FCC ID:	**2AEJD-103678-DT60M**
CERTIFCATION NUMBER:	**9301A-103678DT60M**
PMN: (Product Marketing Name)	**DT60M**
HMN: (Host Marketing Name)	**-/-**
HVIN: (Hardware Version Identification Number)	**DT60M**
FVIN: (Firmware Version Identification Number)	**6.4.4 RC1**

Prediction of MPE limit at given distance

Equation from page 18 of OET Bulletin 65, Edition 97-01

$S = PG / 4\pi R^2$

where: S = Power density
P = Power input to the antenna
G = Antenna gain
R = Distance to the center of radiation of the antenna

Techologies:

Technologies:	Max. Power: (AVG)	Max. Gain:
WLAN 2G4	17.7 dBm	4.2 dBi
WLAN 5G2	13.2 dBm	3.0 dBi
WLAN 5G3	14.6 dBm	3.0 dBi
WLAN 5G6	21.5 dBm	3.0 dBi
WLAN 5G8	17.9 dBm	3.0 dBi

MPE results for FCC:

The table below is excerpted from Table 1B of 47 CFR 1.1310 titled “Limits for Maximum Permissible Exposure (MPE), Limits for General Population/Uncontrolled Exposure”

Frequency Range (MHz)	**Power Density (mW/cm^2)**	**Averaging Time (minutes)**
300 -1500	f/1500	30
1500 - 100000	1.0	30

where f = Frequency (MHz)

Prediction: worst case

		2G4	5G6
		WLAN	WLAN
P	Max power input to the antenna	17.7 dBm	21.5 dBm
R	Distance	20 cm	20 cm
G	Antenna gain	4.2 dBi	3 dBi
S	MPE limit for uncontrolled exposure	1 mW/cm^2	1 mW/cm^2
	Calculated Power density:	**0.03 mW/cm^2**	**0.06 mW/cm^2**

This prediction demonstrates the following:

The power density levels for FCC at a distance of 20 cm are below the maximum levels allowed by regulations.

MPE results for IC according RSS-102 Issue 5

RF exposure evaluation is required if the separation distance between the user and/or bystander and the device's radiating element is greater than 20 cm, except when the device operates as follows:

- below 20 MHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than 1 W (adjusted for tune-up tolerance);
- at or above 20 MHz and below 48 MHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than 4.49/f0.5W (adjusted for tune-up tolerance), where f is in MHz;
- at or above 48 MHz and below 300 MHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than 0.6 W (adjusted for tune-up tolerance);
- **at or above 300 MHz and below 6 GHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than 1.31 x 10^{-2} $f^{0.6834}$ W (adjusted for tune-up tolerance), where f is in MHz;**
- at or above 6 GHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than 5 W (adjusted for tune-up tolerance).

In these cases, the information contained in the RF exposure technical brief may be limited to information that demonstrates how the e.i.r.p. was derived.

Prediction: worst case

		2G4	5G6
		WLAN	WLAN
P	Max power input to the antenna	17.7 dBm	21.5 dBm
G	Antenna gain	4.2 dBi	3 dBi
S	MPE limit for uncontrolled exposure	2684 mW	4714 mW
	Calculated output power:	**155 mW**	**282 mW**

Conclusion: for applications where minimum distance to radiating element is 20cm Annex C of RSS-102 should be filled out.

Andreas Luckenbill
Cetecom ICT Services GmbH