



RF Exposure evaluation for mobile devices

Model: MAYA W166-00B-00, MAYA W166-01B-00

FCC ID: **XPY MAYAW166**

IC: **8595A- MAYAW166**

Standards
OET Bulletin 65 Edition 97-01 August 1997
FCC 47 CFR §1.1307
FCC 47 CFR §1.1310
RSS-102 Issue 5 – March 2015

Test limits

As specified in Table 1B of 47 CFR 1.1310 – Limits for Maximum Permissible Exposure (MPE), Limits for General Population/Uncontrolled Exposure.

Frequency range (MHz)	Power density (mW/cm ²)
300 – 1,500	f/1500
1,500 – 100,000	1.0

Limits specified per RSS-102, Issue 5.

Frequency range (MHz)	Power density (W/m ²)	Power density (mW/cm ²)
300 – 6000	$0.02619 f^{0.6834}$	$\text{mW/cm}^2 = \text{W/m}^2 * 0.1$

Equation OET bulletin 65, page 18, edition 97-01: $S = \frac{PG}{4\pi R^2} = \frac{EIRP}{4\pi R^2}$

Where:

S = power density

P = power input to the antenna

G = power gain of the antenna in the direction of interest relative to an isotropic radiator

R = distance to the center of radiation of the antenna = 20cm

Co-Location Considerations

The calculation below is used to consider situations in which simultaneous exposure to fields of different frequencies occur. The calculation is performed by the sum of each relative exposure for each equipment according to the following criteria.

$$\sum_{1}^N \frac{S_{eqn}}{S_{Limn}} = \frac{S_{eq1}}{S_{Lim1}} + \frac{S_{eq2}}{S_{Lim2}} + \dots + \frac{S_{eqN}}{S_{LimN}} \leq 1$$

Where:

S_{eq} is the power density of the electromagnetic field at a given distance by a specific transmitter and a defined frequency.

S_{lim} is the MPE limit for the frequency being evaluated.



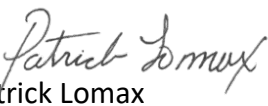
					P						
Operational Bands	Ant	Frequency (MHz)	Antenna Gain (dBi)	Output Power - conducted- (dBm)	Output Power - conducted- (mW)	IC Limit (mW/cm ²)	FCC Limit (mW/cm ²)	Power Density value (mW/cm ²)	Verdict	FCC (Seq / SLim)	ISED (Seq / SLim)
BLE	1	2402	2.5	9.00	7.94	0.5351	1.00	0.0021	Pass	0.0028	0.0053
BLE	2	2402	2.2	9.00	7.94	0.5351	1.00	0.0020	Pass	0.0026	0.0049
BLE	3	2402	-3.42	9.00	7.94	0.5351	1.00	0.0005	Pass	0.0007	0.0013
Classic BT	1	2402	2.5	11.00	12.59	0.5351	1.00	0.0022	Pass	0.0045	0.0083
Classic BT	2	2402	2.2	11.00	12.59	0.5351	1.00	0.0020	Pass	0.0042	0.0078
Classic BT	3	2402	-3.42	11.00	12.59	0.5351	1.00	0.0006	Pass	0.0011	0.0021
WLAN 2.4 GHz	1	2412	2.5	19.00	79.43	0.5366	1.00	0.0199	Pass	0.0281	0.0524
WLAN 2.4 GHz	2	2412	2.2	19.00	79.43	0.5366	1.00	0.0186	Pass	0.0262	0.0489
WLAN 2.4 GHz	3	2412	-3.42	19.00	79.43	0.5366	1.00	0.0051	Pass	0.0072	0.0134
WLAN 5 GHz UNII 1	1	5240	4.6	17.00	50.12	0.9119	1.00	0.0301	Pass	0.0288	0.0315
WLAN 5 GHz UNII 1	3	5240	-1.51	17.00	50.12	0.9119	1.00	0.0074	Pass	0.0070	0.0077
WLAN 5 GHz UNII 2A	1	5300	4.6	17.00	50.12	0.9190	1.00	0.0301	Pass	0.0288	0.0313
WLAN 5 GHz UNII 2A	3	5300	-1.51	17.00	50.12	0.9190	1.00	0.0074	Pass	0.0070	0.0077
WLAN 5 GHz UNII 2C	1	5580	4.6	17.00	50.12	0.9519	1.00	0.0354	Pass	0.0288	0.0302
WLAN 5 GHz UNII 2C	3	5580	-1.51	17.00	50.12	0.9519	1.00	0.0087	Pass	0.0070	0.0074
WLAN 5 GHz UNII 3	1	5825	4.6	17.00	50.12	0.9803	1.00	0.0346	Pass	0.0288	0.0293
WLAN 5 GHz UNII 3	3	5825	-2.08	17.00	50.12	0.9803	1.00	0.0085	Pass	0.0062	0.0063
								Sum of (Seqn / SLimn) Max BT + Max 2.4 WLAN		0.0326	0.0607
									Passed		
								Sum of (Seqn / SLimn) Max BT + Max 5 GHz WLAN		0.0332	0.0399
									Passed		

Distance to Antenna (R) in cm:

20

Antennas considered
ant 1 ANT-DB1-RAF-xxx
ant 2 ANT-2.4-CW-RCT-xx
ant 3 MAYA-W1 PCB Trace Antenna

Yours sincerely,


Patrick Lomax