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RADIO TEST REPORT

Report ID:

REP148810

Project number:

PRJ0095932

Type of assessment:

Final product testing

Applicant:

INTRACOM SINGLE MEMBER S.A. TELECOM SOLUTIONS, INTRACOM TELECOM

Product:

WiBAS G5 GigaConnect+

Model:

WG5-GC1P-37-39

Model variant(s):

WG5-GC1P-1F-37-39

WG5-GC1P-1D6F-37-39

FCC identifier:

FCC ID: 2AHZC-G5GICONPL3739

Specifications:

- ◆ **FCC 47 CFR Part 30**
- ◆ **RSS-191, Issue 3, April 2008**

Date of issue: **March 17, 2026**

Alvin Liu, EMC/RF Specialist

Tested by

Signature

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Reviewed by

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 this report's results 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 this report.

This test report has been completed following the requirements of ISO/IEC 17025. All results contained in this report are within Nemko Canada's ISO/IEC 17025 accreditation.

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Section 1. Report summary

1.1 Test specifications

FCC 47 CFR Part 30	Upper Microwave Flexible Use Service
RSS-191, Issue 3, April 2008	Local Multipoint Communication Systems in the Bands 25.35-28.35 GHz; Point-to-Point and Point-to-Multipoint Broadband Communication Systems in the Bands 24.25-24.45 GHz and 25.05-25.25 GHz; and Point-to-Multipoint Broadband Communications in the Band 38.6-40.0 GHz
SRSP-338.6, Issue 3, April 2008	Technical Requirements for Fixed Radio Systems Operating in the Band 38.6-40.0 GHz

1.2 Test methods

ANSI C63.26-2015	American National Standard for Compliance Testing of Transmitters Used in Licensed Radio Services
RSS-Gen, Issue 5, March 2019	General Requirements for Compliance of Radio Apparatus
FCC 47 CFR Part 2, Subpart J	Equipment authorization procedures
KDB 971168 D01	Power Meas License Digital Systems v03r01
KDB 842590 D01	Upper Microwave Flexible Use Service v01r02
KDB 662911 D01	Multiple Transmitter Output v02r01
KDB 662911 D02	MIMO with Cross Polarized Antenna v01

1.3 Exclusions

None

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

Report ID.	Date of issue	Details of changes made to test report
REP148810	March 17, 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

EUT can operate with modulations up to 256QAM. However, everything was tested with 4QAM operation, which was verified as the worst case in respect to the performance, power, and emissions.

EUT was equipped with two waveguide-to-SMA adapters which contain SMA output ports for polarization hor and polarization ver. The output power was measured at two RF ports separately and other tests were measured at the RF port with the maximum power which was verified as the worst case.

2.3 Model variant declaration

As declared by the applicant, the EUT model WG5-GC1P-1D6F-37-39 has been chosen to be representative for all other models in the model family. The model family, and the description of the variations, are as follows:

- WG5-GC1P-37-39: without antenna
- WG5-GC1P-1F-37-39: with 30 cm antenna (Faini telecommunication systems, Low Profile WiBAS Antenna, MN: LPW 03-370RC, Gain 39.5 dBi)
- WG5-GC1P-1D6F-37-39: with 50 cm antenna (Faini telecommunication systems, Low Profile WiBAS Antenna, MN: LPW 05-370RC, Gain 42.5 dBi)

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

Name	INTRACOM SINGLE MEMBER S.A. TELECOM SOLUTIONS, INTRACOM TELECOM
Address	19.7 km New Road Peania-Markopoulo, Peania, GR 19002

4.3 EUT information

Product	WiBAS G5 GigaConnect+
Model	WG5-GC1P-37-39, WG5-GC1P-1F-37-39, WG5-GC1P-1D6F-37-39
Serial number	322512010547
Power supply requirements	57 V _{DC} Power on Ethernet (PoE)
Product description and theory of operation	The WiBAS™ G5 GigaConnect+ terminal station is a new-generation compact MU-MIMO Point-to-MultiPoint (PtMP) radio offering the highest capacity, convenience, performance and power-saving features in the market. It stands out for its advanced networking features, extended coverage and leading PtMP radio technology in a variety of area-licensed bands.

4.4 Radio technical information

Operating band	FCC: 37 – 40 GHz, ISSED: 38.6 – 40 GHz
Frequency Min (MHz)	37050 (100 MHz BW), 37100 (200 MHz BW)
Frequency Max (MHz)	39950 (100 MHz BW), 39900 (for 200 MHz BW)
RF power Max (W), Conducted	0.0337 (15.27 dBm for 100 MHz BW), 0.0364 (15.61 dBm for 200 MHz BW)
Measured BW (MHz), 99% OBW	94.227 (100 MHz BW), 187.920 (200 MHz BW)
Type of modulation	4QAM, 16QAM, 64QAM, 128QAM, 256QAM
Emission classification	D7W
Antenna information	Faini telecommunication systems, Low Profile WiBAS Antenna, MN: LPW 03-370RC, Gain 39.5 dBi Faini telecommunication systems, Low Profile WiBAS Antenna, MN: LPW 05-370RC, Gain 42.5 dBi

4.5 EUT setup details

4.5.1 Radio exercise details

Operating conditions	EUT was accessed via CLI using PuTTY, and configured in test mode to operate in continuous transmission. EUT was set to transmit continuously at low, mid and high channels with 98% duty cycle, 4QAM / 15 dBm power setting, and 100 MHz or 200 MHz channel bandwidth.
Transmitter state	Continuous transmitting

4.5.2 EUT setup configuration

Table 4.5-1: EUT interface ports

Description	Qty.
GbE1	1
GND	1

Table 4.5-2: Support equipment

Description	Brand name	Model, Part number, Serial number, Revision level
50W PoE Injector	INTRAROM	MN: PT-PSE104GBN-50-EU, SN: PT23230200048, POE-ID-AC50-EU
Waveguide coupler	FAINI	307F204-21 REV:001, OMT 38GHz PBR320, SN: P260000040010
Waveguide to Coax adapter	HEXAGON	PN: G90-078/81.LF, MN: 180.AD120A, 26.5–40 GHz, Ka Band
Laptop	Dell	SN: 28MCCS1, PN: 0JU012

Table 4.5-3: Inter-connection cables

Cable description	From	To	Length (m)
AC mains input cable	50W PoE Injector	AC mains	1.8
Ethernet cable (shielded)	EUT	50W PoE Injector	> 3.0
Grounded cable	EUT	GND	2.0

EUT setup configuration, continued

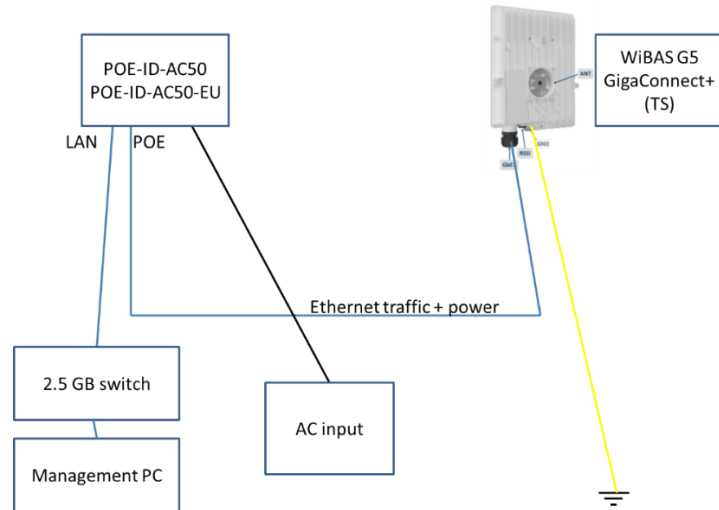


Figure 4.5-1: Radiated testing block diagram

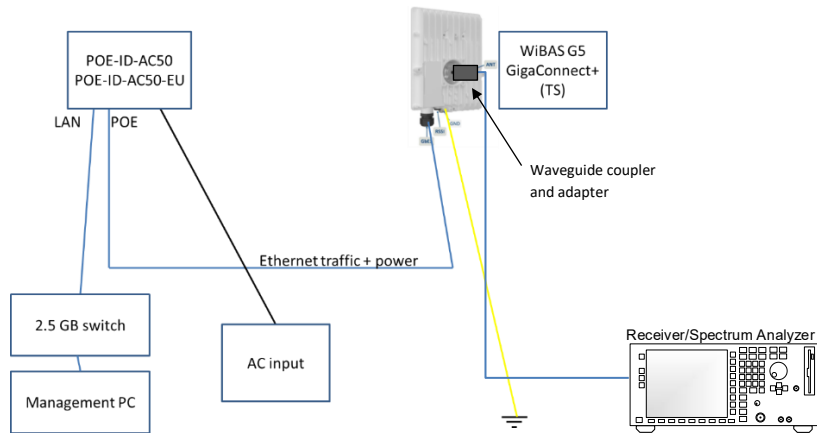


Figure 4.5-2: Antenna port testing block diagram

Section 5. Summary of test results

5.1 Testing period

Test start date	February 19, 2026	Test end date	February 26, 2026
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5.2 Sample information

Receipt date	February 12, 2026	Nemko sample ID number	PRJ00959320005
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5.3 FCC test results

Table 5.3-1: FCC requirements results

Part	Test description	Verdict
§30.202, §30.405	Power limits	Pass
§30.203, §30.404	Emissions limits	Pass
§30.402, §2.1055	Frequency stability	Pass
§30.403, §2.1049	Occupied bandwidth	Pass
§30.406	Directional antennas	Pass
§2.1047(d)	Modulation characteristics	Pass

5.4 ISED test results

Table 5.4-1: ISED requirements results

Part	Test description	Verdict
RSS-191, 6.3	Frequency Stability	Pass
RSS-191, 6.4	Transmitter Output Power	Pass
RSS-191, 6.5	Transmitter Unwanted Emissions	Pass
RSS-Gen, 6.7	Occupied bandwidth	Pass

Section 6. Test equipment

6.1 Test equipment list

Table 6.1-1: Equipment list

Equipment	Manufacturer	Model no.	Asset no.	Cal./Ver. cycle	Next cal./ver.
3 m EMI test chamber	TDK	SAC-3	FA003012	1 year	March 9, 2026
Receiver/spectrum analyzer	Rohde & Schwarz	ESR26	FA002969	1 year	May 28, 2026
Spectrum analyzer	Rohde & Schwarz	FSW43	FA002971	1 year	November 24, 2026
Bilog antenna (30–2000 MHz)	Sunol	JB3	FA002108	1 year	April 8, 2026
Horn antenna (1–18 GHz)	ETS Lindgren	3117	FA002911	1 year	June 2, 2026
Preamp (1–18 GHz)	ETS Lindgren	124334	FA002956	1 year	April 11, 2026
Horn antenna (18–40 GHz)	EMCO	3116B	FA002948	3 year	May 3, 2027
Preamp (18–40 GHz)	None	None	FA003323	1 year	April 11, 2026
50 Ω coax cable	Huber + Suhner	None	FA003047	1 year	August 6, 2026
50 Ω coax cable	Huber + Suhner	None	FA003402	1 year	August 6, 2026
50 Ω SMA coax cable	Huber + Suhner	None	FA003056	1 year	August 6, 2026
50 Ω SMA coax cable	Huber + Suhner	None	FA003055	1 year	August 6, 2026
Rectangular gain horn WR-19 (40–60 GHz)	ERAVANT	SAR-2507-19-S2	FA003617	—	NCR
Standard gain horn (50–75 GHz)	Mi-Wave	261V-25/385	FA003270	—	NCR
Standard gain horn (75–110 GHz)	Mi-Wave	261W-25/387	FA003271	—	NCR
Standard gain horn (110–170 GHz)	Mi-Wave	261D-25/387	FA003272	—	NCR
Standard gain horn (140–220 GHz)	Mi-Wave	261G-25/387	FA003273	—	NCR
Hamonic mixer (40–60 GHz)	Rohde & Schwarz	FS-Z60	FA003602	3years	Jul 29, 2028
Hamonic mixer (50–75 GHz)	Rohde & Schwarz	FS-Z75	FA003263	3years	Oct 26, 2026
Hamonic mixer (75–110 GHz)	Rohde & Schwarz	FS-Z110	FA003262	3years	Sep 28, 2026
Hamonic mixer (110–170 GHz)	Rohde & Schwarz	FS-Z170	FA003296	3years	Sep 26, 2026
Hamonic mixer (140–220 GHz)	Rohde & Schwarz	FS-Z220	FA003269	3years	Sep 21, 2026
Temperature and Humidity Chamber	Espec	EPX-4H	FA003033	—	NCR
Temperature and Humidity Meter	VAISALA	HM70	FA003318	1 year	Jun 3, 2026

Note: NCR - no calibration required

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
Radiated spurious emissions	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)	4.14
Radiated spurious emissions (1 GHz to 6 GHz)	4.74
Radiated spurious emissions (6 GHz to 18 GHz)	5.33
Radiated spurious emissions (18 GHz to 26 GHz)	4.82
Radiated spurious emissions (18 GHz to 40 GHz)	4.82
Radiated spurious emissions (40 GHz to 220 GHz)	5.81
RF Output power measurement	1.59
Conducted spurious emissions	1.64
Signal path calibration (Insertion loss)	1.52
Occupied bandwidth	2.43 %
Frequency stability	0.03 ppm
Temperature stability	0.68 °C

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 Number of frequencies

7.1.1 References, definitions and limits

ANSI C63.26, Clause 5.1.2:

Measurements of transmitters shall be performed and, if required, reported for each frequency band in which the EUT can be operated with the device transmitting at the number of frequencies in each band specified in table below.

Table 7.1-1: Frequency Range of Operation

Frequency range over which the device operates (in each band)	Number of test frequencies required	Location of measurement frequency inside the operating frequency range
1 MHz or less	1	Center (middle of the band)
1–10 MHz	2	1 near high end, 1 near low end
Greater than 10 MHz	3	1 near high end, 1 near center and 1 near low end

Notes: "near" means as close as possible to or at the centre / low end / high end of the frequency range over which the device operates.

7.1.2 Test summary

Verdict	Pass		
Test date	February 20, 2026	Temperature	24 °C
Tested by	Alvin Liu	Air pressure	970 mbar
Test location	Cambridge	Relative humidity	38 %

7.1.3 Observations, settings and special notes

None

7.1.4 Test data

Table 7.1-2: Test channels selection – FCC

Channel bandwidth, MHz	Start of Frequency range, MHz	End of Frequency range, MHz	Frequency range bandwidth, MHz	Low channel, MHz	Mid channel, MHz	High channel, MHz
100	37000	40000	3000	37050	38650	39950
200	37000	40000	3000	37100	38700	39900

Table 7.1-3: Test channels selection – ISSED

Channel bandwidth, MHz	Start of Frequency range, MHz	End of Frequency range, MHz	Frequency range bandwidth, MHz	Low channel, MHz	Mid channel, MHz	High channel, MHz
100	38600	40000	1400	38650	39350	39950
200	38600	40000	1400	38700	39300	39900

7.2 Power limits

7.2.1 References, definitions and limits

FCC §30.202:

- (a) For fixed and base stations operating in connection with mobile systems, the average power of the sum of all antenna elements is limited to an equivalent isotropically radiated power (EIRP) density of +75dBm/100 MHz. For channel bandwidths less than 100 megahertz the EIRP must be reduced proportionally and linearly based on the bandwidth relative to 100 megahertz.
- (b) For mobile stations, the average power of the sum of all antenna elements is limited to a maximum EIRP of +43 dBm.
- (c) For transportable stations, as defined in §30.2, the average power of the sum of all antenna elements is limited to a maximum EIRP of +55 dBm.
- (d) For fixed point-to-point and point-to-multipoint limits see §30.405.

FCC §30.405:

Transmitter power limitations.

On any authorized frequency, the average power delivered to an antenna in this service must be the minimum amount of power necessary to carry out the communications desired. Application of this principle includes, but is not to be limited to, requiring a licensee who replaces one or more of its antennas with larger antennas to reduce its antenna input power by an amount appropriate to compensate for the increased primary lobe gain of the replacement antenna(s). In no event shall the average equivalent isotropically radiated power (EIRP), as referenced to an isotropic radiator, exceed the Maximum Allowable EIRP of +55 dBW (85 dBm) within 27.5–28.35 GHz or 38.6–40 GHz bands.

Note: For Point-to-multipoint user stations authorized in these bands, the EIRP shall not exceed 55 dBW or 42 dBW/MHz.

RSS-191, Section 6.4:

Transmitter Output Power

The output power shall be within ±1.0 dB of the manufacturer's rated power and shall not exceed the power limits given in the related SRSPs.

SRSP-338.6, Clause 9:

- 9.2 The transmitter power into the antenna must not exceed +10 dBW (40 dBm) per carrier.
- 9.3 The maximum e.i.r.p. of a transmit station must not exceed +55 dBW (85 dBm) per carrier.

7.2.2 Test summary

Verdict	Pass		
Test date	February 20, 2026	Temperature	24 °C
Tested by	Alvin Liu	Air pressure	970 mbar
Test location	Cambridge	Relative humidity	38 %

7.2.3 Observations, settings and special notes

- The testing was performed using subclauses 5.2.4.4.1 of ANSI C63.26-2015.
- According to KDB 662944 D02, where conducted measurements are used for compliance with radiated limits, the EIRP or ERP (total or spectral density) of each of the two transmit chains is computed separately based on measured output power or PSD and antenna gain. The sum of the two EIRPs or ERPs (total or spectral density) must be below the limit.
- Combined average output power for MIMO application was calculated as follows: $P_{combined} = 10 \times \log_{10} \left((10^{P_1/10}) + (10^{P_2/10}) \right)$
- There are two antennas, LPW 03-370RC and LPW 05-370RC, with different antenna gain, the max gain is used for EIRP calculation.

Spectrum analyser settings:

Resolution bandwidth:	1% to 5% of the OBW, PSD: 1 MHz
Video bandwidth:	≥RBW
Detector mode:	RMS
Trace mode:	Power average over 100 traces
Power aggregation	Across the occupied bandwidth of the signal

7.2.4 Test data

Table 7.2-1: EIRP measurements results for 100 MHz Bandwidth

Frequency, MHz	Conducted Power, dBm			Conducted power limit, dBm	Conducted power margin, dB	Antenna gain, dBi	EIRP, dBm	EIRP, dBW	EIRP limit, dBW	EIRP margin, dB
	Ver port	Hor port	Combined							
37050	12.06	12.45	15.27	40.00	24.73	42.50	57.77	27.77	55.00	27.23
38650	11.99	12.15	15.08	40.00	24.92	42.50	57.58	27.58	55.00	27.42
39350	12.11	12.30	15.22	40.00	24.78	42.50	57.72	27.72	55.00	27.28
39950	10.86	11.33	14.11	40.00	25.89	42.50	56.61	26.61	55.00	28.39

Table 7.2-2: EIRP measurements results for 200 MHz Bandwidth

Frequency, MHz	Conducted Power, dBm			Conducted power limit, dBm	Conducted power margin, dB	Antenna gain, dBi	EIRP, dBm	EIRP, dBW	EIRP limit, dBW	EIRP margin, dB
	Ver port	Hor port	Combined							
37100	12.44	12.02	15.25	40.00	24.75	42.50	57.75	27.75	55.00	27.25
38700	11.64	11.15	14.41	40.00	25.59	42.50	56.91	26.91	55.00	28.09
39300	12.70	12.50	15.61	40.00	24.39	42.50	58.11	28.11	55.00	26.89
39900	11.48	11.30	14.40	40.00	25.60	42.50	56.90	26.90	55.00	28.10

Table 7.2-3: EIRP density measurements results for 100 MHz Bandwidth

Frequency, MHz	Conducted power density, dBm/MHz			Antenna gain, dBi	EIRP density, dBm/MHz	EIRP density, dBW/MHz	EIRP density limit, dBW/MHz	Margin, dB
	Ver port	Hor port	Combined					
37050	-2.63	-2.08	0.66	42.50	43.16	13.16	42.00	28.84
38650	-2.44	-2.41	0.59	42.50	43.09	13.09	42.00	28.91
39350	-1.16	-1.24	1.81	42.50	44.31	14.31	42.00	27.69
39950	-3.27	-2.97	-0.11	42.50	42.39	12.39	42.00	29.61

Table 7.2-4: EIRP density measurements results for 200 MHz Bandwidth

Frequency, MHz	Conducted power density, dBm/MHz			Antenna gain, dBi	EIRP density, dBm/MHz	EIRP density, dBW/MHz	EIRP density limit, dBW/MHz	Margin, dB
	Ver port	Hor port	Combined					
37100	-4.81	-5.00	-1.89	42.50	40.61	10.61	42.00	31.39
38700	-4.66	-5.08	-1.85	42.50	40.65	10.65	42.00	31.35
39300	-3.91	-4.22	-1.05	42.50	41.45	11.45	42.00	30.55
39900	-4.36	-4.61	-1.47	42.50	41.03	11.03	42.00	30.97

Test data, continued

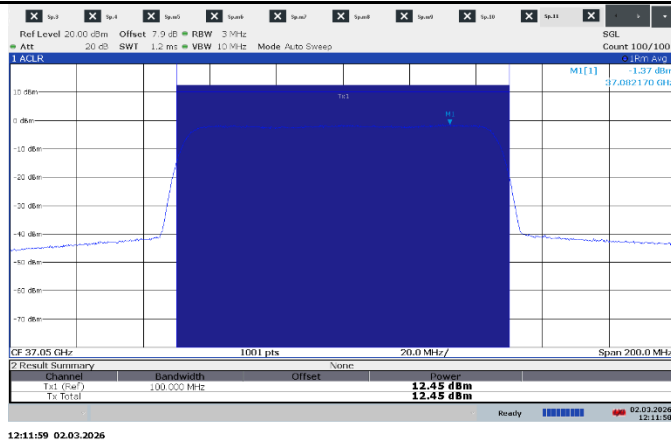


Figure 7.2-1: Power on 100 MHz Bandwidth, sample plot

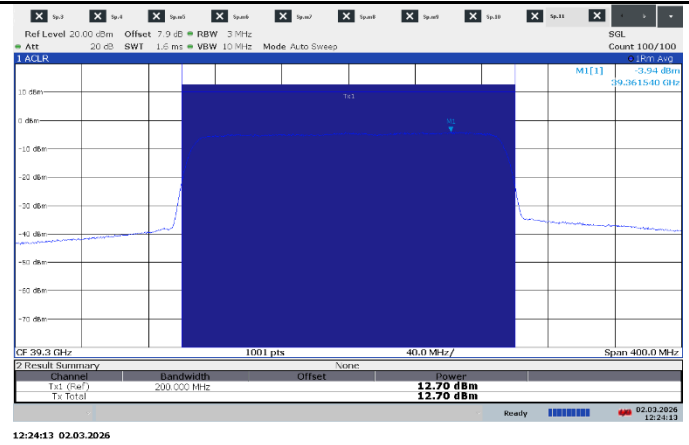


Figure 7.2-2: Power on 200 MHz Bandwidth, sample plot

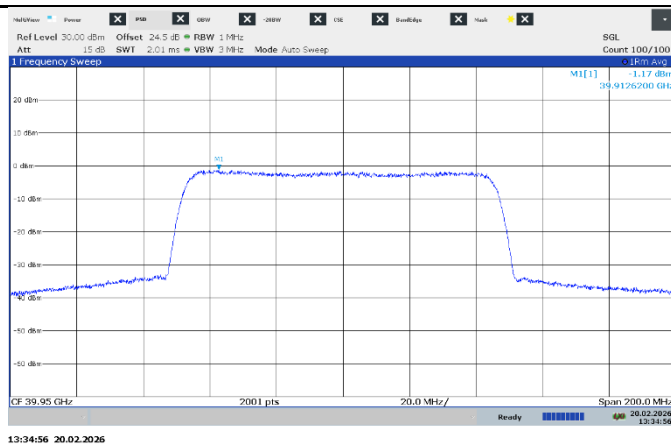


Figure 7.2-3: PSD on 100 MHz Bandwidth, sample plot

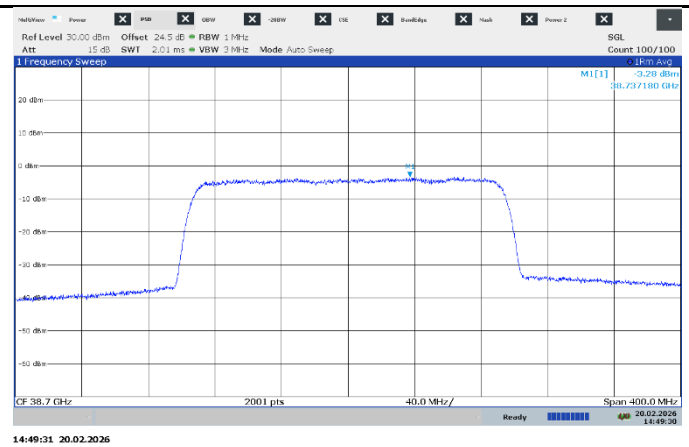


Figure 7.2-4: PSD on 200 MHz Bandwidth, sample plot

7.3 Emission limitations

7.3.1 References, definitions and limits

FCC §30.203:

- (a) The conductive power or the total radiated power of any emission outside a licensee's frequency block shall be -13 dBm/MHz or lower. However, in the bands immediately outside and adjacent to the licensee's frequency block, having a bandwidth equal to 10 percent of the channel bandwidth, the conductive power or the total radiated power of any emission shall be -5 dBm/MHz or lower.
- (b)(1) Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater.
- (b)(2) When measuring the emission limits, the nominal carrier frequency shall be adjusted as close to the licensee's frequency block edges as the design permits.
- (b)(3) The measurements of emission power can be expressed in peak or average values.
- (c) For fixed point-to-point and point-to-multipoint limits see §30.404.

FCC §30.404:

- (a) The mean power of emissions must be attenuated below the mean output power of the transmitter in accordance with the following schedule:
- (2) When using transmissions employing digital modulation techniques in situations not covered in this section:
 - (i) In any 1 MHz band, the center frequency of which is removed from the assigned frequency by more than 50 percent up to and including 250 percent of the authorized bandwidth: As specified by the following equation but in no event less than 11 decibels:

$$A = 11 + 0.4(P-50) + 10 \times \log_{10} B.$$
 (Attenuation greater than 56 decibels or to an absolute power of less than -13 dBm/1MHz is not required.)
 - (ii) In any 1 MHz band, the center frequency of which is removed from the assigned frequency by more than 250 percent of the authorized bandwidth: At least $43 + 10 \times \log_{10}$ (the mean output power in watts) decibels, or 80 decibels, whichever is the lesser attenuation. The authorized bandwidth includes the nominal radio frequency bandwidth of an individual transmitter/modulator in block-assigned bands.
 - (iii) The emission mask in paragraph (a)(2)(i) of this section applies only to the band edge of each block of spectrum, but not to subchannels established by licensees. The value of P in the equation is the percentage removed from the carrier frequency and assumes that the carrier frequency is the center of the actual bandwidth used. The emission mask can be satisfied by locating a carrier of the subchannel sufficiently far from the channel edges so that the emission levels of the mask are satisfied. The emission mask shall use a value B (bandwidth) of 40 MHz, for all cases even in the case where a narrower subchannel is used (for instance the actual bandwidth is 10 MHz) and the mean output power used in the calculation is the sum of the output power of a fully populated channel. For block assigned channels, the out-of-band emission limits apply only outside the assigned band of operation and not within the band.

RSS-191, Clause 6.5:

6.5.1 Single-Carrier Transmitter

Unwanted emissions shall be attenuated by at least A (dB) below the total mean output power, P_{mean} , as follows:

- a. In any 1.0 MHz band which is outside and removed from the virtual block edge frequency by up to and including $\pm 200\%$ of the occupied bandwidth:
 - i. $A = 11 + 10 \log_{10}(B_{\text{occ}}) + 40 (f_{\text{offset}}/B_{\text{occ}})$ dB, for emissions in which the occupied bandwidth is equal to or greater than 1 MHz; or
 - ii. $A = 11 + 40 (f_{\text{offset}}/B_{\text{occ}})$ dB, for emissions in which the occupied bandwidth is less than 1 MHz.
- Attenuation greater than $56 + 10 \log_{10} (B_{\text{occ}})$ dB, or to an absolute level lower than -43 dBW/MHz (-13 dBm/MHz), whichever is less stringent, is not required.

Where:

B_{occ} : occupied bandwidth in MHz

f_{offset} : frequency offset from the virtual block edge in MHz

- b. In any 1.0 MHz band which is removed from the virtual block edge frequency by more than $\pm 200\%$ of the occupied bandwidth:

$A = 43 + 10 \log_{10} (P_{\text{mean}})$ in dB (-13 dBm), or 80 dB below P_{mean} , whichever is less stringent.

P_{mean} is the mean output power of the transmitter in watts.

6.5.2 Multi-Carrier Transmitter or Multi-Transmitters

For a multi-carrier transmitter or multi-transmitters connected into a common final stage amplifier, the emission mask is to be the same as for single-carrier transmitters, but using the occupied bandwidth that is defined for multi-carrier transmitters. The total mean power shall be the sum of the individual carrier/transmitter powers. Guard bands, if used in the equipment design, shall also be used in testing the spectrum mask.

Note: Several transmitters connected into a common non-active antenna cannot use the multi-carrier mask for the composite signal. In this case, the appropriate mask applies to the individual transmitter.

7.3.2 Test summary

Verdict	Pass		
Test date	February 19, 2026 – February 26, 2026	Temperature	23–24 °C
Tested by	Alvin Liu	Air pressure	970–980 mbar
Test location	Cambridge	Relative humidity	33–38 %

7.3.3 Observations, settings and special notes

- The testing was performed using subclause 5.7 (conducted test at antenna port) and 5.5.4 of ANSI C63.26 (field strength method).
- The spectrum was searched from 30 MHz to 200 GHz. No unintentional emissions were detected.
- Radiated measurement distances D used were: 30 MHz – 18 GHz at 3 m, 18–40 GHz at 1 m, 40–100 GHz at 0.3 m. All distances below 3 m were addressed with distance correction factor, calculated as follows: $20 \times \log_{10}(D [m] / 3 [m])$.
- Radiated Emissions were done with antenna port terminated with 50-ohm load and attenuation.

Spectrum analyser settings for radiated measurements:

Resolution bandwidth:	100 kHz (below 1 GHz), 1 MHz (above 1 GHz)
Video bandwidth:	300 kHz (below 1 GHz), 3 MHz (above 1 GHz)
Detector mode:	Peak
Trace mode:	Max Hold

7.3.4 Test data

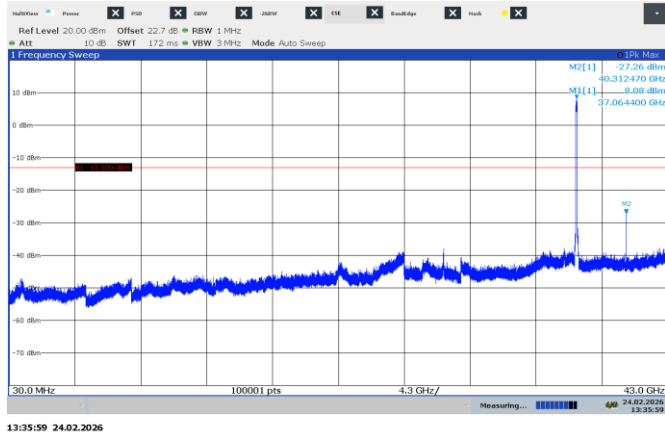


Figure 7.3-1: Conducted spurious emissions 30 MHz to 43 GHz,
100MHz BW – Low channel

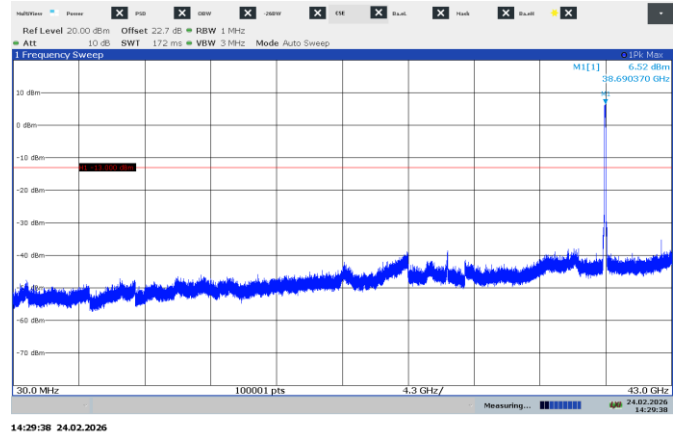


Figure 7.3-2: Conducted spurious emissions 30 MHz to 43 GHz,
100MHz BW – Mid channel 1

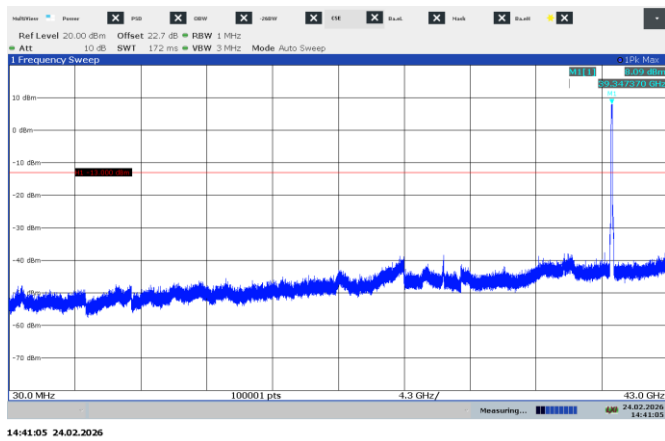


Figure 7.3-3: Conducted spurious emissions 30 MHz to 43 GHz,
100MHz BW – Mid channel 2

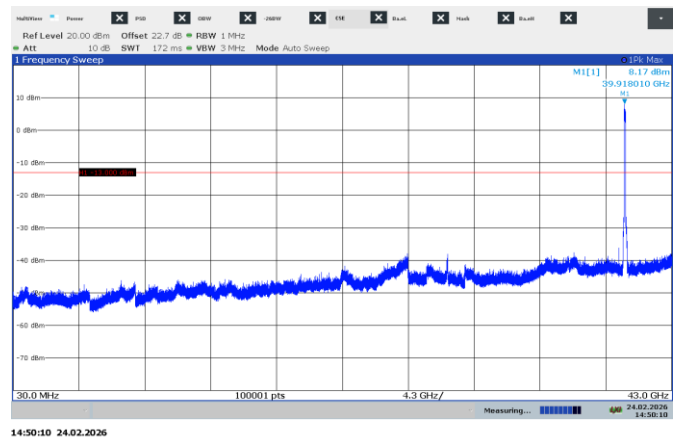


Figure 7.3-4: Conducted spurious emissions 30 MHz to 43 GHz,
100MHz BW – High channel

Test data, continued

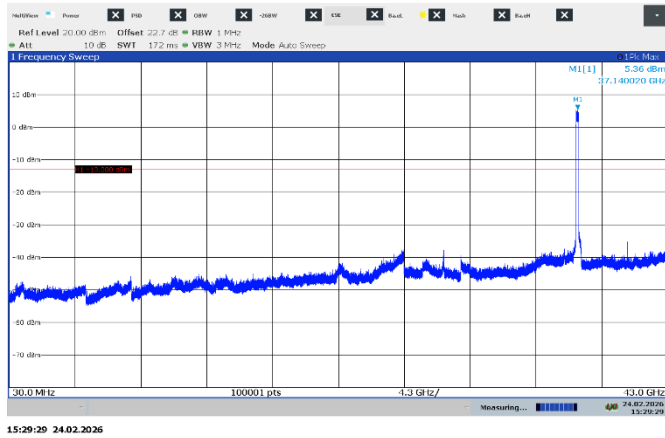


Figure 7.3-5: Conducted spurious emissions 30 MHz to 43 GHz, 200MHz BW – Low channel

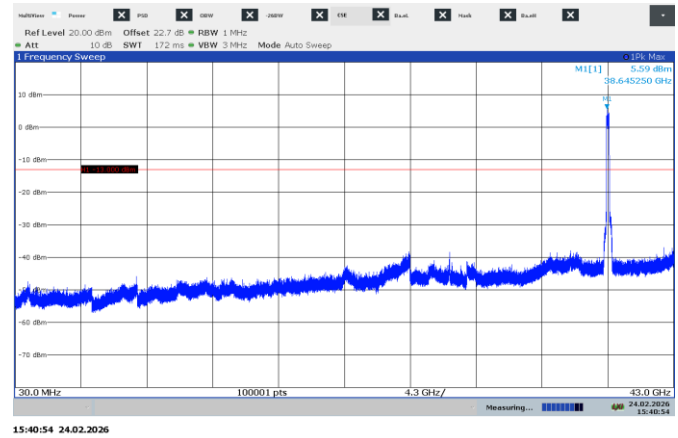


Figure 7.3-6: Conducted spurious emissions 30 MHz to 43 GHz, 200MHz BW – Mid channel 1

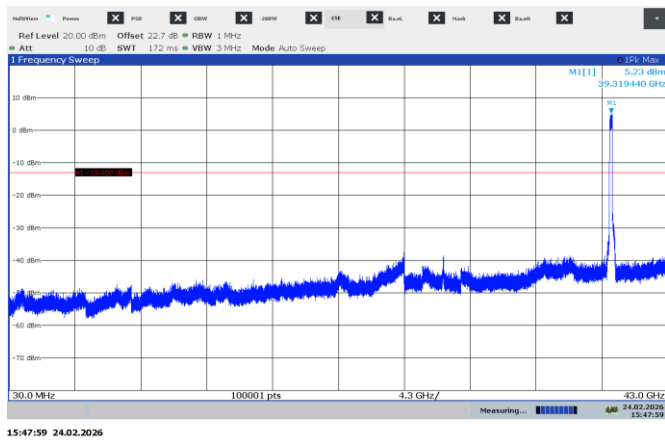


Figure 7.3-7: Conducted spurious emissions 30 MHz to 43 GHz, 200MHz BW – Mid channel 2

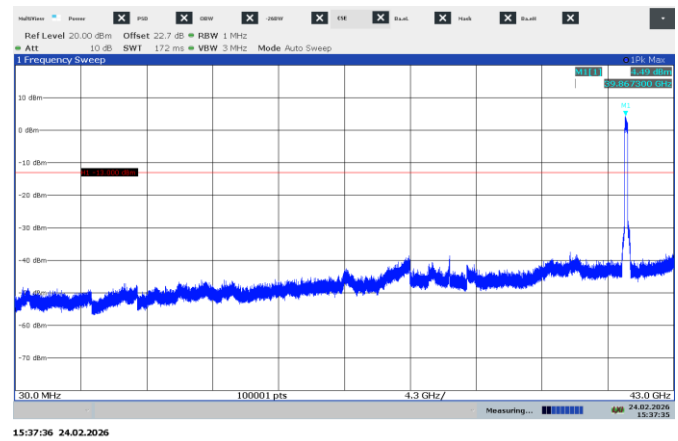


Figure 7.3-8: Conducted spurious emissions 30 MHz to 43 GHz, 200MHz BW – High channel

Test data, continued

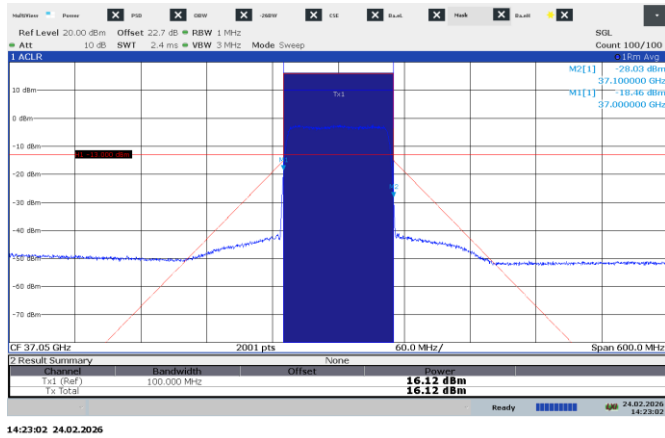


Figure 7.3-9: Emission mask, 100MHz BW – Low channel

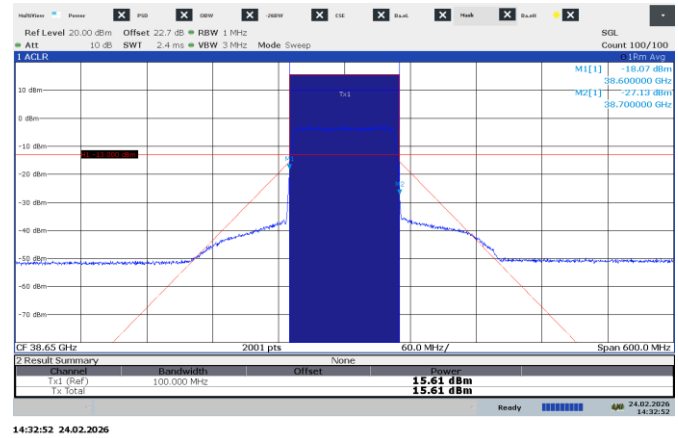


Figure 7.3-10: Emission mask, 100MHz BW – Mid channel 1

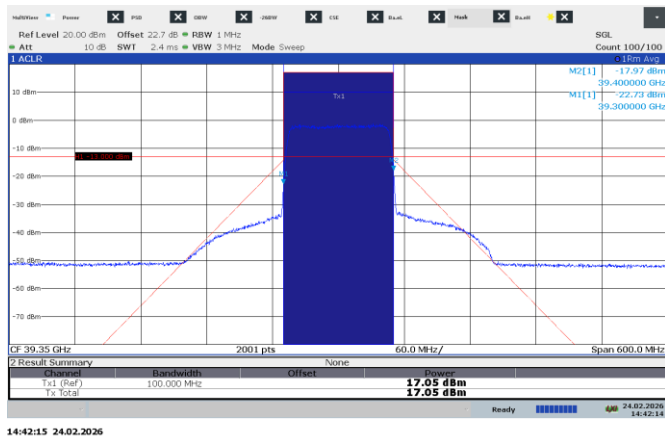


Figure 7.3-11: Emission mask, 100MHz BW – Mid channel 2

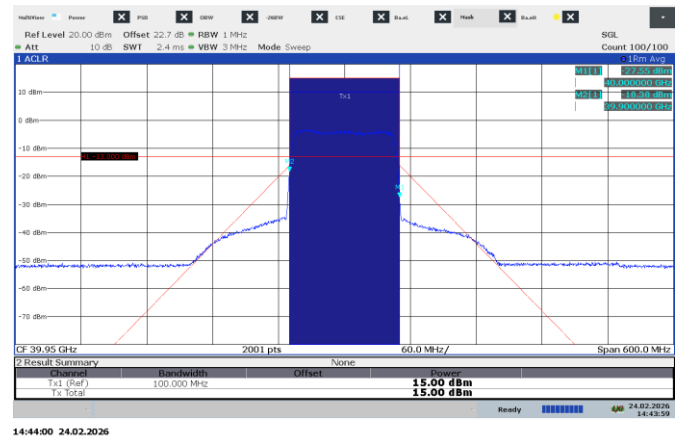


Figure 7.3-12: Emission mask, 100MHz BW – High channel

Test data, continued

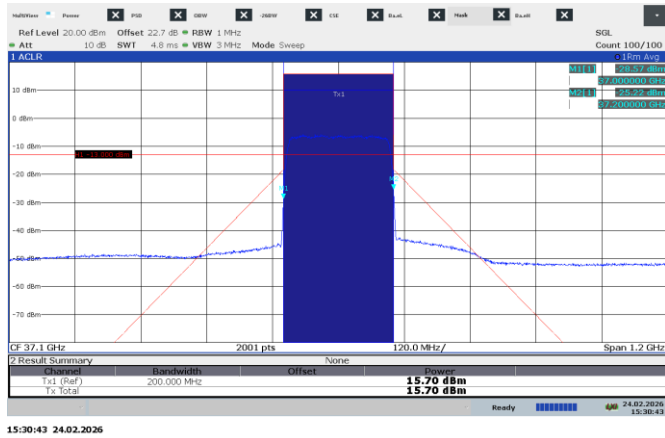


Figure 7.3-13: Emission mask, 200MHz BW – Low channel

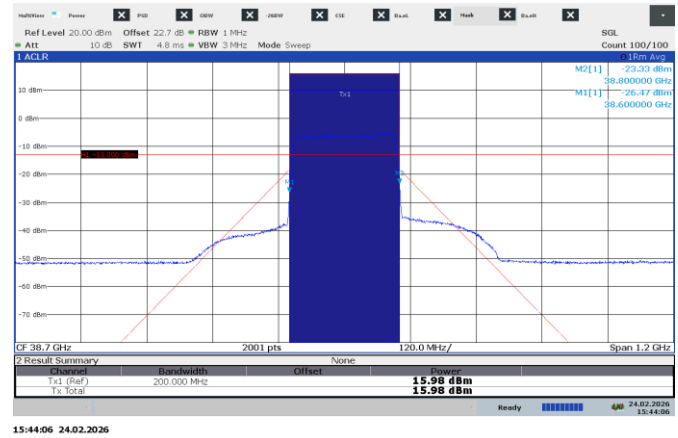


Figure 7.3-14: Emission mask, 200MHz BW – Mid channel 1

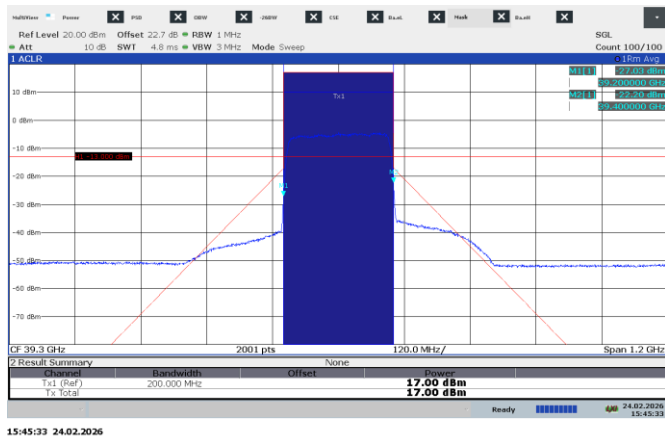


Figure 7.3-15: Emission mask, 200MHz BW – Mid channel 2

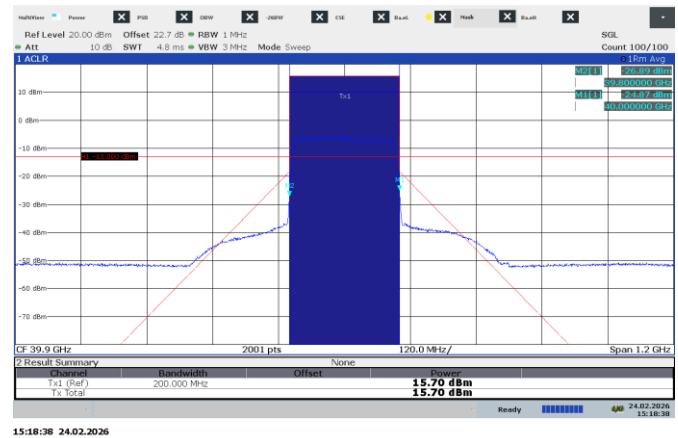


Figure 7.3-16: Emission mask, 200MHz BW – High channel

Test data, continued

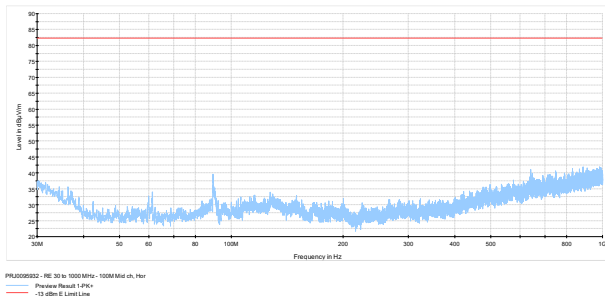


Figure 7.3-17: Radiated spurious emissions 30–1000 MHz, 100MHz BW – Worst plot

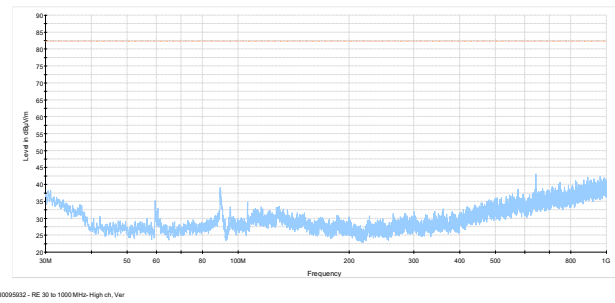


Figure 7.3-18: Radiated spurious emissions 30–1000 MHz, 200MHz BW – Worst plot

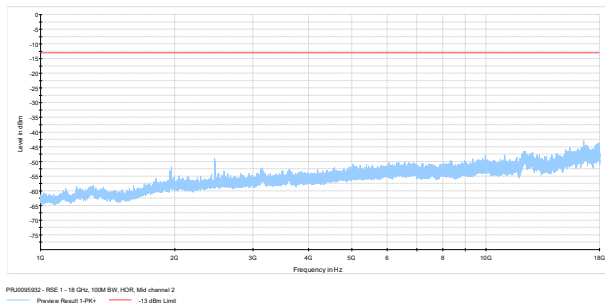


Figure 7.3-19: Radiated spurious emissions 1–18 GHz, 100MHz BW – Worst plot

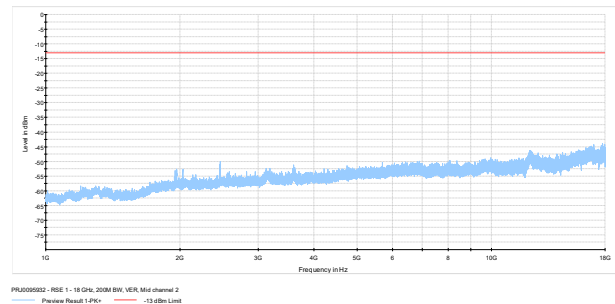


Figure 7.3-20: Radiated spurious emissions 1–18 GHz, 200MHz BW – Worst plot

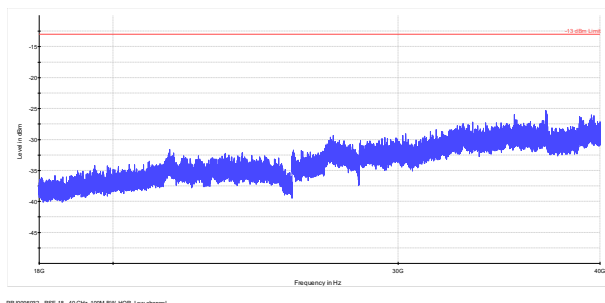


Figure 7.3-21: Radiated spurious emissions 18–40 GHz, 100MHz BW – Low channel

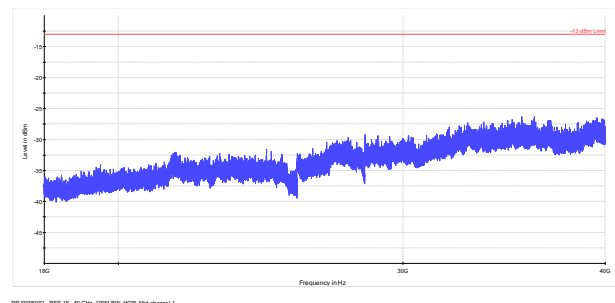


Figure 7.3-22: Radiated spurious emissions 18–40 GHz, 100MHz BW – Mid channel 1

Test data, continued

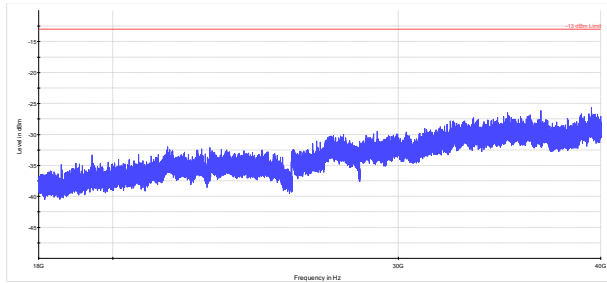


Figure 7.3-23: Radiated spurious emissions 18–40 GHz, 100MHz BW – Mid channel 2

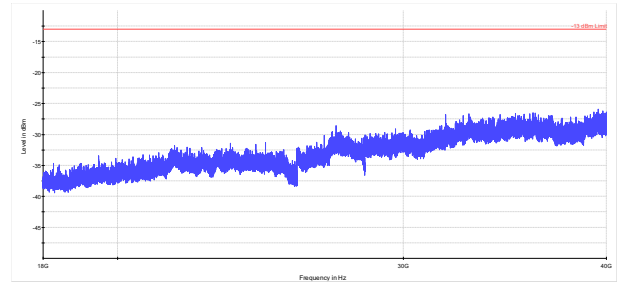


Figure 7.3-24: Radiated spurious emissions 18–40 GHz, 100MHz BW – High channel

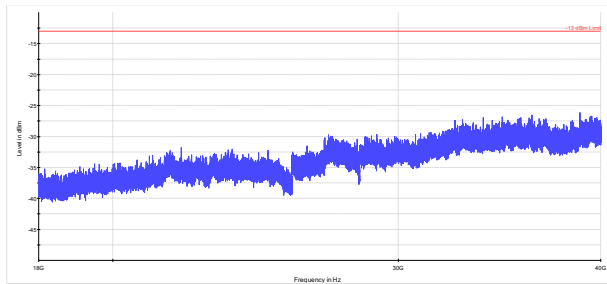


Figure 7.3-25: Radiated spurious emissions 18–40 GHz, 200MHz BW – Low channel

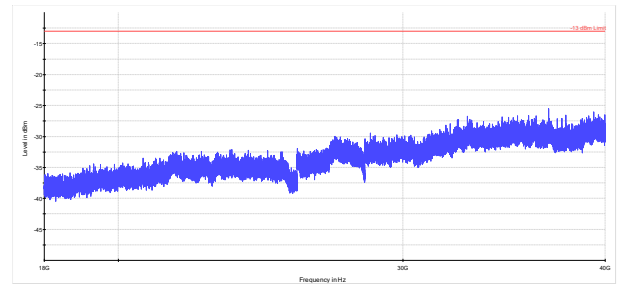


Figure 7.3-26: Radiated spurious emissions 18–40 GHz, 200MHz BW – Mid channel 1

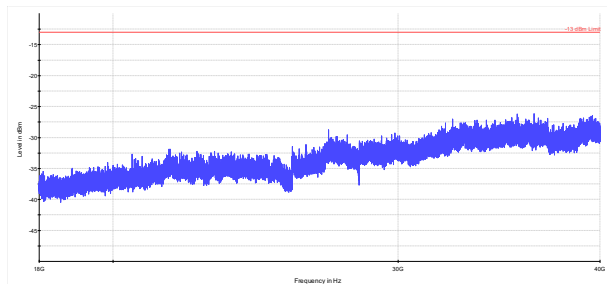


Figure 7.3-27: Radiated spurious emissions 18–40 GHz, 200MHz BW – Mid channel 2

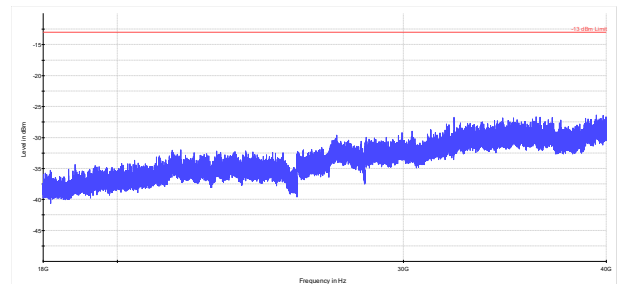


Figure 7.3-28: Radiated spurious emissions 18–40 GHz, 200MHz BW – High channel

Test data, continued

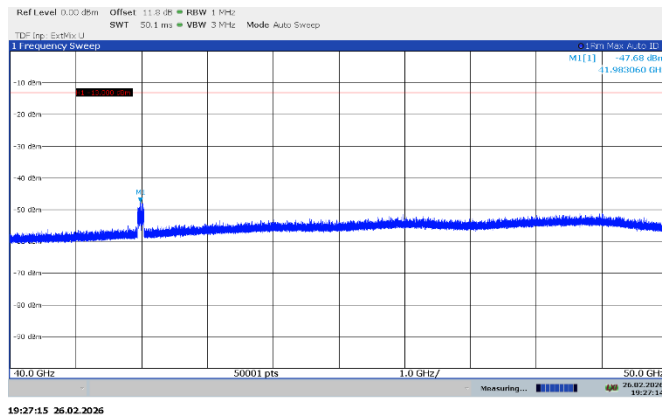


Figure 7.3-29: Radiated spurious emissions 40–50 GHz,
 100MHz BW – Worst plot

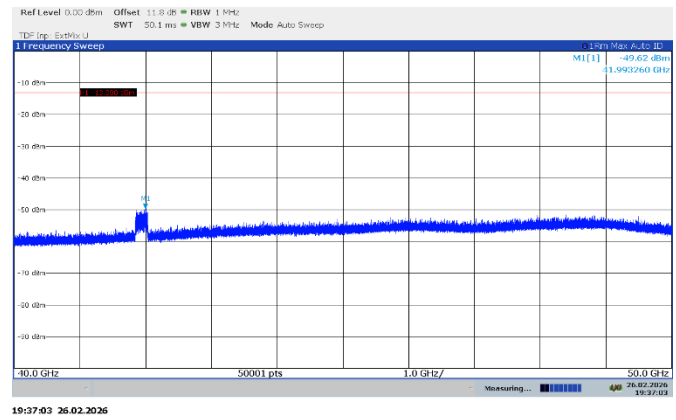


Figure 7.3-30: Radiated spurious emissions 40–50 GHz,
 200MHz BW – Worst plot

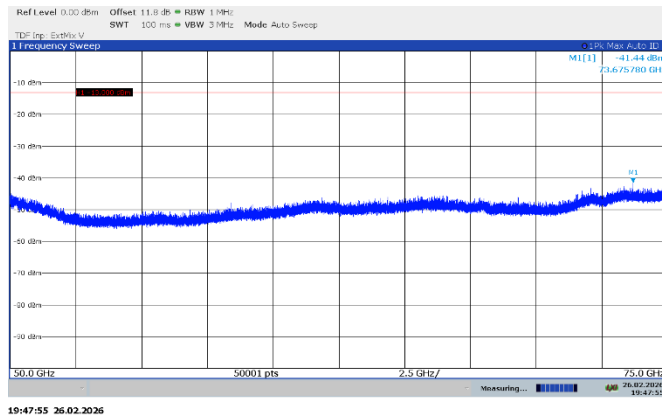


Figure 7.3-31: Radiated spurious emissions 50–75 GHz,
 100MHz BW – Worst plot

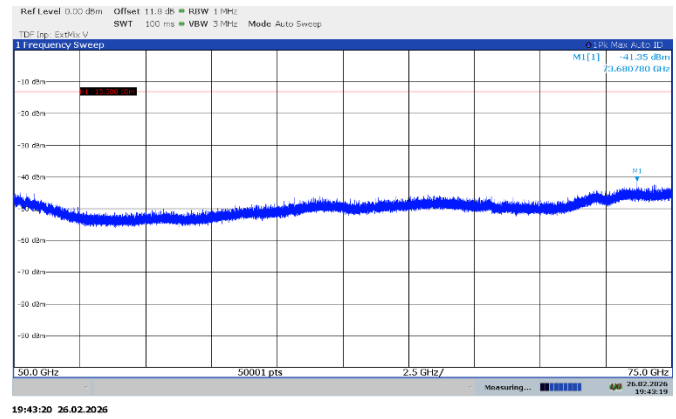


Figure 7.3-32: Radiated spurious emissions 50–75 GHz,
 200MHz BW – Worst plot

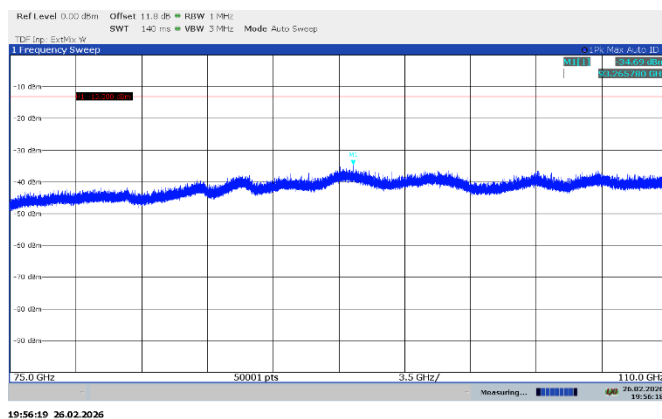


Figure 7.3-33: Radiated spurious emissions 75–110 GHz,
 100MHz BW – Worst plot

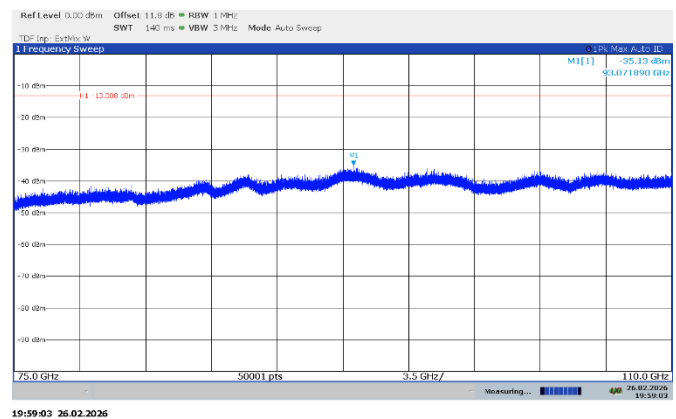


Figure 7.3-34: Radiated spurious emissions 75–110 GHz,
 200MHz BW – Worst plot

Test data, continued

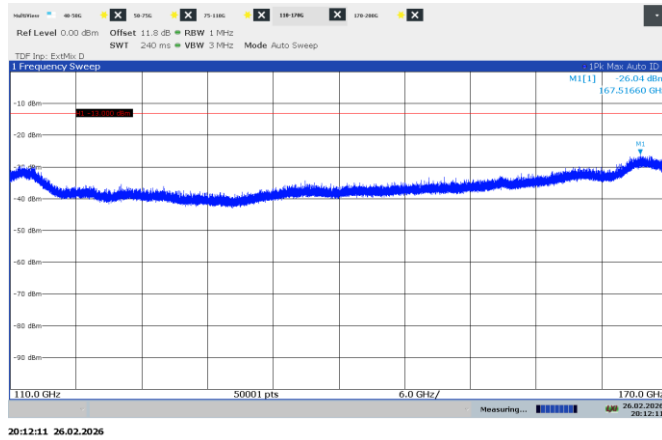


Figure 7.3-35: Radiated spurious emissions 110–170 GHz,
100MHz BW – Worst plot

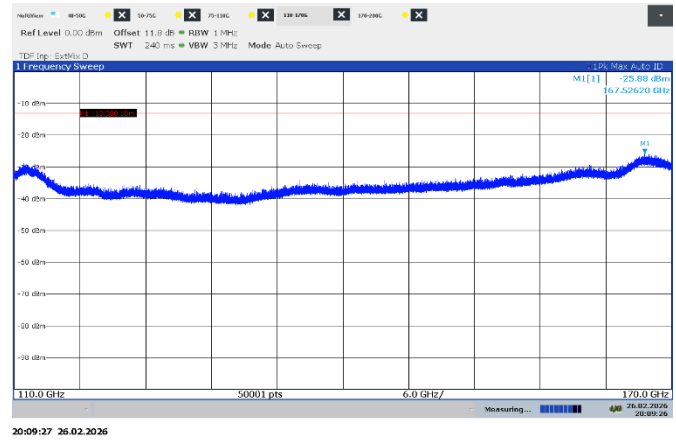


Figure 7.3-36: Radiated spurious emissions 110–170 GHz,
200MHz BW – Worst plot

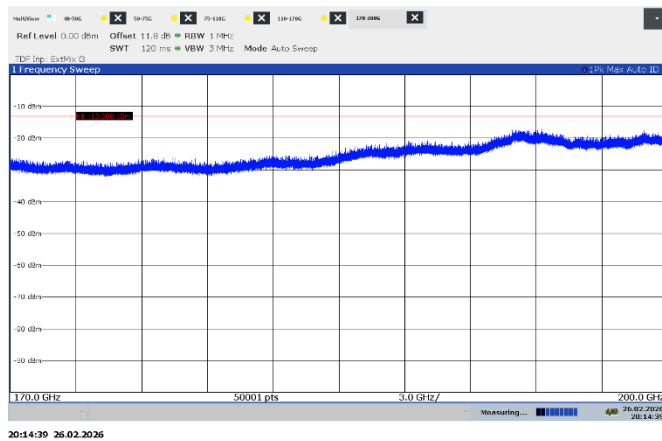


Figure 7.3-37: Radiated spurious emissions 170–200 GHz,
100MHz BW – Worst plot

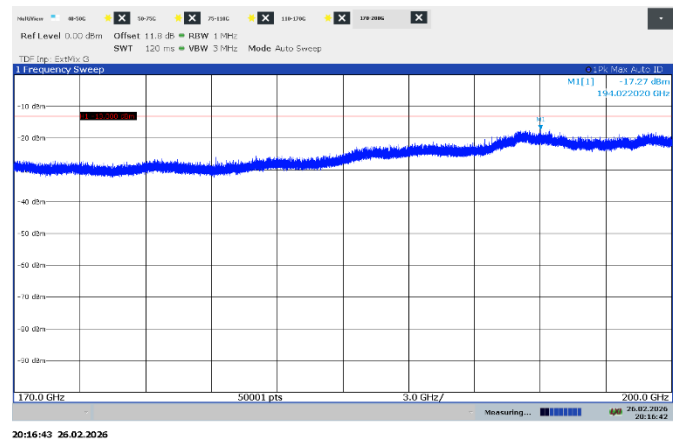


Figure 7.3-38: Radiated spurious emissions 170–200 GHz,
200MHz BW – Worst plot

7.4 Occupied bandwidth

7.4.1 References, definitions and limits

FCC §30.403:

- (a) Stations under this subpart will be authorized any type of emission, method of modulation, and transmission characteristic, consistent with efficient use of the spectrum and good engineering practice.
- (b) The maximum bandwidth authorized per frequency to stations under this subpart is set out in the table that follows,

Frequency band, MHz	Maximum authorized bandwidth, MHz
27,500 to 28,350	850
38,600 to 40,000	200 ¹

¹ For channel block assignments in the 38,600-40,000 MHz bands when adjacent channels are aggregated, equipment is permitted to operate over the full channel block aggregation without restriction.

FCC §2.1049:

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.

RSS-Gen, Clause 6.7:

Occupied bandwidth (or 99% emission bandwidth) and x dB bandwidth

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.

For the 99% emission bandwidth, the trace data points are recovered and directly summed in linear power level terms. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5% of the total is reached, and that frequency recorded. The process is repeated for the highest frequency data points (starting at the highest frequency, at the right side of the span, and going down in frequency). This frequency is then recorded. The difference between the two recorded frequencies is the occupied bandwidth (or the 99% emission bandwidth).

7.4.2 Test summary

Verdict	Pass		
Test date	February 24, 2026	Temperature	24 °C
Tested by	Alvin Liu	Air pressure	980 mbar
Test location	Cambridge	Relative humidity	33 %

7.4.3 Observations, settings and special notes

Spectrum analyzer settings:

Resolution bandwidth	≥ 1% of emission bandwidth
Video bandwidth	≥ 3 × RBW
Frequency span	Wider than emission bandwidth
Detector mode	Peak
Trace mode	Max Hold

7.4.4 Test data

Table 7.4-1: Occupied bandwidth measurement results

Channel bandwidth, MHz	Fundamental frequency, MHz	99% BW, MHz	Maximum authorized BW, MHz	Margin, MHz
100	37050	94.022	200	105.978
	38650	94.227	200	105.773
	39350	94.209	200	105.791
	39950	94.203	200	105.797
200	37100	186.896	200	13.104
	38700	187.920	200	12.080
	39300	187.318	200	12.682
	39900	187.298	200	12.702

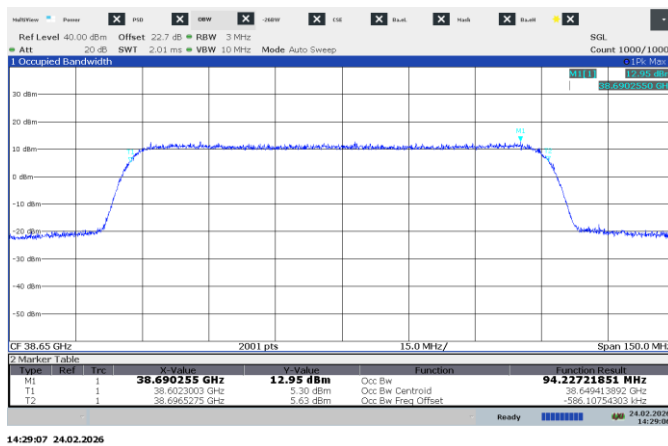


Figure 7.4-1: 99% occupied bandwidth for 100 MHz channel, sample plot

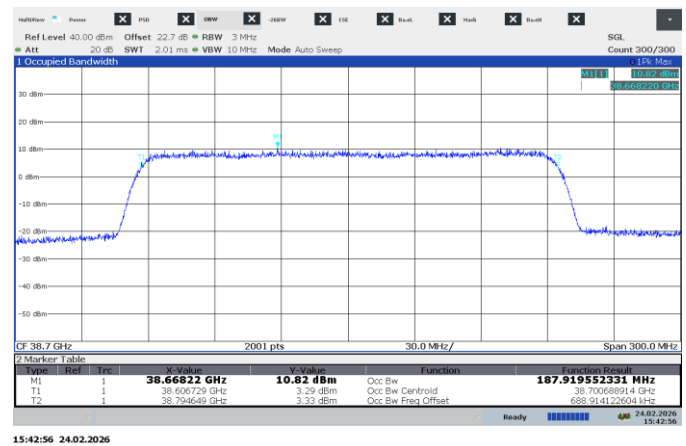


Figure 7.4-2: 99% occupied bandwidth for 200 MHz channel, sample plot

7.5 Frequency stability

7.5.1 References, definitions and limits

FCC §30.402:

The carrier frequency of each transmitter authorized under this subpart must be maintained within the following percentage of the reference frequency (unless otherwise specified in the instrument of station authorization the reference frequency will be deemed to be the assigned frequency):

Frequency band, MHz	Frequency tolerance
27,500 to 28,350	0.001% (10 ppm)
38,600 to 40,000	0.03% (300 ppm)

FCC §2.1055:

- (a) The frequency stability shall be measured with variation of ambient temperature as follows:
 - (1) From -30° to + 50° centigrade for all equipment except that specified in paragraphs (a) (2) and (3) of this section.
- (b) Frequency measurements shall be made at the extremes of the specified temperature range and at intervals of not more than 10° centigrade through the range. A period of time sufficient to stabilize all of the components of the oscillator circuit at each temperature level shall be allowed prior to frequency measurement.
- (d) The frequency stability shall be measured with variation of primary supply voltage as follows:
 - (1) Vary primary supply voltage from 85 to 115 percent of the nominal value for other than hand carried battery equipment.

RSS-191, Clause 6.3:

The carrier frequency shall not depart from the reference frequency in excess of ±10 ppm.

In lieu of meeting the above stability value, the test report may show that the frequency stability is sufficient to ensure that the occupied bandwidth stays within the licensee's frequency band, when tested to the temperature and supply voltage variations specified in RSS-Gen.

7.5.2 Test summary

Verdict	Pass		
Test date	February 26, 2026	Temperature	23 °C
Tested by	Alvin Liu	Air pressure	975 mbar
Test location	Cambridge	Relative humidity	33 %

7.5.3 Observations, settings and special notes

Testing was performed using subclause 5.6 of ANSI C63.26-2015.

The EUT was configured manually in a test mode to transmit a CW signal at the center frequency of transmission.

Offset was calculated as follows: $\frac{F_{\text{Measured}} - F_{\text{Reference}}}{F_{\text{Reference}}} \times 10^6$

7.5.4 Test data

Table 7.5-1: Frequency stability results – FCC

Test conditions	Frequency, Hz	Drift, Hz	Drift, $\pm$ ppm	Limit, $\pm$ ppm	Margin, ppm
+50 °C, Nominal voltage	38699906000	-22000	0.568	300.000	299.432
+40 °C, Nominal voltage	38699908000	-20000	0.517	300.000	299.483
+30 °C, Nominal voltage	38699916000	-12000	0.310	300.000	299.690
+20 °C, Nominal voltage +15 %	38699928000	0	0.000	300.000	300.000
+20 °C, Nominal voltage	38699928000	Reference			
+20 °C, Nominal voltage -15 %	38699928000	0	0.000	300.000	300.000
+10 °C, Nominal voltage	38699950000	22000	0.568	300.000	299.432
0 °C, Nominal voltage	38699972000	44000	1.137	300.000	298.863
-10 °C, Nominal voltage	38699984000	56000	1.447	300.000	298.553
-20 °C, Nominal voltage	38700012000	84000	2.171	300.000	297.829
-30 °C, Nominal voltage	38700028000	100000	2.584	300.000	297.416

Table 7.5-2: Frequency stability results – ISSED

Test conditions	Frequency, Hz	Drift, Hz	Drift, $\pm$ ppm	Limit, $\pm$ ppm	Margin, ppm
+50 °C, Nominal voltage	38699906000	-22000	0.568	10.000	9.432
+40 °C, Nominal voltage	38699908000	-20000	0.517	10.000	9.483
+30 °C, Nominal voltage	38699916000	-12000	0.310	10.000	9.690
+20 °C, Nominal voltage +15 %	38699928000	0	0.000	10.000	10.000
+20 °C, Nominal voltage	38699928000	Reference			
+20 °C, Nominal voltage -15 %	38699928000	0	0.000	10.000	10.000
+10 °C, Nominal voltage	38699950000	22000	0.568	10.000	9.432
0 °C, Nominal voltage	38699972000	44000	1.137	10.000	8.863
-10 °C, Nominal voltage	38699984000	56000	1.447	10.000	8.553
-20 °C, Nominal voltage	38700012000	84000	2.171	10.000	7.829
-30 °C, Nominal voltage	38700028000	100000	2.584	10.000	7.416

7.6 Directional antennas

7.6.1 References, definitions and limits

FCC §30.406:

- Unless otherwise authorized upon specific request by the applicant, each station authorized under the rules of this subpart must employ a directional antenna adjusted with the center of the major lobe of radiation in the horizontal plane directed toward the receiving station with which it communicates: *provided, however*, where a station communicates with more than one point, a multi- or omni-directional antenna may be authorized if necessary.
- Fixed stations (other than temporary fixed stations) must employ transmitting and receiving antennas (excluding second receiving antennas for operations such as space diversity) meeting the appropriate performance Standard A indicated in the table to this section, except that in areas not subject to frequency congestion, antennas meeting performance Standard B may be used. For frequencies with a Standard B1 and a Standard B2, in order to comply with Standard B an antenna must fully meet either Standard B1 or Standard B2. Licensees shall comply with the antenna standards table shown in this paragraph in the following manner:
 - With either the maximum beamwidth to 3 dB points requirement or with the minimum antenna gain requirement; and
 - With the minimum radiation suppression to angle requirement.

Frequency (MHz)	Category	Maximum beamwidth to 3 dB points ¹ (included angle in degrees)	Minimum antenna gain (dbi)	Minimum radiation suppression to angle in degrees from centerline of main beam in decibels						
				5° to 10°	10° to 15°	15° to 20°	20° to 30°	30° to 100°	100° to 140°	140° to 180°
38,600 to 40,000 ²	A	n/a	38	25	29	33	36	42	55	55
	B	n/a	38	20	24	28	32	35	36	36

¹ If a licensee chooses to show compliance using maximum beamwidth to 3 dB points, the beamwidth limit shall apply in both the azimuth and the elevation planes.

² Stations authorized to operate in the 38,600-40,000 MHz band may use antennas other than those meeting the Category A standard. However, the Commission may require the use of higher performance antennas where interference problems can be resolved by the use of such antennas.

7.6.2 Test summary

Verdict	Pass			
Test date	February 26, 2026	Temperature	23 °C	
Tested by	Alvin Liu	Air pressure	975 mbar	
Test location	Cambridge	Relative humidity	33 %	

7.6.3 Observations, settings and special notes

The product is a Category A device. The minimum antenna gain is 39.5 dBi (30 cm). The maximum antenna gain is 42.5 dBi (50 cm). Antenna minimum radiation suppression to angle plots were created from the datasheets of the antennas provided by the manufacturer.

7.6.4 Test data

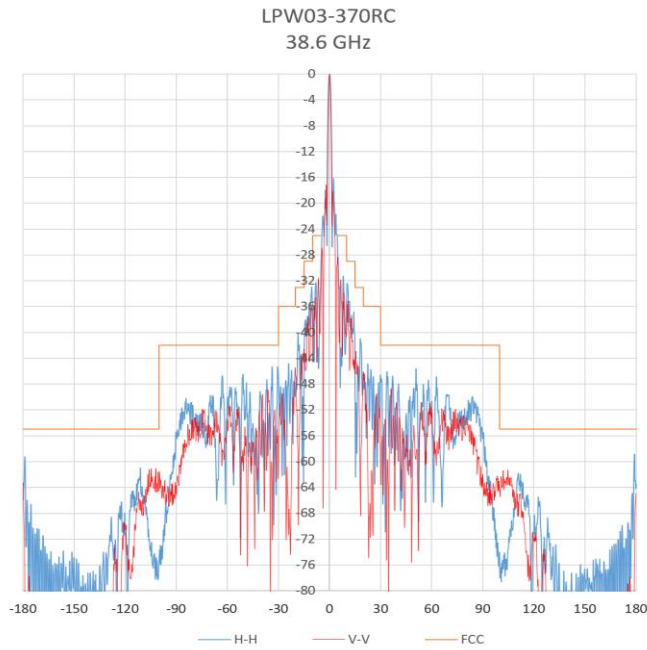


Figure 7.6-1: Antenna pattern for 30 cm antenna, 38.6 GHz

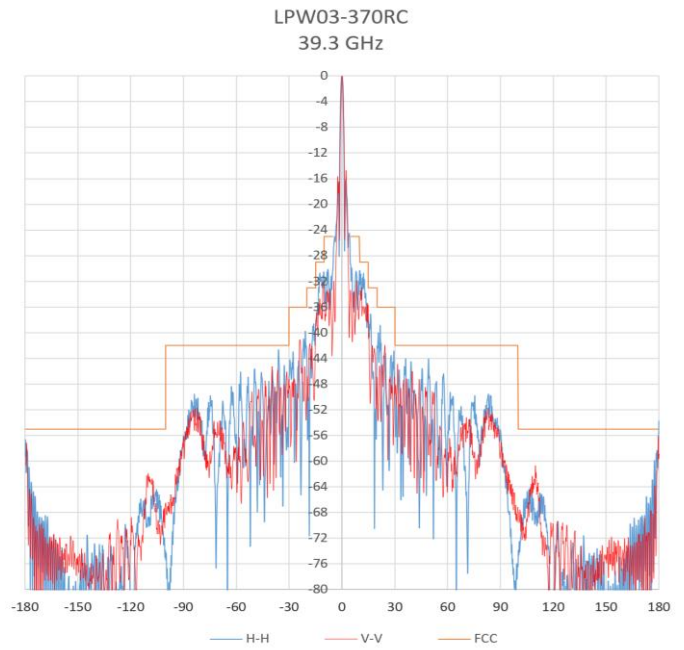


Figure 7.6-2: Antenna pattern for 30 cm antenna, 39.3 GHz

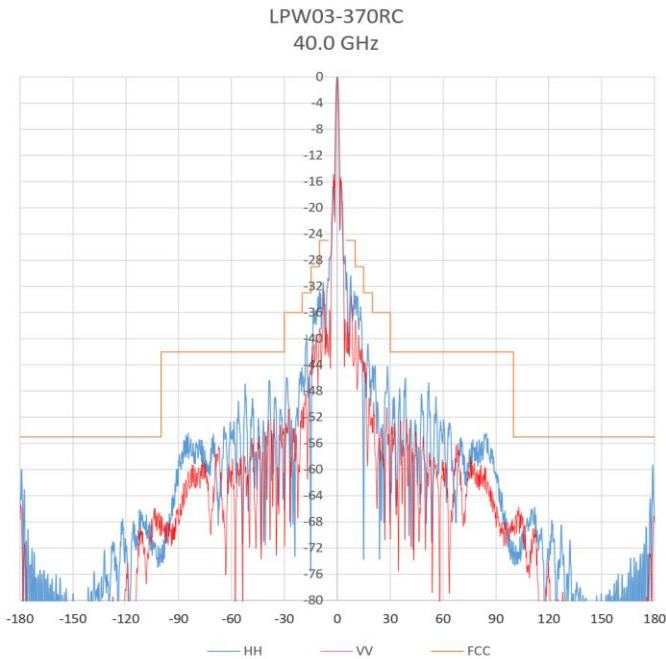


Figure 7.6-3: Antenna pattern for 30 cm antenna, 40 GHz

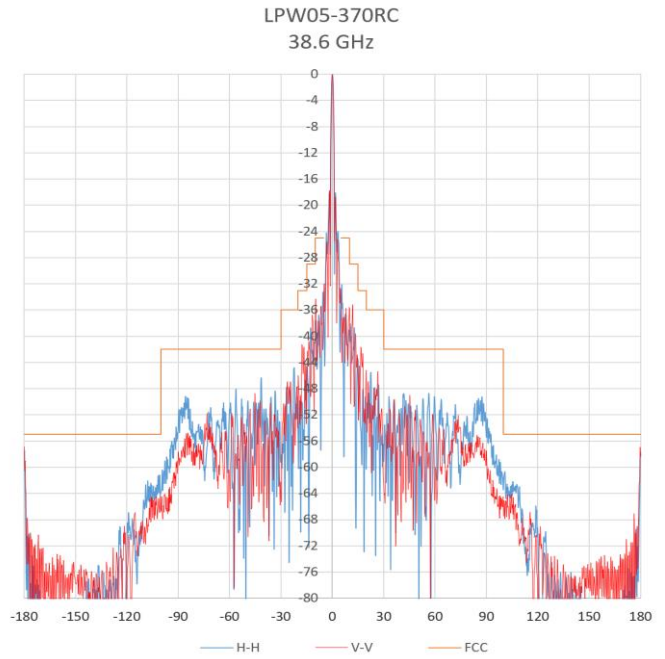


Figure 7.6-4: Antenna pattern for 50 cm antenna, 38.6 GHz

Test data, continued

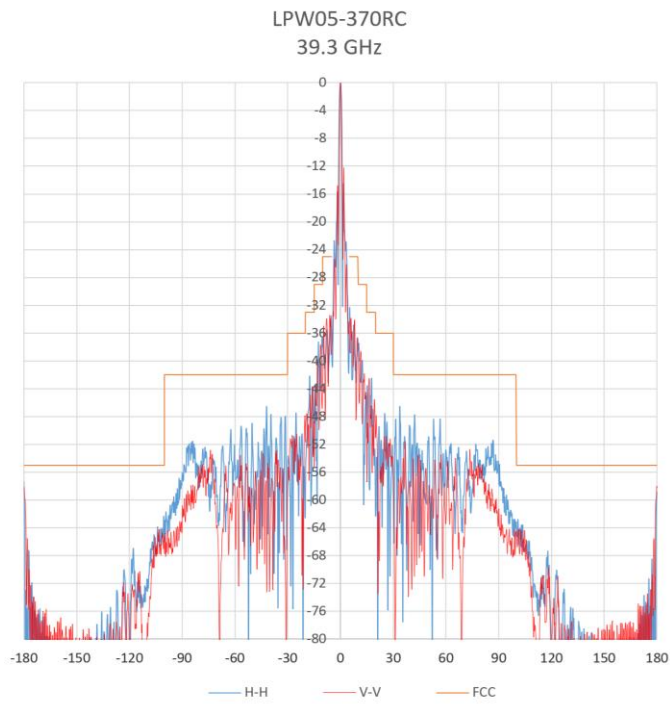


Figure 7.6-5: Antenna pattern for 50 cm antenna, 39.3 GHz

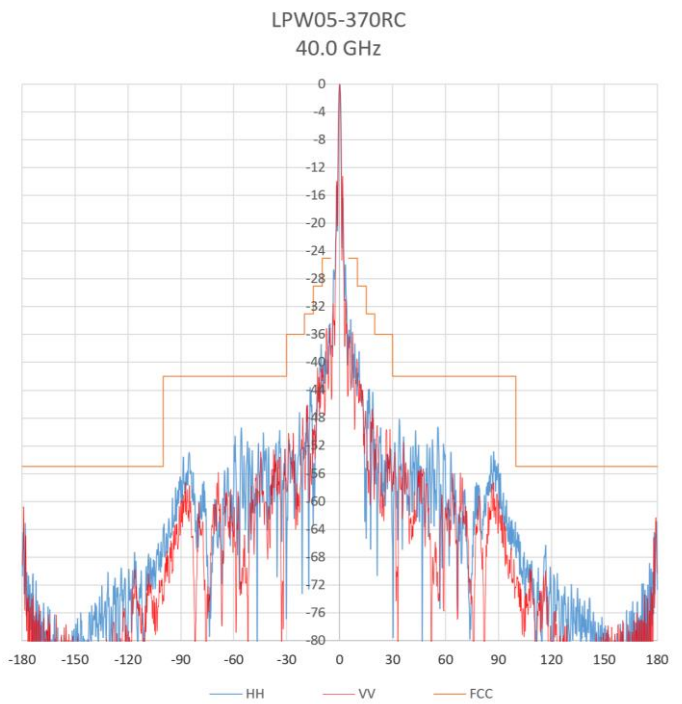


Figure 7.6-6: Antenna pattern for 50 cm antenna, 40 GHz

7.7 Modulation characteristics

7.7.1 References, definitions and limits

FCC §2.1047:

- (d) Other types of equipment. A curve or equivalent data which shows that the equipment will meet the modulation requirements of the rules under which the equipment is to be licensed.

7.7.2 Test summary

Verdict	Pass		
Test date	February 24, 2026	Temperature	24 °C
Tested by	Alvin Liu	Air pressure	980 mbar
Test location	Cambridge	Relative humidity	33 %

7.7.3 Observations, settings and special notes

Spectrum analyser settings:

Resolution bandwidth	3 MHz
Video bandwidth	> RBW
Detector	Peak, max-hold

7.7.4 Test data

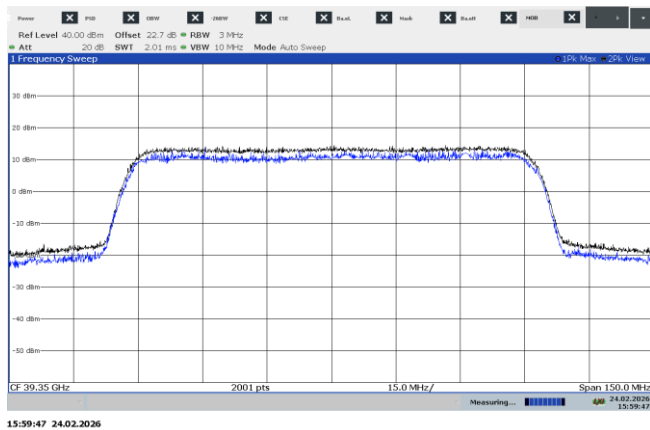


Figure 7.7-1: Plot showing envelope of a digital modulation – 100 MHz Bandwidth (Black: 4QAM, Blue: 256QAM)

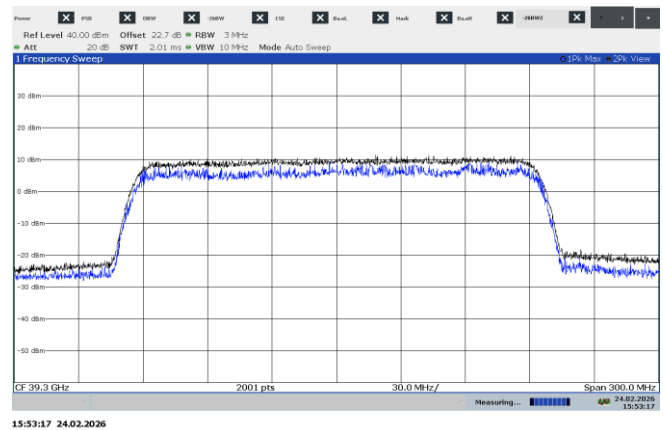
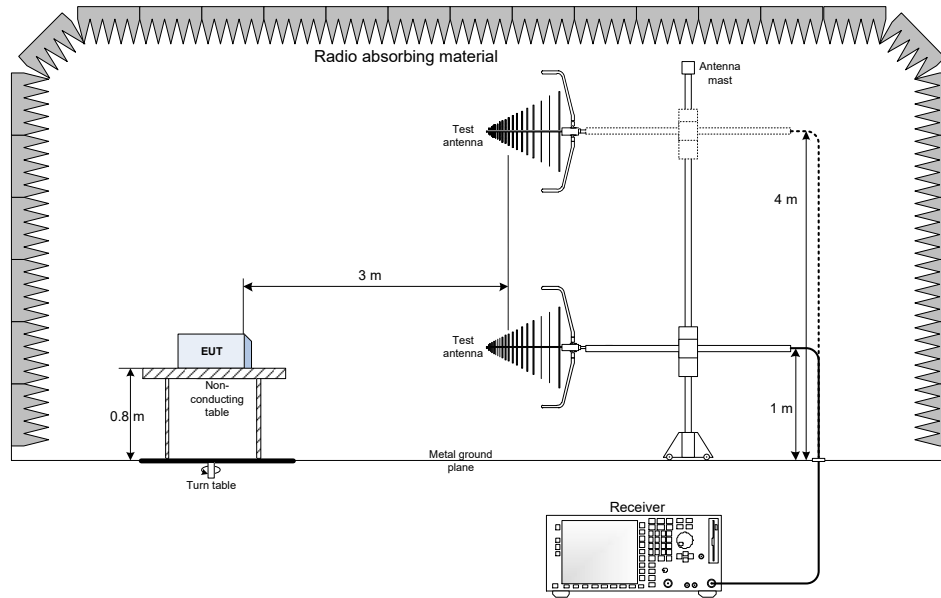


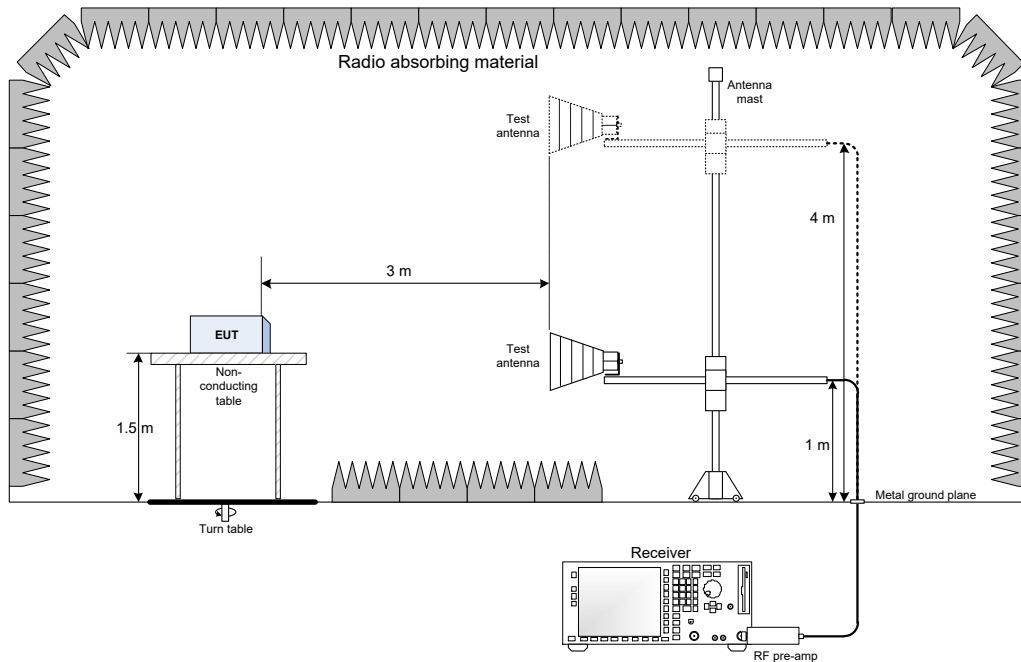
Figure 7.7-2: Plot showing envelope of a digital modulation – 200 MHz Bandwidth (Black: 4QAM, Blue: 256QAM)

Section 8. Block diagrams of test set-ups

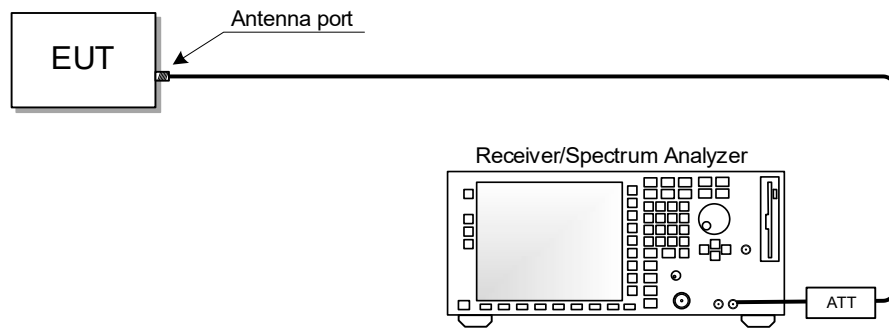
8.1 Radiated emissions set-up for frequencies below 1 GHz



8.2 Radiated emissions set-up for frequencies above 1 GHz



8.3 Antenna port set-up



End of the test report