

Project No: TM-2504000190P
Report No.: TMWK2504001540KR

FCC ID: EZS7617VA
IC: 1513A-7617VA

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Rev.: 00

RADIO TEST REPORT

FCC 47 CFR PART 15 SUBPART C

INDUSTRY CANADA RSS-247

Test Standard	FCC Part 15.247 IC RSS-247 issue 3 and IC RSS-GEN issue 5
Product name	Transmitter
Brand Name	VIPER
Model No.	7617V
Test Result	Pass
Statements of Conformity	Determination of compliance is based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

The test Result was tested by Compliance Certification Services Inc. The test data, data evaluation, test procedures, and equipment configurations shown in this report were given in ANSI C63.10: 2013 and compliance standards.

The test results of this report relate only to the tested sample (EUT) identified in this report.

The test Report of full or partial shall not copy. Without written approval of Compliance Certification Services Inc.(Wugu Laboratory)

Approved by:

Sehni, Hu

Sehni Hu
Supervisor

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

除非另有說明，此報告結果僅對測試之樣品負責，同時此樣品僅保留90天。本報告未經本公司書面許可，不可部份複製。

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Revision History

Rev.	Issue Date	Revisions	Effect Page	Revised By
00	June 26, 2025	Initial Issue	ALL	Peggy Tsai

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1. GENERAL INFORMATION

1.1 EUT INFORMATION

Applicant	FCC: Voxx Electronics Corporation 2365 Pontiac Road, Auburn Hills, Michigan, 48326, United States IC: Voxx Electronics 2365 Pontiac Road Auburn Hills MI 48326 USA(excluding The states of Alaska)
Manufacturer	NUTEK CORPORATION No.167, Lane 235, Bauchiau Rd., Xindian District, New Taipei City, 23145, Taiwan
Equipment	Transmitter
Model No.	7617V
Model Discrepancy	N/A
Trade Name	VIPER
Received Date	April 14, 2025
Date of Test	June 9 ~ 19, 2025
Power Operation	Power from Battery: DC 3V Panasonic / CR2032
H/W Version	DTYBA
S/W Version	NKY22
EUT Serial Number	001
HVIN	7617VA
PMN	7617V

Remark:

- For more details, please refer to the User's manual of the EUT.
- Disclaimer: Antenna information is provided by the applicant, test results of this report are applicable to the sample EUT received.

1.2 EUT CHANNEL INFORMATION

Frequency Range	907.095-923.835 Mhz
Modulation Type	FSK
Number of channels	25 Channels

Remark:

Refer as ANSI C63.10: 2013 clause 5.6.1 Table 4 and RSS-GEN Table 1 for test channels

Number of frequencies to be tested		
Frequency range in which device operates	Number of frequencies	Location in frequency range of operation
☐ 1 MHz or less	1	Middle
☐ 1 MHz to 10 MHz	2	1 near top and 1 near bottom
☒ More than 10 MHz	3	1 near top, 1 near middle, and 1 near bottom

1.3 ANTENNA INFORMATION

Antenna Type	☐ PIFA ☐ PCB ☐ Dipole ☒ Helical Spring Antenna
Antenna Brand / Model	Nutek / ESR40402
Antenna Gain	-1.21dBi

Notes:

1. The antenna(s) of the EUT are permanently attached and there are no provisions for connection to an external antenna. So the EUT complies with the requirements of §15.203 and RSS-GEN 6.8.

1.4 MEASUREMENT UNCERTAINTY

PARAMETER	UNCERTAINTY
AC Powerline Conducted Emission	+/- 2.21 dB
Channel Bandwidth	+/- 2.79 dB
RF output power (Power Meter + Power sensor)	+/- 0.24 dB
Power Spectral density	+/- 2.74 dB
Conducted Bandedge	+/- 2.74 dB
Conducted Spurious Emission	+/- 2.74 dB
Radiated Emission_9kHz-30MHz	+/- 3.492 dB
Radiated Emission_30MHz-200MHz	+/- 3.62 dB
Radiated Emission_200MHz-1GHz	+/- 3.899 dB
Radiated Emission_1GHz-6GHz	+/- 5.063 dB
Radiated Emission_6GHz-18GHz	+/- 5.122 dB
Radiated Emission_18GHz-26GHz	+/- 3.032 dB
Radiated Emission_26GHz-40GHz	+/- 3.271 dB

Remark:

- 1.This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2
2. ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report.

1.5 FACILITIES AND TEST LOCATION

All measurement facilities used to collect the measurement data are located at

☒ No.11, Wugong 6th Rd., Wugu Dist., New Taipei City, Taiwan.

CAB identifier: TW1309

Test site	Test Engineer	Remark
AC Conduction Room	-	Not applicable, because EUT not connect to AC Main Source direct.
Radiation	Tony Chao	-
RF Conducted	Jerry Chang	-

Remark: The lab has been recognized as the FCC accredited lab. under the KDB 974614 D01 and is listed in the FCC pubic Access Link (PAL) database, FCC Registration No. :444940, the FCC Designation No.:TW1309

1.6 INSTRUMENT CALIBRATION

Conducted FCC/IC/NCC (All)					
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due
PXA Signal Analyzer	Keysight	N9030B	MY62291089	2024-10-04	2025-10-03
Power Sensor	Anritsu	MA2411B	1911387	2024-08-30	2025-08-29
Power Sensor	Anritsu	MA2411B	1911386	2024-07-19	2025-07-18
Power Meter	Anritsu	ML2496A	2136002	2024-07-19	2025-07-18
DC Blocks	Marvelous Microwave	MVE6411	MVE-002	2024-08-08	2025-08-07
Software	Radio Test Software Ver. 21				

966A_Radiated					
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due
Signal Analyzer	KEYSIGHT	N9010A	MY52220817	2025-03-05	2026-03-04
Active Loop Antenna	COM-POWER	AL-130	121051	2025-02-18	2026-02-17
Thermo-Hygro Meter	HTC	HTC-1	HTC-D06	2025-05-26	2026-05-25
Bi-Log Antenna	Sunol Sciences	JB3	A030105	2024-07-12	2025-07-11
Preamplifier	EMEC	EM330	060609	2025-02-20	2026-02-19
Cable	Huber+Suhner	104PEA	20995+21000+182330	2024-08-07	2025-08-06
Horn Antenna	ETC	MCTD 1209	DRH13M02003	2024-12-20	2025-12-19
Preamplifier	HP	8449B	3008A00965	2024-12-18	2025-12-17
Cable	EMCI	EMC101G	221012+230205+250412	2025-04-24	2026-04-23
Band Reject Filter	Titan Microwave	T04N90292850 S01	24090402-3	2024-10-29	2025-10-28
Site Validation	CCS	966A	N/A	2024-08-03	2025-08-02
Turn Table	CCS	CC-T-1F	N/A	N.C.R	N.C.R
Controller	CCS	CC-C-1F	N/A	N.C.R	N.C.R
Antenna Tower	CCS	CC-A-1F	N/A	N.C.R	N.C.R
Software	e3 V9-210616c				

Remark:

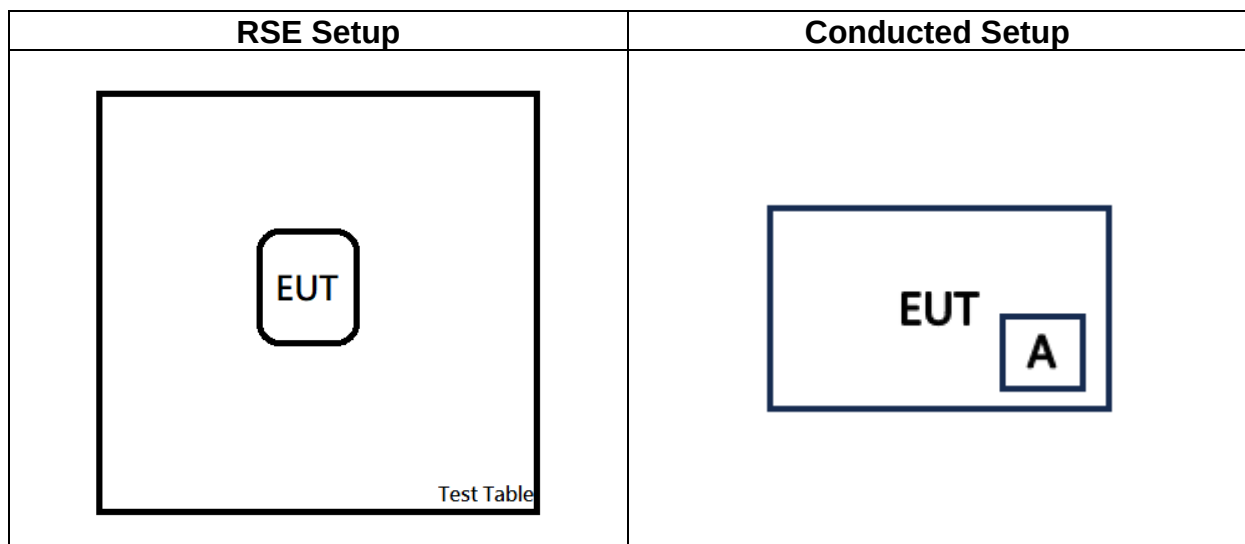
- Each piece of equipment is scheduled for calibration once a year.
- N.C.R. = No Calibration Required.

1.7 SUPPORT AND EUT ACCESSORIES EQUIPMENT

EUT Accessories Equipment					
No.	Equipment	Brand	Model	Series No.	FCC ID
	N/A				

Support Equipment					
No.	Equipment	Brand	Model	Series No.	FCC ID
A	Battery	Panasonic	CR2032	N/A	N/A

1.8 TEST SETUP DIAGRAM



1.9 TEST PROGRAM

This EUT uses push buttons, to set the frequency, modulation, and power to allow the sample to continuously transmit.

1.10 TEST METHODOLOGY AND APPLIED STANDARDS

The test methodology, setups and results comply with all requirements in accordance with ANSI C63.10:2013, FCC Part 2, FCC Part 15.247, KDB 558074, RSS-247 Issue 3 and RSS-GEN Issue 5.

2. TEST SUMMARY

FCC Standard Section	IC Standard Section	Report Section	Test Item	Result
15.203	RSS-GEN 6.8	1.3	Antenna Requirement	Pass
15.207(a)	RSS-GEN 8.8	4.1	AC Conducted Emission	N/A
15.247(a)(1)(i)	RSS-247(5.1)(c)	4.2	20 dB Bandwidth	Pass
-	RSS-GEN 6.7	4.2	Occupied Bandwidth (99%)	Pass
15.247(b)(2)	RSS-247(5.4)(a)	4.3	Output Power Measurement	Pass
15.247(a)(1)	RSS-247(5.1)(c)	4.4	Frequency Separation	Pass
15.247 (a)(1)(i)	RSS-247(5.1)(c)	4.5	Number of Hopping	Pass
15.247(d)	RSS-247(5.5)	4.6	Conducted Band Edge	Pass
15.247(d)	RSS-247(5.5)	4.6	Conducted Spurious Emission	Pass
15.247(a)(1)(i)	RSS-247(5.1)(c)	4.7	Time of Occupancy	Pass
15.247(d), 15.205(a), 15.209(a)	RSS-GEN 8.9,8.10 RSS-247 5.5	4.8	Radiation Band Edge	Pass
15.247(d), 15.205(a), 15.209(a)	RSS-GEN 8.9,8.10 RSS-247 5.5	4.8	Radiation Spurious Emission	Pass

3. DESCRIPTION OF TEST MODES

3.1 THE WORST MODE OF OPERATING CONDITION

Operation mode	FSK			
Test Channel Frequencies (MHz)	907.095 / 916.395 / 923.835			
Channel Frequency Table	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)
	0	907.095	13	917.015
	1	907.715	14	917.635
	2	908.335	15	918.255
	3	908.955	16	918.875
	4	909.575	17	919.495
	5	910.195	18	920.115
	6	910.815	19	920.735
	7	911.435	20	921.355
	8	912.055	21	921.975
	9	912.675	22	922.595
	10	913.295	23	923.215
	11	913.915	24	923.835
	12	916.395		

3.2 THE WORST MODE OF MEASUREMENT

Radiated Emission Measurement Above 1G	
Test Condition	Radiated Emission Above 1G
Power supply Mode	Mode 1: EUT power by Battery
Worst Mode	☒ Mode 1 ☐ Mode 2 ☐ Mode 3 ☐ Mode 4
Worst Position	☐ Placed in fixed position. ☒ Placed in fixed position at X-Plane (E2-Plane) ☐ Placed in fixed position at Y-Plane (E1-Plane) ☐ Placed in fixed position at Z-Plane (H-Plane)

Radiated Emission Measurement Below 1G	
Test Condition	Radiated Emission Below 1G
Power supply Mode	Mode 1: EUT power by Battery
Worst Mode	☒ Mode 1 ☐ Mode 2 ☐ Mode 3 ☐ Mode 4

Remark:

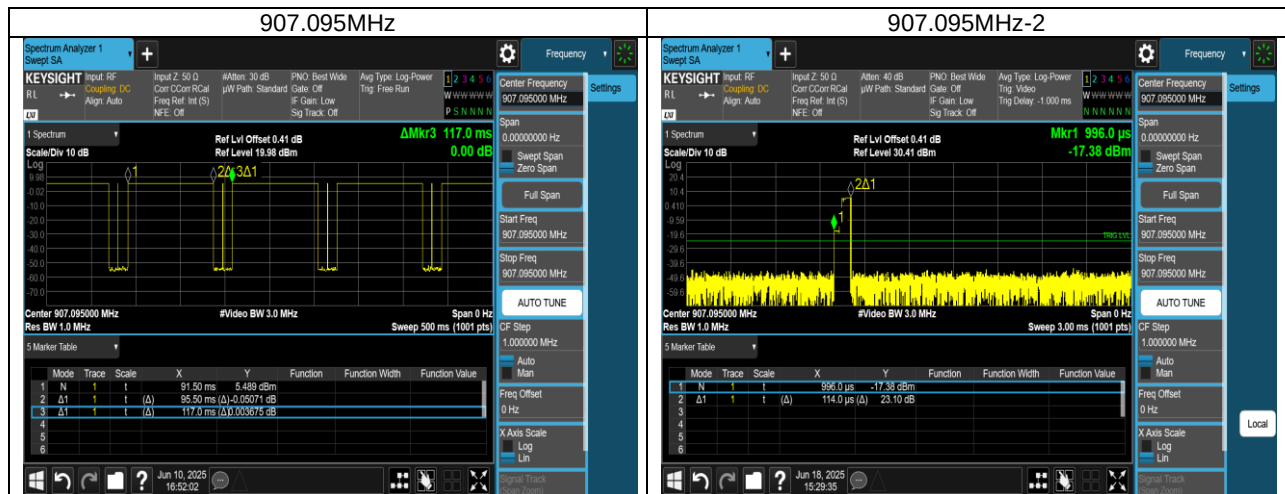
1. The worst mode was record in this test report.
2. EUT pre-scanned in three axis ,X,Y, Z and two polarity, for radiated measurement. The worst case(X-Plane) were recorded in this report

3.3 EUT DUTY CYCLE

Temperature: 22.3 ~ 25°C
Humidity: 52 ~ 64% RH

Test date: June 10 ~ 19, 2025
Tested by: Jerry Chang

Mode	Duty Cycle (%) = Ton / (Ton+Toff)	Duty Factor (dB) =10*log (1/Duty Cycle)	1/T (kHz)	VBW setting (kHz)
FSK	81.72	0.88	0.01	1.00



Note: $(95.5+0.114)/117*100= 81.72\%$

4. TEST RESULT

4.1 AC POWER LINE CONDUCTED EMISSION

4.1.1 Test Limit

According to §15.207(a) and RSS-GEN section 8.8,

Frequency Range (MHz)	Limits(dBμV)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56*	56 to 46*
0.50 to 5	56	46
5 to 30	60	50

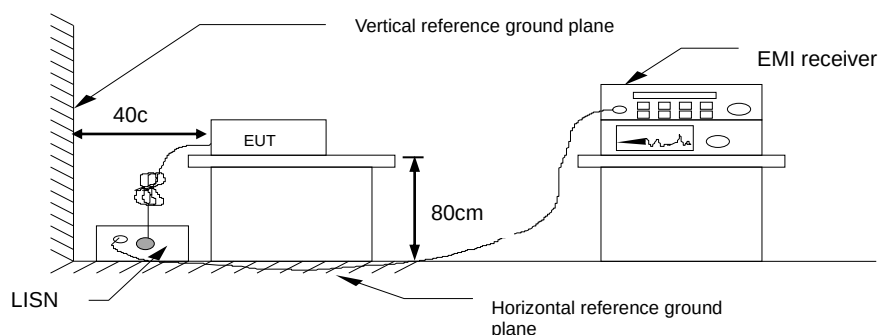
* Decreases with the logarithm of the frequency.

4.1.2 Test Procedure

Test method Refer as ANSI C63.10: 2013 clause 6.2,

1. The EUT was placed on a non-conducted table, which is 0.8m above horizontal ground plane and 0.4m above vertical ground plane.
2. EUT connected to the line impedance stabilization network (LISN)
3. Receiver set RBW of 9kHz and Detector Peak, and note as quasi-peak and average.
4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
5. Recorded Line for Neutral and Line.

4.1.3 Test Setup



4.1.4 Test Result

Not applicable, because EUT not connect to AC Main Source direct.

4.2 20dB BANDWIDTH AND OCCUPIED BANDWIDTH (99%)

4.2.1 Test Limit

According to §15.247(a)(1)(i), RSS-247 section 5.1.c and RSS-GEN 6.7,

20 dB Bandwidth : For reporting purposes only.

Occupied Bandwidth(99%) : For reporting purposes only.

Limit: $250\text{kHz} < \text{BW}_{20\text{dB}} \leq 500\text{kHz}$

4.2.2 Test Procedure

Test method Refer as ANSI C63.10: 2013 clause 7.8.7,

1. The EUT RF output connected to the spectrum analyzer by RF cable.
2. Setting maximum power transmit of EUT
3. SA set RBW = 10kHz, VBW = 30kHz and Detector = Peak, to measurement 20 dB Bandwidth and 99% Bandwidth.
4. Measure and record the result of 20 dB Bandwidth and 99% Bandwidth. in the test report.

4.2.3 Test Setup

Refer to section 1.8.

4.2.4 Test Result

Temperature: 22.3 ~ 25°C Test date: June 10 ~ 19, 2025
Humidity: 52 ~ 64% RH Tested by: Jerry Chang

20dB BANDWIDTH:

CH	20 dB BW (MHz)
907.095	0.2529
916.395	0.2544
923.835	0.2537

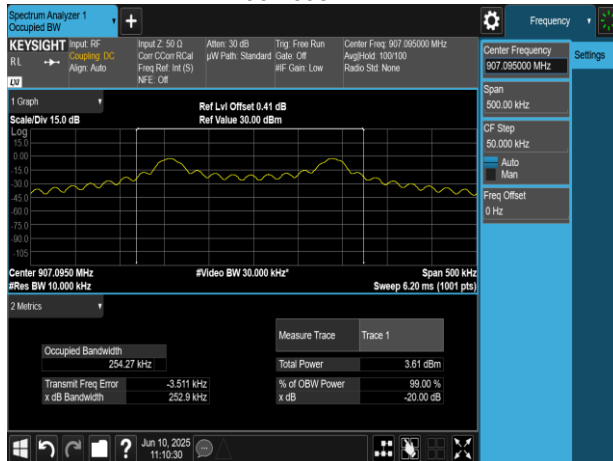
BANDWIDTH 99%

CH	99% BW (MHz)
907.095	0.25347
916.395	0.25855
923.835	0.26091

Test Data

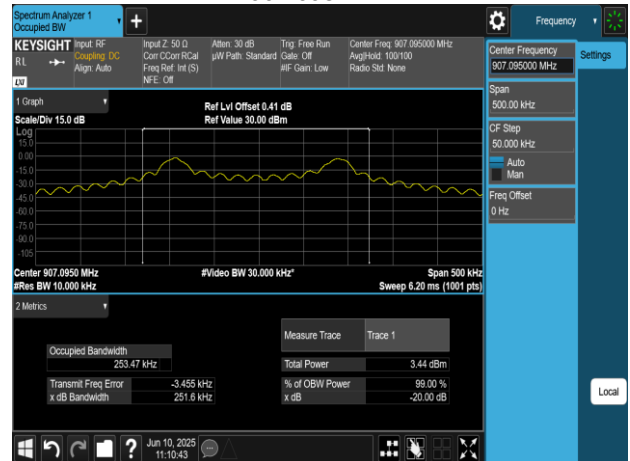
20dB BANDWIDTH

907.095MHz



BANDWIDTH 99%

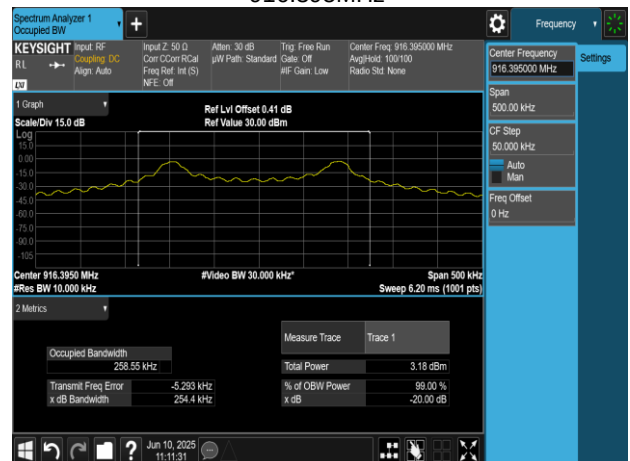
907.095MHz



916.395MHz



916.395MHz



923.835MHz



923.835MHz



4.3 OUTPUT POWER MEASUREMENT

4.3.1 Test Limit

According to §15.247(b),

For frequency hopping systems operating in the 902-928 MHz band: 1 watt for systems employing at least 50 hopping channels; and, 0.25 watts for systems employing less than 50 hopping channels, but at least 25 hopping channels, as permitted under paragraph (a)(1)(i) of this section.

According to RSS-247 section 5.4(a),

For FHSS operating in the band 902-928 MHz, the maximum peak conducted output power shall not exceed 1.0 W, and the e.i.r.p. shall not exceed 4 W if the hopset uses 50 or more hopping channels; the maximum peak conducted output power shall not exceed 0.25 W and the e.i.r.p. shall not exceed 1 W if the hopset uses less than 50 hopping channels.

Limit	☒ Antenna not exceed 6 dBi : 24dBm ☐ Antenna with DG greater than 6 dBi [Limit = 24 – (DG – 6)] ☐ Point-to-point operation
-------	---

4.3.2 Test Procedure

1. The EUT RF output connected to the power meter by RF cable.
2. Setting maximum power transmit of EUT.
3. The path loss was compensated to the results for each measurement.
4. Measure and record the result of Peak output power and Average output power. in the test report.

4.3.3 Test Setup

Refer to section 1.8.

4.3.4 Test Result

Temperature: 22.3 ~ 25°C **Test date:** June 10 ~ 19, 2025
Humidity: 52 ~ 64% RH **Tested by:** Jerry Chang

Peak & Average output power :

FSK mode (Peak):

Freq. (MHz)	Power Setting	Peak Output Power (dBm)	Output Power (mW)	Limit (mW)
907.095	default	5.22	3.327	250
916.395	default	5.21	3.319	250
923.835	default	5.01	3.170	250

**Note: Avg. output power has been calculated with duty factor.*

FSK mode (Average):

Freq. (MHz)	Power Setting	Avg. Output Power (dBm)	Output Power (mW)	Limit (mW)
907.095	default	5.19	3.304	250
916.395	default	5.17	3.289	250
923.835	default	4.97	3.141	250

EIRP Power:

FSK mode EIRP

Frequency (MHz)	Power Setting	Avg. Output Power (dBm)	Antenna Gain (dBi)	EIRP (mW)	Limit (mW)
907.095	default	5.19	-1.21	2.500	1000
916.395	default	5.17	-1.21	2.489	1000
923.835	default	4.97	-1.21	2.377	1000

** Note: EIRP = Average Power + Gain*

4.4 FREQUENCY SEPARATION

4.4.1 Test Limit

According to §15.247(a)(1) and RSS-247 section 5.1(c),

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

4.4.2 Test Procedure

1. Place the EUT on the table and set it in transmitting mode.
2. EUT RF output port connected to the SA by RF cable.
3. Set the spectrum analyzer as RBW = 200kHz, VBW = 620kHz, Sweep = auto.
Max hold, mark 2 peaks of hopping channel and record the 2 peaks frequency

4.4.3 Test Setup

Refer to section 1.8.

4.4.4 Test Result

Temperature: 22.3 ~ 25°C **Test date:** June 10 ~ 19, 2025
Humidity: 52 ~ 64% RH **Tested by:** Jerry Chang

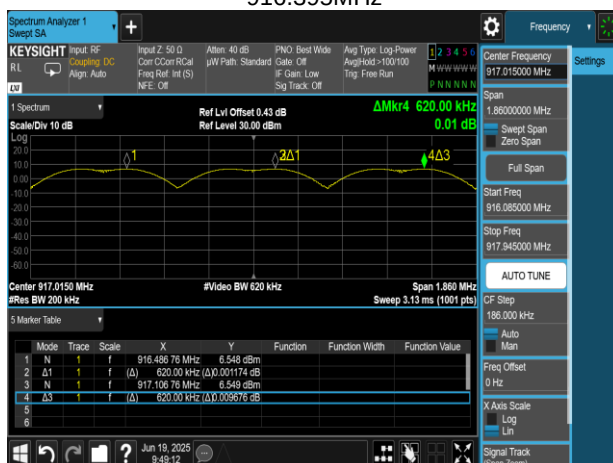
Test mode: FSK				
Channel	Frequency (MHz)	Channel Separation (MHz)	Channel Separation Limits (MHz)	Result
Low	907.095	0.620	0.2529	PASS
Mid	916.395	0.620	0.2544	PASS
High	923.835	0.620	0.2537	PASS

Test Data

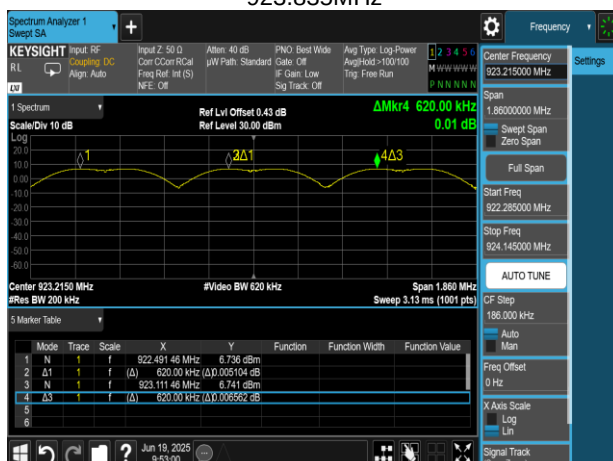
907.095MHz



916.395MHz



923.835MHz



4.5 NUMBER OF HOPPING

4.5.1 Test Limit

According to §15.247(a)(1) and RSS-247 section 5.1(c),
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. The maximum allowed 20 dB bandwidth of the hopping channel is 500 kHz.

Limit: $25 \leq N_{ch} < 50$

4.5.2 Test Procedure

Test method Refer as ANSI C63.10: 2013 clause 7.8.3

1. Place the EUT on the table and set it in transmitting mode.
2. EUT RF output port connected to the SA by RF cable.
3. Set spectrum analyzer Start Freq. = 905.16 MHz, Stop Freq. = 925.16 MHz, RBW = 180KHz, VBW = 560KHz.
4. Max hold, view and count how many channels in the band.

4.5.3 Test Setup

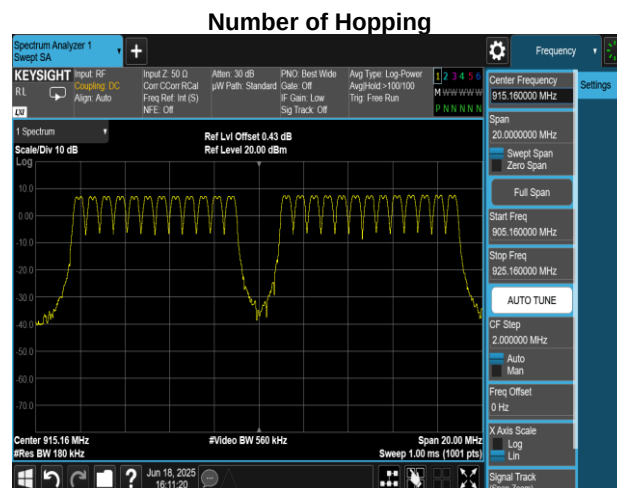
Refer to section 1.8.

4.5.4 Test Result

Temperature: 22.3 ~ 25°C **Test date:** June 10 ~ 19, 2025
Humidity: 52 ~ 64% RH **Tested by:** Jerry Chang

Number of Hopping				
Mode	Frequency (MHz)	Hopping Channel Number	Hopping Channel Number Limits	Result
Bluetooth	907.095-923.835	25	$25 \leq N_{ch} < 50$	Pass

Test Data



4.6 CONDUCTED BANDEDGE AND SPURIOUS EMISSION

4.6.1 Test Limit

According to §15.247(d) and RSS-247 section 5.5,

Limit	-20 dBc
-------	---------

4.6.2 Test Procedure

1. EUT RF output port connected to the SA by RF cable, and the path loss was compensated to result.
2. SA setting, RBW=100kHz, VBW=300kHz, Detector=Peak, Trace mode = max hold, SWT = Auto.
3. The Band Edge at 902 MHz and 928 MHz are investigated with both hopping "ON" and "OFF" modes ".

4.6.3 Test Procedure Setup

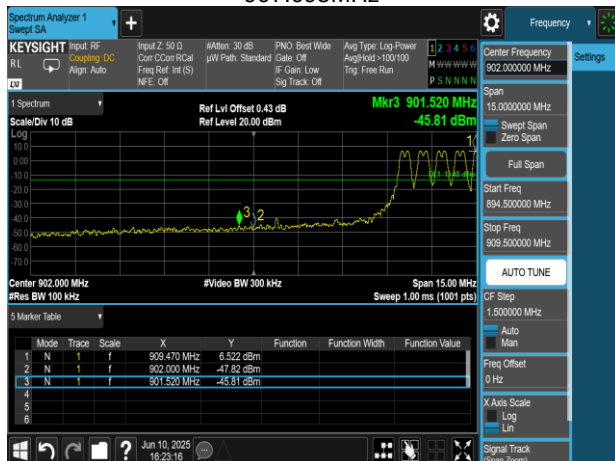
Refer to section 1.8.

4.6.4 Test Result

Temperature:	22.3 ~ 25°C	Test date:	June 10 ~ 19, 2025
Humidity:	52 ~ 64% RH	Tested by:	Jerry Chang

Test Data Hopping mode

907.095MHz

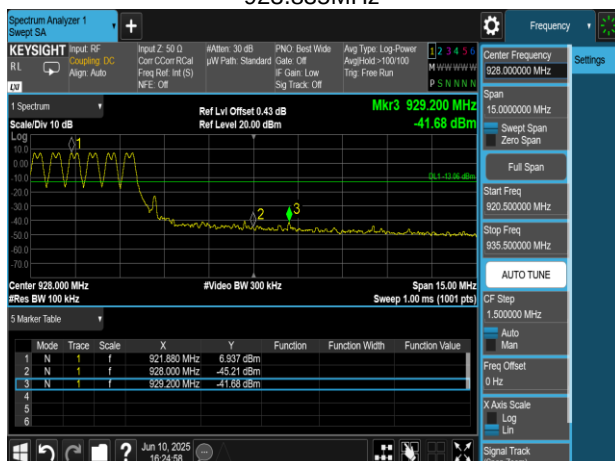


Non-hopping mode

907.095MHz



923.835MHz



923.835MHz



Spurious Emission

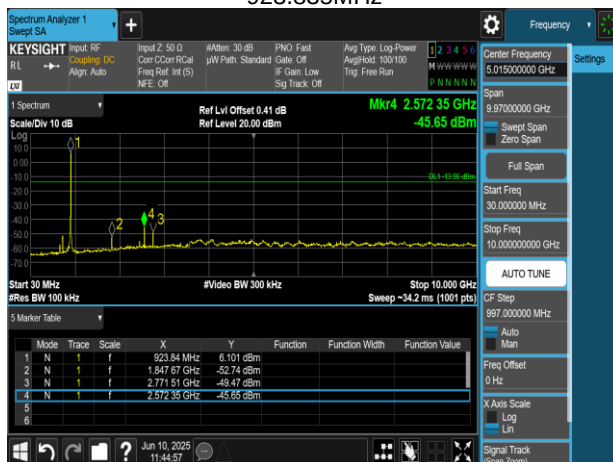
907.095MHz



916.395MHz



923.835MHz



4.7 TIME OF OCCUPANCY (DWELL TIME)

4.7.1 Test Limit

According to §15.247(a)(1) and RSS-247 section 5.1(c),

The average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 10 second period.

4.7.2 Test Procedure

1. EUT RF output port connected to the SA by RF cable.
2. Set center frequency of spectrum analyzer = operating frequency.
3. Set the spectrum analyzer as RBW=620kHz, VBW=3MHz, Sweep = 10s

4.7.3 Test Setup

Refer to section 1.8.

4.7.4 Test Result

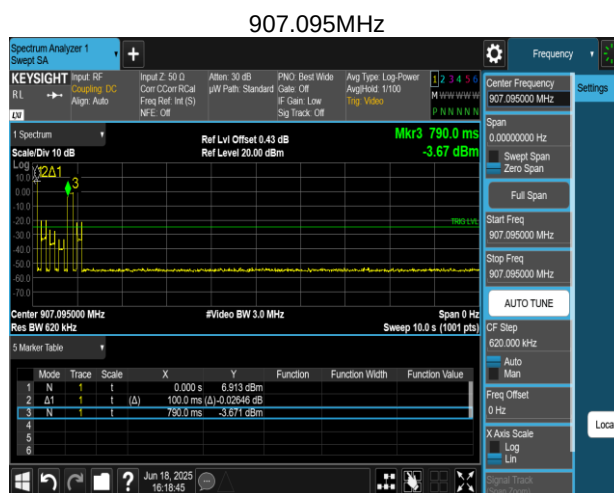
Temperature: 22.3 ~ 25°C Test date: June 10 ~ 19, 2025
Humidity: 52 ~ 64% RH Tested by: Jerry Chang

Channel	PACKET TYPE	Dwell time of each pulse (ms)	Number of pulses within period	Total dwell time within period (ms)	Limit (ms)
907.095	FSK	100.00	1	100	400

Note:

1. Measurement Period is 10 s.
2. Other signal strengths below [-3.671dBm] are adjacent channels and will not be recorded.

Test Data



4.8 RADIATION BANDEDGE AND SPURIOUS EMISSION

4.8.1 Test Limit

FCC according to §15.247(d), §15.209 and §15.205,

In any 100 kHz bandwidth outside the authorized frequency band, all harmonic and spurious must be least 20 dB below the highest emission level with the authorized frequency band. Radiation emission which fall in the restricted bands must also follow the FCC section 15.209 as below limit in table.

Below 30 MHz

Frequency	Field Strength (microvolts/m)	Magnetic H-Field (microamperes/m)	Measurement Distance (metres)
9-490 kHz	2,400/F (F in kHz)	2,400/F (F in kHz)	300
490-1,705 kHz	24,000/F (F in kHz)	24,000/F (F in kHz)	30
1.705-30 MHz	30	N/A	30

Above 30 MHz

Frequency (MHz)	Field Strength microvolts/m at 3 metres (watts, e.i.r.p.)	
	Transmitters	Receivers
30-88	100 (3 nW)	100 (3 nW)
88-216	150 (6.8 nW)	150 (6.8 nW)
216-960	200 (12 nW)	200 (12 nW)
Above 960	500 (75 nW)	500 (75 nW)

Remark:

Although these tests were performed other than open area test site, adequate comparison measurements were confirmed against 30 m open area test site. Therefore sufficient tests were made to demonstrate that the alternative site produces results that correlate with the ones of tests made in an open field based on KDB 414788.

IC according to RSS-247 section 5.5, RSS-Gen, Section 7.1, 8.9 and 8.10.

RSS-Gen Table 3 and Table 5 – General Field Strength Limits for Transmitters and Receivers at Frequencies Above 30 MHz (Note)

Frequency (MHz)	Field Strength microvolts/m at 3 metres (watts, e.i.r.p.)	
	Transmitters	Receivers
30-88	100 (3 nW)	100 (3 nW)
88-216	150 (6.8 nW)	150 (6.8 nW)
216-960	200 (12 nW)	200 (12 nW)
Above 960	500 (75 nW)	500 (75 nW)

Note: Measurements for compliance with the limits in table 3 may be performed at distances other than 3 metres, in accordance with Section 6.6.

RSS-Gen Table 6: General Field Strength Limits for Transmitters at Frequencies Below 30 MHz (Transmit)

Frequency	Magnetic field strength (H-Field) (μA/m)	Measurement Distance (m)
9-490 kHz ^{Note}	6.37/F (F in kHz)	300
490-1,705 kHz	63.7/F (F in kHz)	30
1.705-30 MHz	0.08	30

Note: The emission limits for the ranges 9-90 kHz and 110-490 kHz are based on measurements employing a linear average detector.

4.8.2 Test Procedure

1. The EUT is placed on a turntable, Above 1 GHz is 1.5m and below 1 GHz is 0.8m above ground plane. The EUT Configured un accordance with ANSI C63.10: 2013, and the EUT set in a continuous mode.
2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level. And EUT is set 3m away from the receiving antenna, which is scanned from 1m to 4m above the ground plane to find out the highest emissions. Measurement are made polarized in both the vertical and the horizontal positions with antenna.
3. Span shall wide enough to full capture the emission measured. The SA from 9kHz to 10GHz set to the low, Mid and High channels with the EUT transmit.
4. No emission found between lowest internal used/generated frequency to 30MHz (9KHz~30MHz).

Radiated emission below 30MHz is measured in a 9m*6m*6m semi-ane choic chamber, the measurements correspond to those obtained at an open-field test site. There is a comparison data of both open-field test site and semi-Anechoic chamber, and the result came out very similar.

5. The SA setting following :

- (1) Below 30MHz :

(1.1) 9KHz-490KHz : RBW=200Hz / VBW=1kHz / Sweep=AUTO

(1.2) 490KHz-30MHz : RBW=10kHz / VBW=30kHz / Sweep=AUTO

- (2) 30MHz to 1GHz : RBW = 100kHz, VBW $\geq 3 \times$ RBW, Sweep = Auto,

Detector = Peak, Trace = Max hold.

- (3) Above 1GHz :

(3.1) For Peak measurement : RBW = 1MHz, VBW $\geq 3 \times$ RBW, Sweep = Auto,

Detector = Peak, Trace = Max hold.

(3.2) For Average measurement : RBW = 1MHz, VBW

·If Duty Cycle $\geq 98\%$, VBW=10Hz.

·If Duty Cycle $< 98\%$, VBW=1/T.

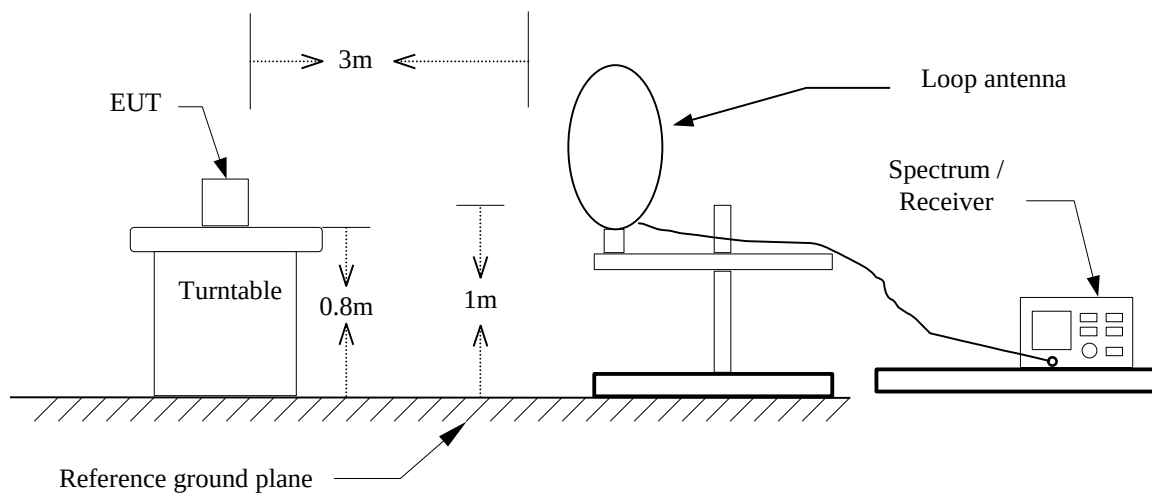
6. Data result

Actual FS=Spectrum Reading Level + Factor

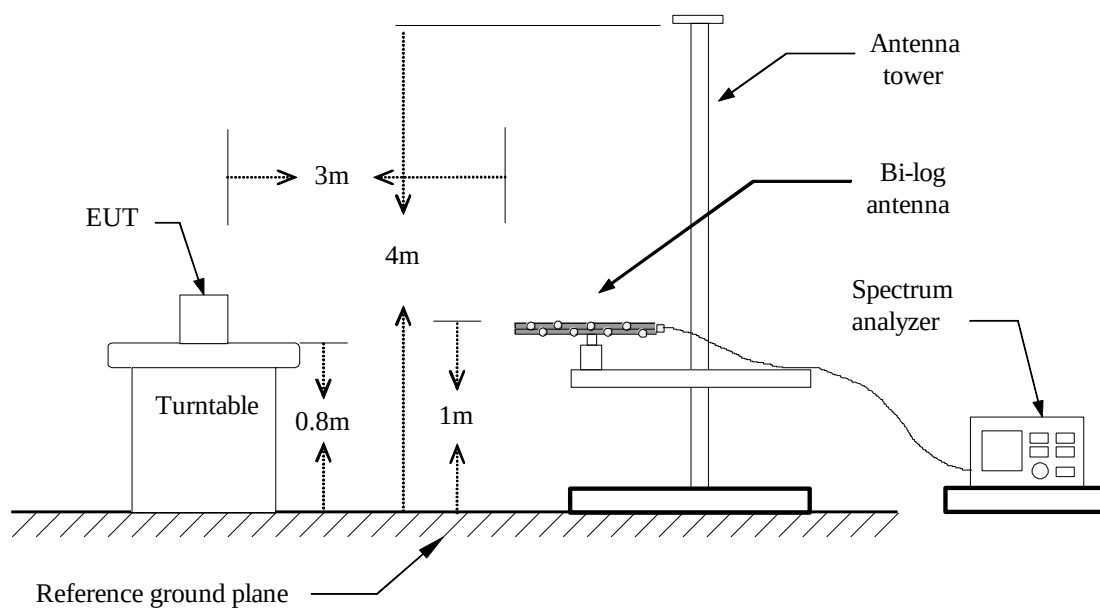
Margin=Actual FS- Limit

4.8.3 Test Setup

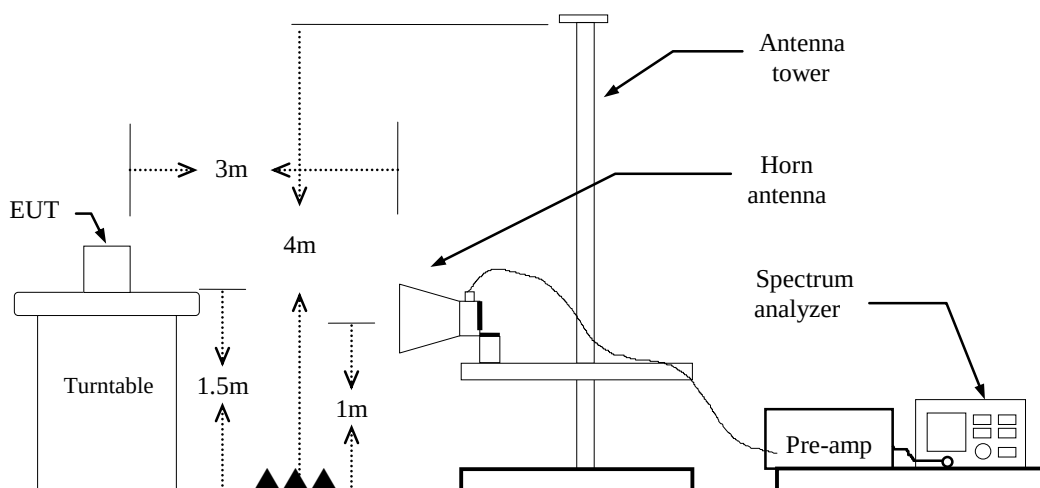
9kHz ~ 30MHz



30MHz ~ 1GHz



Above 1 GHz

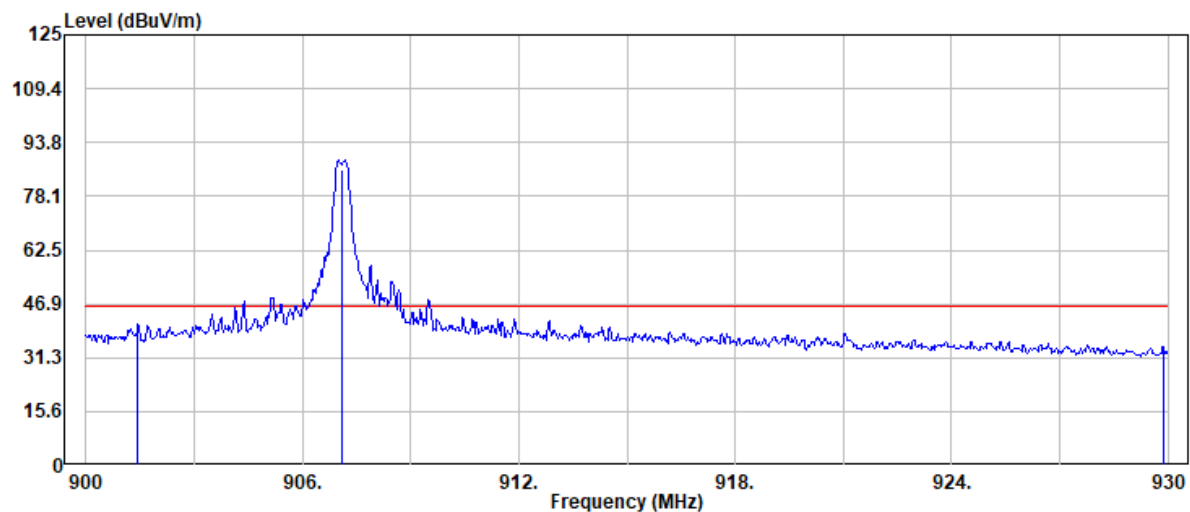


4.8.4 Test Result

Band Edge Test Data

Project No : TM-2504000190P
Operation Band : 900 MHz
Frequency : 907.095 MHz
Operation Mode : Bandedge
EUT Pol : E2
Setting :

Test Date : 2025-06-09
Temp./Humi. : 24.5/56
Antenna Pol. : VERTICAL
Engineer : Tony.Chao
Test Chamber : 966A



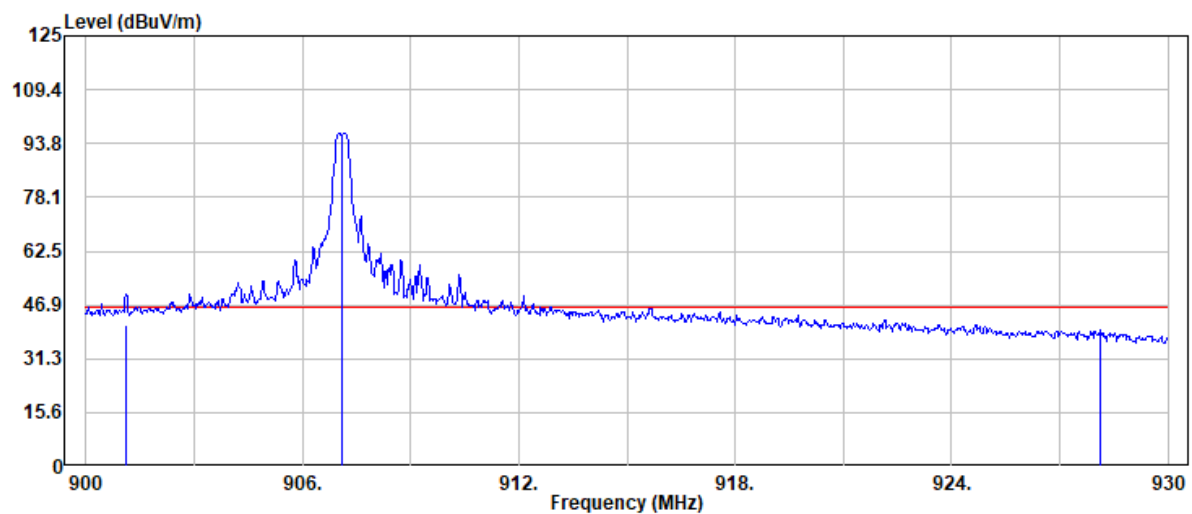
Freq	Read Level	Factor	Actual FS	Limit @3m	Margin	Detector Mode
-----	-----	-----	-----	-----	-----	-----
MHz	dBuV	dB	dBuV/m	dBuV/m	dB	PK/QP/AV
901.44	39.49	1.52	41.01	46.00	-4.99	Peak
907.10	84.45	1.53	85.98	--	--	QP
929.88	32.42	2.17	34.59	46.00	-11.41	Peak

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Rev.: 00

Project No : TM-2504000190P
Operation Band : 900 MHz
Frequency : 907.095 MHz
Operation Mode : Bandedge
EUT Pol : E2
Setting :

Test Date : 2025-06-09
Temp./Humi. : 24.5/56
Antenna Pol. : HORIZONTAL
Engineer : Tony.Chao
Test Chamber : 966A



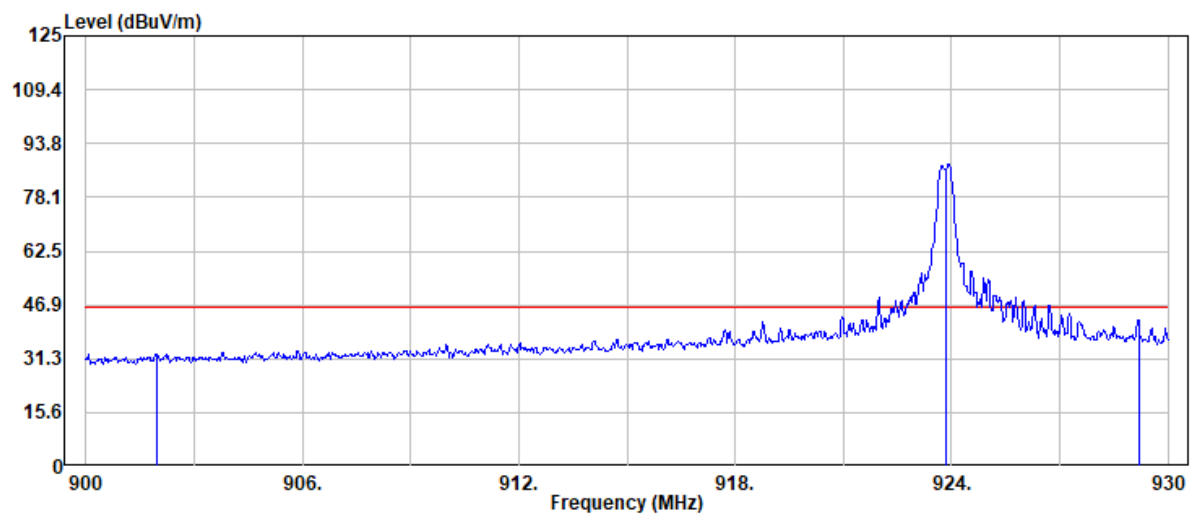
Freq	Read		Actual	Limit		Detector
-----	Level	Factor	FS	@3m	Margin	Mode
-----	-----	-----	-----	-----	-----	-----
MHz	dBuV	dB	dBuV/m	dBuV/m	dB	PK/QP/AV
901.11	39.36	1.51	40.87	46.00	-5.13	QP
907.10	93.85	1.53	95.38	--	--	QP
928.14	37.40	2.13	39.53	46.00	-6.47	Peak

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Project No : TM-2504000190P
Operation Band : 900 MHz
Frequency : 923.835 MHz
Operation Mode : Bandedge
EUT Pol : E2
Setting :

Test Date : 2025-06-09
Temp./Humi. : 24.5/56
Antenna Pol. : VERTICAL
Engineer : Tony.Chao
Test Chamber : 966A



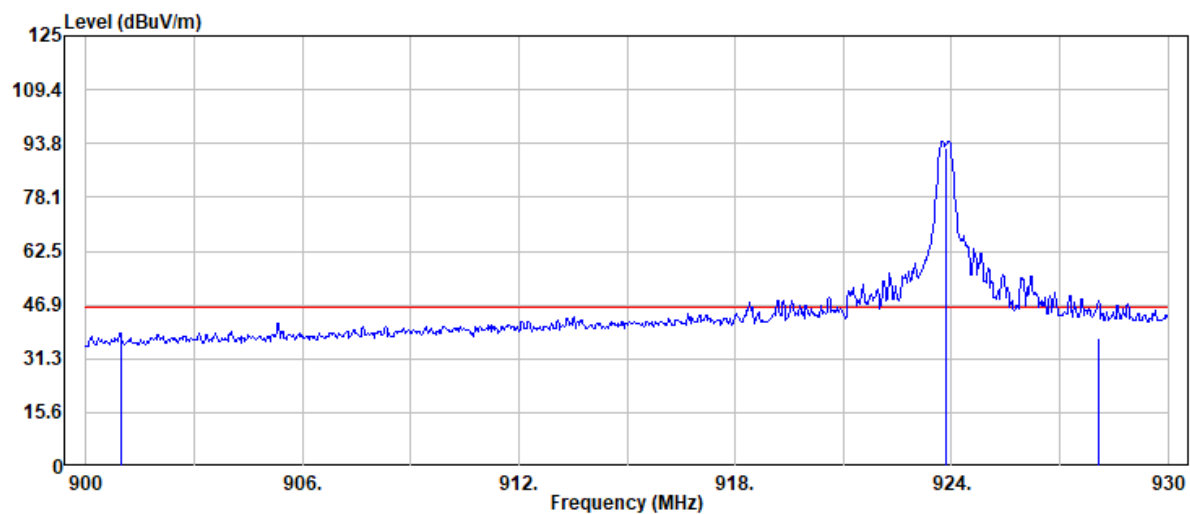
Freq	Read Level	Factor	Actual FS	Limit @3m	Margin	Detector Mode
-----	-----	-----	-----	-----	-----	-----
MHz	dBuV	dB	dBuV/m	dBuV/m	dB	PK/QP/AV
901.98	30.96	1.52	32.48	46.00	-13.52	Peak
923.84	83.73	1.99	85.72	--	--	QP
929.19	40.19	2.15	42.34	46.00	-3.66	Peak

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Report No.: TMWK2504001540KR

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Project No : TM-2504000190P
Operation Band : 900 MHz
Frequency : 923.835 MHz
Operation Mode : Bandedge
EUT Pol : E2
Setting :

Test Date : 2025-06-09
Temp./Humi. : 24.5/56
Antenna Pol. : HORIZONTAL
Engineer : Tony.Chao
Test Chamber : 966A

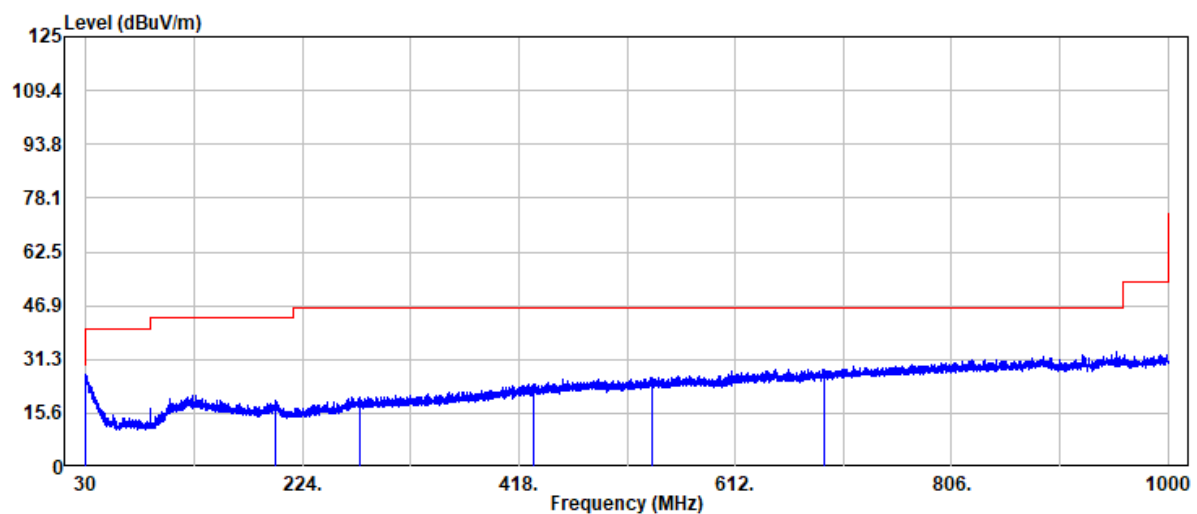


Freq	Read Level	Factor	Actual FS	Limit @3m	Margin	Detector Mode
-----	-----	-----	-----	-----	-----	-----
MHz	dBuV	dB	dBuV/m	dBuV/m	dB	PK/QP/AV
900.96	37.10	1.51	38.61	46.00	-7.39	Peak
923.84	90.30	1.99	92.29	--	--	QP
928.08	35.10	2.12	37.22	46.00	-8.78	QP

TX Test Data

Project No : TM-2504000190P
Operation Band : 900 MHz
Frequency : 907.095 MHz
Operation Mode : TX
EUT Pol : E2
Setting :

Test Date : 2025-06-09
Temp./Humi. : 24.5/56
Antenna Pol. : VERTICAL
Engineer : Tony.Chao
Test Chamber : 966A



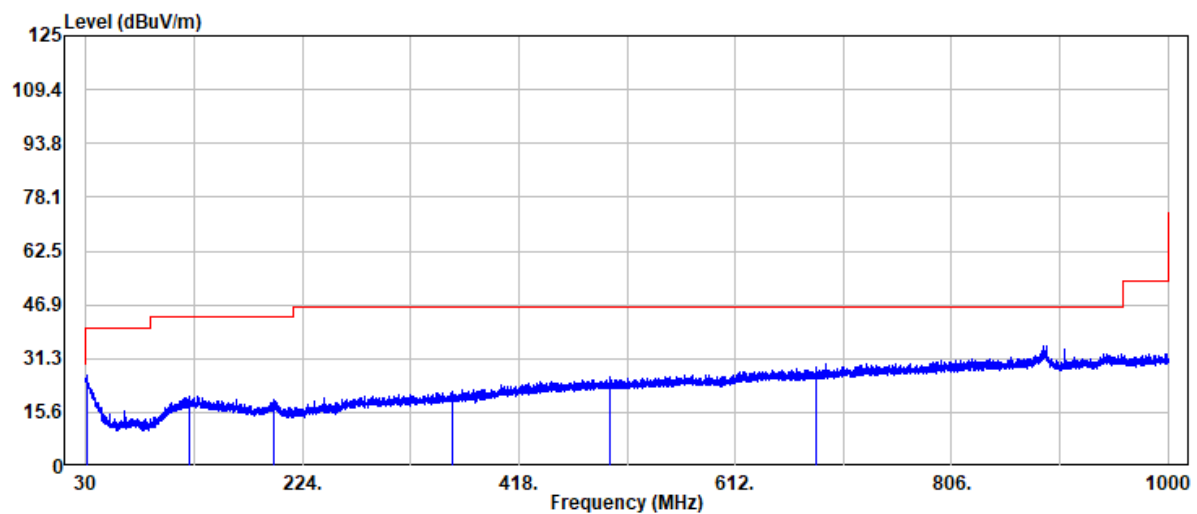
Freq	Read Level	Factor	Actual FS	Limit @3m	Margin	Detector Mode
-----	-----	-----	-----	-----	-----	-----
MHz	dBuV	dB	dBuV/m	dBuV/m	dB	PK/QP/AV
30.10	29.81	-2.86	26.95	40.00	-13.05	Peak
199.50	29.51	-10.28	19.23	43.50	-24.27	Peak
275.60	29.85	-9.60	20.25	46.00	-25.75	Peak
431.40	30.03	-5.88	24.15	46.00	-21.85	Peak
537.00	30.06	-3.93	26.13	46.00	-19.87	Peak
691.20	29.88	-1.36	28.52	46.00	-17.48	Peak

Project No: TM-2504000190P
Report No.: TMWK2504001540KR

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Project No : TM-2504000190P
Operation Band : 900 MHz
Frequency : 907.095 MHz
Operation Mode : TX
EUT Pol : E2
Setting :

Test Date : 2025-06-09
Temp./Humi. : 24.5/56
Antenna Pol. : HORIZONTAL
Engineer : Tony.Chao
Test Chamber : 966A



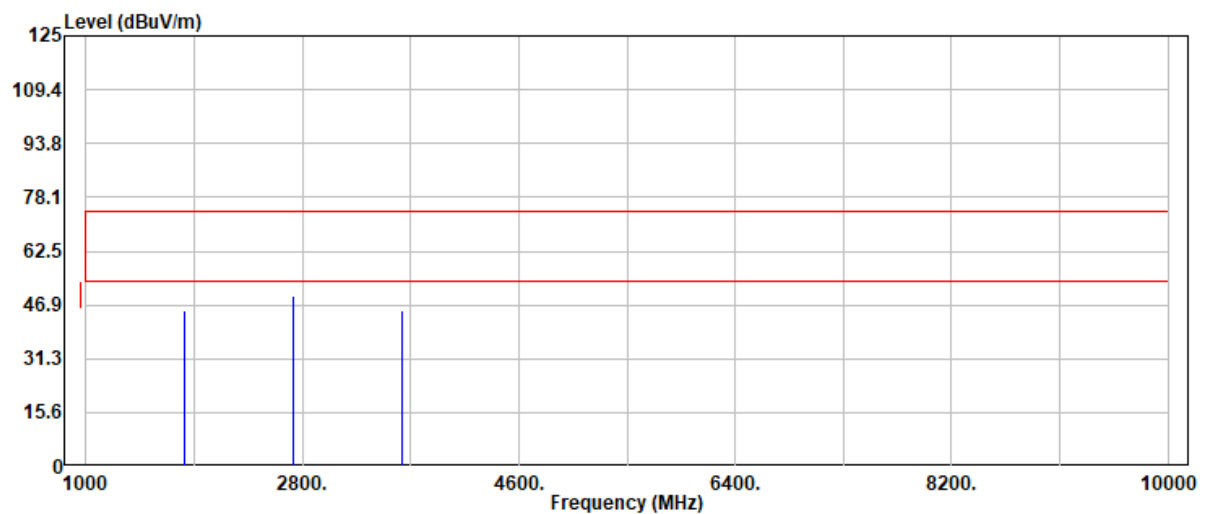
Freq	Read	Factor	Actual	Limit	Margin	Detector
-----	Level	-----	FS	@3m	-----	Mode
MHz	dBuV	dB	dBuV/m	dBuV/m	dB	PK/QP/AV
30.40	29.47	-3.13	26.34	40.00	-13.66	Peak
122.00	29.92	-9.67	20.25	43.50	-23.25	Peak
197.70	29.71	-10.58	19.13	43.50	-24.37	Peak
358.00	29.54	-8.06	21.48	46.00	-24.52	Peak
499.10	30.21	-4.46	25.75	46.00	-20.25	Peak
684.30	30.19	-1.48	28.71	46.00	-17.29	Peak

Project No: TM-2504000190P
Report No.: TMWK2504001540KR

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Project No : TM-2504000190P
Operation Band : 900 MHz
Frequency : 907.095 MHz
Operation Mode : TX
EUT Pol : E2
Setting :

Test Date : 2025-06-09
Temp./Humi. : 24.5/56
Antenna Pol. : VERTICAL
Engineer : Tony.Chao
Test Chamber : 966A



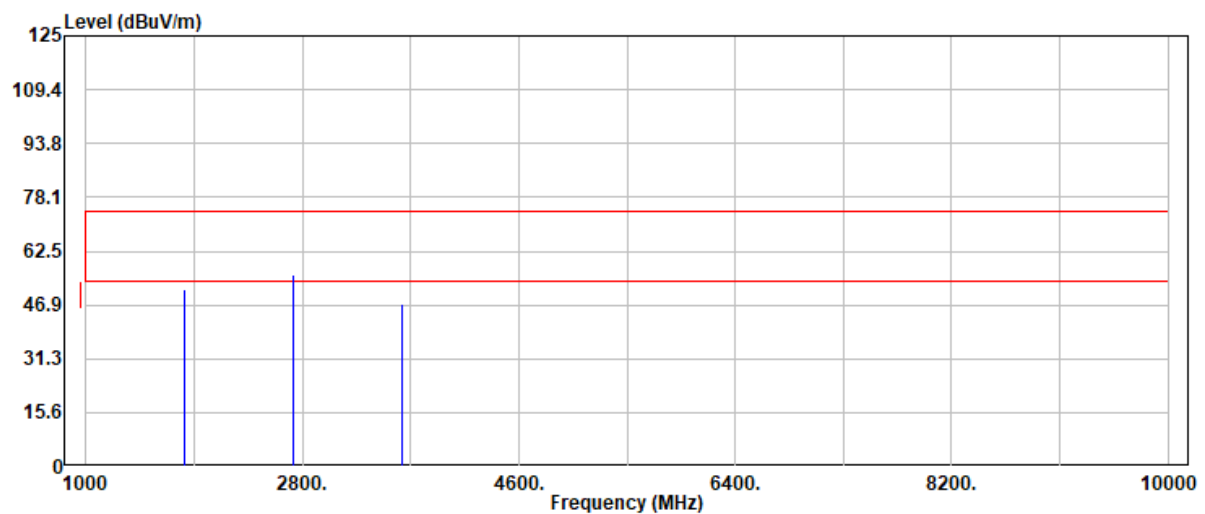
Freq	Read Level	Factor	Actual FS	Limit @3m	Margin	Detector Mode
-----	-----	-----	-----	-----	-----	-----
MHz	dBuV	dB	dBuV/m	dBuV/m	dB	PK/QP/AV
1814.19	51.00	-5.70	45.30	74.00	-28.70	Peak
1814.19	50.04	-5.70	44.34	54.00	-9.66	Average
2721.29	51.85	-2.38	49.47	74.00	-24.53	Peak
2721.29	51.13	-2.38	48.75	54.00	-5.25	Average
3628.38	45.85	-0.74	45.11	74.00	-28.89	Peak
3628.38	43.06	-0.74	42.32	54.00	-11.68	Average

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Project No : TM-2504000190P
Operation Band : 900 MHz
Frequency : 907.095 MHz
Operation Mode : TX
EUT Pol : E2
Setting :

Test Date : 2025-06-09
Temp./Humi. : 24.5/56
Antenna Pol. : HORIZONTAL
Engineer : Tony.Chao
Test Chamber : 966A



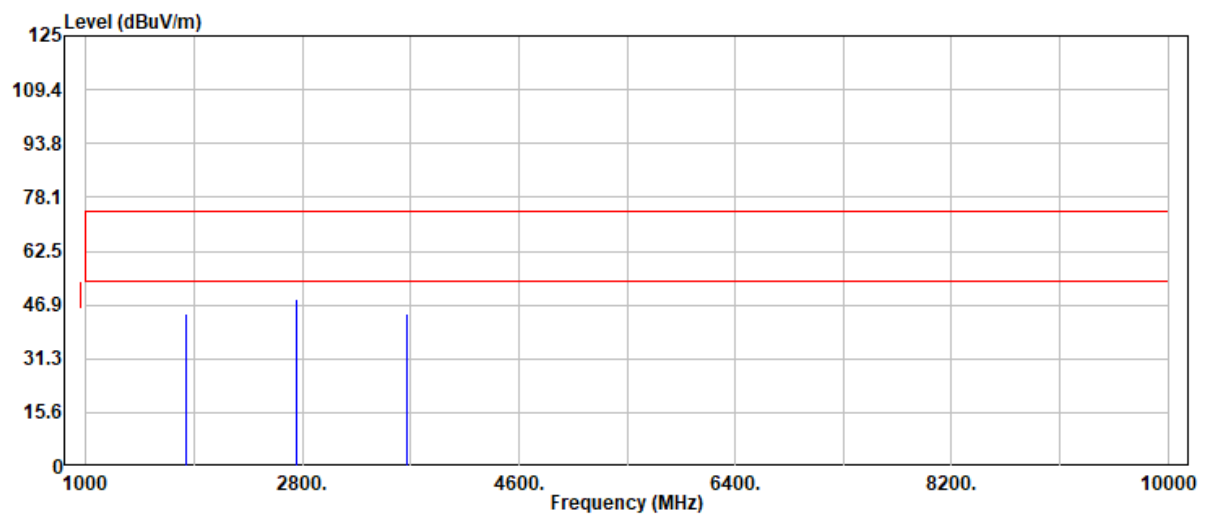
Freq	Read Level	Factor	Actual FS	Limit @3m	Margin	Detector Mode
-----	-----	-----	-----	-----	-----	-----
MHz	dBuV	dB	dBuV/m	dBuV/m	dB	PK/QP/AV
1814.19	57.30	-5.70	51.60	74.00	-22.40	Peak
1814.19	56.22	-5.70	50.52	54.00	-3.48	Average
2721.29	58.05	-2.38	55.67	74.00	-18.33	Peak
2721.29	54.90	-2.38	52.52	54.00	-1.48	Average
3628.38	47.79	-0.74	47.05	74.00	-26.95	Peak
3628.38	45.85	-0.74	45.11	54.00	-8.89	Average

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Project No : TM-2504000190P
Operation Band : 900 MHz
Frequency : 916.395 MHz
Operation Mode : TX
EUT Pol : E2
Setting :

Test Date : 2025-06-09
Temp./Humi. : 24.5/56
Antenna Pol. : VERTICAL
Engineer : Tony.Chao
Test Chamber : 966A



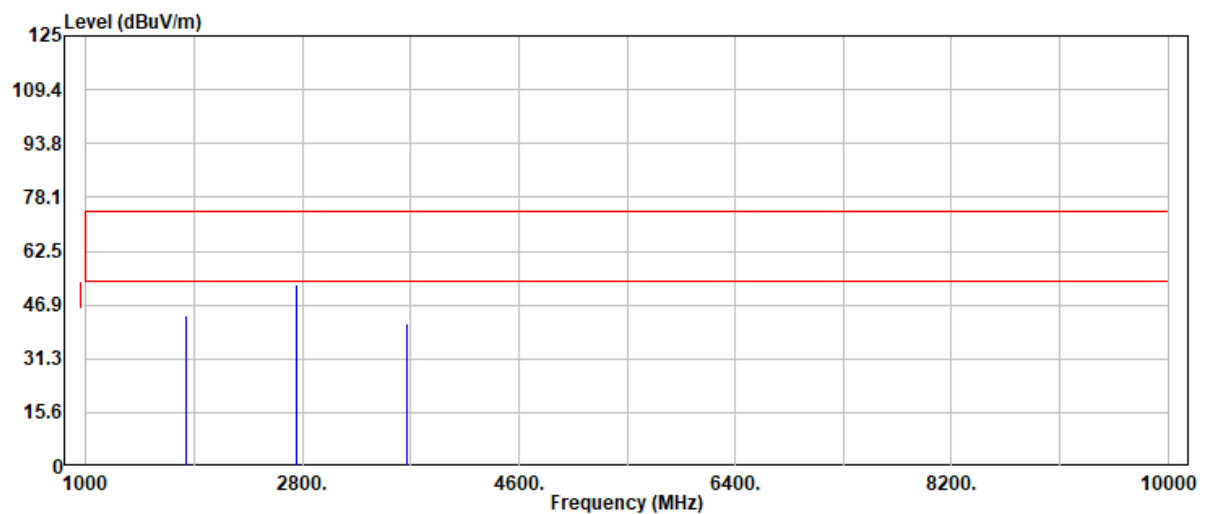
Freq	Read Level	Factor	Actual FS	Limit @3m	Margin	Detector Mode
-----	-----	-----	-----	-----	-----	-----
MHz	dBuV	dB	dBuV/m	dBuV/m	dB	PK/QP/AV
1832.79	49.78	-5.57	44.21	74.00	-29.79	Peak
1832.79	48.60	-5.57	43.03	54.00	-10.97	Average
2749.19	50.67	-2.29	48.38	74.00	-25.62	Peak
2749.19	48.77	-2.29	46.48	54.00	-7.52	Average
3665.58	44.86	-0.53	44.33	74.00	-29.67	Peak
3665.58	42.25	-0.53	41.72	54.00	-12.28	Average

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Project No : TM-2504000190P
Operation Band : 900 MHz
Frequency : 916.395 MHz
Operation Mode : TX
EUT Pol : E2
Setting :

Test Date : 2025-06-09
Temp./Humi. : 24.5/56
Antenna Pol. : HORIZONTAL
Engineer : Tony.Chao
Test Chamber : 966A



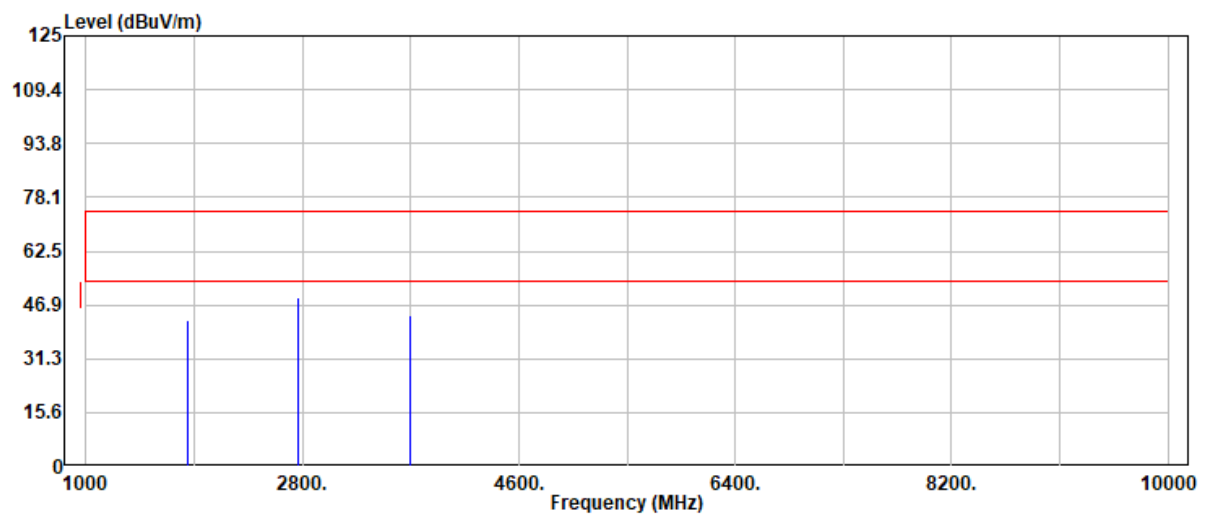
Freq	Read Level	Factor	Actual FS	Limit @3m	Margin	Detector Mode
-----	-----	-----	-----	-----	-----	-----
MHz	dBuV	dB	dBuV/m	dBuV/m	dB	PK/QP/AV
1832.79	49.42	-5.57	43.85	74.00	-30.15	Peak
1832.79	48.78	-5.57	43.21	54.00	-10.79	Average
2749.19	55.26	-2.29	52.97	74.00	-21.03	Peak
2749.19	54.34	-2.29	52.05	54.00	-1.95	Average
3665.58	41.83	-0.53	41.30	74.00	-32.70	Peak
3665.58	39.61	-0.53	39.08	54.00	-14.92	Average

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Project No : TM-2504000190P
Operation Band : 900 MHz
Frequency : 923.835 MHz
Operation Mode : TX
EUT Pol : E2
Setting :

Test Date : 2025-06-09
Temp./Humi. : 24.5/56
Antenna Pol. : VERTICAL
Engineer : Tony.Chao
Test Chamber : 966A



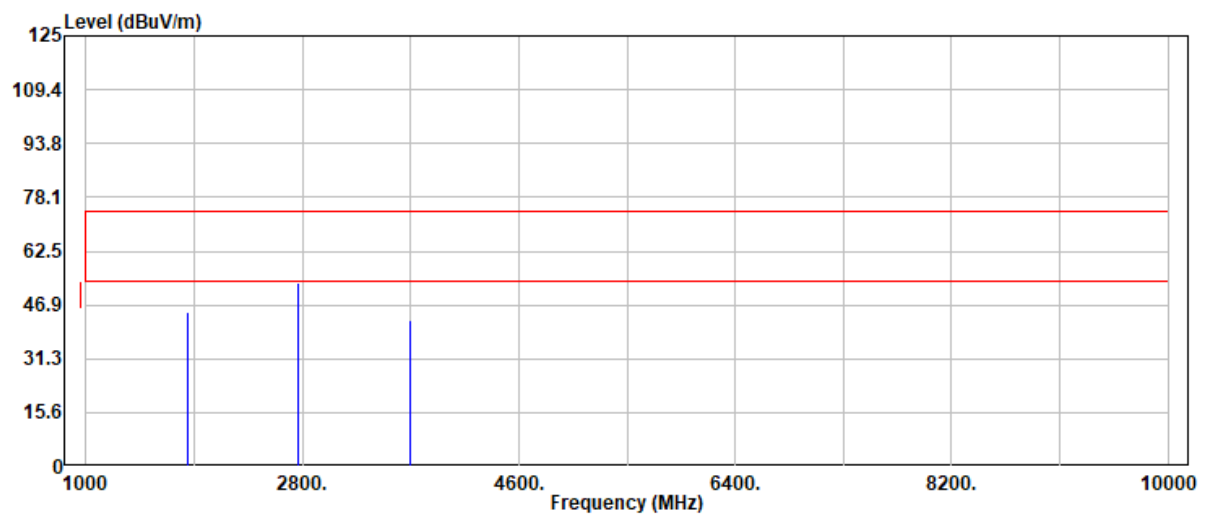
Freq	Read Level	Factor	Actual FS	Limit @3m	Margin	Detector Mode
-----	-----	-----	-----	-----	-----	-----
MHz	dBuV	dB	dBuV/m	dBuV/m	dB	PK/QP/AV
1847.67	48.09	-5.59	42.50	74.00	-31.50	Peak
1847.67	46.23	-5.59	40.64	54.00	-13.36	Average
2771.51	51.13	-2.30	48.83	74.00	-25.17	Peak
2771.51	48.54	-2.30	46.24	54.00	-7.76	Average
3695.34	43.94	-0.24	43.70	74.00	-30.30	Peak
3695.34	40.82	-0.24	40.58	54.00	-13.42	Average

Project No: TM-2504000190P
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Project No : TM-2504000190P
Operation Band : 900 MHz
Frequency : 923.835 MHz
Operation Mode : TX
EUT Pol : E2
Setting :

Test Date : 2025-06-09
Temp./Humi. : 24.5/56
Antenna Pol. : HORIZONTAL
Engineer : Tony.Chao
Test Chamber : 966A



Freq	Read Level	Factor	Actual FS	Limit @3m	Margin	Detector Mode
-----	-----	-----	-----	-----	-----	-----
MHz	dBuV	dB	dBuV/m	dBuV/m	dB	PK/QP/AV
1847.67	50.28	-5.59	44.69	74.00	-29.31	Peak
1847.67	48.27	-5.59	42.68	54.00	-11.32	Average
2771.51	55.60	-2.30	53.30	74.00	-20.70	Peak
2771.51	54.76	-2.30	52.46	54.00	-1.54	Average
3695.34	42.56	-0.24	42.32	74.00	-31.68	Peak
3695.34	38.82	-0.24	38.58	54.00	-15.42	Average

--End of Test Report--