FCC PART 74, SUBPART H

TEST AND MEASUREMENT REPORT

For

Lectrosonics, Inc.

581 Laser Road NE,
Rio Rancho, NM 87124, USA

FCC ID: DBZT20B

Report Type:	Product Type:
Original Report	Digital Hybrid Wireless Microphone Transmitter

Prepared By: Libass Thiaw, Test Engineer

Report Number: R2604022-74

Report Issue Date: 2026-05-29

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ACCREDITED
CERTIFICATE #3297.02

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DOCUMENT REVISION HISTORY

Revision Number	Report Number	Description of Revision	Date of Revision
0	R2604022-74	Original Report	2026-05-29

1 General Description

1.1 Product Description for Equipment Under Test (EUT)

This test report has been compiled on behalf of *Lectrosonics, Inc.* and their product model: *IFBT20-B1, FCC ID: DBZT20B;,* which henceforth is referred to as the EUT (Equipment Under Test). The EUT is a Digital Hybrid Wireless Microphone Transmitter. The EUT operates in the frequency range: 537.6-607.950MHz.

1.2 Mechanical Description of EUT

The (EUT) measures approximately:
IFBT20-B1: 22cm (L) x 20cm (W) x 5cm (H) and weighs approximately 1kg.
.

The data gathered are from the typical production sample provided by the Lectrosonics, Inc. with serial number: 6700103

1.3 Objective

The following test report was prepared on behalf of *Lectrosonics, Inc.* in accordance with Part 74, Subparts H of the Federal Communications Commission rules.

The objective was to determine compliance with Part 74 of the FCC rules limits for RF output power, Emission bandwidth, Field strength of spurious radiation and Frequency stability for low power auxiliary stations operating in the bands other than those allocated for TV broadcasting.

1.4 Related Submittal(s)/Grant(s)

N/A

1.5 Test Methodology

All measurements contained in this report were conducted in accordance with ANSI C63.26-2015, FCC KDB 971168 D01 Power Meas License Digital Systems v03r01, and EN 300 422-1 v2.2.1Electromagnetic compatibility and Radio Spectrum Matters; Wireless microphones in the 25MHz to 3GHz frequency range.

All tests were performed at Bay Area Compliance Laboratories Corp.

1.6 Measurement Uncertainty

All measurements involve certain levels of uncertainties, especially in the field of EMC. The factors contributing to uncertainties are spectrum analyzer, cable loss, antenna factor calibration, antenna directivity, antenna factor variation with height, antenna phase center variation, antenna factor frequency interpolation, measurement distance variation, site imperfections, mismatch (average), and system repeatability.

Parameter	Measurement uncertainty
Occupied Channel Bandwidth	±5 %
RF output power, conducted	±0.57 dB
Power Spectral Density, conducted	±1.48dB
Unwanted Emissions, conducted	±1.57dB
All emissions, radiated	±4.0 dB
AC power line Conducted Emission	±2.0 dB
Temperature	±2 º C
Humidity	±5 %
DC and low frequency voltages	±1.0 %
Time	±2 %
Duty Cycle	±3 %

1.7 Test Facility Registrations

BACLs test facilities that are used to perform Radiated and Conducted Emissions tests are currently recognized by the Federal Communications Commission as Accredited with NIST Designation Number US1129.

BACL's test facilities that are used to perform Radiated and Conducted Emissions tests are currently registered with Innovation, Science, and Economic Development Canada (ISED) a under Registration Numbers: 3062A.

BACL is a Chinese Taipei Bureau of Standards Metrology and Inspection (BSMI) validated Conformity Assessment Body (CAB), under Appendix B, Phase I Procedures of the APEC Mutual Recognition Arrangement (MRA). BACL's BSMI Lab Code Number is: SL2-IN-E-1002R

BACL's test facilities that are used to perform AC Line Conducted Emissions, Telecommunications Line Conducted Emissions, Radiated Emissions from 30 MHz to 1 GHz, and Radiated Emissions from 1 GHz to 6 GHz are currently recognized as Accredited in accordance with the Voluntary Control Council for Interference [VCCI] Article 15 procedures under Registration Number A-0428.

1.8 Test Facility Accreditations

Bay Area Compliance Laboratories Corp. (BACL) is:

A- ***An independent, 3rd-Party, Commercial Test Laboratory accredited to ISO/IEC 17025:2017 by A2LA (Test Laboratory Accreditation Certificate Number 3297.02),*** in the fields of: Electromagnetic Compatibility and Telecommunications. Unless noted by an Asterisk (*) in the Compliance Matrix (See Section 3 of this Test Report), BACL's ISO/IEC 17025:2017 Scope of Accreditation includes all of the Test Method Standards and/or the Product Family Standards detailed in this Test Report..

BACL's ISO/IEC 17025:2017 Scope of Accreditation includes a comprehensive suite of EMC Emissions, EMC Immunity, Radio/Wireless, RF Exposure, Safety, and Wireline Telecommunications test methods applicable to a wide range of product categories. These product categories include, but are not limited to: Central Office Telecommunications Equipment [including NEBS – Network Equipment Building

Systems], Information Technology Equipment (ITE); Telecommunications Terminal Equipment (TTE); Medical Electrical Equipment; Industrial, Scientific and Medical Test Equipment; Professional Audio and Video Equipment; Industrial Equipment, Scientific Instruments and Laboratory Apparatus; Cable Distribution Systems, Railway Equipment, Marine Equipment, and Energy Efficient Lighting. Additionally, BACL offers comprehensive test capabilities for both Unlicensed and Licensed Wireless and RF Devices, per the requirements of the FCC (USA), ISED Canada (Canada), the EU/EEA/EFTA Nations (per the ETSI Standards applicable under the Radio Equipment Directive), Singapore, MIC (Japan), South Korea, Vietnam, and Taiwan ROC.

B- ***A Product Certification Body accredited to ISO/IEC 17065:2012 by A2LA (Product Certification Body Accreditation Certificate Number 3297.03)*** to certify

- For the USA (Federal Communications Commission):
    1- All Unlicensed radio frequency devices within FCC Scopes A1, A2, A3, and A4;
    2- All Licensed radio frequency devices within FCC Scopes B1, B2, B3, and B4;
    3- All Telephone Terminal Equipment within FCC Scope C.
- For the Canada (Innovation, Science and Economic Development Canada):
    1 All Scope 1-Licence-Exempt Radio Frequency Devices;
    2 All Scope 2-Licensed Personal Mobile Radio Services;
    3 All Scope 3-Licensed General Mobile & Fixed Radio Services;
    4 All Scope 4-Licensed Maritime & Aviation Radio Services;
    5 All Scope 5-Licensed Fixed Microwave Radio Services
    6 All Broadcasting Equipment Technical Standards (BETS) in the Category I Equipment Standards List.
    7. RSS-HAC Radio Scope 6 Hearing Aid Compatibility and Volume Control
- For Singapore (Info-Comm Media Development Authority (IMDA)):
    1 All Line Terminal Equipment: All Technical Specifications for Line Terminal Equipment – Table 1 of IDA MRA Recognition Scheme: 2011, Annex 2 IMDA Phase I
    2. All Radio-Communication Equipment: All Technical Specifications for Radio-Communication Equipment – Table 2 of IDA MRA Recognition Scheme: 2011, Annex 2 IMDA Phase II
- For the Hong Kong Special Administrative Region & (Office of the Communications Authority-OFCA) – APEC Tel MRA- Phase I and Phase II:
    1 Radio Equipment, per KHCA 10XX-series Specifications; HKCA 1001, 1002, 1003, 1004, 1005, 1006, 1007, 1008, 1010, 1015, 1016, 1019, 1020, 1022, 1026, 1033, 1034, 1035, 1036, 1037, 1039, 1041, 1042, 1043, 1044, 1045, 1046, 1047, 1048, 1049, 1050, 1052, 1053, 1054, 1056, 1057, 1061, 1064, 1065, 1066, 1067, 1068, 1069, 1070, 1071, 1072, 1073, 1074, 1075, 1076, 1077, 1078, 1080, 1081
    2 GMDSS Marine Radio Equipment, per HKCA 12XX-series Specifications; HKCA 1218, 1223, 1224, 1225, 1257, 1258, 1259, 1260, 1261, 1262, 1263, 1264, 1265, 1266, 1277, 1281, 1282, 1283
    3 Fixed Network Equipment, per HKCA 20XX-series Specifications; HKCA 2001, 2011, 2014, 2015, 2017, 2026, 2027, 2028, 2029, 2030, 2031
- For Japan:
    1 MIC Telecommunication Business Law (Terminal Equipment):
        - All Scope A1 - Terminal Equipment for the Purpose of Calls;
        - All Scope A2 - Other Terminal Equipment
    2 Radio Law (Radio Equipment):
        - All Scope B1 - Specified Radio Equipment specified in Article 38-2-2, paragraph 1, item 1 of the Radio Law
        - All Scope B2 - Specified Radio Equipment specified in Article 38-2-2, paragraph 1, item 2 of the Radio Law
        - All Scope B3 - Specified Radio Equipment specified in Article 38-2-2, paragraph 1, item 3 of the Radio Law

C- ***A Product Certification Body accredited to ISO/IEC 17065:2012 by A2LA (Product Certification Body Accreditation Certificate Number 3297.01)*** to certify Products to USA's Environmental Protection Agency (EPA) ENERGY STAR Product Specifications for:

1 Appliances:
- for Clothes Washers (ver. 8.1)
- for Residential Dishwashers (ver. 6.0)
- for Residential Refrigerators and/or Freezers (ver. 5.0)

2 Commercial Food Service Equipment:
- for Commercial Dishwashers (ver. 3.0)
- for Commercial Ice Machines (ver. 3.0)

3 Data Center Equipment:
- for Large Network Equipment (ver. 1.1)

4 Electronics and Office Equipment:
- for Audio/Video Equipment (ver. 3.0)
- for Computers (ver. 8.0)
- for Data Center Storage (ver. 2.1)
- for Displays (ver. 8.0)
- for Enterprise Servers (ver. 4.0)
- for Imaging Equipment (ver. 3.1)
- for Set-top Boxes & Cable Boxes (ver. 5.1)
- for Small Network Equipment (ver. 1.0)
- for Telephony (ver. 3.0)
- for Televisions (ver. 9.0), Title 10 Chapter II CFR Part 430 Subpart B –Appendix BB, Title 10 Chapter II CFR Part 430 Subpart B –Appendix DD

3 Lighting and Fans
- for Decorative Light Strings (ver. 1.5)
- for Downlights (ver. 1.0)
- for Lamps (Light Bulbs)(ver. 2.1)
- for Luminaires (including sub-components) (ver. 2.2)
- for Residential Ceiling Fans (ver. 4.0)
- for Residential Ventilating Fans (ver. 4.1)

4 Other
- for Residential Ceiling Fans (ver. 4.0)
- for Electric Vehicle Supply Equipment (ver. 1.2)(Electric Vehicle Supply Equipment Final Test Method for DC-output EVSE Rev March 2021)
- for Water Coolers (ver. 3.0)
- for Smart Home Energy Management Systems (ver. 1.1)

D- ***A NIST Designated Phase-I and Phase-II Conformity Assessment Body (CAB) for the following economies and regulatory authorities under the terms of the stated MRAs/Treaties:***

1. For the USA (Federal Communications Commission), as a Telecommunications Certification Body (TCB):
   - a. All Unlicensed radio frequency devices within FCC Scopes A1, A2, A3, and A4;
   - b. All Licensed radio frequency devices within FCC Scopes B1, B2, B3, and B4;
   - c. All Telephone Terminal Equipment within FCC Scope C.

2. Canada (ISED Canada) Foreign Certification Body – FCB – APEC Tel MRA -Phase I & Phase II:
   - a. Phase I Designation Letter

- b. Phase II ISED Canada recognition as a Product Certification Body for unlicensed wireless devices, licensed radios, radars, etc.:

3. For Singapore (InfoComm Media Development Authority (IMDA)) APEC Tel MRA -Phase I & Phase II:
   - a. All Line Terminal Equipment: All Technical Specifications for Line Terminal Equipment – Table 1 of IDA MRA Recognition Scheme: 2011, Annex 2 IMDA Phase I
   - b. All Radio-Communication Equipment: All Technical Specifications for Radio-Communication Equipment – Table 2 of IDA MRA Recognition Scheme: 2011, Annex 2 IMDA Phase II

4. For the Hong Kong Special Administrative Region & (Office of the Communications Authority – OFCA) – APEC Tel MRA -Phase I & Phase II:
   - a. NIST Phase I Scope Recognition Letter from OFCA for BACL –US0057
   - b. OFCA Phase II Designation Letter

5. For Japan (Ministry of Communications):
   - a. NIST Japan Recognition
   - b. MIC Telecommunication Business Law (Terminal Equipment):
     1. All Scope A1 – Terminal Equipment for the Purpose of Calls;
     2. All Scope A2 – Other Terminal Equipment
   - c. Radio Law (Radio Equipment):
     1. All Scope B1 – Specified Radio Equipment specified in Article 38-2-2, paragraph 1, item 1 of the Radio Law
     2. All Scope B2 – Specified Radio Equipment specified in Article 38-2-2, paragraph 1, item 2 of the Radio Law
     3. All Scope B3 – Specified Radio Equipment specified in Article 38-2-2, paragraph 1, item 3 of the Radio Law

   - d. Japan VCCI – Voluntary Control Council for Interference US-Japan Telecom Treaty (VCCI Side Letter)
     1. VCCI Certificate
   - d. Japan Registered Certification Body
     1. RCB Recognition Letter

6. European Union:
   1. Radio Equipment Directive [RED] 2014/53/EU US-EU EMC & Telecom MRA CAB (NB)
   2. EMC Directive [EMCD] 2014/30/EU US-EU EMC & Telecom MRA CAB (NB):

7. Australia ACMA (Australian Communication and Media Authority) – APEC Tel MRA -Phase I:
   1.Phase I Designation Letter

8. Chinese Taipei (Republic of China – Taiwan):
   1. NCC (National Communications Commission) APEC Tel MRA -Phase I

9. Republic of Korea (Ministry of Communications – Radio Research Laboratory) APEC Tel MRA - Phase I:
   1. NIST Phase I Scope Update Notification Letter from Korea for BACL

10. Vietnam APEC Tel MRA -Phase I (page 13)
    1. Vietnam (MIC) NIST Phase I Scope

11. Indonesia SDPPI (page 6)

    1. Phase I Listing

12. Israel Phase I
    1. NIST Phase I Scope Update Recognition Letter from Israel for BACL –US0057

13. UK Radio and EMC NIST Designation Letters
    UK website: https://www.gov.uk/uk-market-conformity-assessment-bodies/bay-area-compliance-laboratories-corp-bacl
    1. Electromagnetic Compatibility Regulations (SI 2016/1091)
    https://assets.publishing.service.gov.uk/media/5fe1e344e90e07452fce4e5a/AB_1313_BACL_UK_EMC_Regs_NIST_Designation_Extended.pdf

    2. Radio Equipment Regulations 2017 (SI 2017/1206)
    https://assets.publishing.service.gov.uk/media/5fe1e351e90e074525bf7be6/AB_1313_BACL_UK_Radio_Regs_NIST_Designation_Extended.pdf

14. IFT Mexico Phase I
    1. NIST Phase I New Recognition Letter from Mexico for BACL – US0057

15. Taiwan (BSMI) Phase 1 Designation Letter and designation form.
    1. NIST Phase I Scope Update Designation Letter to BSMI for BACL – US0057
    2. NIST Phase I Scope Update Designation Form to BSMI for BACL – US0057

2 EUT Test Configuration

2.1 Justification

The EUT was configured for testing according to ANSI C63.26-2015, and KDB 971168 D01 v03r01.

2.2 EUT Exercise Software

None

Antenna	Channel	Frequency (MHz)	Power Settings (mW)
Antenna A	Low	537.6	50/100/250
	Middle	572.775	50/100/250
	High	607.950	50/100/250
Antenna B	Low	537.6	50/100/250
	Middle	572.775	50/100/250
	High	607.950	50/100/250

Note: EUT utilizes FM.

2.3 Special Equipment

There were no special accessories were required, included, or intended for use with EUT during these tests.

2.4 Equipment Modifications

None

2.5 Local Support Equipment

None

2.6 Remote Support Equipment

None

2.7 Power Supply and Line Filters

Manufacturer	Description	Model	Serial Number
-	AC/DC Adapter	MKE-1501800C14	E361658

2.8 Interface Ports and Cables

Description	From	To	Length (cm)
Power Cable	AC/DC Adapter	EUT	150

3 Summary of Test Results

FCC & ISEDC Rules	Descriptions of Test	Result (s)
FCC §2.1091	RF exposure	Compliant
FCC §74.861 (e)(1)(ii)	RF output power	Compliant
FCC §74.861(e)(5,6,7)	Operating bandwidth & Emission mask	Compliant
FCC §74.861 (e)(7)(iv)	Spurious emissions at the antenna port	Compliant
FCC §74.861 (e)(7)(iv)	Field strength of spurious emissions	Compliant
FCC §74.861(e)(3)	Modulation characteristics	Compliant
FCC §2.1055 FCC §74.861 (e)(4)	Frequency Stability	Compliant

BACL is responsible for all the information provided in this report, except when information is provided by the customer as identified in this report. Information provided by the customer, e.g., antenna gain, can affect the validity of results.

4 FCC §2.1091 - RF Exposure

4.1 Applicable Standards

According to FCC §2.1091, systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission’s guidelines.

Limits for General Population/Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm^2)	Averaging Time (minutes)
Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	* (100)	30
1.34-30	824/f	2.19/f	* (180/f^2)	30
30-300	27.5	0.073	0.2	30
300-1500	/	/	f/1500	30
1500-100,000	/	/	1.0	30

Where: f = frequency in MHz
* = Plane-wave equivalent power density

4.2 MPE Prediction

Predication of MPE limit at a given distance, Equation from OET Bulletin 65, Edition 97-01

$$S = PG/4\pi R^2$$

Where: S = power density
P = power input to antenna
G = power gain of the antenna in the direction of interest relative to an isotropic radiator
R = distance to the center of radiation of the antenna

4.3 RF exposure evaluation for FCC

Antenna A Worst Case

Maximum output power at antenna input terminal (dBm):	22.94
Maximum output power at antenna input terminal (mW):	196.79
Prediction distance (cm):	20
Prediction frequency (MHz):	537.6
Maximum Directional Antenna Gain, typical (dBi):	2.15
Maximum Antenna Gain (numeric):	1.64
Power density of prediction frequency at 20.0 cm (mW/cm^2):	0.064
FCC MPE limit for uncontrolled exposure at prediction frequency (mW/cm^2):	0.358

The device is compliant with the requirement FCC MPE limit for uncontrolled exposure. The maximum power density at the distance of 20cm is 0.064 mW/cm^2. Limit is 0.358 mW/cm^2.

Antenna B Worst Case

Maximum output power at antenna input terminal (dBm):	22.73
Maximum output power at antenna input terminal (mW):	187.50
Prediction distance (cm):	20
Prediction frequency (MHz):	537.6
Maximum Directional Antenna Gain, typical (dBi):	2.15
Maximum Antenna Gain (numeric):	1.64
Power density of prediction frequency at 20.0 cm (mW/cm^2):	0.061
FCC MPE limit for uncontrolled exposure at prediction frequency (mW/cm^2):	0.358

The device is compliant with the requirement FCC MPE limit for uncontrolled exposure. The maximum power density at the distance of 20cm is 0.061 mW/cm^2. Limit is 0.358 mW/cm^2.

Antennas cannot transmit simultaneously

5 FCC §74.861(e)(1)(ii) - RF Output Power

5.1 Applicable Standards

According to FCC §74.861 (e) For low power auxiliary stations operating in the 600 MHz duplex gap and the bands allocated for TV broadcasting, the following technical requirements apply:

(1) The power may not exceed the following values.
(ii) 470-608 MHz band: 250 mW conducted power

5.2 Test Procedure

According to KDB 971168 D01 v03r01:

When an average power meter is used to perform RF output power measurements, the fundamental condition that measurements be performed only over durations of active transmissions at maximum output power level applies. Thus, an average power meter can always be used to perform the measurement when the EUT can be configured to transmit continuously.

5.3 Test Setup Block Diagram

5.4 Test Equipment List and Details

BACL No.	Manufacturer	Description	Model No.	Serial No.	Calibration Date	Calibration Interval
697	ETS-Lindgren	USB RF Power Sensor	7002-006	00160097	2026-03-12	1 year
1540	-	20dB attenuator	MCL BW-S20W5	-	2025-12-18	1 year
1603	-	10dB attenuator	MCL BW-S10W5+	-	2025-12-18	1 year
1486	RF Cable	SMA 1.5m RF cable	SMA-J/SWA-500/SMA-J/1.5m	BACL01486A	2026-02-13	6 months

Statement of Traceability: BACL Corp. *attests that all of the calibrations on the equipment items listed above were traceable to NIST or to another internationally recognized National Metrology Institute (NMI), and were compliant with the latest version of A2LA policy P102 "A2LA Policy on Metrological Traceability".*

5.5 Test Environmental Conditions

Temperature:	22 ºC
Relative Humidity:	45 %
ATM Pressure:	101.2 kPa

The testing was performed by Libass Thiaw on 2026-04-07 at RF site.

5.6 Test Results

Note: Antenna Gain is 2.15 dBi

Antenna A

Channel	Frequency (MHz)	Conducted Power (dBm) EUT Power Setting			Limit (dBm)
		50 mW	100 mW	250 mW	
Low	537.6	15.51	19.48	22.94	24
Middle	572.775	15.34	19.08	22.5	24
High	607.950	15.02	18.69	22.25	24

Antenna B

Channel	Frequency (MHz)	Conducted Power (dBm) EUT Power Setting			Limit (dBm)
		50 mW	100 mW	250 mW	
Low	537.6	15.77	19.52	22.73	24
Middle	572.775	15.67	19.1	22.52	24
High	607.950	15.34	18.52	22.16	24

6 FCC §74.861(e)(5,6,7)(i) - Occupied Bandwidth & Emission Mask

6.1 Applicable Standards

According to FCC §74.861 (e) (5,6,7)

(5) The operating bandwidth shall not exceed 200 kilohertz, except that a wireless multichannel audio system must have an operating bandwidth not exceeding 6 megahertz in the TV bands or 4 megahertz in the 653-657 MHz band and must have a mode of operation in which it is capable of transmitting at least three audio channels per megahertz. For wireless multichannel audio systems operating in the TV bands, the 6 megahertz (or less) channel must fall entirely within a single TV channel (2-36) that is available for Part 74 LPAS use under § 74.802(b). The provisions of § 74.802(c) regarding frequency of operation within TV channels do not apply to wireless multichannel audio systems.

(6) The mean power of emissions shall be attenuated below the mean output power of the transmitter in accordance with the following schedule:

(i) On any frequency removed from the operating frequency by more than 50 percent up to and including 100 percent of the authorized bandwidth: at least 25 dB;

(ii) On any frequency removed from the operating frequency by more than 100 percent up to and including 250 percent of the authorized bandwidth: at least 35 dB;

(iii) On any frequency removed from the operating frequency by more than 250 percent of the authorized bandwidth: at least 43 + $10\log_{10}$ (mean output power in watts) dB.

6.2 Test Procedure

The OBW is according to KDB 971168 D01 v03r01

The following procedure shall be used for measuring (99%) power bandwidth:31
a) The spectrum analyzer center frequency is set to the nominal EUT channel center frequency. The frequency span for the spectrum analyzer shall be set wide enough to capture all modulation products including the emission skirts (typically a span of 1.5 × OBW is sufficient).

b) The nominal IF filter 3 dB bandwidth (RBW) shall be in the range of 1% to 5% of the anticipated OBW, and the VBW shall be set ≥ 3 × RBW.

c) Set the reference level of the instrument as required to prevent the signal amplitude from exceeding the maximum spectrum analyzer input mixer level for linear operation. See guidance provided in
4.2.3. NOTE—Step a), step b), and step c) may require iteration to adjust within the specified tolerances.

d) Set the detection mode to peak, and the trace mode to max-hold.

e) If the instrument does not have a 99% OBW function, recover the trace data points and sum directly in linear power terms. Place the recovered amplitude data points, beginning at the lowest frequency, in a running sum until 0.5% of the total is reached. Record that frequency as the lower OBW frequency. Repeat the process until 99.5% of the total is reached and record that frequency as the upper OBW frequency. The 99% power OBW can be determined by computing the difference these two frequencies.

f) The OBW shall be reported and plot(s) of the measuring instrument display shall be provided with the test report. The frequency and amplitude axis and scale shall be clearly labeled. Tabular data can be reported in addition to the plot(s).

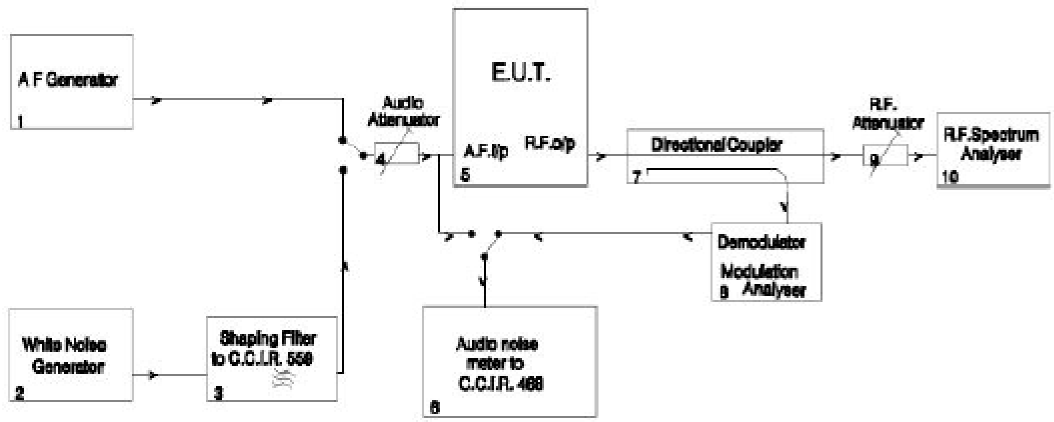
The Emission mask is according to sections 4.2.4.2 of ETSI EN 300 422-1 V2.2.1 (2021-11).

• Centre Frequency = fcm (actual centre frequency)
• Span = 5 × B
• RBW = 1 kHz
• VBW = 1 kHz
• <u>Detector = RMS</u>
• Trace Mode = Clear Write
• Sweep Points ≥ Span/RBW
• Measurement Time ≥ 20 s
• Sweep Time = Measurement Time
• Sweep Mode = Single sweep

Where B is the declared bandwidth.

Note that RMS detector is used per EN 300 422-1 section 4.2.4.2.2: The <u>mean Power Density, measured with 1 kHz measurement bandwidth and RMS detector</u>, of the transmitter unwanted emissions shall not exceed the limits of the masks provided in figure 1 for equipment employing analogue modulation and figure 2 for equipment employing digital modulation, but excluding WMAS.

6.3 Test Setup Block Diagram



6.4 Test Equipment List and Details

BACL No.	Manufacturer	Description	Model No.	Serial No.	Calibration Date	Calibration Interval
912	Rhode & Schwarz	Signal Analyzer	FSV40	1321.3008K39-101203-UW	2025-08-04	1 year
100	HP	RF Communications Test Set	8920A	3438A05338	2025-10-30	2 years
119	HP	Modulation Analyzer	8901A	2026A00847	2025-04-14	2 years
58	Krohn-Hite	Active Dual Channel Filter	3940	3212	2025-12-08	3 years
117	Agilent	Function Generator	33220A	MY43004878	2026-03-11	1 year
574	HP	TIMS	4934A	3737U15141	2026-03-17	3 years
1540	-	20dB attenuator	MCL BW-S20W5	-	2025-12-18	1 year
1603	-	10dB attenuator	MCL BW-S10W5+	-	2025-12-18	1 year
1486	RF Cable	SMA 1.5m RF cable	SMA-J/SWA-500/SMA-J/1.5m	BACL01486A	2026-02-13	6 months
93	Hewlett Packard	Directional Coupler	778D	14900	N/A	N/A
1575	Mini-Circuits	Splitter	ZFRSZ-183-S+	S F954001105	2025-07-10	1 year

***Statement of Traceability: BACL Corp.** attests that all of the calibrations on the equipment items listed above were traceable to NIST or to another internationally recognized National Metrology Institute (NMI), and were compliant with the latest version of A2LA policy P102 "A2LA Policy on Metrological Traceability".*

6.5 Test Environmental Conditions

Temperature:	22 ºC
Relative Humidity:	45 %
ATM Pressure:	101.2 kPa

The testing was performed by Rachana Khanduri on 2026-05-26 and 2026-05-29 at RF site.

6.6 Test Results

Antenna A

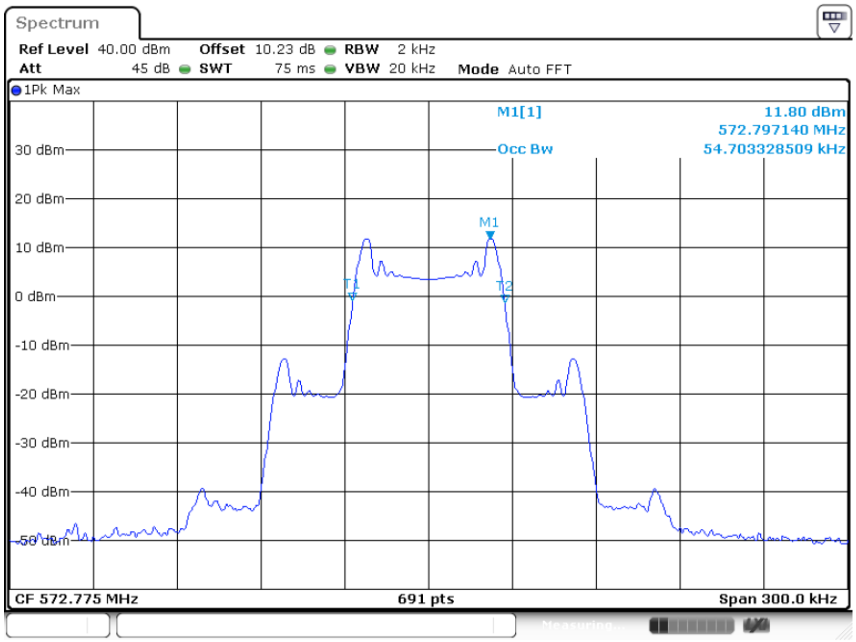
Center Frequency (MHz)	Power Setting (mW)	99% Bandwidth (kHz)	Limit (kHz)	Result
572.775	50	54.70	<200	Pass
572.775	100	56.70	<200	Pass
572.775	250	54.27	<200	Pass

Antenna B

Center Frequency (MHz)	Power Setting (mW)	99% Bandwidth (kHz)	Limit (kHz)	Result
572.775	50	54.27	<200	Pass
572.775	100	54.27	<200	Pass
572.775	250	54.27	<200	Pass

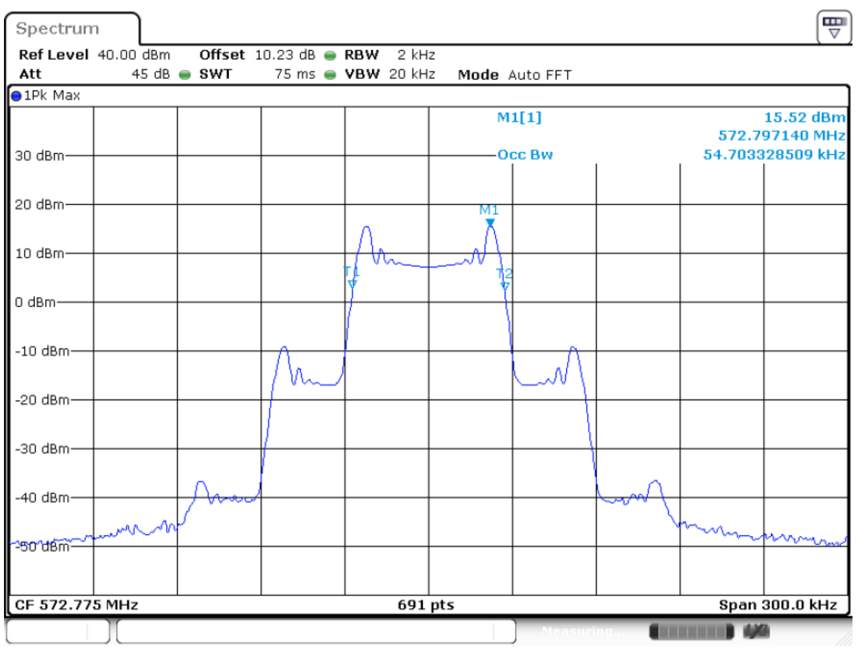
Please refer to the following plots for detailed test results

50 mW, 99% OBW Antenna A



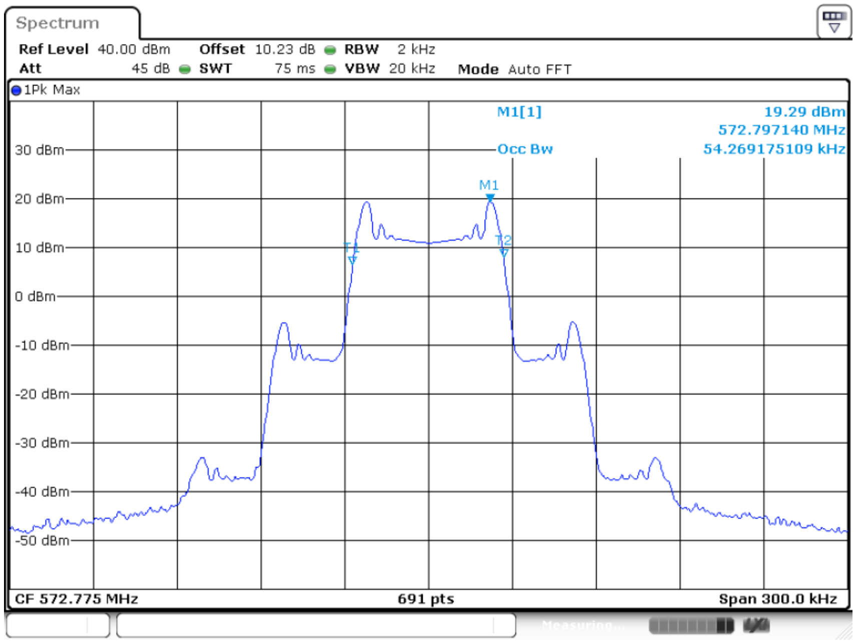
Project Number: R2604022; Tester Name: Rachana Khanduri
Date: 26.MAY.2026 11:22:33

100 mW, 99% OBW Antenna A



Project Number: R2604022; Tester Name: Rachana Khanduri
Date: 26.MAY.2026 11:23:55

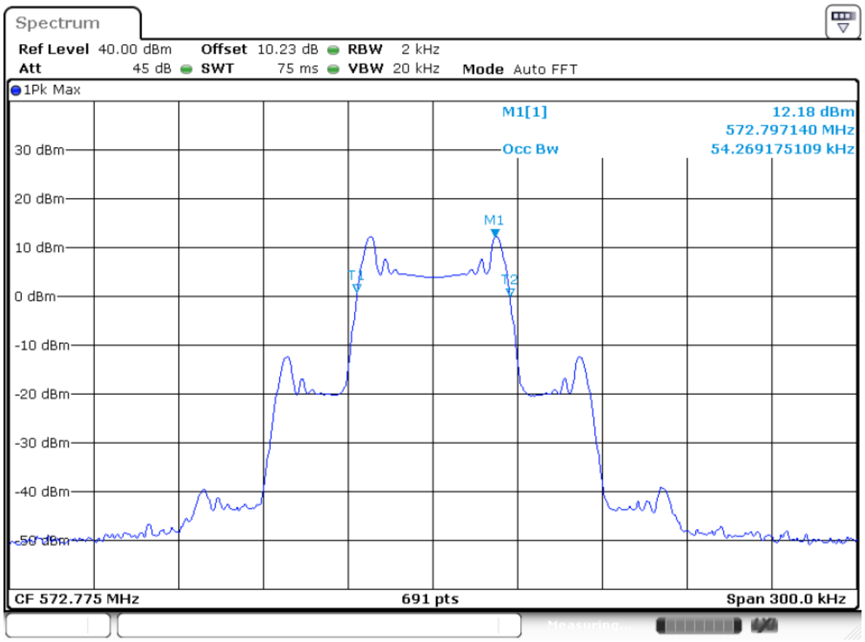
250 mW, 99% OBW Antenna A



Project Number: R2604022; Tester Name: Rachana Khanduri

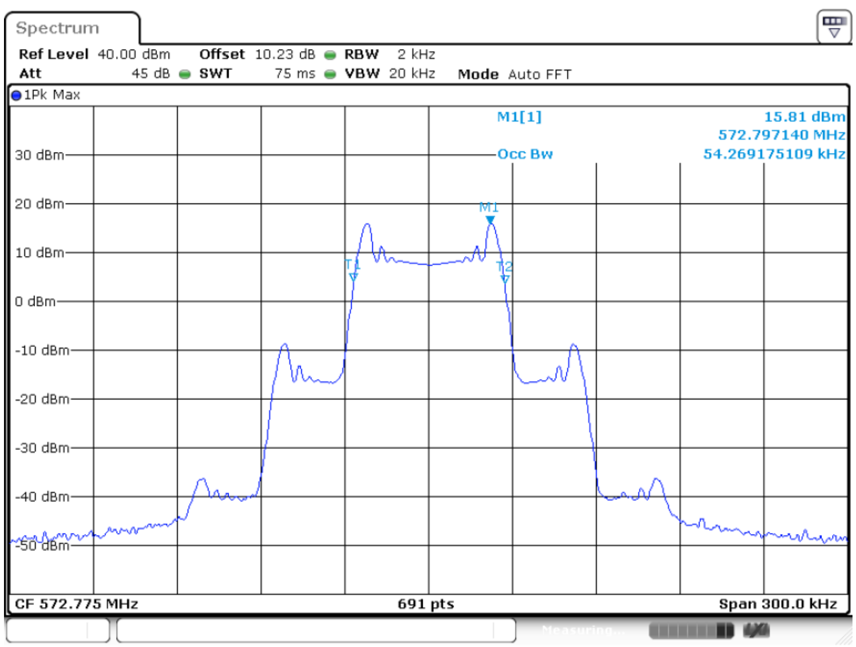
Date: 26.MAY.2026 11:25:08

50 mW, 99% OBW Antenna B



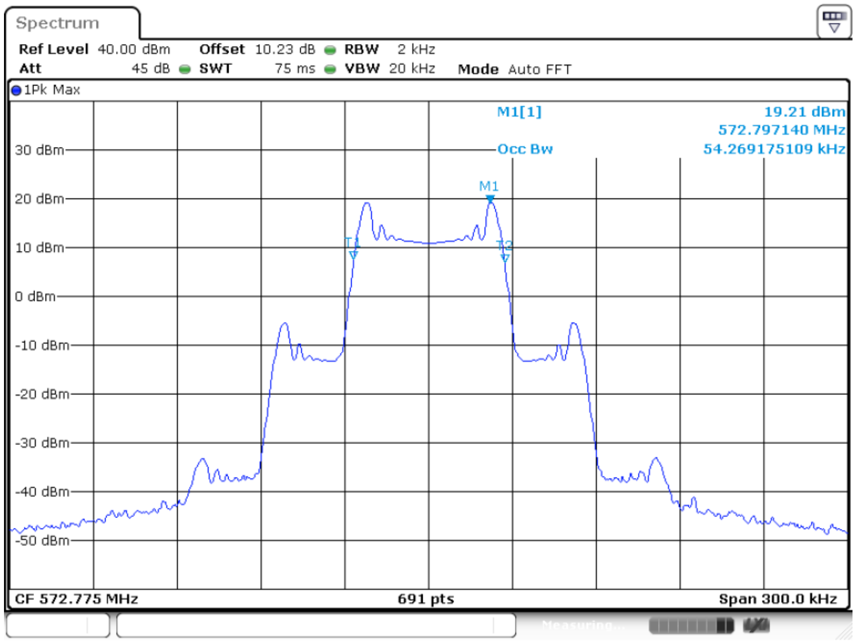
Project Number: R2604022; Tester Name: Rachana Khanduri
Date: 26.MAY.2026 11:27:37

100 mW, 99% OBW Antenna B



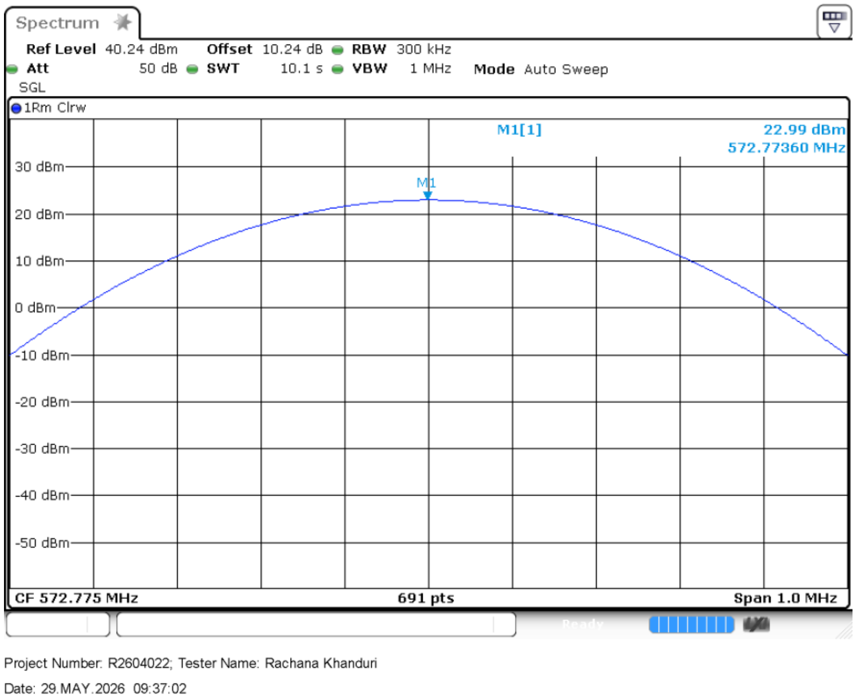
Project Number: R2604022; Tester Name: Rachana Khanduri
Date: 26.MAY.2026 11:28:56

250 mW, 99% OBW Antenna B

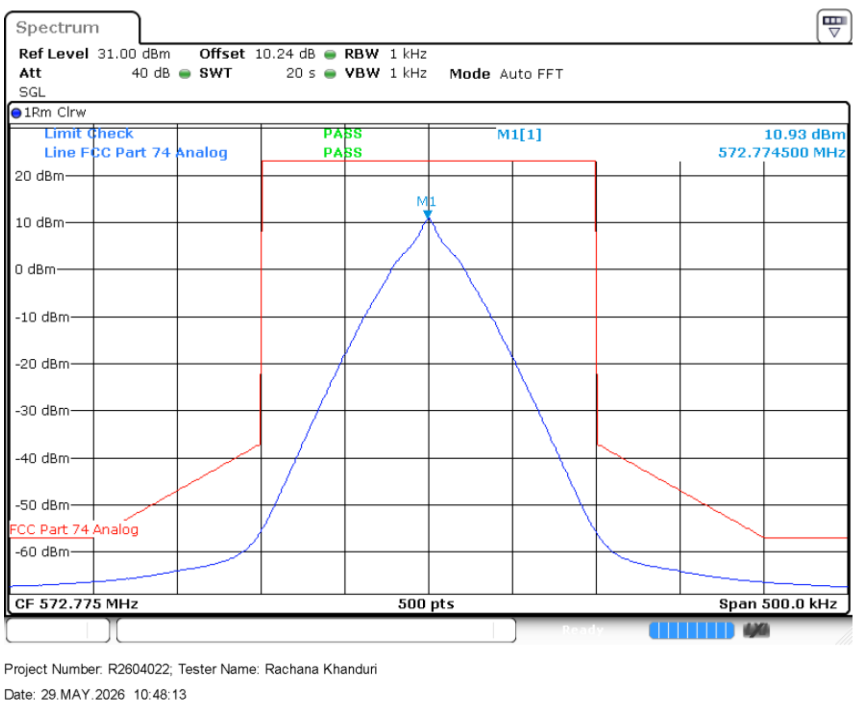


Project Number: R2604022; Tester Name: Rachana Khanduri
Date: 26.MAY.2026 11:29:49

Emission Mask Reference Level Antenna A

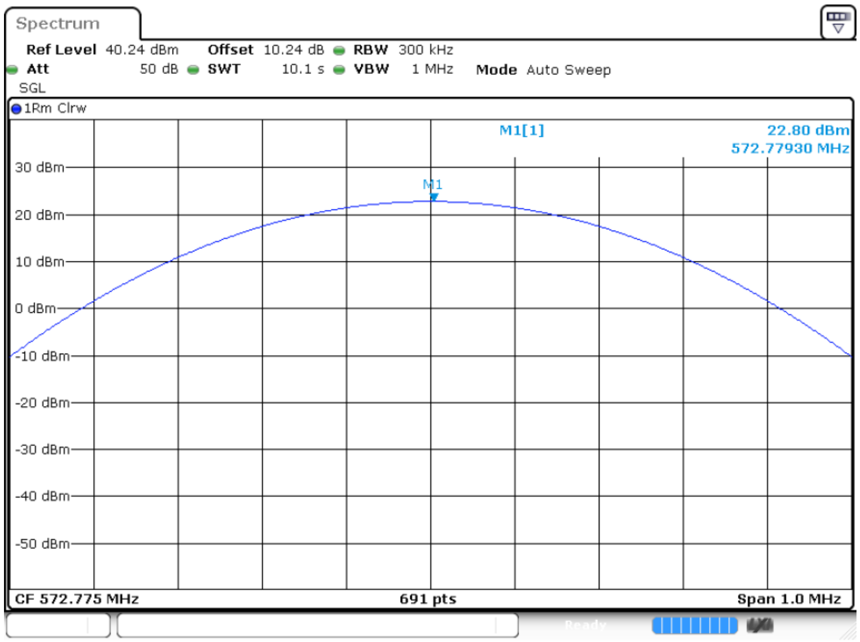


Emission Mask Antenna A



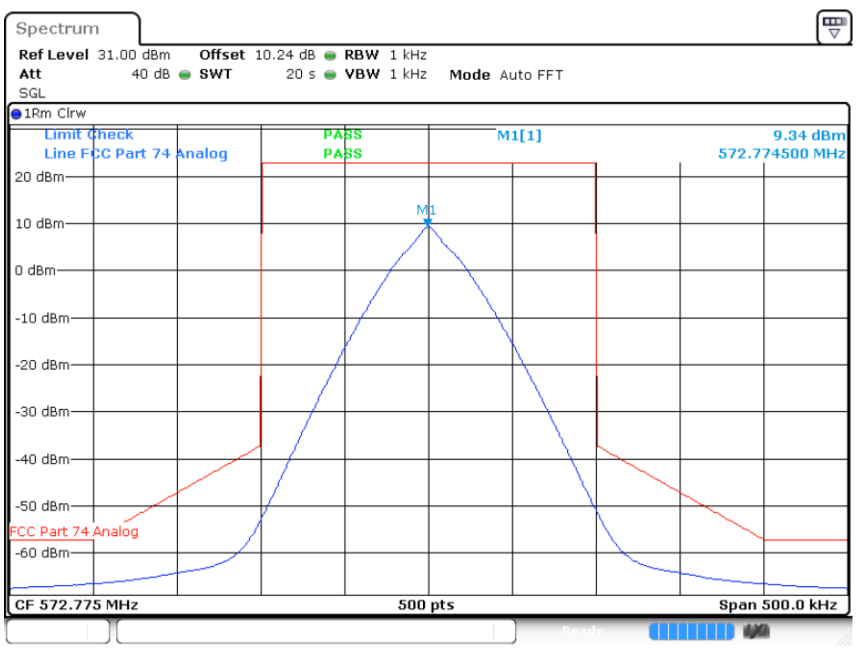
Note: Measurement was performed using power setting that produce worst-case Emission Mask results.

Emission Mask Reference Level Antenna B



Project Number: R2604022; Tester Name: Rachana Khanduri
Date: 29.MAY.2026 09:40:24

Emission Mask Antenna B



Project Number: R2604022; Tester Name: Rachana Khanduri
Date: 29.MAY.2026 10:42:02

Note: Measurement was performed using power setting that produce worst-case Emission Mask results.

7 FCC §74.861(e)(7)(iv) - Conducted Spurious Emissions at Antenna Port

7.1 Applicable Standards

According to FCC §74.861 (e) (7) (iv):

For low power auxiliary stations operating in the 600 MHz duplex gap and the bands allocated for TV broadcasting, the following technical requirements apply:

> (iv) Emissions outside of the emission masks listed in paragraphs (e)(7)(i) through (e)(7)(iii) shall comply with the limits specified in section 4.2.4.1.2 of ETSI EN 300 422-1 V2.2.1 (2021-11) (incorporated by reference, see § 74.35).

7.2 Test Procedure

According to KDB 971168 D01 v03r01 and ETSI EN 300 422-1 V2.2.1 (2021-11), the setting of the spectrum analyzer shall be:

Centre Frequency = centre frequency in the middle of each frequency band
- Span = according to segmented frequency range
- RBW = 10kHz (25-30MHz)
- RBW = 100kHz (30MHz-1GHz)
- RBW = 1MHz (Above 1GHz)
- VBW ⩾ RBW
- Sweep Points ⩾ Span / RBW
- Detector = Peak (used instead of RMS as a worst case)
- Trace Mode = Max Hold (used instead of clear write as a worst case)
- Measurement Time = Sweep Time

7.3 Test Setup Block Diagram

7.4 Test Equipment List and Details

BACL No.	Manufacturer	Description	Model No.	Serial No.	Calibration Date	Calibration Interval
912	Rhode & Schwarz	Signal Analyzer	FSV40	1321.3008K39-101203-UW	2025-08-04	1 year
1540	-	20dB attenuator	MCL BW-S20W5	-	2025-12-18	1 year
1603	-	10dB attenuator	MCL BW-S10W5+	-	2025-12-18	1 year
1486	RF Cable	SMA 1.5m RF cable	SMA-J/SWA-500/SMA-J/1.5m	BACL01486A	2026-02-13	6 months

Statement of Traceability: BACL Corp. *attests that all of the calibrations on the equipment items listed above were traceable to NIST or to another internationally recognized National Metrology Institute (NMI), and were compliant with the latest version of A2LA policy P102 "A2LA Policy on Metrological Traceability".*

7.5 Test Environmental Conditions

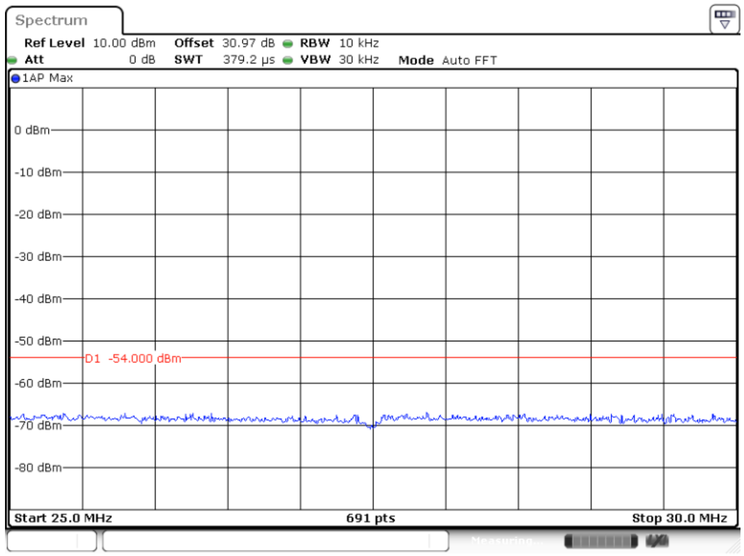
Temperature:	22 ºC
Relative Humidity:	45 %
ATM Pressure:	101.2 kPa

The testing was performed by Libass Thiaw on 2026-04-13 at RF site.

7.6 Test Results

537.6MHz, 250 mW, Spurious Emission

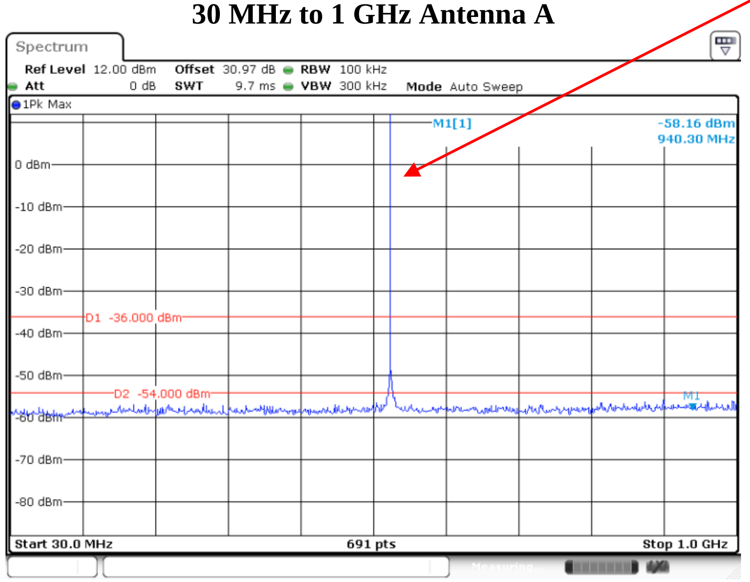
25 MHz to 30 MHz Antenna A



Project Number: R2602022; Tester Name: Libass Thiaw
Date: 13.APR.2026 11:06:56

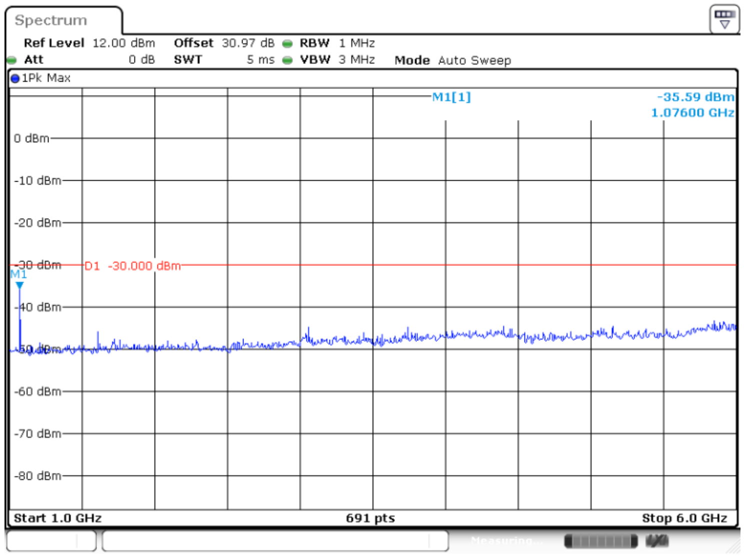
Fundamental

30 MHz to 1 GHz Antenna A



Project Number: R2602022; Tester Name: Libass Thiaw
Date: 13.APR.2026 14:08:55

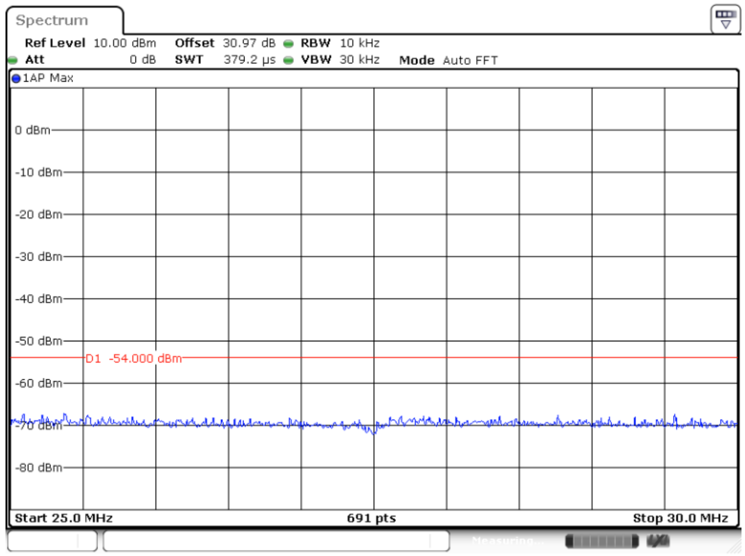
Above 1 GHz Antenna A



Project Number: R2602022; Tester Name: Libass Thiaw
Date: 13.APR.2026 15:22:40

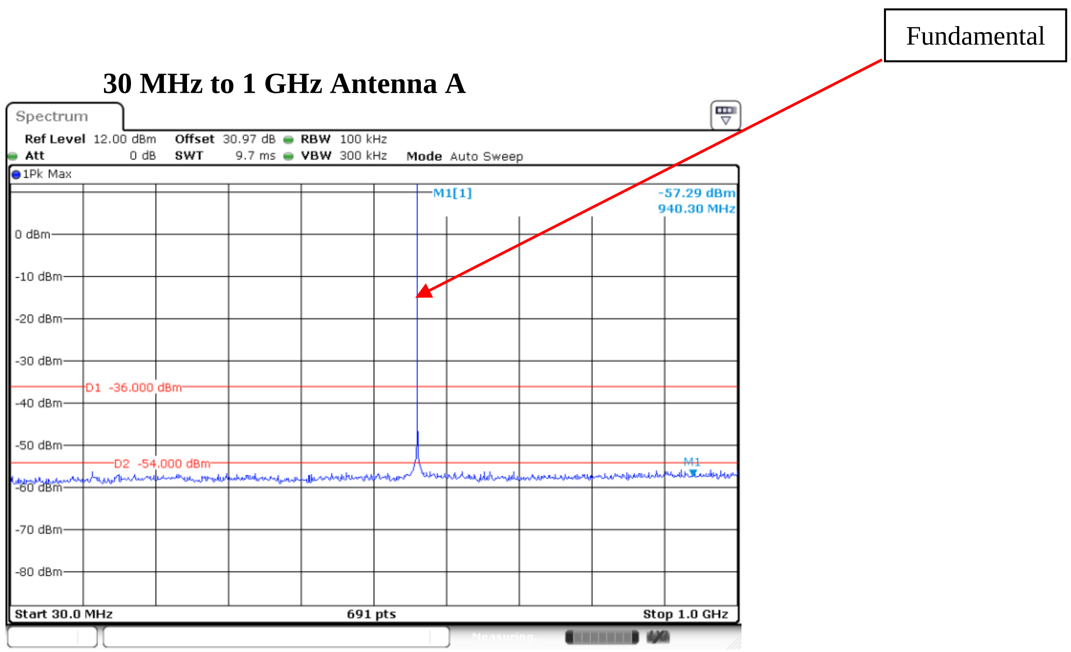
572.775MHz, 250 mW, Spurious Emission

25 MHz to 30 MHz Antenna A



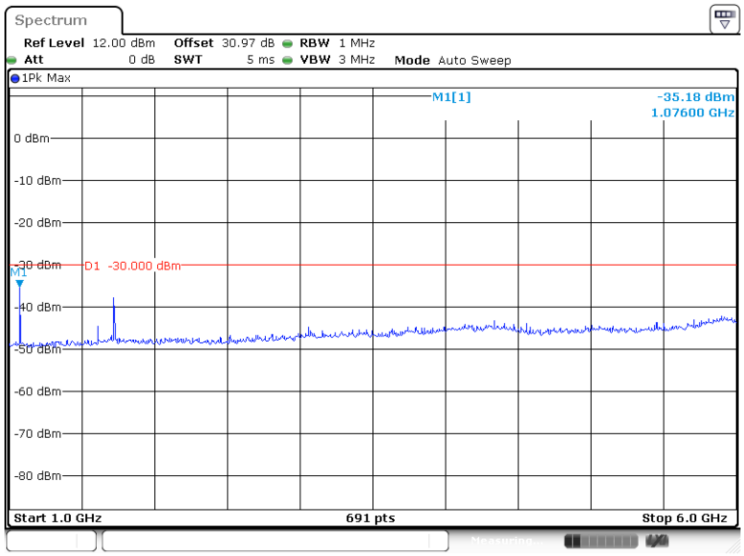
Project Number: R2602022; Tester Name: Libass Thiaw
Date: 13.APR.2026 11:04:30

30 MHz to 1 GHz Antenna A



Project Number: R2602022; Tester Name: Libass Thiaw
Date: 13.APR.2026 14:17:45

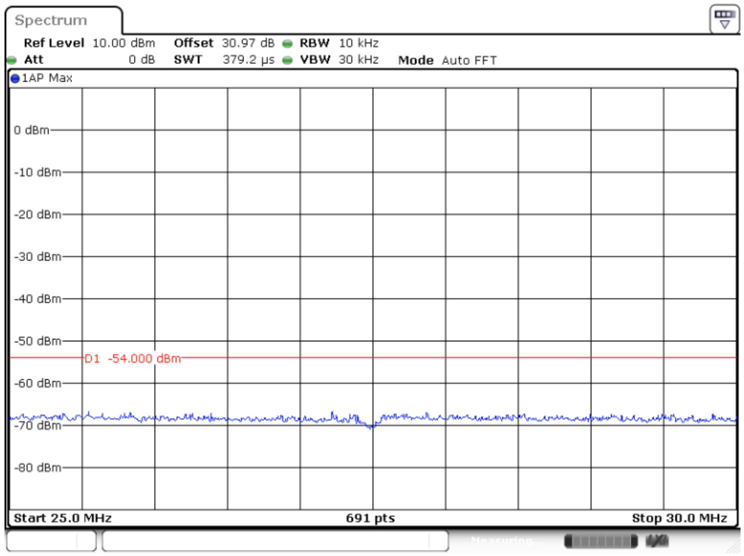
Above 1 GHz Antenna A



Project Number: R2602022; Tester Name: Libass Thiaw
Date: 13.APR.2026 15:25:38

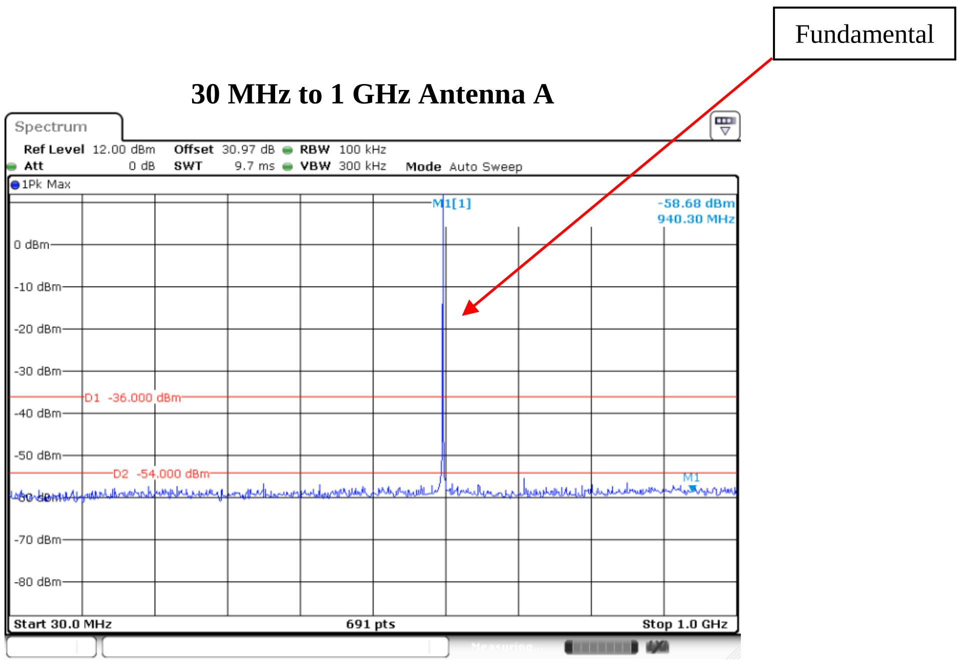
607.950MHz, 250 mW, Spurious Emission

25 MHz to 30 MHz Antenna A



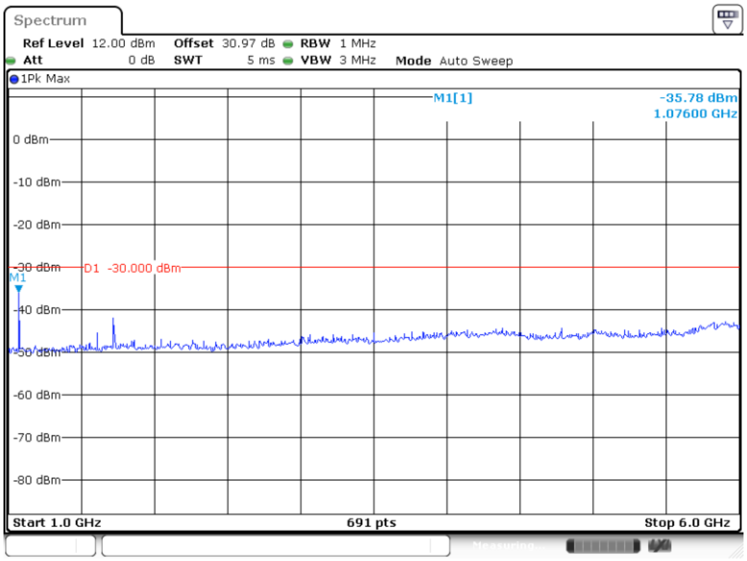
Project Number: R2602022; Tester Name: Libass Thiaw
Date: 13.APR.2026 11:07:44

30 MHz to 1 GHz Antenna A



Project Number: R2602022; Tester Name: Libass Thiaw
Date: 13.APR.2026 14:11:54

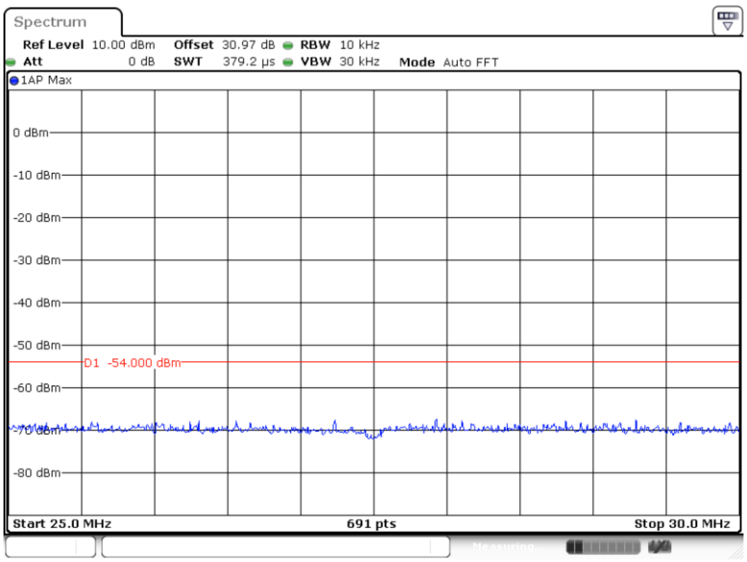
Above 1 GHz Antenna A



Project Number: R2602022; Tester Name: Libass Thiaw
Date: 13.APR.2026 15:28:12

537.6MHz, 250 mW, Spurious Emission

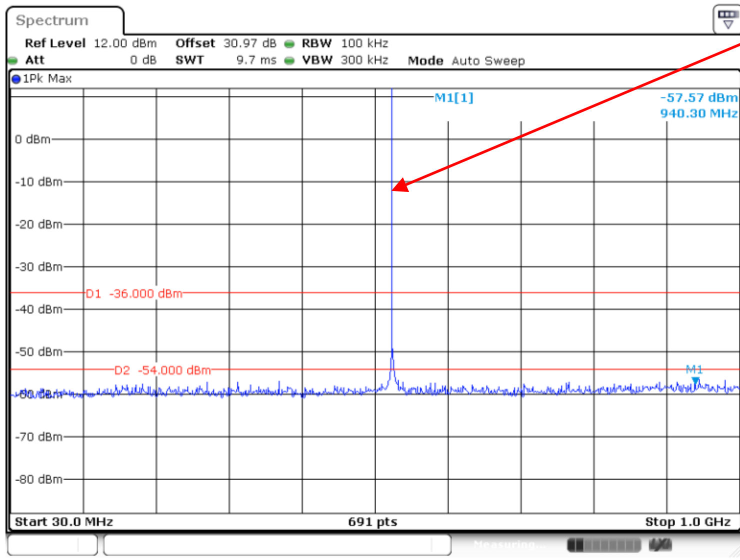
25 MHz to 30 MHz Antenna B



Project Number: R2602022; Tester Name: Libass Thiaw
Date: 13.APR.2026 11:01:04

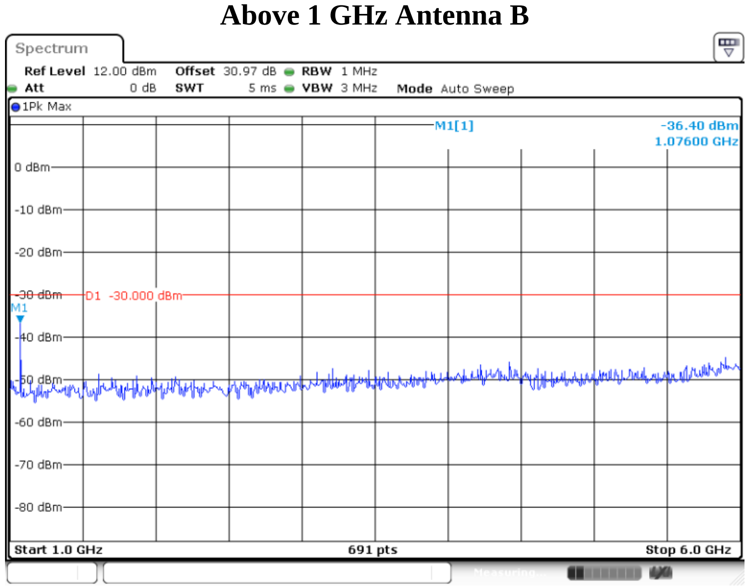
Fundamental

30 MHz to 1 GHz Antenna B



Project Number: R2602022; Tester Name: Libass Thiaw
Date: 13.APR.2026 14:28:19

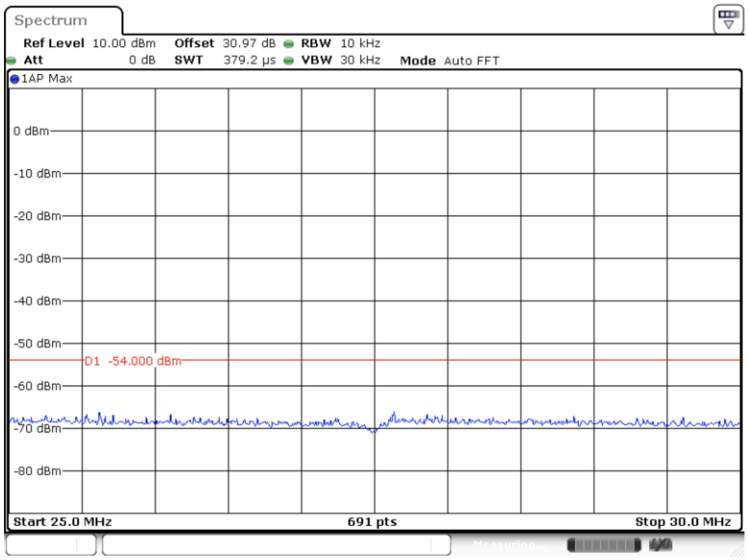
Above 1 GHz Antenna B



Project Number: R2602022; Tester Name: Libass Thiaw
Date: 13.APR.2026 15:14:30

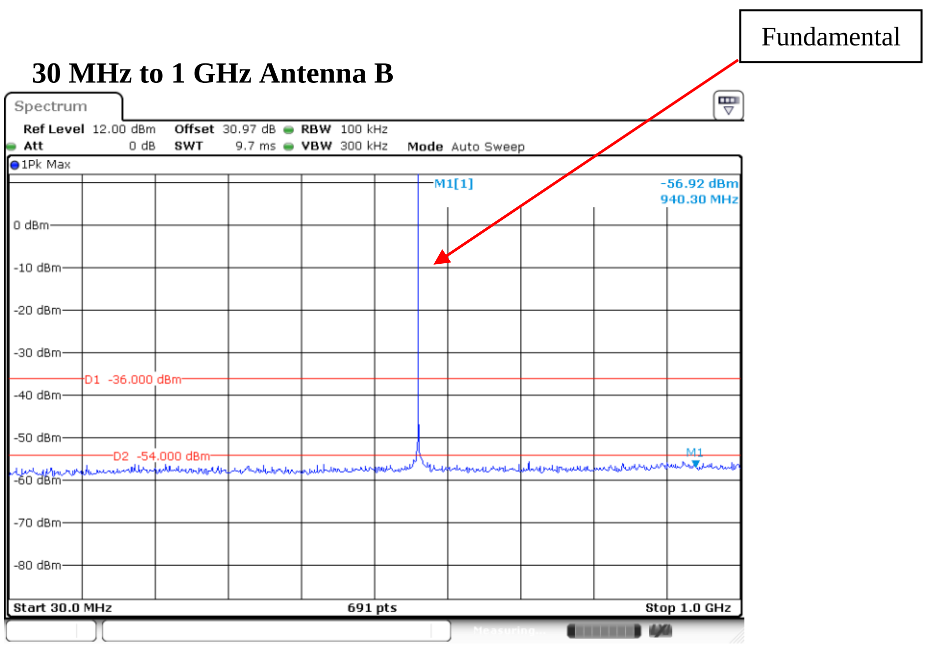
572.775MHz, 250 mW, Spurious Emission

25 MHz to 30 MHz Antenna B



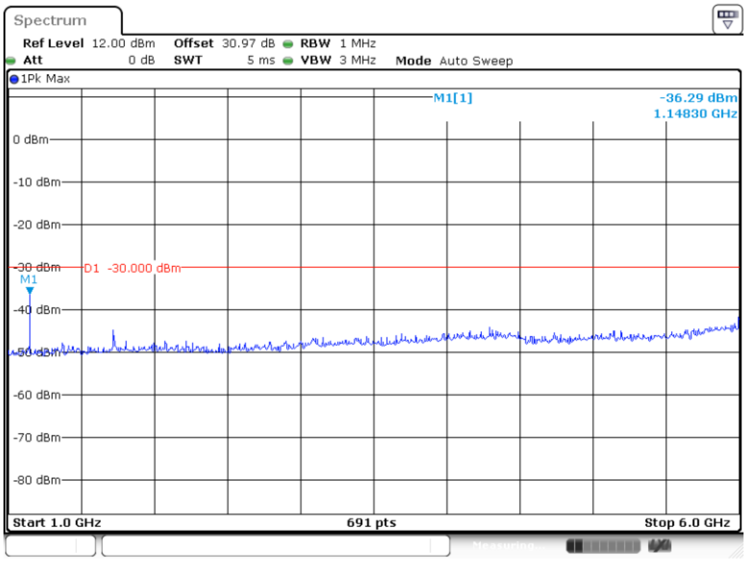
Project Number: R2602022; Tester Name: Libass Thiaw
Date: 13.APR.2026 11:02:49

30 MHz to 1 GHz Antenna B



Project Number: R2602022; Tester Name: Libass Thiaw
Date: 13.APR.2026 14:24:44

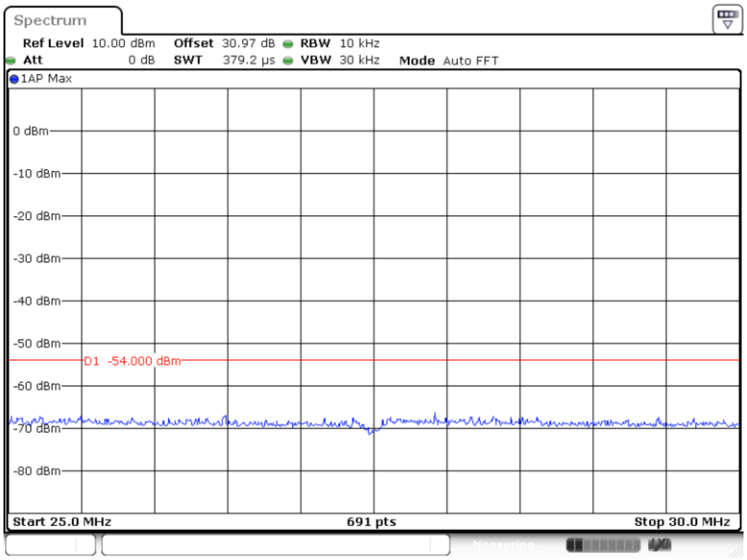
Above 1 GHz Antenna B



Project Number: R2602022; Tester Name: Libass Thiaw
Date: 13.APR.2026 15:18:41

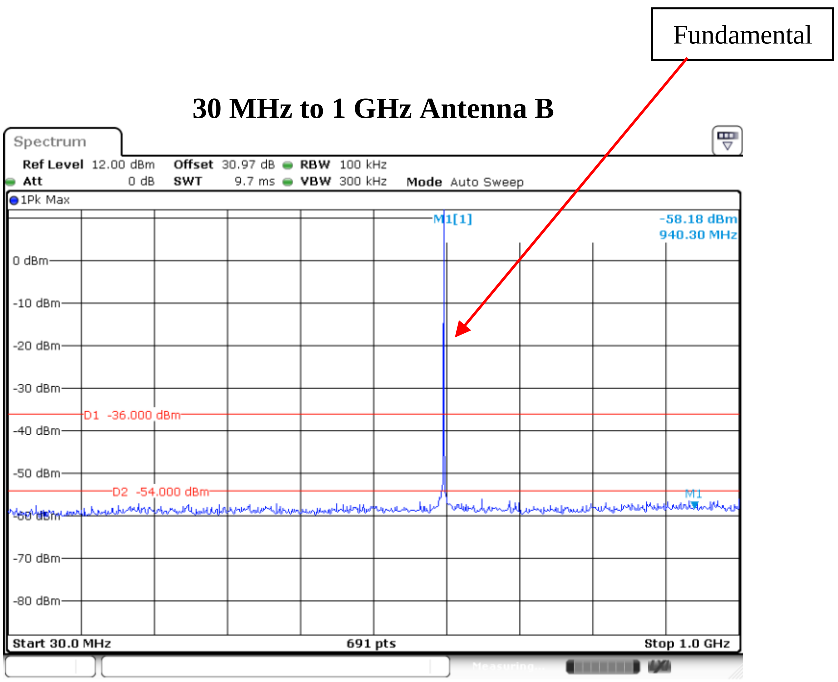
607.950MHz, 250 mW, Spurious Emission

25 MHz to 30 MHz Antenna B



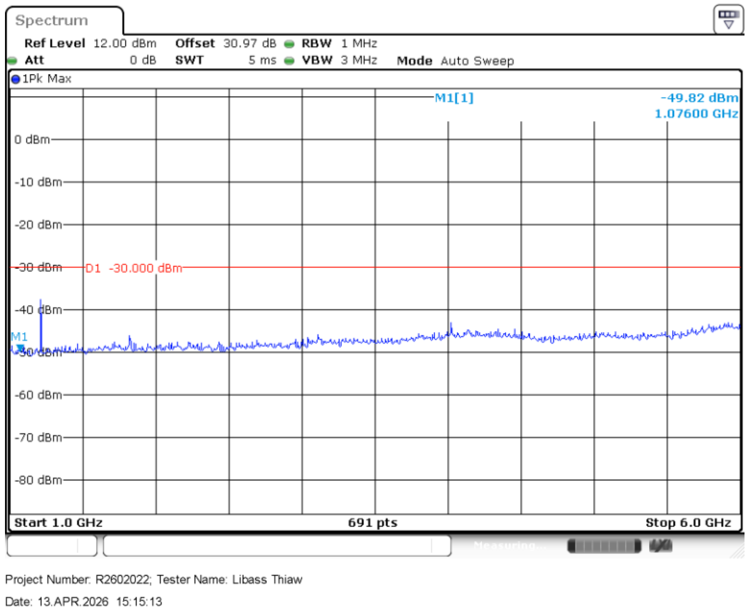
Project Number: R2602022; Tester Name: Libass Thiaw
Date: 13.APR.2026 10:52:43

30 MHz to 1 GHz Antenna B



Project Number: R2602022; Tester Name: Libass Thiaw
Date: 13.APR.2026 14:27:19

Above 1 GHz Antenna B



8 FCC §74.861(e)(7)(iv) - Field Strength of Spurious Radiation

8.1 Applicable Standards

According to FCC §74.861 (e) (7) (iv):

For low power auxiliary stations operating in the 600 MHz duplex gap and the bands allocated for TV broadcasting, the following technical requirements apply:

> (iv) Emissions outside of the emission masks listed in paragraphs (e)(7)(i) through (e)(7)(iii) shall comply with the limits specified in section 4.2.4.1.2 of ETSI EN 300 422-1 V2.2.1 (2021-11) (incorporated by reference, see § 74.35).

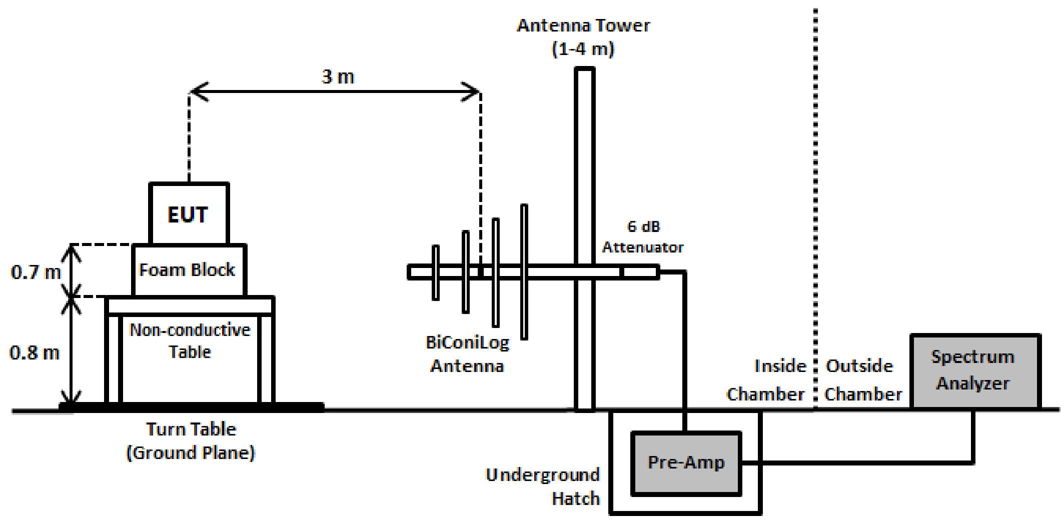
8.2 Test Procedure

According to KDB 971168 D01 v03r01 and ETSI EN 300 422-1 V2.2.1 (2021-11), the setting of the spectrum analyzer shall be:

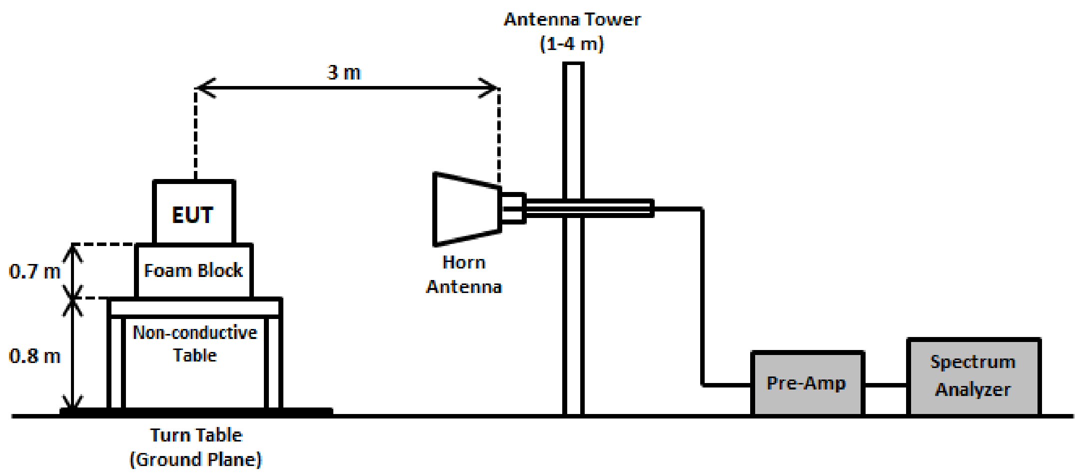
Centre Frequency = centre frequency in the middle of each frequency band
• Span = according to segmented frequency range
• RBW = 10kHz (25-30MHz)
• RBW = 100kHz (30MHz-1GHz)
• RBW = 1MHz (Above 1GHz)
• VBW ⩾ RBW
• Sweep Points ⩾ Span / RBW
• Detector = Peak (used instead of RMS as a worst case)
• Trace Mode = Max Hold (used instead of clear write as a worst case)
• Measurement Time = Sweep Time

8.3 Test Setup Block Diagram

Below 1 GHz



Above 1 GHz



8.4 Test Equipment List and Details

BACL No.	Manufacturer	Description	Model No.	Serial No.	Calibration Date	Calibration Interval
327	Sunol Sciences	System Controller	SC110V	122303-1	N/R	N/R
1075	Sunol Sciences	Boresight Tower	TLT3	050119-7	N/R	N/R
1388	Sunol Sciences	Flush Mount Turntable	FM	112005-2	N/R	N/R
1432	Keysight Technologies	MXE EMI Receiver, Multi-touch	N9038B	MY60180008	2026-01-22	1 year
321	Sunol Sciences	Biconilog Antenna, 30MHz-1GHz	JB3	A020106-2; 1504	2025-12-16	2 years
1245	Pasternack	6dB Attenuator	PE7390-6	01182018A	2025-12-16	2 years
1210	Pasternack	N-type Coax Cable, 50ft RG213	PE3496-0600	2103161	2025-11-12	6 months
316	Sonoma Instruments	Preamplifier 10 kHz - 2.5 GHz	317	260406	2025-11-12	6 months
1248	Pasternack	RG214 COAX Cable	PE3062	-	2026-04-06	6 months
1246	Hewlet Packard	RF Limiter	11867A	01734	2026-03-05	1 year
1192	ETS Lindgren	Horn Antenna, 1GHz-18GHz	3117	00218973	2024-10-23	2 years
1295	Carlisle	10m Ultra Low Loss Coaxial Cable	UFB142A-1-3937-200200	64639890912-001	2026-04-14	6 months
1449	BACL	Preamplifier, 0.1GHz-18GHz	BACL1313-A100M18G	4052472	2026-02-17	6 months
1545	Megaphase	SMA coax cable	TM40-K1K3-12	20869601 001	2026-02-27	6 months
187	A.R.A.	Horn Antenna	DRG-118/A	1132	2024-05-23	2 years
568	Com-Power Corporation	Dipole Antenna Kit	AD-100	721033DB1; 721033DB2; 721033DB3; 721032DB4	2025-08-26	2 years
343	Agilent	SIGNAL GENERATOR 9 KHZ TO 3200 MHZ	8648C	3847M00143	2025-11-19	1 year

Statement of Traceability: BACL Corp. *attests that all of the calibrations on the equipment items listed above were traceable to NIST or to another internationally recognized National Metrology Institute (NMI), and were compliant with the latest version of A2LA policy P102 "A2LA Policy on Metrological Traceability".*

8.5 Test Environmental Conditions

Temperature:	22 ºC
Relative Humidity:	40 %
ATM Pressure:	101.0 kPa

The testing was performed by Arturo Reyes on 2026-04-17 at 5 meter chamber 3.

8.6 Test Results

TX at the maximum output power:

Antenna A

Freq. (MHz)	S.A. Amp. (dBμV)	Table Azimuth (Degrees)	Test Antenna		Substitution				Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (cm)	Polar (H/V)	Freq. (MHz)	S.G. Level (dBm)	Antenna Gain (dBi/dBd)	Cable Loss (dB)			
Low Channel 537.6 MHz Power Setting: 250 mW											
54.5	53.489	360	150	H	54.5	-60.91	0.8	0.3	-60.419	-54	-6.419
55.03	54.553	360	150	V	55.03	-67.67	1.2	0.3	-66.777	-54	-12.777
1075.2	44.111	360	150	H	1075.2	-70.77	6.06	0.73	-65.446	-30	-35.446
1075.2	44.969	360	150	V	1075.2	-69.62	6.06	0.73	-64.299	-30	-34.299
1023.52	44.029	360	150	H	1023.52	-70.85	6.06	0.73	-65.528	-30	-35.528
1016.52	45.31	360	150	V	1016.52	-69.28	6.06	0.73	-63.958	-30	-33.958
Middle Channel 572.775 MHz Power Setting: 250 mW											
55.184	54.189	360	150	H	55.184	-60.21	0.8	0.3	-59.719	-54	-5.719
56.16	53.98	360	150	V	56.16	-68.25	1.2	0.3	-67.35	-54	-13.35
1145.55	44.021	360	150	H	1145.55	-69.06	6.06	0.73	-63.738	-30	-33.738
1145.55	43.221	360	150	V	1145.55	-69.82	6.06	0.73	-64.491	-30	-34.491
1033.63	44.504	360	150	H	1033.63	-70.38	6.06	0.73	-65.053	-30	-35.053
1010.91	45.117	360	150	V	1010.91	-69.48	6.06	0.73	-64.151	-30	-34.151
High Channel 607.950 MHz Power Setting: 250 mW											
54.86	53.94	360	150	H	54.86	-60.46	0.8	0.3	-59.968	-54	-5.968
55.97	54.323	360	150	V	55.97	-67.90	1.2	0.3	-67.007	-54	-13.007
1215.9	45.197	360	150	H	1215.9	-67.89	6.06	0.73	-62.562	-30	-32.562
1215.9	44.839	360	150	V	1215.9	-68.20	6.06	0.73	-62.873	-30	-32.873
1050.15	43.951	360	150	H	1050.15	-70.93	6.06	0.73	-65.606	-30	-35.606
1016.92	45.291	360	150	V	1016.92	-69.30	6.06	0.73	-63.977	-30	-33.977

Antenna B

Freq. (MHz)	S.A. Amp. (dBµV)	Table Azimuth (Degrees)	Test Antenna		Substitution				Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (cm)	Polar (H/V)	Freq. (MHz)	S.G. Level (dBm)	Antenna Gain (dBi/dBd)	Cable Loss (dB)			
Low Channel 537.6 MHz Power Setting: 250 mW											
54.5	53.615	360	150	H	54.5	-60.79	0.8	0.3	-60.293	-54	-6.293
55.03	54.385	360	150	V	55.03	-67.84	1.2	0.3	-66.945	-54	-12.945
1075.2	44.241	360	150	H	1075.2	-70.64	6.06	0.73	-65.316	-30	-35.316
1075.2	44.126	360	150	V	1075.2	-70.47	6.06	0.73	-65.142	-30	-35.142
1023.52	44.098	360	150	H	1023.52	-70.78	6.06	0.73	-65.459	-30	-35.459
1016.52	44.922	360	150	V	1016.52	-69.67	6.06	0.73	-64.346	-30	-34.346
Middle Channel 572.775 MHz Power Setting: 250 mW											
55.184	54.026	360	150	H	55.184	-60.38	0.8	0.3	-59.882	-54	-5.882
56.16	54.05	360	150	V	56.16	-68.18	1.2	0.3	-67.28	-54	-13.28
1145.55	44.158	360	150	H	1145.55	-68.93	7.1	0.8	-62.631	-30	-32.631
1145.55	43.563	360	150	V	1145.55	-69.47	7.1	0.8	-63.179	-30	-33.179
1033.63	44.557	360	150	H	1033.63	-70.33	6.06	0.73	-65	-30	-35
1010.91	45.361	360	150	V	1010.91	-69.23	6.06	0.73	-63.907	-30	-33.907
High Channel 607.950 MHz Power Setting: 250 mW											
54.86	54.839	360	150	H	54.86	-59.56	0.8	0.3	-59.069	-54	-5.069
55.97	54.595	360	150	V	55.97	-67.63	1.2	0.3	-66.735	-54	-12.735
1215.9	45.083	360	150	H	1215.9	-68.00	7.1	0.8	-61.706	-30	-31.706
1215.9	44.299	360	150	V	1215.9	-68.74	7.1	0.8	-62.443	-30	-32.443
1050.15	43.87	360	150	H	1050.15	-71.01	6.06	0.73	-65.687	-30	-35.687
1016.92	44.924	360	150	V	1016.92	-69.67	6.06	0.73	-64.344	-30	-34.344

9 FCC §2.1055, §74.861 (e)(4) - Frequency Stability

9.1 Applicable Standards

According to FCC §2.1055, and §74.861 (e)(4), the frequency tolerance of the transmitter shall be 0.005 percent.

9.2 Test Procedure

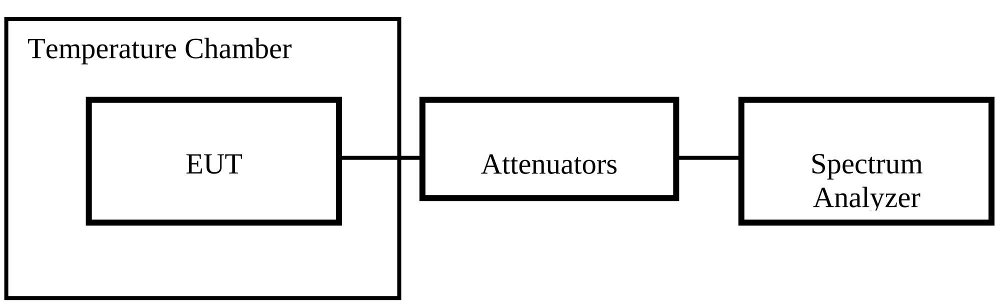
According to FCC 2.1055, (a) the frequency stability shall be measured with variation of ambient temperature as follows:
(1) From −30° to + 50° centigrade for all equipment except that specified in paragraphs (a) (2) and (3) of this section.
(2) From −20° to + 50° centigrade for equipment to be licensed for use in the Maritime Services under part 80 of this chapter, except for Class A, B, and S Emergency Position Indicating Radio beacons (EPIRBS), and equipment to be licensed for use above 952 MHz at operational fixed stations in all services, stations in the Local Television Transmission Service and Point-to-Point Microwave Radio Service under part 21 of this chapter, equipment licensed for use aboard aircraft in the Aviation Services under part 87 of this chapter, and equipment authorized for use in the Family Radio Service under part 95 of this chapter.
(3) From 0° to + 50° centigrade for equipment to be licensed for use in the Radio Broadcast Services under part 73 of this chapter.

(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. The short term transient effects on the frequency of the transmitter due to keying (except for broadcast transmitters) and any heating element cycling normally occurring at each ambient temperature level also shall be shown. Only the portion or portions of the transmitter containing the frequency determining and stabilizing circuitry need be subjected to the temperature variation test.

(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.
(3) The supply voltage shall be measured at the input to the cable normally provided with the equipment, or at the power supply terminals if cables are not normally provided. Effects on frequency of transmitter keying (except for broadcast transmitters) and any heating element cycling at the nominal supply voltage and at each extreme also shall be shown.

If an unmodulated carrier is not available, the measurement method shall be described in the test report.

9.3 Test Setup Block Diagram



9.4 Test Equipment List and Details

BACL No.	Manufacturer	Description	Model No.	Serial No.	Calibration Date	Calibration Interval
912	Rhode & Schwarz	Signal Analyzer	FSV40	1321.3008K39-101203-UW	2025-08-04	1 year
1540	-	20dB attenuator	MCL BW-S20W5	-	2025-12-18	1 year
1603	-	10dB attenuator	MCL BW-S10W5+	-	2025-12-18	1 year
1486	RF Cable	SMA 1.5m RF cable	SMA-J/SWA-500/SMA-J/1.5m	BACL01486A	2026-02-13	6 months
1240	Volteq	Power Supply	HY5003D	180100281	NA	NA
1060	BACL	Temperature Chamber	BTH-150-40	30078	2025-11-20	1 year

Statement of Traceability: BACL Corp. *attests that all of the calibrations on the equipment items listed above were traceable to NIST or to another internationally recognized National Metrology Institute (NMI), and were compliant with the latest version of A2LA policy P102 "A2LA Policy on Metrological Traceability".*

9.5 Test Environmental Conditions

Temperature:	22 ºC
Relative Humidity:	45 %
ATM Pressure:	101.2 kPa

The testing was performed by Libass Thiaw on 2026-04-14 at RF site.

9.6 Test Results

Antenna A

Varying temperature:

Temperature (℃)	Channel Frequency (MHz)	Left Frequency (MHz)	Right Frequency (MHz)	Center Frequency (MHz)	Frequency Tolerance (ppm)	Frequency Tolerance (%)	Limits
-30	572.775	572.766	572.781	572.774	-2.126	-0.00021	<0.005%
-20	572.775	572.767	572.781	572.774	-1.847	-0.00018	<0.005%
-10	572.775	572.767	572.782	572.775	-0.504	-0.0005	<0.005%
0	572.775	572.767	572.782	572.775	-0.448	-0.00045	<0.005%
10	572.775	572.767	572.781	572.774	-1.287	-0.00013	<0.005%
20	572.775	572.767	572.782	572.775	-0.336	-0.00034	<0.005%
30	572.775	572.767	572.782	572.775	-0.560	-0.00056	<0.005%
40	572.775	572.767	572.782	572.775	-0.783	-0.00078	<0.005%
50	572.775	572.767	572.782	572.774	-0.951	-0.00095	<0.005%

Varying supply voltage:

Voltage (V)	Channel Frequency (MHz)	Left Frequency (MHz)	Right Frequency (MHz)	Center Frequency (MHz)	Frequency Tolerance (ppm)	Frequency Tolerance (%)	Limits
low volt	572.775	572.7673718	572.7822436	572.7748077	-0.336	-0.00034	<0.005%
high volt	572.775	572.7673718	572.7821795	572.7747756	-0.392	-0.00039	<0.005%

Antenna B

Varying temperature:

Temperature (℃)	Channel Frequency (MHz)	Left Frequency (MHz)	Right Frequency (MHz)	Center Frequency (MHz)	Frequency Tolerance (ppm)	Frequency Tolerance (%)	Limits
-30	572.775	572.7665385	572.7814744	572.7740064	-1.735	-0.00017	<0.005%
-20	572.775	572.7665385	572.7814103	572.7739744	-1.791	-0.00018	<0.005%
-10	572.775	572.7673077	572.7820513	572.7746795	-0.560	-0.00056	<0.005%
0	572.775	572.7673718	572.7821154	572.7747436	-0.448	-0.00045	<0.005%
10	572.775	572.7674359	572.7822436	572.7748397	-0.280	-0.00028	<0.005%
20	572.775	572.7673718	572.7821785	572.7747751	-0.393	-0.00039	<0.005%
30	572.775	572.7673077	572.7821154	572.7747115	-0.504	-0.0005	<0.005%
40	572.775	572.7671795	572.7819231	572.7745513	-0.783	-0.00078	<0.005%
50	572.775	572.7669872	572.7816026	572.7742949	-1.231	-0.00012	<0.005%

Varying supply voltage:

Voltage (V)	Channel Frequency (MHz)	Left Frequency (MHz)	Right Frequency (MHz)	Center Frequency (MHz)	Frequency Tolerance (ppm)	Frequency Tolerance (%)	Limits
low volt	572.775	572.7674359	572.7821795	572.7748077	-0.336	-0.00034	<0.005%
high volt	572.775	572.7673718	572.7821154	572.7747436	-0.448	-0.00045	<0.005%

Note: Center Frequency (MHz) = [Left Frequency (MHz) + Right Frequency (MHz)] ÷ 2

Note: Frequency Tolerance (ppm) = [[Center Frequency (MHz) - Channel Frequency (MHz)] ÷ Channel Frequency (MHz)] X 1000000

Note: Frequency Tolerance (%) = [[Center Frequency (MHz) - Channel Frequency (MHz)] ÷ Channel Frequency (MHz)] X 100

10 FCC §74.861(e)(3)– Modulation Characteristic

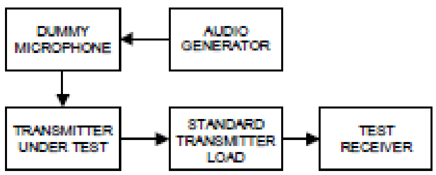
10.1 Applicable Standards

According to FCC

Any form of modulation may be used. A maximum deviation of ±75 kHz is permitted when frequency modulation is employed.

10.2 Test Procedure

Modulation Characteristic:



a) Connect the equipment as illustrated.

b) Adjust the transmitter per the manufacturer's procedure for full rated system deviation.

c) Set the test receiver to measure peak positive deviation. Set the audio bandwidth for ≤0.25 Hz to ≥15,000 Hz. Turn the de-emphasis function off.

d) Apply a 1000 Hz modulating signal to the transmitter from the audio frequency generator, and adjust the level to obtain 60% of full rated system deviation.

e) Increase the level from the audio frequency generator by 20 dB in one step (rise time between the 10% and 90% points shall be 0.1 second maximum).

f) Measure both the instantaneous and steady-state deviation at and after the time of increasing the audio input level.

g) With the level from the audio frequency generator held constant at the level obtained in step e), slowly vary the audio frequency from 300 Hz to 3000 Hz and observe the steady-state deviation. Record the maximum deviation.

h) Set the test receiver to measure peak negative deviation and repeat steps d) through g).

i) The values recorded in steps g) and h) are the modulation limiting.

Audio Frequency Response

a) Connect the equipment as illustrated.

b) Set the test receiver to measure peak positive deviation. Set the audio bandwidth for ≤50 Hz to ≥15,000Hz. Turn the de-emphasis function off.

c) Adjust the transmitter per the manufacturer's procedure for full rated system deviation.

d) Apply a 1000 Hz tone and adjust the audio frequency generator to produce 20% of the rated system deviation.

e) Set the test receiver to measure rms deviation and record the deviation reading as DEV_{FREQ}

f) Set the audio frequency generator to the desired test frequency between 300 Hz and 3000 Hz.

g) Record the test receiver deviation reading as DEV_{FREQ}.

h) h) Calculate the audio frequency response at the present frequency as:

$$\text{audio frequency response} = 20 \log_{10}\left(\frac{DEV_{FREQ}}{DEV_{REF}}\right)$$

i) Repeat steps f) through h) for all the desired test frequencies.

10.3 Test Equipment List and Details

BACL No.	Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Interval
100	HP	RF Communications Test Set	8920A	3438A05338	2025-10-30	2 years
119	HP	Modulation Analyzer	8901A	2026A00847	2025-04-14	2 years
1486	RF Cable	SMA 1.5m RF cable	SMA-J/SWA-500/SMA-J/1.5m	BACL01486A	2026-02-13	6 months

Statement of Traceability: BACL Corp. *attests that all of the calibrations on the equipment items listed above were traceable to NIST or to another internationally recognized National Metrology Institute (NMI), and were compliant with the latest version of A2LA policy P102 "A2LA Policy on Metrological Traceability".*

10.4 Test Environmental Conditions

Temperature:	23 ºC
Relative Humidity:	36 %
ATM Pressure:	101.4 kPa

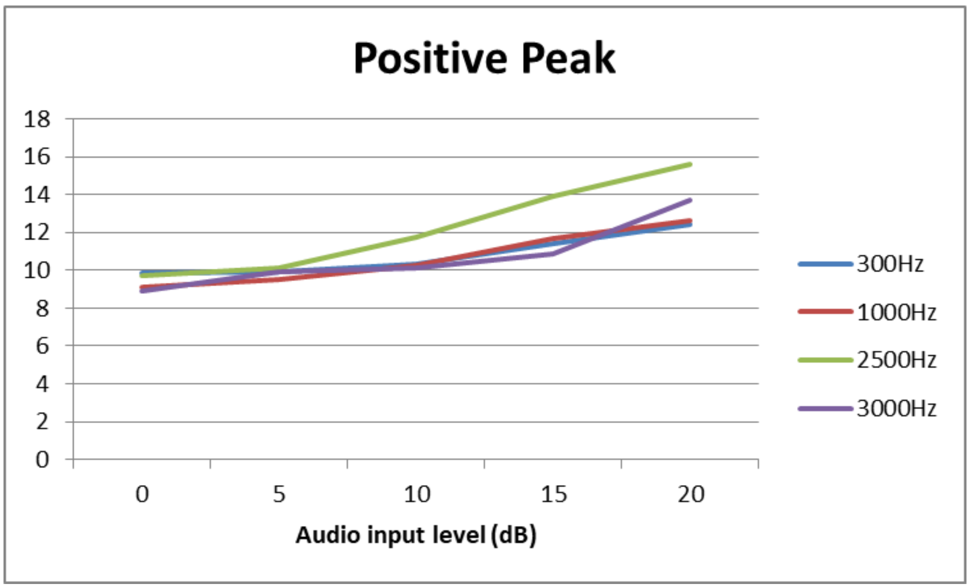
The testing was performed by Libass Thiaw on 2026-04-14 at RF site.

10.5 Test Results

MODULATION LIMITING

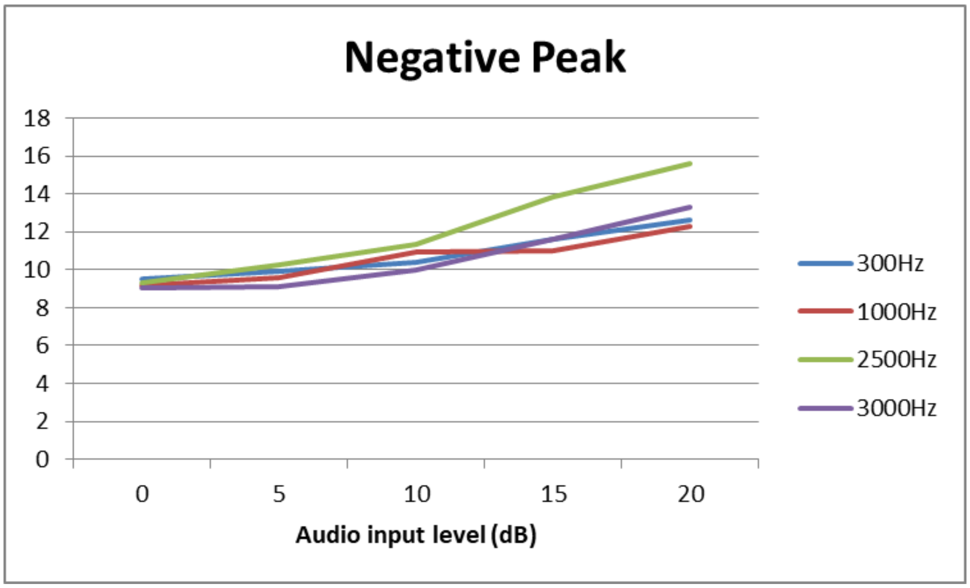
Carrier Frequency: Middle channel, Peak Positive

AF Level (dB)	AF Frequency (Hz)/Peak Deviation (kHz)				Limit (kHz)
	300 Hz	1000 Hz	2500 Hz	3000 Hz	
0	9.88	9.11	9.73	8.89	±75
5	9.91	9.55	10.11	9.94	±75
10	10.35	10.28	11.78	10.11	±75
15	11.38	11.68	13.92	10.88	±75
20	12.44	12.66	15.64	13.68	±75



Carrier Frequency: Middle channel, Peak Negative

AF Level (dB)	AF Frequency (Hz)/Peak Deviation (kHz)				Limit (kHz)
	300 Hz	1000 Hz	2500 Hz	3000 Hz	
0	9.55	9.17	9.33	9.02	±75
5	9.94	9.61	10.25	9.14	±75
10	10.38	10.93	11.34	9.99	±75
15	11.64	11	13.82	11.61	±75
20	12.64	12.28	15.64	13.28	±75



Audio Frequency Response, Middle Channel

AF Frequency (Hz)	**Frequency Deviation (kHz)**	**AF Response (dB)**
300	3.88	-0.29
400	3.88	-0.29
500	3.89	-0.26
600	3.9	-0.24
700	3.91	-0.22
800	3.91	-0.22
900	4	-0.02
1000	4.01	0.00
1200	4.02	0.02
1400	4.02	0.02
1600	4.06	0.11
1800	4.08	0.15
2000	4.08	0.15
2200	4.1	0.19
2400	4.11	0.21
2600	4.12	0.24
2800	4.31	0.63
3000	4.31	0.63

Note: AF Response = 20*log (Frequency Deviation/Frequency Deviation of 1 kHz)

11 Annex A - EUT Test Setup Photographs

Please refer to the attachment

12 Annex B - EUT External Photographs

Please refer to the attachment.

13 Annex C - EUT Internal Photographs

Please refer to the attachment.

14 Annex D (Normative) - A2LA Electrical Testing Certificate

Accredited Laboratory

A2LA has accredited

BAY AREA COMPLIANCE LABORATORIES CORP.

Sunnyvale, CA

for technical competence in the field of

Electrical Testing

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories*. This laboratory also meets A2LA R222 - Specific Requirements EPA ENERGY STAR Accreditation Program. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (*refer to joint ISO-ILAC-IAF Communiqué dated April 2017*).

Presented this 13th day of September 2024.

Mr. Trace McInturff, Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 3297.02
Valid to September 30, 2026

For the tests to which this accreditation applies, please refer to the laboratory's Electrical Scope of Accreditation.

Please follow the web link below for a full ISO 17025 scope

https://www.a2la.org/scopepdf/3297-02.pdf

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