



MPE/RF EXPOSURE REPORT

FCC CFR 47 Part 1.1310

REPORT No.: ALNT93-U2_MPE Rev A

Company: Alien Technology, LLC.

Test of: Nexus Multiplexer System

MPE/RF EXPOSURE REPORT

FROM



Assessment of: Alien Technology, LLC. Nexus Multiplexer System

To: FCC CFR 47 Part 1.1310

Report Serial No.: ALNT93-U2_MPE Rev A

This report supersedes: NONE

Applicant: Alien Technology, LLC.
845 Embedded Way
San Jose, California 95138
USA

Product Function: Nexus 8 Port Multiplexer with
the ALR-F800 RFID Reader

Issue Date: 12th November 2019

This Test Report is Issued Under the Authority of:

MiCOM Labs, Inc.
575 Boulder Court
Pleasanton California 94566
USA
Phone: +1 (925) 462-0304
Fax: +1 (925) 462-0306
www.micomlabs.com



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1. MAXIMUM PERMISSIBLE EXPOSURE

Calculations for Maximum Permissible Exposure Levels

$$\text{Power Density} = P_d \text{ (mW/cm}^2\text{)} = \text{EIRP}/(4*\pi*d^2)$$

$$\text{EIRP} = P * G$$

P = Peak output power (mW)

G = Antenna numeric gain (numeric)

d = Separation distance (cm)

$$\text{Numeric Gain} = 10 \wedge (\text{G (dBi)}/10)$$

The calculations in the table below use the highest conducted power values together with the lowest and highest antenna gain (< 6 dBi per FCC 15.247 standard) specified for the EUT. At Antenna gains higher than 6 dBi the output power must be reduced by the amount in dB the antenna gain exceeds 6 dBi. These calculations represent worst case in terms of the exposure levels.

Freq. Band (MHz)	Ant Gain (dBi)	Numeric Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Calculated Power Density (mW/cm ²) @ 20cm	Power Density Limit (mW/cm ²)	Min Calculated safe distance for Limit (cm)	Calculated Power Density (mW/cm ²) @ Safe Distance
900-928	3.0	2.00	29.94	986.28	0.391	0.6	16.155	0.391
900-928	8.5	7.08	27.50	562.34	0.792	0.6	23.98	1.0

From above calculations the minimum safe distance = 24 cm.

Specification - Maximum Permissible Exposure Limits

The Limit is defined in Table 1 of FCC §1.1310.



575 Boulder Court
Pleasanton, California 94566, USA
Tel: +1 (925) 462 0304
Fax: +1 (925) 462 0306
www.micomlabs.com