FCC 47 CFR MPE REPORT

Elettromedia s.p.a.

Digital Media Receiver

Model Number: CAPRI H100

Additional Model: CAPRI A100

FCC ID: 2ASUD-CAPRIH100

Applicant:	Elettromedia s.p.a.
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Report Number:	ESTE-R2312039
Date of Test:	Oct. 24~Nov. 30, 2023
Date of Report:	Dec. 05, 2023

Maximum Permissible Exposure

1. Applicable Standards

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 0.2m normally can be maintained between the user and the device.

1.1. Limits for Maximum Permissible Exposure (MPE)

(a) Limits for Occupational/Controlled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm^2)	Averaging Times $\mid E \mid^2$, $\mid H \mid^2$ or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	(900/f)*	6
30-300	61.4	0.163	1.0	6
300-1500			F/300	6
1500-10000			5	6

(b) Limits for General Population / Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm^2)	Averaging Times $\mid E \mid^2$, $\mid H \mid^2$ or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f)*	30
30-300	27.5	0.073	0.2	30
300-1500			F/1500	30
1500-10000			1.o	30

Note: f=frequency in MHz; *Plane-wave equivalent power density

1.2. MPE Calculation Method

$$E \ (V/m) = \frac{\sqrt{30 \times P \times G}}{d} \qquad \text{Power Density: } Pd \ (W/m^2) = \frac{E^2}{377}$$

E = Electric Field (V/m)

P = Peak RF output Power (W)

G = EUT Antenna numeric gain (numeric)

d = Separation distance between radiator and human body (m)

The formula can be changed to

$$Pd = \frac{30 \times P \times G}{377 \times d^2}$$

From the peak EUT RF output power, the minimum mobile separation distance, d=0.2m, as well as the gain of the used antenna, the RF power density can be obtained

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2. Conducted Power Result

Mode	Frequency (MHz)	Peak output power (dBm)	Peak output power (mW)
GFSK	2402	9.56	9.036
	2441	9.22	8.356
	2480	9.13	8.185
π/4-DQPSK	2402	11.79	15.101
	2441	11.45	13.964
	2480	11.27	13.397
8-DPSK	2402	12.35	17.179
	2441	12.1	16.218
	2480	12.13	16.331
BLE 1M	2402	1.49	1.409
	2440	1.02	1.265
	2480	0.76	1.191
BLE 2M	2402	1.66	1.466
	2440	1.18	1.312
	2480	0.82	1.208

3. Calculated Result and Limit

Mode	Peak output power (dBm)	Target power (dBm)	MAX Target power (dBm)	Antenna gain (dBi)	Antenna gain (Linear)	Power Density (S) (mW/cm^2)	Limited of Power Density (S) (mW/cm^2)	Test Result
GFSK	9.56	9 ±1	10	1.64	1.459	0.00290	1	Complies
π/4-DQPSK	11.79	11 ±1	12	1.64	1.459	0.00460	1	Complies
8-DPSK	12.35	12 ±1	13	1.64	1.459	0.00579	1	Complies
BLE 1M	1.49	1 ±1	2	0.46	1.112	0.00035	1	Complies
BLE 2M	1.66	1 ±1	2	0.46	1.112	0.00035	1	Complies

End of Test Report