

US Tech Test Report:
FCC ID:
IC:
Test Report Number:
Issue Date:
Customer:
Model:

FCC Part 90/RSS 131 Certification
2AKSM-SAFE5
22303-SAFE5
25-0005
May 20, 2025
Safe-Com Wireless
SAFE-1050

Maximum Public Exposure to RF (MPE) CFR 1.1310 (e) & RSS-102, clause 4

The maximum exposure level to the public from the EUT shall not exceed a power density, **S**, per the table below.

NOTE: The calculation performed for this EUT were performed for antenna with a maximum gain of 6 dBi, to determine the minimum distance required in order to remain compliant with the permissible exposure levels. If different antenna gain or distance is to be used, the permissible exposure levels of Table 1 below must be respected.

Table 1—Limits for Maximum Permissible Exposure (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
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

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

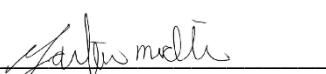
Equation for S (Power density):

$$S = P \cdot G / (4\pi R^2)$$

All calculations performed by:

Date: May 20, 2025

Test Engineer: Gabriel Medina

Signature: 

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Therefore, for:

In the band 769-775 MHz:

Peak Power (dBm)= 31.08 dBm (rated power = 37 dBm)
Peak Power (mW) = 1282 mW (rated power= 5011.9 mW)
Antenna Gain (dBi)= 6 dBi (3.98 numeric)
MPE limit (S) from Table 1 above = 0.512 mW/cm²

Minimum distance from human=

$$R = \sqrt{((PG)/(4\pi S))}, = \sqrt{(5011.9*3.98)/(4\pi*0.512)} = 55.7 \text{ cm}$$

RSS-102 (Issue 6), Clause 5.3.2, Electric field strength levels, magnetic field strength levels and power density levels (10 MHz to 300 GHz):

According to RSS-102 Issue 6, Table 7, the limit for EUT operating in this band is 2.45 W/m² @ 769 MHz. The FCC limit is much lower than this value therefore compliance with the FCC requirements for MPE at the calculated minimum distance will ensure compliance with the General Public Uncontrolled Environment of RSS-102.

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In the band of 799-816 MHz:

Peak Power (dBm)= 28.38 dBm (rated power = 37 dBm)
Peak Power (mW) = 688 mW (rated power = 5011.9 mW)
Antenna Gain (dBi)= 6 dBi (3.98 numeric)
MPE limit (S) from Table 1 above = 0.53 mW/cm²

Minimum distance from human=

$$R = \sqrt{((PG)/(4\pi S))}, = \sqrt{(5011.9*3.98)/(4\pi*0.53)} = 54.72 \text{ cm}$$

RSS-102 (Issue 6), Clause 5.3.2, Electric field strength levels, magnetic field strength levels and power density levels (10 MHz to 300 GHz):

Exposure Compliance for 799-816 MHz:

According to RSS-102 Issue 6, Table 7, the limit for EUT operating in this band is 2.52 W/m² @ 799 MHz. The FCC limit is much lower than this value therefore compliance with the FCC requirements for MPE at the calculated minimum distance will ensure compliance with the General Public Uncontrolled Environment of RSS-102.

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In the band of 851 - 861 MHz:

Peak Power (dBm)= 31.28 dBm (rated power = 37 dBm)
Peak Power (mW) = 1343 mW (rated power = 5011.9 mW)
Antenna Gain (dBi)= 6 dBi (3.98 numeric)
MPE limit (S) from Table 1 above = 0.56 mW/cm²

Minimum distance from human=

$$R = \sqrt{((PG)/(4\pi S))}, = \sqrt{(5011.9*3.98)/(4\pi*0.56)} = 53.2 \text{ cm}$$

RSS-102 (Issue 6), Clause 5.3.2, Electric field strength levels, magnetic field strength levels and power density levels (10 MHz to 300 GHz):

Exposure Compliance for 851-861 MHz:

According to RSS-102 Issue 6, Table 7, the limit for EUT operating in this band is 2.63 W/m² @ 851 MHZ. The FCC limit is much lower than this value therefore compliance with the FCC requirements for MPE at the calculated minimum distance will ensure compliance with the General Public Uncontrolled Environment of RSS-102.