

RF Exposure Evaluation Report

Client: Aerostar International

Address: 3901 W 59th St
Sioux Falls, SD 57108

Model: HiPointer 150

Test Report No.: RFE240129-01-M1A

Approved By:


Fox Lane,
EMC Test Engineer

Date: August 14, 2024

Total Pages: 7

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Revision Page

Rev. No.	Date	Description
Original	28 June 2024	Issued by FLane Prepared by FLane
A	14 August 2024	Updated Address - FL

1 Regulatory Requirements:

FCC Part 1.1310, 2.1091, 2.1093
KDB 447498 D01
RSS-102, Issue 6

Summary:

The purpose of this report is to evaluate the EUT's transmitter for exemption from routine SAR testing.

EUT:

Model:

HiPointer 150

FCC ID:

2A8AZHP150-202405

IC:

HVIN:

MPE Lab

Nebraska Center for Excellence in Electronics

MPE Labs FCC Cab Designation:

US1060

MPE Labs ISED Cab Designation:

US0177

2 FCC

FCC Limits, Part 1.1310

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposure				
0.3-3.0	614	1.63	*100	6
3.0-30	1842/f	4.89/f	*900/f ²	6
30-300	61.4	0.163	1.0	6
300-1,500			f/300	6
1,500-100,000			5	6
(B) 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
300-1,500			f/1500	30
1,500-100,000			1.0	30

Rated Peak Power = 250W / 53.98dBm
Max Duty Cycle = 5%
Antenna Gain = 24.51dBi / 282.49Numeric
Averaged power = 12.5W / 40.97dBm

Occupational/Controlled	☐
General Population/uncontrolled	☒

FCC Power Density Calculations								
Freq.	Conducted Power	Antenna Gain	Peak Power EIRP	Peak Power EIRP +10% for Tolerance	Power Density	Limit at specified distance	% of limit	Result
MHz	mW	numerical	mW	mW	mW/cm^2	mW/cm^2	%	
9410.00	12500.000	282.49	3531099.97	3884209.97	0.996	1.00	99.628	PASS
9410.00	12500.000	282.49	3531099.97	3884209.97	0.996	1.00	99.628	PASS
9460.00	12500.000	282.49	3531099.97	3884209.97	0.996	1.00	99.628	PASS
9460.00	12500.000	282.49	3531099.97	3884209.97	0.996	1.00	99.628	PASS

Distance (d)	557	cm
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$S = (P \times G) / (4 \times \pi \times d^2)$ – used to calculate exposure at "d" cm

$EIRP = P \times G$, measured as field strength

$d = \sqrt{(S / (P \times G) \times 4 \times \pi)}$ – used to calculate minimum distance to meet limits

S = power density (mW/cm^2)

P = transmitter conducted power (in mW)

G = antenna numeric gain (Numerical)

d = distance to radiation center (cm)

Results:
Complies

Note:

The user's manual will stipulate that a 557cm distance from the user is to be maintained uncontrolled exposure.

EIRP values in mW were multiplied by 1.1 to account for a 10% tolerance.

Peak Power = 250W / 53.98dBm
Max Duty Cycle = 5%
Antenna Gain = 24.51dBi / 282.49Numeric
Averaged power = 12.5W / 40.97dBm

Occupational/Controlled	☒
General Population/uncontrolled	☐

FCC Power Density Calculations								
Freq.	Conducted Power	Antenna Gain	Peak Power EIRP	Peak Power EIRP +10% for Tolerance	Power Density	Limit at specified distance	% of limit	Result
MHz	mW	numerical	mW	mW	mW/cm^2	mW/cm^2	%	
9410.00	12500.000	282.49	3531099.97	3884209.97	4.985	5.00	99.707	PASS
9410.00	12500.000	282.49	3531099.97	3884209.97	4.985	5.00	99.707	PASS
9460.00	12500.000	282.49	3531099.97	3884209.97	4.985	5.00	99.707	PASS
9460.00	12500.000	282.49	3531099.97	3884209.97	4.985	5.00	99.707	PASS

Distance (d)	249	cm
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$S = (P \times G) / (4 \times \pi \times d^2)$ – used to calculate exposure at "d" cm

$EIRP = P \times G$, measured as field strength

$d = \sqrt{(S / (P \times G) \times 4 \times \pi)}$ – used to calculate minimum distance to meet limits

S = power density (mW/cm^2)

P = transmitter conducted power (in mW)

G = antenna numeric gain (Numerical)

d = distance to radiation center (cm)

Results:
Complies

Note:

The user's manual will stipulate that a 249cm distance from the user is to be maintained controlled exposure.

EIRP values in mW were multiplied by 1.1 to account for a 10% tolerance.

REPORT END