



FCC Test Report

Report No: FCS202112026W04

Issued for

Applicant:	Hangzhou Shakaraka Technology Co., Ltd.
Address:	Room 4120, Building 2, No. 1197, Bin'an Road, Binjiang District, Hangzhou City, Zhejiang Province
Product Name:	Pisces outdoor gateway
Brand Name:	PISCES
Model Name:	P100
Series Model:	N/A
FCC ID:	2A3AD-P100
Issued By: Flux Compliance Service Laboratory Add: Room 105 Floor Bao hao Technology Building 1 NO.15 Gong ye West Road Hi-Tech Industrial, Song shan lake Dongguan Tel: 769-27280901 Fax:769-27280901 http://www.FCS-lab.com	

TEST RESULT CERTIFICATION

Applicant's Name.....: Hangzhou Shakaraka Technology Co., Ltd.

Address.....: Room 4120, Building 2, No. 1197, Bin'an Road, Binjiang District, Hangzhou City, Zhejiang Province

Manufacture's Name.....: Hangzhou Green Palm Technology Co., Ltd.

Address.....: 2nd Floor, No. 2617, Xincheng Road, Xiaoshan District, Hangzhou

Product Description

Product Name.....: Pisces outdoor gateway

Model Name.....: P100

Series Model.....: N/A

Test Standards.....: FCC Rules and Regulations Part 15 Subpart C, Section 247

Test Procedure.....: ANSI C63.10:2013

This device described above has been tested by Flux Compliance Service Laboratory, the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

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Date of Test.....:

Date (s) of performance of tests.: 08 Dec, 2021 ~ 20 Dec, 2021

Date of Issue.....: 20 Dec, 2021

Test Result.....: Pass

Tested by

:

Scott Shen

(Scott Shen)

Reviewed by

:

Duke Qian

(Duke Qian)

Approved by

:

Jack Wang

(Jack Wang)

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Revision History

Rev.	Issue Date	Effect Page	Contents
00	20 Dec, 2021	N/A	N/A

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
FCC 15.247 (a) (2)	6dB Bandwidth	PASS	--
FCC 15.247 (b) (3)	Conducted Output Power	PASS	--
FCC 15.247 (e)	Power Spectral Density	PASS	--
FCC 15.247 (d)	Band-edge and Spurious Emissions (Conducted)	PASS	--
FCC 15.247 (d) FCC 15.209 FCC 15.205	Radiated Spurious Emissions	PASS	--
FCC 15.247 (d) FCC 15.209 FCC 15.205	Radiated Band Edge Compliance	PASS	--
FCC 15.207	Power Line Conducted Emission	N/A	--
FCC 15.203	Antenna requirement	PASS	--
15.205	Restricted Band Edge Emission	PASS	--

NOTE:

- (1) "N/A" denotes test is not applicable in this Test Report
- (2) All tests are according to ANSI C63.10-2013

1.1 TEST FACTORY

Company Name:	Flux Compliance Service Laboratory
Address:	Room 105 Floor Bao hao Technology Building 1 NO.15 Gong ye West Road Hi-Tech Industrial, Song shan lake Dongguan
Telephone:	+86-769-27280901
Fax:	+86-769-27280901
FCC Test Firm Registration Number: 514908 Designation number: CN0127 A2LA accreditation number: 5545.01	

1.2 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement $y \pm U$, 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	RF output power, conducted	± 0.71 dB
2	Unwanted Emissions, conducted	± 2.988 dB
3	Conducted Emission (9KHz-150KHz)	± 4.13 dB
4	Conducted Emission (150KHz-30MHz)	± 4.74 dB
5	All emissions, radiated (<1G) 30MHz-1000MHz	± 5.2 dB
6	All emissions, radiated 1GHz -18GHz	± 4.66 dB
7	All emissions, radiated 18GHz -40GHz	± 4.31 dB

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF THE EUT

Product Name	Pisces outdoor gateway
Trade Name	PISCES
Model Name	P100
Series Model	N/A
Model Difference	N/A
Channel List	Please refer to the Note 2.
Operation frequency	923.5MHz-927.5MHz
Modulation:	GFSK
Transmitter rate:	2MHz
Power supply	DC 48V
Hardware version number	V1.0
Software version number	V1.0
Connecting I/O Port(s)	Please refer to the User's Manual

Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.

2.

Channel List					
Channel	Frequency (MHz)	Channel	Frequency (MHz)		
01	923.5	05	925.7		
02	924.1	06	926.3		
03	924.7	07	926.9		
04	925.1	08	927.5		

3. Table for Filed Antenna

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	NOTE
1	NA	REFA	external Antenna	N/A	1.0	Antenna

2.2 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

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.

Block diagram of EUT configuration for test



Test software: the FCC tool

The test software was used to control EUT work in continuous TX mode, and select test channel, Wireless mode as below table

No.	Test model descrption	
1	Low channel GFSK	
2	Middle channel GFSK	
3	High channel GFSK	

Test model descrption		Frequency(MHz)
Low channel GFSK		923.5
Middle channel GFSK		925.1
High channel GFSK		927.5

Note:

1. All the test modes can be supply by battery, only the result of the worst case recorded in the report. GFSK mode is worst mode.
2. For radiated emission, 3 axis were chosen for testing for each applicable mode.
3. The EUT used fully charge battery when tested.
4. During the test, the dutycycle>98%, the test voltage was tuned from 85% to 115% of the Nominal rate supply votage, and found that the worst case was the nominal rated supply condition, So the report just shows that condition's data

2.3 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.

Necessary accessories

Item	Equipment	Mfr/Brand	Model/Type No.	Serial No.	Note

Support units

Item	Equipment	Mfr/Brand	Model/Type No.	Serial No.	Note

Note:

- (1) The support equipment was authorized by Declaration of Confirmation.
- (2) For detachable type I/O cable should be specified the length in cm in 『Length』 column.
- (3) “YES” is means “shielded” “with core”; “NO” is means “unshielded” “without core”.

2.4 EQUIPMENTS LIST

Radiation Test equipment

Kind of Equipment	Manufacturer	Type No.	Company No.	Last calibration	Calibrated until
EMI Test Receiver	R&S	ESRP 3	FCS-E001	2021.05.26	2022.05.25
Signal Analyzer	R&S	FSV40-N	FCS-E012	2021.05.26	2022.05.25
Active loop Antenna	ZHINAN	ZN30900C	FCS-E013	2021.07.08	2022.07.07
Bilog Antenna	SCHWARZBECK	VULB 9168	FCS-E002	2021.08.26	2022.08.25
Horn Antenna	SCHWARZBECK	BBHA 9120D	FCS-E003	2021.08.26	2022.08.25
SHF-EHF Horn Antenna (18G-40GHz)	A-INFO	LB-180400-KF	FCS-E018	2021.05.26	2022.05.25
Pre-Amplifier(0.1M-3G Hz)	EMCI	EM330N	FCS-E004	2021.05.26	2022.05.25
Pre-Amplifier (1G-18GHz)	N/A	TSAMP-0518SE	FCS-E014	2021.05.26	2022.05.25
Pre-Amplifier (18G-40GHz)	TERA-MW	TRLA-0400	FCS-E019	2021.07.08	2022.07.07
Temperature & Humidity	HTC-1	victor	FCS-E005	2021.08.26	2022.08.25
Testing Software	EZ-EMC(Ver.STSLAB 03A1 RE)				

Conduction Test equipment

Kind of Equipment	Manufacturer	Type No.	Company No.	Last calibration	Calibrated until
EMI Test Receiver	R&S	ESPI	FCS-E020	2021.05.26	2022.05.25
LISN	R&S	ENV216	FCS-E007	2021.07.08	2022.07.07
LISN	ETS	3810/2NM	FCS-E009	2021.05.26	2022.05.25
Temperature & Humidity	HTC-1	victor	FCS-E008	2021.07.08	2022.07.07
Testing Software	EZ-EMC(Ver.EMC-CON 3A1.1)				

RF Connected Test

Kind of Equipment	Manufacturer	Type No.	Company No.	Last calibration	Calibrated until
MXA SIGNAL Analyzer	Keysight	N9020A	FCS-E015	2021.05.26	2022.05.25
Spectrum Analyzer	Agilent	E4447A	MY50180039	2021.07.08	2022.07.07
Spectrum Analyzer	R&S	FSV-40	101499	2021.08.26	2022.08.25
Power Sensor	Agilent	UX2021XA	FCS-E021	2021.05.26	2022.05.25
Testing Software	EZ-EMC(Ver.STSLAB 03A1 RE)				

3. 6DB BANDWIDTH

3.1 Limit

For direct sequence systems, the minimum 6dB bandwidth shall be at least 500 kHz

3.2 Test Procedure

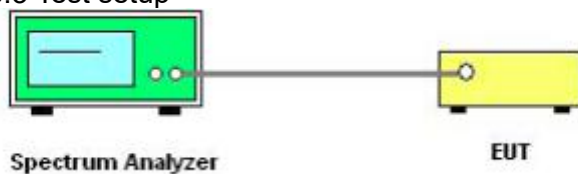
(1) Connect EUT's antenna output to spectrum analyzer by RF cable.

(2) Set the spectrum analyzer as follows

RBW:	100kHz
VBW:	300kHz
Detector Mode:	AVG
Sweep time:	auto
Trace mode	Max hold

(3) Allow the trace to stabilize, measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission

3.3 Test setup

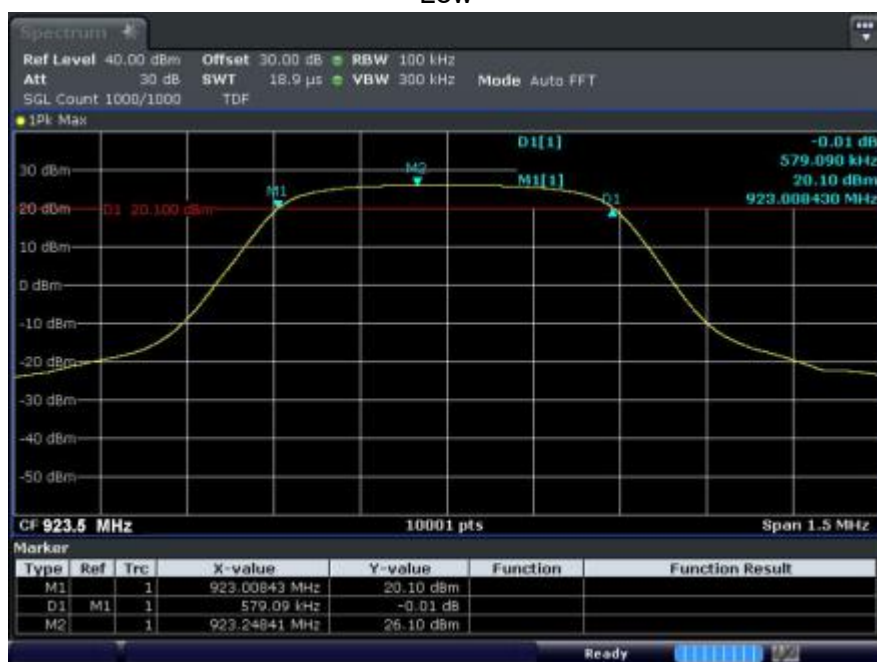


3.4 Test results

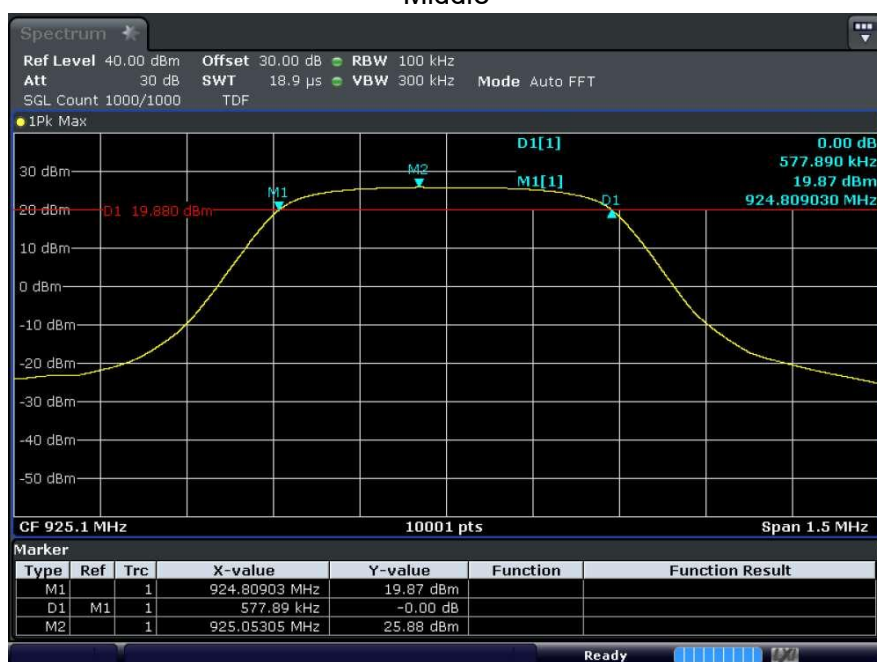
Channel (MHz)	6dB Bandwidth (MHz)	Limit [MHz]	Verdict
923.5MHz	0.579	0.5	Pass
925.1MHz	0.578	0.5	Pass
927.5MHz	0.575	0.5	Pass

3.5 Original Test Data

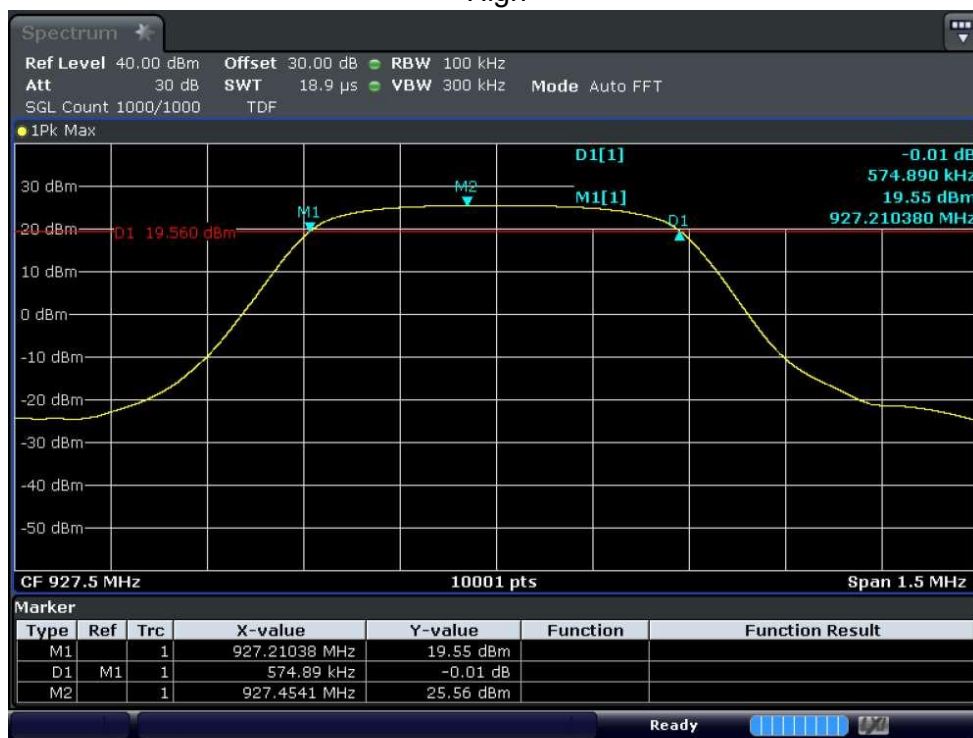
Low



Middle



High



4 CONDUCTED OUTPUT POWER

4.1 LIMIT

For systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: 1 Watt. If transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

4.2 TEST PROCEDURE

- Connect each EUT's antenna output to power sensor by RF cable and attenuator
- Measure the PK output power of each antenna port by power sensor.

4.3 TEST SETUP



4.5 TEST RESULTS

Channel (MHz)	Result (dBm)	Limit (dBm)	Verdict
923.5MHz	25.65	30	Pass
925.1MHz	25.63	30	Pass
927.5MHz	25.12	30	Pass

5. POWER SPECTRAL DENSITY

5.1 LIMIT

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8dBm in any 3 kHz band during any time interval of continuous transmission.

5.2 TEST PROCEDURE

(1) Connect EUT's antenna output to spectrum analyzer by RF cable.

(2) Set the spectrum analyzer as follows:

Center frequency	DTS Channel center frequency
RBW:	$3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$
VBW:	$\geq 3\text{RBW}$
Span	1.5 times the DTS bandwidth
Detector Mode:	AVG
Sweep time:	auto
Trace mode	Max hold

(3) Allow the trace to stabilize, use the peak marker function to determine the maximum amplitude level within the RBW

(4) If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

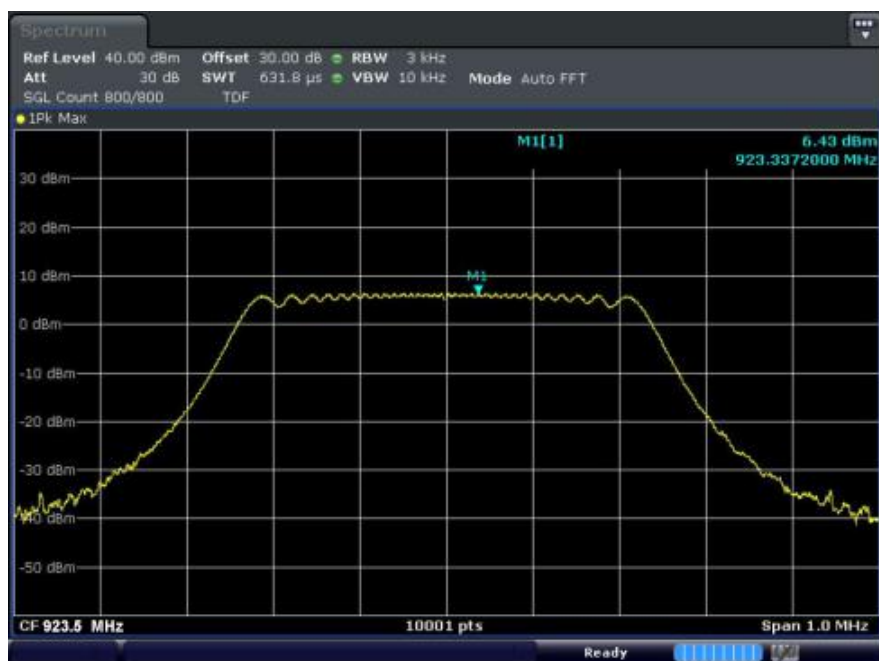
5.3 TEST SETUP



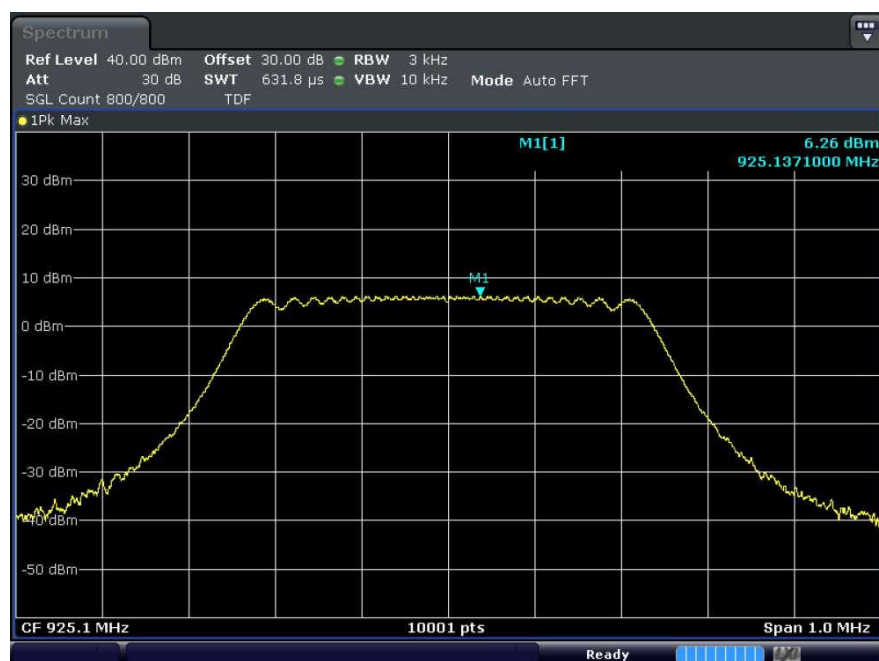
5.4 TEST RESULTS

TestMode	Channel (MHz)	Result (dBm/3KHz)	Limit (dBm/3KHz)	Verdict
Low	923.5MHz	6.43	8	Pass
Middle	925.1MHz	6.26	8	Pass
High	927.5MHz	5.93	8	Pass

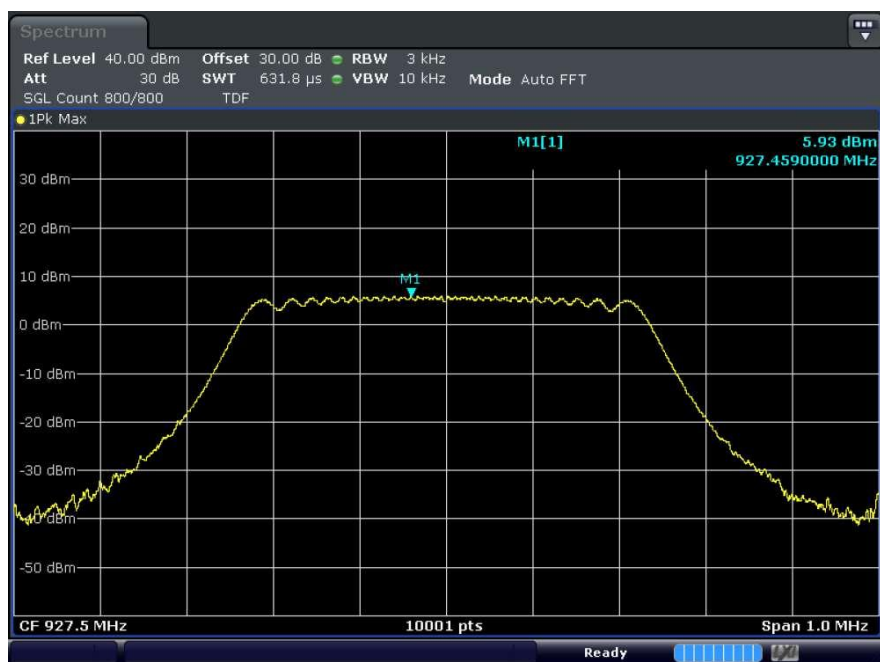
Low



Middle



High



6. Band edge and spurious(conducted)

6.1 LIMIT

In any 100kHz bandwidth outside the frequency bands in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 30dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power.

6.2 TEST PROCEDURE

(1) Connect EUT's antenna output to spectrum analyzer by RF cable.

(2) Establish a reference level by using the following procedure:

Center frequency	DTS Channel center frequency
RBW:	100kHz
VBW:	300kHz
Span	1.5times the DTS bandwidth
Detector Mode:	Pake /AVG
Sweep time:	auto
Trace mode	Max hold

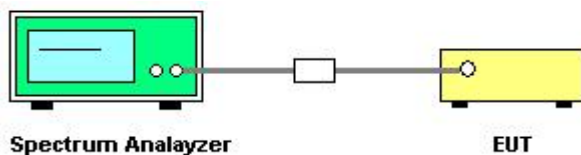
(3) Establish Allow the trace to stabilize, use the peak marker function to determine the maximum peak power level to establish the reference level.

(4) Set the spectrum analyzer as follows:

RBW:	100kHz
VBW:	300kHz
Span	Encompass frequency range to be measured
Number of measurement points	$\geq \text{span}/\text{RBW}$
Detector Mode:	Pake/AVG
Sweep time:	auto
Trace mode	Max hold

(5) Allow the trace to stabilize, use the peak marker function to determine the maximum amplitude of all unwanted emissions outside of the authorized frequency band

6.3 TEST SETUP

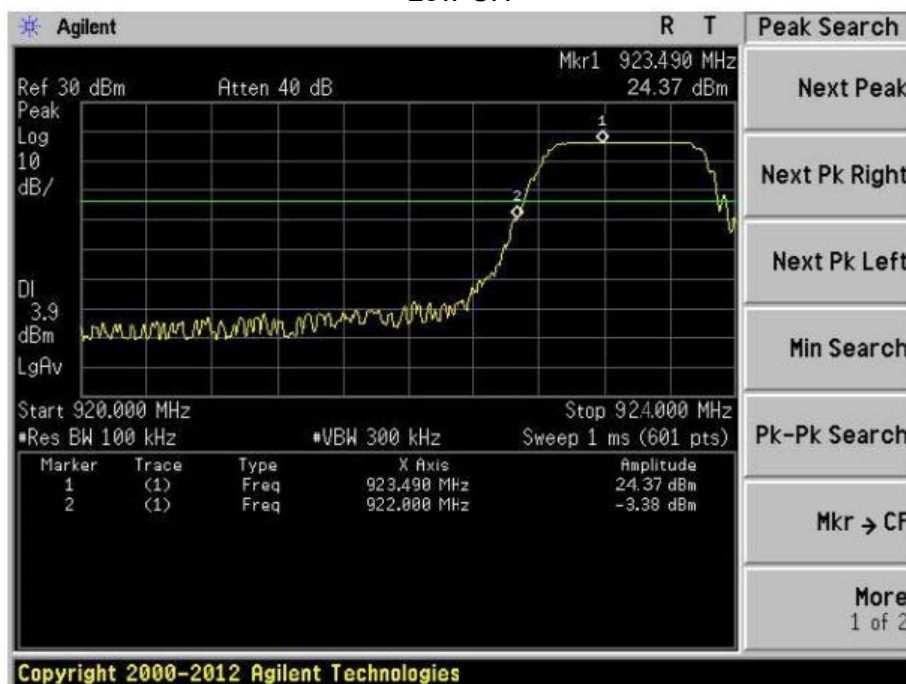


6.5 TEST RESULTS

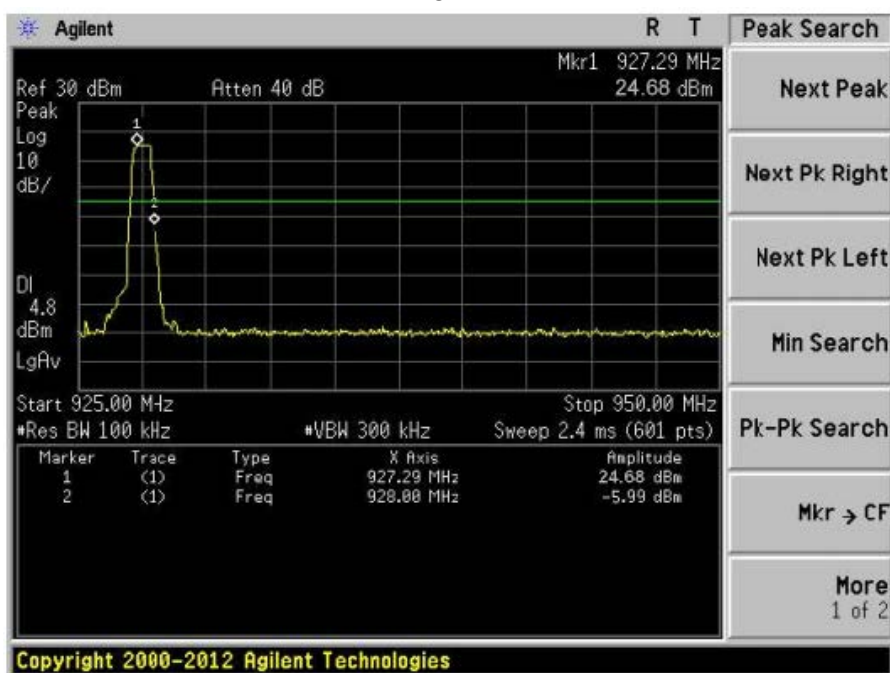
Eut set mode	CH or Frequency	Result
GFSK	CH 1	Pass
	CH 8	Pass

6.5 Original test data

Low CH



High CH

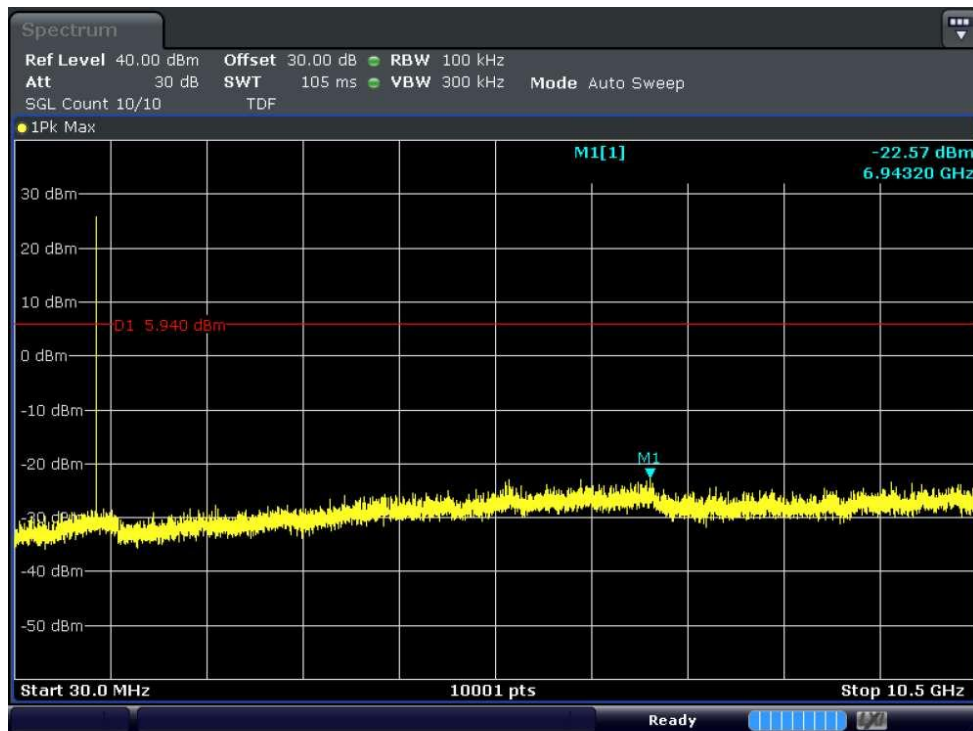


Spurious emissions

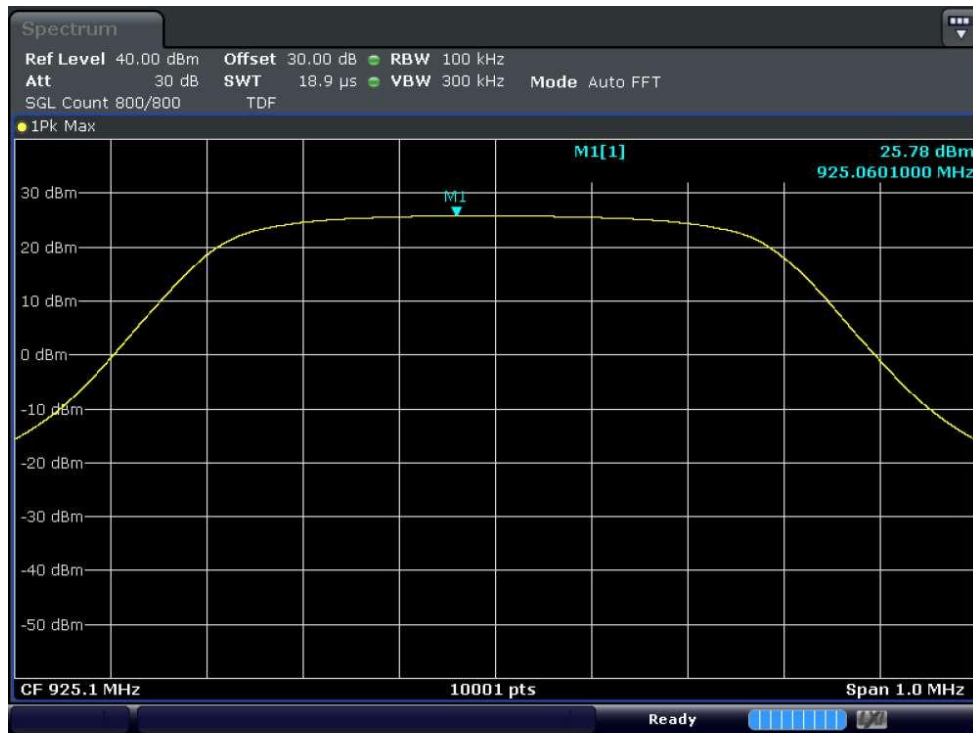
low CH



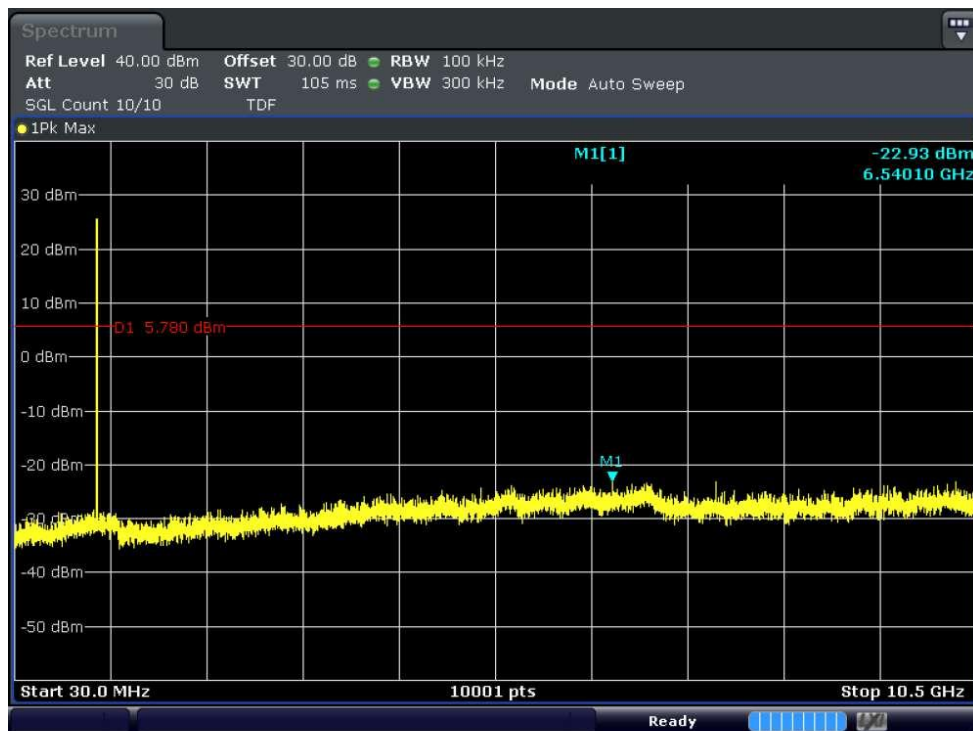
30MHZ-10.5GHZ



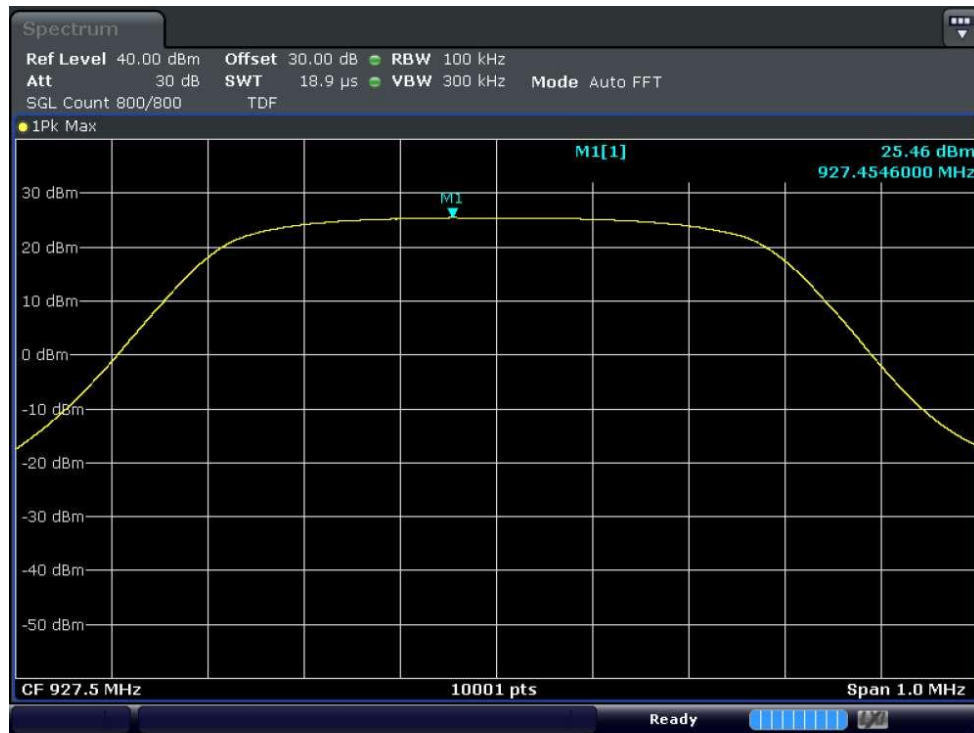
Middle CH



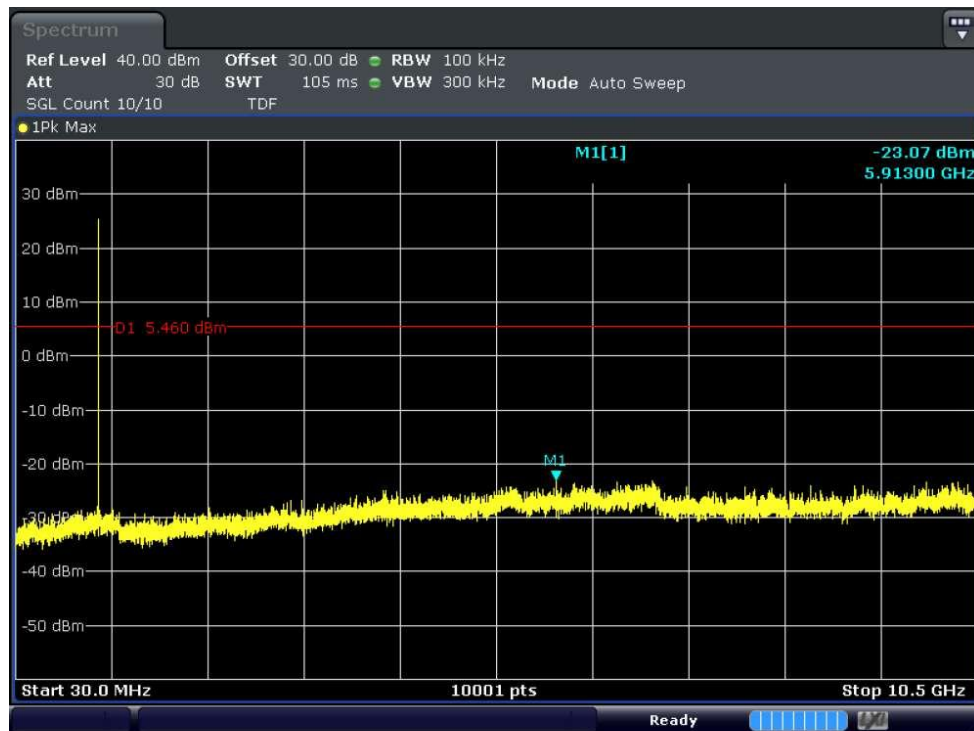
30MHZ-10.5GHZ



High CH



30MHz-10.5GHz



7 RADIATED EMISSION MEASUREMENT

7.1 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 C63.10-2013 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).

For Radiated Emission

Spectrum Parameter	Setting
Attenuation	Auto
Detector	Peak/AV
Start Frequency	1000 MHz(Peak/AV)
Stop Frequency	10th carrier hamonic(Peak/AV)
RB / VB (emission in restricted band)	PK=1MHz / 1MHz, AV=1 MHz /10 Hz

For Band edge

Spectrum Parameter	Setting
Detector	Peak/AV
Start/Stop Frequency	Lower Band Edge: 2300 to 2403 MHz Upper Band Edge: 2479 to 2500 MHz
RB / VB (emission in restricted band)	PK=1MHz / 1MHz, AV=1 MHz / 10 Hz

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

7.2 TEST PROCEDURE

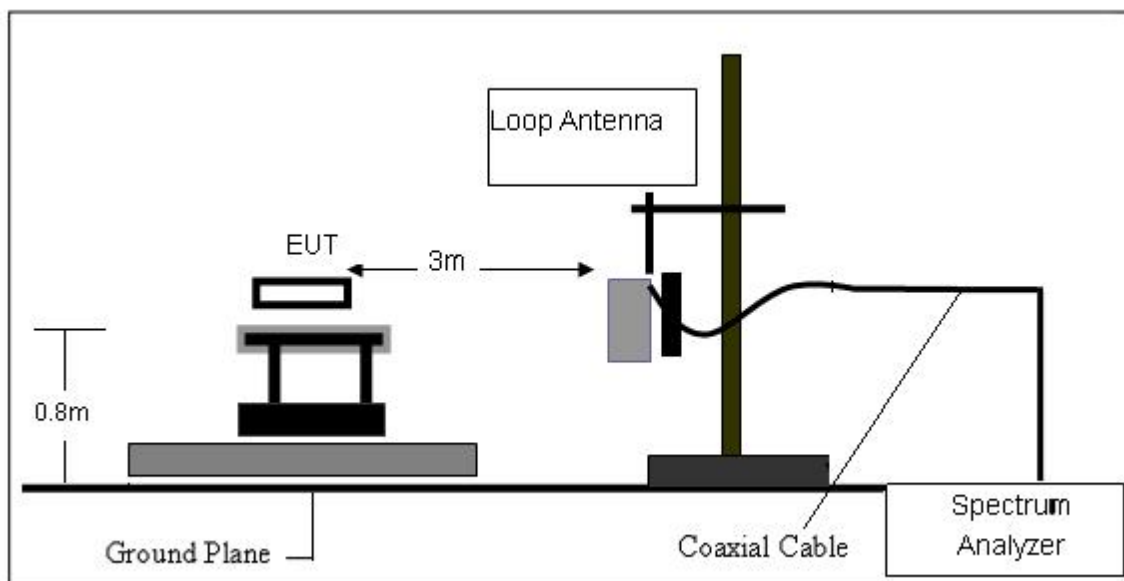
- The measuring distance of at 3 m shall be used for measurements at frequency 0.009MHz up to 1GHz, and above 1GHz.
- The EUT was placed on the top of a rotating table 0.8 meters (above 1GHz is 1.5 m) above the ground at a 3 meter anechoic chamber test site. The table was rotated 360 degrees to determine the position of the highest radiation.
- 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 polarizations of the antenna are set to make the measurement.
- 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 then QuasiPeak detector mode re-measured.
- If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.
- For the actual test configuration, please refer to the related Item –EUT Test Photos.

Note:

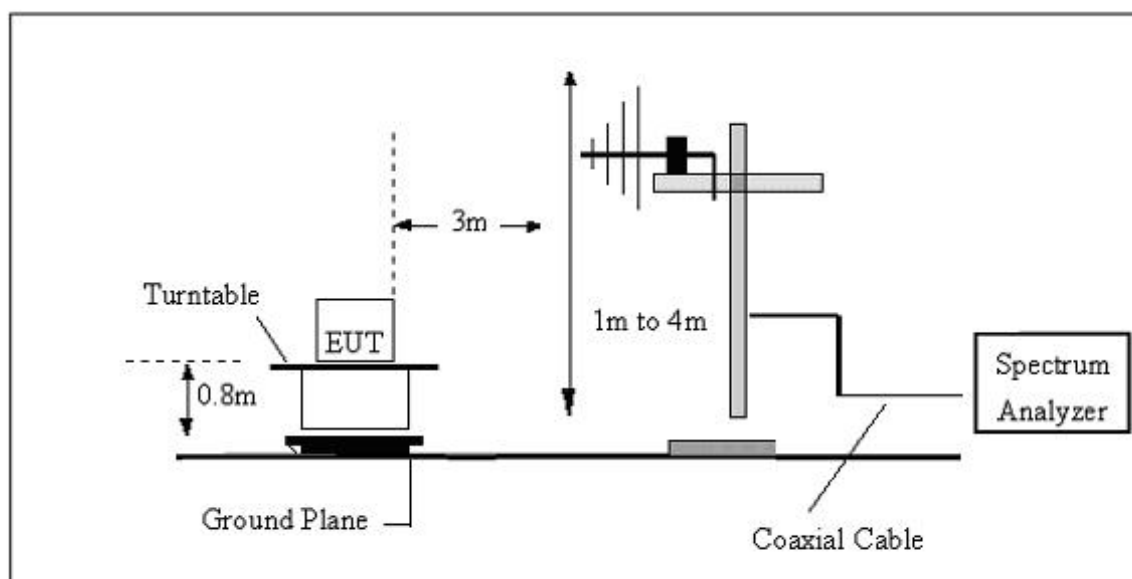
Both horizontal and vertical antenna polarities were tested and performed pretest to three orthogonal axis. The worst case emissions were reported

7.3 TESTSETUP

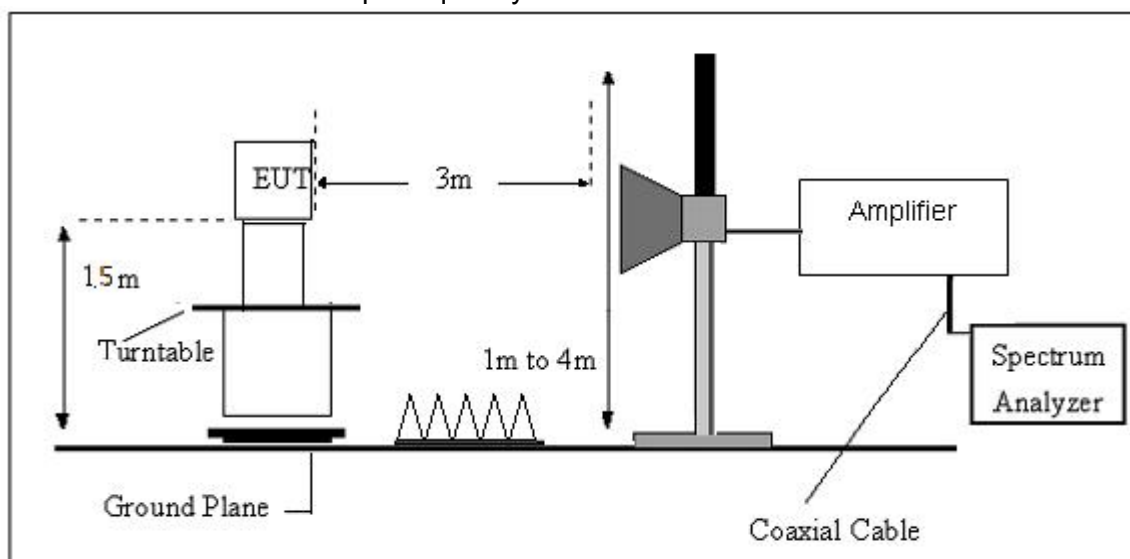
(A) Radiated Emission Test-Up Frequency Below 30MHz



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



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



7.4. TEST RESULTS

(9KHz-30MHz)

Temperature:	22.7°C	Relative Humidity:	61%
Test Voltage:	DC 48V	Test Mode:	GFSK

Freq.	Reading	Limit	Margin	State	Test Result
(MHz)	(dBuV/m)	(dBuV/m)	(dB)	P/F	
--	--	--	--	--	PASS
--	--	--	--	--	PASS

Note:

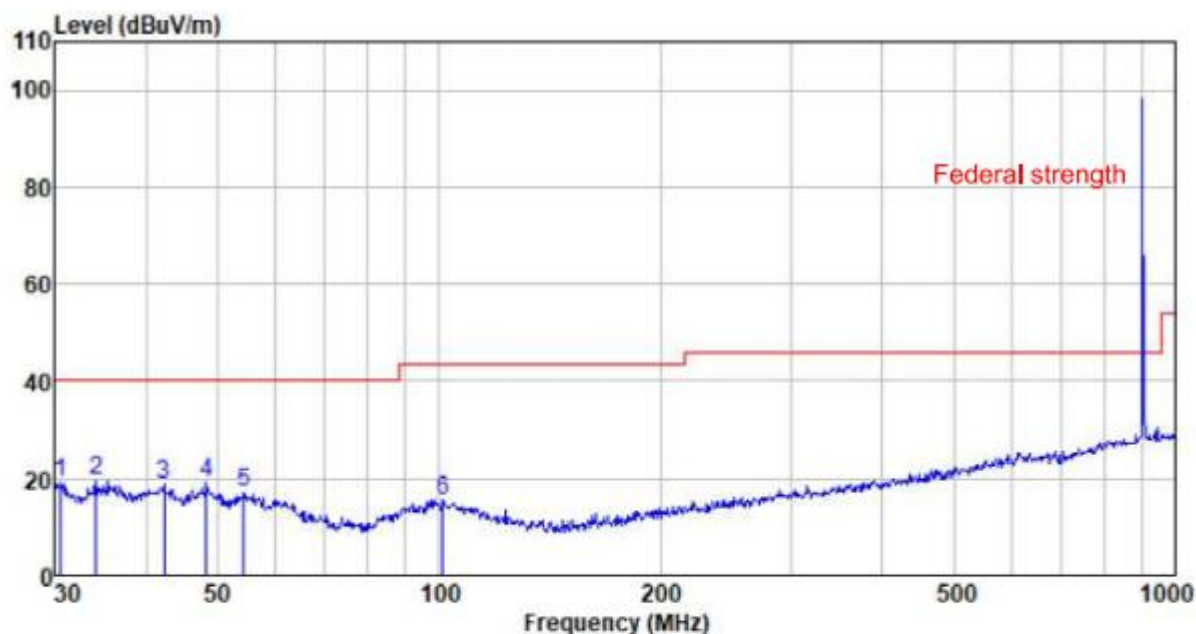
The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

Distance extrapolation factor = $40 \log (\text{specific distance/test distance})$ (dB);

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

30MHz-1GMHz

Temperature:	24.7°C	Relative Humidity:	61%
Test Voltage:	DC 48V	Phase:	Horizontal
Test Mode:	GFSK/923.5MHz		



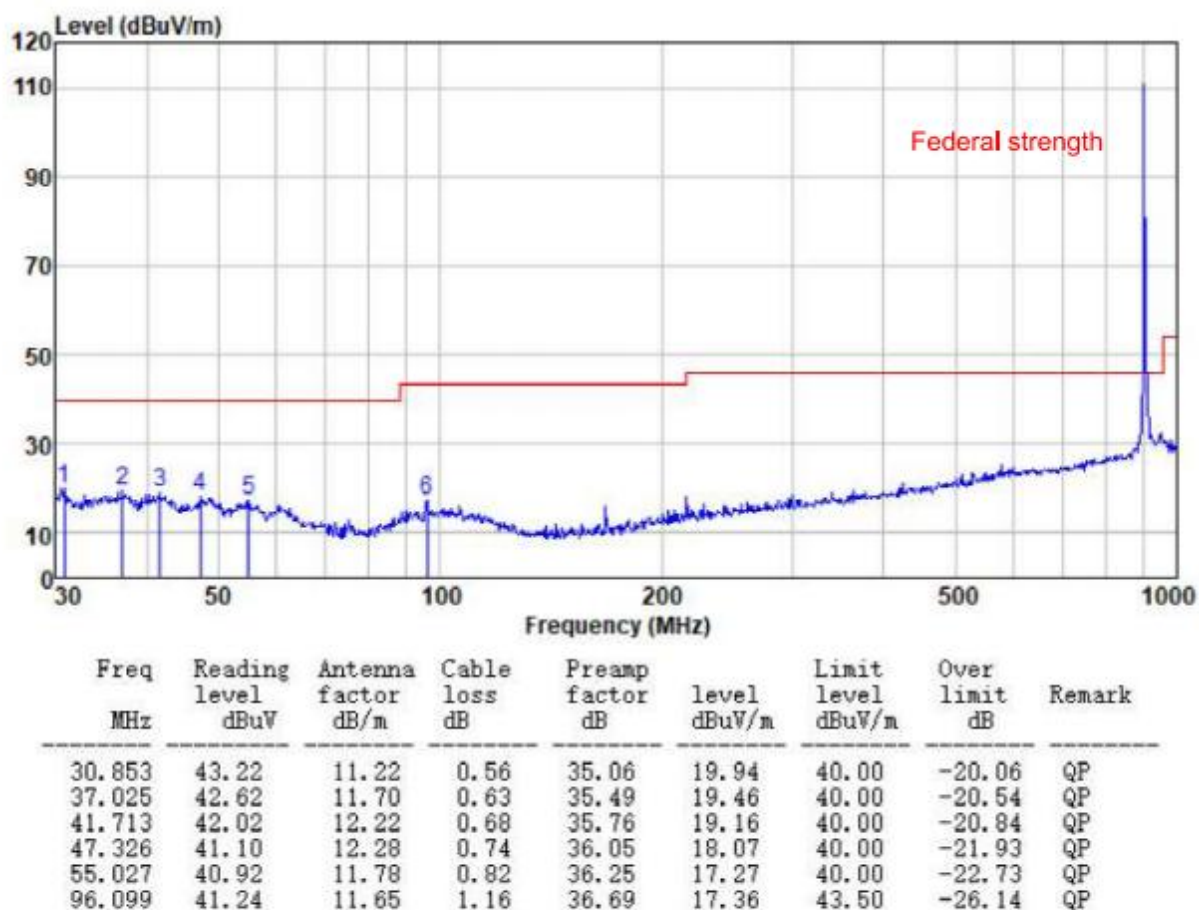
Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
30.638	42.39	11.22	0.56	35.05	19.12	40.00	-20.88	QP
34.156	42.73	11.28	0.60	35.30	19.31	40.00	-20.69	QP
42.302	41.53	12.23	0.69	35.79	18.66	40.00	-21.34	QP
48.332	41.95	12.29	0.75	36.10	18.89	40.00	-21.11	QP
54.261	40.51	11.85	0.81	36.24	16.93	40.00	-23.07	QP
101.289	38.99	12.04	1.20	36.73	15.50	43.50	-28.00	QP

Note: 1. Margin = Result (Result =Reading + Factor)-Limit

2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.

3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.

Temperature:	24.7°C	Relative Humidity:	61%
Test Voltage:	DC 48V	Phase:	Vertical
Test Mode:	GFSK/923.5MHz		

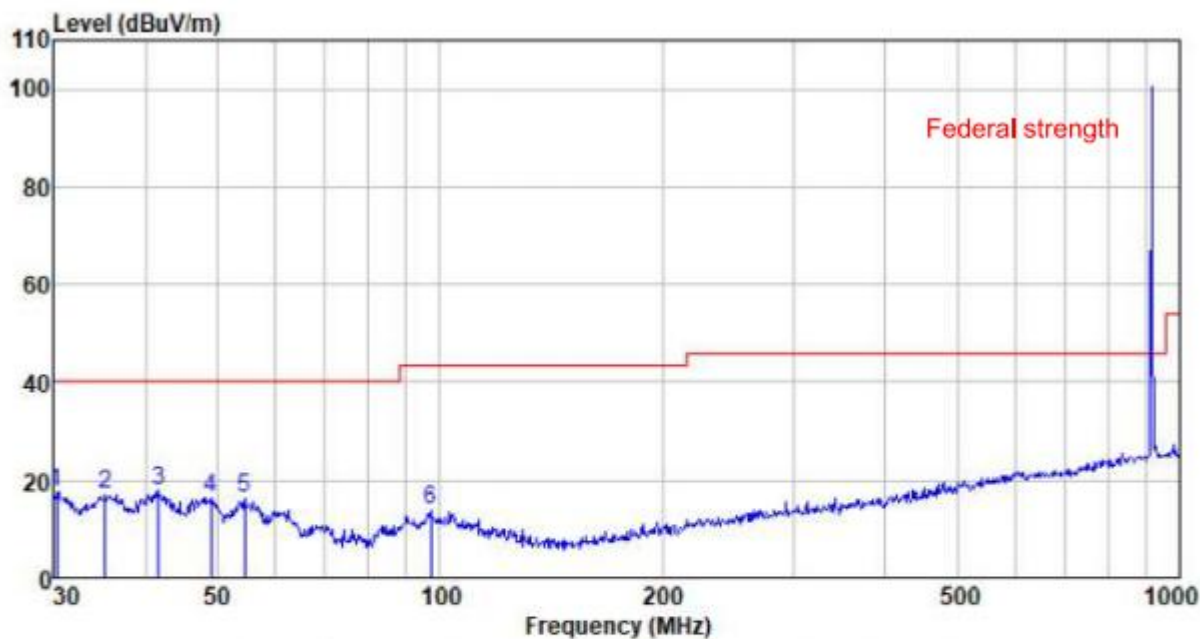


Note: 1. Margin = Result (Result = Reading + Factor) – Limit

2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.

3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.

Temperature:	24.7°C	Relative Humidity:	61%
Test Voltage:	DC 48V	Phase:	Horizontal
Test Mode:	GFSK/925.1MHz		



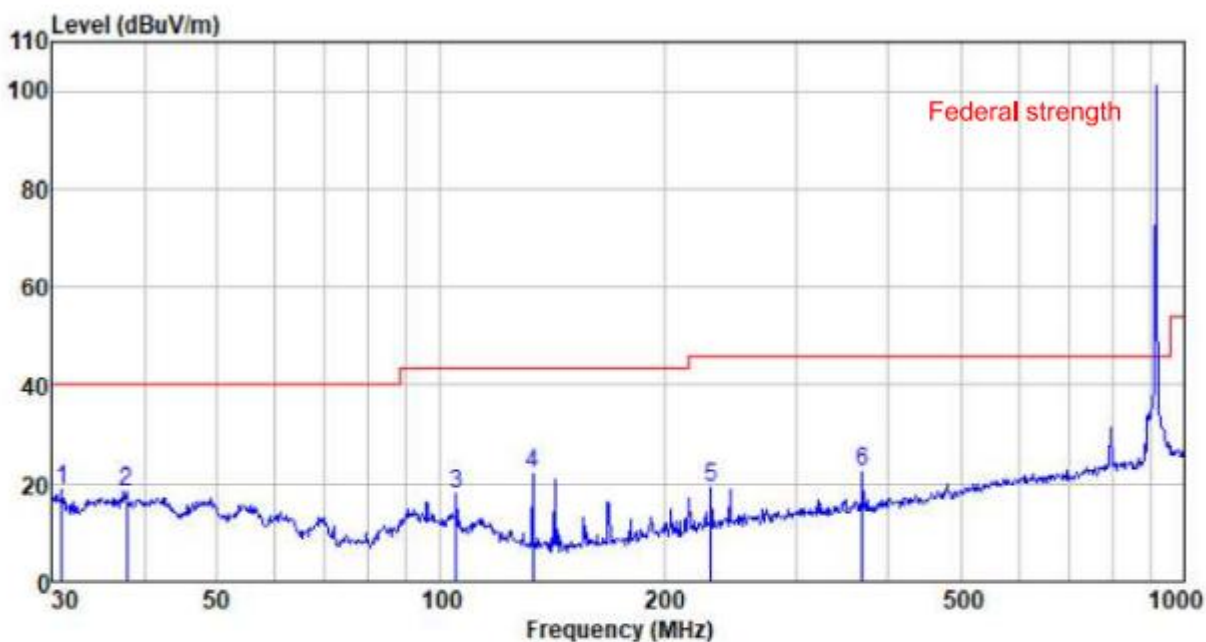
Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
30.317	40.83	11.21	0.55	35.02	17.57	40.00	-22.43	QP
35.251	40.31	11.36	0.61	35.37	16.91	40.00	-23.09	QP
41.713	40.62	12.22	0.68	35.76	17.76	40.00	-22.24	QP
49.014	39.22	12.29	0.76	36.13	16.14	40.00	-23.86	QP
54.452	39.64	11.85	0.81	36.25	16.05	40.00	-23.95	QP
97.115	37.38	11.79	1.17	36.70	13.64	43.50	-29.86	QP

Note: 1. Margin = Result (Result = Reading + Factor)-Limit

2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.

3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.

Temperature:	24.7°C	Relative Humidity:	61%
Test Voltage:	DC 48V	Phase:	Vertical
Test Mode:	GFSK/925.1MHz		



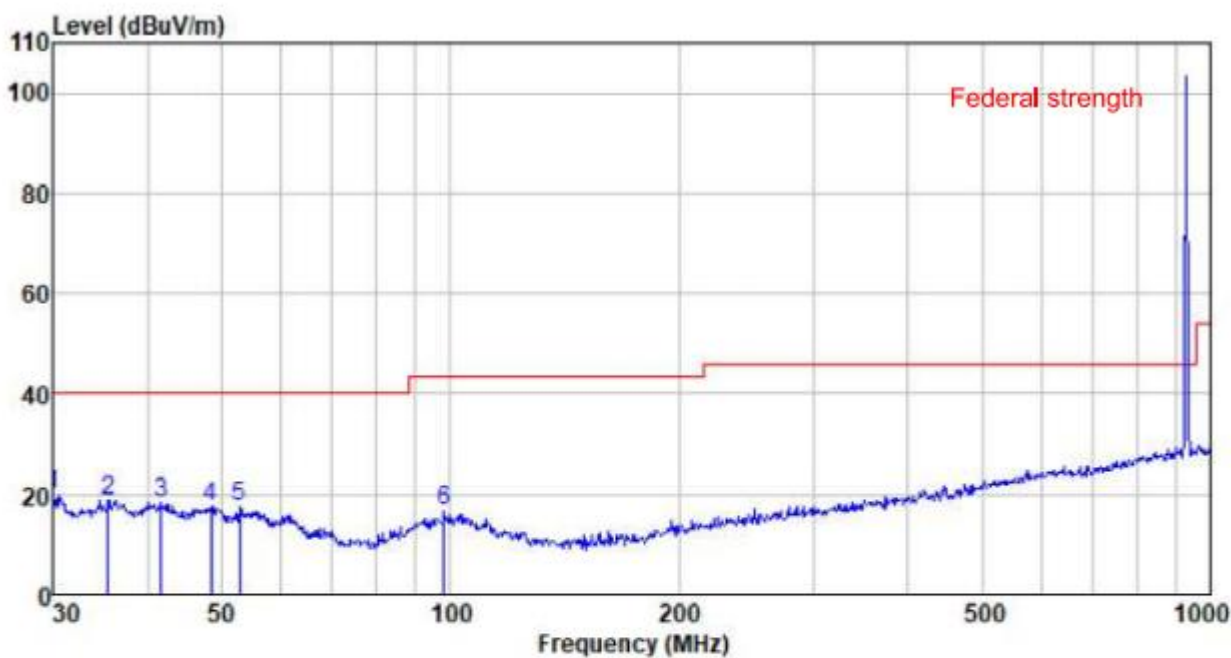
Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
30.962	41.87	11.22	0.56	35.07	18.58	40.00	-21.42	QP
37.812	41.15	11.83	0.64	35.53	18.09	40.00	-21.91	QP
104.903	41.86	11.62	1.23	36.76	17.95	43.50	-25.55	QP
133.151	49.60	7.92	1.46	36.97	22.01	43.50	-21.49	QP
230.907	42.85	11.53	2.02	37.36	19.04	46.00	-26.96	QP
369.405	42.26	14.83	2.72	37.49	22.32	46.00	-23.68	QP

Note: 1. Margin = Result (Result =Reading + Factor)–Limit

2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.

3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.

Temperature:	24.7°C	Relative Humidity:	61%
Test Voltage:	DC 48V	Phase:	Horizontal
Test Mode:	GFSK/927.5MHz		



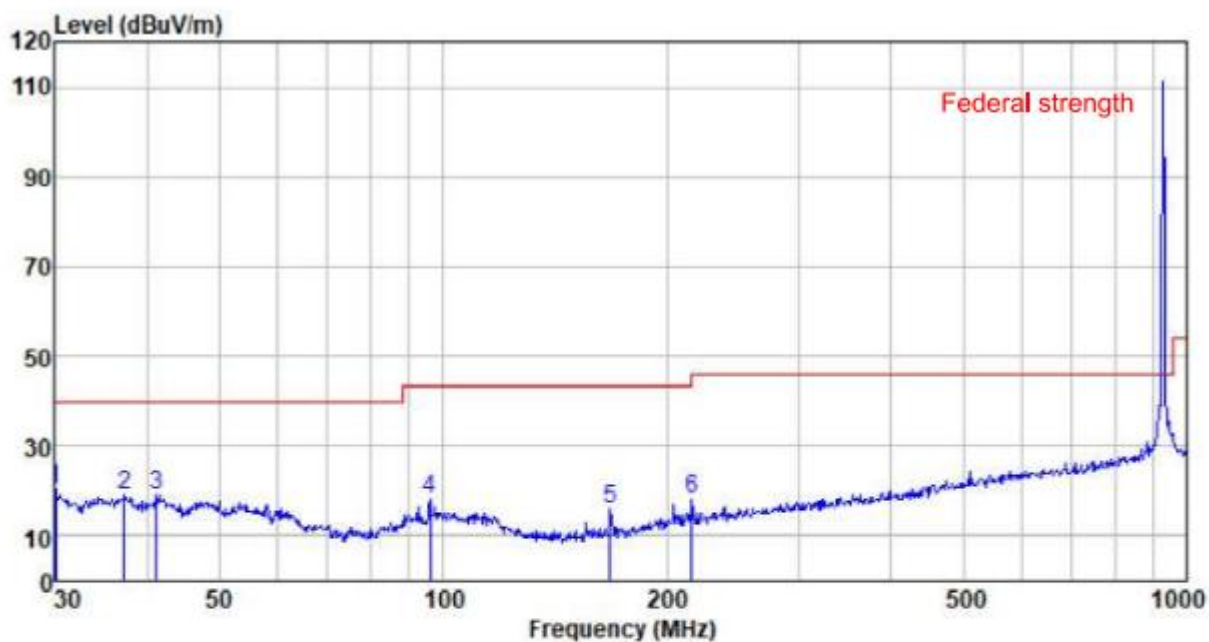
Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
30.000	43.16	11.20	0.55	35.00	19.91	40.00	-20.09	QP
35.499	41.96	11.42	0.61	35.39	18.60	40.00	-21.40	QP
41.713	41.10	12.22	0.68	35.76	18.24	40.00	-21.76	QP
48.502	40.63	12.29	0.76	36.11	17.57	40.00	-22.43	QP
52.760	40.81	12.00	0.80	36.22	17.39	40.00	-22.61	QP
98.142	40.25	11.93	1.18	36.71	16.65	43.50	-26.85	QP

Note: 1. Margin = Result (Result =Reading + Factor)–Limit

2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.

3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.

Temperature:	24.7°C	Relative Humidity:	61%
Test Voltage:	DC 48V	Phase:	Vertical
Test Mode:	GFSK/927.5MHz		



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
30.105	43.49	11.20	0.55	35.01	20.23	40.00	-19.77	QP
37.285	42.11	11.73	0.63	35.50	18.97	40.00	-21.03	QP
41.132	42.01	12.21	0.67	35.73	19.16	40.00	-20.84	QP
96.099	41.92	11.65	1.16	36.69	18.04	43.50	-25.46	QP
167.824	43.01	8.46	1.67	37.18	15.96	43.50	-27.54	QP
216.024	42.57	11.02	1.93	37.35	18.17	46.00	-27.83	QP

Note: 1. Margin = Result (Result =Reading + Factor)–Limit

2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.

3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.

■ Above 1GHz

For 1 GHz to 10GHz

For 923.50MHz

Horizontal

Frequency (MHz)	ivieier Reading (dBuV)	Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
1847.0	58.42	-9.12	49.30	74	-24.70	peak
1847.0	42.58	-9.12	33.46	54	-20.54	AVG
2770.5	61.37	-8.86	52.51	74	-21.49	peak
2770.5	49.49	-8.86	40.63	54	-13.37	AVG
3694.0	57.36	-4.09	53.27	74	-20.73	peak
3694.0	43.68	-4.06	39.62	54	-14.38	AVG
Remark: Factor = Antenna Factor + Cable Loss — Pre-amplifier.						

Vertical

Frequency (MHz)	ivieier Reading (dBuV)	Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
1847.0	59.83	-9.12	50.71	74	-23.29	peak
1847.0	43.97	-9.12	34.85	54	-19.15	AVG
2770.5	63.39	-8.86	54.53	74	-19.47	peak
2770.5	48.45	-8.86	39.59	54	-14.41	AVG
3694.0	58.75	-4.09	54.66	74	-19.34	peak
3694.0	42.39	-4.06	38.33	54	-15.67	AVG
Remark: Factor = Antenna Factor + Cable Loss — Pre-amplifier.						

For 925.10MHz

Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
1850.2	58.74	-9.12	49.62	74	-24.38	peak
1850.2	44.07	-9.12	34.95	54	-19.05	AVG
2775.3	66.25	-8.8	57.45	74	-16.55	peak
2775.3	48.34	-8.8	39.54	54	-14.46	AVG
3700.4	57.10	-4.07	53.03	74	-20.97	peak
3700.4	43.28	-4.07	39.21	54	-14.79	AVG
Remark: Factor = Antenna Factor + Cable Loss — Pre-amplifier.						

Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
1850.2	60.23	-9.12	51.11	74	-22.89	peak
1850.2	45.57	-9.12	36.45	54	-17.55	AVG
2775.3	62.28	-8.8	53.48	74	-20.52	peak
2775.3	46.80	-8.8	38.00	54	-16.00	AVG
3700.4	60.14	-4.07	56.07	74	-17.93	peak
3700.4	43.55	-4.07	39.48	54	-14.52	AVG
Remark: Factor = Antenna Factor + Cable Loss — Pre-amplifier.						

For 927.50MHz

Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBpV)	(dB)	(dB μ V/m)	(dBpV/m)	(dB)	
1855.0	58.42	-9.12	49.30	74	-24.70	peak
1855.0	43.72	-9.12	34.60	54	-19.40	AVG
2782.5	62.63	-8.75	53.88	74	-20.12	peak
2782.5	47.89	-8.75	39.14	54	-14.86	AVG
3710.0	58.31	-4.03	54.28	74	-19.72	peak
3710.0	42.81	-4.03	38.78	54	-15.22	AVG

Remark: Factor = Antenna Factor + Cable Loss — Pre-amplifier.

Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBpV)	(dB)	(dB μ V/m)	(dB μ V/m)	(dB)	
1855.0	58.84	-9.12	49.72	74	-24.28	peak
1855.0	45.72	-9.12	36.60	54	-17.40	AVG
2782.5	62.61	-8.75	53.86	74	-20.14	peak
2782.5	46.58	-8.75	37.83	54	-16.17	AVG
3710.0	55.43	-4.03	51.40	74	-22.60	peak
3710.0	41.33	-4.03	37.3	54	-16.7	AVG

Remark: Factor = Antenna Factor + Cable Loss — Pre-amplifier.

Radiated Band Edge data

Remark: All restriction band have been tested, and only the worst case is shown in report

Low

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Polarity
1	921.1600	23.36	-0.41	22.95	46	-23.05	QP	Horizontal
2	922.0000	32.61	-0.40	32.21	46	-13.79	QP	Horizontal
3	923.5000	56.93	-0.39	56.54	/	/	QP	Horizontal
4	921.1600	23.24	-0.41	22.83	46	-23.17	QP	Vertical
5	922.0000	32.58	-0.40	32.18	46	-13.82	QP	Vertical
6	923.5000	56.64	-0.39	56.25	/	/	QP	Vertical

High

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Polarity
1	927.5000	22.65	-0.40	22.25	46	-23.75	QP	Horizontal
2	928.0000	33.26	-0.39	32.87	46	-13.13	QP	Horizontal
3	928.3000	57.29	-0.39	56.90	/	/	QP	Horizontal
4	927.5000	22.96	-0.40	22.56	46	-23.44	QP	Vertical
5	928.0000	33.61	-0.39	32.22	46	-13.78	QP	Vertical
6	928.3000	56.95	-0.39	56.56	/	/	QP	Vertical

8. ANTENNA REQUIREMENT

8.1 STANDARD REQUIREMENT

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.

8.2 RESULT

The antennas used for this product are external antenna and no antenna other than that furnished by the responsible party shall be used with the device, the maximum peak gain of the transmit antenna is 1.0dBi.

XXXXXXXXEND OF THE REPORTXXXXXX