

Test Report

Prepared for: Etherstack, Inc

Model: XBR5110D5VI

Description: XBR Base Station Transceiver

FCC ID: 2ADAKXBR5110D5VI

Serial Number: 240400054

Project No: p2540016.3

Test Results: Pass

To

FCC Part 1.1310

Date of Issue: Aug 29, 2025

On the behalf of the applicant:

Etherstack Inc
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Attention of:

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ANAB Cert#: AT-2901
FCC Site Reg. 750616
ISED Site Reg. #2044A-2

Reviewed / Authorized By:



Greg Corbin,
Project Test Engineer

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Test Report Revision History

Revision	Date	Revised By	Reason for Revision
1.0	8/29/2025	Madhava Gooduru	Original Document
2.0	9/15/2025	Madhava Gooduru	Changed power output and calculated with Rated power (ie 100W)

ANAB

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The tests results contained within this test report all fall within our scope of accreditation, unless noted below.

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FCC Site Reg. #750616

IC Site Reg. #2044A-2

Non-accredited tests contained in this report:

N/A

EUT Description

Model:	XBR5110D5VI
Serial:	240400054
Firmware:	0.2.05_0
Software:	N/A
Description:	XBR Base Station Transceiver
Additional Information:	The EUT is a 100-watt base station transceiver with an external reference, using FM and C4FM modulation, operating in the VHF band
Power	13.8 vdc
Receipt of Sample(s):	8/19/2025
EUT Condition:	Visual Damage No State of Development Production/Production Equivalent

MPE Evaluation

The EUT is a mobile device used in an Uncontrolled Exposure environment.

Limits Uncontrolled Exposure 47 CFR 1.1310 Table 1, (ii)

0.3-1.34 MHz:	Limit [mW/cm ²] = 100
1.34-30 MHz:	Limit [mW/cm ²] = (180/f ²)
30-300 MHz:	Limit [mW/cm ²] = 0.2
300-1500 MHz:	Limit [mW/cm ²] = f/1500
1500-100,000 MHz	Limit [mW/cm ²] = 1.0

Test Data

Worst case RF exposure calculations were calculated using the highest gain antenna and the higher of the measured output power or the rated output power.

In this case, the measured output power was used for the MPE and Minimum Safe Distance calculation.

The limit for this frequency range is fixed and not dependent on the test frequency. The test frequency entered in the table corresponds to the frequency with the highest output power.

MPE calculation

Test Frequency, MHz	150.8
Power,EIRP mW (P)	100000*
Antenna Gain Isotropic	3.16 dBi
Antenna Gain Numeric (G)	2.07
Antenna Type	dipole
Distance (R)	20 cm

*Rated Output Power

$S = \frac{P * G}{4\pi r^2}$
Power Density (S) mW/cm ²

Power Density (S) = 41.183 mW/cm ²
Limit = (from above table) = 0.200 mW/cm ²

The EUT Power Density of 41.183 mW/cm² is over the limit of 0.200 mW/cm² with a 3.16 dBi gain antenna at 20 cm distance.

The Minimum Safe Distance was calculated on the next page.

Minimum Safe Distance Evaluation

This is a mobile device used in **Uncontrolled** Exposure environment.

Limits Uncontrolled Exposure 47 CFR 1.1310 Table 1, (B)

0.3-1.34 MHz:	Limit [mW/cm ²] = 100
1.34-30 MHz:	Limit [mW/cm ²] = (180/f ²)
30-300 MHz:	Limit [mW/cm ²] = 0.2
300-1500 MHz:	Limit [mW/cm ²] = f/1500
1500-100,000 MHz	Limit [mW/cm ²] = 1.0

Test Data

Test Frequency, MHz	150.8
Power, Conducted, mW (P)	100000*
Antenna Gain Isotropic	3.16 dBi
Antenna Gain Numeric (G)	2.07
Antenna Type	dipole
Limit (L)	0.200 mW/cm ²

$R = \sqrt{(PG/4\pi L)}$			
Distance (R) cm	Power mW (P)	Numeric Gain (G)	Limit (L)
287.06 cm	100000*	2.07	0.200

*Rated Output Power

The minimum safe distance is 287.06 cm for a 3.16 dBi gain antenna.

END OF TEST REPORT