

TEST REPORT

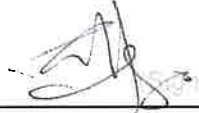


Dt&C Co., Ltd.

42, Yurim-ro, 154Beon-gil, Cheoin-gu, Yongin-si, Gyeonggi-do, Korea, 17042
Tel : 031-321-2664, Fax : 031-321-1664

1. Report No : DRTFCC2512-0095(1)
2. Customer
 - Name (FCC) : Dogtra Co., Ltd.
 - Address (FCC) : 35, Namdongdong-ro 33beon-gil, Namdong-gu, Incheon, South Korea
3. Use of Report : FCC Original Certification
4. Product Name / Model Name : GPS TRACKING & TRAINING / PT21U
FCC ID : SWN-PT21U
5. FCC Regulation(s): Part 95 Subpart J
Test Method Used : ANSI C63.26-2015
6. Date of Test : 2025.11.29 ~ 2025.12.10, 2025.12.16
7. Location of Test : ☒ Permanent Testing Lab ☐ On Site Testing
8. Testing Environment : See appended test report.
9. Test Result : Refer to the attached test result.

The results shown in this test report refer only to the sample(s) tested unless otherwise stated.
This test report is not related to KOLAS accreditation.

Affirmation	Tested by	Technical Manager
	Name : SeungMin Gil 	Name : JaeJin Lee 

2025 . 12 . 16 .

Dt&C Co., Ltd.

If this report is required to confirmation of authenticity, please contact to report@dtnc.net

Test Report Version

Test Report No.	Date	Description	Revised by	Reviewed by
DRTFCC2512-0095	Dec, 11. 2025	Initial issue	SeungMin Gil	JaeJin Lee
DRTFCC2512-0095(1)	Dec, 16. 2025	OBW Retest and Equipment Class Modification	SeungMin Gil	JaeJin Lee

Table of Contents

1. GENERAL INFORMATION	4
2. INTRODUCTION	5
2.1. EUT DESCRIPTION	5
2.2. TESTING ENVIRONMENT	5
2.3. MEASURING INSTRUMENT CALIBRATION	5
2.4. MEASUREMENT UNCERTAINTY	6
2.5. TEST FACILITY	6
3. LIST OF TEST EQUIPMENT	7
4. SUMMARY OF TEST RESULTS	8
5. EMISSION DESIGNATOR AND SAMPLE CALCULATION	9
6. TEST RESULTS	10
6.1. OCCUPIED BANDWIDTH	10
6.2. TRANSMITTER POWER OUTPUT	13
6.3. EMISSION MASK AT ANTENNA TERMINAL	16
6.4. SPURIOUS EMISSION AT ANTENNA TERMINAL	24
6.5. FIELD STRENGTH OF SPURIOUS RADIATION	31
6.6. FREQUENCY STABILITY	34

1. GENERAL INFORMATION

Equipment Class	Licensed Non-Broadcast Transmitter Held to Face(TNF)
Product Name	GPS TRACKING & TRAINING
Model Name(s)	PT21U
Add Model Name	PATHFINDER2 MINI COMPASS, PATHFINDER2 COMPASS, COMPASS HANDHELD GPS CONNECTOR
Firmware Version Identification Number	V3.1.12
EUT Serial Number	No Specified
Power Supply	DC : 3.7 V
Modulation Type	2-FSK
Emission Type	F1D
Antenna Type	Helical Antenna
Antenna Gain	0.5 dBi

Modulation	TX Frequency (MHz)	Emission Designator	Conducted Output Power	
			dBm	W
2-FSK	151.82 ~ 151.94	8K73F1D	30.71	1.178
	154.57 ~ 154.60	8K73F1D	30.72	1.180

2. INTRODUCTION

2.1. EUT DESCRIPTION

This device supports the following capabilities:

Multi-Use Radio Service

2-FSK modulation, Number of Channels: 5 Channels (Ch. 1: 151.82 MHz, Ch. 2: 151.88 MHz, Ch. 3: 151.94 MHz, Ch. 4: 154.57 MHz, Ch. 4: 154.60 MHz)

Test Mode

Modulation	Lowest Frequency (MHz)	Middle Frequency (MHz)	Highest Frequency (MHz)
2-FSK	151.82	151.94	154.60

Operation test setup for EUT

- Test software: Software application in EUT
- Power setting: Default of EUT

2.2. TESTING ENVIRONMENT

Ambient Condition	
▪ Temperature	+21 °C ~ +25 °C
▪ Relative Humidity	40 % ~ 45 %

2.3. MEASURING INSTRUMENT CALIBRATION

The measuring equipment, which was utilized in performing the tests documented herein, has been calibrated in accordance with the manufacturer's recommendations for utilizing calibration equipment, which is traceable to recognized national standards.

2.4. MEASUREMENT UNCERTAINTY

The measurement uncertainties shown below were calculated in accordance with requirements of ANSI C63.26-2015. All measurement uncertainty values are shown with a coverage factor of $k = 2$ to indicate a 95 % level of confidence.

Parameter	Measurement uncertainty
Antenna-port conducted emission	1.0 dB (The confidence level is about 95 %, $k = 2$)
Radiated emission (1 GHz Below)	5.0 dB (The confidence level is about 95 %, $k = 2$)
Radiated emission (1 GHz ~ 18 GHz)	4.8 dB (The confidence level is about 95 %, $k = 2$)

2.5. TEST FACILITY

Dt&C Co., Ltd.		
The 3 m test site and conducted measurement facility used to collect the radiated data are located at the 42, Yurim-ro, 154beon-gil, Cheoin-gu, Yongin-si, Gyeonggi-do, Korea 17042. The test site complies with the requirements of Part 2.948. - FCC & ISSED MRA Designation No. : KR0034 - FCC Test Firm Registration No. : 704742 - ISSED#: 5740A		
www.dtnc.net		
Telephone	:	+ 82-31-321-2664
FAX	:	+ 82-31-321-1664

3. LIST OF TEST EQUIPMENT

Type	Manufacturer	Model	Cal.Date (yy/mm/dd)	Next.Cal.Date (yy/mm/dd)	S/N
Spectrum Analyzer	KEYSIGHT	N9020A	25/11/19	26/11/19	MY50410272
Spectrum Analyzer	Agilent Technologies	N9020A	25/11/18	26/11/18	MY50410399
Multimeter	FLUKE	17B	25/11/21	26/11/21	26030065WS
Signal Generator	Rohde Schwarz	SMBV100A	25/11/20	26/11/20	255571
Thermohygrometer	BODYCOM	BJ5478	25/11/24	26/11/24	090205-4
Thermohygrometer	BODYCOM	BJ5478	25/11/24	26/11/24	120612-2
Loop Antenna	ETS-Lindgren	6502	25/11/06	26/11/06	00060496
Hybrid Antenna	Schwarzbeck	VULB9163	25/05/27	26/05/27	9163-572
Horn Antenna	ETS-Lindgren	3117	25/11/27	26/11/27	00140394
PreAmplifier	Agilent Technologies	8449B	25/04/28	26/04/28	3008A02108
High Pass Filter	Wainwright Instruments	WHKX12-935-1000-15000-40SS	25/05/26	26/05/26	7
Attenuator	Aeroflex/Weinschel	86-20-11	25/05/27	26/05/27	432
Cable	JUNKOSHA	MWX241/B	25/01/02	26/01/02	M-03
Cable	JUNKOSHA	MWX221	25/01/02	26/01/02	M-04
Cable	JUNKOSHA	MWX211	25/01/02	26/01/02	M-05
Cable	JUNKOSHA	J12J101757-00	25/01/02	26/01/02	M-07
Cable	HUBER+SUHNER	SUCOFLEX104	25/01/02	26/01/02	M-08
Cable	HUBER+SUHNER	SUCOFLEX106	25/01/02	26/01/02	M-09
Cable	JUNKOSHA	MWX315	25/01/02	26/01/02	M-10
Cable	Radiall	TESTPRO3	25/01/02	26/01/02	RFC-01
Test Software (Radiated)	tsj	EMI Measurement	NA	NA	Version 2.00.0185
3m Semi Anechoic Chamber	SYC	3m-SAC	25/06/13(NSA) 25/06/19(VSWR)	26/06/13(NSA) 26/06/19(VSWR)	3m-SAC-1

Note1: The measurement antennas were calibrated in accordance to the requirements of ANSI C63.5-2017.

Note2: The cable is not a regular calibration item, so it has been calibrated by Dt&C itself.

4. SUMMARY OF TEST RESULTS

FCC Part Section(s)	Test Description	Test Limit	Status Note 1
2.1049 95.2773	Occupied Bandwidth	Refer to the section 6.1	C
2.1046 95.2767	Transmitter power output	2 W	C
2.1051 95.2779	Emission Mask and Spurious Emissions at Antenna Terminal	Refer to the section 6.3 and 6.4	C
2.1053 95.2779	Field strength of spurious radiation	Refer to the section 6.5	C Note 2
2.1055 95.2765	Frequency Stability	If the emission bandwidth is 6.25 kHz or less: 2 ppm If the emission bandwidth is greater than 6.25 kHz: 5 ppm	C
Note 1: C =Comply NC =Not Comply NT =Not Tested NA =Not Applicable Note 2: This test item was performed in three orthogonal EUT positions, and the worst-case data were reported.			

5. EMISSION DESIGNATOR AND SAMPLE CALCULATION

A. Emission Designator

2-FSK

Emission Designator = 8K73F1D

Occupied Band width = 8.73 kHz

F = Frequency modulation

1 = A single channel containing quantized or digital information without the use of a modulating sub-carrier

D = Data transmission, telemetry, telecommand

B. For substitution method

FIELD STRENGTH OF SPURIOUS RADIATION

- 1) The EUT was placed on a turntable with 0.8 meter height for frequency below 1GHz and 1.5 meter height for frequency above 1 GHz respectively above ground.
- 2) The EUT was set 3 meters from the receiving antenna mounted on the antenna tower.
- 3) Vary the measurement antenna height through 1 m to 4 m and the rotate EUT through 360° in order to determine the maximum emission level.
- 4) Record the measured emission level and frequency using the available test method.
- 5) Replace the EUT with dipole/Horn antenna that is connected to a calibrated signal generator.
- 6) Vary the measurement antenna height between 1 m to 4 m to maximize the received (measured) signal amplitude. And adjust the signal generator output power level until the amplitude detected by the measurement instrument equals the previously measured emission level.
- 7) The conducted power at the terminal of the substitute antenna is measured.
- 8) Record the level at substituted antenna terminal.
- 9) The result is calculated as below;

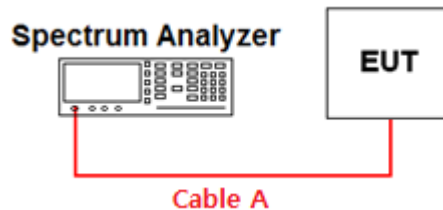
Result: ERP(dBm) = Level at Substitute antenna terminal + Substitute Antenna Gain (dBd)

Where, Substitute Antenna Gain_(dBd) = TX Antenna Gain (dBi) - 2.15 dB

6. TEST RESULTS

6.1. OCCUPIED BANDWIDTH

Test Configuration



Test Procedure

- ANSI C63.26-2015 – Section 5.4.4

The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power of a given emission.

Test setting

1. The signal analyzer's automatic bandwidth measurement capability was used to perform the 99 % occupied bandwidth and the 26 dB bandwidth. The bandwidth measurement was not influenced by any intermediate power nulls in the fundamental emission.
2. $RBW = 1 \% \sim 5 \%$ of the expected OBW & $VBW \geq 3 \times RBW$
3. Detector = Peak
4. Trance mode = Max hold
5. Sweep = Auto couple
6. The trace was allowed to stabilize
7. If necessary, step 2 ~ 6 were repeated after changing the RBW such that it would be within 1 % ~ 5 % of the 99 % occupied bandwidth observed in step 6.

Limit

Part 95.2773

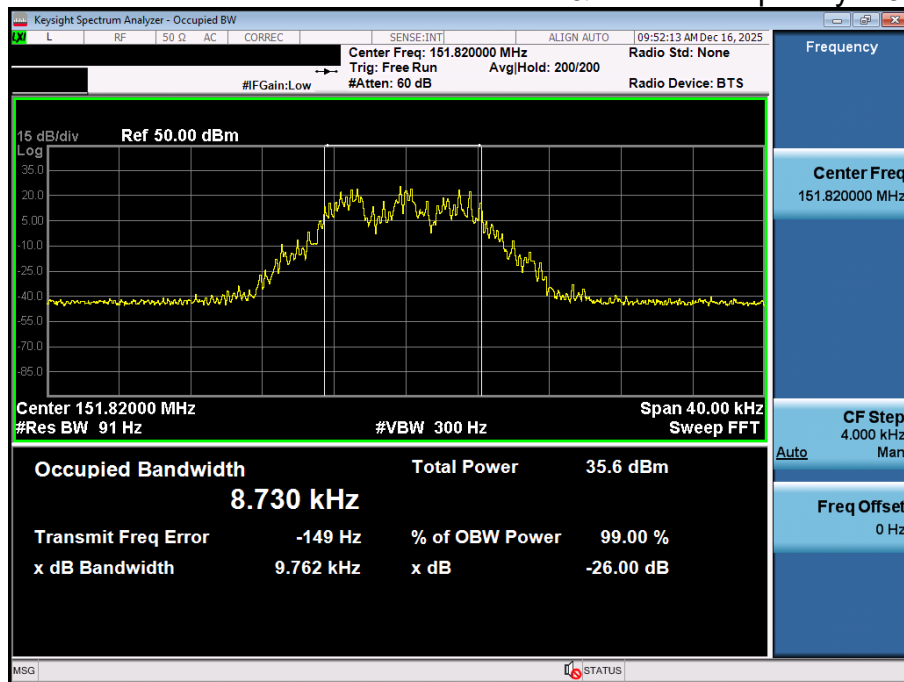
Each MURS transmitter type must be designed to meet the emission bandwidth limitations in this section.

- (a) The occupied bandwidth of emissions transmitted on the center frequencies 151.820 MHz, 151.880 MHz, and 151.940 MHz must not exceed 11.25 kHz.
- (b) The occupied bandwidth of emissions transmitted on the center frequencies 154.570 MHz and 154.600 MHz must not exceed 20.0 kHz.
- (c) The occupied bandwidth of type A3E emissions must not exceed 8.0 kHz.

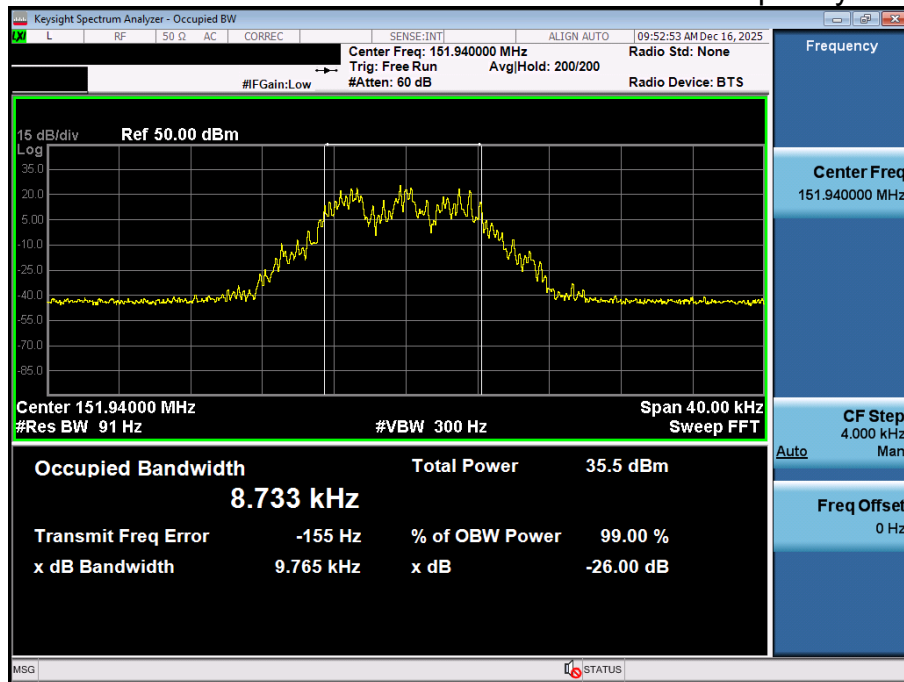
Test Results

Modulation	Tested Frequency (MHz)	Test Result (kHz)	Limit (kHz)
2-FSK	151.82	8.73	11.25
	151.94	8.73	11.25
	154.60	8.73	20.00

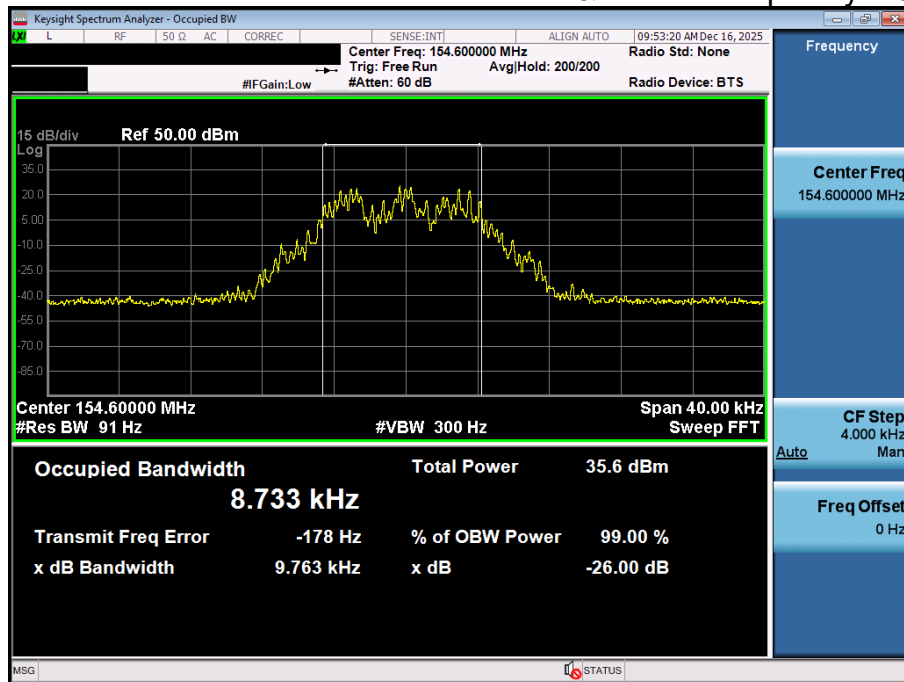
2-FSK & Tested Frequency: 151.82 MHz



2-FSK & Tested Frequency: 151.94 MHz

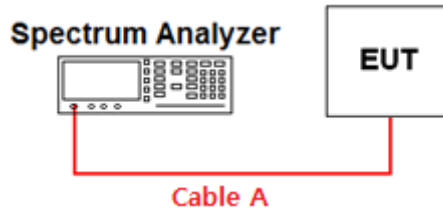


2-FSK & Tested Frequency: 154.60 MHz



6.2. TRANSMITTER POWER OUTPUT

Test Configuration



Test Procedure

- ANSI C63.26-2015 – Section 5.2.3.3

Test setting

1. Set the RBW $\geq$ OBW.
2. Set VBW $\geq 3 \times$ RBW.
3. Set span $\geq 2 \times$ OBW.
4. Sweep time $\geq 10 \times$ (number of points in sweep) $\times$ (transmission symbol period).
5. Detector = peak.
6. Trace mode = max hold.
7. Allow trace to fully stabilize.
8. Use the peak marker function to determine the peak amplitude level.

Limit

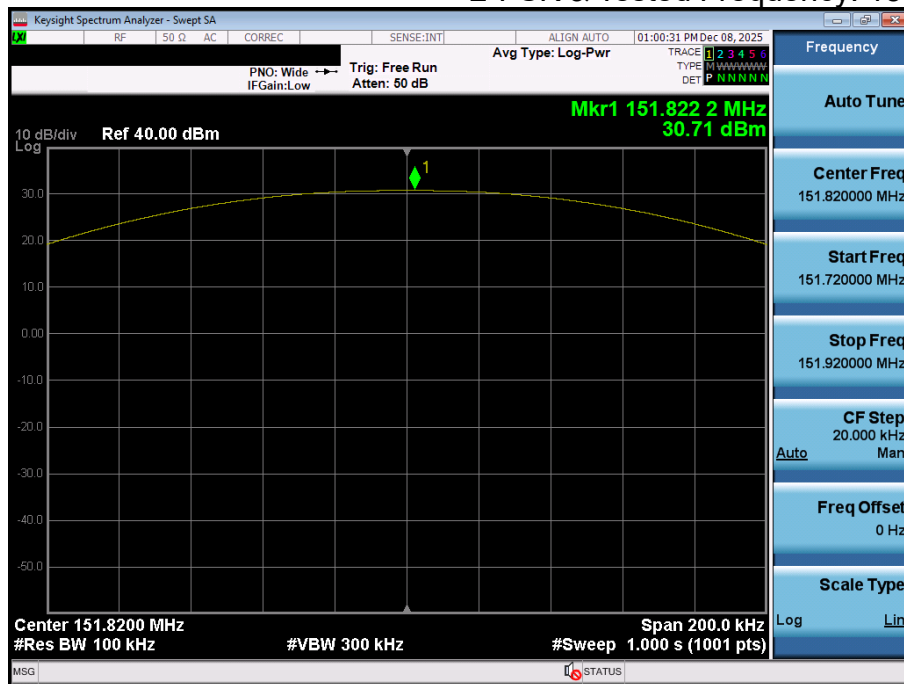
Part 95.2767

Each MURS transmitter type must be designed such that the transmitter power output does not exceed 2 Watts under normal operating conditions.

Test Results

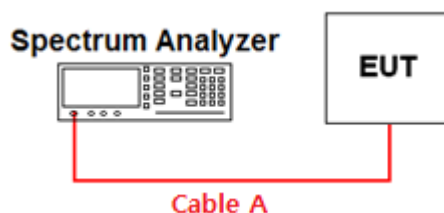
Modulation	Tested Frequency (MHz)	Test Result (dBm)	Limit (dBm)
2-FSK	151.82	30.71	33.01
	151.94	30.58	33.01
	154.60	30.72	33.01

2-FSK & Tested Frequency: 151.82 MHz



6.3. EMISSION MASK AT ANTENNA TERMINAL

Test Configuration



Test Procedure

- ANSI C63.26-2015 – Section 5.7

Test setting

1. RBW = specified reference bandwidth
2. VBW $\geq 3 \times$ RBW
3. Detector = Peak & Trace mode = Max hold
4. Sweep time = Auto couple
5. Number of sweep point $\geq 2 \times$ span / RBW
6. The trace was allowed to stabilize

Note: When the specified reference bandwidth is 30 kHz, measurements were made using an RBW narrower than the specified reference bandwidth, and the results were then integrated over the entire reference bandwidth.

Limit

Part 95.2779

(a) Emission masks. Emission masks applicable to transmitting equipment in the MURS are defined by the requirements in the following table. The numbers in the paragraphs column refer to attenuation requirement rule paragraph numbers under paragraph (b) of this section. The words “audio filter” refer to the audio filter described in § 95.2775.

Channel center frequencies (MHz)	Paragraphs
151.820, 151.880 and 151.940	(1), (2).
154.570 & 154.600, with audio filter	(3), (4), (7).
154.570 & 154.600, without audio filter	(5), (6), (7).

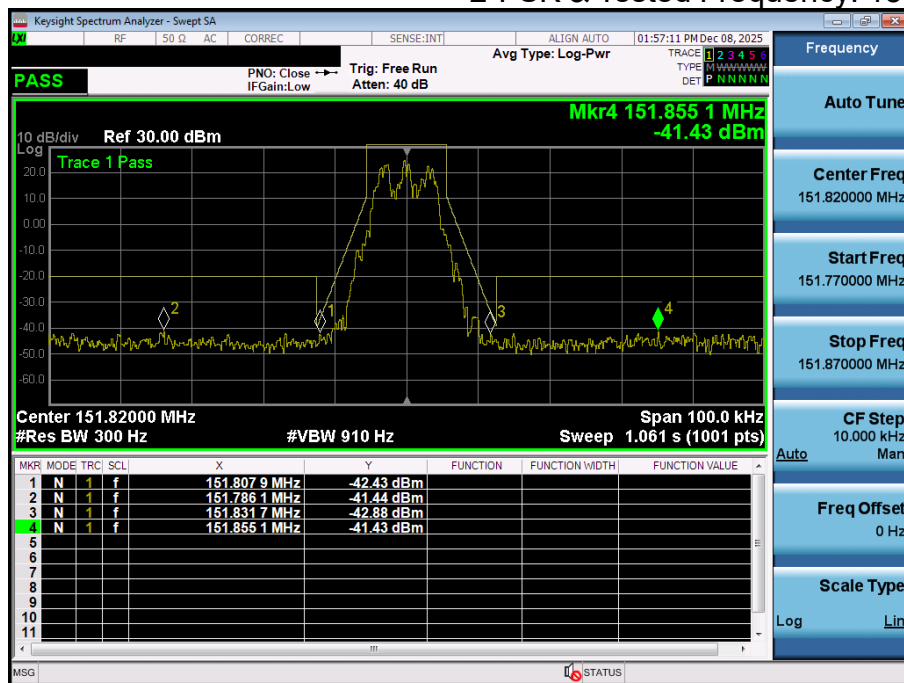
(b) Attenuation requirements. The power of unwanted emissions must be attenuated below the transmitter output power in Watts (P) by at least:

- (1) $7.27(f_d - 2.88 \text{ kHz})$ dB on any frequency removed from the channel center frequency by a displacement frequency (f_d in kHz) that is more than 5.625 kHz, but not more than 12.5 kHz.
- (2) $50 + 10 \log(P)$ dB or 70 dB, whichever is the lesser attenuation, on any frequency removed from the channel center frequency by more than 12.5 kHz.
- (3) 25 dB on any frequency removed from the channel center frequency by more than 10 kHz, but not more than 20 kHz.
- (4) 35 dB on any frequency removed from the channel center frequency by more than 20 kHz, but not more than 50 kHz.
- (5) $83 \log(f_d \div 5)$ dB on any frequency removed from the center of the authorized bandwidth by a displacement frequency (f_d in kHz) that is more than 5 kHz, but not more than 10 kHz.
- (6) $29 \log(f_d^2 \div 11)$ dB or 50 dB, whichever is the lesser attenuation on any frequency removed from the channel center frequency by a displacement frequency (f_d in kHz) that is more than 10 kHz, but not more than 50 kHz.
- (7) $43 + 10 \log(P)$ dB on any frequency removed from the channel center frequency by more than 50 kHz.

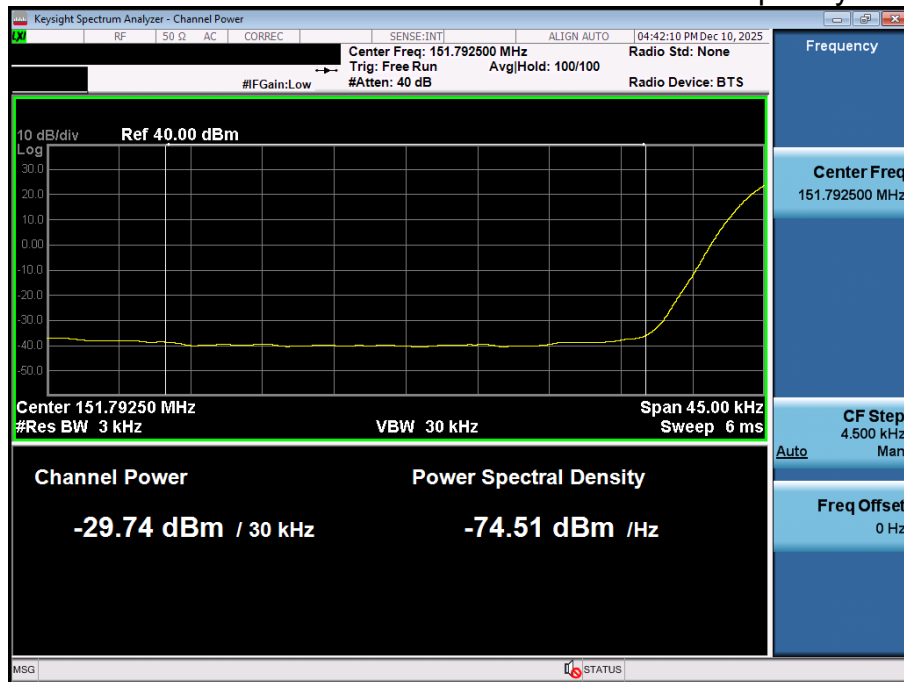
(c) Measurement bandwidths. The power of unwanted emissions in the frequency bands specified in paragraphs (b)(1) and (3) through (6) of this section is measured with a reference bandwidth of 300 Hz. The power of unwanted emissions in the frequency ranges specified in paragraphs (b)(2) and (7) of this section is measured with a reference bandwidth of at least 30 kHz.

Test Results

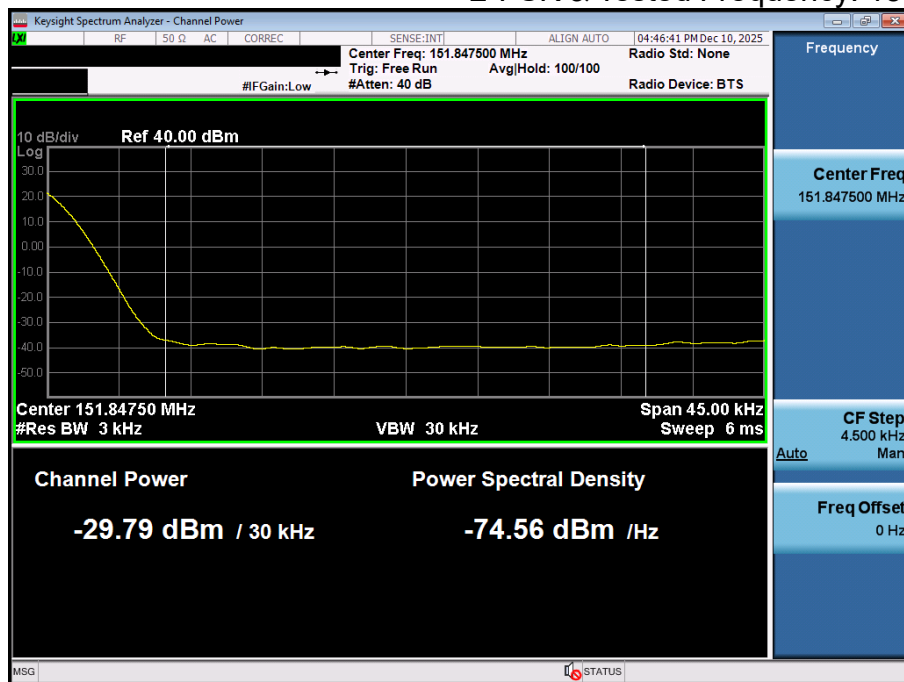
2-FSK & Tested Frequency: 151.82 MHz



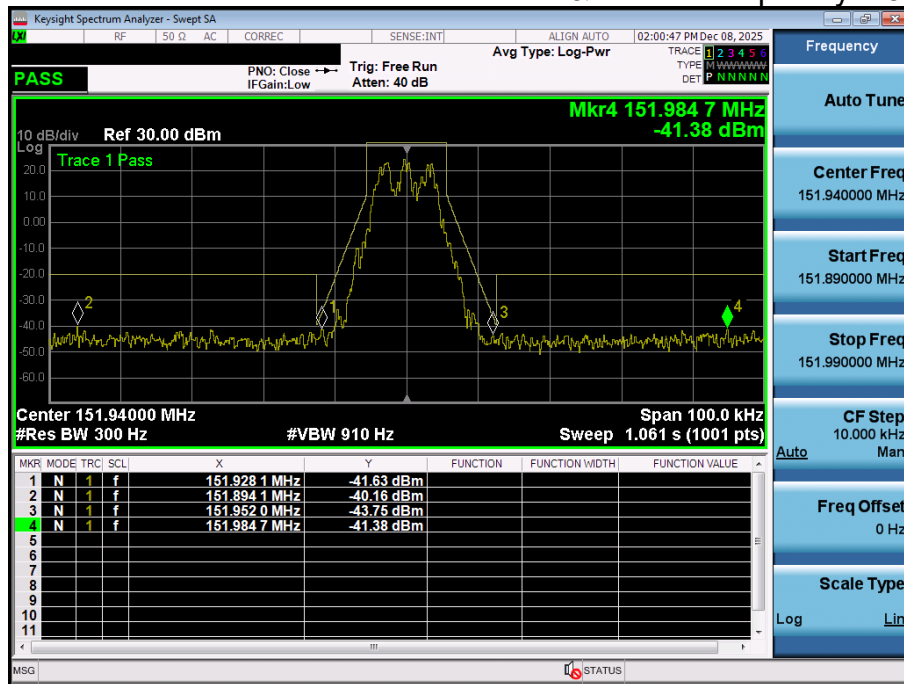
2-FSK & Tested Frequency: 151.82 MHz



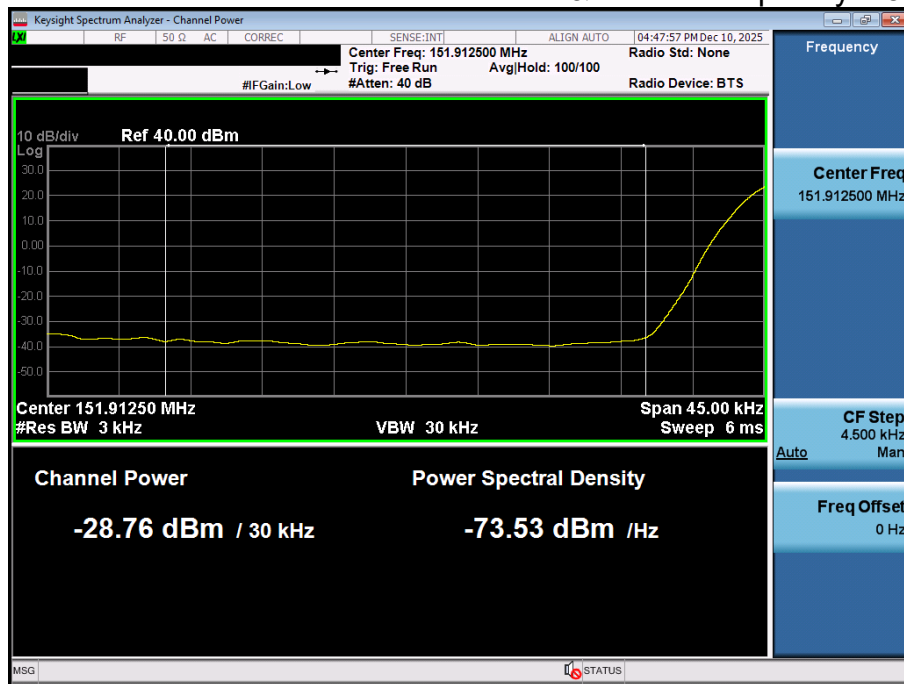
2-FSK & Tested Frequency: 151.82 MHz



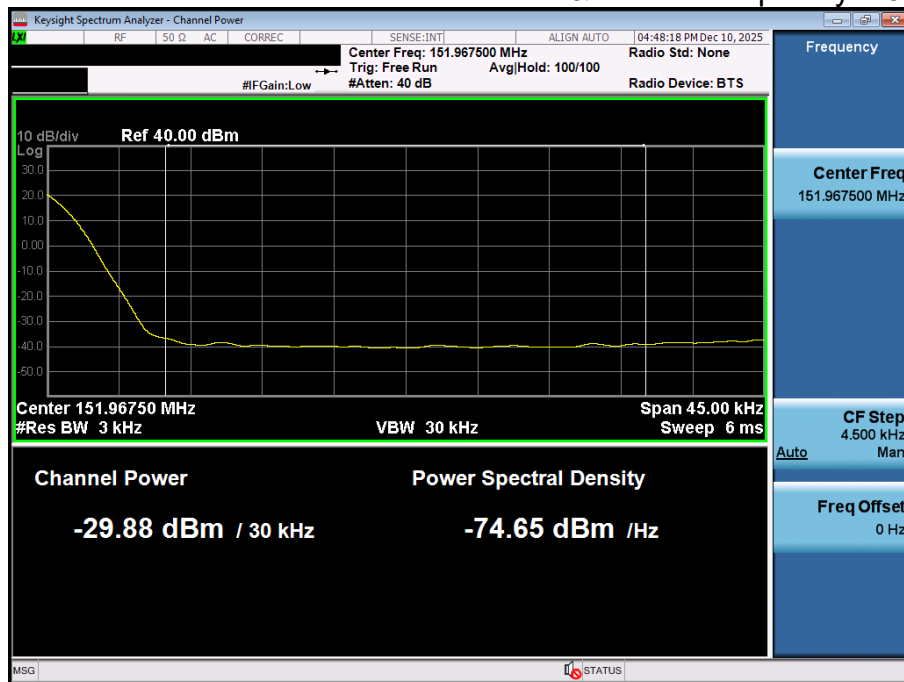
2-FSK & Tested Frequency: 151.94 MHz



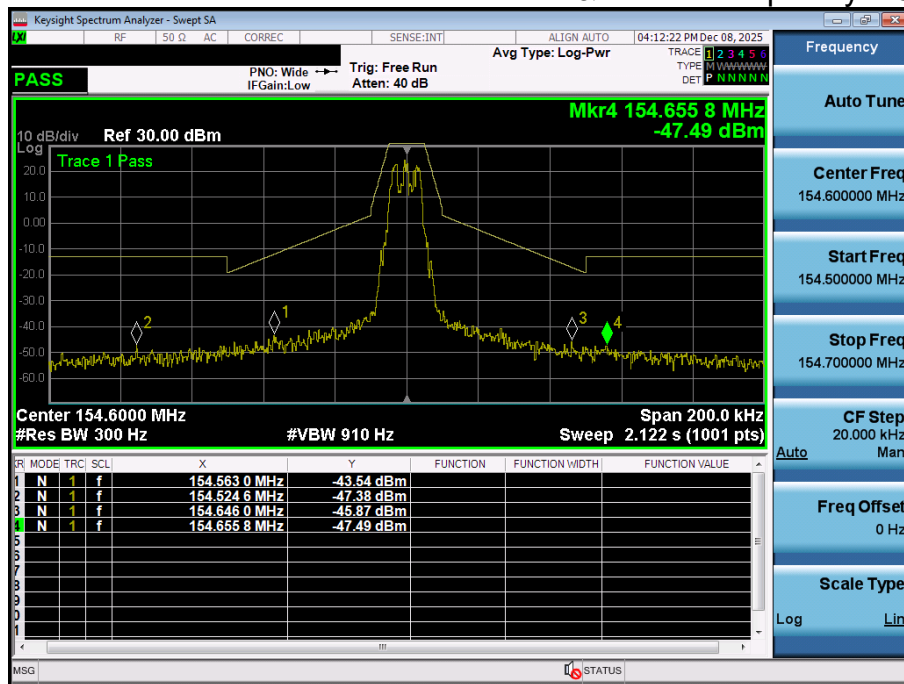
2-FSK & Tested Frequency: 151.94 MHz



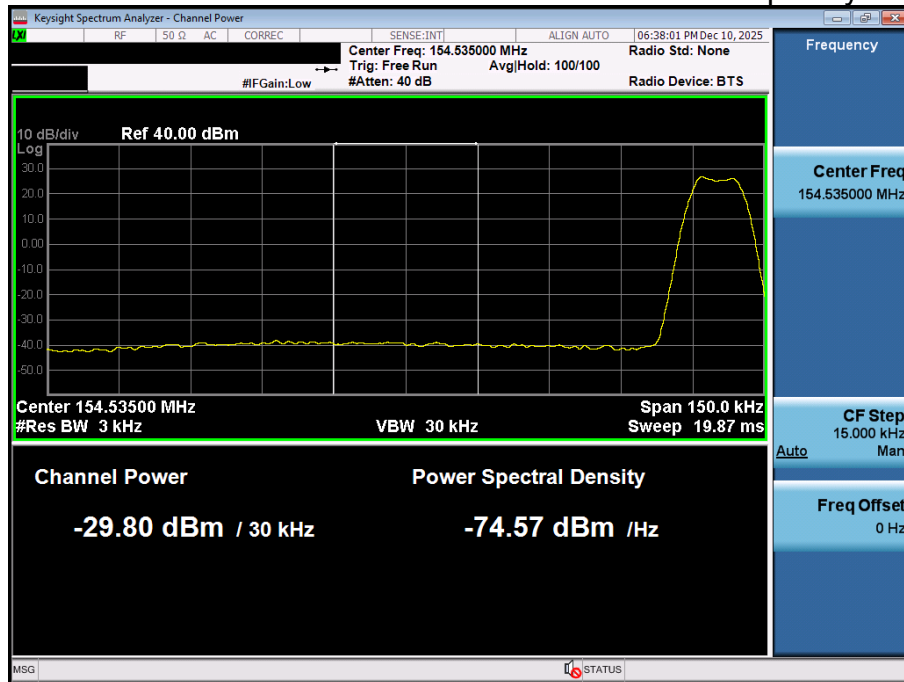
2-FSK & Tested Frequency: 151.94 MHz



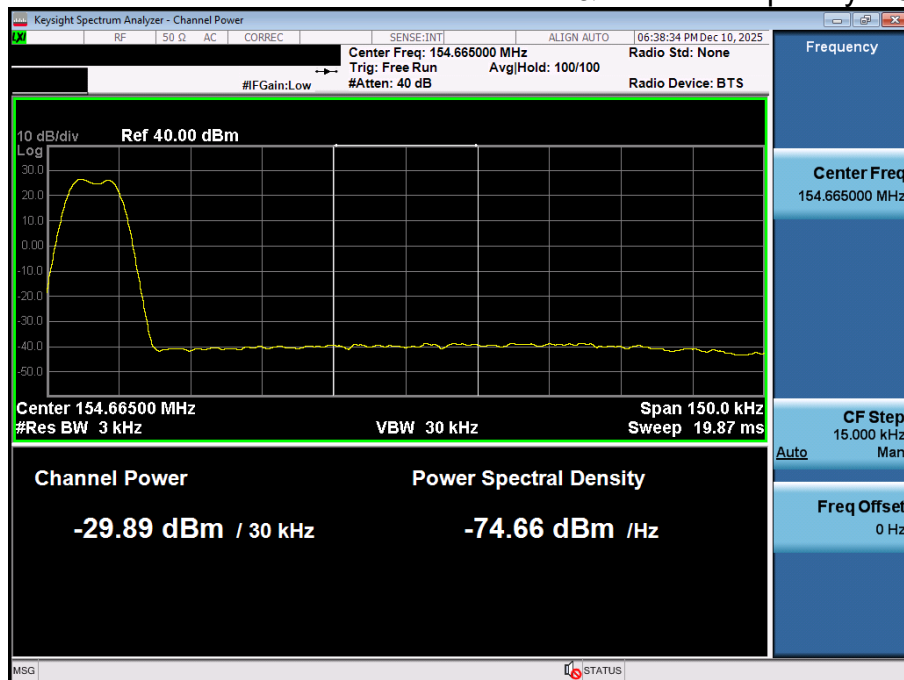
2-FSK & Tested Frequency: 154.60 MHz



2-FSK & Tested Frequency: 154.60 MHz

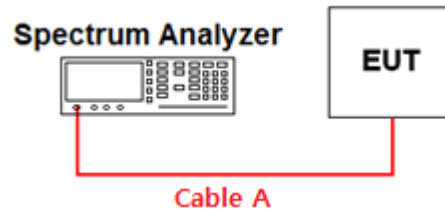


2-FSK & Tested Frequency: 154.60 MHz



6.4. SPURIOUS EMISSION AT ANTENNA TERMINAL

Test Configuration



Test Procedure

- ANSI C63.26-2015 – Section 5.7

Test setting

1. RBW $\geq$ 30 kHz
(The RBW was set to 30 kHz below 1 GHz and 1 MHz above 1 GHz.)
2. VBW $\geq$ 3 X RBW
3. Detector = Peak & Trace mode = Max hold
4. Sweep time = Auto couple
5. Number of sweep point $\geq$ 2 X span / RBW
6. The trace was allowed to stabilize

Limit

Part 95.2779

(a) Emission masks. Emission masks applicable to transmitting equipment in the MURS are defined by the requirements in the following table. The numbers in the paragraphs column refer to attenuation requirement rule paragraph numbers under paragraph (b) of this section. The words “audio filter” refer to the audio filter described in § 95.2775.

Channel center frequencies (MHz)	Paragraphs
151.820, 151.880 and 151.940	(1), (2).
154.570 & 154.600, with audio filter	(3), (4), (7).
154.570 & 154.600, without audio filter	(5), (6), (7).

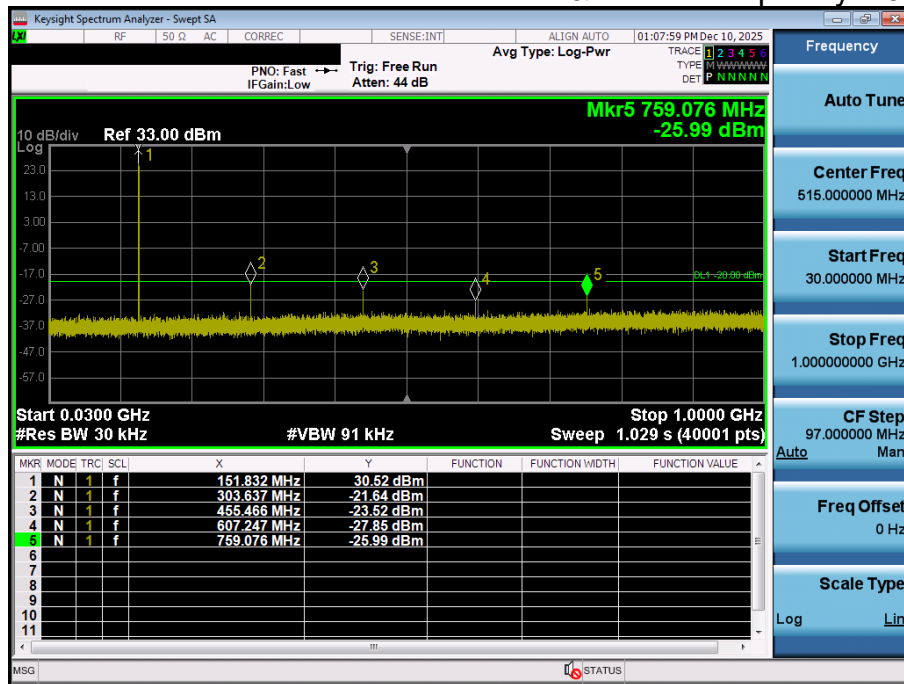
(b) Attenuation requirements. The power of unwanted emissions must be attenuated below the transmitter output power in Watts (P) by at least:

- (1) $7.27(f_d - 2.88 \text{ kHz})$ dB on any frequency removed from the channel center frequency by a displacement frequency (f_d in kHz) that is more than 5.625 kHz, but not more than 12.5 kHz.
- (2) $50 + 10 \log(P)$ dB or 70 dB, whichever is the lesser attenuation, on any frequency removed from the channel center frequency by more than 12.5 kHz.
- (3) 25 dB on any frequency removed from the channel center frequency by more than 10 kHz, but not more than 20 kHz.
- (4) 35 dB on any frequency removed from the channel center frequency by more than 20 kHz, but not more than 50 kHz.
- (5) $83 \log(f_d \div 5)$ dB on any frequency removed from the center of the authorized bandwidth by a displacement frequency (f_d in kHz) that is more than 5 kHz, but not more than 10 kHz.
- (6) $29 \log(f_d^2 \div 11)$ dB or 50 dB, whichever is the lesser attenuation on any frequency removed from the channel center frequency by a displacement frequency (f_d in kHz) that is more than 10 kHz, but not more than 50 kHz.
- (7) $43 + 10 \log(P)$ dB on any frequency removed from the channel center frequency by more than 50 kHz.

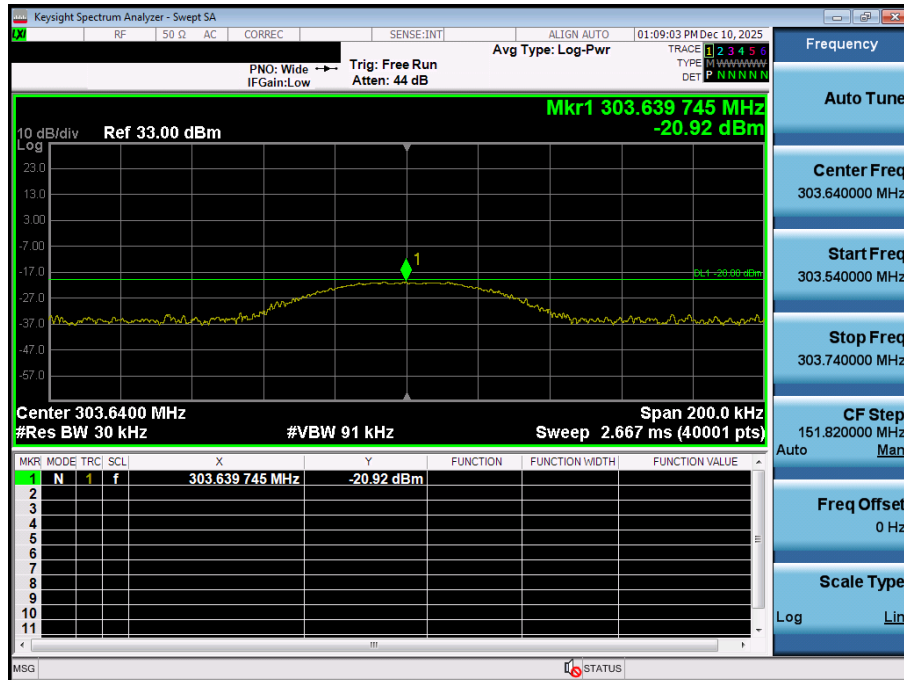
(c) Measurement bandwidths. The power of unwanted emissions in the frequency bands specified in paragraphs (b)(1) and (3) through (6) of this section is measured with a reference bandwidth of 300 Hz. The power of unwanted emissions in the frequency ranges specified in paragraphs (b)(2) and (7) of this section is measured with a reference bandwidth of at least 30 kHz.

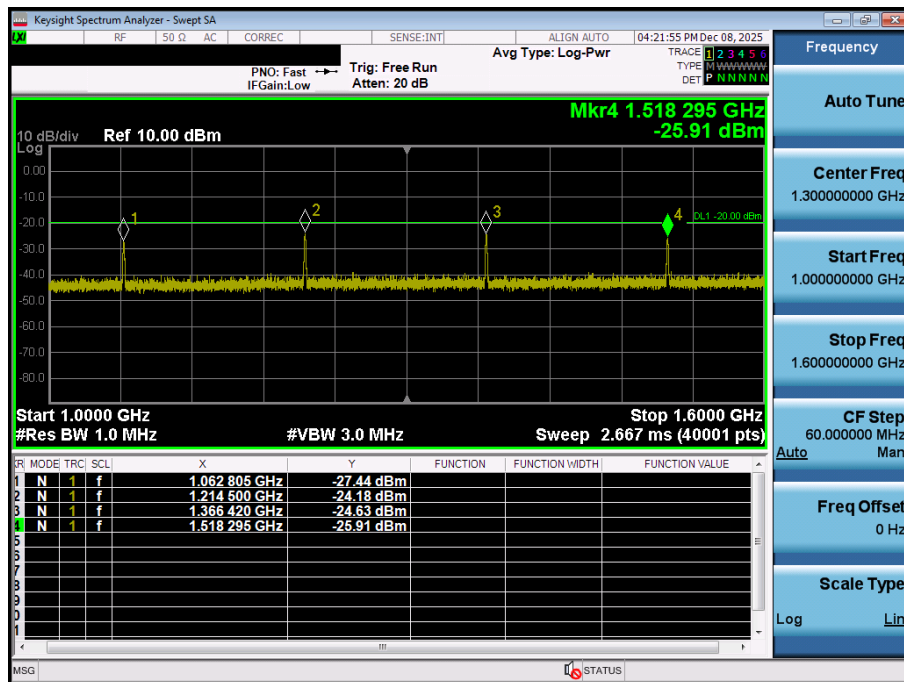
Test Results

2-FSK & Tested Frequency: 151.82 MHz

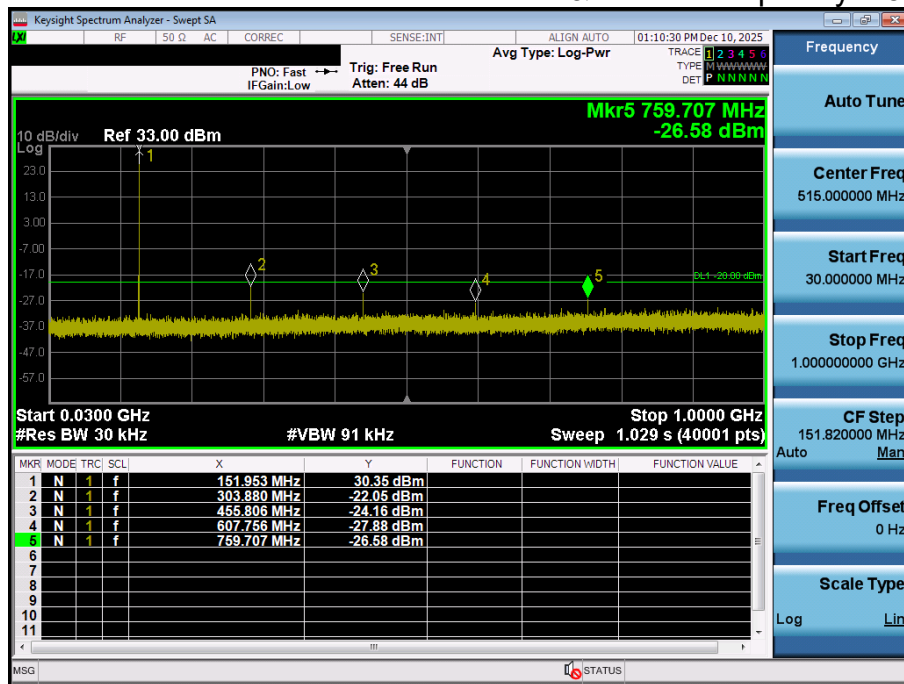


Zoom Scan

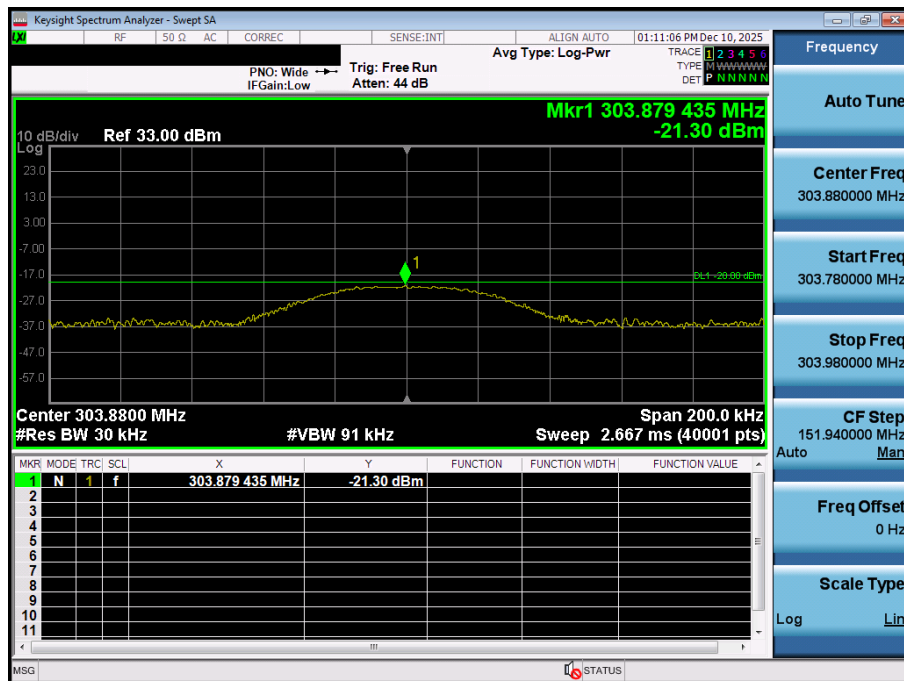


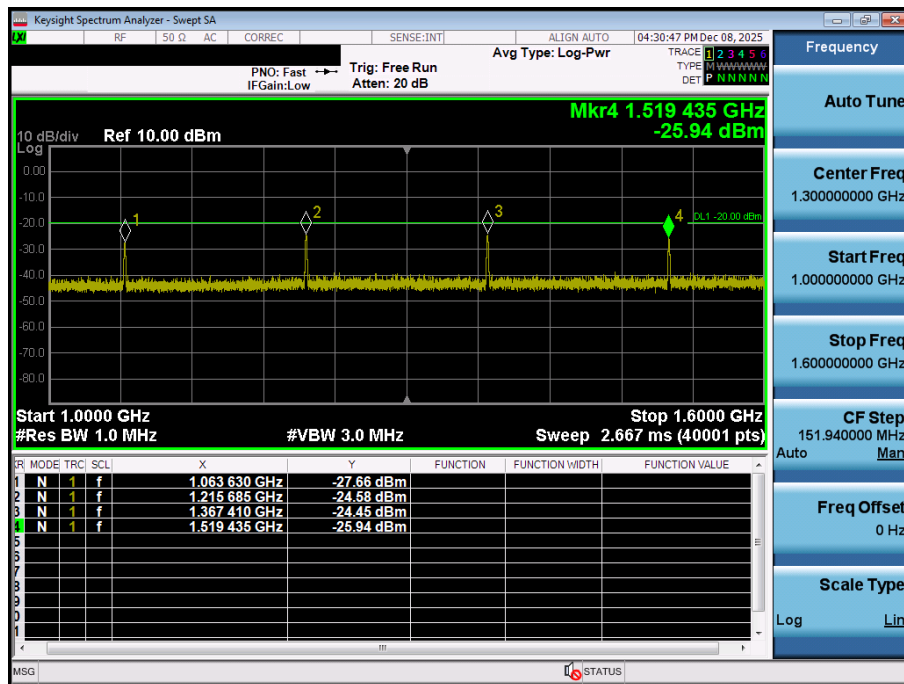


2-FSK & Tested Frequency: 151.94 MHz

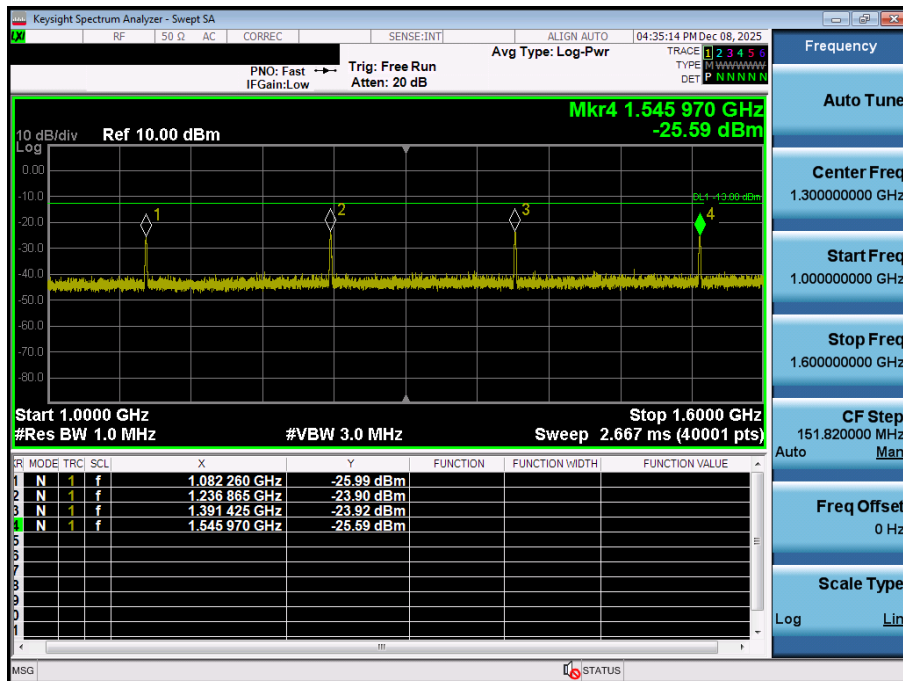
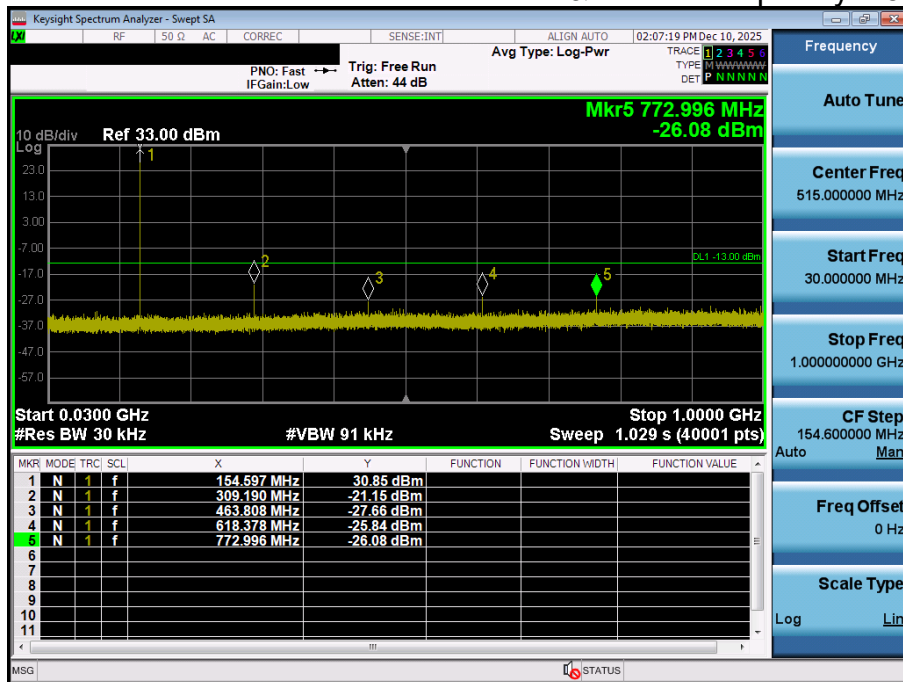


Zoom Scan



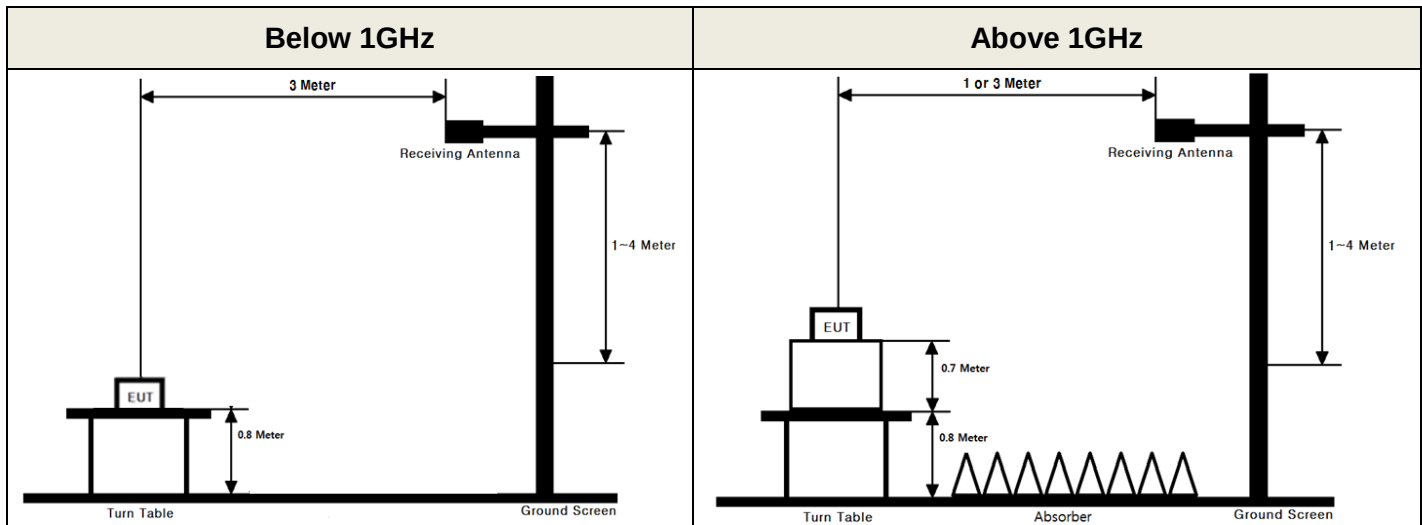


2-FSK & Tested Frequency: 154.60 MHz



6.5. FIELD STRENGTH OF SPURIOUS RADIATION

Test Configuration



These measurements were performed at 3 m test site. The equipment under test is placed on a non-conductive table at a height 1.5 m above a turntable for measurements above 1 GHz, and at a highest of 0.8 m for measurements below 1 GHz. The turntable is flush with the ground plane and is located 3 m from the receive antenna. For measurements above 1GHz, absorbers are placed on the floor between the turn table and the antenna mast to maximize the reduction of reflections. For measurements below 1 GHz, the absorbers are removed.

Test Procedure

- ANSI C63.26-2015 - Section 5.5

Test setting

1. RBW = 100 kHz for below 1 GHz and 1 MHz for above 1 GHz / VBW $\geq 3 \times$ RBW
2. Detector = Peak & Trace mode = Max hold
3. Sweep time = Auto couple
4. Number of sweep point $\geq 2 \times$ span / RBW
5. The trace was allowed to stabilize

Limit

Part 95.2779

(a) Emission masks. Emission masks applicable to transmitting equipment in the MURS are defined by the requirements in the following table. The numbers in the paragraphs column refer to attenuation requirement rule paragraph numbers under paragraph (b) of this section. The words “audio filter” refer to the audio filter described in § 95.2775.

Channel center frequencies (MHz)	Paragraphs
151.820, 151.880 and 151.940	(1), (2).
154.570 & 154.600, with audio filter	(3), (4), (7).
154.570 & 154.600, without audio filter	(5), (6), (7).

(b) Attenuation requirements. The power of unwanted emissions must be attenuated below the transmitter output power in Watts (P) by at least:

- (1) $7.27(f_d - 2.88 \text{ kHz})$ dB on any frequency removed from the channel center frequency by a displacement frequency (f_d in kHz) that is more than 5.625 kHz, but not more than 12.5 kHz.
 - (2) $50 + 10 \log(P)$ dB or 70 dB, whichever is the lesser attenuation, on any frequency removed from the channel center frequency by more than 12.5 kHz.
 - (3) 25 dB on any frequency removed from the channel center frequency by more than 10 kHz, but not more than 20 kHz.
 - (4) 35 dB on any frequency removed from the channel center frequency by more than 20 kHz, but not more than 50 kHz.
 - (5) $83 \log(f_d \div 5)$ dB on any frequency removed from the center of the authorized bandwidth by a displacement frequency (f_d in kHz) that is more than 5 kHz, but not more than 10 kHz.
 - (6) $29 \log(f_d^2 \div 11)$ dB or 50 dB, whichever is the lesser attenuation on any frequency removed from the channel center frequency by a displacement frequency (f_d in kHz) that is more than 10 kHz, but not more than 50 kHz.
 - (7) $43 + 10 \log(P)$ dB on any frequency removed from the channel center frequency by more than 50 kHz.
- (c) Measurement bandwidths. The power of unwanted emissions in the frequency bands specified in paragraphs (b)(1) and (3) through (6) of this section is measured with a reference bandwidth of 300 Hz. The power of unwanted emissions in the frequency ranges specified in paragraphs (b)(2) and (7) of this section is measured with a reference bandwidth of at least 30 kHz.

Test Results

Test notes

1) The frequency spectrum is examined from 9 kHz to the 10th harmonic of the fundamental frequency of the transmitter. No other spurious and harmonic emissions were reported greater than listed emissions.

2) Result(dBm) = Level at Substitute antenna terminal(dBm) + Substitute Antenna Gain (dBd)

3) Limit

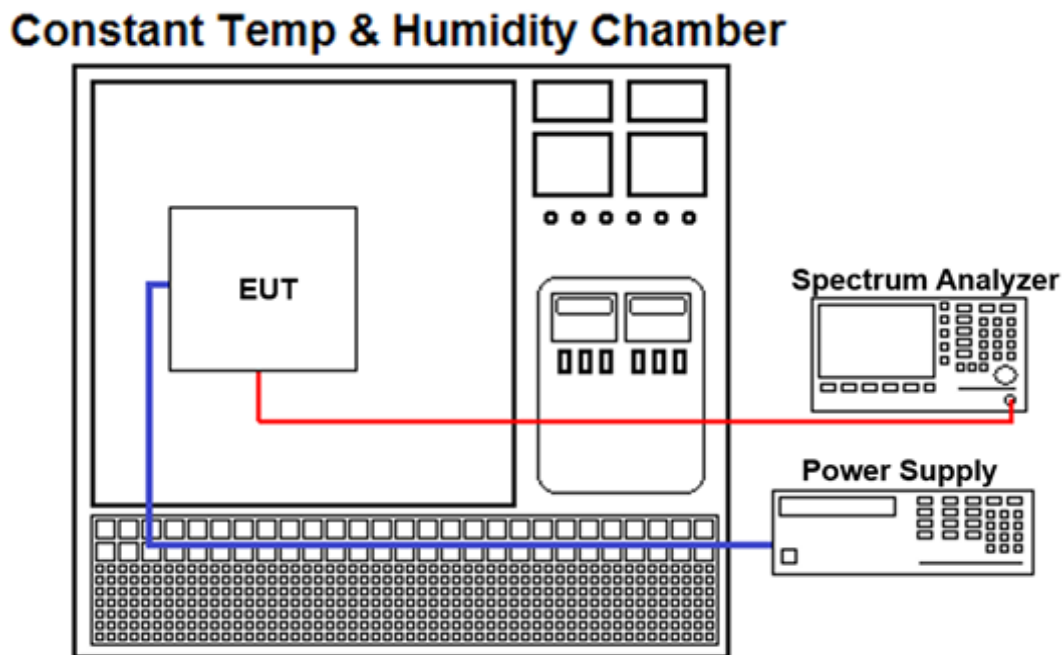
Lowest frequency(151.82 MHz) and Middle Frequency(151.94 MHz) = -20 dBm

Highest frequency(154.60 MHz) = -13 dBm

Modulation	TX Frequency (MHz)	Freq.(MHz)	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBd)	Result (dBm)	Limit (dBm)	Margin (dB)
2-FSK	151.82	303.63	H	-19.03	-1.23	-20.26	-20.00	0.26
		455.44	V	-30.03	-0.71	-30.74	-20.00	10.74
		1 214.55	V	-36.42	0.95	-35.47	-20.00	15.47
		1 518.16	V	-41.41	3.77	-37.64	-20.00	17.64
2-FSK	151.94	303.87	H	-19.24	-1.23	-20.47	-20.00	0.47
		455.81	V	-30.06	-0.71	-30.77	-20.00	10.77
		1 215.47	V	-36.82	0.95	-35.87	-20.00	15.87
		1 519.33	V	-41.97	3.77	-38.20	-20.00	18.20
2-FSK	154.60	309.19	H	-25.28	-1.18	-26.46	-13.00	13.46
		463.81	V	-34.35	-0.76	-35.11	-13.00	22.11
		927.57	H	-34.00	-2.35	-36.35	-13.00	23.35
		1 236.81	V	-36.53	1.04	-35.49	-13.00	22.49

6.6. FREQUENCY STABILITY

Test Configuration



Test Procedure

- ANSI C63.26-2015 – Section 5.6

The frequency stability of the transmitter is measured by:

a.) **Temperature:**

The temperature is varied from -30 °C to +50 °C using an environmental chamber.

b.) **Primary Supply Voltage:**

The primary supply voltage is varied from 85 % to 115 % of the nominal value for non hand-carried battery and AC powered equipment. For hand-carried, battery-powered equipment, primary supply voltage is reduced to the battery operating end point which shall be specified by the manufacturer.

Time Period and Procedure:

1. The carrier frequency of the transmitter is measured at room temperature.
(20 °C to provide a reference)
2. The equipment is turned on in a “standby” condition for one minute before applying power to the transmitter. Measurement of the carrier frequency of the transmitter is made within one minute after applying power to the transmitter.
3. Frequency measurements are made at 10 °C intervals ranging from -30 °C to +50 °C.
A period of at least one half-hour is provided to allow stabilization of the equipment at each temperature level.

Limit

Part 95.2765

Each MURS transmitter type must be designed to meet the applicable frequency tolerance and stability requirements of this section.

(a) MURS transmitters that operate with an emission bandwidth of 6.25 kHz or less must be designed such that the carrier frequencies remain within ± 2.0 parts-per-million (ppm) of the channel center frequencies specified in § 95.2763 during normal operating conditions.

(b) MURS transmitters that operate with an emission bandwidth greater than 6.25 kHz must be designed such that the carrier frequencies remain within ± 5.0 ppm of the channel center frequencies specified in § 95.2763 during normal operating conditions.

Test Results

OPERATING FREQUENCY : 151.82 MHz
REFERENCE VOLTAGE : 3.70 V DC
LIMIT : 5 ppm

VOLTAGE (%)	POWER (V DC)	TEMP (°C)	FREQ (Hz)	Deviation	
				(%)	(ppm)
100%	3.70	+20(Ref)	151,820,034	0.000 022 4	0.224
100%		-30	151,820,035	0.000 023 1	0.231
100%		-20	151,820,039	0.000 025 7	0.257
100%		-10	151,820,042	0.000 027 7	0.277
100%		0	151,820,046	0.000 030 3	0.303
100%		10	151,820,032	0.000 021 1	0.211
100%		20	151,820,022	0.000 014 5	0.145
100%		30	151,820,005	0.000 003 3	0.033
100%		40	151,820,008	0.000 005 3	0.053
100%		50	151,820,013	0.000 008 6	0.086
115%	4.26	20	151,820,032	0.000 021 1	0.211
85%	3.15	20	151,820,031	0.000 020 4	0.204

- End of Report -