



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	$0.02619 f^{0.6834}$	$mW/cm^2 = W/m^2 * 0.1$

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.



Operational Bands	Ant	Frequency (MHz)	Antenna Gain (dBi)	Output Power - conducted- (dBm)	P	S	Power Density value (mW/cm ²)	Verdict	FCC (Seq / SLim)	ISED (Seq / SLim)	
					Output Power - conducted- (mW)	IC Limit (mW/cm ²)					FCC Limit (mW/cm ²)
BLE	1	2402	2.5	9.00	7.94	0.5351	1.00	0.0028	Pass	0.0028	0.0053
BLE	2	2402	2.2	9.00	7.94	0.5351	1.00	0.0026	Pass	0.0026	0.0049
BLE	3	2402	-3.42	9.00	7.94	0.5351	1.00	0.0007	Pass	0.0007	0.0013
Classic BT	1	2402	2.5	11.00	12.59	0.5351	1.00	0.0045	Pass	0.0045	0.0083
Classic BT	2	2402	2.2	11.00	12.59	0.5351	1.00	0.0042	Pass	0.0042	0.0078
Classic BT	3	2402	-3.42	11.00	12.59	0.5351	1.00	0.0011	Pass	0.0011	0.0021
WLAN 2.4 GHz	1	2412	2.5	19.00	79.43	0.5366	1.00	0.0281	Pass	0.0281	0.0524
WLAN 2.4 GHz	2	2412	2.2	19.00	79.43	0.5366	1.00	0.0262	Pass	0.0262	0.0489
WLAN 2.4 GHz	3	2412	-3.42	19.00	79.43	0.5366	1.00	0.0072	Pass	0.0072	0.0134
WLAN 5 GHz UNII 1	1	5240	4.6	18.00	63.10	0.9119	1.00	0.0362	Pass	0.0362	0.0397
WLAN 5 GHz UNII 1	3	5240	-1.51	18.00	63.10	0.9119	1.00	0.0089	Pass	0.0089	0.0097
WLAN 5 GHz UNII 2A	1	5300	4.6	18.00	63.10	0.9190	1.00	0.0362	Pass	0.0362	0.0394
WLAN 5 GHz UNII 2A	3	5300	-1.51	18.00	63.10	0.9190	1.00	0.0089	Pass	0.0089	0.0096
WLAN 5 GHz UNII 2C	1	5580	4.6	18.00	63.10	0.9519	1.00	0.0362	Pass	0.0362	0.0380
WLAN 5 GHz UNII 2C	3	5580	-1.51	18.00	63.10	0.9519	1.00	0.0089	Pass	0.0089	0.0093
WLAN 5 GHz UNII 3	1	5825	4.6	18.00	63.10	0.9803	1.00	0.0362	Pass	0.0362	0.0369
WLAN 5 GHz UNII 3	3	5825	-2.08	18.00	63.10	0.9803	1.00	0.0078	Pass	0.0078	0.0079
									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	0.0407	0.0480
									Passed		

Distance to Antenna (R) in cm:	20
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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,

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