FCC MPE Calculation (Portable Device)

Doc. No. 20121005RFX01

EUT Description: SPYDER BLUETOOTH
Company: WEB Biotechnology Pte. Ltd.
FCC ID: CD9SPBT20A

Frequency: 2402-2480 MHz (79 channels)
Modulation: FHSS (BRD: GFSK, EDR: π/4-DQPSK, 8-DPSK)
Mid-Channel: 2.441 GHz (channel 39)
Max Peak Power, Conducted: 1.46 dBm == 1.4 mW
Antenna Gain: G = 1.5 dBi

Calculation:

Limit = 60/2.441 = 24.58 mW

$P_{radiated,\ max} = P_{conducted,\ dBm} + G_{dBi}$ = 1.46 dBm + 1.5 dBi == 2.96 dBm = 1.98 mW

Conclusion:

The emitted power appears to be (far) below the required limit, so PASS.

Note 1: f shall be the mid-band frequency expressed in GHz; the limit calculated with this mid-band frequency applies to all channels. For PTT with body-worn or face-held modes, d is the distance from the device case to a parson's body; for modules with antennas inside laptops, d is the distance from the antenna to the person's body.

Note 2: Average Power levels are always equal or below the measured Peak Power levels, which means that calculating the EIRP using the Peak power can be considered as worst case.)