Test report

PRJ0089522-EMC-R3

Date of issue: December 16, 2025

Applicant:

The Genie Company (a Division of Overhead Door Corporation)

Product:

Wireless Keypad

Model numbers (HVINs):

GK2, OKP2, GUK2, OUK2

Model names (PMNs):

GK2, OKP2, GUK2, OUK2

FCC ID:

B8QKP2

ISED Certification Number:

IC: 2133A-KP2

Specifications:

- FCC 47 CFR Part 15, Subpart C – §15.231
  Operation within the bands 40.66 – 40.70 MHz and above 70 MHz
- ISED RSS-210, Issue 11 – Annex A
  Licence-Exempt Radio Apparatus: Category I Equipment

Lab and test locations

Company name	Nemko USA, Inc.
Address	1601 North A.W. Grimes Blvd., Suite B
City	Round Rock
State	Texas
Postal code	78665
Country	USA
Telephone	+1(512) 286-2175
Website	www.nemko.com
Test location	11400 Burnet Rd, Austin, TX 78758. Site 45
FCC Lab Designation	US3166
ISED Test Site	3036B

Tested by	Ricardo Nakane, Wireless Engineer
Authored by	Haletha Judkins, Technical Writer
Reviewed by	Larry Finn, Laboratory Manager
Review date	December 5, 2025
Reviewer signature	
Authorized by	Larry Finn, Laboratory Manager
Authorization date	December 5, 2025
Authorizer signature	

Limits of responsibility

NOTICE: (1) This Report must not be used to claim product endorsement by the ANAB, the FCC, or any other Agency.
(2) This report also does not warrant certification by the ANAB. This report shall not be reproduced except in full, without the written approval of Nemko USA, Inc. – Austin.
(3) The significance of this report is dependent on the representative character of the test sample submitted for evaluation and the results apply only in reference to the sample tested. The manufacturer must continuously implement the changes shown herein to attain and maintain the required degree of compliance.

Copyright notification

Table of Contents

Section 1 Report summary

1.1 Test specifications

FCC 47 CFR Part 15, Subpart C – §15.231	Periodic operation in the bands 40.66 – 40.70 MHz and above 70 MHz
ISED Canada RSS-210, Issue 11 June 25, 2024	License-Exempt Radio Apparatus: Category I Equipment

1.2 Exclusions

None

1.3 Statement of compliance

In the configuration tested, the EUT was found compliant.

Testing was performed against all relevant requirements of the test standard except as noted in section 1.2 above. The results obtained indicate that the product under test complies in full with the requirements tested. The test results relate only to the items tested.

Measurement Uncertainty values were not used to determine results against limits specified in the standards used.

See "Summary of test results" for full details.

1.4 Test report revision history

Table 1.4-1: Test report revision history

Revision #	Details of changes made to test report
PRJ0089522-EMC	Original report issued
PRJ0089522-EMC-R1	Corrected product name and frequency values
PRJ0089522-EMC-R2	Corrected address for applicant and manufacturer
PRJ0089522-EMC-R3	Corrected EUT model

Notes: None

Section 2 Summary of test results

2.1 FCC Part 15 Subpart C, general requirements test results

Part	Test description	Verdict
§15.207(a)	Conducted limits	Not applicable [1]
§15.31(e)	Variation of power source	Pass
§15.203	Antenna requirement	Pass [2]

Notes: [1] The EUT is battery operated. Charging via AC adaptor is not possible.

[2] The EUT uses a trace antenna on PCB.

2.2 FCC Part 15 Subpart C, intentional radiators test results

Part	Test description	Verdict
§15.231(a)(1)	Manually operated transmitter	Pass
§15.231(a)(2)	Cessation of transmission	Not applicable [1]
§15.231(a)(3)	Periodic transmissions	Not applicable [2]
§15.231(a)(4)	Setup information for security systems	Not applicable [3]
§15.231(b)	Field strength of emissions	Pass
§15.231(c)	Bandwidth of emissions	Pass
§15.231(d)	Band edge and frequency tolerance	Not applicable [4]
§15.231(e)	Periodic operation	Not applicable [5]

Notes: [1] The EUT does not support automatic activation.

[2] The EUT does not support periodic, polling or supervision transmissions.

[3] The EUT is not a security system and does not transmit set-up information.

[4] The EUT does not operate in the 40.66 – 40.70 MHz band to which these requirements apply.

[5] The EUT complies with the requirements of section 15.231(a) therefore these requirements do not apply.

2.3 ISED RSS-GEN, Issue 5 test results

Part	Test description	Verdict
6.7	Occupied bandwidth	Pass
7.3	Receiver radiated emission limits	Not applicable [1]
7.4	Receiver conducted emission limits	Not applicable
8.8	Power Line Conducted Emissions Limits for License-Exempt Radio Apparatus	Not applicable

Notes: [1] The EUT is neither a scanning receiver nor a stand-alone receiver.

[2] The EUT is battery operated. Charging via AC adaptor is not possible.

2.4 ISED RSS-210, Issue 11, Annex test results

Part	Test description	Verdict
A.1.2(a)	Manually operated transmitter	Pass
A.1.2(b)	Cessation of transmission	Not applicable [1]
A.1.2(c)	Periodic transmissions	Not applicable [2]
A.1.2(d)	Setup information for security systems	Not applicable [3]
A.1.3	Field strength of emissions	Pass
A.1.4	Bandwidth of momentary signals	Pass
A.1.5	Reduced field strengths	Not applicable [4]

Notes: [1] The EUT does not support automatic activation.

[2] The EUT does not support periodic, polling or supervision transmissions.

[3] The EUT is not a security system and does not transmit set-up information.

[4] The EUT complies with the requirements of section A.1.1 therefore these requirements do not apply.

Section 3 Equipment under test (EUT) details

3.1 Applicant

Company name	The Genie Company
Address	1 Door Drive
City	Mt. Hope
State	OH
Postal/Zip code	44660
Country	United States

3.2 Manufacturer

Company name	The Genie Company
Address	1 Door Drive
City	Mt. Hope
State	OH
Postal/Zip code	44660
Country	United States

3.3 Sample information

Test Start date	November 5, 2025
Test End date	November 6, 2025
Nemko sample ID number	PRJ0089522

3.4 EUT information

Product name	Wireless Keypad
Models	GK2, OKP2, GUK2, OUK2
Model differences	Models are electrically identical and share the same antenna type and gain. Difference is in engraving and cosmetic labeling.
Serial/Part number	Not provided by client

3.5 EUT technical information

Operational frequencies	Frequency (MHz) — Modulation 310 — 310 MHz, Rolling Code 310 — 310 MHz, 10 Switch/2 Position Dip Switch 372.5 — 372.5, Rolling Code, 1999-current 390 — 390 MHz, 9 Switch/3 Position Dip Switch 390 — 390 MHz, 12 Switch/2 Position Dip Switch, 1993-1995 390 — 390 MHz, 9 Switch/2 Position Dip Switch, 1993-1995 390 — 390 MHz, 9 Switch/3 Position Dip Switch, 1993-1995 433.92 — 433.92 MHz, Rolling Code
Power requirements	2X 1.5 VDC AAA Batteries
Antenna information	The EUT uses a unique antenna coupling/ non-detachable antenna to the intentional radiator.

3.6 Product description and theory of operation

The EUT is a universal keypad with an integral antenna for twelve frequencies ranging from 303 MHz to 433.92 MHz. The models GUK2 and OUK2, Genie universal keypad, and Overhead Door universal keypad, respectively, can operate at all modulations and frequencies as specified in Table 1 and Table 2 in the client's test plan.

3.7 EUT exercise details

Description of the methods used to exercise the EUT and all relevant ports:

- During conducted measurements, the desired protocol was programed in accordance with the user manual.
- During radiated measurements, the desired protocol was programed in accordance with the user manual but in CW mode by using MP Lab software.

Section 4 Engineering considerations

4.1 Modifications incorporated in the EUT

There were no modifications performed to the EUT during this assessment.

4.2 Technical judgment

None

4.3 Deviations from laboratory tests procedures

No deviations were made from laboratory procedures.

Section 5 Test conditions

5.1 Atmospheric conditions

Temperature	15–30 °C
Relative humidity	20–75 %
Air pressure	86–106 kPa

When it is impracticable to carry out tests under these conditions, a note to this effect stating the ambient temperature and relative humidity during the tests shall be recorded and stated.

5.2 Power supply range

The normal test voltage for equipment to be connected to the mains shall be the nominal mains voltage. For the purpose of the present document, the nominal voltage shall be the declared voltage, or any of the declared voltages ±5 %, for which the equipment was designed.

Section 6 Measurement uncertainty

6.1 Uncertainty of measurement

Measurement uncertainty budgets for the tests are detailed below. Measurement uncertainty calculations assume a coverage factor of K = 2 with 95% certainty.

Test name	Measurement uncertainty, dB
Radiated spurious emissions	3.62
Powerline conducted emissions	2.74
All antenna port measurements	0.41
Conducted spurious emissions	2.88

Section 7 Testing data

7.1 Duty cycle

7.1.1 Definitions and limits

To correctly report average values of the fundamental and spurious harmonic emissions, it is necessary to measure the duty cycle of the transmitter.

7.1.2 Test summary

Test date	November 5, 2025	Temperature	22 °C
Test engineer	Ricardo Nakane	Air pressure	989 mbar
Test location	Round Rock lab	Relative humidity	53%

7.1.3 Observations, settings, and special notes

Measurements were performed in accordance with Section 7.5 of ANSI C63.10 using a spectrum analyzer tuned to the transmitter fundamental frequency in a zero-span mode.

Duty cycle was measured for each of the supported frequencies by the EUT.

Duty cycle correction factor calculated using the following equation (from ANSI C63.10 Section 7.5):

$$\delta(dB) = 20\log_{10}\left[\sum(nt_1 + mt_2 + \cdots + \varepsilon t_x)/T\right]$$

Data transmission from the device consisted of bursts of varying pulse width transmissions, repeating over a set packet interval. Each transmission contained 2 or 3 different pulse widths depending on the protocol used. Duty cycle was calculated by measuring the width of each type of pulse and summing them together to determine the total 'on' time. This was done as follows:

TX on time = t1 pulse width (µs) X number of t1 pulses + t2 pulse width (µs) X number of t2 pulses + t3 pulse width (µs) X number of t3 pulses

Duty cycle was then calculated based on the following equation:

Duty cycle (Δ) *= Transmitter on time / Transmission interval*

The spectrum analyzer trace was exported to a spreadsheet, and the duty cycle was calculated from the raw data. The duty cycle correction factor was calculated using the following equation (from ANSI C63.10 Section 7.5):

$$\delta(\mathrm{dB}) = 20\log_{10}\langle\Delta\rangle$$

.

7.1.4 Test data

Table 7.1-1: Duty cycle test data

Brand/Coding	Frequency (MHz)	Pulsewidth 1 (s)	Number of PW1	Pulsewidth 2 (s)	Number of PW2	Total PW	Packet Period	Duty Cycle Correction (See 7.1.3)	Duty Cycle (%)
Sommers	310	1.91E-04	40	3.86E-04	38	2.23E-02	1.00E-01	-13.03	22
Stanley	310	4.89E-04	5	1.48E-03	5	9.84E-03	3.98E-02	-12.13	25
Wayne Dalton/ Ryobi	372.5	1.92E-04	43	3.85E-04	36	2.21E-02	1.00E-01	-13.12	22
Chamberlain	390	9.86E-04	2	1.98E-03	9	1.98E-02	8.75E-02	-12.91	23
Genie 12	390	1.80E-05	16	4.30E-05	8	6.32E-04	1.61E-03	-8.13	39
Genie 9	390	1.74E-05	16	4.17E-05	8	6.12E-04	1.61E-03	-8.41	38
OHD 9	390	9.37E-04	1	1.87E-03	9	1.78E-02	7.19E-02	-12.14	25
FAAC	433.92	4.42E-04	43	8.97E-04	32	4.77E-02	1.00E-01	-6.43	48

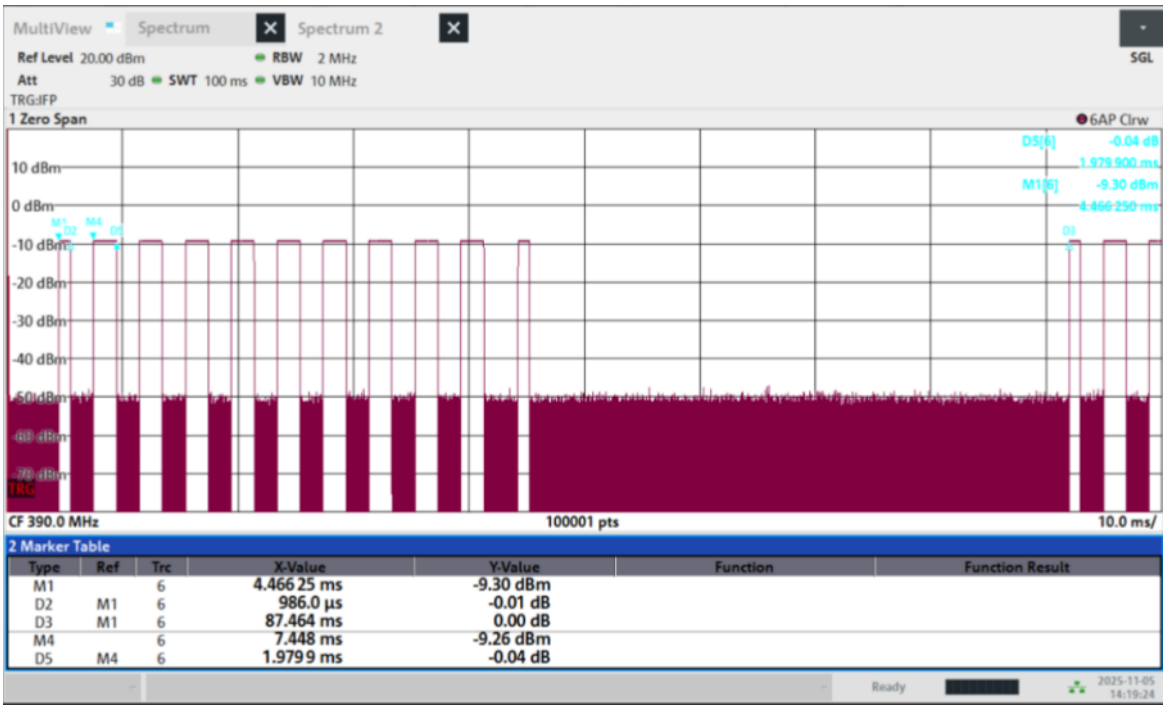

Figure 7.1-1: Duty cycle, Chamberlain (390 MHz)

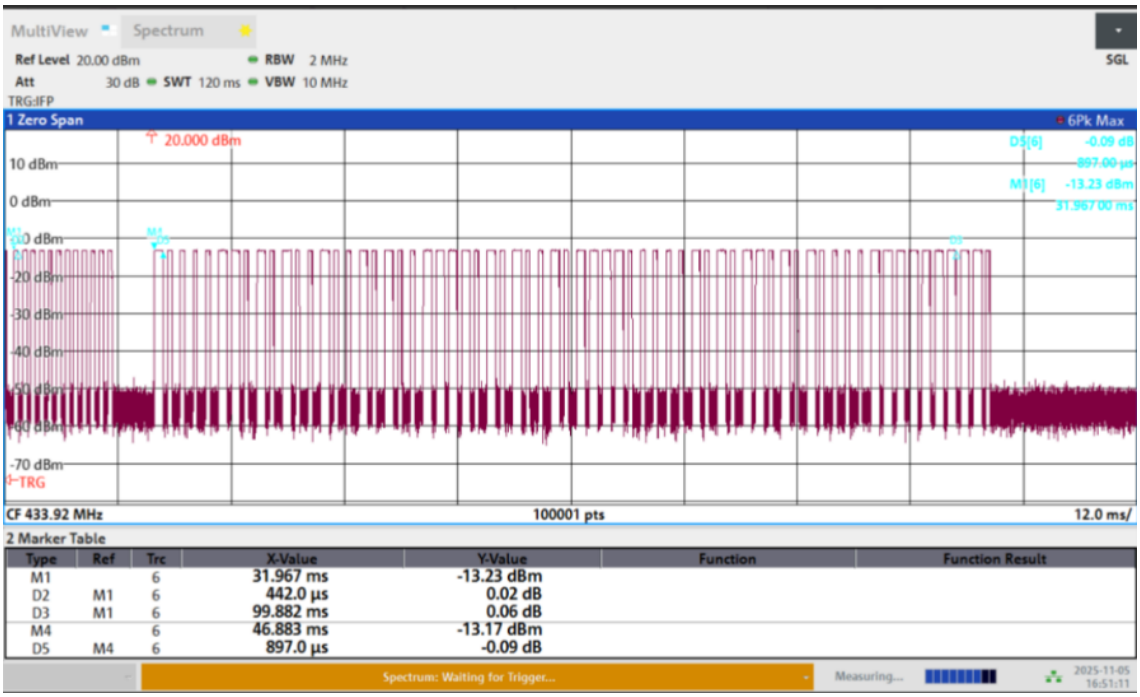

Figure 7.1-2: Duty cycle, FAAC (433.92 MHz)

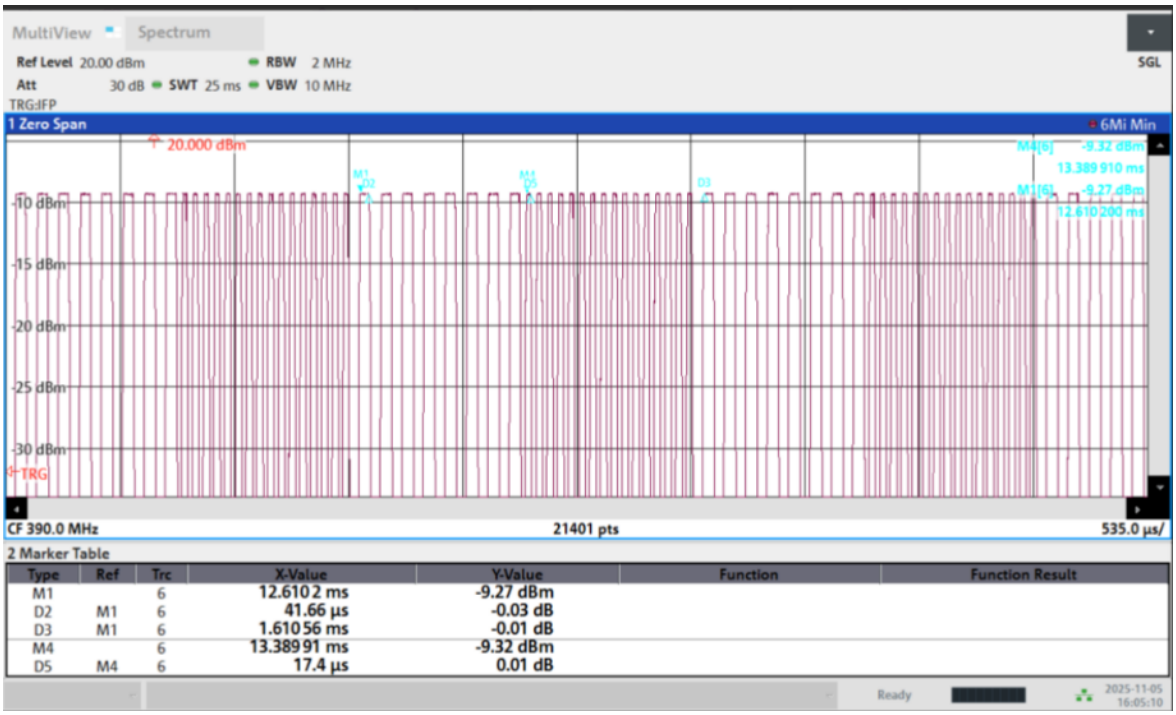

Figure 7.1-3: Duty cycle, Genie 9 (390 MHz)

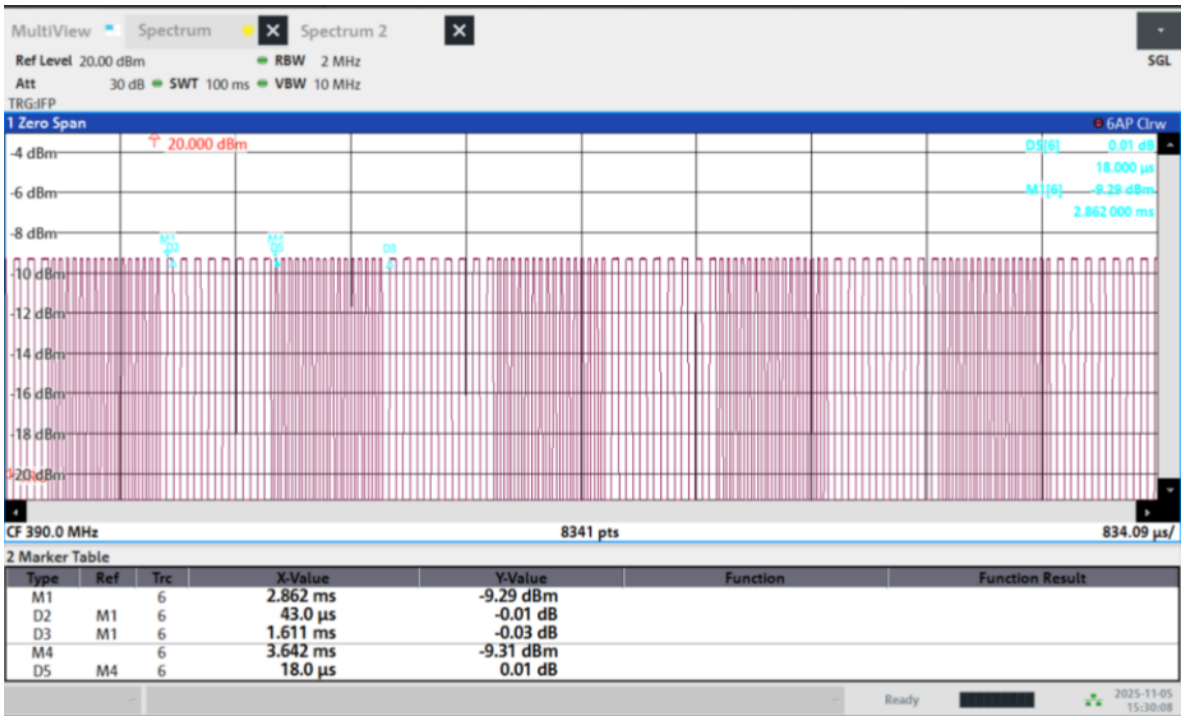

Figure 7.1-4: Duty cycle, Genie 12 (390 MHz)

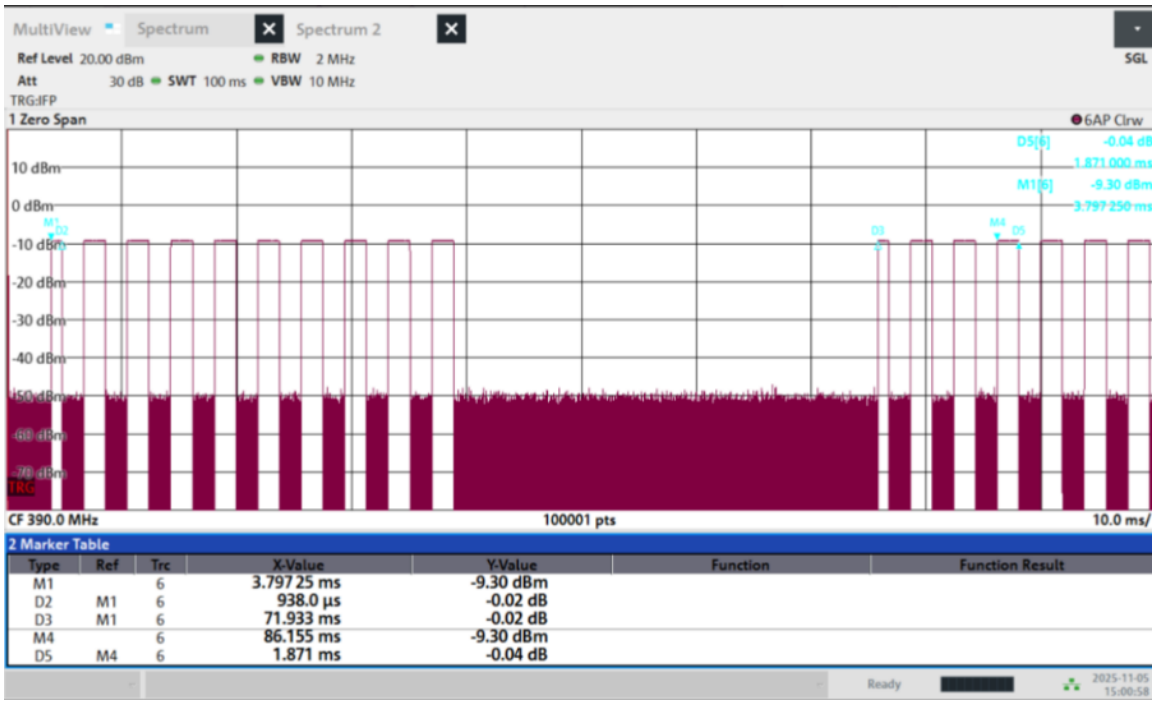

Figure 7.1-5: Duty cycle, OHD9 (390 MHz)

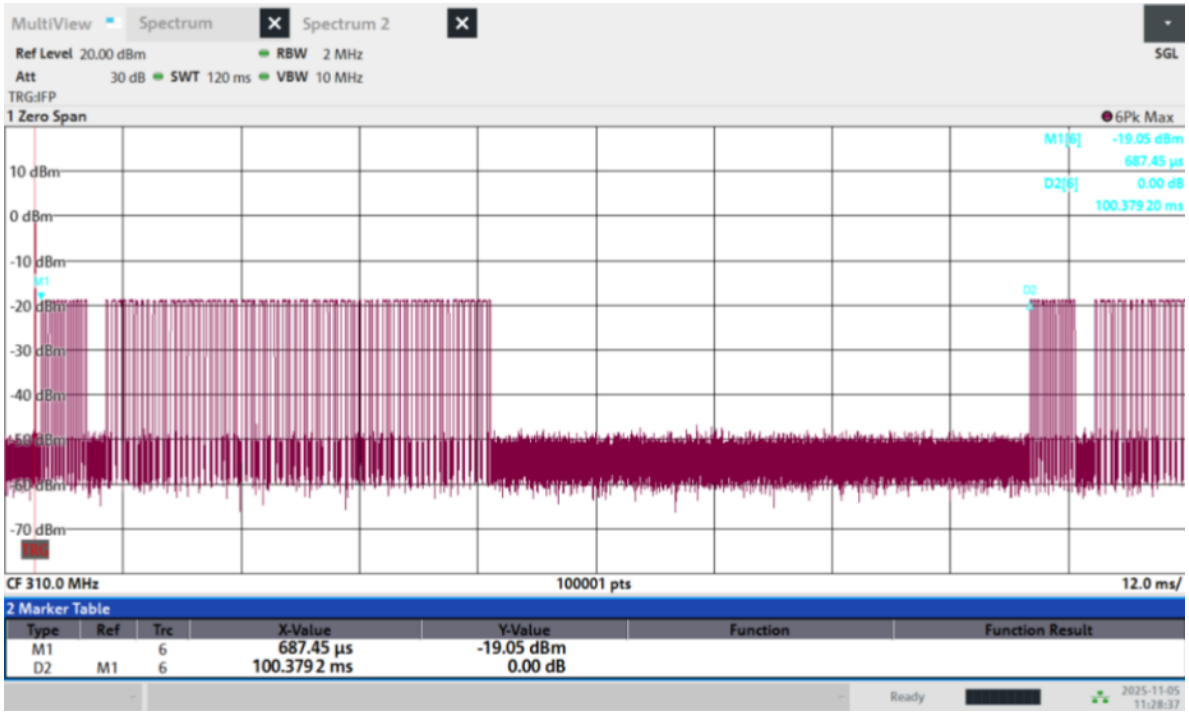

Figure 7.1-6: Duty cycle (Packet Period), Sommers (310 MHz)

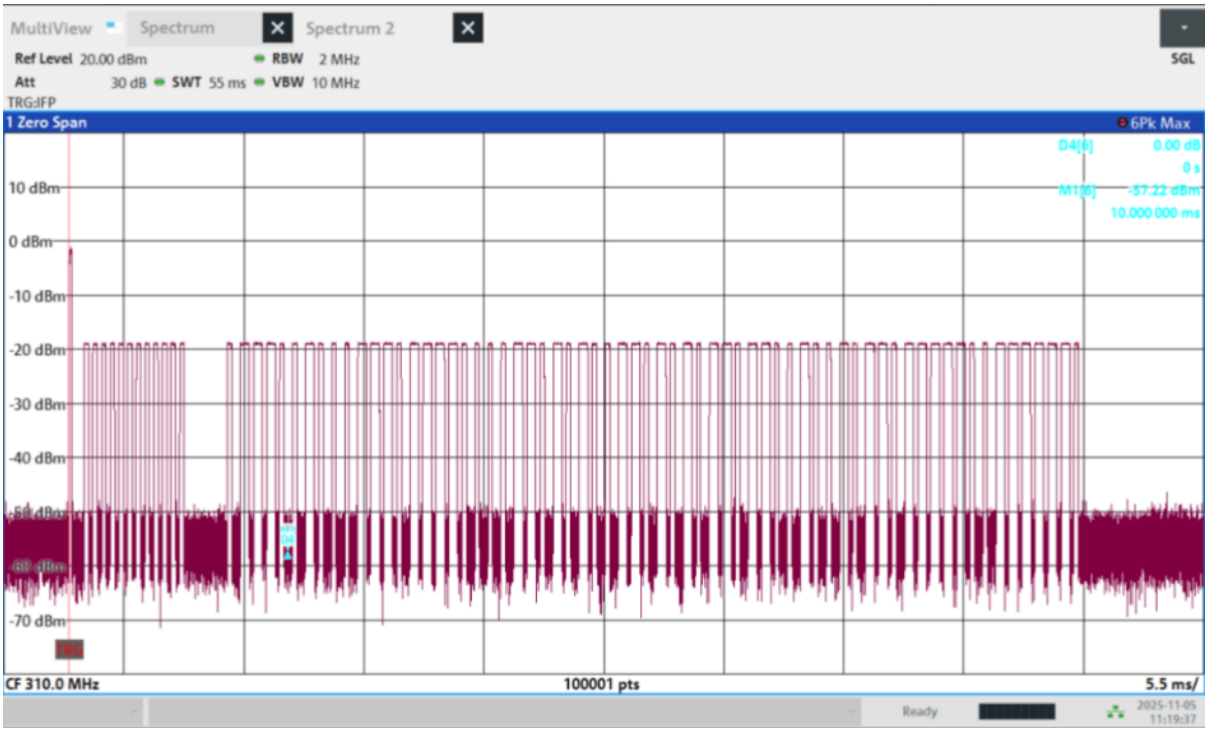

Figure 7.1-7: Duty cycle (Packet), Sommers (310 MHz)

Figure 7.1-8: Duty cycle (Pulse Width), Sommers (310 MHz)

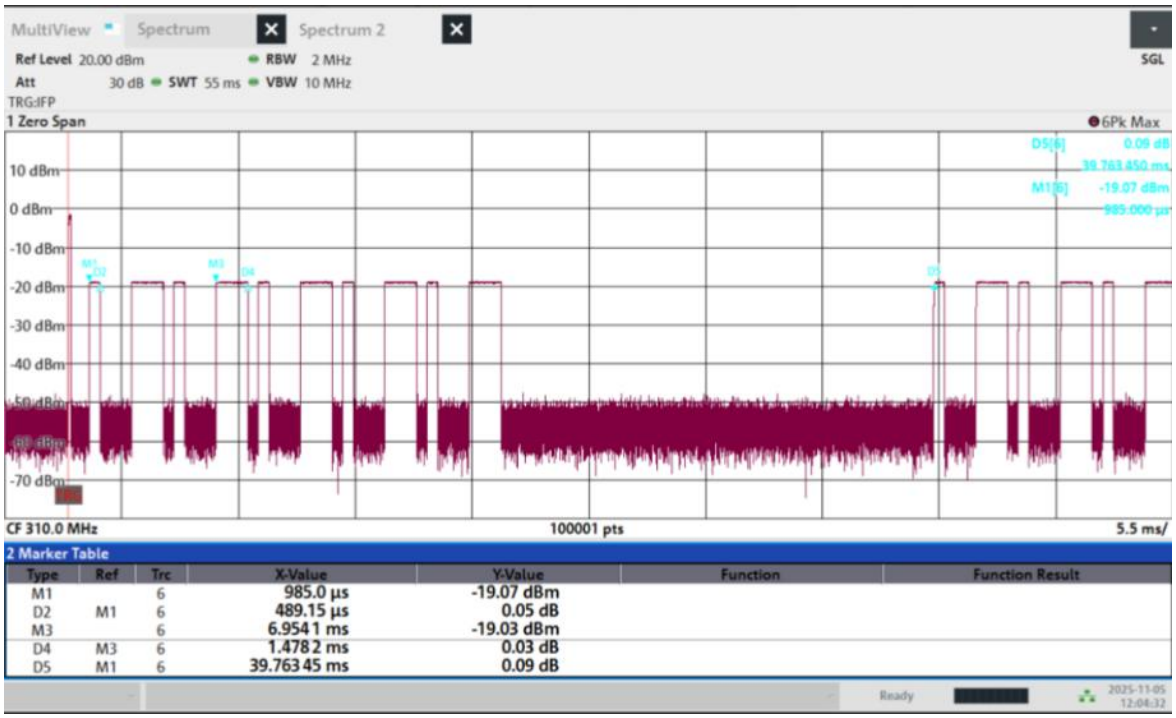

Figure 7.1-9: Duty cycle, Stanley (310 MHz)

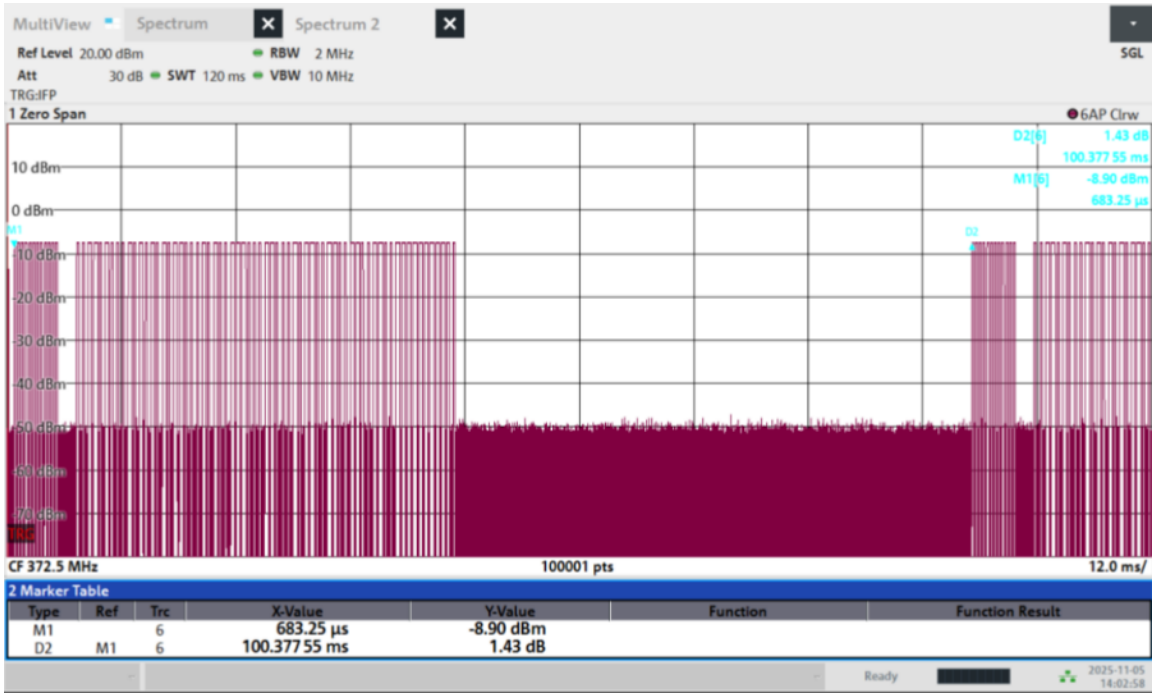

Figure 7.1-10: Duty cycle (Packet Period), Wayne D Ryo (372.5 MHz)

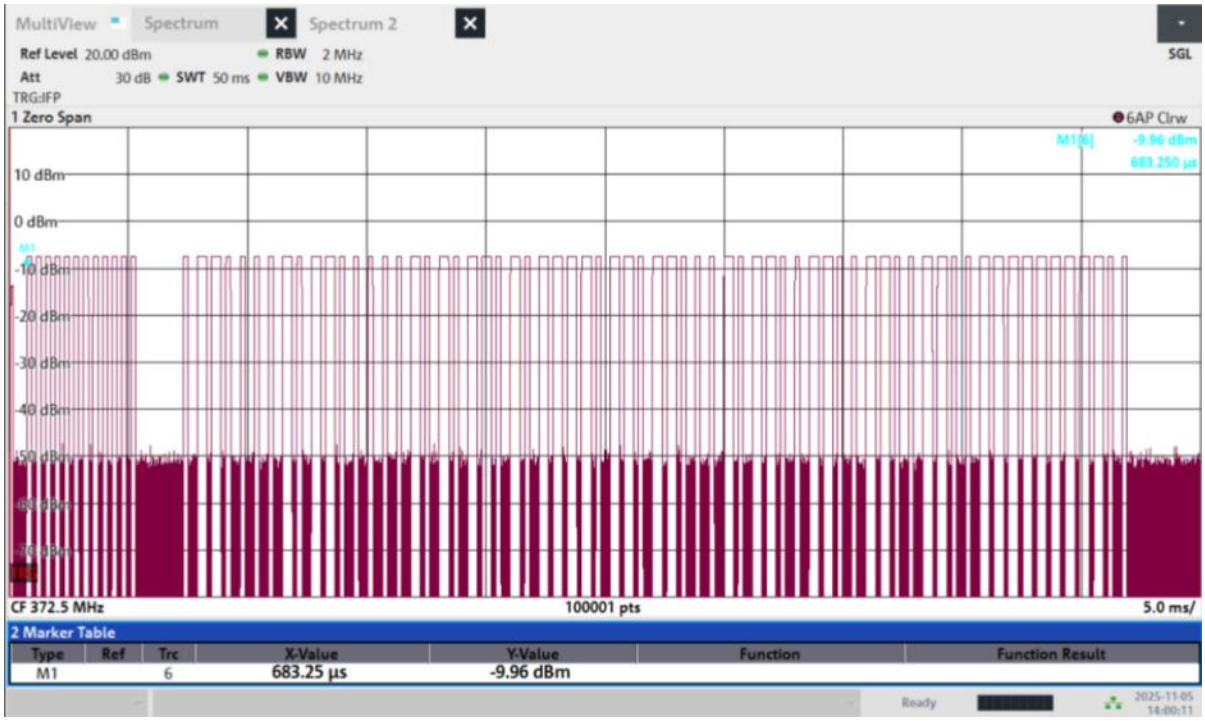

Figure 7.1-11: Duty cycle (Packets), Wayne D Ryo (372.5 MHz)

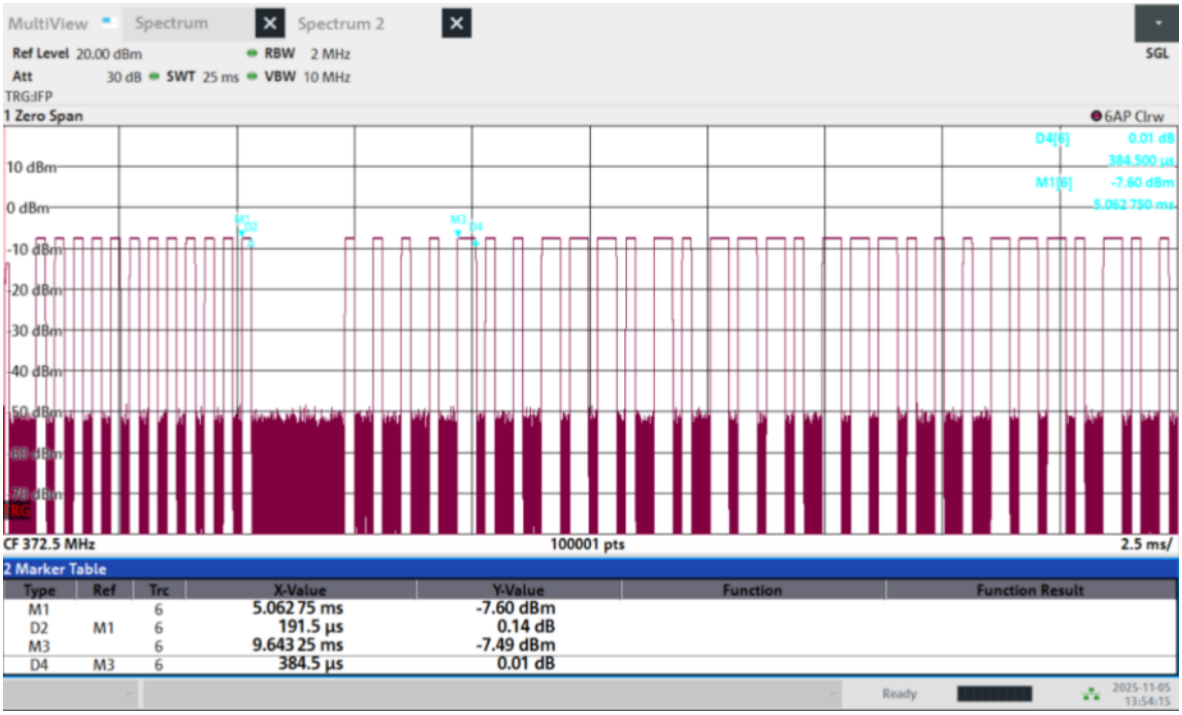

Figure 7.1-12: Duty cycle (Pulse Widths), Wayne D Ryo (372.5 MHz)

7.2 FCC 15.231(a)(1)/RSS-210 A.1.2(a) Manually operated transmitter

7.2.1 Definitions and limits

FCC 15.231(a)(1) and RSS-210 A.1.2(a):
A manually operated transmitter shall employ a switch that will automatically deactivate the transmitter within not more than 5 seconds of being released.

7.2.2 Test summary

Test date	November 5, 2025	Temperature	22 °C
Test engineer	Ricardo Nakane	Air pressure	989 mbar
Test location	Wireless bench	Relative humidity	53%

7.2.3 Observations, settings, and special notes

Tests were performed based on the methodology of Section 7.4 of ANSI C63.10.

The spectrum analyzer was tuned to the operating frequency of the EUT in zero span mode. A 5 second sweep time was used with video triggering to capture the transmission from the EUT when the transmitter activation button was pressed. Markers were used to measure the transmission deactivation time. The EUT met the requirements in all configurations.

7.2.4 Test data

Table 7.2-1: Deactivation time test data

Brand/Coding	Frequency (MHz)	Deactivation Time (s)	Limit (s)	Margin (s)
Chamberlain	390	1.1410000	5	3.86
FAAC	433.92	1.1920000	5	3.808
Genie 9	390	0.6185400	5	4.38146
Genie 12	390	0.6184630	5	4.381537
OHD 9	390	1.0980000	5	3.902
Sommers	310	1.3440000	5	3.656
Stanley	310	1.2120000	5	3.788
Wayne Dalton/ Ryobi	372.5	1.3490000	5	3.651

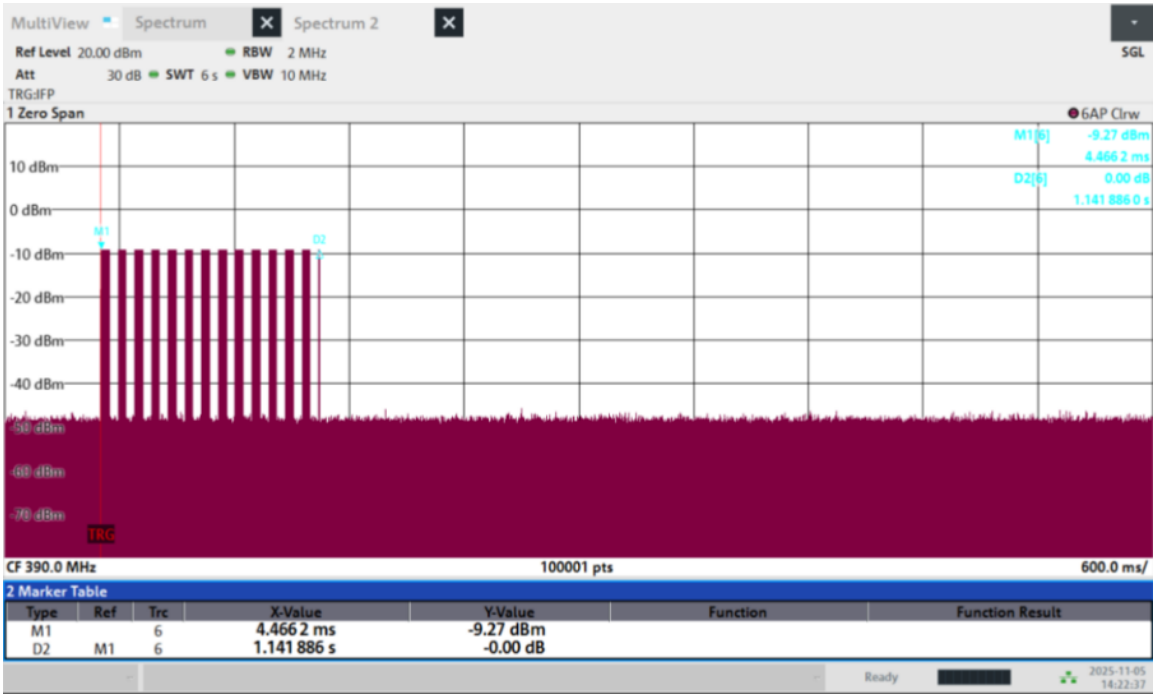

Figure 7.2-1: Deactivation time – Chamberlain (390 MHz)

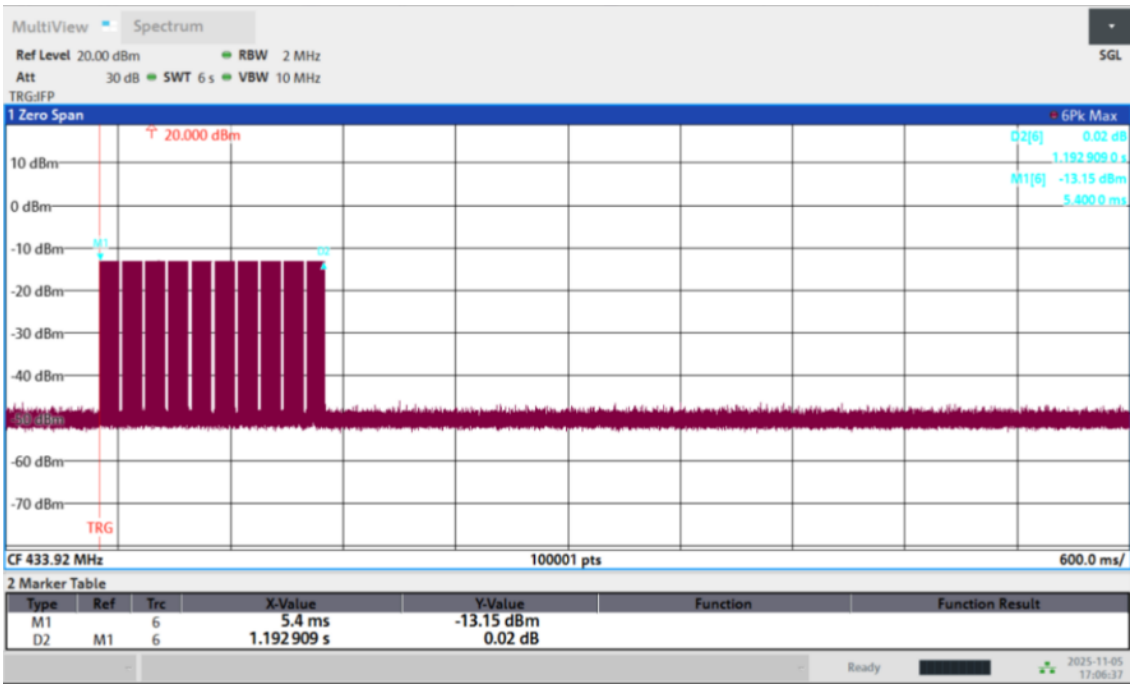

Figure 7.2-2: Deactivation time – FAAC (433.92 MHz)

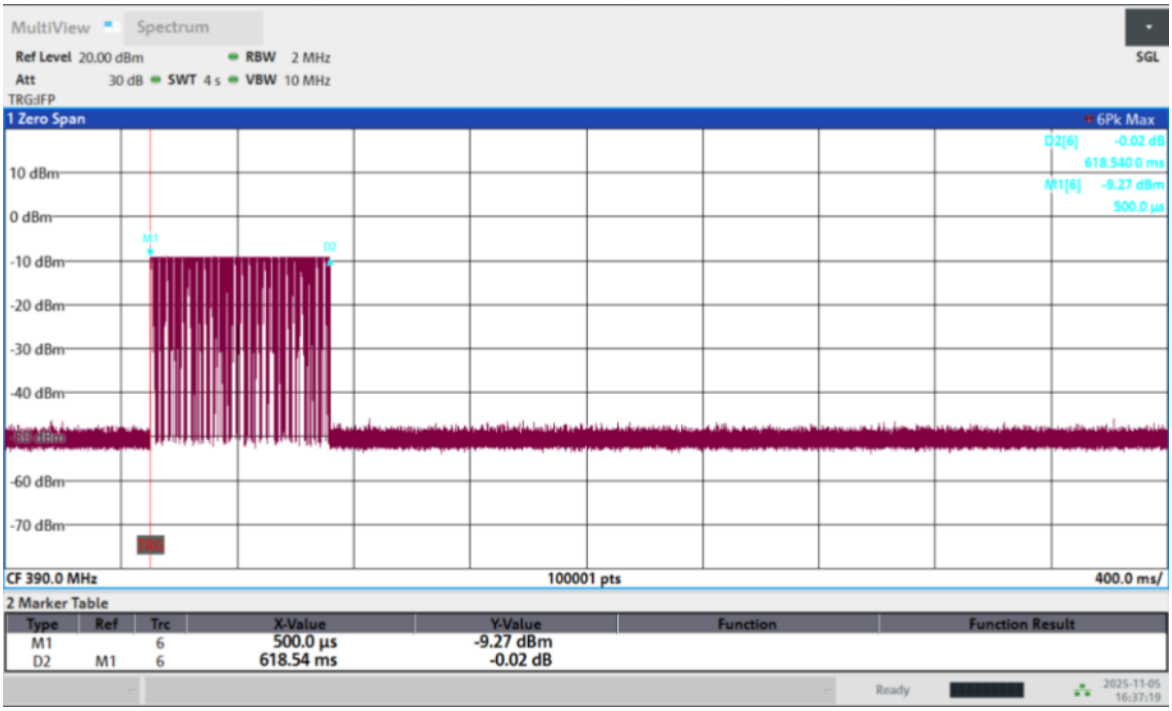

Figure 7.2-3: Deactivation time – Genie 9 (390 MHz)

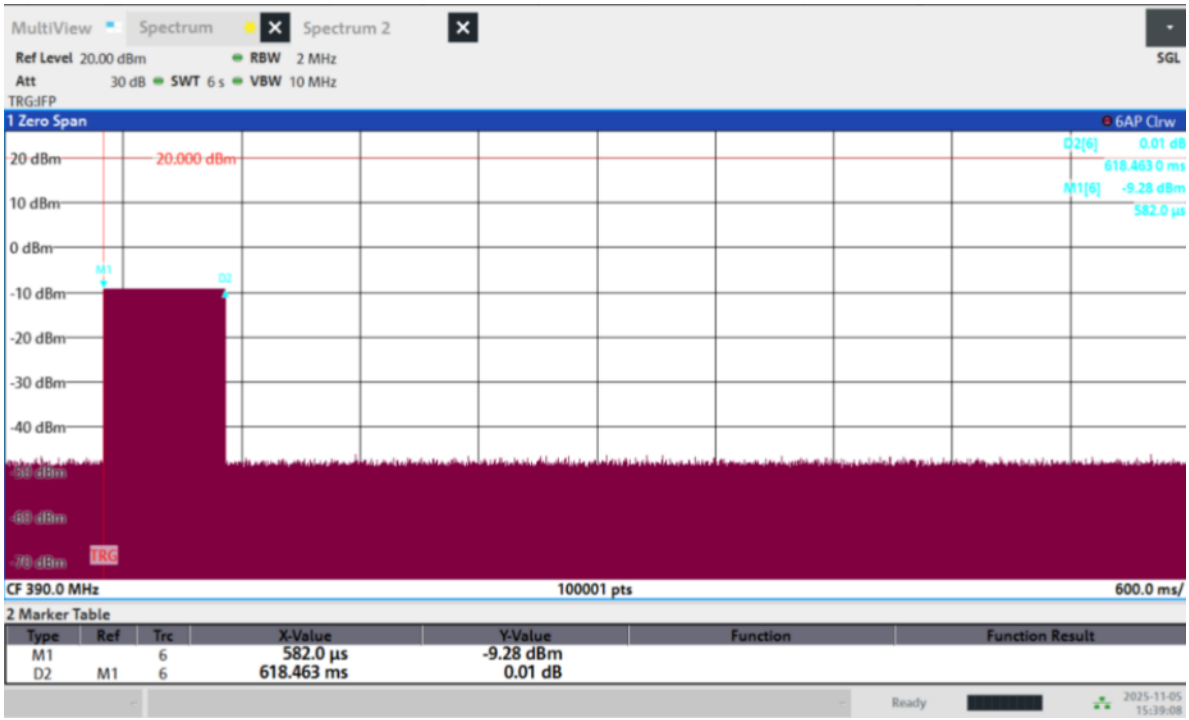

Figure 7.2-4: Deactivation time – Genie 12 (390 MHz)

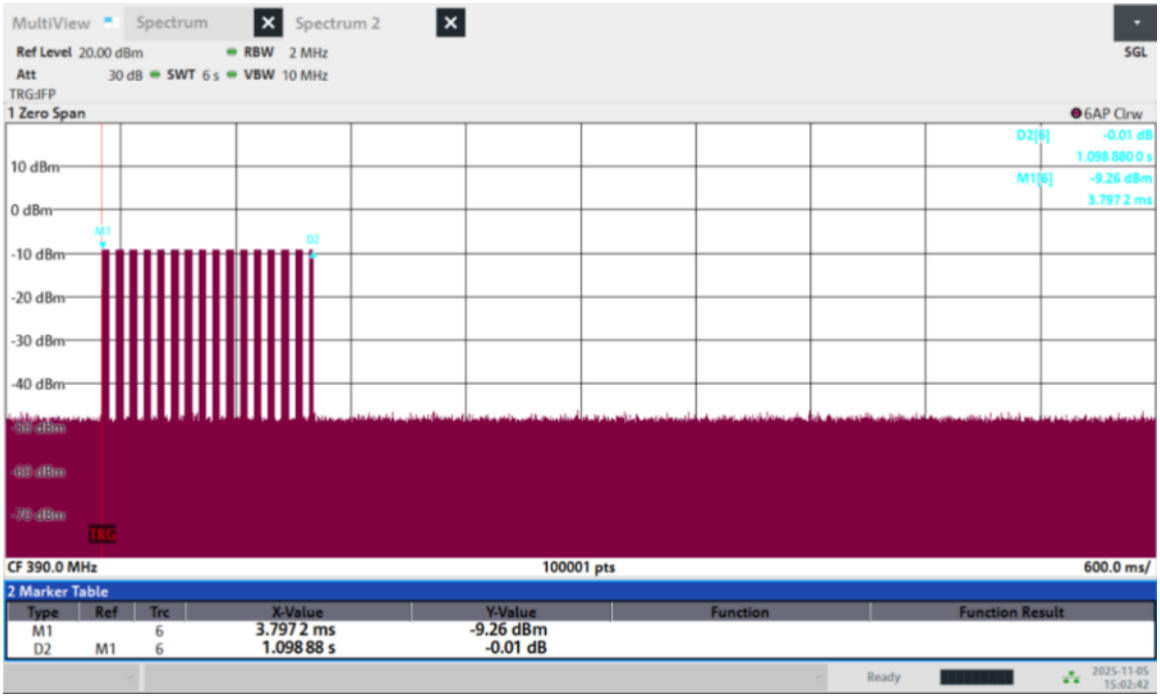

Figure 7.2-5: Deactivation time – OHD9 (390 MHz)

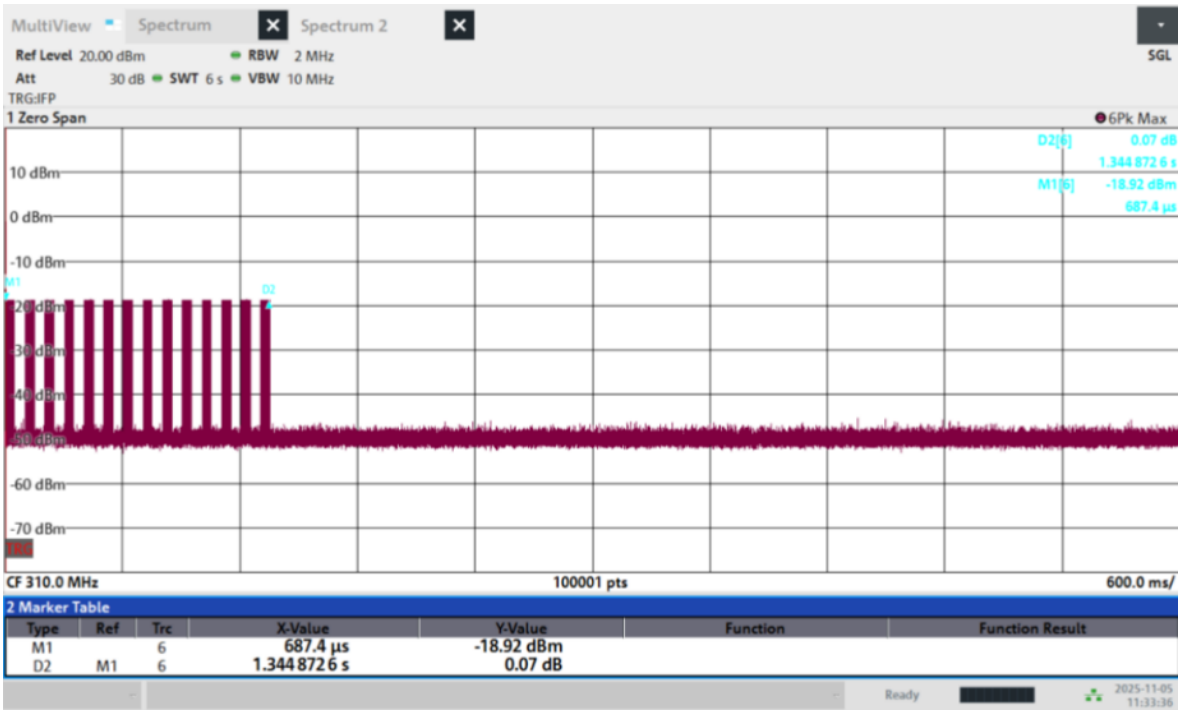

Figure 7.2-6: Deactivation time – Sommers (310 MHz)

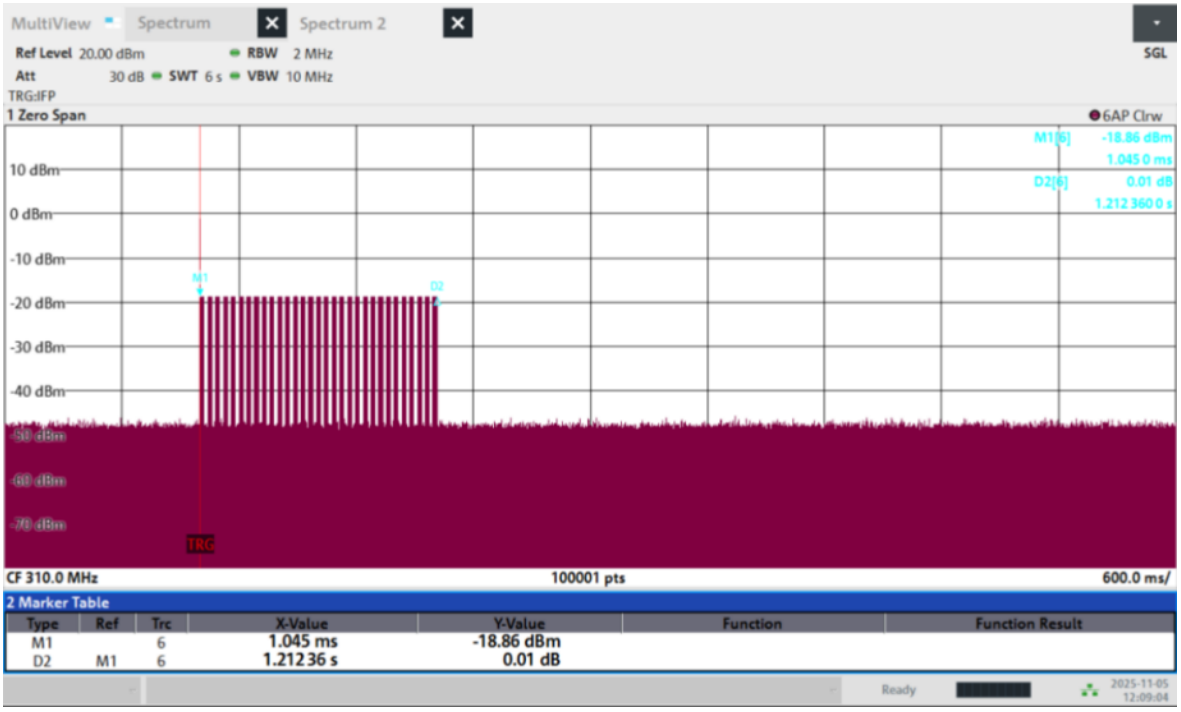

Figure 7.2-7: Deactivation time – Stanley (310 MHz)

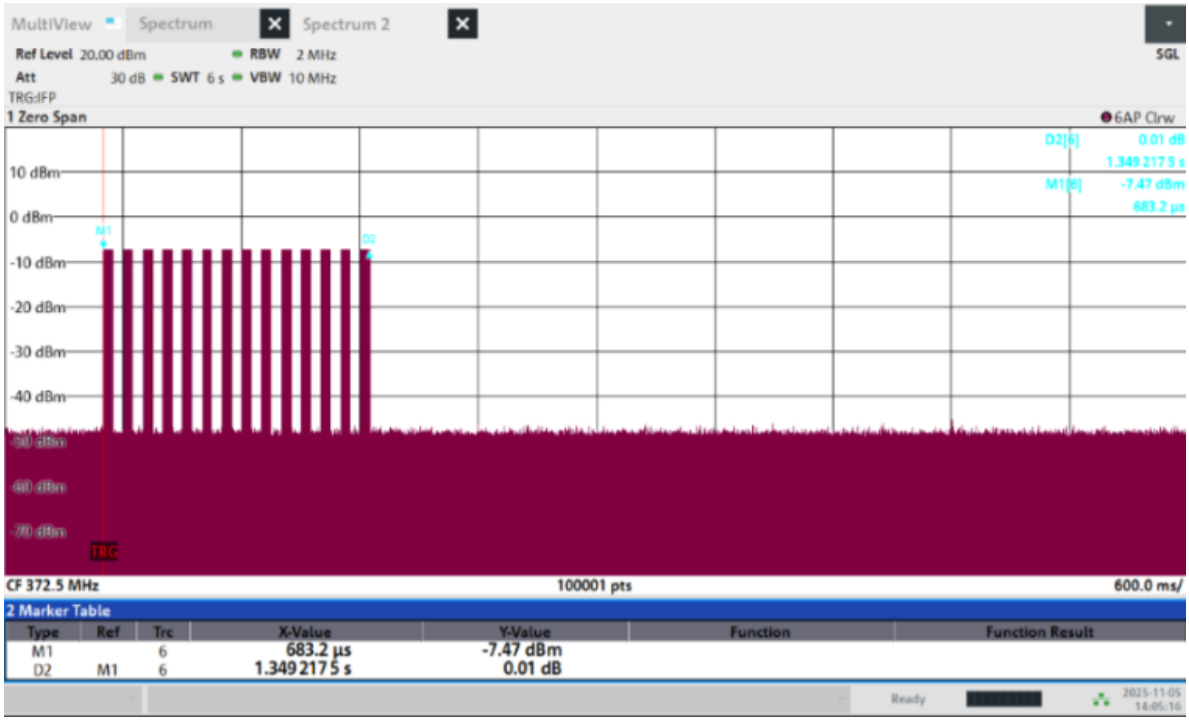

Figure 7.2-8: Deactivation time – Wayne D Ryo (372.5 MHz)

7.3 FCC 15.231(b)/RSS-210 A.1.3 Field strength of emissions

7.3.1 Definitions and limits

FCC 15.231(b)):

In addition to provisions of §15.205, the field strength of emissions from intentional radiators operated under this section shall not exceed the following:

Fundamental frequency (MHz)	Field strength of fundamental (microvolts/meter)	Field strength of spurious emissions (microvolts/meter)
40.66 – 40.70	2250	225
70 – 130	1250	125
130 – 174	1250 to 3750 [1]	125 – 375 [1]
174 – 260	3750	375
260 – 470	3750 – 12500 [1]	375 – 1250 [1]
Above 470	12500	1250

Notes: [1] Linear interpolation.

(1) The above field strength limits are specified at a distance of 3 meters. The tighter limits apply at band edges.

(2) Intentional radiators operating under the provisions of this section shall demonstrate compliance with the limits of field strength of emissions, as shown in the above table, based on the average value of the measured emissions. As an alternative, compliance with the limits in the above table may be based on the use of measurement instrumentation with a CISPR quasi-peak detector. The specific method of measurement employed shall be specified in the application for equipment authorization. If average emission measurements are employed, the provisions in §15.35 for averaging pulsed emissions and for limiting peak emissions apply. Further, compliance with the provisions of §15.205 shall be demonstrated using the measurement instrumentation specified in that section.

(3) The limits on the field strength of the spurious emissions in the above table are based on the fundamental frequency of the intentional radiator. Spurious emissions shall be attenuated to the average (or, alternatively, CISPR quasi-peak) limits shown in this table or to the general limits shown in § 15.209, whichever limit permits a higher field strength.

RSS-210 A.1.3:

Following are the requirements for field strength of emissions:

a. The field strength of emissions from momentarily operated intentional radiators shall not exceed the limits in the table below, based on the average value of the measured emissions. The requirements of the "Pulsed operation" section of RSS-Gen apply for averaging pulsed emissions and limiting peak emissions.
Alternatively, compliance with the limits in the table below may be demonstrated using an International Special Committee on Radio Interference (CISPR) quasi-peak detector.

b. Unwanted emissions shall be 10 times below the fundamental emissions field strength limits in table below or comply with the limits specified in RSS-GEN, whichever is less stringent.

Fundamental frequency (MHz)	Field strength of fundamental (microvolts/meter)
70 – 130	1250
130 – 174	1250 to 3750 *
174 – 260	3750
260 – 470	3750 – 12500 *
Above 470	12500

*Linear interpolation with frequency, f, in MHz:

For 130-174 MHz: Field Strength (μV/m) = (56.82 x f)-6136

For 260-470 MHz: Field Strength (μV/m) = (41.67 x f)-7083

** Frequency bands 225-328.6 MHz and 335.4-399.9 MHz are designated for the exclusive use of the Government of Canada. Manufacturers should be aware of possible harmful interference and degradation of their licence-exempt radio equipment in these frequency bands.

7.3.2 Test summary

Test date	November 6, 2025	Temperature	23 °C
Test engineer	Ricardo Nakane	Air pressure	991 mbar
Test location	Wireless bench	Relative humidity	52%

7.3.3 Observations, settings, and special notes

Tests were performed using the methodology of Sections 6.3, 7.5 and 7.6 of ANSI C63.10.
The frequency range from 30 MHz to > 10 x the fundamental frequency was examined. The EUT was configured to continuously transmit at the desired mode (coding, and operating frequency). Measurements were made with a peak detector. Fundamental and harmonic emissions were adjusted using the appropriate duty cycle correction factor for comparison against the average emission limits. Measurements below 1GHz were performed at a 10 m measurement distance, while measurements above 1GHz were performed at a 3m distance.

The EUT was verified in its normal mounting condition (EUT is a wall-mounted device) to determine the maximum emissions.

The table below outlines the operating modes tested:

Brand / Coding	Operating Frequency (MHz)	Comments
Stanley	310	Calculated
Wayne D Ryo	372.5	Calculated
Genei 12	390	Calculated
FAAC	432.92	Calculated

7.3.4 .Test data

Field strength of fundamental:

Table 7.3-1: Test data – field strength of fundamental

Brand / Coding	Operating Frequency (MHz)	Peak Emission (dBµV/m)	Duty Cycle Correction Factor (dB)	Average Emission (dBµV/m)	Limit (dBµV/m)[1]	Margin (dB)
Stanley	310	71.68	-12.13	59.04	64.861	5.83
Wayne D Ryo	372.5	68.033	-13.12	54.91	68.067	13.16
Genie 12	390	64.283	-8.13	56.16	68.787	12.63
FAAC	432.92	61.833	-6.43	55.41	70.368	14.96

Average Emission = Peak Emission + Duty Cycle Correction Factor. Example: 81.89 dBµV/m + (-7.01) dB = 74.88 dBµV/m average emission.

[1]Emissions limits below 1GHz converted to 10m distance by adding the factor: 20 x $Log_{10}(3/10)$

The EUT satisfies the requirements for fundamental and spurious emissions limits. Fundamental, harmonic and spurious emissions data shown in the following plots and tables.

Fundamental, Harmonic, and Spurious Emissions – Stanley (310 MHz)

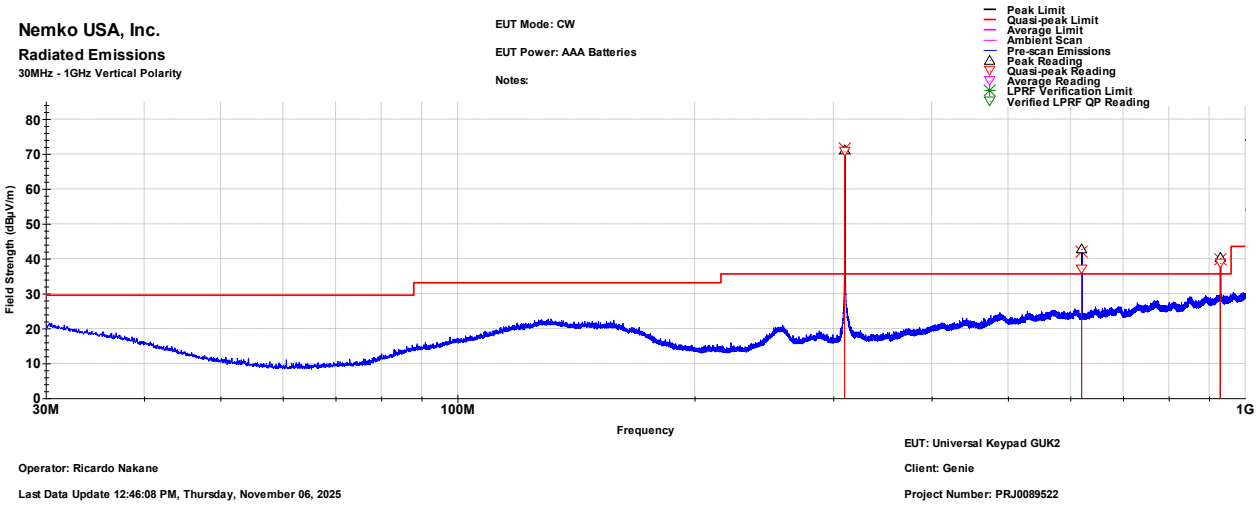

Figure 7.3-1: Radiated Emissions, Stanley 310 MHz, Vertical Polarity, 30MHz – 1GHz

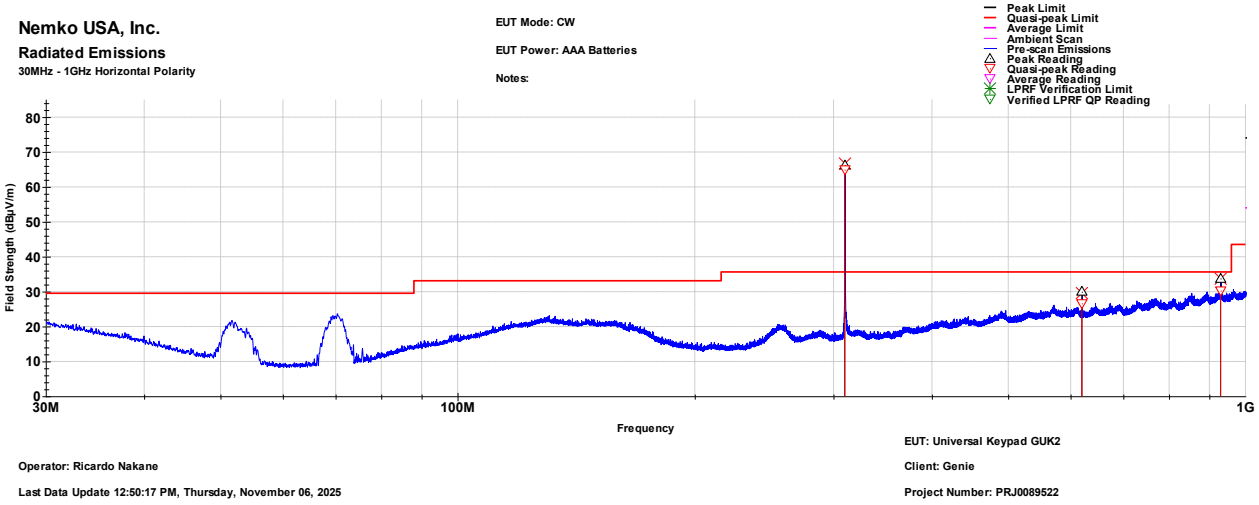

Figure 7.3-2: Radiated Emissions, Stanley 310 MHz, Horizontal Polarity, 30MHz – 1GHz

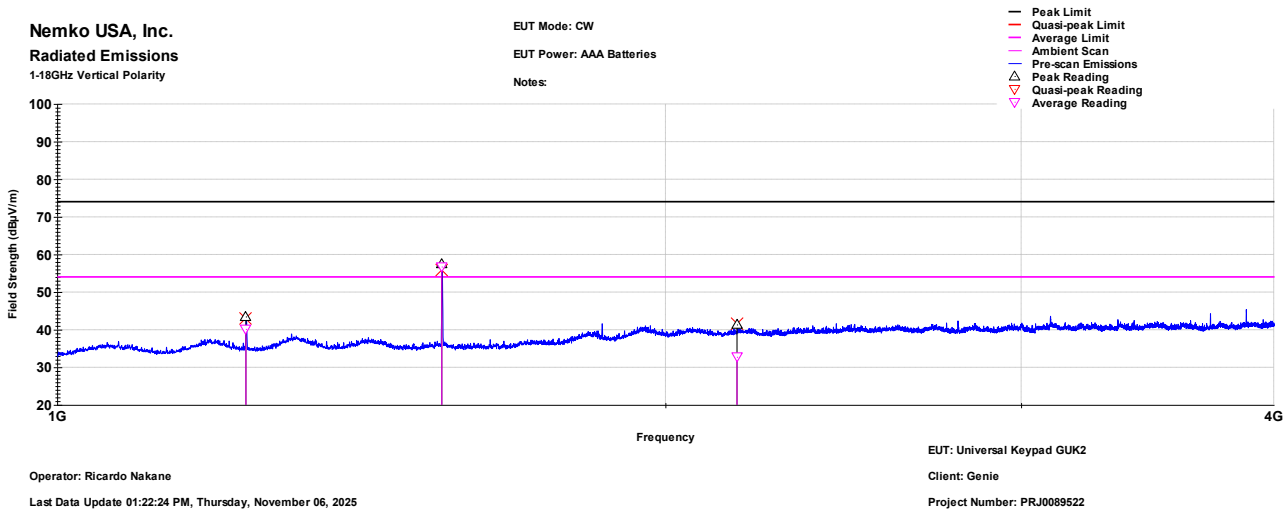

Figure 7.3-3: Radiated Emissions, Stanley 310 MHz, Vertical Polarity, 1GHz – 4GHz

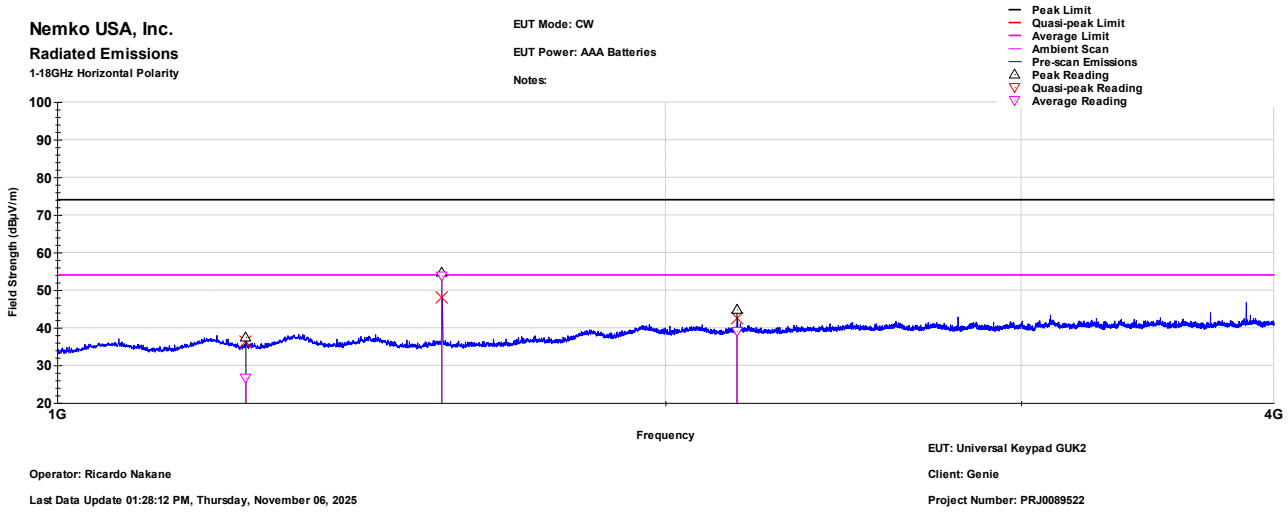

Figure 7.3-4: Radiated Emissions, Stanley 310 MHz, Horizontal Polarity, 1GHz – 4GHz

Table 7.3-2: Harmonic and spurious emissions test data – Stanley (310 MHz)

Frequency (MHz)	Polarity	Max Peak (dBµV/m)	Duty Cycle Correction dB	Average (dBµV/m)	Limit(dBµV/m)	Margin (dB)	Height (cm)	EUT Direction (Degrees)	Result
310	V	71.168	-12.13	59.04	64.861	5.83	100.00	282.00	Pass
310	H	66.262	-12.13	54.13	64.861	10.73	400.00	192.00	Pass
620	V	42.737	-12.13	30.60	44.861	14.26	278.00	202.00	Pass
620	H	29.938	-12.13	17.81	44.861	27.06	250.00	167.00	Pass
930	V	40.18	-12.13	28.05	44.861	16.81	150.00	94.00	Pass
930	H	33.709	-12.13	21.58	44.861	23.28	400.00	174.00	Pass
1240	V	43.48	-12.13	31.35	53.979	22.63	114.00	211.00	Pass
1240	H	37.518	-12.13	25.39	53.979	28.59	299.00	11.00	Pass
1550	V	57.38	-12.13	45.25	53.979	8.73	376.00	300.00	Pass
1550	H	54.644	-12.13	42.51	53.979	11.47	311.00	0.00	Pass
2170	V	41.348	-12.13	29.22	55.318	26.10	376.00	128.00	Pass
2170	H	44.764	-12.13	32.63	55.318	22.69	400.00	11.00	Pass

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)

[2] Correction factors = antenna factor ACF (dB) + cable loss (dB) − amplifier gain (dB)

[3] Peak emissions at harmonic frequencies are adjusted by the duty cycle correction factor and compared against the average limit. For non-harmonic emissions, the peak is compared directly against the average limit.

[4] The limit is calculated based on the nominal carrier frequency.

Fundamental, Harmonic, and Spurious Emissions – Wayne D Ryo (372.5 MHz)

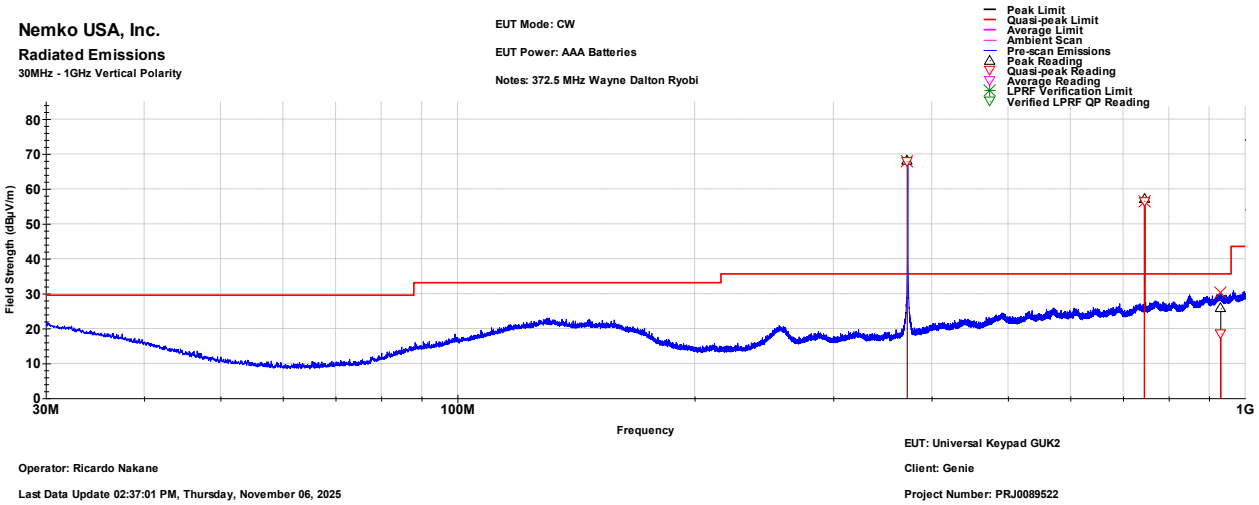

Figure 7.3-5: Radiated Emissions, Wayne D Ryo 372.5 MHz, Vertical Polarity, 30MHz – 1GHz

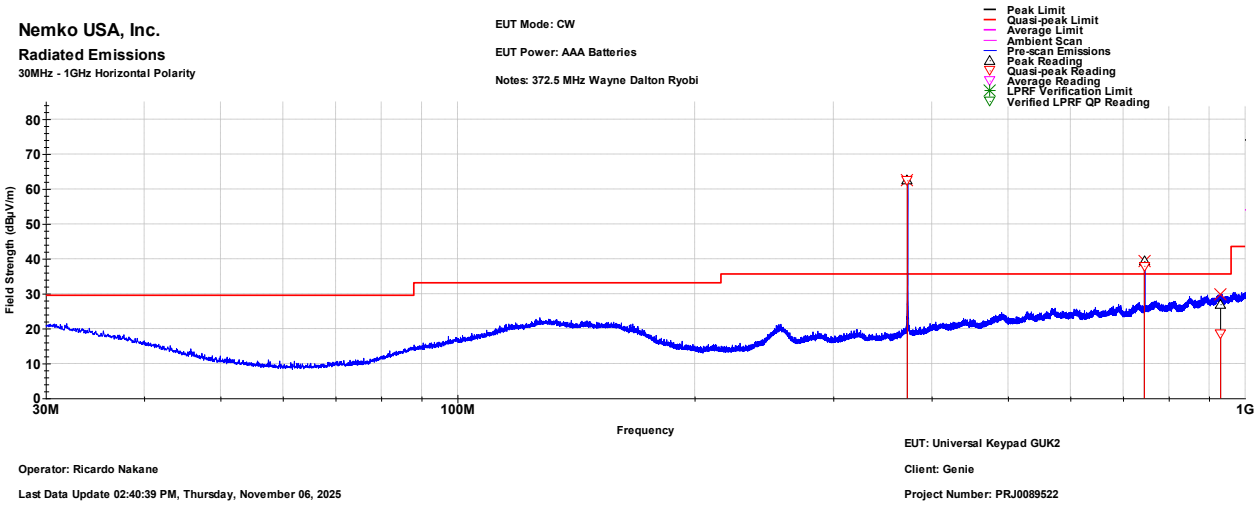

Figure 7.3-6: Radiated Emissions, Wayne D Ryo 372.5 MHz, Horizontal Polarity, 30MHz – 1GHz

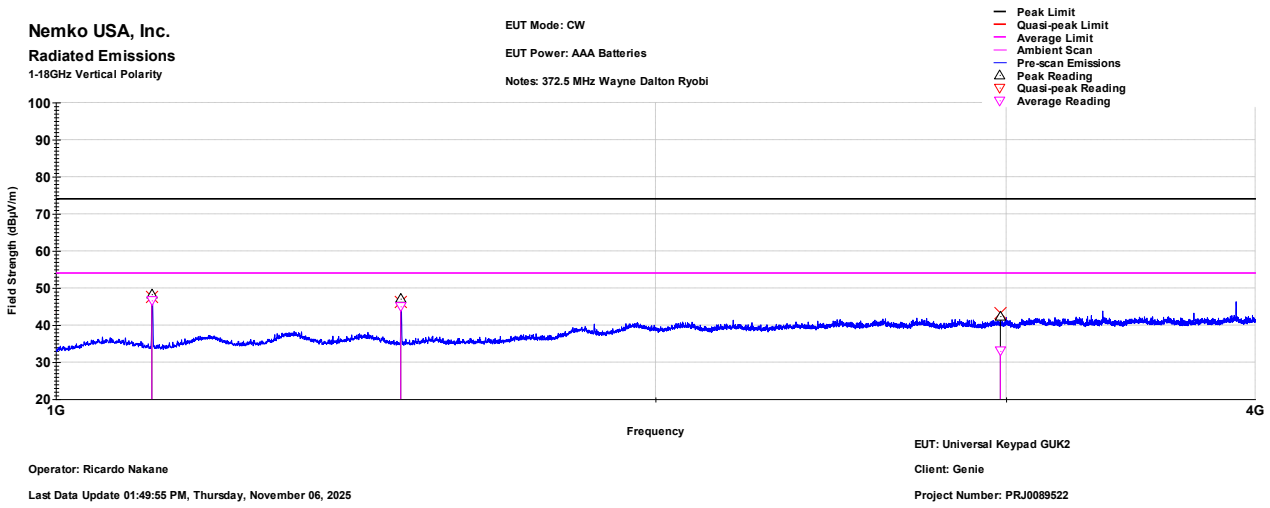

Figure 7.3-7: Radiated Emissions, Wayne D Ryo 372.5 MHz, Vertical Polarity, 1GHz – 4GHz

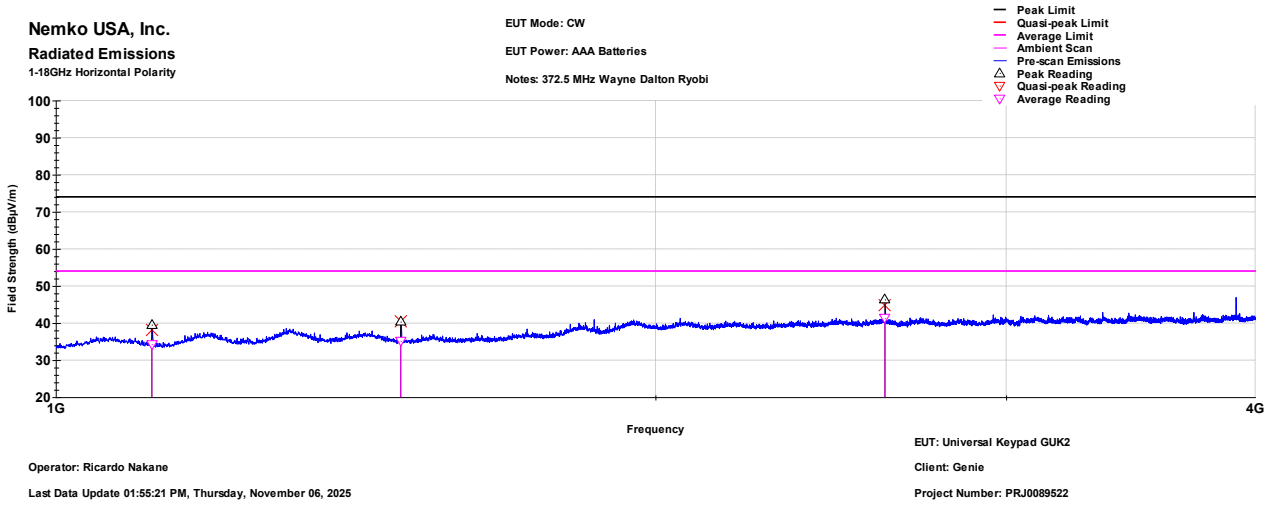

Figure 7.3-8: Radiated Emissions, Wayne D Ryo 372.5 MHz, Horizontal Polarity, 1GHz – 4GHz

Table 7.3-3: Harmonic and spurious emissions test data – Wayne D Ryo (372.5 MHz)

Frequency (MHz)	Polarity	Max Peak (dBµV/m)	Duty Cycle Correction dB	Average (dBµV/m)	Limit(dBµV/m)	Margin (dB)	Height (cm)	EUT Direction (Degrees)	Result
372.5	V	68.033	-13.12	54.91	68.067	13.16	379.00	282.00	Pass
372.5	H	62.552	-13.12	49.43	68.067	18.64	400.00	184.00	Pass
745	V	57.058	-13.12	43.94	48.067	4.13	218.00	68.00	Pass
745	H	39.312	-13.12	26.19	48.067	21.88	400.00	0.00	Pass
931.63	V	25.744	-13.12	12.62	48.067	35.44	132.00	139.00	Pass
931	H	26.929	-13.12	13.81	48.067	34.26	167.00	58.00	Pass
1175	V	48.292	-13.12	35.17	53.979	18.81	126.00	271.00	Pass
1175	H	39.553	-12.12	27.43	53.979	26.55	400.00	160.00	Pass
1490	V	47.076	-13.12	33.95	53.979	20.02	386.00	209.00	Pass
1490	H	40.336	-13.12	27.21	53.979	26.76	100.00	171.00	Pass
2607	H	46.339	-13.12	33.22	58.524	25.31	336.00	229.00	Pass
2980	V	42.382	-13.12	29.26	58.524	29.26	237.00	37.00	Pass

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)

[2] Correction factors = antenna factor ACF (dB) + cable loss (dB) − amplifier gain (dB)

[3] Peak emissions at harmonic frequencies are adjusted by the duty cycle correction factor and compared against the average limit. For non-harmonic emissions, the peak is compared directly against the average limit.

[4] The limit is calculated based on the nominal carrier frequency.

Fundamental, Harmonic, and Spurious Emissions – Genie 12 (390 MHz)

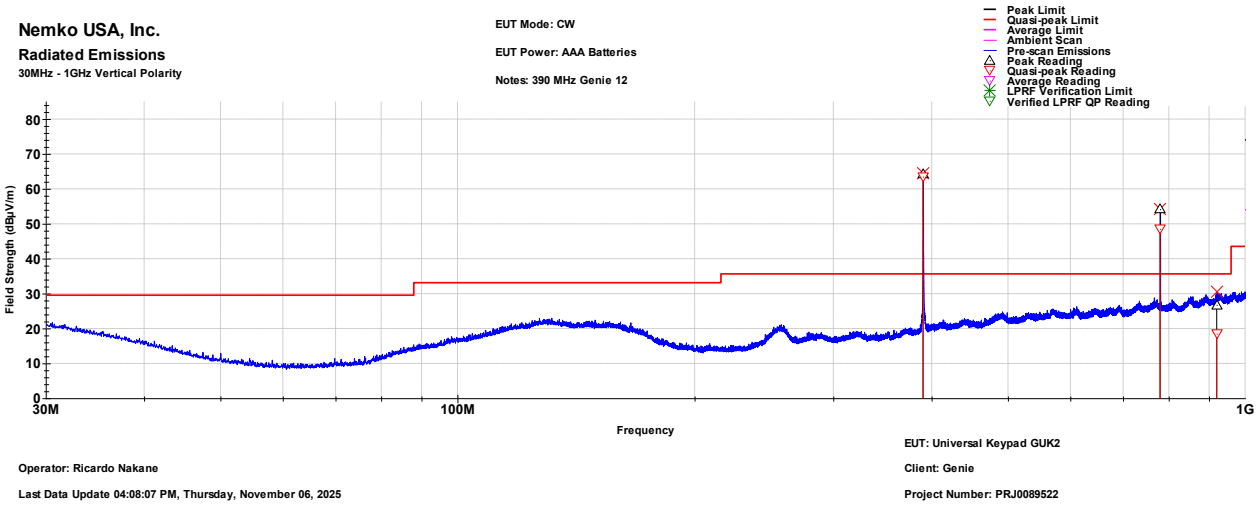

Figure 7.3-9: Radiated Emissions, Genie 12 390 MHz, Vertical Polarity, 30MHz – 1GHz

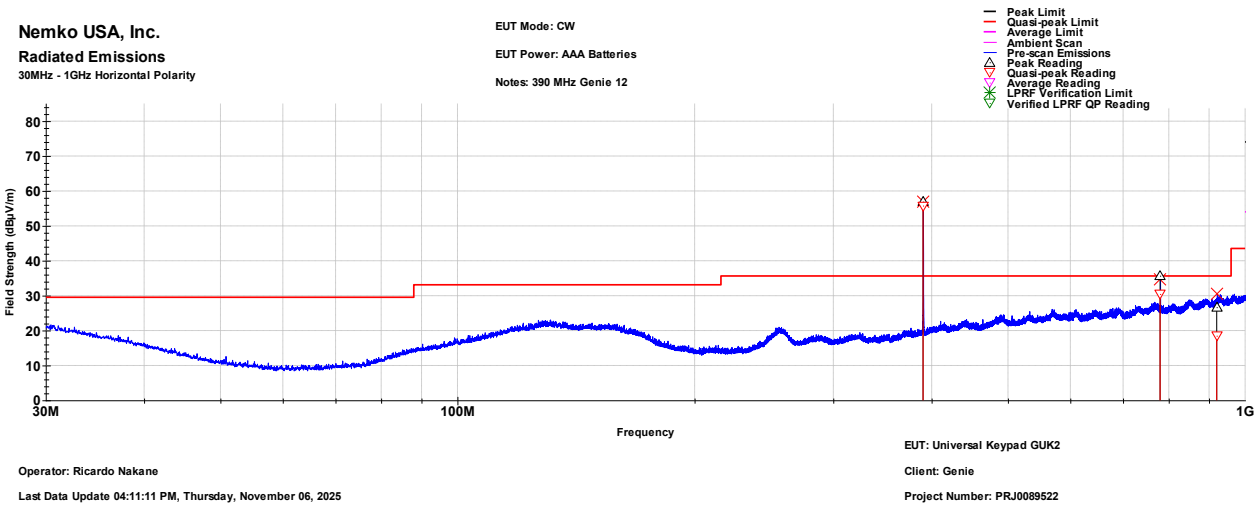

Figure 7.3-10: Radiated Emissions, Genie 12 390 MHz, Horizontal Polarity, 30MHz – 1GHz

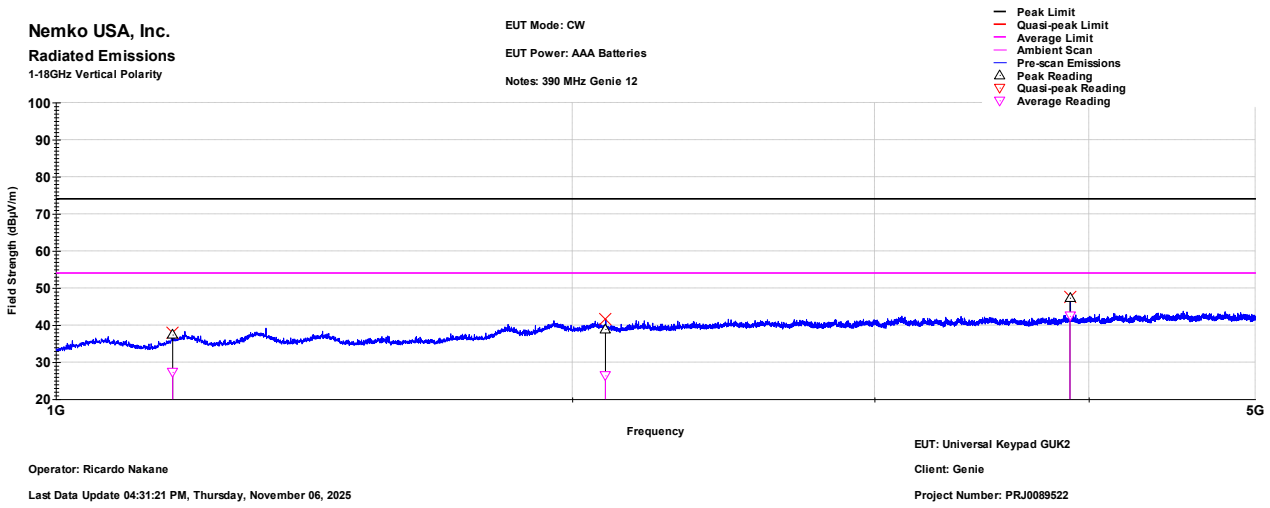

Figure 7.3-11: Radiated Emissions, Genie 12 390 MHz, Vertical Polarity, 1GHz – 5GHz

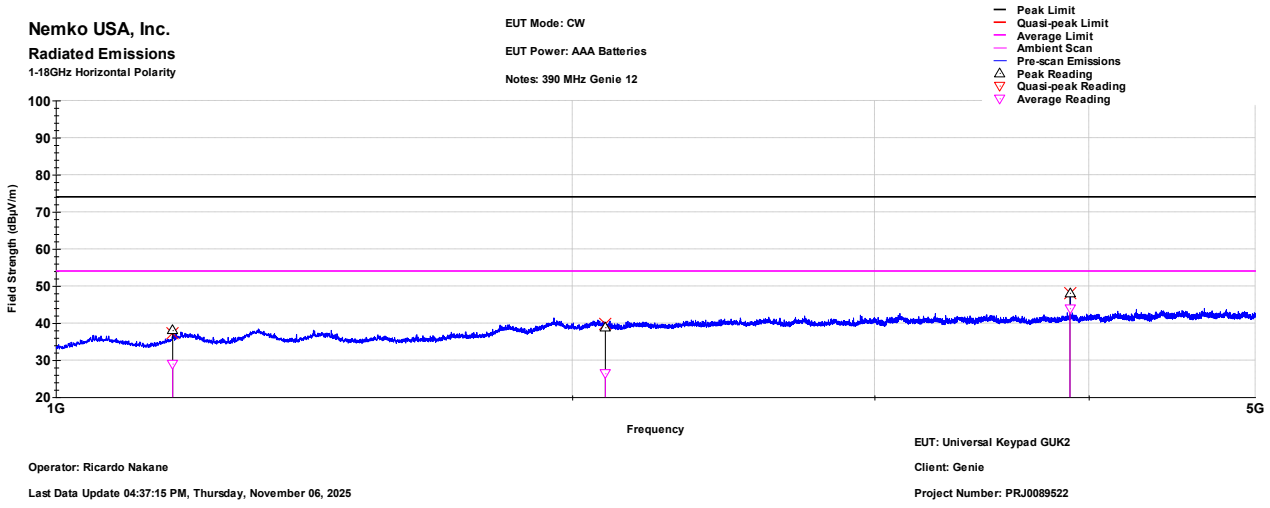

Figure 7.3-12: Radiated Emissions, Genie 12 390 MHz, Horizontal Polarity, 1GHz – 5GHz

Table 7.3-4: Harmonic and spurious emissions test data – Genie 12 (390 MHz)

Frequency (MHz)	Polarity	Max Peak (dBµV/m)	Duty Cycle Correction dB	Average (dBµV/m)	Limit(dBµV/m)	Margin (dB)	Height (cm)	EUT Direction (Degrees)	Result
390.023	V	64.283	-8.13	56.16	68.787	12.63	400.00	274.00	Pass
390.053	H	56.886	-8.13	48.76	68.787	20.03	318.00	184.00	Pass
780.077	V	54.138	-8.13	46.01	48.787	2.78	229.00	0.00	Pass
780.077	H	35.668	-8.13	27.54	48.787	21.25	156.00	237.00	Pass
920.477	V	26.707	-8.13	18.58	48.787	30.21	350.00	257.00	Pass
920.477	H	26.658	-8.13	18.53	48.787	30.26	392.00	157.00	Pass
1170.25	V	37.387	-8.13	29.26	53.979	24.72	336.00	332.00	Pass
1170.25	H	38.031	-8.13	29.90	53.979	24.08	364.00	11.00	Pass
2091	V	38.879	-8.13	30.75	53.979	23.23	362.00	0.00	Pass
2091	H	38.844	-8.13	30.72	53.979	23.26	200.00	160.00	Pass
3900.25	V	47.326	-8.13	39.20	53.979	14.78	151.00	120.00	Pass
3900.5	H	48.125	-8.13	40.00	53.979	13.98	100.00	70.00	Pass

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)

[2] Correction factors = antenna factor ACF (dB) + cable loss (dB) − amplifier gain (dB)

[3] Peak emissions at harmonic frequencies are adjusted by the duty cycle correction factor and compared against the average limit. For non-harmonic emissions, the peak is compared directly against the average limit.

[4] The limit is calculated based on the nominal carrier frequency.

Fundamental, Harmonic, and Spurious Emissions – FAAC (432.92 MHz)

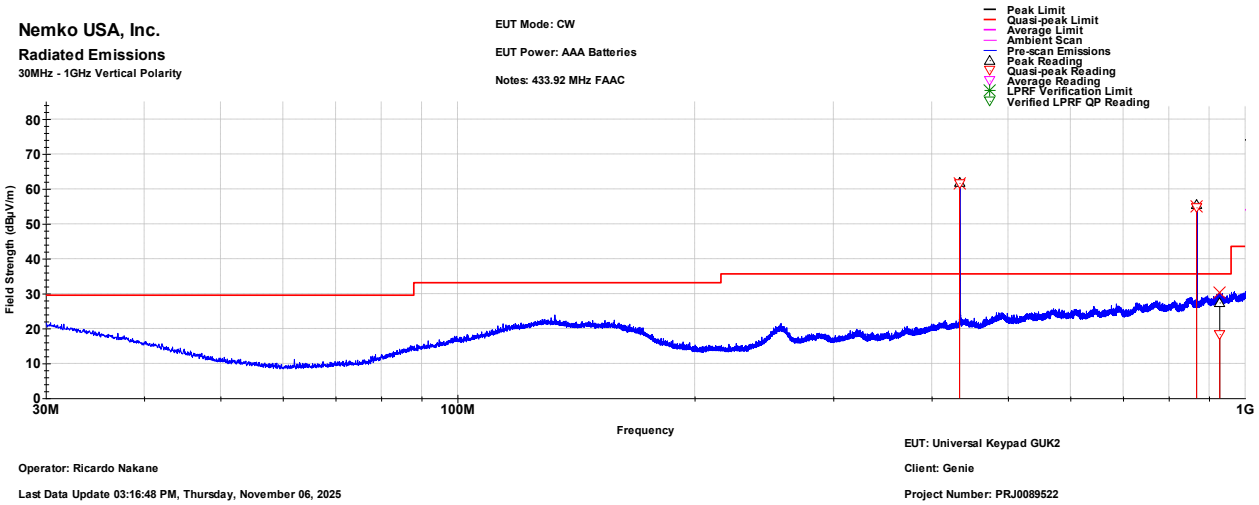

Figure 7.3-13: Radiated Emissions, FAAC 432.92 MHz, Vertical Polarity, 30MHz – 1GHz

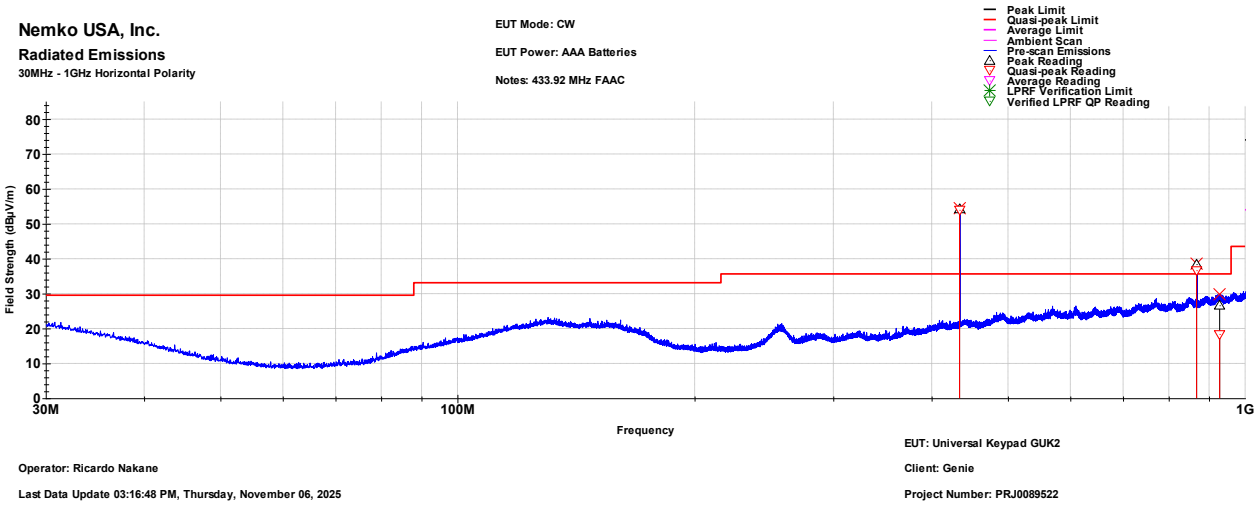

Figure 7.3-14: Radiated Emissions, FAAC 432.92 MHz, Horizontal Polarity, 30MHz – 1GHz

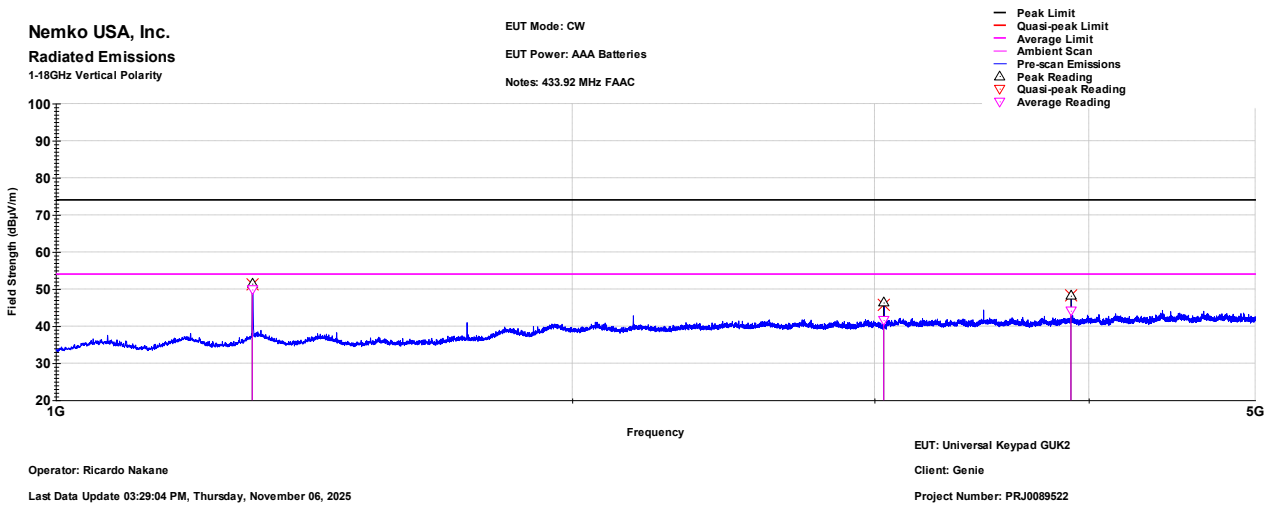

Figure 7.3-15: Radiated Emissions, FAAC 432.92, Vertical Polarity, 1GHz – 5GHz

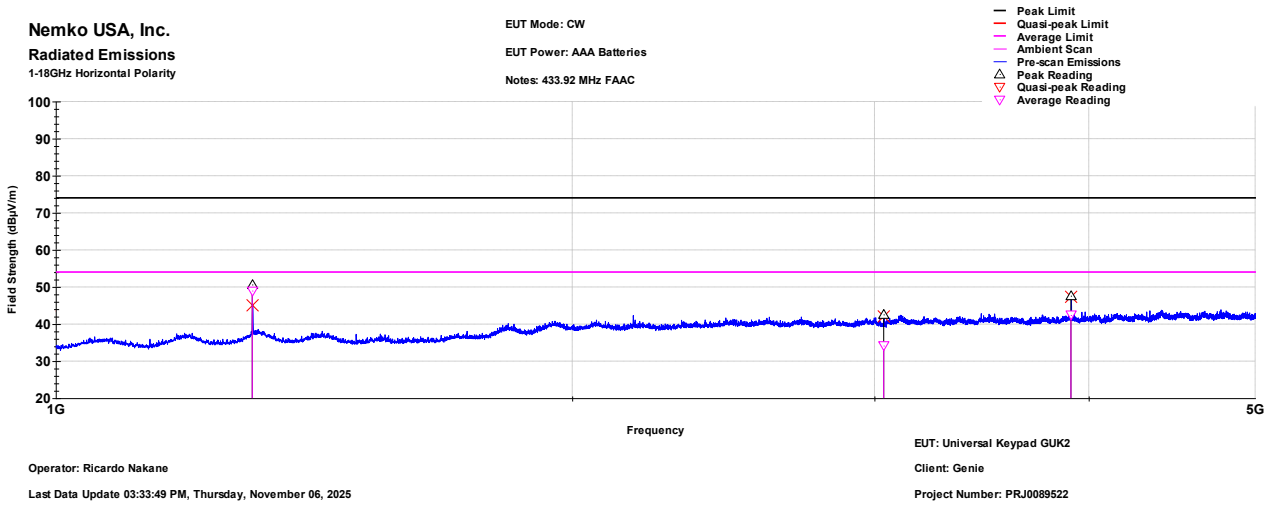

Figure 7.3-16: Radiated Emissions, FAAC 432.92, Horizontal Polarity, 1GHz – 5GHz

Table 7.3-5: Harmonic and spurious emissions test data – Genie 12 (390 MHz)

Frequency (MHz)	Polarity	Max Peak (dBµV/m)	Duty Cycle Correction dB	Average (dBµV/m)	Limit(dBµV/m)	Margin (dB)	Height (cm)	EUT Direction (Degrees)	Result
433.9	V	61.833	-6.43	55.41	70.368	14.96	379.00	274.00	Pass
433.9	H	54.215	-6.43	47.79	70.368	22.58	350.00	174.00	Pass
867.9	V	55.324	-6.43	48.90	50.368	1.47	175.00	49.00	Pass
867.9	H	38.425	-6.43	32.00	50.368	18.37	400.00	282.00	Pass
928.8	V	27.418	-6.43	20.99	50.368	29.38	132.00	102.00	Pass
928.8	H	26.625	-6.43	20.20	50.368	30.17	374.00	359.00	Pass
1301.8	V	51.408	-6.43	44.98	53.979	9.00	336.00	120.00	Pass
1302.0	H	50.636	-6.43	44.21	53.979	9.77	362.00	10.00	Pass
3037.5	V	46.305	-6.43	39.88	60.825	20.95	100.00	108.00	Pass
3037.5	H	42.559	-6.43	36.13	60.825	24.69	239.00	359.00	Pass
3905.8	V	48.143	-6.43	41.72	53.979	12.26	237.00	292.00	Pass
3905.8	H	47.6	-6.43	41.17	53.979	12.81	100.00	67.00	Pass

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)

[2] Correction factors = antenna factor ACF (dB) + cable loss (dB) − amplifier gain (dB)

[3] Peak emissions at harmonic frequencies are adjusted by the duty cycle correction factor and compared against the average limit. For non-harmonic emissions, the peak is compared directly against the average limit.

[4] The limit is calculated based on the nominal carrier frequency.

7.4 FCC 15.231(c)/RSS-210 A.1.4 Bandwidth of emissions

7.4.1 Definitions and limits

FCC 15.231(c) and RSS-210 A.1.4:
The bandwidth of the emission shall be no wider than 0.25% of the center frequency for devices operating above 70 MHz and below 900 MHz. For devices operating above 900 MHz, the emission shall be no wider than 0.5% of the center frequency. Bandwidth is determined at the points 20 dB down from the modulated carrier.

7.4.2 Test summary

Test date	November 6, 2025	Temperature	23 °C
Test engineer	Ricardo Nakane	Air pressure	991 mbar
Test location	Wireless bench	Relative humidity	52%

7.4.3 Observations, settings, and special notes

Tests were performed based on the methodology of Section 6.9.2 of ANSI C63.10.

7.4.4 Test data

Table 7.4-1: 20 dB bandwidth test data

Brand / Coding	Operating Frequency (MHz)	20 dB Bandwidth (kHz)	Limit (kHz)	Margin (kHz)
Chamberlain	390	10.35	975	964.65
FAAC	432.92	17.303	1084.8	1067.497
Genie 12	390	128.14	975	846.86
Genie 95W	390	132.31	975	842.69
OHD9	390	9.82	975	965.18
Sommers	310	27.752	775	747.248
Stanley	310	22.477	775	752.523
Wayne Dalton/Ryobi	372.5	20.679	931.25	910.571

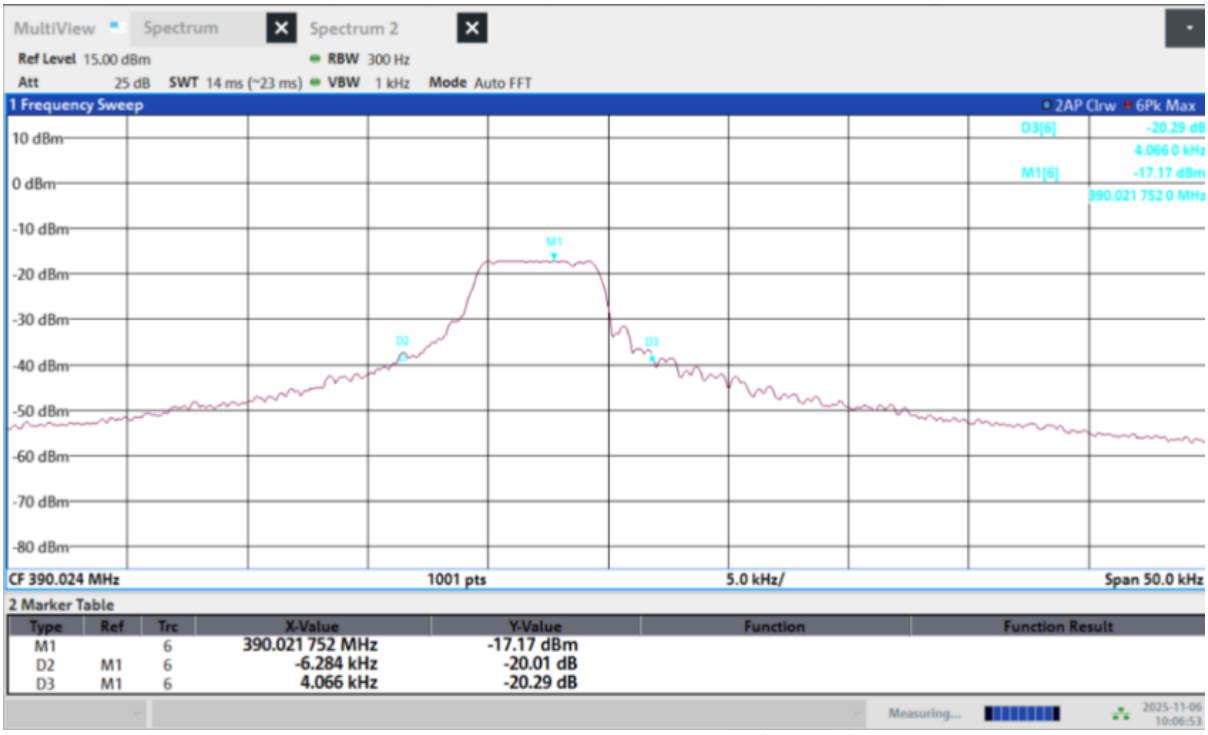

Figure 7.4-1: 20 dB bandwidth – Chamberlain (390 MHz)

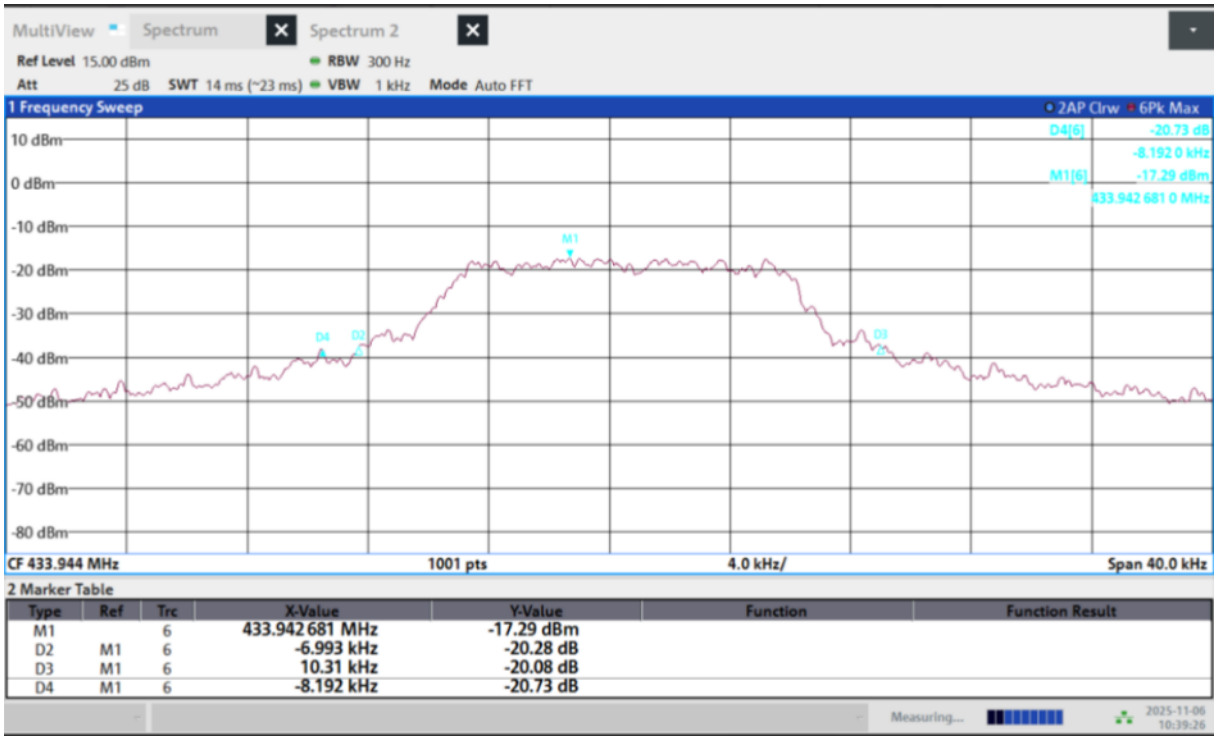

Figure 7.4-2: 20 dB bandwidth – FAAC (433.92 MHz)

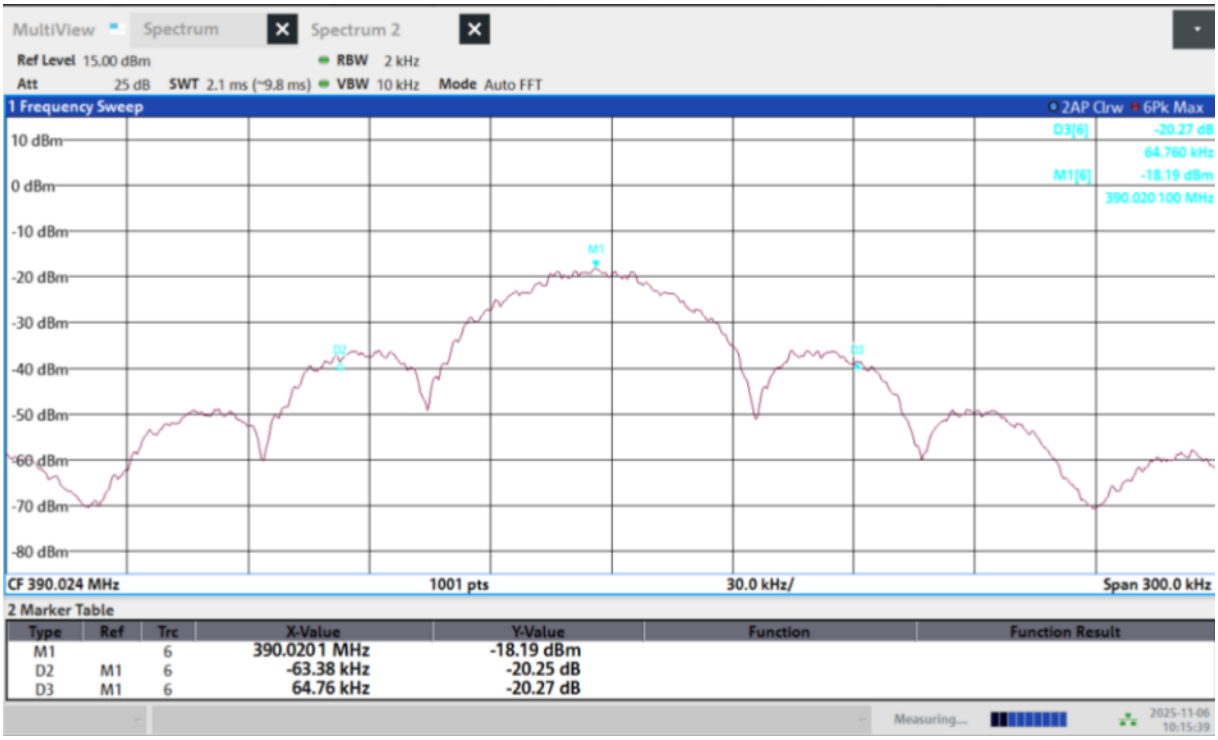

Figure 7.4-3: 20 dB bandwidth – Genie 12 (390 MHz)

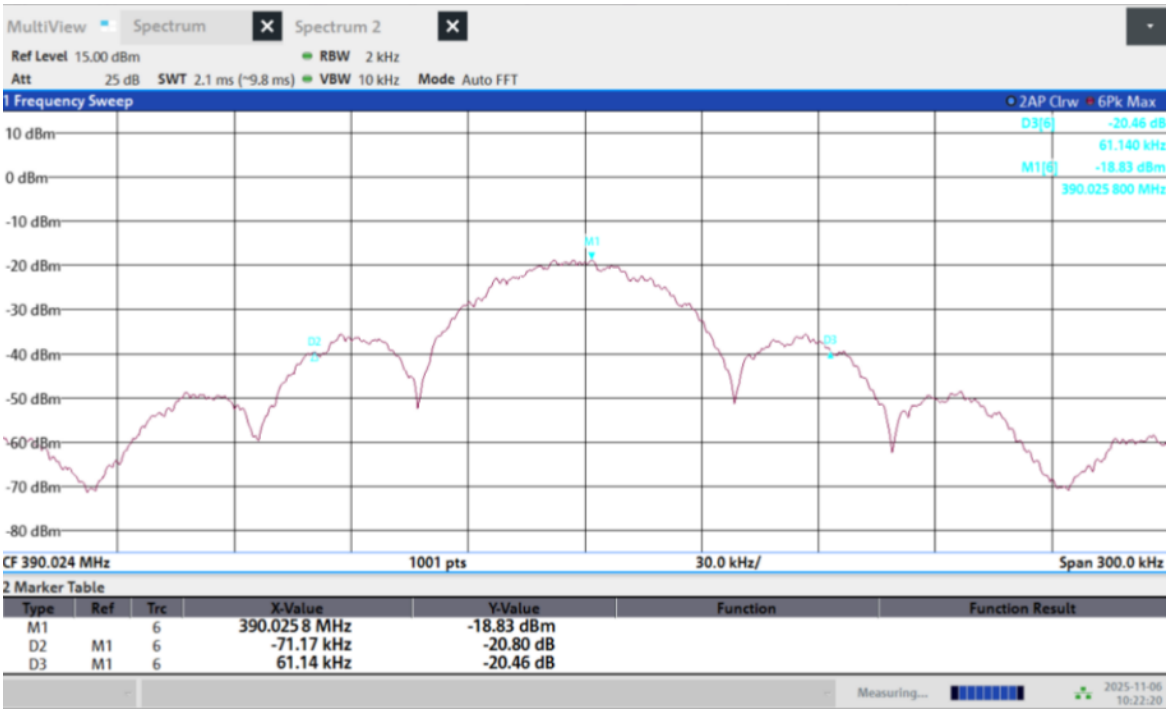

Figure 7.4-4: 20 dB bandwidth – Genie 95W (390 MHz)

Figure 7.4-5: 20 dB bandwidth – OHD9 (390 MHz)

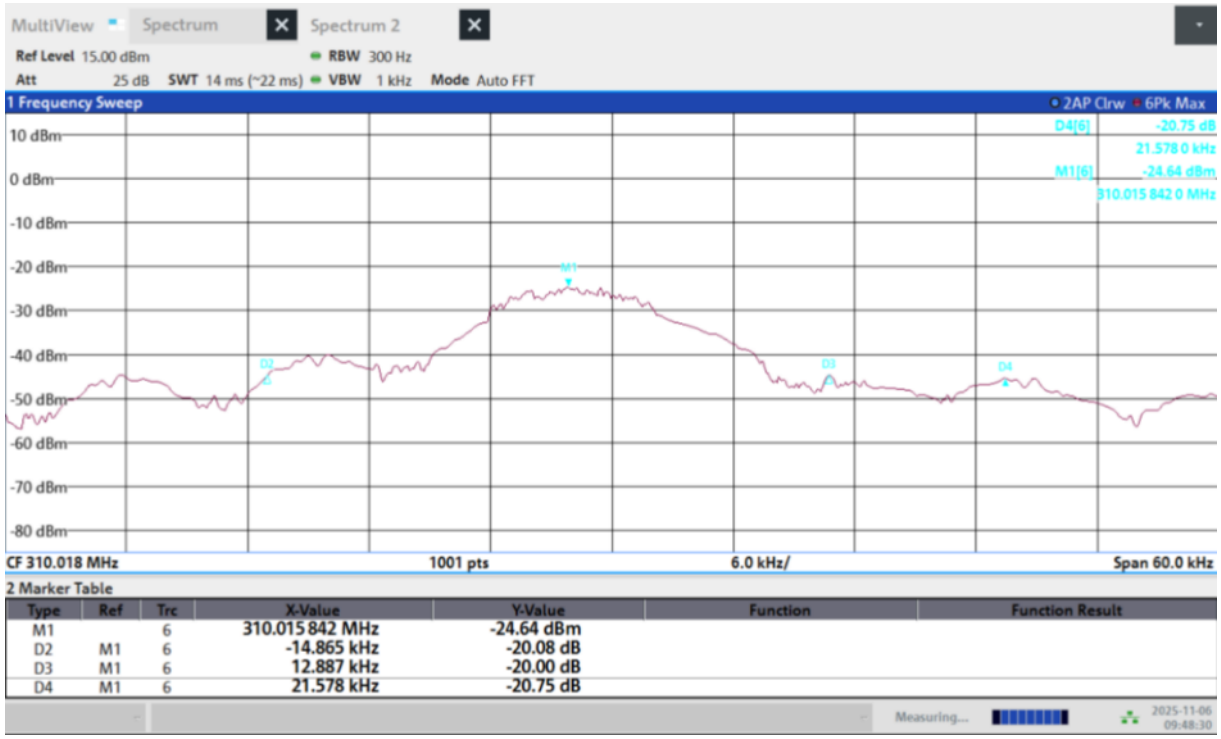

Figure 7.4-6: 20 dB bandwidth – Sommers (310 MHz)

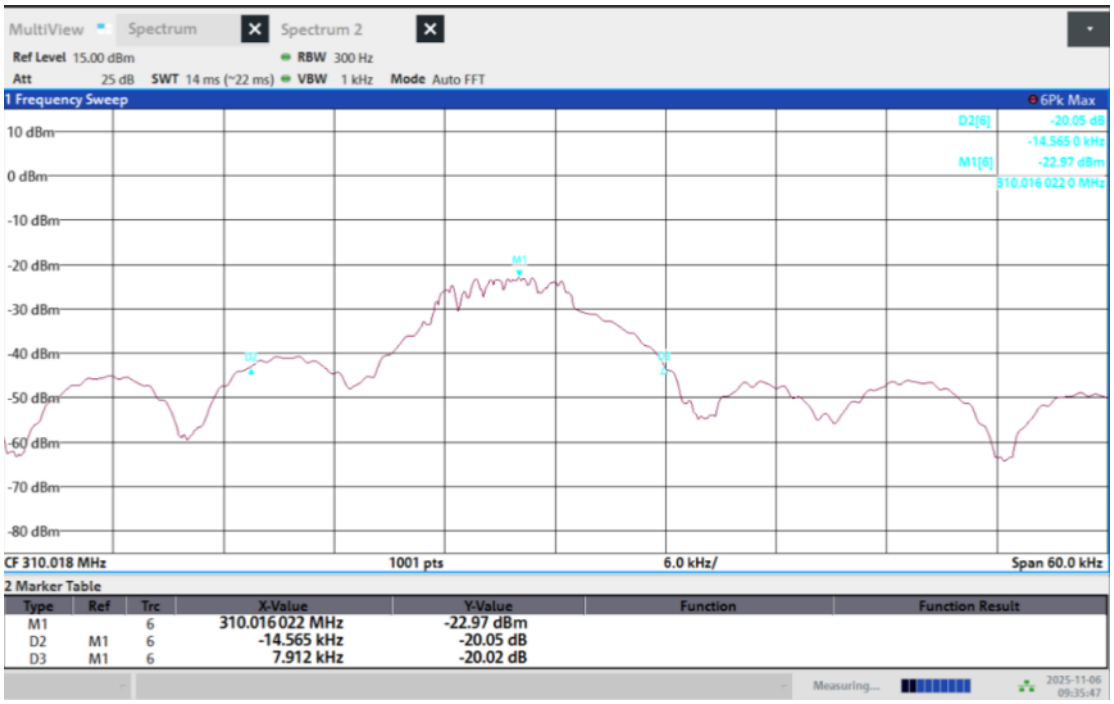

Figure 7.4-7: 20 dB bandwidth – Stanley (310 MHz)

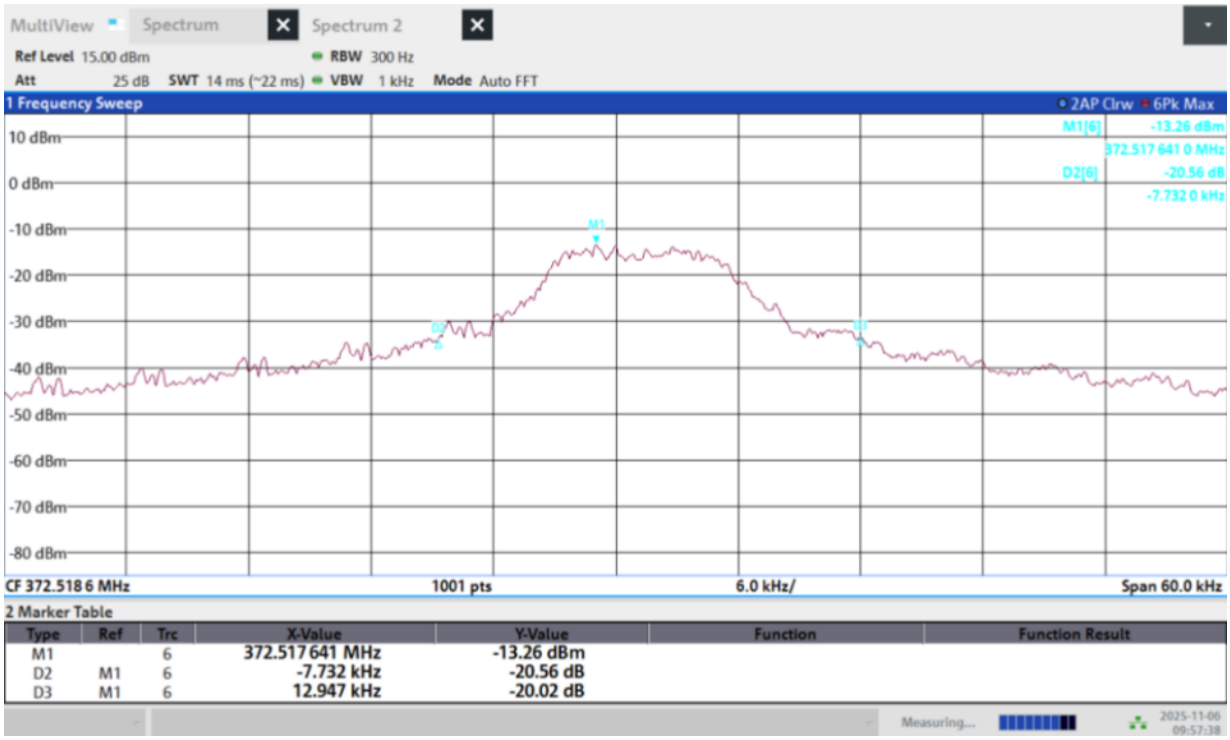

Figure 7.4-8: 20 dB bandwidth – Wayne Dalton/Ryobi (372.5 MHz)

7.5 RSS-GEN 6.7 Occupied bandwidth

7.5.1 Definitions and limits

RSS-GEN 6.7:
The occupied bandwidth or the "99% emission bandwidth" is defined as the frequency range between two points, one above and the other below the carrier frequency, within which 99% of the total transmitted power of the fundamental transmitted emission is contained. The occupied bandwidth shall be reported for all equipment in addition to the specified bandwidth required in the applicable RSSs.

7.5.2 Test summary

Test date	November 6, 2025	Temperature	23 °C
Test engineer	Ricardo Nakane	Air pressure	991 mbar
Test location	Wireless bench	Relative humidity	52%

7.5.3 Observations, settings, and special notes

Tests were performed based on the methodology of Section 6.9.3 of ANSI C63.10.

7.5.4 Test data

Table 7.5-1: 99% occupied bandwidth test data

Brand / Coding	Operating Frequency (MHz)	99% Bandwidth (kHz)
Chamberlain	390	9.75
FAAC	433.92	13.613
Genie 12	390	120.138
Genie 95W	390	120.937
OHD9	390	9.513
Sommers	310	41.459
Stanley	310	34.697
Wayne Dalton/Ryobi	372.5	25.608

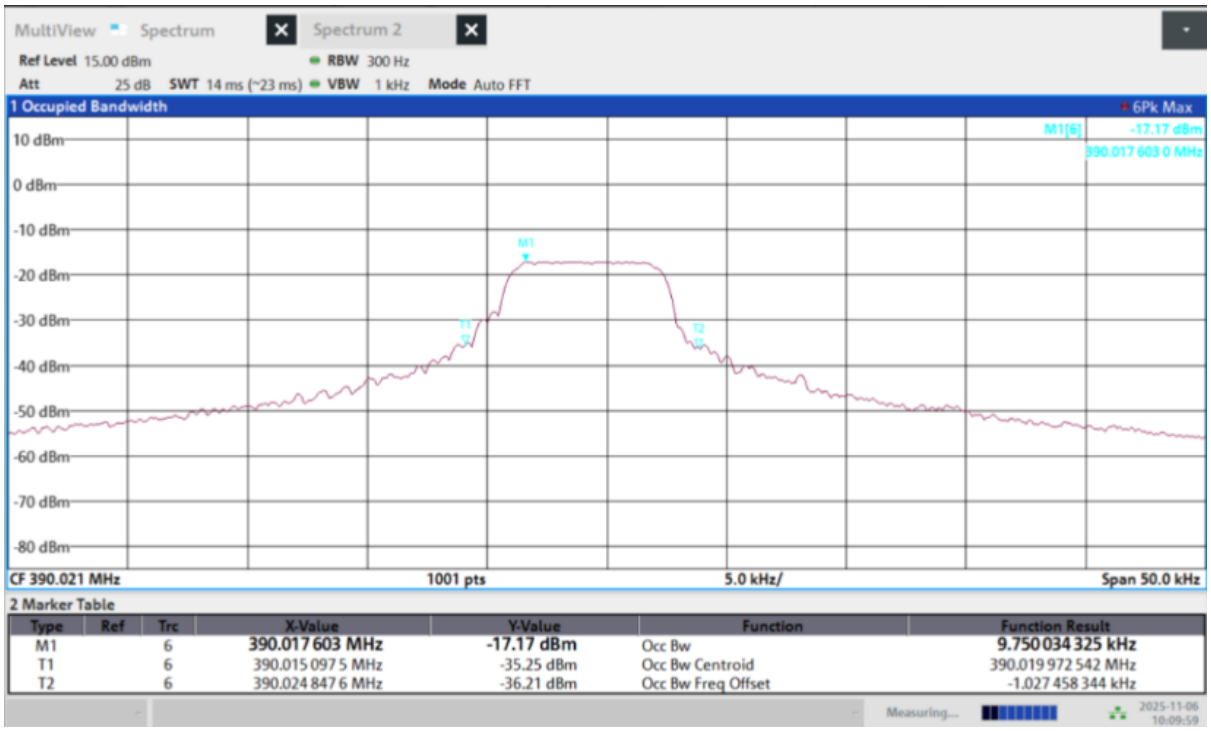

Figure 7.5-1: 99% bandwidth – Chamberlain (390 MHz)

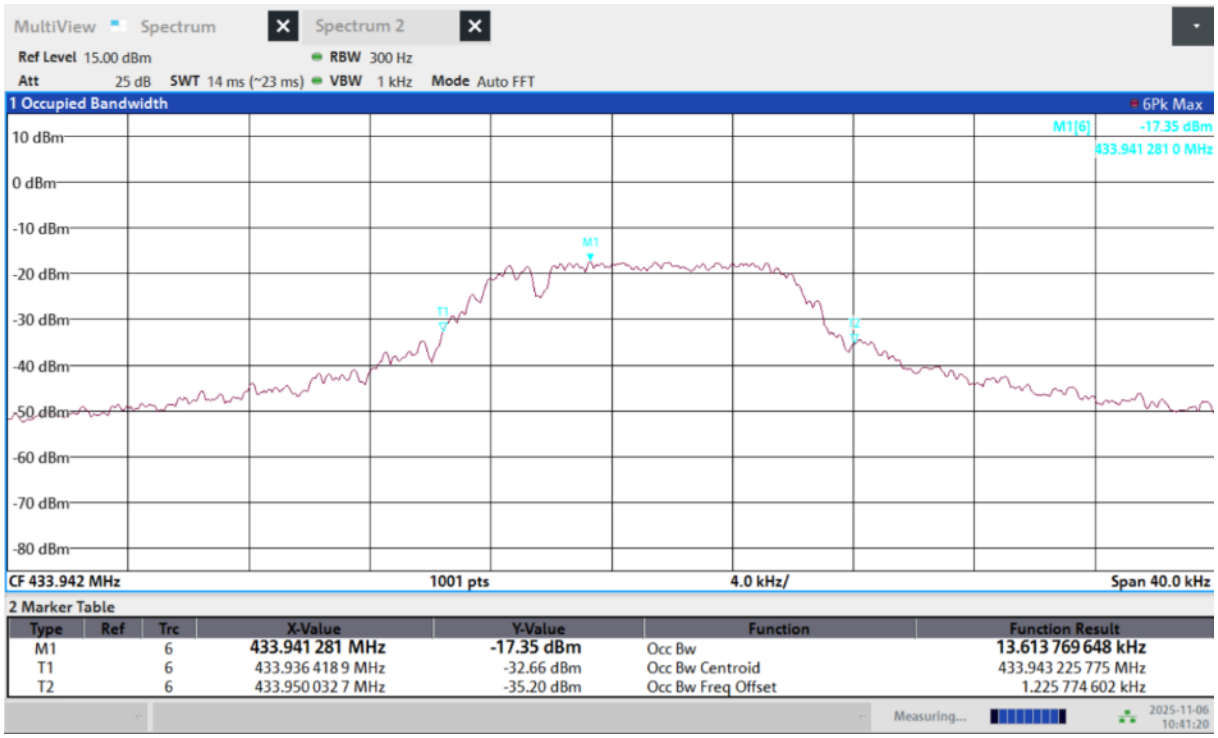

Figure 7.5-2: 99% bandwidth – FAAC (433.92 MHz)

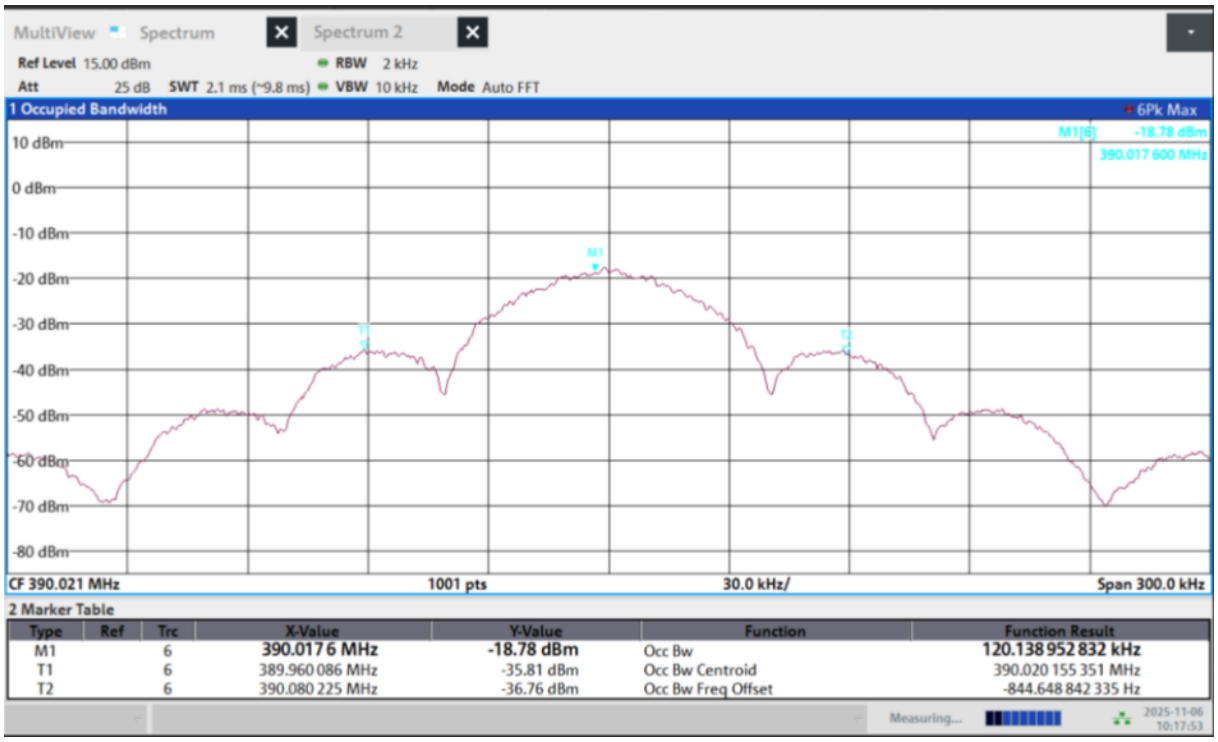

Figure 7.5-3: 99% bandwidth – Genie 12 (390 MHz)

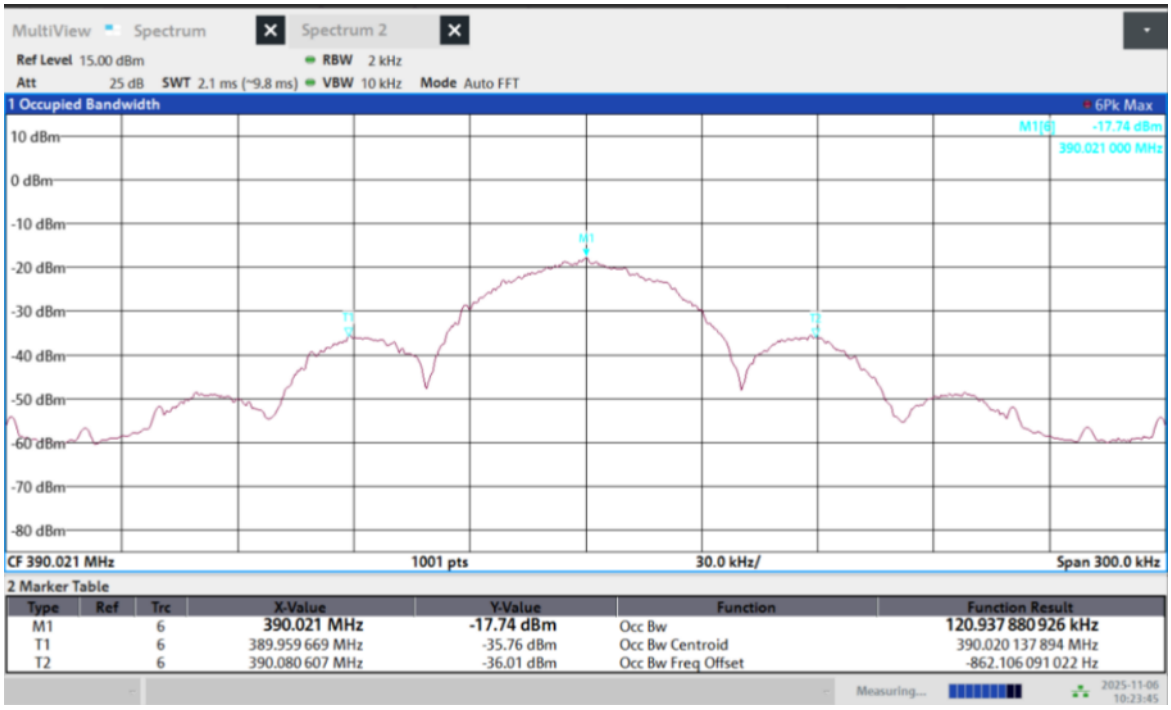

Figure 7.5-4: 99% bandwidth – Genie 95W (390 MHz)

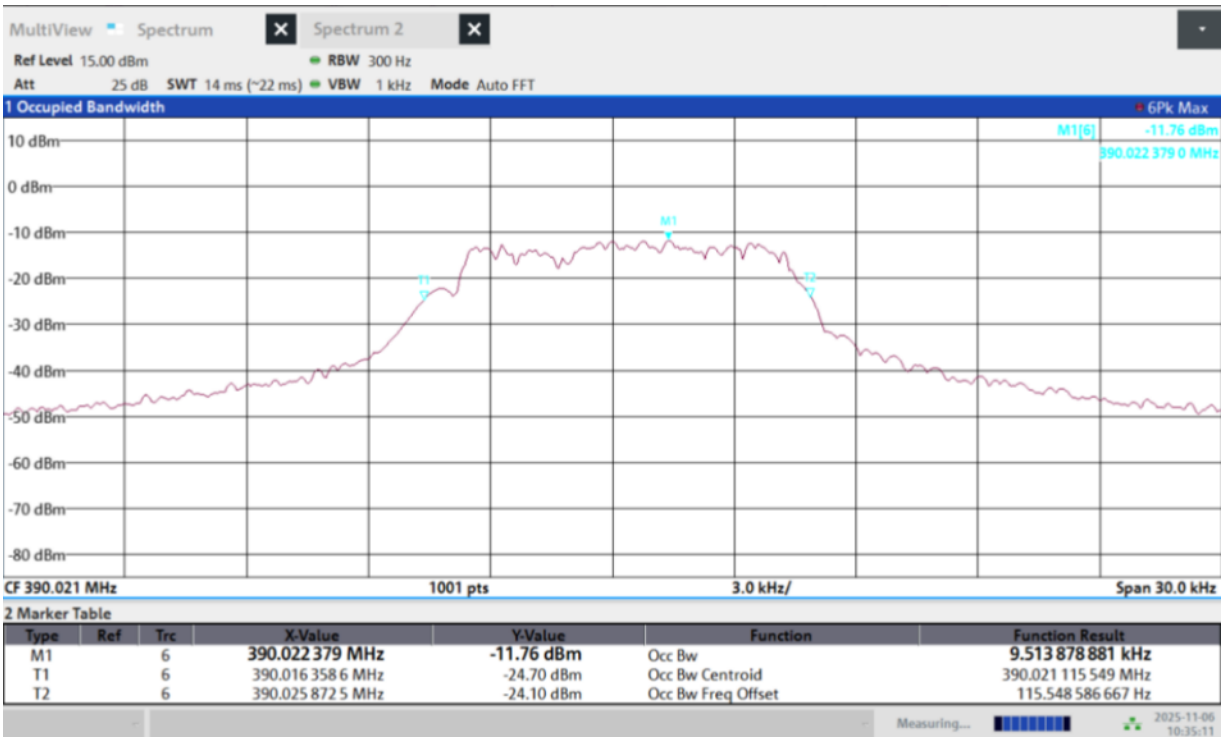

Figure 7.5-5: 99% bandwidth – OHD9 (390 MHz)

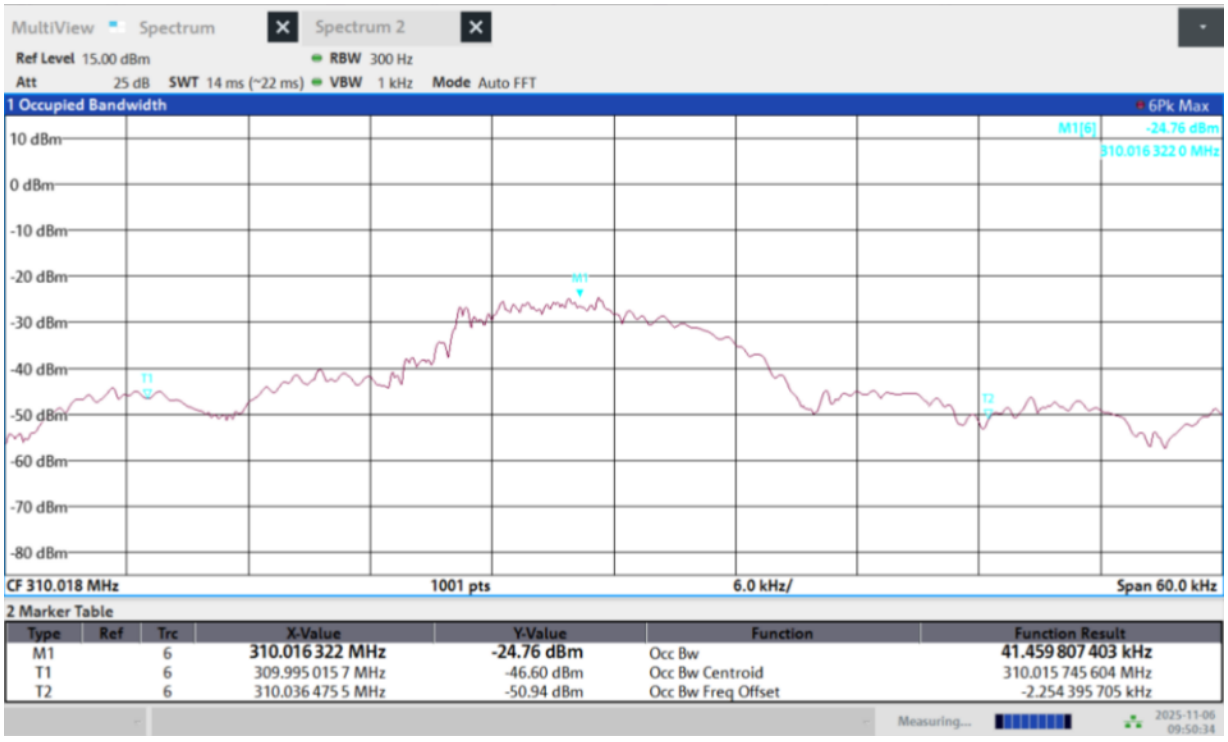

Figure 7.5-6: 99% bandwidth – Sommers (310 MHz)

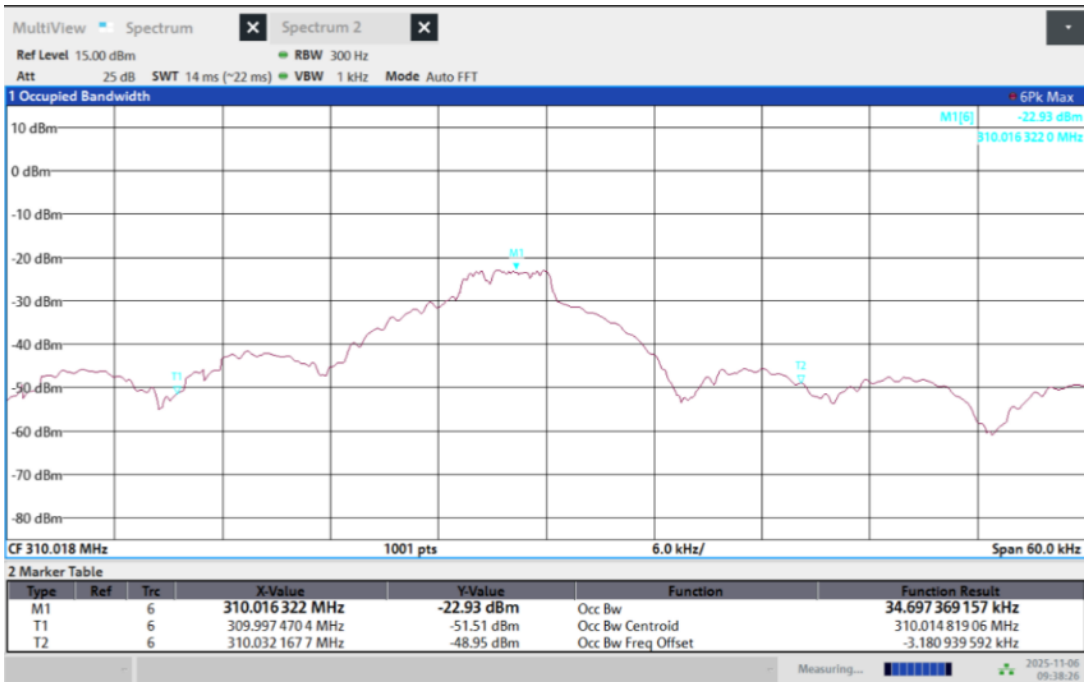

Figure 7.5-7: 99% bandwidth – Stanley (310 MHz)

Figure 7.5-8: 99% bandwidth – Wayne Dalton/Ryobi (372.5 MHz)

Section 8 Test Equipment

Table 7.5-1: *Equipment list*

Equipment	Manufacturer	Model no.	Asset no.	Next cal.
Radiated Setup:				
Antenna, Loop, Active, .01-30MHz	EMCO	6502	1293	2/14/2027
Receiver, Test, EMI, 1 Hz to 44 GHz	Rohde & Schwarz	ESW44	2541	6/3/2026
Switch Driver	Agilent	11713A	1939	N/A
Antenna, Hybrid, Bilogical, 25 MHz - 4 GHz	A.H. Systems	SAS-521-4	2613	4/22/2027
Preamp, 0.1-1300MHz, 26dB	HP	8447D	586	3/13/2026
Amplifier, 40dB, 100MHz-18GHz	Miteq	AFS44-00101800-2S-10P-44	2004	1/27/2026
Antenna, Double Ridged Guide Horn, 1 - 18 GHz	ETS-Lindgren	3117	2438	2/24/2027
Cable, RF, N-N, 36', DC-18GHz	evissaP	eP7123R-432	C395	2/15/2026
Cable, RF, N-N, 32', DC-18GHz	evissaP	eP7123R-384	C394	2/14/2026
Cable, RF, N-N, 22', DC-18GHz	evissaP	eP7031R-22FT	C404	3/1/2026
Cable, RF, N-N, 30', DC-18GHz	evissaP	eP7031R-30FT	C405	3/1/2026
Cable, RF, SMA-SMA, 12", 2.92mm, DC-40GHz	evissaP	eP7101R-12	C398	3/1/2026
Enclosure, Shielded, RFI/EMI, NSA, 3m & 10m, 30MHz - 1 GHz	TDK	254	2555	2/3/2026
Cable, RF, SMA-N, 6', DC-18GHz	evissaP	eP7033R-6FT	C406	3/1/2026
Cable, RF, SMA-SMA, 12", 2.92mm, DC-40GHz	evissaP	eP7101R-12	C399	3/1/2026
Cable, RF, SMA-N, 6', DC-18GHz	evissaP	eP7033R-6FT	C407	3/1/2026
Cable, RF, N-N, 30", DC-18GHz	evissaP	eP3010R-30	C400	3/1/2026
Conducted Setup:				
Analyzer, Signal, 44 GHz	Rohde & Schwarz	FSV3044	2551	6/5/2026
Cable, RF, SMA-SMA, 11', 2.92mm, DC-40GHz	evissaP	eP7101R-132	C397	3/1/2026

Notes: NCR – no calibration required

**** End of Report ****