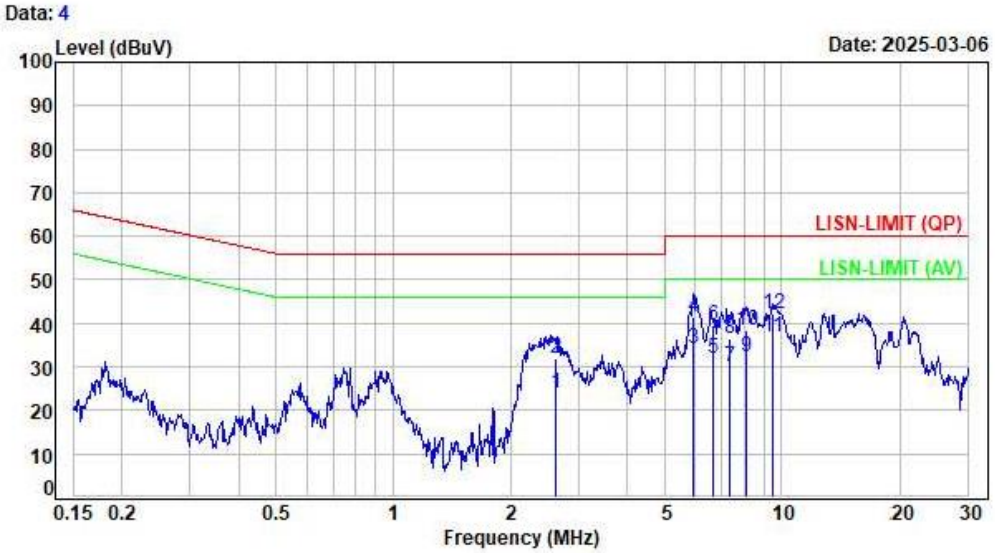


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	2.6103	9.70	15.96	25.66	46.00	-20.34	Average	P
2	2.6103	9.70	26.01	35.71	56.00	-20.29	QP	P
3	5.9341	9.77	25.31	35.08	50.00	-14.92	Average	P
4	5.9341	9.77	32.13	41.90	60.00	-18.10	QP	P
5	6.6335	9.79	21.19	30.98	50.00	-19.02	Average	P
6	6.6335	9.79	28.70	38.49	60.00	-21.51	QP	P
7	7.9976	9.80	22.68	32.48	50.00	-17.52	Average	P
8	7.9976	9.80	28.13	37.93	60.00	-22.07	QP	P
9	9.4788	9.82	25.64	35.46	50.00	-14.54	Average	P
10	9.4788	9.82	30.84	40.66	60.00	-19.34	QP	P
11	12.9216	9.86	17.08	26.94	50.00	-23.06	Average	P
12	12.9216	9.86	26.69	36.55	60.00	-23.45	QP	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=(LISN or ISN or Current Probe)Factor + Cable Loss

Test Mode	Mode 1

Test Mode : RFID 1TX ASK 914.75Mhz
Voltage : DC 5V From Power Supply(AC120V/60Hz)
Phase : Neutral



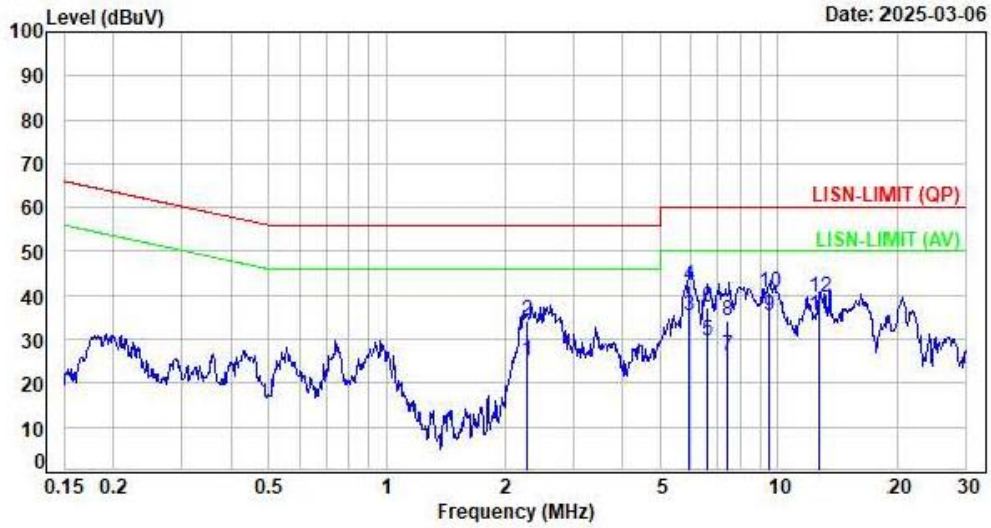
No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	2.6146	9.68	14.45	24.13	46.00	-21.87	Average	P
2	2.6146	9.68	22.08	31.76	56.00	-24.24	QP	P
3	5.9251	9.76	24.61	34.37	50.00	-15.63	Average	P
4	5.9251	9.76	31.72	41.48	60.00	-18.52	QP	P
5	6.6384	9.77	22.08	31.85	50.00	-18.15	Average	P
6	6.6384	9.77	29.59	39.36	60.00	-20.64	QP	P
7	7.3631	9.79	20.13	29.92	50.00	-20.08	Average	P
8	7.3631	9.79	26.72	36.51	60.00	-23.49	QP	P
9	8.0824	9.80	22.53	32.33	50.00	-17.67	Average	P
10	8.0824	9.80	28.61	38.41	60.00	-21.59	QP	P
11	9.4797	9.82	27.22	37.04	50.00	-12.96	Average	P
12	9.4797	9.82	32.50	42.32	60.00	-17.68	QP	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=(LISN or ISN or Current Probe)Factor + Cable Loss

Test Mode	Mode 1

Test Mode : RFID 1TX ASK 927.25Mhz
Voltage : DC 5V From Power Supply(AC120V/60Hz)
Phase : Line

Data: 5



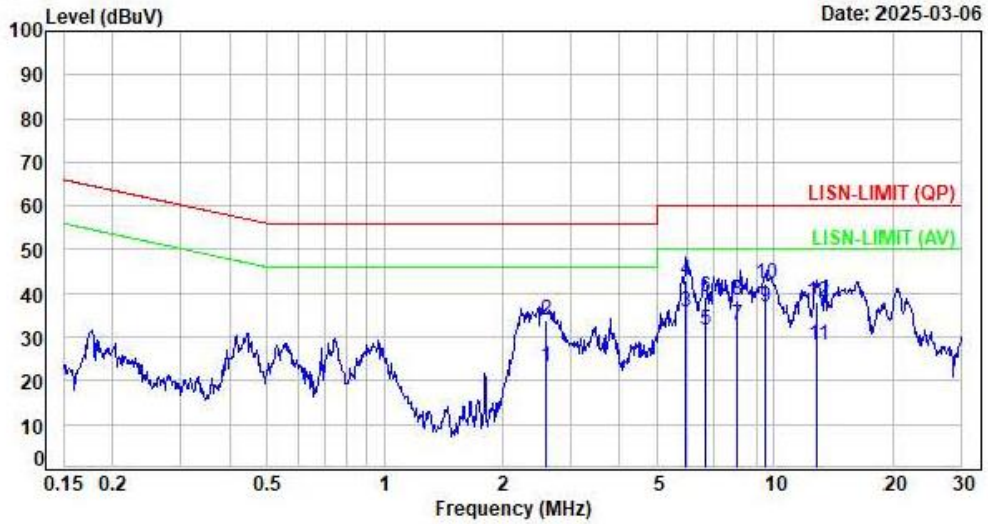
No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	2.2797	9.70	15.39	25.09	46.00	-20.91	Average	P
2	2.2797	9.70	24.64	34.34	56.00	-21.66	QP	P
3	5.9300	9.77	25.49	35.26	50.00	-14.74	Average	P
4	5.9300	9.77	32.57	42.34	60.00	-17.66	QP	P
5	6.5914	9.79	19.85	29.64	50.00	-20.36	Average	P
6	6.5914	9.79	27.48	37.27	60.00	-22.73	QP	P
7	7.4568	9.80	16.59	26.39	50.00	-23.61	Average	P
8	7.4568	9.80	24.49	34.29	60.00	-25.71	QP	P
9	9.4794	9.82	25.47	35.29	50.00	-14.71	Average	P
10	9.4794	9.82	30.77	40.59	60.00	-19.41	QP	P
11	12.7161	9.86	25.61	35.47	50.00	-14.53	Average	P
12	12.7161	9.86	29.79	39.65	60.00	-20.35	QP	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=(LISN or ISN or Current Probe)Factor + Cable Loss

Test Mode	Mode 1

Test Mode : RFID 1TX ASK 927.25Mhz
Voltage : DC 5V From Power Supply(AC120V/60Hz)
Phase : Neutral

Data: 6



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	2.5961	9.68	13.60	23.28	46.00	-22.72	Average	P
2	2.5961	9.68	24.24	33.92	56.00	-22.08	QP	P
3	5.9304	9.76	25.99	35.75	50.00	-14.25	Average	P
4	5.9304	9.76	33.09	42.85	60.00	-17.15	QP	P
5	6.6411	9.77	21.82	31.59	50.00	-18.41	Average	P
6	6.6411	9.77	29.32	39.09	60.00	-20.91	QP	P
7	8.0026	9.80	22.85	32.65	50.00	-17.35	Average	P
8	8.0026	9.80	28.47	38.27	60.00	-21.73	QP	P
9	9.4805	9.82	27.02	36.84	50.00	-13.16	Average	P
10	9.4805	9.82	32.29	42.11	60.00	-17.89	QP	P
11	12.9209	9.89	18.29	28.18	50.00	-21.82	Average	P
12	12.9209	9.89	28.05	37.94	60.00	-22.06	QP	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=(LISN or ISN or Current Probe)Factor + Cable Loss

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.

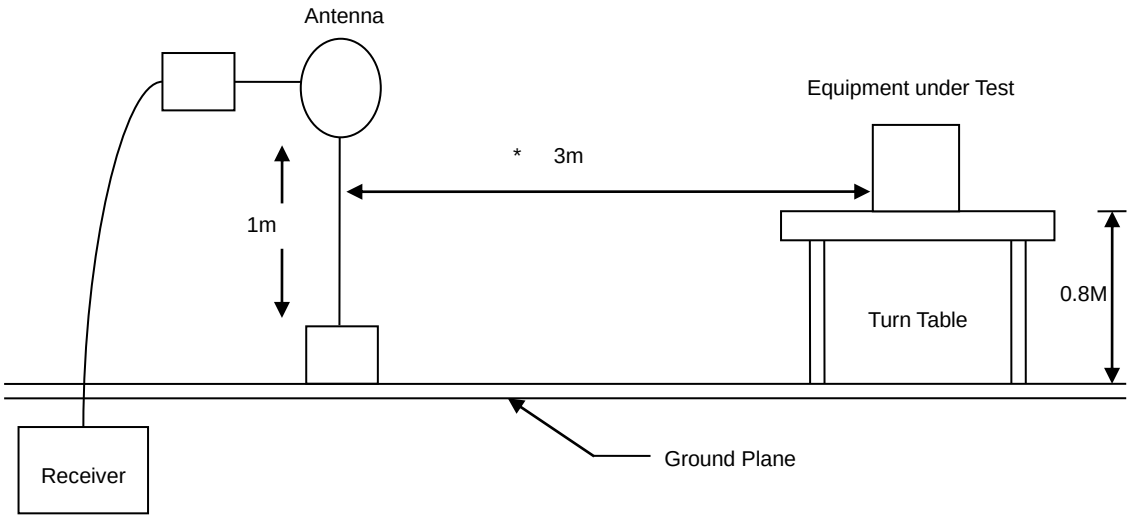
g. If the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method and reported.

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.

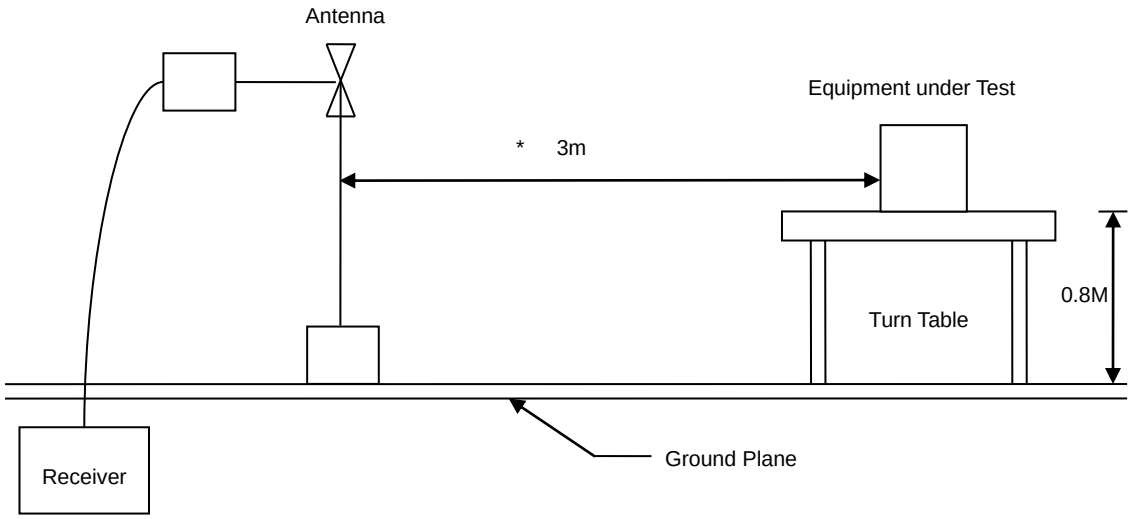
Note: The supporting fixture shall permit orientation of the EUT in each of three orthogonal axis positions such that emissions from the EUT are maximized.

6.3 Typical Test Setup

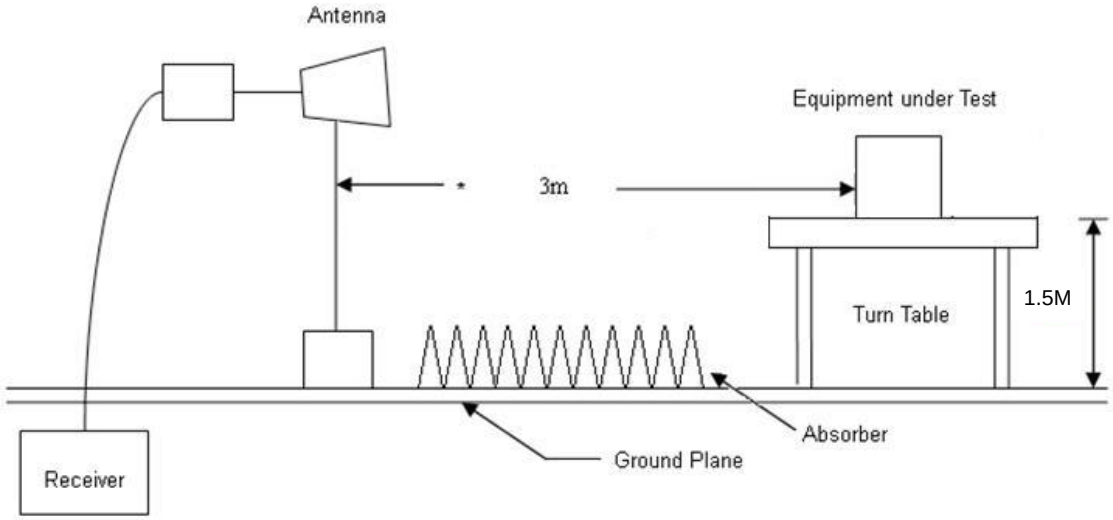
Below 30MHz test setup



30MHz- 1GHz Test Setup



Above 1GHz Test Setup



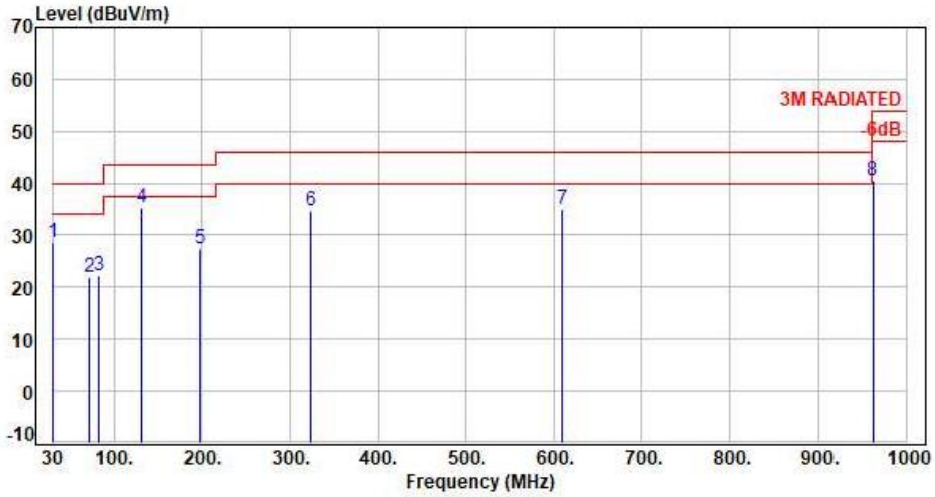
6.4 Test Result and Data (9kHz ~ 30MHz)

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

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

Test Mode	Mode 1

Test Mode : RFID 1TX 902.75MHz 1Mbps
Voltage : DC 5V From Power Supply(AC120V/60Hz)
Pol : Vertical

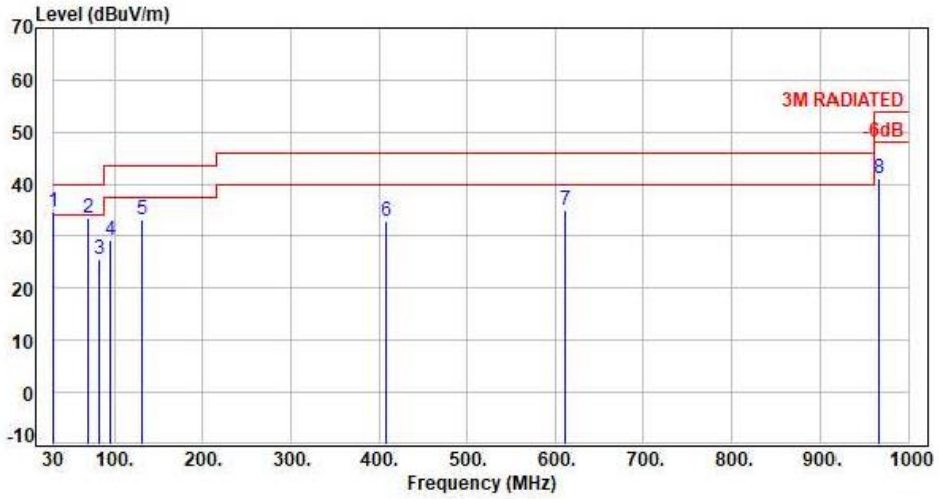


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	30.85	-4.22	32.74	28.52	40.00	-11.48	QP	100	209	P
2	71.80	-16.56	38.36	21.80	40.00	-18.20	QP	100	263	P
3	82.53	-17.61	39.75	22.14	40.00	-17.86	QP	100	294	P
4	131.28	-10.44	45.72	35.28	43.50	-8.22	Peak	400	360	P
5	197.58	-11.59	39.13	27.54	43.50	-15.96	Peak	400	360	P
6	323.35	-9.41	44.09	34.68	46.00	-11.32	Peak	400	360	P
7	610.00	-3.61	38.71	35.10	46.00	-10.90	Peak	400	360	P
8	961.00	1.73	38.85	40.58	54.00	-13.42	Peak	400	360	P

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

Test Mode	Mode 1

Test Mode : RFID 1TX 902.75MHz 1Mbps
Voltage : DC 5V From Power Supply(AC120V/60Hz)
Pol : Horizontal

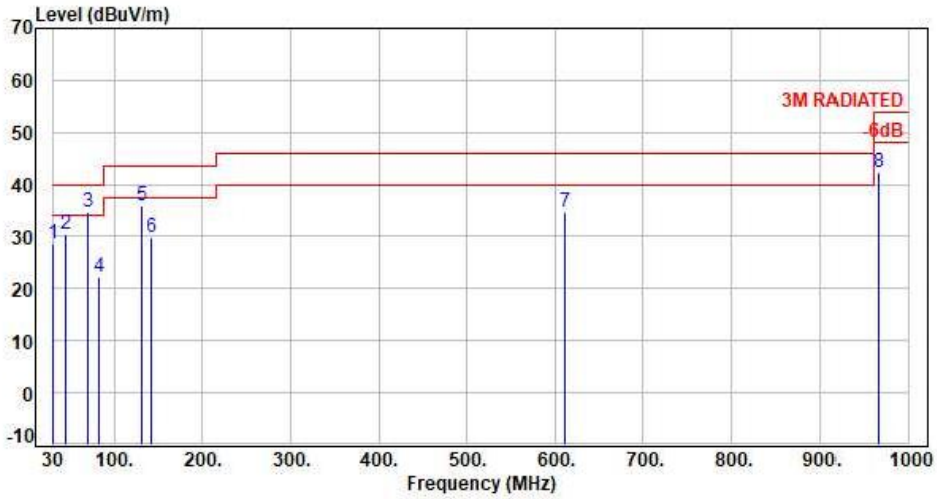


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	30.97	-4.26	38.95	34.69	40.00	-5.31	Peak	400	360	P
2	70.74	-16.53	50.04	33.51	40.00	-6.49	Peak	400	360	P
3	83.35	-17.64	43.15	25.51	40.00	-14.49	QP	205	80	P
4	94.99	-15.81	45.14	29.33	43.50	-14.17	Peak	400	360	P
5	130.88	-10.39	43.52	33.13	43.50	-10.37	Peak	400	360	P
6	408.30	-7.15	39.96	32.81	46.00	-13.19	Peak	400	360	P
7	611.03	-3.53	38.49	34.96	46.00	-11.04	Peak	400	360	P
8	966.05	1.76	39.49	41.25	54.00	-12.75	Peak	400	360	P

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

Test Mode	Mode 1

Test Mode : RFID 1TX 914.75MHz 1Mbps
Voltage : DC 5V From Power Supply(AC120V/60Hz)
Pol : Vertical

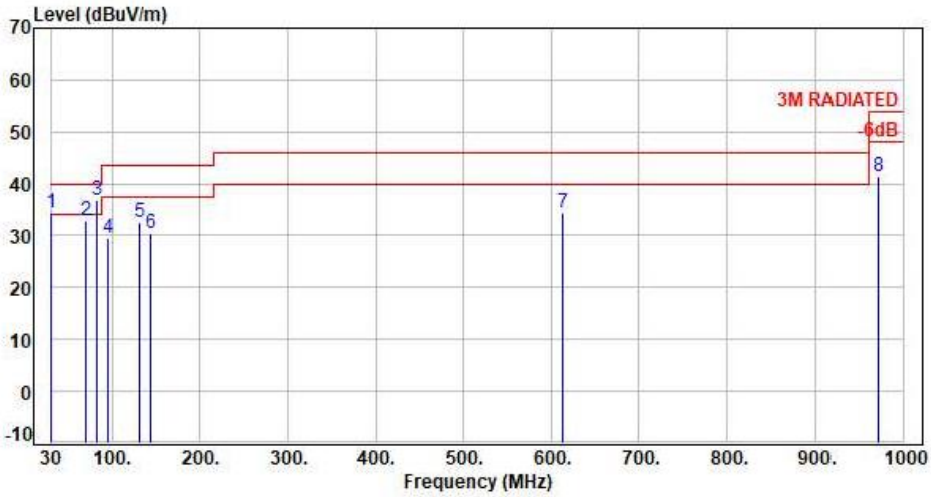


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	30.97	-4.26	32.89	28.63	40.00	-11.37	QP	100	210	P
2	44.55	-14.45	44.85	30.40	40.00	-9.60	Peak	400	360	P
3	70.74	-16.53	51.36	34.83	40.00	-5.17	Peak	400	360	P
4	83.35	-17.64	40.02	22.38	40.00	-17.62	QP	100	297	P
5	130.88	-10.39	46.37	35.98	43.50	-7.52	Peak	400	360	P
6	142.52	-10.98	40.80	29.82	43.50	-13.68	Peak	400	360	P
7	612.00	-3.45	38.22	34.77	46.00	-11.23	Peak	400	360	P
8	965.08	1.74	40.46	42.20	54.00	-11.80	Peak	400	360	P

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

Test Mode	Mode 1

Test Mode : RFID 1TX 914.75MHz 1Mbps
Voltage : DC 5V From Power Supply(AC120V/60Hz)
Pol : Horizontal

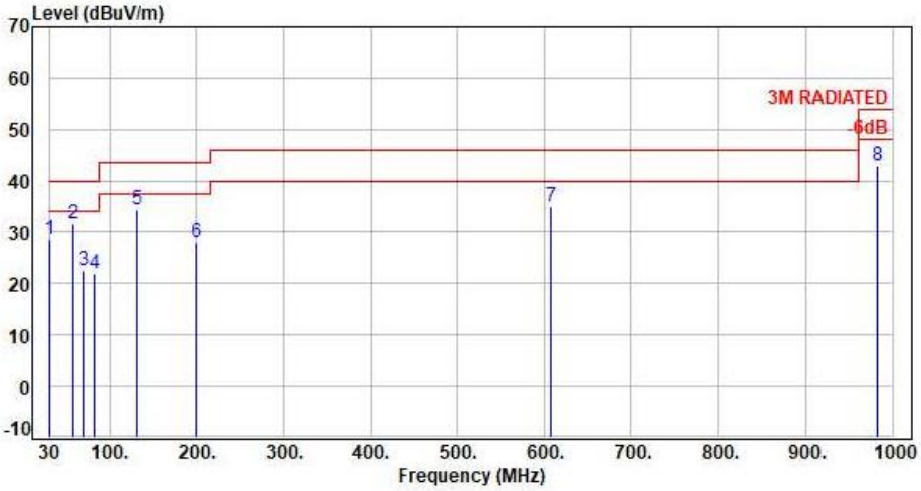


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	30.00	-3.97	38.25	34.28	40.00	-5.72	Peak	400	360	P
2	70.74	-16.53	49.41	32.88	40.00	-7.12	Peak	400	360	P
3	83.35	-17.64	54.50	36.86	40.00	-3.14	Peak	400	360	P
4	94.99	-15.81	45.32	29.51	43.50	-13.99	Peak	400	360	P
5	130.88	-10.39	42.86	32.47	43.50	-11.03	Peak	400	360	P
6	143.49	-11.08	41.51	30.43	43.50	-13.07	Peak	400	360	P
7	612.97	-3.35	37.73	34.38	46.00	-11.62	Peak	400	360	P
8	970.90	1.85	39.47	41.32	54.00	-12.68	Peak	400	360	P

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

Test Mode	Mode 1

Test Mode : RFID 1TX 927.25MHz 1Mbps
Voltage : DC 5V From Power Supply(AC120V/60Hz)
Pol : Vertical

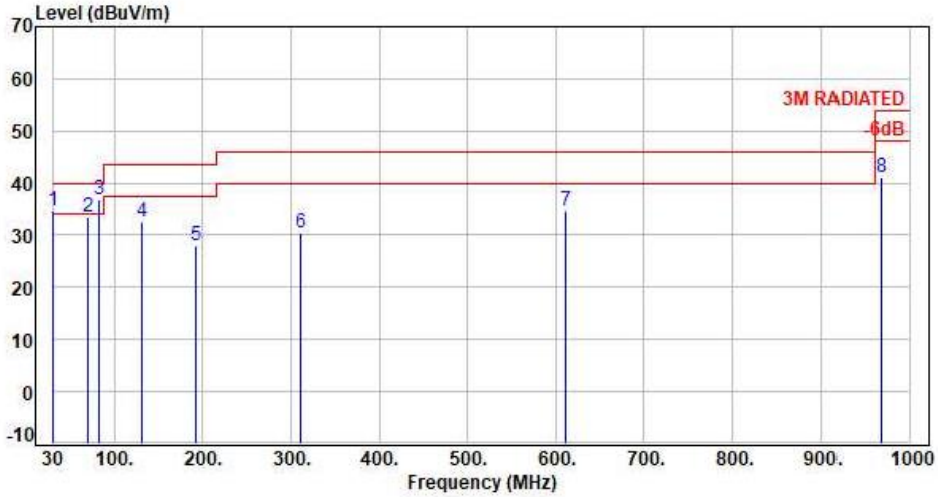


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	30.97	-4.26	32.87	28.61	40.00	-11.39	QP	100	205	P
2	58.13	-17.22	48.92	31.70	40.00	-8.30	Peak	400	0	P
3	70.74	-16.53	38.98	22.45	40.00	-17.55	QP	100	267	P
4	83.35	-17.64	39.65	22.01	40.00	-17.99	QP	100	297	P
5	130.88	-10.39	44.69	34.30	43.50	-9.20	Peak	400	0	P
6	198.78	-11.34	39.51	28.17	43.50	-15.33	Peak	400	0	P
7	608.12	-3.73	38.67	34.94	46.00	-11.06	Peak	400	0	P
8	981.57	1.89	41.14	43.03	54.00	-10.97	Peak	400	0	P

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

Test Mode	Mode 1

Test Mode : RFID 1TX 927.25MHz 1Mbps
Voltage : DC 5V From Power Supply(AC120V/60Hz)
Pol : Horizontal



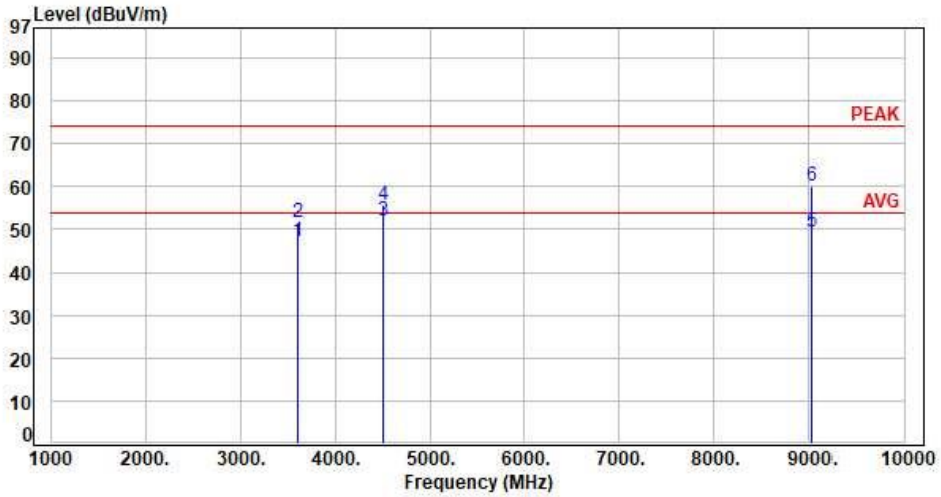
No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	30.00	-3.97	38.62	34.65	40.00	-5.35	Peak	400	360	P
2	70.74	-16.53	49.97	33.44	40.00	-6.56	Peak	400	360	P
3	83.35	-17.64	54.36	36.72	40.00	-3.28	Peak	400	360	P
4	130.88	-10.39	43.12	32.73	43.50	-10.77	Peak	400	360	P
5	191.99	-12.56	40.56	28.00	43.50	-15.50	Peak	400	360	P
6	311.30	-9.51	39.93	30.42	46.00	-15.58	Peak	400	360	P
7	612.00	-3.45	38.21	34.76	46.00	-11.24	Peak	400	360	P
8	967.99	1.81	39.39	41.20	54.00	-12.80	Peak	400	360	P

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

6.6 Test Result and Data (1GHz ~ 10GHz)

Test Mode	Mode 1

Test Mode : RFID 1TX 902.75MHz 1Mbps
Voltage : DC 5V From Power Supply(AC120V/60Hz)
Pol : Vertical

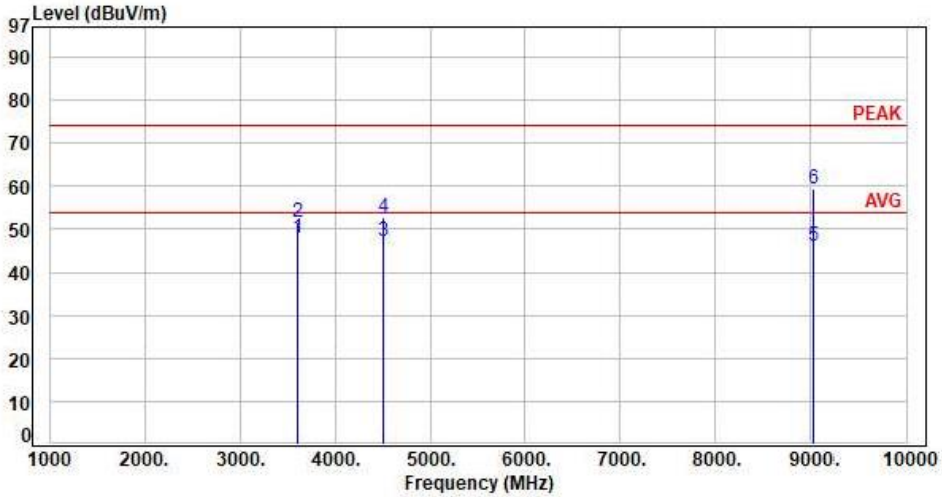


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	3611.00	-2.74	49.93	47.19	54.00	-6.81	Average	223	46	P
2	3611.00	-2.74	54.36	51.62	74.00	-22.38	Peak	223	46	P
3	4513.75	-0.27	52.36	52.09	54.00	-1.91	Average	388	229	P
4	4513.75	-0.27	55.94	55.67	74.00	-18.33	Peak	388	229	P
5	9027.50	4.07	45.21	49.28	54.00	-4.72	Average	375	96	P
6	9027.50	4.07	56.04	60.11	74.00	-13.89	Peak	375	96	P

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

Test Mode	Mode 1

Test Mode : RFID 1TX 902.75MHz 1Mbps
Voltage : DC 5V From Power Supply(AC120V/60Hz)
Pol : Horizontal

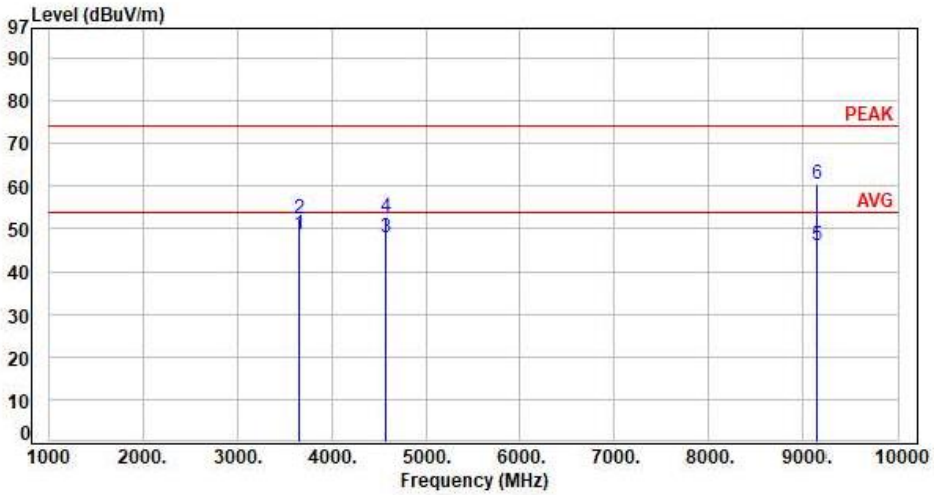


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	3611.00	-2.74	50.63	47.89	54.00	-6.11	Average	100	211	P
2	3611.00	-2.74	54.56	51.82	74.00	-22.18	Peak	100	211	P
3	4513.75	-0.27	47.46	47.19	54.00	-6.81	Average	337	290	P
4	4513.75	-0.27	53.17	52.90	74.00	-21.10	Peak	337	290	P
5	9027.50	4.07	41.96	46.03	54.00	-7.97	Average	100	259	P
6	9027.50	4.07	55.14	59.21	74.00	-14.79	Peak	100	259	P

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

Test Mode	Mode 1

Test Mode : RFID 1TX 914.75MHz 1Mbps
Voltage : DC 5V From Power Supply(AC120V/60Hz)
Pol : Vertical

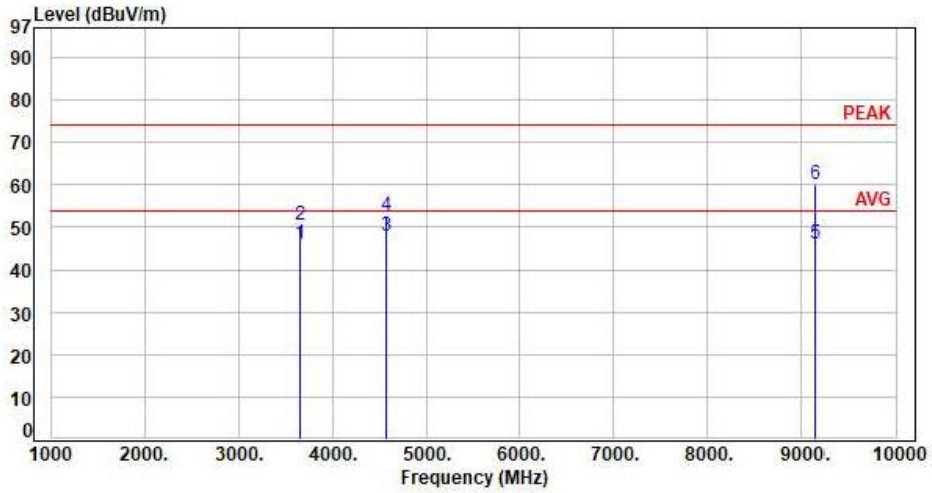


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	3659.00	-2.53	51.17	48.64	54.00	-5.36	Average	179	360	P
2	3659.00	-2.53	54.77	52.24	74.00	-21.76	Peak	179	360	P
3	4573.75	-0.04	47.83	47.79	54.00	-6.21	Average	100	226	P
4	4573.75	-0.04	52.66	52.62	74.00	-21.38	Peak	100	226	P
5	9147.50	4.19	41.98	46.17	54.00	-7.83	Average	100	225	P
6	9147.50	4.19	56.32	60.51	74.00	-13.49	Peak	100	225	P

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

Test Mode	Mode 1

Test Mode : RFID 1TX 914.75MHz 1Mbps
Voltage : DC 5V From Power Supply(AC120V/60Hz)
Pol : Horizontal

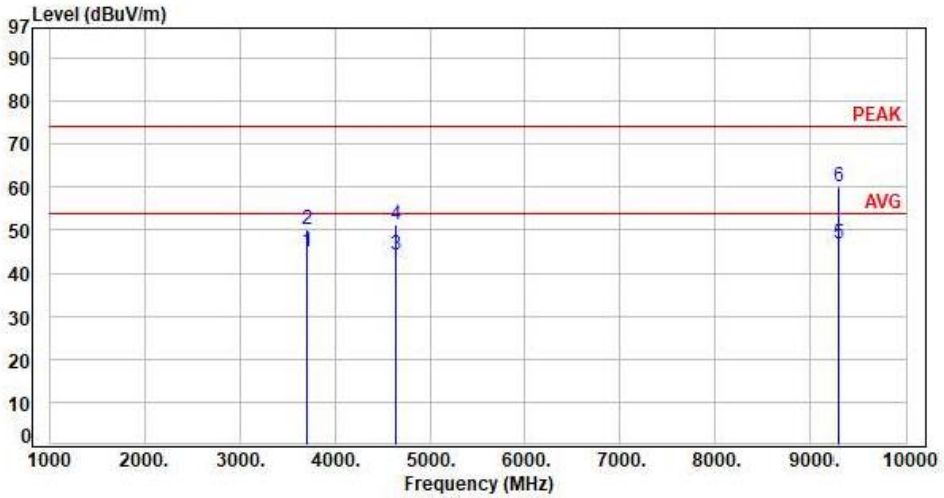


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	3659.00	-2.53	48.45	45.92	54.00	-8.08	Average	100	212	P
2	3659.00	-2.53	53.07	50.54	74.00	-23.46	Peak	100	212	P
3	4573.75	-0.04	47.87	47.83	54.00	-6.17	Average	373	292	P
4	4573.75	-0.04	52.64	52.60	74.00	-21.40	Peak	373	292	P
5	9147.50	4.19	41.98	46.17	54.00	-7.83	Average	100	225	P
6	9147.50	4.19	56.09	60.28	74.00	-13.72	Peak	100	225	P

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

Test Mode	Mode 1

Test Mode : RFID 1TX 927.25MHz 1Mbps
Voltage : DC 5V From Power Supply(AC120V/60Hz)
Pol : Vertical

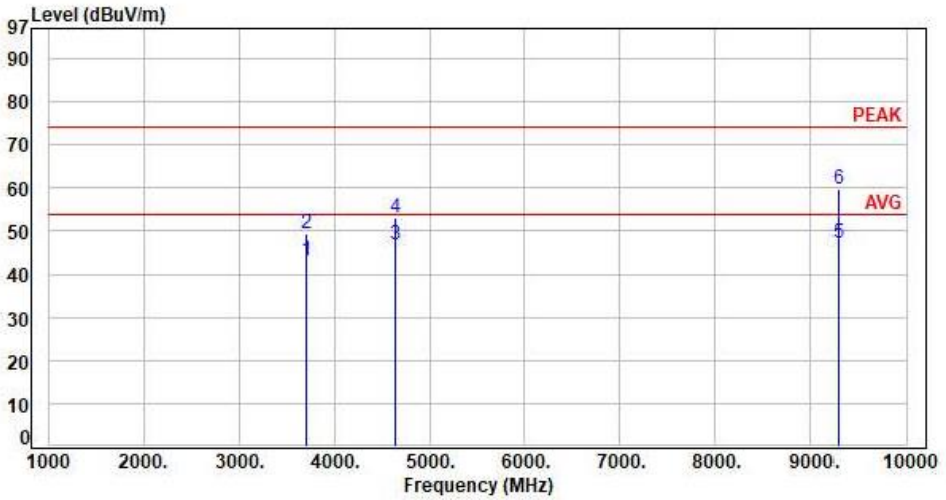


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	3709.00	-2.27	47.16	44.89	54.00	-9.11	Average	100	337	P
2	3709.00	-2.27	52.55	50.28	74.00	-23.72	Peak	100	337	P
3	4636.25	0.13	44.04	44.17	54.00	-9.83	Average	113	117	P
4	4636.25	0.13	50.95	51.08	74.00	-22.92	Peak	113	117	P
5	9272.50	3.84	43.10	46.94	54.00	-7.06	Average	100	118	P
6	9272.50	3.84	56.31	60.15	74.00	-13.85	Peak	100	118	P

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

Test Mode	Mode 1

Test Mode : RFID 1TX 927.25MHz 1Mbps
Voltage : DC 5V From Power Supply(AC120V/60Hz)
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	3709.00	-2.27	45.46	43.19	54.00	-10.81	Average	218	311	P
2	3709.00	-2.27	51.74	49.47	74.00	-24.53	Peak	218	311	P
3	4636.25	0.13	46.69	46.82	54.00	-7.18	Average	100	353	P
4	4636.25	0.13	53.15	53.28	74.00	-20.72	Peak	100	353	P
5	9272.50	3.84	43.52	47.36	54.00	-6.64	Average	100	351	P
6	9272.50	3.84	55.86	59.70	74.00	-14.30	Peak	100	351	P

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

6.7 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 C63.10-2013 Section 11.11.1

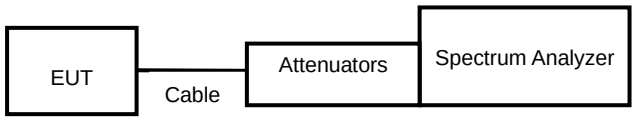
Below –30dB of the highest emission level of operating band (in 100kHz Resolution Bandwidth).

7.2 Test Procedure

According to the methods defined in ANSI C63.10-2013 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

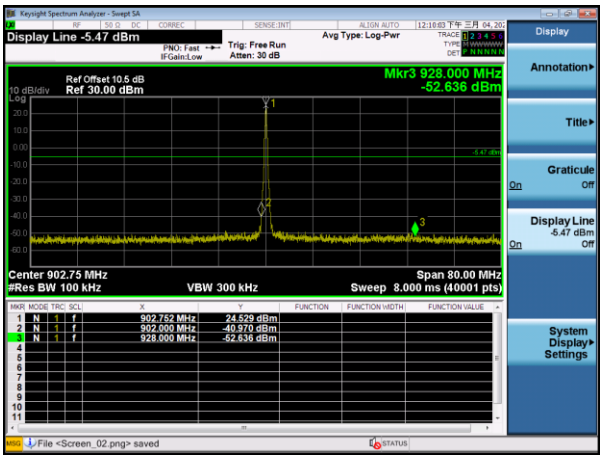


7.4 Test Result and Data

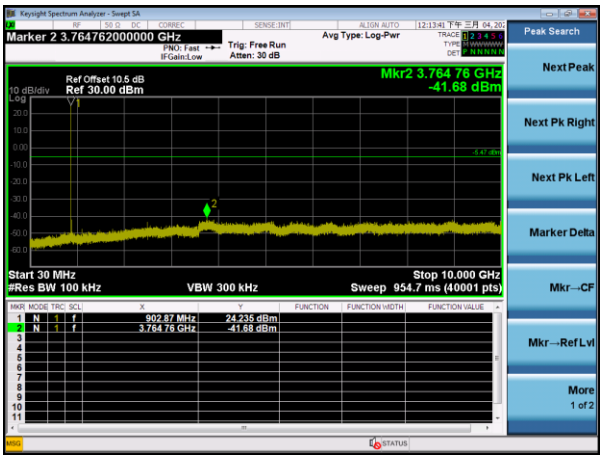
Note: Test plots refer to the following pages.

Modulation Type: ASK

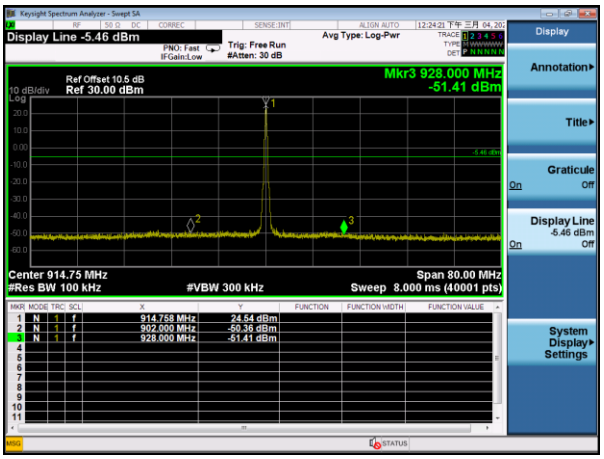
CH01-1



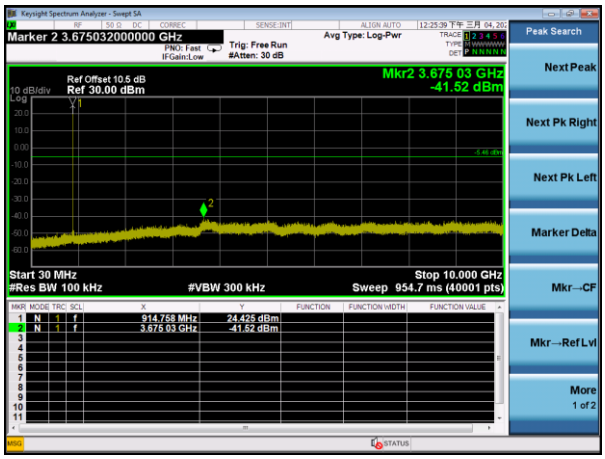
CH01-2



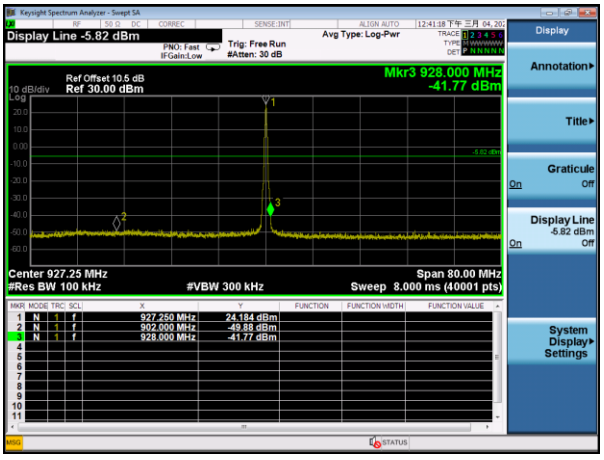
CH25-1



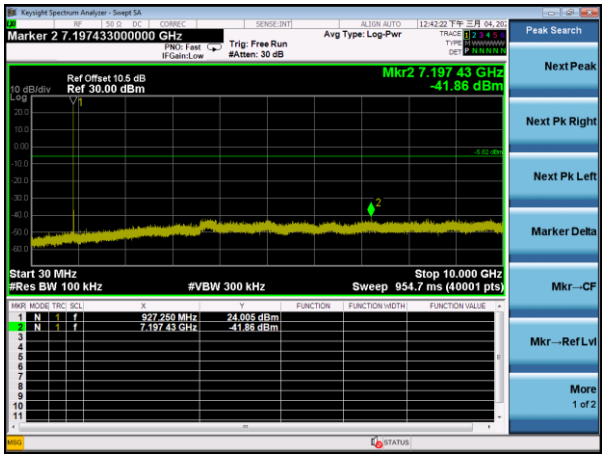
CH25-2



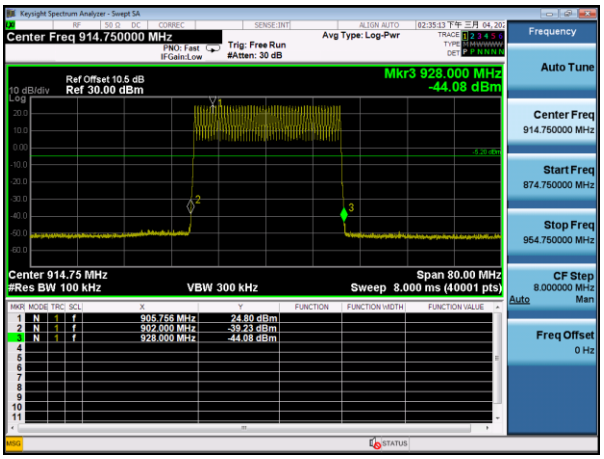
CH50-1

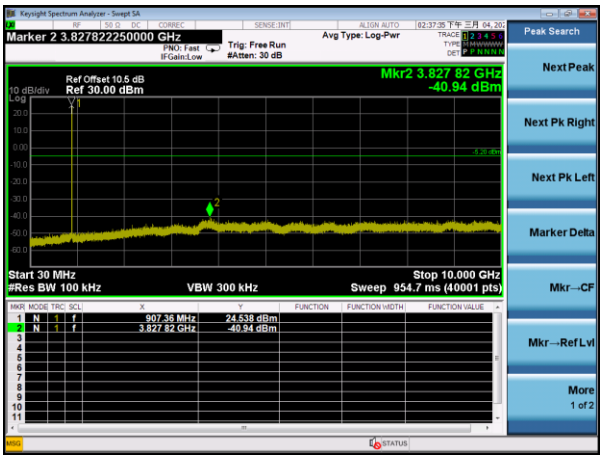


CH50-2



Modulation Type: ASK
Hopping





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

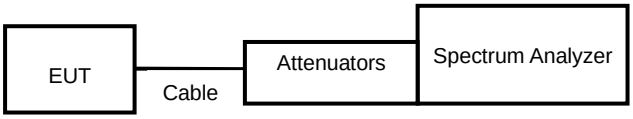
According to the methods defined in ANSI C63.10-2013 Section 6.9

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

b. Set RBW of spectrum analyzer to 10 KHz and VBW to 30 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	Channel Frequency (MHz)	20dB Bandwidth (MHz)	Limit (MHz)
ASK	1	902.75	0.375	0.500
	25	914.75	0.372	0.500
	50	927.25	0.369	0.500

Modulation Type: ASK
CH01

CH25

CH50

9. Frequencies Separation

9.1 Test Limit

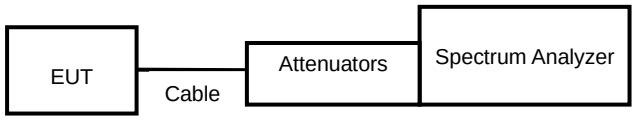
Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater.

9.2 Test Procedures

According to the methods defined in ANSI C63.10-2013 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

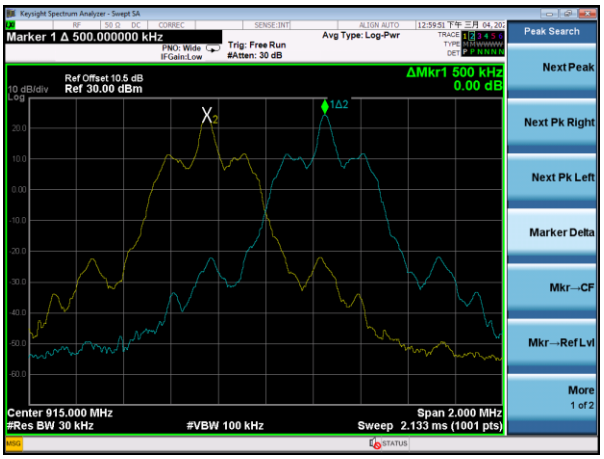


9.4 Test Result and Data

Modulation Type	Channel	Channel Frequency (MHz)	Channel Separation (MHz)	Limit (MHz)
ASK	1	902.75	0.50	0.3746
	25	914.75	0.50	0.3721
	50	927.25	0.50	0.3687

Modulation Type: ASK
CH01

CH25



CH50

10. Dwell Time on each channel

10.1 Test Limit

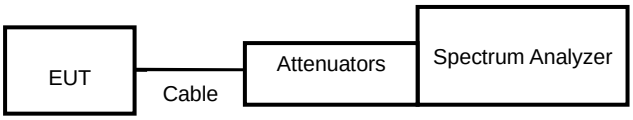
For frequency hopping systems operating in the 902-928 MHz band:
if the 20 dB bandwidth of the hopping channel is less than 250 kHz, the average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 20 second period;
if the 20 dB bandwidth of the hopping channel is 250 kHz 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 C63.10-2013 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

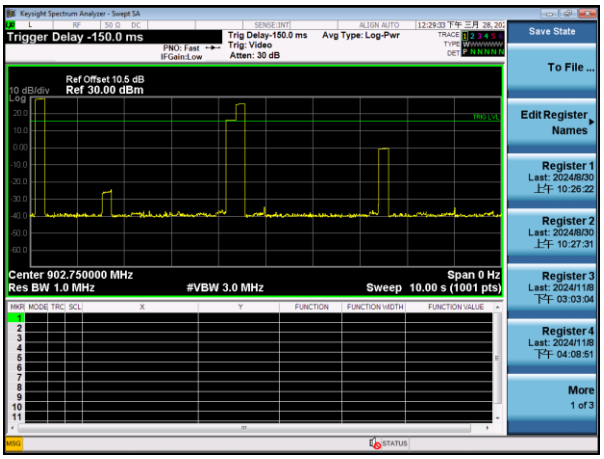


10.4 Test Result and Data

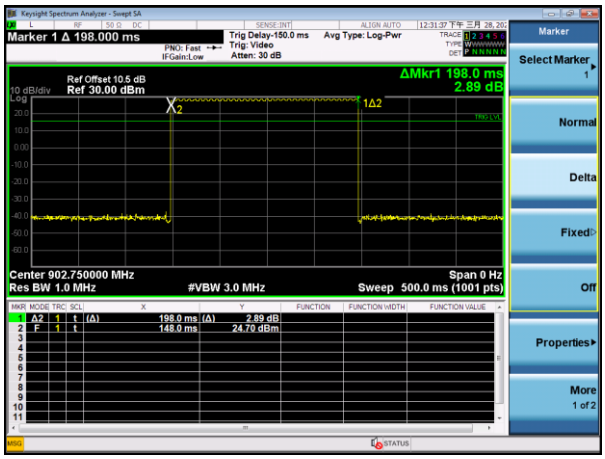
Channel	Channel Frequency (MHz)	Length of transmission time (ms)	Number of transmission in a 10s	Dwell Time (ms)	Limit (ms)
1	902.75	198.000	1.00	198.00	400
25	914.75	198.000	1.00	198.00	400
50	927.25	198.000	1.00	198.00	400

Modulation Type: ASK

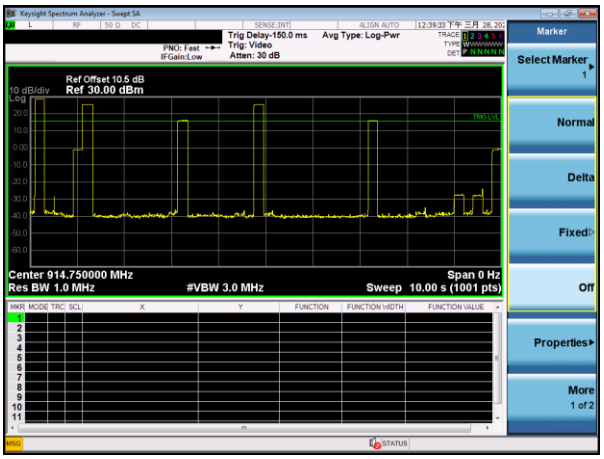
CH01-1



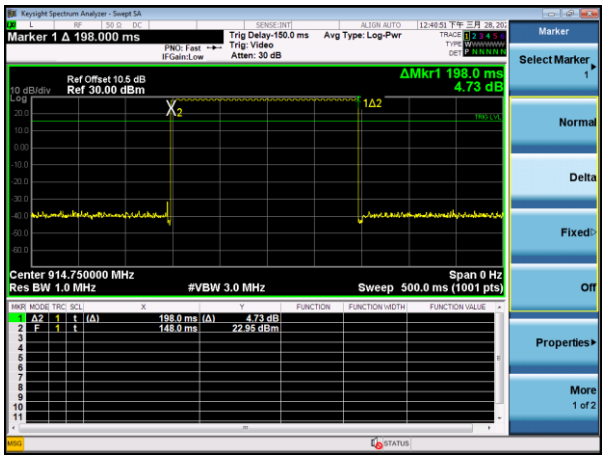
CH01-2



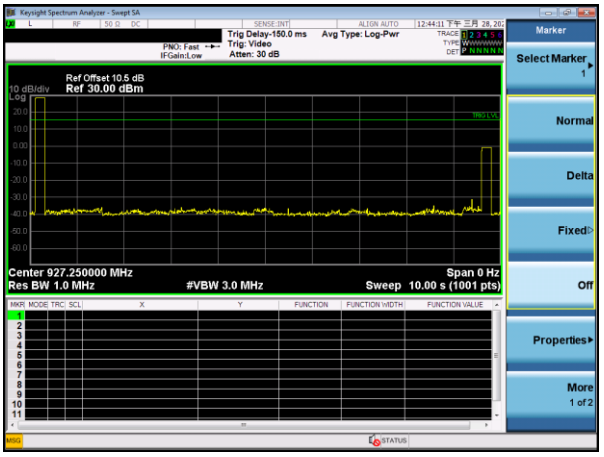
CH25-1



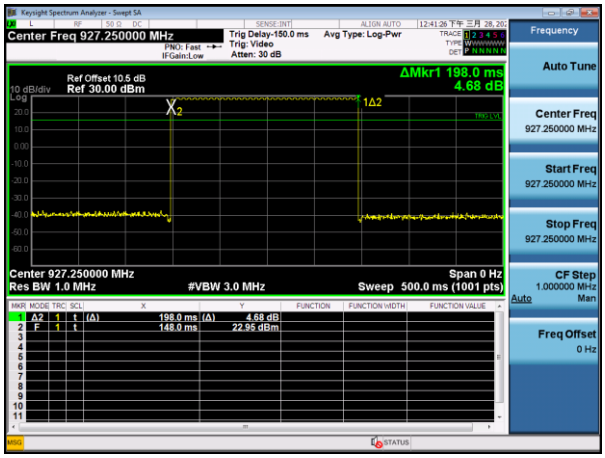
CH25-2



CH50-1



CH50-2



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

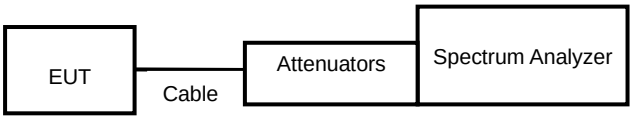
According to the methods defined in ANSI C63.10-2013 Section 7.8.3

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.

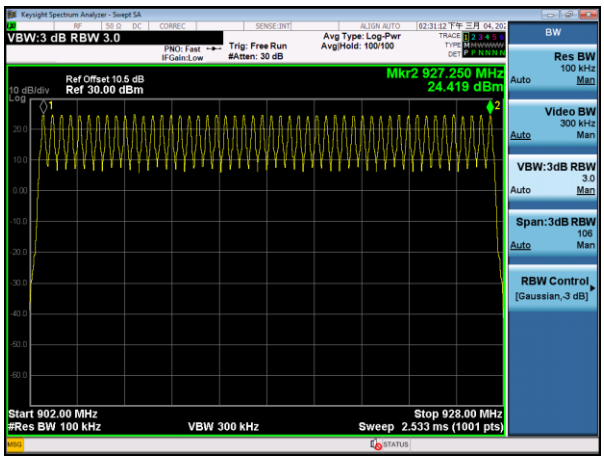
11.3 Test Setup Layout



11.4 Test Result and Data

Modulation Type	Hopping Channels	Limit
ASK	50	25

Modulation Type: ASK



12. Maximum Average Output Power

12.1 Test Limit

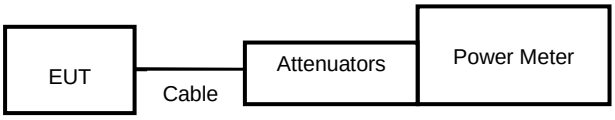
The Maximum Output Power Measurement is 30dBm.

12.2 Test Procedures

According to the methods defined in ANSI C63.10-2013 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

Port-1

Setting	Modulation Type	Channel	Channel Frequency (MHz)	AV Output Power (dBm)	AV Output Power (mW)
28	ASK	1	902.75	26.81	479.733
28		25	914.75	26.85	484.172
28		50	927.25	26.75	473.151

Port-2

Setting	Modulation Type	Channel	Channel Frequency (MHz)	AV Output Power (dBm)	AV Output Power (mW)
28	ASK	1	902.75	27.06	508.159
28		25	914.75	27.09	511.682
28		50	927.25	27.02	503.501

Port-3

Setting	Modulation Type	Channel	Channel Frequency (MHz)	AV Output Power (dBm)	AV Output Power (mW)
28	ASK	1	902.75	27.01	502.343
28		25	914.75	27.03	504.661
28		50	927.25	26.91	490.908

Port-4

Setting	Modulation Type	Channel	Channel Frequency (MHz)	AV Output Power (dBm)	AV Output Power (mW)
28	ASK	1	902.75	27.03	504.661
28		25	914.75	27.05	506.991
28		50	927.25	26.99	500.035

Port-5

Setting	Modulation Type	Channel	Channel Frequency (MHz)	AV Output Power (dBm)	AV Output Power (mW)
28	ASK	1	902.75	27.08	510.505
28		25	914.75	27.09	511.682
28		50	927.25	26.95	495.450

Port-6

Setting	Modulation Type	Channel	Channel Frequency (MHz)	AV Output Power (dBm)	AV Output Power (mW)
28	ASK	1	902.75	27.18	522.396
28		25	914.75	27.11	514.044
28		50	927.25	27.08	510.505

Port-7

Setting	Modulation Type	Channel	Channel Frequency (MHz)	AV Output Power (dBm)	AV Output Power (mW)
28	ASK	1	902.75	26.85	484.172
28		25	914.75	26.91	490.908
28		50	927.25	26.88	487.528

Port-8

Setting	Modulation Type	Channel	Channel Frequency (MHz)	AV Output Power (dBm)	AV Output Power (mW)
28	ASK	1	902.75	27.03	504.661
28		25	914.75	26.85	484.172
28		50	927.25	26.97	497.737