




Exhibit: RF Exposure – FCC

FCC ID: 2AQSOCBRSYS6500

Report File #: 7169004663E-000

Client	Octasic Inc.	
Product	CBRSYS6500	
Standard(s)	FCC KDB 447498:2015	

RF Exposure – FCC

The EUT contains an GSM Transmitter, operating at 200 KHz bandwidth, in the following bands.

FCC Rule part	Band #	Lower (MHz)	Upper (MHz)
22	850	869	894
24	1900	1930	1990

Radiofrequency Radiation Exposure Evaluation: Mobile Devices

Mobile devices shall be evaluated for RF radiation exposure according to the provisions of FCC §2.1091 and the MPE guidelines identified in FCC §1.1310.

As per FCC §1.1310 Table 1(B), the limit for Maximum Permissible Exposure (MPE) to radiofrequency electromagnetic fields for General Population/Uncontrolled Exposure in the frequency range of 300 MHz to 1.5 GHz is $f/1500 \text{ mW/cm}^2$ and in the frequency range of 1.5GHz to 100GHz is 1.0 mW/cm^2 . Where f = frequency in MHz.

The power density formula is given by:

$$P_d = (P_{out} * G) / (4 * \pi * R^2)$$

Where,


P_d = Power density in mW/cm^2

P_{out} = Conducted output power to antenna in mW

G = Numeric Antenna Gain

π = 3.1416

R = Separation distance in cm (120cm as specified by client).

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MPE Calculation:

The GSM transmitter has a maximum conducted output power of 43 dBm or 20 W.

For a distance of 120cm, the power density is as per the below table.

FCC Rule part	Band #	Lower (MHz)	Upper (MHz)	Antenna Gain (dBi)	Power (dBm)	Calculated (mW/cm ²)	Limit (mW/cm ²)	Pass/Fail
22	850	869	894	4	43	0.277	0.579	Pass
24	1900	1930	1990	8	43	0.696	1	Pass

The device passes the requirement.