

RADIO TEST REPORT

Report ID:

REP185420

Project number:

PRJ0107773

Type of assessment:

Modular transmitter integration and new host verification

Applicant:

Smart Wave Technologies

Product:

Smart Mousetraps

Model (host):

Streamline iQ

HVIN:

B01-007A

Contains FCC ID:

2ASYW-B01007

Contains ISED certification number:

24934-B01007A

Specifications:

- ◆ FCC 47 CFR Part 15 Subpart C, §15.247
- ◆ RSS-247, Issue 4, July 2025, Section 6

Date of issue: September 22, 2026

Tarek Elkholy, EMC/RF Engineer

Tested by

Andrey Adelberg, Senior EMC/RF Specialist

Reviewed by



Signature



Signature

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ANAB File Number: AT-3195 (Ottawa); AT-3193 (Pointe-Claire); AT-3194 (Cambridge)

Lab locations

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Limits of responsibility

Note that the results contained in this report relate only to the items tested and were obtained in the period between the date of initial receipt of samples and the date of issue of the report.

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Table of Contents

Table of Contents	3
Section 1 Report summary	4
1.1 Test specifications	4
1.2 Test methods	4
1.3 Exclusions	4
1.4 Statement of compliance.....	4
1.5 Test report revision history.....	4
Section 2 Engineering considerations	5
2.1 Modifications incorporated in the EUT for compliance	5
2.2 Technical judgment	5
2.3 Model variant declaration	5
2.4 Deviations from laboratory tests procedures	5
Section 3 Test conditions	6
3.1 Atmospheric conditions	6
3.2 Power supply range	6
Section 4 Information provided by the applicant	7
4.1 Disclaimer	7
4.2 Applicant/Manufacturer	7
4.3 EUT information	7
4.4 Radio technical information.....	7
4.5 EUT setup details	8
Section 5 Summary of test results	9
5.1 Testing period.....	9
5.2 Sample information.....	9
5.3 FCC Part 15, Test results	9
5.4 ISSED RSS-Gen/ ISSED RSS-247, Test results.....	9
Section 6 Test equipment.....	10
6.1 Test equipment list	10
Section 7 Testing data	11
7.1 Spurious (out-of-band) unwanted emissions.....	11
Section 8 EUT photos	17
8.1 External photos.....	17

Section 1 Report summary

1.1 Test specifications

FCC 47 CFR Part 15, Subpart C, Clause 15.247	Operation in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz
RSS-247, Issue 4, July 2025, Section 6	Requirements for frequency hopping systems, digital transmission systems and hybrid systems operating in the bands 902-928 MHz, 2400-2483.5 MHz and 5725-5850 MHz

1.2 Test methods

KDB 558074 D01 15.247 Meas Guidance v05r02 (April 2, 2019)	Guidance for compliance measurements on digital transmission system, frequency hopping spread spectrum system, and hybrid system devices operating under section 15.247 of the FCC rules.
KDB 996369 D04 Module Integration Guide v02	MODULAR TRANSMITTER INTEGRATION GUIDE GUIDANCE FOR HOST PRODUCT MANUFACTURERS
ANSI C63.10-2020+Cor.1-2023+C63.10a-2024 + Errata to C63.10a-2024	American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices

1.3 Exclusions

Partial testing was performed on the product with the transmitter operating to confirm that the host product meets the FCC/ISED requirements. This investigation of the final product was done by spot checking emissions from the device while operating the host as a composite system. This testing was performed with the host product configured in typical operational modes to check the spurious emissions for compliance with all the applicable rules.

1.4 Statement of compliance

Statement of Conformity:

The reported results have been evaluated against the specified limits of the standard(s) listed in **Section 1.1** of this report.

Conformity with the specified requirements is determined by comparing the measured results directly to the applicable limits. Measurement uncertainty is not applied to adjust or attribute to the measured value for the purpose of compliance determination.

In the configuration tested, the **Equipment Under Test (EUT)** was found to be compliant. Unless otherwise noted in **Section 1.3**, all testing was performed against the relevant requirements of the applicable test standard(s).

The results obtained indicate that the product under test complies in full with the requirements tested, and the test results relate only to the items tested.

Refer to the **Summary of Test Results** section for full details.

1.5 Test report revision history

Table 1.5-1: Test report revision history

Revision #	Date of issue	Details of changes made to test report
REP185420	September 22, 2026	Original report issued

Section 2 Engineering considerations

2.1 Modifications incorporated in the EUT for compliance

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

2.2 Technical judgment

The EUT incorporates one Limited Modular Approval (LMA) BLE radio module manufactured by SmartWave Technologies, model B01-007A, FCC ID: 2ASYW-B01007, IC: 24934-B01007.

Testing was performed within the new host product where transmitter is configured in a continuous transmit operating mode to evaluate radiated spurious emissions against the applicable FCC and ISED requirements.

For the modular transmitter integration assessment in the host platform, the transmitter was configured with the following RF parameters: transmit frequency of 2404 MHz, channel bandwidth of 1 MHz, and output power level of +2 dBm.

The evaluation was performed to verify that the host integration does not generate additional radiated spurious emissions and that the transmitter remains compliant with the applicable FCC and ISED requirements when operating in the host product. The assessment also considered the summation of emissions from applicable outputs occupying the same or overlapping frequency ranges, as required by the applicable rules. All other requirements are excluded from the scope of this report.

2.3 Model variant declaration

There were no model variants declared by the applicant.

2.4 Deviations from laboratory tests procedures

No deviations were made from laboratory procedures.

Section 3 Test conditions

3.1 Atmospheric conditions

Temperature	15 °C – 35 °C
Relative humidity	20 % – 75 %
Air pressure	86 kPa (860 mbar) – 106 kPa (1060 mbar)

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.

3.2 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 $\pm 5\%$, for which the equipment was designed.

Section 4 Information provided by the applicant

4.1 Disclaimer

This section contains information provided by the applicant and has been utilized to support the test plan. Inaccurate information provided by the applicant can affect the validity of the results contained within this test report. Nemko accepts no responsibility for the information contained within this section and the impact it may have on the test plan and resulting measurements.

4.2 Applicant/Manufacturer

Applicant name	Smart Wave Technologies
Applicant address	1 Marmac Drive, M9W 1E7, Toronto, ON, Canada
Manufacturer name	Same as applicant
Manufacturer address	Same as applicant

4.3 EUT information

Product	Smart Mousetraps
Model	Streamline iQ
Serial number	None
Part number	P-B01-007A-05
Power supply requirements	Battery: 3.6 V(DC)
Product description and theory of operation	Unit is continuously powered and advertises at 0 dB every 1.5s

4.4 Radio technical information

Category of Wideband Data Transmission equipment	☐ Frequency Hopping Spread Spectrum (FHSS) equipment ☒ Other types of Wideband Data Transmission equipment (e.g. DSSS, OFDM, etc.).
Frequency band	2400–2483.5 MHz
Frequency Min (MHz)	2402 MHz
Frequency Max (MHz)	2480 MHz
Type of modulation	BLE (GFSK)
Antenna Information	Type: ¼ Wave Monopole Manufacturer: Generic Model: Generic Peak gain: 0 dBi

4.5 EUT setup details

4.5.1 Radio exercise details

Operating conditions	EUT was configured to continuously transmit BLE signal at channel 2404 MHz at power level of +2 dBm
Transmitter state	Transmitter set in to continuous mode.

4.5.2 EUT setup configuration

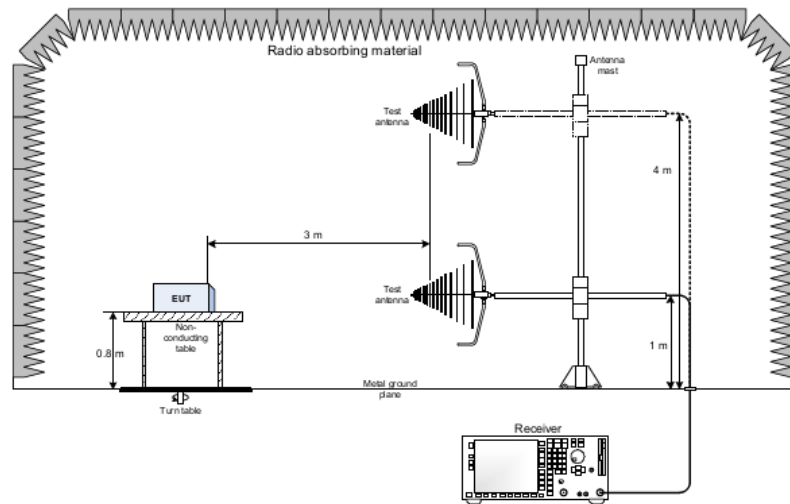


Figure 4.5-1: Radiated testing block diagram, below 1 GHz

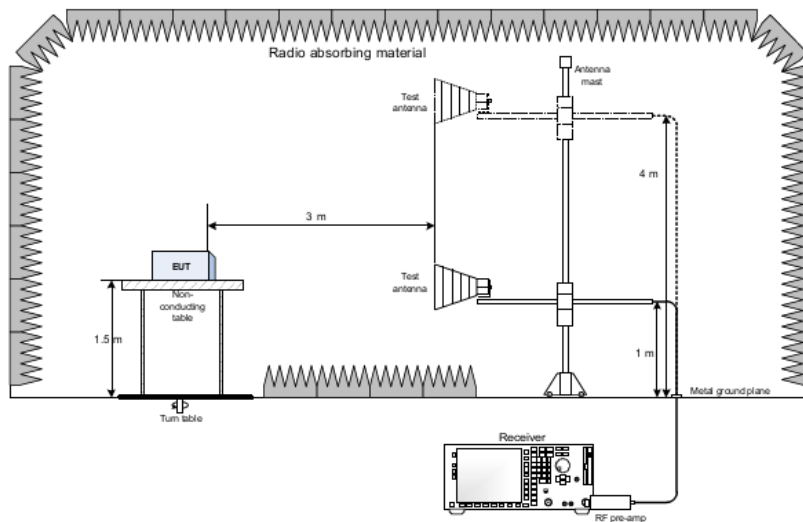


Figure 4.5-2: Radiated testing block diagram, above 1 GHz

Section 5 Summary of test results

5.1 Testing period

Test start date	September 1, 2026	Test end date	September 4, 2026
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5.2 Sample information

Receipt date	August 31, 2026	Nemko sample ID number(s)	PRJ01077730001
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5.3 FCC Part 15, Test results

Table 5.3-1: FCC requirements results

Part	Test description	Verdict
§15.207(a)	Conducted limits	Not applicable
§15.247(d)	Spurious emissions	Pass

Notes: EUT is a battery operated device, the testing was performed using fresh batteries.

5.4 ISED RSS-Gen/ ISED RSS-247, Test results

Table 5.4-1: ISED RSS-Gen/RSS-247 requirements results

Part	Test description	Verdict
RSS-Gen, 7.3	Receiver radiated emission limits	Not applicable
RSS-Gen, 8.8	AC power-line conducted emissions limits	Not applicable
RSS-247, 6.6	Unwanted emissions	Pass

Notes: ¹According to sections 5.2 and 5.3 of RSS-Gen, Issue 5 the EUT does not have a stand-alone receiver neither scanner receiver, therefore exempt from receiver requirements.
EUT is a battery operated device, the testing was performed using fresh batteries.

Section 6 Test equipment

6.1 Test equipment list

Table 6.1-1: Equipment list

Equipment	Manufacturer	Model no.	Asset no.	Cal cycle	Next cal.
Receiver/spectrum analyzer	Rohde & Schwarz	ESR26	FA002969	1 year	August 20, 2027
3 m EMI test chamber	TDK	SAC-3	FA003012	1 year	October 31, 2026
Antenna mast	SUNAR	TLT2	FA003007	—	NCR
Flush mount turntable	SUNAR	FM2022	FA003006	—	NCR
Controller	SUNAR	SC110V	FA002976	—	NCR
Bilog antenna (20–3000 MHz)	Sunol	JB3	FA002108	1 year	July 15, 2027
Preamplifier (1–18 GHz)	ETS Lindgren	124334	FA002956	1 year	April 10, 2027
Horn antenna (1–18 GHz)	Electro-Metrics	3115	FA000649	1 year	April 23, 2027
Horn antenna (18–40 GHz)	EMCO	3116B	FA002948	3 year	May 3, 2027
Preamplifier 18-40 GHz	None	PA1840	FA003323	1 year	April 10, 2027
50 Ω SMA coax cable	Huber + Suhner	None	FA003056	1 year	July 8, 2027
50 Ω coax cable	Huber + Suhner	None	FA003402	1 year	July 8, 2027
50 Ω coax cable	Huber + Suhner	None	FA003047	1 year	July 8, 2027
Notch filter (2.4–2.4835 GHz)	Microwave circuits	N0324413	FA003027	—	NCR

Notes: NCR - no calibration required, VOU - verify on use

All equipment related to the contribution of measurement has been included in this list. Such items include, but are not limited to, cables, attenuators, directional couplers, and pre-amps.

Table 6.1-2: Automation software details

Test description	Manufacturer of Software	Details
EMC/RF test software	Rohde & Schwarz	EMC32, Software for EMC Measurements, Version 10.60.00

Table 6.1-3: Measurement uncertainty calculations based on equipment list

Measurement	Measurement uncertainty, ±dB
Radiated spurious emissions (30 MHz to 1 GHz)	3.68
Radiated spurious emissions (1 GHz to 6 GHz)	4.74
Radiated spurious emissions (6 GHz to 18 GHz)	5.05
Radiated spurious emissions (18 GHz to 26 GHz)	4.50
Notes: UKAS Lab 34, TIA-603 and ETSI TR 100 028-1&2 have been used as guidance for measurement uncertainty reasonable estimations with regards to previous experience and validation of data. Nemko Canada Inc. follows these test methods in order to satisfy ISO/IEC 17025 requirements for estimation of uncertainty of measurement for wireless products. Measurement uncertainty calculations assume a coverage factor of K = 2 with 95% certainty.	

Section 7 Testing data

7.1 Spurious (out-of-band) unwanted emissions

7.1.1 References, definitions and limits

FCC §15.247:

- (d) In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

RSS-247, Clause 6.6:

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated device is operating, the RF power that is produced shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided that the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of root-mean-square averaging over a time interval, as permitted under section 5.4(d), the attenuation required shall be 30 dB instead of 20 dB. Attenuation below the general field strength limits specified in RSS-Gen is not required.

RSS-Gen:

- 8.9 Except where otherwise indicated in the applicable RSS, radiated emissions shall comply with the field strength limits shown in table below.
- 8.10 Restricted frequency bands are designated primarily for safety-of-life services (distress calling and certain aeronautical activities), certain satellite downlinks, radio astronomy and some government uses. The following conditions related to the restricted frequency bands apply:
- a The transmit frequency, including fundamental components of modulation, of licence-exempt radio apparatus shall not fall within the restricted frequency bands.
 - b Unwanted emissions that fall into restricted frequency bands listed in table 7 shall comply with the limits specified in table below.
 - c Unwanted emissions that do not fall within the restricted frequency bands shall comply either with the limits specified in the applicable RSS or with those specified in table below.

Table 7.1-1: FCC §15.209 and RSS-Gen – Radiated emission limits

Frequency, MHz	Field strength of emissions		Measurement distance, m
	µV/m	dBµV/m	
0.009–0.490	2400/F	$67.6 - 20 \times \log_{10}(F)$	300
0.490–1.705	24000/F	$87.6 - 20 \times \log_{10}(F)$	30
1.705–30.0	30	29.5	30
30–88	100	40.0	3
88–216	150	43.5	3
216–960	200	46.0	3
above 960	500	54.0	3

Notes: In the emission table above, the tighter limit applies at the band edges.
For frequencies above 1 GHz the limit on peak RF emissions is 20 dB above the maximum permitted average emission limit applicable to the equipment under test.

References, definitions and limits, continued

Table 7.1-2: ISED restricted frequency bands

MHz	MHz	MHz	GHz
0.090–0.110	12.57675–12.57725	399.9–410	7.25–7.75
0.495–0.505	13.36–13.41	608–614	8.025–8.5
2.1735–2.1905	16.42–16.423	960–1427	9.0–9.2
3.020–3.026	16.69475–16.69525	1435–1626.5	9.3–9.5
4.125–4.128	16.80425–16.80475	1645.5–1646.5	10.6–12.7
4.17725–4.17775	25.5–25.67	1660–1710	13.25–13.4
4.20725–4.20775	37.5–38.25	1718.8–1722.2	14.47–14.5
5.677–5.683	73–74.6	2200–2300	15.35–16.2
6.215–6.218	74.8–75.2	2310–2390	17.7–21.4
6.26775–6.26825	108–138	2483.5–2500	22.01–23.12
6.31175–6.31225	149.9–150.05	2655–2900	23.6–24.0
8.291–8.294	156.52475–156.52525	3260–3267	31.2–31.8
8.362–8.366	156.7–156.9	3332–3339	36.43–36.5
8.37625–8.38675	162.0125–167.17	3345.8–3358	
8.41425–8.41475	167.72–173.2	3500–4400	Above 38.6
12.29–12.293	240–285	4500–5150	
12.51975–12.52025	322–335.4	5350–5460	

Note: Certain frequency bands listed in Table 7.1-2 and above 38.6 GHz are designated for licence-exempt applications. These frequency bands and the requirements that apply to related devices are set out in the 200 and 300 series of RSSs.

Table 7.1-3: FCC restricted frequency bands

MHz	MHz	MHz	GHz
0.090–0.110	16.42–16.423	399.9–410	4.5–5.15
0.495–0.505	16.69475–16.69525	608–614	5.35–5.46
2.1735–2.1905	16.80425–16.80475	960–1240	7.25–7.75
4.125–4.128	25.5–25.67	1300–1427	8.025–8.5
4.17725–4.17775	37.5–38.25	1435–1626.5	9.0–9.2
4.20725–4.20775	73–74.6	1645.5–1646.5	9.3–9.5
6.215–6.218	74.8–75.2	1660–1710	10.6–12.7
6.26775–6.26825	108–121.94	1718.8–1722.2	13.25–13.4
6.31175–6.31225	123–138	2200–2300	14.47–14.5
8.291–8.294	149.9–150.05	2310–2390	15.35–16.2
8.362–8.366	156.52475–156.52525	2483.5–2500	17.7–21.4
8.37625–8.38675	156.7–156.9	2690–2900	22.01–23.12
8.41425–8.41475	162.0125–167.17	3260–3267	23.6–24.0
12.29–12.293	167.72–173.2	3332–3339	31.2–31.8
12.51975–12.52025	240–285	3345.8–3358	36.43–36.5
12.57675–12.57725	322–335.4	3600–4400	Above 38.6
13.36–13.41			

7.1.2 Test summary

Verdict	Pass		
Test date	September 4, 2026	Temperature	23 °C
Tested by	Tarek Elkholy	Air pressure	988 mbar
Test location	Cambridge	Relative humidity	47 %

7.1.3 Observations, settings and special notes

- Only radiated spurious emissions within restricted bands were evaluated.
- As part of the current assessment, the test range of 9 kHz to 10th harmonic has been fully considered and compared to the actual frequencies utilized within the EUT. Since the EUT contains a transmitter in the GHz range, the EUT has been deemed compliant without formal testing in the 9 kHz to 30 MHz test range, therefore formal test results (tabular data and/or plots) are not provided within this test report.
- EUT was set to transmit with 100 % duty cycle.
- Radiated measurements were performed at a distance of 3 m. except for 18 – 26 GHz was scanned at 1 m distance to maintain low noise floor.
- DTS emissions in restricted frequency bands test was performed as per KDB 558074, section 8.6 with reference to ANSI C63.10 subclause 11.12.
- DTS band-edge emission measurements test was performed as per KDB 558074, section 8.7 with reference to ANSI C63.10 subclause 11.13.

Spectrum analyser settings (Measurements within restricted bands)

Resolution bandwidth:	Measurements below 1 GHz: 100 kHz Peak or 120 kHz Q-Peak, Measurements above 1 GHz: 1 MHz
Video bandwidth:	Measurements below 1 GHz: 300 kHz, Measurements above 1 GHz: 3 MHz
Detector mode:	Peak or Q-Peak, RMS
Trace mode:	Max Hold, Average

7.1.4 Test data

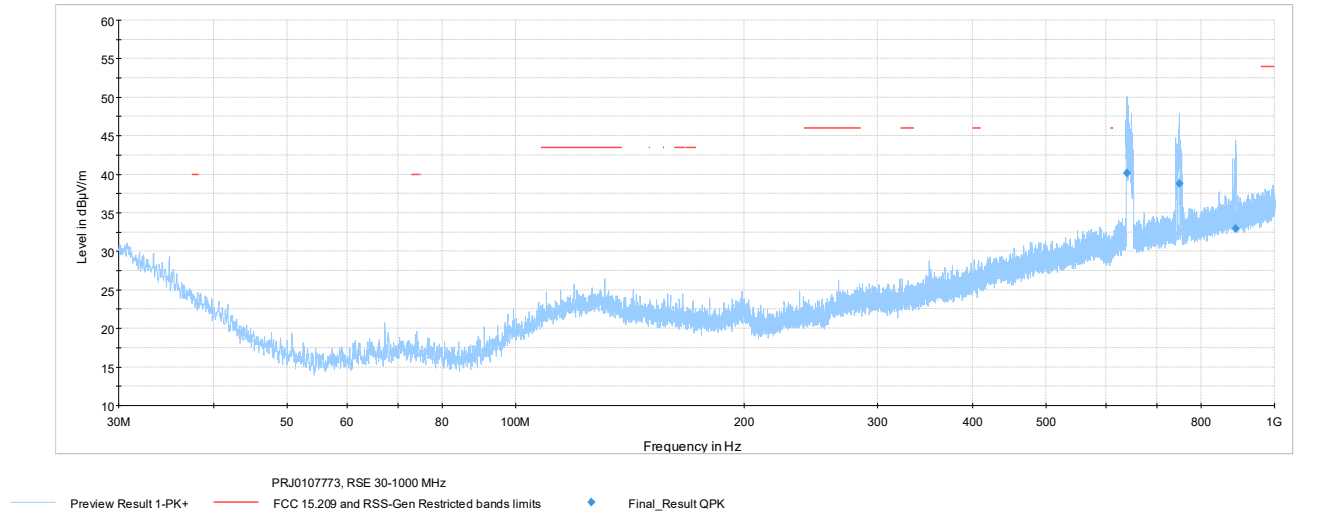


Figure 7.1-1: Radiated spurious emissions, below 1 GHz

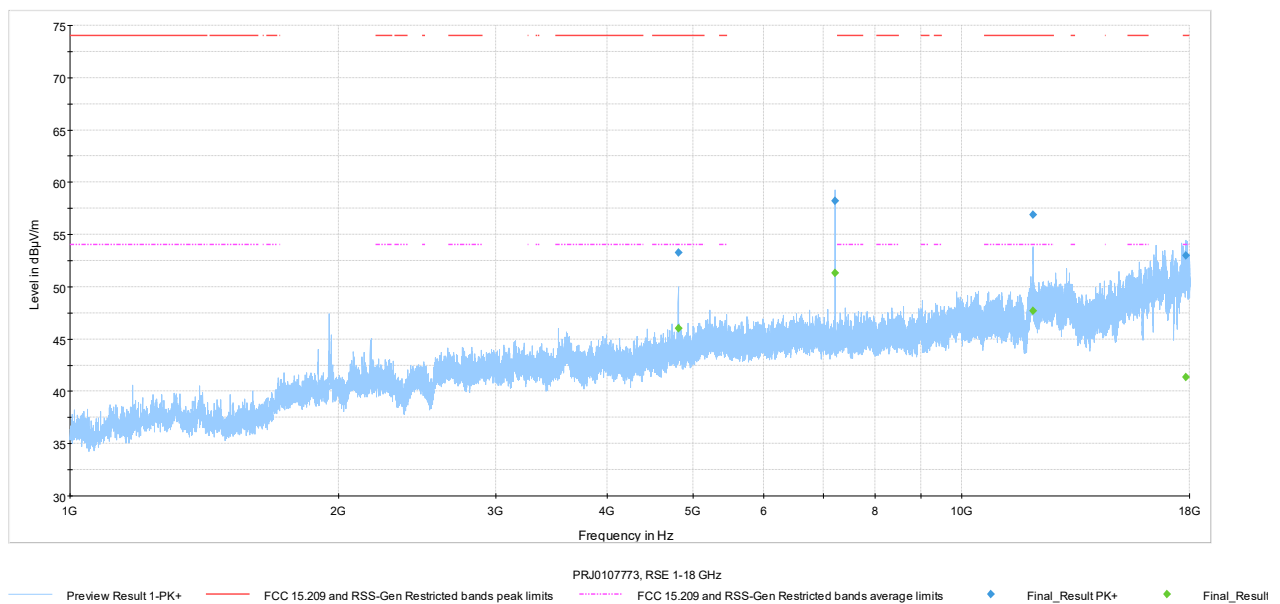


Figure 7.1-2: Radiated spurious emissions, 1 – 18 GHz

Test data, continued

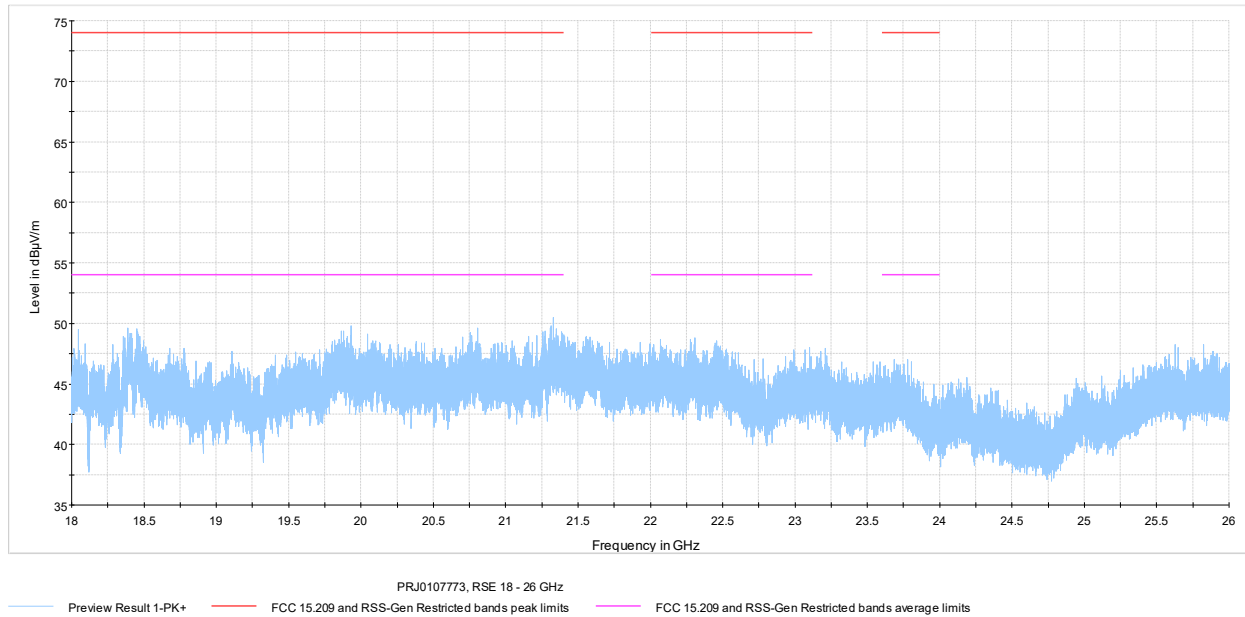


Figure 7.1-3: Radiated spurious emissions, 18 – 26 GHz

Table 7.1-4: Radiated field strength measurement results

Channel, MHz	Frequency, MHz	Peak Field strength, dBμV/m		Margin, dB	Average Field strength, dBμV/m		Margin, dB
		Measured	Limit		Measured	Limit	
2404.0	4808.0	53.25	74.00	20.75	46.04	54.00	7.96
	12020.8	56.90	74.00	17.10	47.72	54.00	6.28

Notes: Field strength includes correction factor of antenna, cable loss, amplifier, and attenuators where applicable.

7.1.5 Setup photos



Figure 7.1-4: Radiated spurious emissions – below 1 GHz

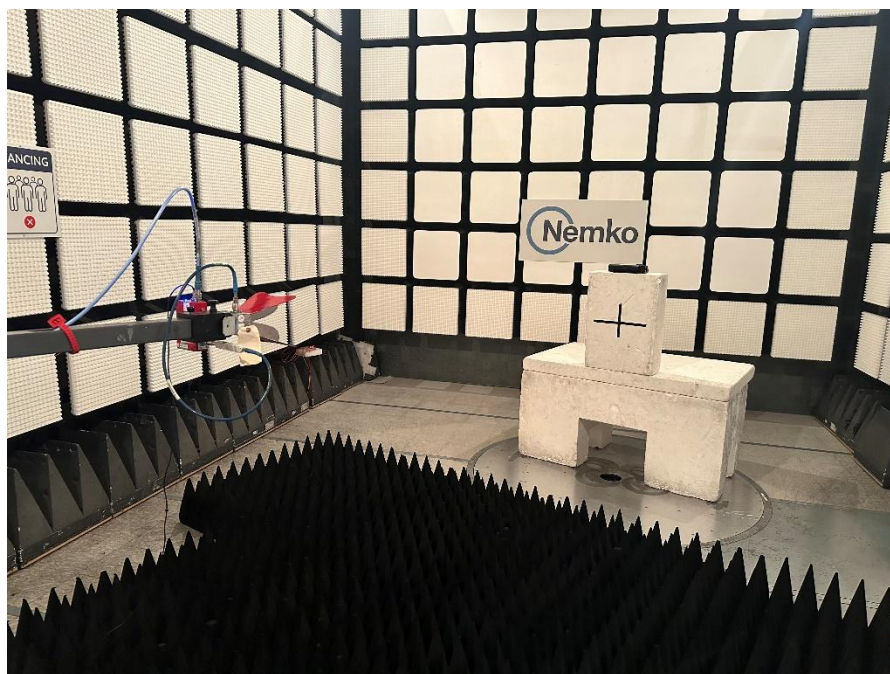


Figure 7.1-5: Radiated spurious emissions – above 1 GHz

Section 8 EUT photos

8.1 External photos



Figure 8.1-1: Front view photo



Figure 8.1-2: Rear view photo

External photos, continued

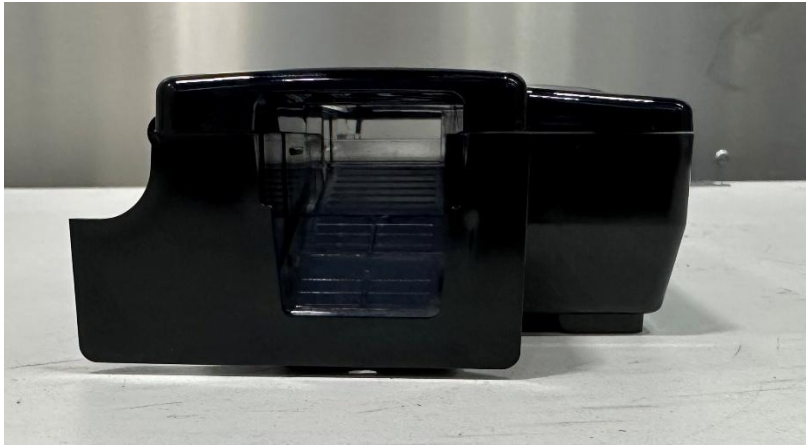


Figure 8.1-3: Side view photo

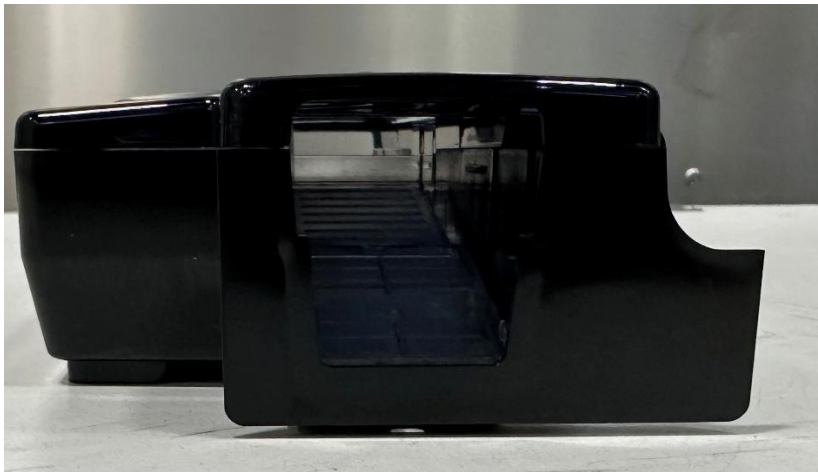


Figure 8.1-4: Side view photo

External photos, continued



Figure 8.1-5: Top view photo



Figure 8.1-6: Bottom view photo

End of the test report