

Maximum Permissible Exposure

FCC ID: A3LWCT750M

Product Name: Wi-Fi/BT Transceiver

Model No: WCT750M

1. According to FCC CFR 47 §1.1310, the criteria listed in the following table shall be used to evaluate the environmental impact of human exposure to radio frequency (RF) radiation as specified in 1.1307(b).

Table 1 Limits for Maximum Permissible Exposure

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm ²)	Average Time (Minutes)
(A) Limits For Occupational / Control Exposures (f = frequency)				
30-300	61.4	0.163	1.0	6
300-1500	...	...	f/300	6
1500-100,000	...	...	5.0	6
(B) Limits For General Population / Uncontrolled Exposure (f = frequency)				
30-300	27.5	0.073	0.2	30
300-1500	...	...	f/1500	30
1500-100,000	...	...	1.0	30

Samsung Electronics Co Ltd declares that the product described above has been evaluated and found to comply with the RF exposure limits for humans, as specified based on ANSI/FCC recommendation.

2. MPE Calculation for Chipset MT7668AUN

2.1. BT MPE

Based on safety distance (r) **20cm**, the antenna gain (G) is **0.440 Numerical**, and the highest power output (P) is **17.140mW**, the power density (S) is **0.0015 mW/cm²**.

RF Exposure Calculations:

$$S = (P * G) / (4 * \pi * r^2) \text{ or } r = \sqrt{(P * G) / (4 * \pi * S)}$$

Where :

Based on safety distance (r)=	20 cm
Highest Power Output (P)=	12.34 dBm = 17.140 mW
Antenna Gain (G)=	-3.57 dBi = 0.440 Numerical
MPE (S) = (P*G) / (4*π*r ²) =	= (17.140*0.440)/(4*π*20²)= 0.0015 mW/cm²

2.2. WIFI 2.4G MPE

Based on safety distance (r) **20cm**, the antenna gain (G) is **0.529 Numerical**, and the highest power output (P) is **633.870mW**, the power density (S) is **0.0667 mW/cm²**.

RF Exposure Calculations:

$$S = (P * G) / (4 * \pi * r^2) \text{ or } r = \sqrt{(P * G) / (4 * \pi * S)}$$

Where :

Based on safety distance (r)=	20 cm
Highest Power Output (P)=	28.02 dBm = 633.870 mW
Antenna Gain (G)=	-2.76 dBi = 0.529 Numerical
MPE (S) = (P*G) / (4* π *r ²) =	= (633.870*0.494)/(4*π*20²)= 0.0667 mW/cm²

2.3. WIFI 5G MPE

Based on safety distance (r) **20cm**, the antenna gain (G) is **1.883 Numerical**, and the highest power output (P) is **190.108mW**, the power density (S) is **0.0712 mW/cm²**.

RF Exposure Calculations:

$$S = (P * G) / (4 * \pi * r^2) \text{ or } r = \sqrt{(P * G) / (4 * \pi * S)}$$

Where :

Based on safety distance (r)=	20 cm
Highest Power Output (P)=	22.79 dBm = 190.108 mW
Antenna Gain (G)=	2.75 dBi = 1.883 Numerical
MPE (S) = (P*G) / (4* π *r ²) =	= (190.108*1.199)/(4*π*20²)= 0.0712 mW/cm²

3. MPE Calculation for Chipset MT7915DUN

3.1. WIFI 2.4G MPE

Based on safety distance (r) **20cm**, the antenna gain (G) is **0.653 Numerical**, and the highest power output (P) is **851.138mW**, the power density (S) is **0.111mW/cm²**.

RF Exposure Calculations:

$$S = (P * G) / (4 * \pi * r^2) \text{ or } r = \sqrt{(P * G) / (4 * \pi * S)}$$

Where :

Based on safety distance (r)=	20 cm
Highest Power Output (P)=	29.30 dBm = 851.138 mW
Antenna Gain (G)=	-1.85 dBi = 0.653 Numerical
MPE (S) = (P*G) / (4* π *r ²) =	= (851.138*0.518)/(4*π*20²)= 0.111 mW/cm²

3.2. WIFI 5G MPE

Based on safety distance (r) **20cm**, the antenna gain (G) is **0.951Numerical**, and the highest power output (P) is **226.986mW**, the power density (S) is **0.0429mW/cm²**.

RF Exposure Calculations:

$$S = (P * G) / (4 * \pi * r^2) \text{ or } r = \sqrt{(P * G) / (4 * \pi * S)}$$

Where :

Based on safety distance (r)=	20 cm
Highest Power Output (P)=	23.56 dBm = 226.986 mW
Antenna Gain (G)=	-0.22 dBi = 0.951 Numerical
MPE (S) = (P*G) / (4* π *r ²) =	= (226.986*0.757)/(4*π*20²)= 0.0429 mW/cm²

4. MPE Calculation for Simultaneous

MPE				
WiFi 5		WiFi 6	Total (mW/cm ²)	Limit (mW/cm ²)
WIFI 2.4G (mW/cm ²)	BT (mW/cm ²)	WIFI 5G (mW/cm ²)		
0.0667	0.0015	0.0429	0.1111	≤ 1

MPE				
WiFi 5		WiFi 6	Total (mW/cm ²)	Limit (mW/cm ²)
BT (mW/cm ²)	WIFI 5G (mW/cm ²)	WIFI 2.4G (mW/cm ²)		
0.0015	0.0712	0.111	0.1837	≤ 1

Sincerely Yours,



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