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MEASUREMENT REPORT
FCC Part 15 Subpart C

Applicant Name:

Garmin International Inc
1200 E. 151st. Street
Olathe, Kansas 66062
United States

Date of Testing:

11/05/2025 – 11/13/2025

Test Report Issue Date:

11/19/2025

Test Site/Location:

Element Lab., Columbia, MD, USA

Test Report Serial No.:

1M2511040092-03-R1.IPH

FCC ID:

IPH-04873

IC:

1792A-04873

APPLICANT:

Garmin International Inc

Application Type:

Certification

Model/HVIN:

A04873

EUT Type:

Portable Digital Transceiver

FCC Classification:

Part 15 Low Power Communication Device Transceiver (DXX)

FCC Rule Part(s):

Part 15 Subpart C (15.249)

ISED Specification:

RSS-210 Issue 11

FCC Procedure(s):

ANSI C63.10:2020

ISED Procedure(s):

ANSI C63.10:2020, Cor. 1:2023, C63.10a:2024,
Errata to C63.10a:2024

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in ANSI C63.10:2020. Test results reported herein relate only to the item(s) tested.

This revised Test Report (S/N: 1M2511040092-03-R1.IPH) supersedes and replaces the previously issued test report on the same subject device for the same type of testing as indicated. Please discard or destroy the previously issued test report(s) and dispose of it accordingly.

I attest to the accuracy of data. All measurements reported herein were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them.

RJ Ortanez
Executive Vice President



FCC ID: IPH-04873 IC: 1792A-04873	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2511040092-03-R1.IPH	Test Dates: 11/05/2025 – 11/13/2025	EUT Type: Portable Digital Transceiver	Page 1 of 32

TEST REPORT REVISION HISTORY

Rev. No.	Report S/N	Description	Issue Date
-	1M2511040092-03.IPH	Initial Release	11/13/2025
R1	1M2511040092-03-R1.IPH	Addressing TCB RT	11/19/2025

FCC ID: IPH-04873 IC: 1792A-04873	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2511040092-03-R1.IPH	Test Dates: 11/05/2025 – 11/13/2025	EUT Type: Portable Digital Transceiver	Page 2 of 32

T A B L E O F C O N T E N T S

1.0	INTRODUCTION	4
1.1	Scope	4
1.2	Element Test Location.....	4
1.3	Test Facility / Accreditations.....	4
2.0	PRODUCT INFORMATION.....	5
2.1	Equipment Description	5
2.2	Device Capabilities.....	5
2.3	Antenna Discription	5
2.4	Test Configuration	5
2.5	Software and Firmware	5
2.6	EMI Suppression Device(s)/Modifications	5
3.0	DESCRIPTION OF TESTS	6
3.1	Measurement Procedure.....	6
3.2	Radiated Power and Radiated Spurious Emissions	6
4.0	MEASUREMENT UNCERTAINTY	8
5.0	TEST EQUIPMENT CALIBRATION DATA	9
6.0	TEST RESULTS	10
6.1	Summary	10
6.2	Occupied Bandwidth	11
6.3	Field strength of Fundamental.....	13
6.4	Field strength of Harmonics Measurements – Below 1GHz	17
6.5	Field strength of Harmonics Measurements.....	19
6.6	Line-Conducted Test Data	29
7.0	CONCLUSION	32

FCC ID: IPH-04873 IC: 1792A-04873	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2511040092-03-R1.IPH	Test Dates: 11/05/2025 – 11/13/2025	EUT Type: Portable Digital Transceiver	Page 3 of 32

1.0 INTRODUCTION

1.1 Scope

Measurement and determination of electromagnetic emissions (EMC) of radio frequency devices including intentional and/or unintentional radiators for compliance with the technical rules and regulations of the Federal Communications Commission.

1.2 Element Test Location

Measurements were conducted at the Element laboratory(ies) indicated in Section 1.3 below. All measurement facilities are compliant with the test site requirements specified in ANSI C63.4:2014 and KDB 414788 D01 v01r01.

1.3 Test Facility / Accreditations

Measurements were performed at Element lab located in Columbia, MD 21046, U.S.A.

- Element Washington DC LLC is an ISO 17025-2017 accredited test facility under the American Association for Laboratory Accreditation (A2LA) with Certificate number 2041.01 for Specific Absorption Rate (SAR), Hearing Aid Compatibility (HAC) testing, where applicable, and Electromagnetic Compatibility (EMC) testing for FCC and Innovation, Science, and Economic Development Canada rules.
- Element Washington DC LLC TCB is a Telecommunication Certification Body (TCB) accredited to ISO/IEC 17065-2012 by A2LA (Certificate number 2041.03) in all scopes of FCC Rules and ISED Standards (RSS).
- Element Washington DC LLC facility is a registered test laboratory with the site description on file with ISED (Wireless Test Lab number 2451B) and FCC (Designation Number US1113, Test Lab Registration Number 445776).
- Element Washington DC LLC is a Recognized U.S. Certification Assessment Body (CAB # US0110) for ISED Canada as designated by NIST under the U.S. and Canada Mutual Recognition Agreements (MRAs).

FCC ID: IPH-04873 IC: 1792A-04873		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2511040092-03-R1.IPH	Test Dates: 11/05/2025 – 11/13/2025	EUT Type: Portable Digital Transceiver		Page 4 of 32

2.0 PRODUCT INFORMATION

2.1 Equipment Description

The Equipment Under Test (EUT) is the **Garmin Portable Digital Transceiver FCC ID: IPH-04873** and **IC: 1792A-04873**. The test data contained in this report pertains only to the emissions due to the EUT's 24GHz radar function.

Test Device Serial No.: 8MQ000311

2.2 Device Capabilities

This device contains the following capabilities:

BLE / 2.4GHz Wi-Fi / 24GHz RADAR

2.3 Antenna Discription

This device uses an Microstrip antenna in the 24GHz range. All measurements are performed in a radiated test setup.

2.4 Test Configuration

The EUT was tested per the guidance of ANSI C63.10:2020. See Section 6.0 of this test report for a description of the radiated tests.

2.5 Software and Firmware

The test was conducted with Software version 1.17 installed on the EUT.

2.6 EMI Suppression Device(s)/Modifications

No EMI suppression device(s) were added and no modifications were made during testing.

FCC ID: IPH-04873 IC: 1792A-04873	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2511040092-03-R1.IPH	Test Dates: 11/05/2025 – 11/13/2025	EUT Type: Portable Digital Transceiver	Page 5 of 32

3.0 DESCRIPTION OF TESTS

3.1 Measurement Procedure

The measurement procedures described in the document titled "American National Standard for Compliance Testing of Transmitters Used in Licensed Radio Services" (ANSI C63.10:2020) were used in the measurement of the EUT.

3.2 Radiated Power and Radiated Spurious Emissions

The radiated test facilities consisted of an indoor 3 meter semi-anechoic chamber used for final measurements and exploratory measurements, when necessary for radiated emissions measurements in the spurious domain, for emissions below 18GHz. The measurement area is contained within the semi-anechoic chamber which is shielded from any ambient interference. The test site inside the chamber is a 6m x 5.2m elliptical, obstruction-free area in accordance with Figure 5.7 of Clause 5 in ANSI C63.4:2014. Absorbers are arranged on the floor between the turn table and the antenna mast in such a way so as to maximize the reduction of reflections for measurements above 1GHz. For measurements below 1GHz, the absorbers are removed. A raised turntable is used for radiated measurement. The turn table is a continuously rotatable, remote-controlled, metallic turntable and 2 meters (6.56 ft.) in diameter. The turn table is flush with the raised floor of the chamber in order to maintain its function as a ground plane. An 80cm tall test table made of Styrodur is placed on top of the turn table. A Styrodur pedestal is placed on top of the test table to bring the total table height to 1.5m for measurements above 1GHz.

For measurements above 18GHz, field strength measurements were performed in a full anechoic chamber (FAC) conforming to the site validation requirements of CISPR 16-1-4. Radiated spurious emission measurements from 30MHz - 18GHz were performed in a semi anechoic chamber (SAC) conforming to the site validation requirements of CISPR 16-1-4. A positioner was used to manipulate the EUT through several positions in space by rotating about the roll axis as shown in the figure below. The positioner was mounted on top of a turntable bringing the total EUT height to 1.5m.

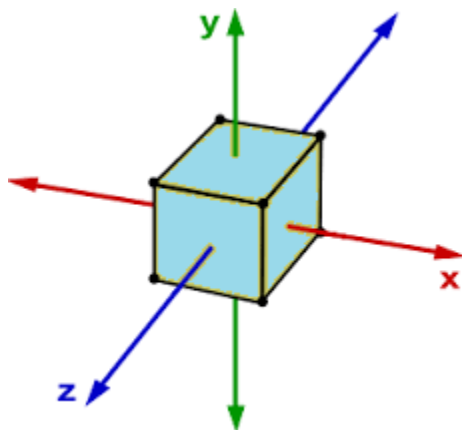


Figure 3-1. Rotation of the EUT Through Three Orthogonal Planes

FCC ID: IPH-04873 IC: 1792A-04873	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2511040092-03-R1.IPH	Test Dates: 11/05/2025 – 11/13/2025	EUT Type: Portable Digital Transceiver	Page 6 of 32

The equipment under test was transmitting while connected to its integral antenna and is placed on a turntable. The measurement antenna is in the far field of the EUT per formula $2D^2/\lambda$ where D is the larger between the dimension of the measurement antenna and the transmitting antenna of the EUT. In this case, "D" is the largest dimension of the measurement antenna. The EUT is manipulated through all orthogonal planes representative of its typical use to achieve the highest reading on the receive spectrum analyzer.

Frequency Range (GHz)	Wavelength (cm)	Far Field Distance (m)	Measurement Distance (m)
18-40	0.749	0.54	1.00
40-60	0.500	1.54	1.50
60-90	0.333	1.33	1.00
90-100	0.214	0.73	1.00

Table 3-1. Far-Field Distance & Measurement Distance per Frequency Range

Field Strength levels are investigated while the receive antenna was rotated through all angles to determine the worst case polarization/positioning. It was determined that H=0 degree and V=90 degree are the worst case positions when the EUT was transmitting horizontally and vertically polarized beams, respectively.

The field strength is calculated from the raw power level measured with the spectrum analyzer using the formulas shown below.

Field Strength Sample Calculation

$$\begin{aligned} \text{Field Strength [dB}\mu\text{V/m]} &= \text{Measured Value [dBm]} + \text{AFCL [dB/m]} + 107 \\ &= -32.74 \text{ dBm} + (40.7 \text{ dB/m} + 8.78 \text{ dB}) + 107 = 123.74 \text{ dB}\mu\text{V/m} \end{aligned}$$

FCC ID: IPH-04873 IC: 1792A-04873	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2511040092-03-R1.IPH	Test Dates: 11/05/2025 – 11/13/2025	EUT Type: Portable Digital Transceiver	Page 7 of 32

4.0 MEASUREMENT UNCERTAINTY

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI C63.4:2014. All measurement uncertainty values are shown with a coverage factor of $k = 2$ to indicate a 95% level of confidence. The measurement uncertainty shown below meets or exceeds the U_{CISPR} measurement uncertainty values specified in CISPR 16-4-2 and, thus, can be compared directly to specified limits to determine compliance.

Contribution	Expanded Uncertainty ($\pm$ dB)
Conducted Bench Top Measurements	1.13
Radiated Disturbance (<1GHz)	4.98
Radiated Disturbance (>1GHz)	5.07
Radiated Disturbance (>18GHz)	5.09

Table 4-1. Measurement Uncertainty Budget

FCC ID: IPH-04873 IC: 1792A-04873	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2511040092-03-R1.IPH	Test Dates: 11/05/2025 – 11/13/2025	EUT Type: Portable Digital Transceiver	Page 8 of 32

5.0 TEST EQUIPMENT CALIBRATION DATA

Test Equipment Calibration is traceable to an accredited ISO/IEC 17025 calibration facility. Measurements antennas used during testing were calibrated in accordance to the requirements of ANSI C63.5-2017.

Manufacturer	Model	Description	Cal Date	Cal Interval	Cal Due	Serial Number
-	ETS-001	EMC Cable and Switch System	12/11/2024	Annual	12/11/2025	ETS-001
-	ETS-002	EMC Cable and Switch System	12/11/2024	Annual	12/11/2025	ETS-002
Carlisle IT	UTiFlex	FAC mmWave UTiFlex 40GHz	2/25/2025	Annual	2/25/2026	232062-001
Carlisle IT	UTiFlex	FAC mmWave UTiFlex 40GHz	2/25/2025	Annual	2/25/2026	234142-001
Agilent	N9030A	PXA Signal Analyzer (44GHz)	6/6/2025	Annual	6/6/2026	MY52350166
Agilent	N9030A	50GHz PXA Signal Analyzer	4/23/2025	Annual	4/23/2026	US51350301
Narda	180-422-KF	Horn (Small)	10/9/2024	Biennial	10/9/2026	U157403-01
EMCO	3115	Horn Antenna (18-40GHz)	9/6/2024	Biennial	9/6/2026	9704-5182
MI-WAVE	261F-25/387	HORN ANTENNA	1/29/2025	Biennial	1/29/2027	30416
MI-WAVE	261G-25/387	HORN ANTENNA	1/29/2025	Biennial	1/29/2027	30417
MI-WAVE	261E-25/387	HORN ANTENNA	1/29/2025	Biennial	1/29/2027	30415
MI-WAVE	261U-25/383	HORN ANTENNA	1/29/2025	Biennial	1/29/2027	30414
Rohde & Schwarz	FSW67	Signal / Spectrum Analyzer	5/12/2025	Annual	5/12/2026	103200
Sunol	DRH-118	Horn Antenna (1-18GHz)	2/21/2024	Biennial	2/21/2026	A050307
Sunol	JB5	Bi-Log Antenna (30M - 5GHz)	9/11/2024	Biennial	9/11/2026	A051107
Virginia Diodes Inc	SAX680	SAX Module (140 - 220GHz)	1/29/2025	Biennial	1/29/2027	SAX680
Virginia Diodes Inc	SAX679	SAX Module (90 - 140GHz)	1/29/2025	Biennial	1/29/2027	SAX679
Virginia Diodes Inc	SAX682	SAX Module (60 - 90GHz)	1/29/2025	Biennial	1/29/2027	SAX682
Virginia Diodes Inc	SAX681	SAX Module (40 - 60GHz)	1/29/2025	Biennial	1/29/2027	SAX681

Table 5-1. Test Equipment Calibration Table

Component	Serial Number
Pasternack Cable RG214/U	111815
MegaPhase (CAGE 1GVT4) Cable GR18-N5N5-24	14042714 001

Table 5-2. ETS-001 EMC Cable and Switch System Components

Component	Serial Number
MegaPhase (CAGE 1GVT4) Cable GR18-N5N5-24	14042714 001
MegaPhase (CAGE 1GVT4) Cable NC29-N1N1-324	20502201 001
Rohde & Schwarz SF Unit	102134
Minicircuits Cable CBL=0.5M-NMNM+	15440

Table 5-3. ETS-002 EMC Cable and Switch System Components

Notes:

For equipment listed above that has a calibration date or calibration due date that falls within the test date range, care was taken to ensure that this equipment was used after the calibration date and before the calibration due date.

FCC ID: IPH-04873 IC: 1792A-04873	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2511040092-03-R1.IPH	Test Dates: 11/05/2025 – 11/13/2025	EUT Type: Portable Digital Transceiver	Page 9 of 32

6.0 TEST RESULTS

6.1 Summary

Company Name: Garmin International Inc
 FCC ID: IPH-04873
 IC: 1792A-04873
 FCC Classification: Part 15 Low Power Communication Device Transceiver (DXX)
 Mode(s): 24GHz Radar

FCC Part Section(s)	RSS Section(s)	Test Description	Test Limit	Test Condition	Test Result	Reference
2.1049	RSS-Gen (6.7)	Occupied Bandwidth	N/A	RADIATED	PASS	Section 6.2
15.249(a)	RSS-210 [B.10]	Field strength of Fundamental	250 (millivolts/meter)		PASS	Section 6.3
15.249(a)	RSS-210 [B.10]	Field strength of Harmonics	2500 (microvolts/meter)		PASS	Section 6.4, 6.5
15.207	RSS-Gen [8.8]	AC Conducted Emissions 150kHz – 30MHz	< FCC 15.207 limits (RSS-Gen[8.8])	LINE CONDUCTED	PASS	Section 6.6

Table 6-1. Summary of Radiated Test Results

FCC ID: IPH-04873 IC: 1792A-04873	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2511040092-03-R1.IPH	Test Dates: 11/05/2025 – 11/13/2025	EUT Type: Portable Digital Transceiver	Page 10 of 32

6.2 Occupied Bandwidth

Test Overview

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 radiated by a given emission shall be measured.

Test Procedure Used

ANSI C63.10:2020 – Section 6.9.3

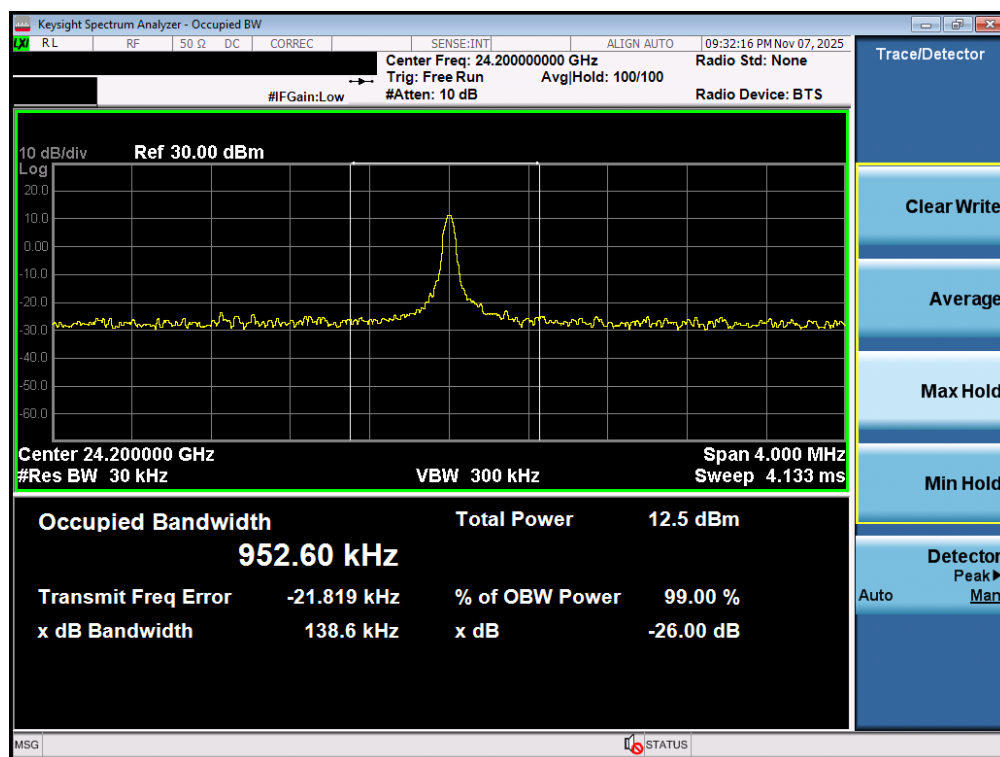
Test Settings

1. The signal analyzer's automatic bandwidth feature was used to perform the 99% occupied bandwidth measurement. The bandwidth measurement was not influenced by any intermediate power nulls in the fundamental emission.
2. RBW = 1 – 5% of the expected OBW
3. VBW $\geq 3 \times$ RBW
4. Detector = Peak
5. Trace mode = max hold
6. Sweep = auto couple
7. The trace was allowed to stabilize

Test Notes

None

FCC ID: IPH-04873 IC: 1792A-04873		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2511040092-03-R1.IPH	Test Dates: 11/05/2025 – 11/13/2025	EUT Type: Portable Digital Transceiver		Page 11 of 32



Plot 6-1. Occupied Bandwidth Plot (Mid Channel)

FCC ID: IPH-04873 IC: 1792A-04873	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2511040092-03-R1.IPH	Test Dates: 11/05/2025 – 11/13/2025	EUT Type: Portable Digital Transceiver	Page 12 of 32

6.3 Field strength of Fundamental

Test Overview and Limit

The field strength measurements are performed using broadband horn antennas. Measurements are performed as RMS average measurements while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies.

The field strength of emissions from the intentional radiators operated within these frequency bands shall comply with following:

Fundamental frequency	Field strength of fundamental (millivolts/meter)	Field strength of harmonics (microvolts/meter)
902-928 MHz	50	500
2400-2483.5 MHz	50	500
5725-5875 MHz	50	500
24.0-24.25 GHz	250	2500

Table 6-2. Field strength Test Limit

Fundamental Limit Conversion	
Average (mV/m)	Average (dBμV/m)
250	107.96

Table 6-3. Fundamental Limit Conversion

Test Procedures Used

ANSI C63.10:2020

Test Settings

1. Analyzer was set to the center
2. RBW = 1MHz
3. VBW $\geq 3 \times$ RBW
4. Span = 2x to 3x the OBW
5. No. of sweep points $\geq 2 \times$ span / RBW
6. Detector = RMS
7. Trace mode = trace averaging (RMS) over 100 sweeps
8. The trace was allowed to stabilize
9. The peak search function of the spectrum analyzer was used to find the peak of the spectrum.

FCC ID: IPH-04873 IC: 1792A-04873	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2511040092-03-R1.IPH	Test Dates: 11/05/2025 – 11/13/2025	EUT Type: Portable Digital Transceiver	Page 13 of 32

Test Notes

- 1) The EUT was tested in three orthogonal planes and in all possible test configurations and positioning.
- 2) Measurements for all bands were taken at 1m test distance as was required for far-field conditions (see Table 3-1).
- 3) The field strength below is calculated per ANSI C63.10:2020 which states: The field strength at the antenna terminals E is calculated as: $E \text{ (dB}\mu\text{V/m)} = \text{Spectrum Analyzer Level (dBm)} + \text{Antenna Factor (dB/m)} + \text{Cable Loss (dB)} + 107$.
- 4) All Field strength measurements were made with the appropriate offset levels loaded into the spectrum analyzer as determined from the measurement distance, antenna factor, cable loss, and the equations in Note 3 above.
- 5) Radiated power levels are investigated while the receive antenna was rotated through all angles to determine the worst case polarization/positioning.

Sample Calculation

The offset level loaded into the spectrum analyzer allows for a direct conversion of the raw level measured by the analyzer into a field strength value. This offset level is frequency dependent and is calculated as follows:

$$\text{Offset Level [dB]} = \text{Antenna Factor [dB/m]} + \text{Cable Loss [dB]}$$

For example, to measure an EIRP at a frequency of 24200MHz with an antenna factor of 45.49dB/m, a cable loss of 8.53dB.

$$\text{Offset Level} = 45.49\text{dB/m} + 8.53\text{dB} = 56.22 \text{ dB}$$

shall be loaded into the spectrum analyzer.

Apply Distance Correction to Normalize to 3m

$$\text{Correction Factor} = 20 \text{ Log}(\text{Distance [m]}) \approx 9.54 \text{ dB}$$

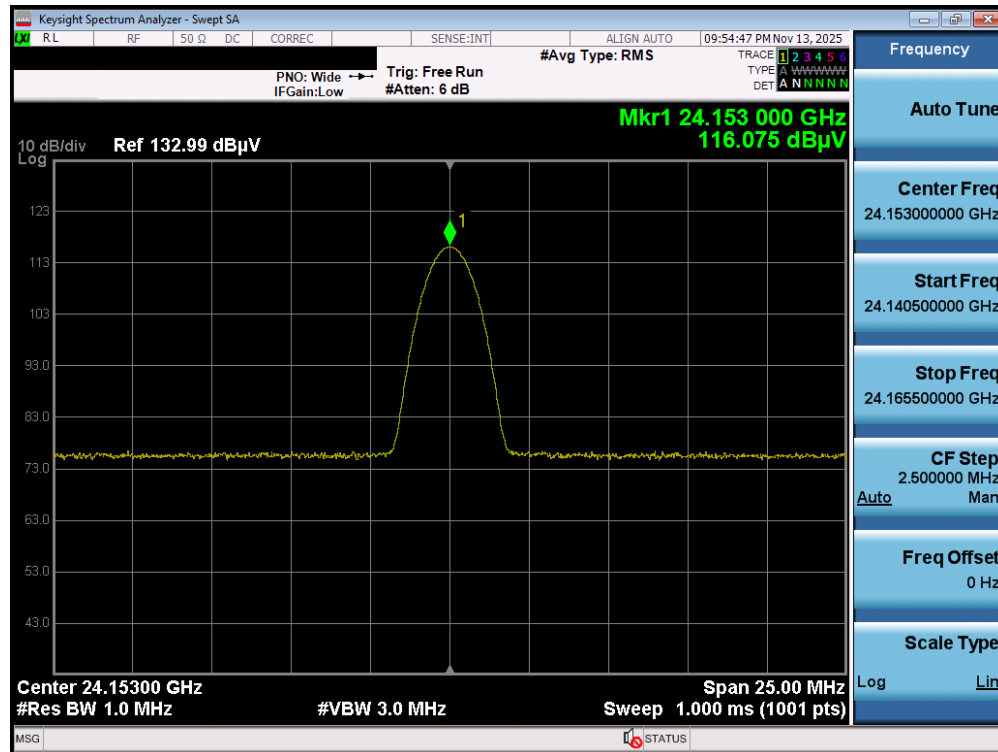
$$\text{Spectrum Level} = 116.45 \text{ dB}\mu\text{V}$$

$$\text{Field Strength at 3m} = 116.45 - 9.54 = 106.91 \text{ dB}\mu\text{V/m}$$

FCC ID: IPH-04873 IC: 1792A-04873	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2511040092-03-R1.IPH	Test Dates: 11/05/2025 – 11/13/2025	EUT Type: Portable Digital Transceiver	Page 14 of 32

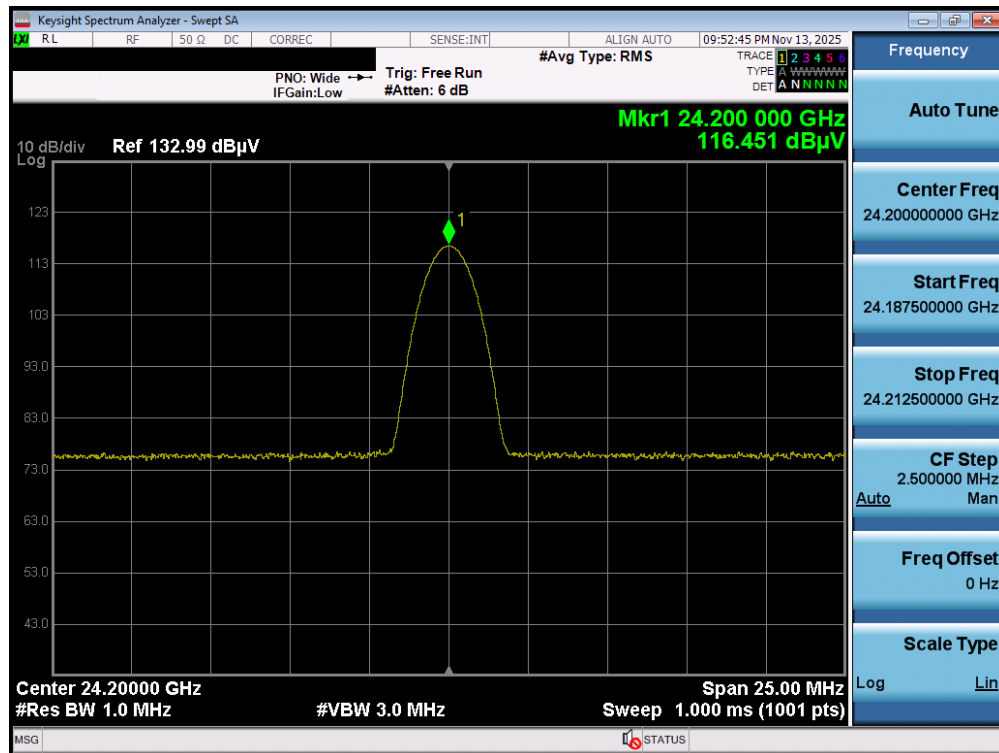
Channel	Frequency [MHz]	Ant. Pol. [H/V]	Positioner Roll [degrees]	Turntable Azimuth [degrees]	Spectrum Level [dBμV]	Distance Correction [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
Low	24153.00	V	86	96	116.08	9.54	106.54	107.96	-1.43
Mid	24200.00	V	85	95	116.45	9.54	106.91	107.96	-1.05
High	24247.00	V	86	96	116.69	9.54	107.15	107.96	-0.81

Table 6-4. Field Strength of Fundamental

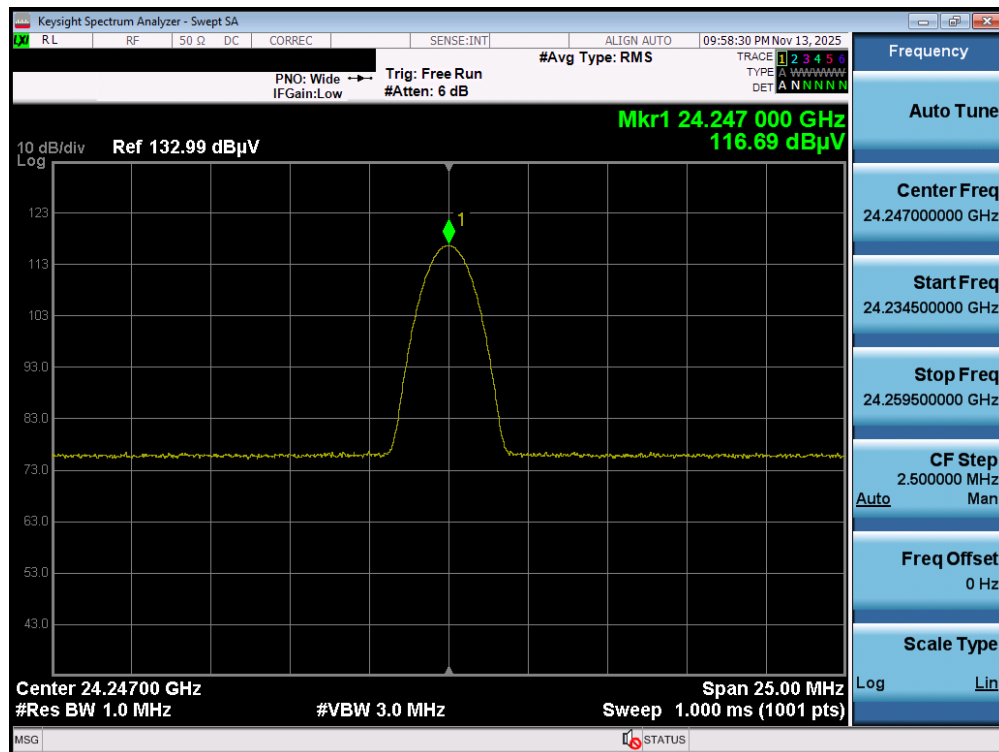


Plot 6-2. Field Strength of Fundamental – Low Channel

FCC ID: IPH-04873 IC: 1792A-04873	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2511040092-03-R1.IPH	Test Dates: 11/05/2025 – 11/13/2025	EUT Type: Portable Digital Transceiver	Page 15 of 32



Plot 6-3. Field Strength of Fundamental – Mid Channel



Plot 6-4. Field Strength of Fundamental – High Channel

FCC ID: IPH-04873 IC: 1792A-04873	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2511040092-03-R1.IPH	Test Dates: 11/05/2025 – 11/13/2025	EUT Type: Portable Digital Transceiver	Page 16 of 32

6.4 Field strength of Harmonics Measurements – Below 1GHz

Test Overview and Limit

All out of band radiated spurious emissions are measured with a spectrum analyzer connected to a receive antenna while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies. All data rates and modes were investigated for radiated spurious emissions. Only the radiated emissions of the configuration that produced the worst-case emissions are reported in this section.

All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47 CFR and Table 6 of RSS-Gen (8.10) must not exceed the limits shown in Table 6-5 per Section 15.209 and RSS-Gen (8.9).

Frequency	Field Strength [$\mu\text{V/m}$]	Measured Distance [Meters]
0.009 – 0.490 MHz	2400/F (kHz)	300
0.490 – 1.705 MHz	24000/F (kHz)	30
1.705 – 30.00 MHz	30	30
30.00 – 88.00 MHz	100	3
88.00 – 216.0 MHz	150	3
216.0 – 960.0 MHz	200	3
Above 960.0 MHz	500	3

Table 6-5. Radiated Limits

Test Procedures Used

ANSI C63.10:2020

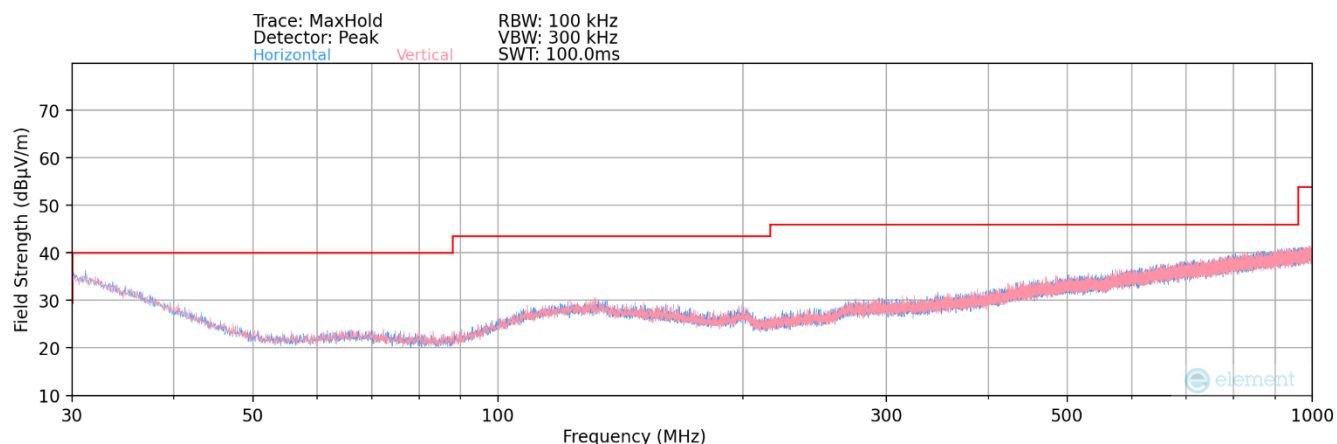
Test Settings

Quasi-Peak Field Strength Measurements

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 120kHz (for emissions from 30MHz – 1GHz)
3. Detector = quasi-peak
4. Sweep time = auto couple
5. Trace mode = max hold
6. Trace was allowed to stabilize

FCC ID: IPH-04873 IC: 1792A-04873	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2511040092-03-R1.IPH	Test Dates: 11/05/2025 – 11/13/2025	EUT Type: Portable Digital Transceiver	Page 17 of 32

30MHz - 1GHz



Plot 6-5. Radiated Spurious Plot above

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
200.00	Quasi-Peak	H	-	-	-92.89	20.10	34.21	43.52	-9.31
400.00	Quasi-Peak	H	-	-	-96.94	23.40	33.46	46.02	-12.56
600.00	Quasi-Peak	H	-	-	-95.64	27.02	38.38	46.02	-7.64

Table 6-6. Radiated Measurements

FCC ID: IPH-04873 IC: 1792A-04873	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2511040092-03-R1.IPH	Test Dates: 11/05/2025 – 11/13/2025	EUT Type: Portable Digital Transceiver	Page 18 of 32

6.5 Field strength of Harmonics Measurements

Test Overview

All out of band radiated spurious emissions are measured with a spectrum analyzer connected to a receive antenna while the EUT is operating at maximum power and at the appropriate frequencies. Only the radiated emissions of the configuration that produced the worst case emissions are reported in this section.

The field strength of emissions from the intentional radiators operated within these frequency bands shall comply with following:

Fundamental frequency	Field strength of fundamental (millivolts/meter)	Field strength of harmonics (microvolts/meter)
902-928 MHz	50	500
2400-2483.5 MHz	50	500
5725-5875 MHz	50	500
24.0-24.25 GHz	250	2500

Table 6-7. Field strength Test Limit

Harmonic Limit Conversion		
Average (μV/m) at 3M	Average (dBμV/m) at 3M	Peak (dBμV/m) at 3M
2500	67.96	87.96

Table 6-8. Harmonic Limit Conversion

Test Procedure Used

ANSI C63.10:2020

Test Settings

Average Field Strength Measurements

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW = 3kHz > 1/T
4. Averaging type was set to RMS to ensure that video filtering was applied in the power domain
5. Detector = peak
6. Sweep time = auto
7. Trace mode = max hold
8. Trace was allowed to run for at least 50 times (1/duty cycle) traces

FCC ID: IPH-04873 IC: 1792A-04873	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2511040092-03-R1.IPH	Test Dates: 11/05/2025 – 11/13/2025	EUT Type: Portable Digital Transceiver	Page 19 of 32

Peak Field Strength Measurements

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW is set depending on measurement frequency, as specified in Table 6-9 below
3. VBW = 3MHz
4. Detector = peak
5. Sweep time = auto couple
6. Trace mode = max hold
7. Trace was allowed to stabilize

Frequency	RBW
9 – 150kHz	200 – 300Hz
0.15 – 30MHz	9 – 10kHz
30 – 1000MHz	100 – 120kHz
> 1000MHz	1MHz

Table 6-9. RBW as a Function of Frequency

Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.

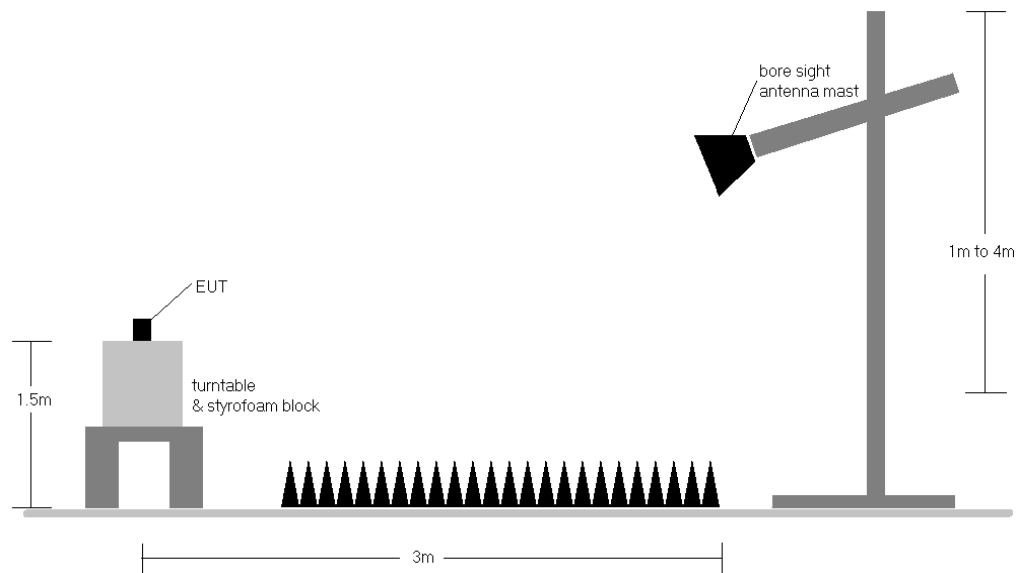


Figure 6-1. Radiated Test Setup >1GHz

FCC ID: IPH-04873 IC: 1792A-04873	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2511040092-03-R1.IPH	Test Dates: 11/05/2025 – 11/13/2025	EUT Type: Portable Digital Transceiver	Page 20 of 32

Test Notes

- 1) The plots from 1-200GHz show corrected dBuV/m levels. The field strength E is calculated $E \text{ (dB}\mu\text{V/m)} = \text{Spectrum Analyzer Level (dBm)} + \text{Antenna Factor (dB/m)} + \text{Cable Loss (dB)} + \text{Harmonic Mixer Conversion Loss (dB)} + 107$. All appropriate Antenna Factor and Cable Loss have been applied in the spectrum analyzer for each measurement. For measurements > 40GHz, Harmonic Mixer Conversion Loss was also applied to the spectrum analyzer.
- 2) Emissions below 18GHz were measured at a 3 meter test distance, while emissions above 18GHz were measured at the appropriate far field distance. The far field of the mmWave signal is based on formula: $R > 2D^2/\text{wavelength}$, where D is the larger between the dimension of the measurement antenna and the transmitting antenna of the EUT. In this case, D is the largest dimension of the measurement antenna.

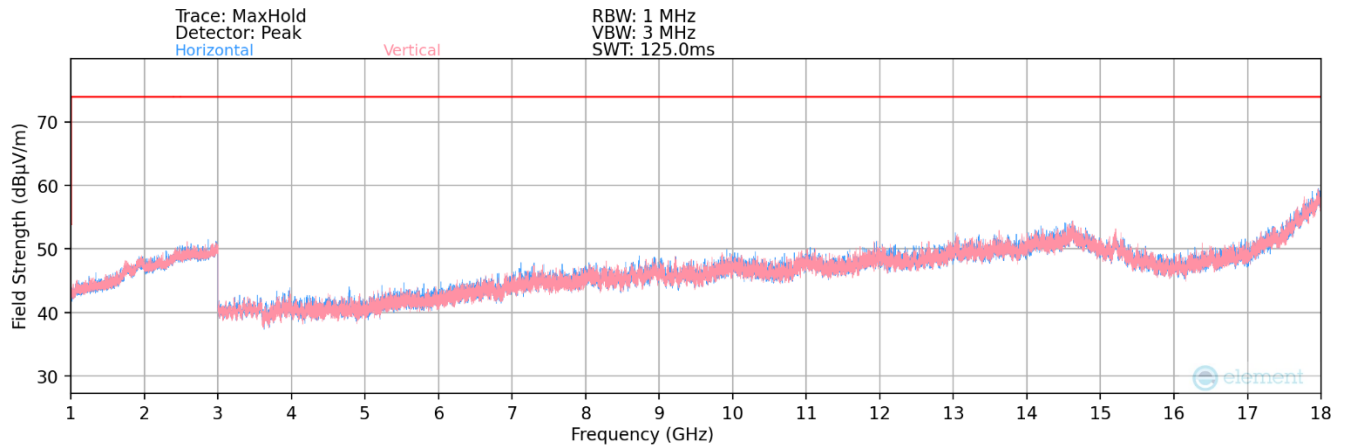
Frequency Range (GHz)	Wavelength (cm)	Far Field Distance (m)	Measurement Distance (m)
18-40	0.749	0.54	1.00
40-60	0.500	1.54	1.50
60-90	0.333	1.33	1.00
90-100	0.214	0.73	1.00

Table 6-10. Far-Field Distance & Measurement Distance per Frequency Range

- 3) All emissions from 30MHz - 40GHz were measured using a spectrum analyzer with an internal preamplifier. Emissions >40GHz were measured using a harmonic mixer with the spectrum analyzer.
- 4) The "-" shown in the following RSE tables are used to denote a noise floor measurement.

FCC ID: IPH-04873 IC: 1792A-04873	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2511040092-03-R1.IPH	Test Dates: 11/05/2025 – 11/13/2025	EUT Type: Portable Digital Transceiver	Page 21 of 32

1GHz - 18GHz



Plot 6-6. Radiated Spurious Plot (1 – 18GHz)

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
4840.05	Avg	H	-	-	-74.56	-1.15	31.29	53.98	-22.69
4840.05	Peak	H	-	-	-62.23	-1.15	43.62	73.98	-30.36
7236.00	Avg	H	-	-	-75.30	4.16	35.86	53.98	-18.12
7236.00	Peak	H	-	-	-63.87	4.16	47.29	73.98	-26.69
12600.00	Avg	H	-	-	-77.96	9.88	38.92	53.98	-15.06
12600.00	Peak	H	-	-	-65.48	9.88	51.40	73.98	-22.58

Table 6-11. Radiated Measurements – Low Channel

FCC ID: IPH-04873 IC: 1792A-04873	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2511040092-03-R1.IPH	Test Dates: 11/05/2025 – 11/13/2025	EUT Type: Portable Digital Transceiver	Page 22 of 32

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
4868.39	Avg	H	-	-	-74.56	-1.04	31.40	53.98	-22.58
4868.39	Peak	H	-	-	-62.87	-1.04	43.09	73.98	-30.89
7296.25	Avg	H	-	-	-75.33	4.51	36.18	53.98	-17.80
7296.25	Peak	H	-	-	-63.65	4.51	47.86	73.98	-26.12
12172.98	Avg	H	-	-	-77.60	9.65	39.05	53.98	-14.93
12172.98	Peak	H	-	-	-66.02	9.65	50.63	73.98	-23.35

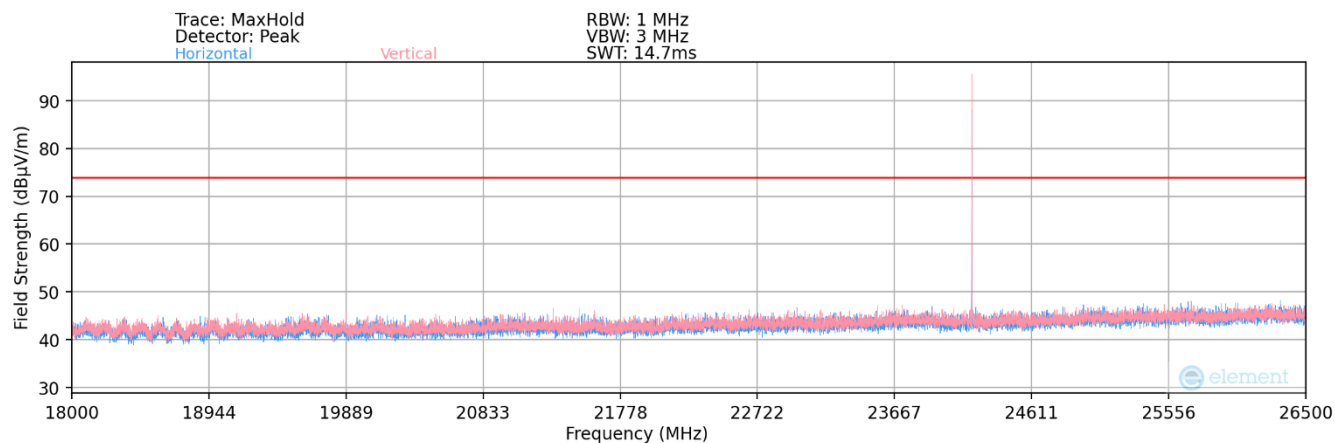
Table 6-12. Radiated Measurements – Mid Channel

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
4912.70	Avg	H	-	-	-74.76	-0.99	31.25	53.98	-22.73
4912.70	Peak	H	-	-	-62.87	-0.99	43.14	73.98	-30.84
7401.30	Avg	H	-	-	-75.46	4.88	36.42	53.98	-17.56
7401.30	Peak	H	-	-	-64.20	4.88	47.68	73.98	-26.30
12329.79	Avg	H	-	-	-78.26	9.88	38.62	53.98	-15.36
12329.79	Peak	H	-	-	-66.40	9.88	50.48	73.98	-23.50

Table 6-13. Radiated Measurements – High Channel

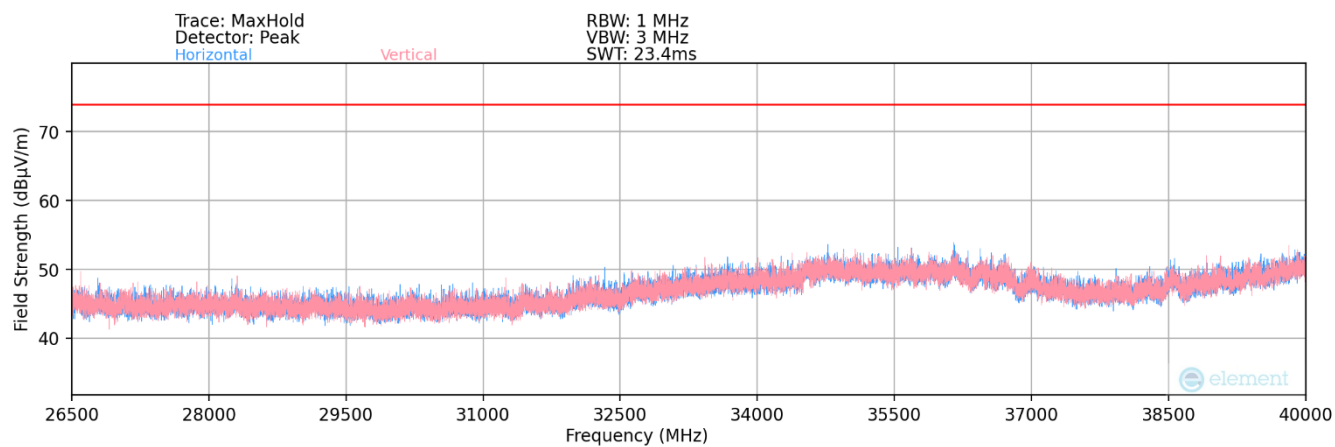
FCC ID: IPH-04873 IC: 1792A-04873	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Technical Manager
Test Report S/N: 1M2511040092-03-R1.IPH	Test Dates: 11/05/2025 – 11/13/2025	EUT Type: Portable Digital Transceiver		Page 23 of 32

18GHz – 26.5GHz



Plot 6-7. Radiated Spurious Plot (18 – 26.5GHz)

26.5GHz – 40GHz



Plot 6-8. Radiated Spurious Plot (26.5 – 40GHz)

FCC ID: IPH-04873 IC: 1792A-04873	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2511040092-03-R1.IPH	Test Dates: 11/05/2025 – 11/13/2025	EUT Type: Portable Digital Transceiver	Page 24 of 32

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
23024.00	Avg	H	-	-	-66.29	3.68	44.39	53.98	-9.59
23024.00	Peak	H	-	-	-56.00	3.68	54.68	73.98	-19.30
28020.00	Avg	H	-	-	-66.32	5.32	46.00	53.98	-7.98
28020.00	Peak	H	-	-	-56.62	5.32	55.70	73.98	-18.28

Table 6-14. Radiated Measurements – Low Channel

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
24874.00	Avg	H	-	-	-65.63	4.39	45.76	53.98	-8.22
24874.00	Peak	H	-	-	-56.03	4.39	55.37	73.98	-18.61
27311.00	Avg	H	-	-	-64.46	4.97	47.51	53.98	-6.47
27311.00	Peak	H	-	-	-55.55	4.97	56.42	73.98	-17.56

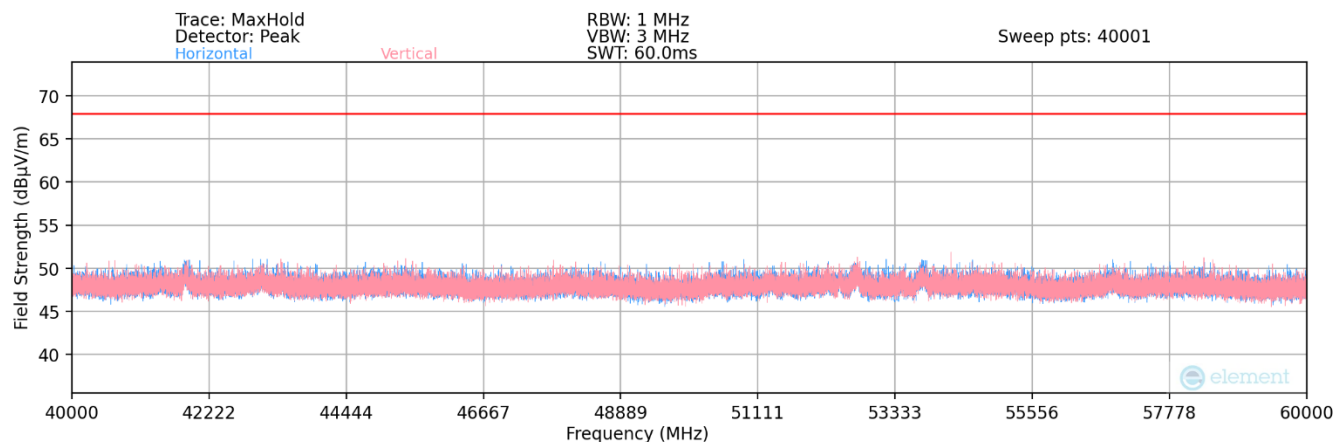
Table 6-15. Radiated Measurements – Mid Channel

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
24924.00	Avg	H	-	-	-65.10	4.45	46.36	53.98	-7.62
24924.00	Peak	H	-	-	-54.46	4.45	56.99	73.98	-16.99
27386.00	Avg	H	-	-	-65.50	4.87	46.37	53.98	-7.61
27386.00	Peak	H	-	-	-55.73	4.87	56.15	73.98	-17.83

Table 6-16. Radiated Measurements – High Channel

FCC ID: IPH-04873 IC: 1792A-04873	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Technical Manager
Test Report S/N: 1M2511040092-03-R1.IPH	Test Dates: 11/05/2025 – 11/13/2025	EUT Type: Portable Digital Transceiver		Page 25 of 32

40GHz – 60GHz



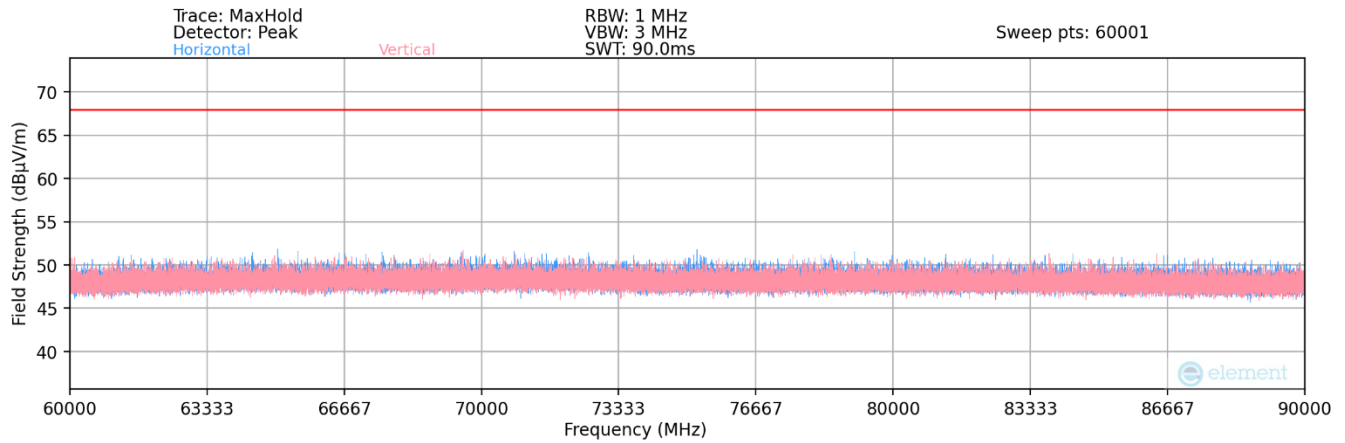
Plot 6-9. Radiated Spurious Plot (40 – 60GHz)

Frequency [MHz]	Detector	Channel	Antenna Polarization [H/V]	Antenna Height [cm]	Turntable Azimuth [degrees]	Spurious Emission Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]
48306.00	Avg	Low	H	-	-	39.67	67.96	-28.29
48306.00	Peak	Low	H	-	-	49.94	87.96	-38.02
48400.00	Avg	Mid	H	-	-	39.70	67.96	-28.26
48400.00	Peak	Mid	H	-	-	49.98	87.96	-37.98
48494.00	Avg	High	H	-	-	39.72	67.96	-28.24
48494.00	Peak	High	H	-	-	50.33	87.96	-37.63

Table 6-17. Radiated Measurements (40GHz - 60GHz)

FCC ID: IPH-04873 IC: 1792A-04873	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2511040092-03-R1.IPH	Test Dates: 11/05/2025 – 11/13/2025	EUT Type: Portable Digital Transceiver	Page 26 of 32

60GHz – 90GHz



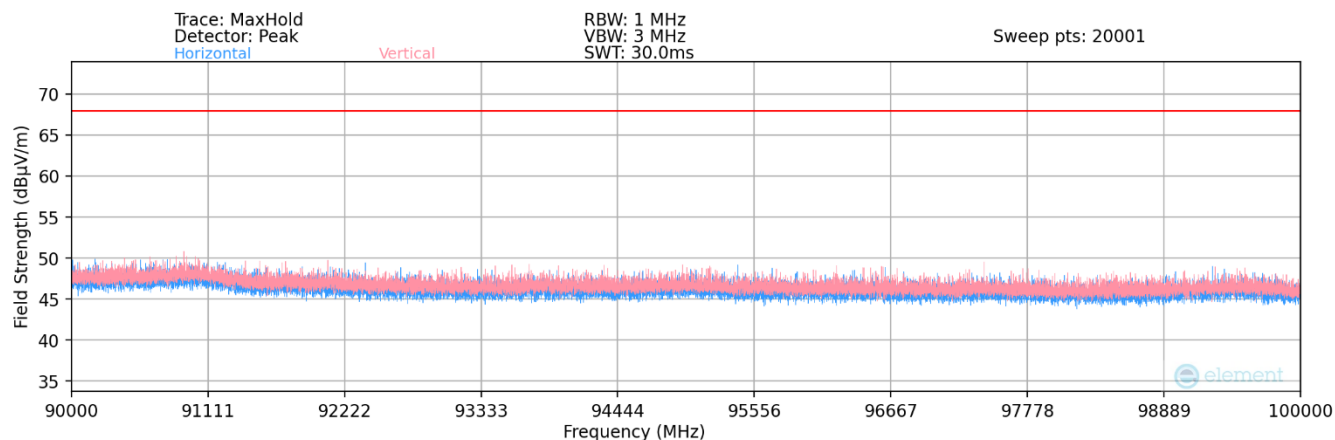
Plot 6-10. Radiated Spurious Plot (60 – 90GHz)

Frequency [MHz]	Channel	Antenna Polarization [H/V]	Positioner Roll [degrees]	Turntable Azimuth [degrees]	Spurious Emission Level [dBuV/m]	Limit [dBuV/m]	Margin [dB]
72459.00	Low	H	1	313	49.10	67.96	-18.86
72459.00	Low	H	1	313	54.52	87.96	-33.44
75093.00	Low	H	5	313	46.02	53.98	-7.96
75093.00	Low	H	5	313	54.67	73.98	-19.31
72600.00	Mid	H	360	313	48.69	67.96	-19.27
72600.00	Mid	H	3	313	53.70	87.96	-34.26
75375.00	Mid	H	1	313	49.82	53.98	-4.16
75375.00	Mid	H	1	313	54.41	73.98	-19.57
72741.00	High	H	353	311	48.30	67.96	-19.66
72741.00	High	H	353	311	53.54	87.96	-34.42
75375.00	High	H	8	310	46.14	53.98	-7.84
75375.00	High	H	8	310	53.90	73.98	-20.08

Table 6-18. Radiated Measurements (60GHz - 90GHz)

FCC ID: IPH-04873 IC: 1792A-04873	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2511040092-03-R1.IPH	Test Dates: 11/05/2025 – 11/13/2025	EUT Type: Portable Digital Transceiver	Page 27 of 32

90GHz – 100GHz



Plot 6-11. Radiated Spurious Plot (90 – 100GHz)

Frequency [MHz]	Detector	Channel	Antenna Polarization [H/V]	Positioner Roll [degrees]	Turntable Azimuth [degrees]	Spurious Emission Level [dBuV/m]	Limit [dBuV/m]	Margin [dB]
96612.00	Avg	Low	H	-	-	42.23	67.96	-25.73
96612.00	Peak	Low	H	-	-	48.34	87.96	-39.62
96800.00	Avg	Mid	H	-	-	37.70	67.96	-30.26
96800.00	Peak	Mid	H	-	-	48.14	87.96	-39.82
96988.00	Avg	High	H	-	-	42.16	67.96	-25.80
96988.00	Peak	High	H	-	-	47.72	87.96	-40.24

Table 6-19. Radiated Measurements (90GHz - 100GHz)

FCC ID: IPH-04873 IC: 1792A-04873	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2511040092-03-R1.IPH	Test Dates: 11/05/2025 – 11/13/2025	EUT Type: Portable Digital Transceiver	Page 28 of 32

6.6 Line-Conducted Test Data

Test Overview and Limit

All AC line conducted spurious emissions are measured with a receiver connected to a grounded LISN while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies. All data rates and modes were investigated for conducted spurious emissions. Only the conducted emissions of the configuration that produced the worst case emissions are reported in this section.

All conducted emissions must not exceed the limits shown in the table below per Section 15.207 and RSS-Gen (8.8).

Frequency of emission (MHz)	Conducted Limit (dB μ V)	
	Quasi-peak	Average
0.15 – 0.5	66 to 56*	56 to 46*
0.5 – 5	56	46
5 – 30	60	50

Table 6-20. Conducted Limits

*Decreases with the logarithm of the frequency.

Test Procedures Used

ANSI C63.10:2020, Section 6.2

Test Settings

Quasi-Peak Field Strength Measurements

1. Analyzer center frequency was set to the frequency of the spurious emission of interest
2. RBW = 9kHz (for emissions from 150kHz – 30MHz)
3. Detector = quasi-peak
4. Sweep time = auto couple
5. Trace mode = max hold
6. Trace was allowed to stabilize

Average Field Strength Measurements

1. Analyzer center frequency was set to the frequency of the spurious emission of interest
2. RBW = 9kHz (for emissions from 150kHz – 30MHz)
3. Detector = RMS
4. Sweep time = auto couple
5. Trace mode = max hold
6. Trace was allowed to stabilize

FCC ID: IPH-04873 IC: 1792A-04873	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2511040092-03-R1.IPH	Test Dates: 11/05/2025 – 11/13/2025	EUT Type: Portable Digital Transceiver	Page 29 of 32

Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.

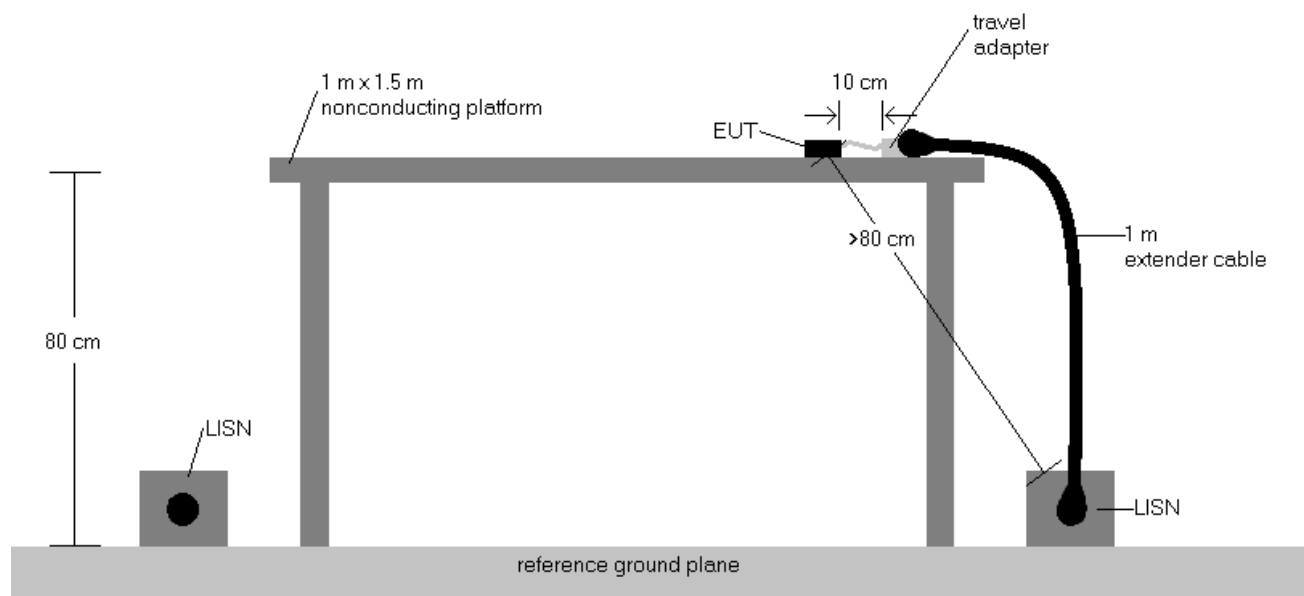
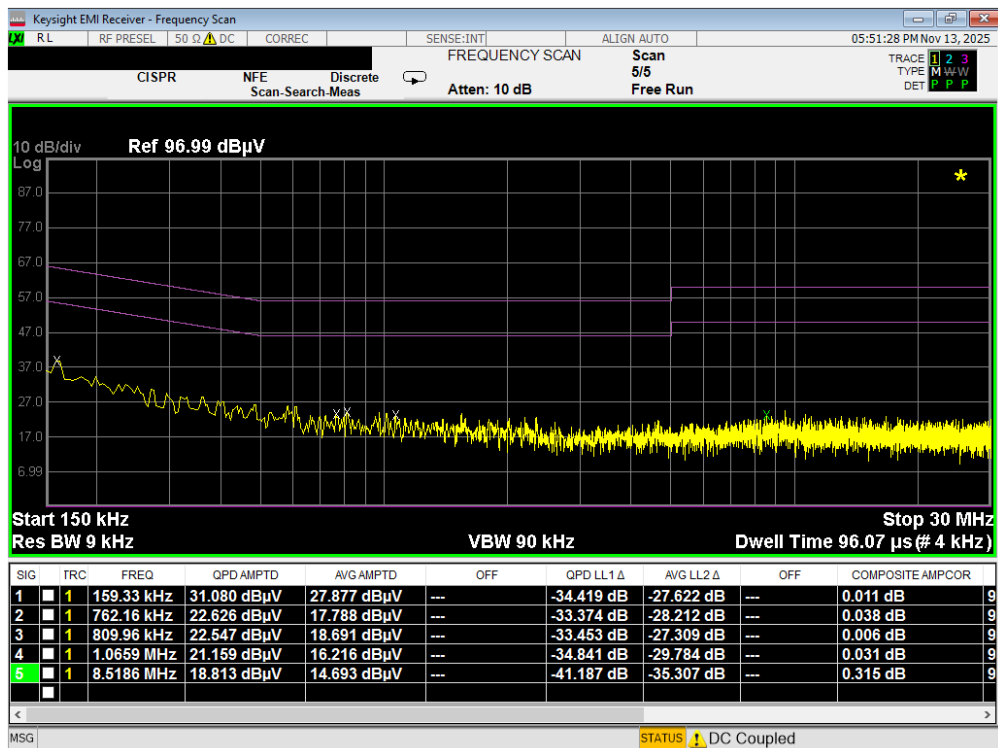


Figure 6-2. Test Instrument & Measurement Setup

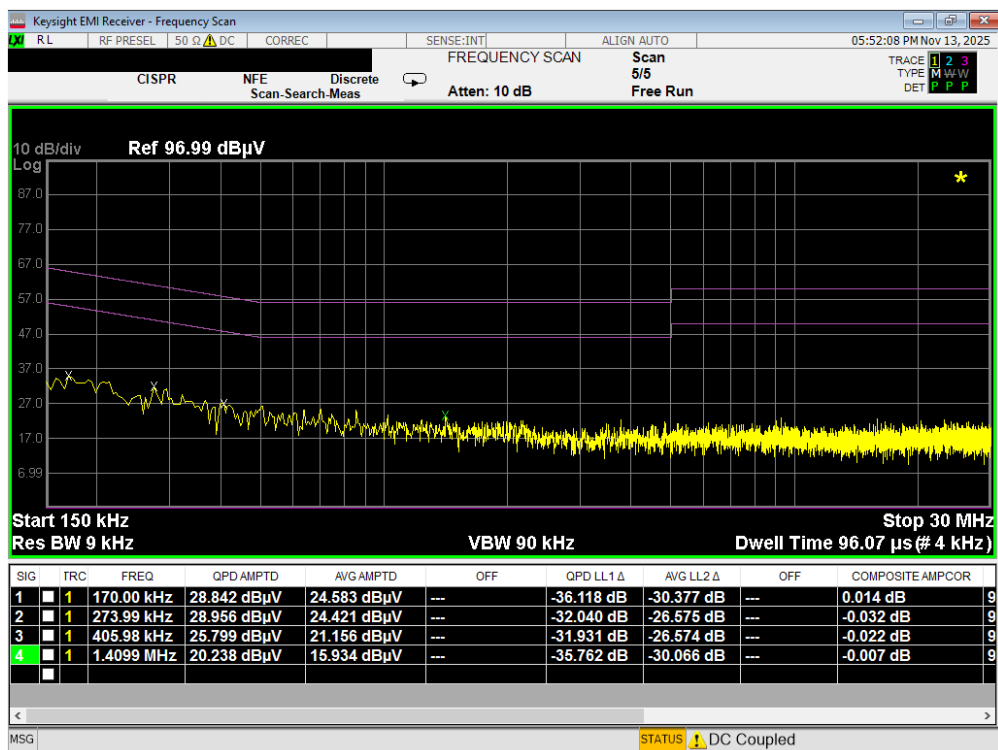
Test Notes

1. All modes of operation were investigated and the worst-case emissions are reported using mid channel. The emissions found were not affected by the choice of channel used during testing.
2. The limit for an intentional radiator from 150kHz to 30MHz are specified in Part 15.207 and RSS-Gen (8.8).
3. $\text{Corr. (dB)} = \text{Cable loss (dB)} + \text{LISN insertion factor (dB)}$
4. $\text{QP/AV Level (dB}\mu\text{V)} = \text{QP/AV Analyzer/Receiver Level (dB}\mu\text{V)} + \text{Corr. (dB)}$
5. $\text{Margin (dB)} = \text{QP/AV Limit (dB}\mu\text{V)} - \text{QP/AV Level (dB}\mu\text{V)}$
6. Traces shown in plot are made using a peak detector.
7. Deviations to the Specifications: None.

FCC ID: IPH-04873 IC: 1792A-04873	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2511040092-03-R1.IPH	Test Dates: 11/05/2025 – 11/13/2025	EUT Type: Portable Digital Transceiver	Page 30 of 32



Plot 6-12. Line Conducted Plot with 24GHz Radar (L1)



Plot 6-13. Line Conducted Plot with 24GHz Radar (N)

FCC ID: IPH-04873 IC: 1792A-04873	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2511040092-03-R1.IPH	Test Dates: 11/05/2025 – 11/13/2025	EUT Type: Portable Digital Transceiver	Page 31 of 32

7.0 CONCLUSION

The data collected relate only to the item(s) tested and show that the **Garmin Portable Digital Transceiver FCC ID: IPH-04873 and IC: 1792A-04873** complies with all the requirements of Part 15 Subpart C (15.249) of FCC rules and RSS-210 of the ISSED rules.

- END OF TEST REPORT -

FCC ID: IPH-04873 IC: 1792A-04873	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2511040092-03-R1.IPH	Test Dates: 11/05/2025 – 11/13/2025	EUT Type: Portable Digital Transceiver	Page 32 of 32