



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)

Table 1: MPE Calculation

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/cm ²)
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

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.

Table 2: Simultaneous Transmissions Calculations

Technology	Transmit Frequency (MHz)	Power Density Limit (W/m ²)	Power Density (W/m ²)	MPE Ratio to Limit (%)	Sum of MPE Ratios (%)	Limit (%)
GSM850	30.5	0.55	0.259	47.1	84.8	100
Iridium Satellite	31.7	1.00	0.376	37.6		
802.15.4	5.5	1.00	0.001	0.07		
GSM1900	28.5	1.00	0.248	24.8	62.5	100
Iridium Satellite	31.7	1.00	0.376	37.6		
802.15.4	5.5	1.00	0.001	0.07		

Calculations performed using the 25cm separation distance.