

Certification Exhibit

FCC ID: 2ASIM-GS6C1 Contains FCC IDs: XPY1CGM5NNN / Q369603N

FCC Rule Part: 47 CFR Part 2.1093

Project Number: 72146079

Manufacturer: RSAE Labs Model: GS-6C

RF Exposure

General Information:

Applicant:	RSAE Labs
Device Category:	Mobile
Environment:	General Population/Uncontrolled Exposure

Technical Information (802.15.4):

Antenna Type: Ceramic Chip Antenna Gain: 1.7dBi Maximum Transmitter Conducted Power: 5.5dBm, 3.55mW Maximum System EIRP: 7.2 dBm, 5.25 mW Exposure Conditions: Greater than 25 centimeters

Technical Information (Cellular) FCC ID: XPY1CGM5NNN:

Antenna Type: Isolated Magnetic Dipole (Ethertronics, P/N: P822601) Antenna Gain: 2.6 / 4.4dBi (GSM850 / GSM1900) Maximum Transmitter Conducted Power (Including tune-up tolerance): 33.5dBm GSM 850 (50%DC) 1119.36mW / 31.5dBm GSM1900 (50%DC), 706.27mW Maximum System EIRP: 36.1 dBm, 2037.2 mW¹ GSM850 / 35.9dBm 1945.1mW¹ GSM1900 Exposure Conditions: Greater than 25 centimeters

1) Note: 50% duty cycle applied to linear conducted power prior to adding the antenna gain

Technical Information (Iridium Satellite) FCC ID: Q369603N:

Antenna Type: Ceramic Patch Antenna Gain: 3 dBi Maximum Transmitter Conducted Power: 31.7 dBm, 1479.1 mW Maximum System EIRP: 34.7 dBm, 2951.2 mW Exposure Conditions: Greater than 25 centimeters

MPE Calculation

The Power Density (mW/cm²) is calculated as follows:

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

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)

Transmit Frequency (MHz)	Radio Power (dBm)	Power Density Limit (mW/cm ²)	Radio Power (mW)	Antenna Gain (dBi)	Antenna Gain (mW eq.)	Distance (cm)	Power Density (mW/cm²)			
824.2	33.5	0.55	1119.36	2.6	1.820	25	0.259			
1852.4	31.5	1.00	706.27	4.4	2.754	25	0.248			
1616	31.7	1.00	1479.11	3	1.995	25	0.376			
2400	5.5	1.00	3.55	1.7	1.479	25	0.001			

Table 1: MPE Calculation

Note 1: Separation distance was increased to 25cm to allow compliance with the MPE limits during simultaneous transmissions.

Note 2: WCDMA operated at a lower ERP/EIRP in the same frequency bands as GSM; therefore, this mode was not considered for these calculations.

Technology	Transmit Frequency (MHz)	Power Density Limit (W/m²)	Power Density (W/m²)	MPE Ratio to Limit (%)	Sum of MPE Ratios (%)	Limit (%)			
GSM850	30.5	0.55	0.259	47.1					
Iridium Satellite	31.7	1.00	0.376	37.6	84.8	100			
802.15.4	5.5	1.00	0.001	0.07					
GSM1900	28.5	1.00	0.248	24.8					
Iridium Satellite	31.7	1.00	0.376	37.6	62.5	100			
802.15.4	5.5	1.00	0.001	0.07					

Calculations performed using the 25cm separation distance.