

RF Exposure - Radio Collocation

Carematix is to include modules Jennic JN5148-001-M03 (FCC ID TYOJN5148M3) and Multitech MTSMC-G2 (FCC ID: AU792U09D24824) into their end product. Their device requires collocation of the wireless module antenna. (Collocation = antenna(s) for one transmitter located within 20cm of the other transmitter antennas)

Jennic JN5148-001-M03 (FCC ID TYOJN5148M3)

Output power = 3mW
Antenna Gain = 2.5dBi

Multitech MTSMC-G2 (FCC ID: AU792U09D24824)

Part 22H:Output Power GSM850 = 2 Watts
Highest measured ERP = $(1.43 - 2.14) = 0.873$ W
Antenna Gain = Unity

Part 24E:Output Power GSM1900 = 0.98 Watts
Highest measured ERP = $(1.48 - 2.14) = 0.904.2$ W
Antenna Gain = Unity

Please note: Highest measured ERP and EIRP was used for Maximum Permissible Exposure calculations.

MPE Results

MPE Limits

Below 1.5 GHz = 1.5 W ERP
Above 1.5 GHz = 3 W ERP

GSM850 - Highest calculated MPE was 58.2% of the limit
GSM1900 - Highest Calculated MPE was 30.1% of the limit
2.4GHz - Highest Calculated MPE was 0.1% of the limit

GSM850 + 2.4 GHz module total MPE = $58.2 + 0.1 = 58.3\%$ of the limit
GSM1900 + 2.4 GHz module total MPE = $30.1 + 0.1 = 30.2\%$ of the limit

As both the above are less than 100% of the limit the GSM850 and GSM1900 both comply with the regulations.