

## 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: 2ALU5G402RX

### EUT Specification

EUT	4K HDMI Extender Wireless Receiver
<b>Frequency band (Operating)</b>	<input type="checkbox"/> WLAN: 2.412GHz ~ 2.462GHz <input checked="" type="checkbox"/> WLAN: 5.18GHz ~ 5.24GHz <input checked="" type="checkbox"/> WLAN: 5.745GHz ~ 5.825GHz <input type="checkbox"/> Others:
<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 <input checked="" type="checkbox"/> General Population/Uncontrolled exposure
<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>	WiFi 5.2G ANT1: 2.91dBi WiFi 5.2G ANT2: 2.5dBi WiFi 5.8G ANT1: 2.87dBi WiFi 5.8G ANT2: 2.6dBi
<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>				
300-1500	--	--	F/300	6
1500-100000	--	--	5	6
<b>(B) Limits for General Population/Uncontrol Exposures</b>				
300-1500	--	--	F/1500	30
1500-100000	--	--	1	30

### 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. 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
	(dBm)	(dBm)	(dBm)	(dBi)	(mW/ cm <sup>2</sup> )	(mW/cm <sup>2</sup> )
WiFi 5.2G ANT1	14.62	14.62 ±1	15.62	2.91	0.0142	1
WiFi 5.2G ANT2	13.81	13.81 ±1	14.81	2.5	0.0107	1
WiFi 5.8G ANT1	10.29	10.29 ±1	11.29	2.87	0.0052	1
WiFi 5.8G ANT2	9.29	9.29 ±1	10.29	2.6	0.0039	1
WiFi 5.2G MIMO	16.62	16.62 ±1	17.62	5.72	0.0429	1
WiFi 5.8G MIMO	12.45	12.45 ±1	13.45	5.75	0.0166	1

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

