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Maximum Permissible Exposure Evaluation

FCC ID: WNA-HP46E-R

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)

EUT Specification

Product Name:	4K UHD Streaming TV Box
Trade Mark:	STRONG, SKYWORTH, MECOOL, THOMSON
Model/Type reference:	Leap-S3
Listed Model(s):	LEAP-S3, HP46E, HP4618, KM7 PLUS, THA 200, THA200
Frequency band (Operating)	BT: 2402MHz ~ 2480MHz BLE: 2402MHz ~ 2480MHz WLAN: 2412MHz ~ 2462MHz RLAN: 5150MHz ~ 5350MHz RLAN: 5470MHz ~ 5725MHz RLAN: 5725MHz ~ 5850MHz
Device category	<input type="checkbox"/> Portable (<5mm separation) <input checked="" type="checkbox"/> Mobile (>20cm separation) <input type="checkbox"/> Fixed (>20cm separation) <input type="checkbox"/> Others _____
Exposure classification	<input type="checkbox"/> Occupational/Controlled exposure (S=5mW/cm2) <input checked="" type="checkbox"/> General Population/Uncontrolled exposure (S=1mW/cm2)
Antenna diversity	<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
Antenna gain (Max)	BT: 1.2dBi WLAN: 1dBi RLAN: 2.2dBi
Evaluation applied	<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 ²)	Average Time
(A) Limits for Occupational/Control Exposures				
300-1500	--	--	F/300	6
1500-100000	--	--	5	6
(B) Limits for General Population/Uncontrol Exposures				
300-1500	--	--	F/1500	6
1500-100000	--	--	1	30

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



Where

Pd= Power density in mW/cm²

Pout= 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

Pd the limit of MPE 1mW/cm². 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.

Measurement Result

Band	Frequency (MHz)	Antenna Gain (dBi)	Maximum Power (dBm)	Average Power (dBm)	Tune up tolerance (dBm)	Max. Tune up Power (dBm)	Power Density at 20cm (mW/cm ²)	Limit (mW/cm ²)
BT/ EDR	2441	1.2	9.18	/	9±1	10	0.00262	1.000
BLE	2440	1.2	6.65	/	6±1	7	0.00131	1.000
WLAN 802.11n(HT20)	2462	1	/	20.1	20±1	21	0.03153	1.000
RLAN U-NII-1 802.11ac(VHT20)	5240	2.2	/	21.6	21±1	22	0.05233	1.000
RLAN U-NII-2A 802.11ac(VHT20)	5280	2.2	/	21.6	21±1	22	0.05233	1.000
RLAN U-NII-2C 802.11ac(VHT80)	5610	2.2	/	20.0	20±1	21	0.04157	1.000
RLAN U-NII-3 802.11ac(VHT40)	5795	2.2	/	20.0	20±1	21	0.04157	1.000

The WLAN and BT can transmit simultaneously

WLAN Power density at 20cm (mW/cm ²)	BT Power density at 20cm (mW/cm ²)	Total Power density at 20cm	Power density Limits
0.05233	0.00262	0.05495	1

Note:

For a more detailed features description, Please refer to the RF Test Report.

*****THE END*****