Radiated Power - EIRP / ERP

In accordance with FCC ***KDB 412172*** *D01 Determining ERP and EIRP v01* please find below our calculations for determining the ERP and EIRP for the combination of module and host device covered under the scope of this C2PC filing.

The Maximum conducted power from this C2pc filing per band are:

GSM/EDGE:

GSM850: 33.0dBm/1.996W
GSM1900: 29.9dBm/0.978W

WCDMA/HSDPA/HSUPA:

Band V (850MHz): 24.96dBm / 0.314W
Band II (1900MHz): 24.87dBm / 0.307W

LTE

Band 4: 24.81dBm / 0.303W
Band 17: 24.40dBm / 0.276W

The gain of Permanently-attached antenna and external antenna of the CF-19 host system is as follows;

Permanently-attached antenna:

GSM850/ WCDMA Band V : -1.1 dBi (-3.25dBd)
GSM1900/ WCDMA Band II : 1.75 dBi
Band 4: 1.78 dBi
Band 17: -1.94 dBi (-4.09dBd)

External antenna:

850MHz: 1.5 dBi (-0.65 dBd)
1900MHz: 2.5 dBi
Band 4: 5.5 dBi
Band 17: 3.0 dBi (0.85 dBd)

The ERP/EIRP values for the module in this host system, can be calculated using option 2.1 of the KDB referenced above:

ERP/EIRP = $P_T + G_T – L_C$ in this host are

<u>With Permanently-attached antenna:</u>

- GSM850: **ERP** = 33.0dBm – 3.25dBd = 29.75dBm (0.944W)
- GSM1900: **EIRP** = 29.9dBm + 1.75dBi = 31.65dBm (1.463W)
- WCDMA Band V (850MHz): **ERP** = 24.96dBm -3.25dBd = 21.71dBm (0.149W)
- WCDMA Band II (1900MHz): **EIRP** = 24.87dBm + 1.75dBi = 26.62dBm (0.460W)
- LTE Band 4: **EIRP** = 24.81dBm + 1.78dBi = 26.59dBm (0.456W)
- LTE Band 17: **ERP** = 24.40dBm – 4.09dBd = 20.31dBm (0.107W)

<u>With External antenna:</u>

- GSM850: **ERP** = 33.0dBm – 0.65 dBd = 32.35dBm (1.717 W)
- GSM1900: **EIRP** = 29.9dBm + 2.5 dBi = 32.4dBm (1.738 W)
- WCDMA Band V (850MHz): **ERP** = 24.96dBm -0.65dBd = 24.31dBm (0.270W)
- WCDMA Band II (1900MHz): **EIRP** = 24.87dBm + 2.5dBi = 27.37dBm (0.546W)
- LTE Band 4: **EIRP** = 24.81dBm + 5.5dBi = 30.31dBm (1.074W)
- LTE Band 17: **ERP** = 24.40dBm + 0.85 dBd = 25.25 dBm (0.335W)