

## RF EXPOSURE EVALUATION

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency(RF) Radiation as specified in §1.1307(b)

FCC ID: 2AWT7-RBX-S40

### EUT Specification

<b>EUT</b>	Solar 4G camera
<b>Frequency band (Operating)</b>	<input type="checkbox"/> WLAN: 2.412GHz ~ 2.462GHz <input type="checkbox"/> WLAN: 5.18GHz ~ 5.24GHz <input type="checkbox"/> WLAN: 5.745GHz ~ 5.825GHz <input checked="" type="checkbox"/> Others: FDD Band 2: 1850.7 MHz – 1909.3 MHz FDD Band 4: 1710.7 MHz – 1754.3 MHz FDD Band 5: 824.7 MHz – 848.3 MHz FDD Band 12: 699.7 MHz – 715.3 MHz FDD Band 13: 779.5 MHz – 784.5 MHz FDD Band 25: 1850.7 MHz – 1914.3 MHz FDD Band 26: 814.7 MHz – 848.3 MHz
<b>Device category</b>	<input type="checkbox"/> Portable (<20cm separation) <input checked="" type="checkbox"/> Mobile (>20cm separation) <input type="checkbox"/> Others _____
<b>Exposure classification</b>	<input type="checkbox"/> Occupational/Controlled exposure (S = 5mW/cm <sup>2</sup> ) <input checked="" type="checkbox"/> General Population/Uncontrolled exposure (S=1mW/cm <sup>2</sup> )
<b>Antenna diversity</b>	<input type="checkbox"/> Single antenna <input checked="" type="checkbox"/> Multiple antennas <input type="checkbox"/> Tx diversity <input type="checkbox"/> Rx diversity <input type="checkbox"/> Tx/Rx diversity
<b>Antenna gain (Max)</b>	FDD Band 2: 3 dBi (Provided by customer) FDD Band 4: 3 dBi (Provided by customer) FDD Band 5: 3 dBi (Provided by customer) FDD Band 12: 3 dBi (Provided by customer) FDD Band 13: 3 dBi (Provided by customer) FDD Band 25: 3 dBi (Provided by customer) FDD Band 26: 3 dBi (Provided by customer)
<b>Evaluation applied</b>	<input checked="" type="checkbox"/> MPE Evaluation <input type="checkbox"/> SAR Evaluation

### Limits for Maximum Permissible Exposure(MPE)

Frequency Range(MHz)	Electric Field Strength(V/m)	Magnetic Field Strength(A/m)	Power Density(mW/cm <sup>2</sup> )	Average Time
<b>(A) Limits for Occupational/Control Exposures</b>				
<b>300-1500</b>	--	--	<b>F/300</b>	<b>6</b>
<b>1500-100000</b>	--	--	<b>5</b>	<b>6</b>
<b>(B) Limits for General Population/Uncontrol Exposures</b>				
<b>300-1500</b>	--	--	<b>F/1500</b>	<b>6</b>
<b>1500-100000</b>	--	--	<b>1</b>	<b>30</b>

**Friis transmission formula:  $P_d = (P_{out} * G) / (4 * \pi * R^2)$**

Where

$P_d$ = Power density in mW/cm<sup>2</sup>

$P_{out}$ =output power to antenna in Mw

$G$ = gain of antenna in linear scale

$\pi=3.1416$

$R$ = distance between observation point and center of the radiator in cm

$P_d$  the limit of MPE, 1mW/cm<sup>2</sup>. If we know the maximum gain of the antenna and total power input to the antenna, through the calculation, we will know the distance where the MPE limit is reached.

### Max Measurement Result

Operating Mode	Measured Power	Tune up tolerance	Max. Tune up Power	Antenna Gain	Power density at 20cm	Power density Limits (mW/cm <sup>2</sup> )
	(dBm)	(dBm)	(dBm)	(dBi)	(mW/ cm <sup>2</sup> )	
LTE BAND 2	23.52	23.52 ±1	24.52	3	0.1124	1
LTE BAND 4	23.46	23.46 ±1	24.46	3	0.1108	1
LTE BAND 5	23.54	23.54 ±1	24.54	3	0.1129	0.5498
LTE BAND 12	24.42	24.42 ±1	25.42	3	0.1383	0.4664
LTE BAND 13	23.71	23.71 ±1	24.71	3	0.1174	0.533
LTE BAND 25	23.01	23.01 ±1	24.01	3	0.0999	1
LTE BAND 26	23.2	23.2 ±1	24.2	3	0.1044	0.5431

**Result:** No Standalone SAR test is required.