Model: HG8245, FCC ID: QISHG8245

RF Exposures Evaluation for single antenna transmissions

For Maximum Permissible Exposure (MPE) evaluation of the product, the maximum power density at 20 cm from this transmitter shall be less than the General Population / Uncontrolled MPE limit in OET Bulletin 65.

For the product of tested model of HG8245, the measured maximum conducted output power is 18.1dBm.

From these data, the exposed power density at a distance (R) of 20cm from the center of radiation of the antenna can be calculated according to OET Bulletin 65 as follow:

Antenna Gain max = 2dBi
The EIRP(max) = P*G = 20.1dBm = 102.3mW

The power density at 20 cm from the antenna
= EIRP / 4πR^2
< 0.0204 mW/cm^2

where: S = power density (in appropriate units, e.g. mW/cm^2)
P = power input to the antenna (in appropriate units, e.g., mW)
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 (appropriate units, e.g., cm)

In the frequency range of 1,500 - 100,000MHz, the MPE limit is 1.0 mWcm-2 for general population and uncontrolled exposure. As the measured power density at 20cm from the transmitter is lower than the MPE limit, the compliance to the MPE limit can be ensured by indicating the minimum 20cm separation between the transmitter's radiating structures and body of the user or nearby persons.

The following RF exposure statement is proposed to be included in the user manual:

“FCC RF Radiation Exposure Statement Caution: To maintain compliance with the FCC’s RF exposure guidelines, place the product at least 20cm from nearby persons.”

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RF Exposures Evaluation for both antenna transmissions

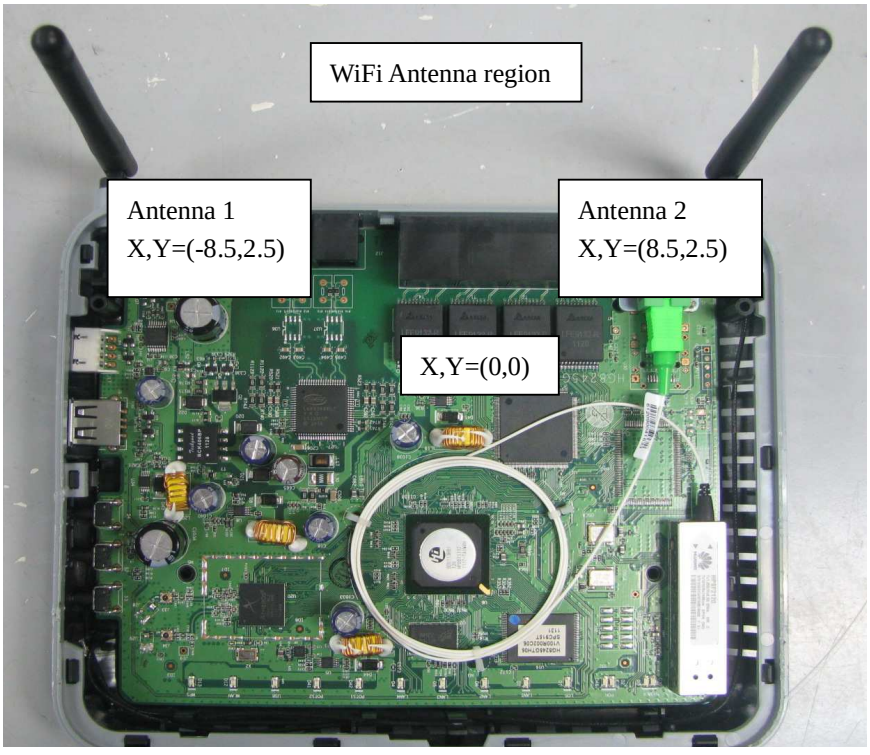
The HG8245 base unit has totally 2 antennas.

The KDB 447498: A Mobile Multi-transmitter MPE Estimation MPE spreadsheet is used for estimating MPE limits for these 2 antennas' simultaneous transmission.

The information of operating frequency (MHz), power (W), antenna gain (dBi), location (X and Y coordinates showed on page 2) for each antenna are entered in the MPE spreadsheet.

The power densities of up to 2 antennas located within a 90 cm² region at 1cm intervals are estimated first. Then the power densities computed for each antenna are summed.

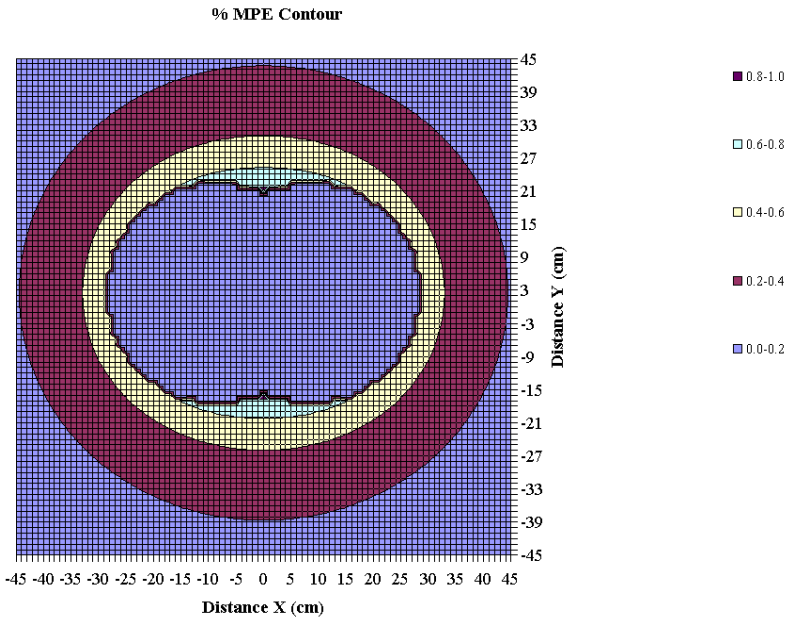
The plot "% MPE Contour" displays the result in percentages of the frequency-dependent power density limits. As the measured power density at 20cm from the transmitter is lower than the MPE limit (the compliance boundary for simultaneous transmission), the compliance to the MPE limit can be ensured by indicating the minimum 20cm separation between the transmitter's radiating structures and body of the user or nearby persons.



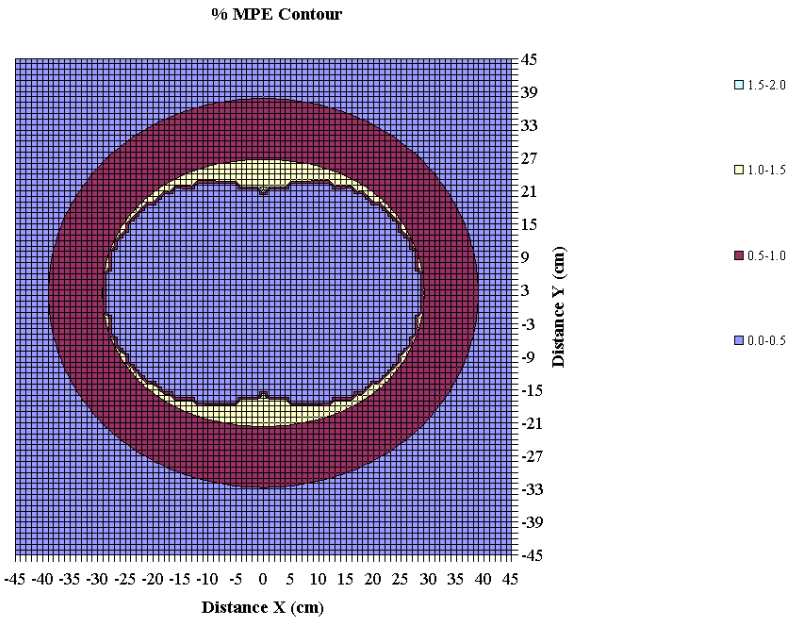
802.11n (20M)

Antenna No.		Total	1	2	3	4	5	6
Tx Status			On	On	Off	Off	Off	Off
Frequency	MHz		2450	2450	0	0	0	0
MPE Limit	mW/cm^2		1.00	1.00	0.00	0.00	0.00	0.00
Max % MPE	%	0.9	0.4	0.4	0.0	0.0	0.0	0.0
Power	(W)	0.028	0.014	0.014	0.000	0.000	0.000	0.000
Antenna Gain	dBi		2.00	2.00	0.00	0.00	0.00	0.00
EIRP	(W)	0.04	0.022	0.022	0.000	0.000	0.000	0.000
X	(cm)		-8.5	8.5	0.0	0.0	0.0	0.0
Y	(cm)		2.5	2.5	0.0	0.0	0.0	0.0
Sector			FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
Arc			FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
θ_1	degs	input	0	0	0	0	0	0
θ_2			0	0	0	0	0	0
θ_1		actual	0	0	0	0	0	0
θ_2			0	0	0	0	0	0

Note: The 0% contour surrounding the antennas identifies a 20 cm perimeter surrounding all active antennas



802.11n (40M)

Antenna No.		Total	1	2	3	4	5	6
Tx Status			On	On	Off	Off	Off	Off
Frequency	MHz		2450	2450	0	0	0	0
MPE Limit	mW/cm^2		1.00	1.00	0.00	0.00	0.00	0.00
Max % MPE	%	1.6	0.8	0.8	0.0	0.0	0.0	0.0
Power	(W)	0.052	0.026	0.026	0.000	0.000	0.000	0.000
Antenna Gain	dBi		2.00	2.00	0.00	0.00	0.00	0.00
EIRP	(W)	0.08	0.041	0.041	0.000	0.000	0.000	0.000
X	(cm)		-8.5	8.5	0.0	0.0	0.0	0.0
Y	(cm)		2.5	2.5	0.0	0.0	0.0	0.0
Sector			FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
Arc			FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
θ_1	degs	input	0	0	0	0	0	0
θ_2			0	0	0	0	0	0
θ_1		actual	0	0	0	0	0	0
θ_2			0	0	0	0	0	0

Note: The 0% contour surrounding the antennas identifies a 20 cm perimeter surrounding all active antennas