1 Safety Human Exposure

1.1 Radio Frequency Exposure Compliance

1.1.1 Electromagnetic Fields

RESULT: **Pass**

Report No.	:	**CN24PA4S 002**
Test Specification		
Test item	:	Here4 ADSB
Identification / Type No.	:	HX4-06319
Trademark	:	Here4
FCC ID	:	2A6CG-HX406319
Test standard	:	CFR47 FCC Part 2: Section 2.1091
		CFR47 FCC Part 1: Section 1.1310
		FCC KDB Publication 447498 D01 v06
		FCC KDB Publication 865664 D02 v01r02

1.1.1.1 RF Exposure Compliance Requirement for FCC

FCC requirement: 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 limit for maximum permissible exposure. In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as a mobile device whereby a distance of 20cm normally can be maintained between the user and the device.

➢ **Radio Frequency Exposure Limit**

According to ANSI/IEEE C95.1-1992, the criteria listed in Table 1 shall be used to evaluate the environmental impact of human exposure to radio frequency (RF) radiation as specified in §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 Exposures				
0.3-3.0	614	1.63	*(100)	6
3.0-30	1842/f	4.89/f	*(900/f2)	6
30-300	61.4	0.163	1.0	6
300-1500			f/300	6
1500-100,000			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/f2)	30
30-300	27.5	0.073	0.2	30
300-1500			f/1500	30
1500-100,000			1.0	30

> **Radio Frequency Exposure Calculation Formula**

$$S = \frac{PG}{4\pi R^2}$$

where: S = power density (in appropriate units, e.g. mW/cm²)
        P = power input to the antenna (in appropriate units, e.g., mW)
        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 (appropriate units, e.g., cm)

or:

$$S = \frac{EIRP}{4\pi R^2}$$

where: EIRP = equivalent (or effective) isotropically radiated power

Table 1: Test Results of RF Exposure Calculations for FCC, stand-alone mode

Mode	*Measured RF Output Power (dBm)	EIRP (dBm)	Distance (cm)	Power Density (mW/cm²)	Limit (mW/cm²)
Bluetooth	18.70	19.70	20	0.0186	1.0

Note:
1. *Bluetooth RF Output Power Refer to Test Report CN24PA4S 001
2. Antenna gain is 1dBi.

> **Conclusion**

Therefore the maximum calculations result of above are meet the requirement of Radio Frequency Exposure (MPE) limit.

"RF Radiation Exposure Statement Caution: This Transmitter must be installed to provide a separation distance of at least 20 cm from all persons."