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Test Report

Prepared for: Wilson Electronics, LLC

Model: Pro 140i

Description: Band 14 Industrial Signal Booster

Serial Number: 03

FCC ID: 8000385 T

To

FCC Part 1.1310

Date of Issue: 5/5/2023

On the behalf of the applicant:

Wilson Electronics, LLC
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Attention of:

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Greg Corbin
Project Test Engineer

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Test Report Revision History

Revision	Date	Revised By	Reason for Revision
1.0	5/5/2023	Greg Corbin	Original Document
2.0	6/6/2023	Greg Corbin	Revised calculations on page 5 to include antenna cable loss and maximum output power per the tune-up procedure

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. #349717

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Non-accredited tests contained in this report:

N/A

EUT Description

Model: Pro 140i

Description: Band 14 Industrial Signal Booster

Software: 4.8.1.12

Serial Number: 8000385 T

Additional Information:

The EUT is a single-band bi-directional amplifier for enhancing the range of cell phones and data communication devices (computers, PDAs, etc.) in in-building applications. The amplifier is connected to an external antenna mounted outside the building. An inside antenna is positioned within the building and connected to the amplifier. The inside antenna enables a wireless connection to host devices located inside the building.

The frequency band, modulation, emission designator and antenna gain is listed in the following table.

Per the user manual both the indoor and outdoor antenna have a 75 ft. LMR 400 Cable to be used for installation. The cable loss has been included in the antenna gain used for RF exposure calculations.

LMR 400 cable loss = 3.5 dB / 100 ft.

	Frequency (MHz)	Modulation	Emission Designators	Antenna Gain (dB)	75' Cable Loss (dB)	Net antenna gain (dB)
Downlink	788 - 798	LTE (FirstNet)	G7D	7.0	2.6	4.4
Uplink	758 - 768	LTE (FirstNet)	G7D	6.3	2.6	3.7

The maximum conducted power of 27.5 dBm (562.3 mw) as listed in the tune-up exhibit and the net antenna gain listed above was used for RF exposure calculations.

MPE Evaluation

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

Limits Controlled Exposure 47 CFR 1.1310 Table 1, (A)

0.3-3.0 MHz:	Limit [mW/cm ²] = 100
3.0-30 MHz:	Limit [mW/cm ²] = (900/f ²)
30-300 MHz:	Limit [mW/cm ²] = 1.0
300-1500 MHz:	Limit [mW/cm ²] = f/300
1500-100,000 MHz	Limit [mW/cm ²] = 5

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

0.3-1.234 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

The lowest frequency and highest output power was used for the worse case calculations for each band.

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

Band of operation: 758 – 768 MHz

Test Frequency, MHz	758
Power, Conducted, mW (P)	562.3
Antenna Gain Isotropic	3.7 dBi
Antenna Gain Numeric (G)	2.34
Antenna Type	panel
Distance (R)	20 cm

Power Density (S) =0.262 mw/cm ²
Limit = (from above table) = 0.505 mw/cm ²

Band of operation: 788 – 798 MHz

Test Frequency, MHz	788
Power, Conducted, mW (P)	562.3
Antenna Gain Isotropic	4.4 dBi
Antenna Gain Numeric (G)	2.75
Antenna Type	panel
Distance (R)	20 cm

Power Density (S) =0.308 mw/cm ²
Limit = (from above table) = 0.505 mw/cm ²

The EUT complies with the MPE limit at 20 cm.

END OF TEST REPORT