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Maximum Permissible Exposure Evaluation

FCC ID: 2AXWR-LT-ZENTRON

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:	LT-Zentron
Trade Mark:	Lamasa
Model/Type reference:	LT-Zentron8
Listed Model(s):	LD-AITemp-RTWALL, LD-AITemp-WallDevice, LD-AITemp-Device, LD-AITemp-DMKiosk, LD-AITemp-FMKiosk, LT-Zentron8-T-RTWALL, LT-Zentron8-T, LT-Zentron8-T-DESK, LT-Zentron8-T-FLOOR, LT-Zentron8-RTWALL, LT-Zentron8-DESK, LT-Zentron8-FLOOR, LT-Zentron15-RTWALL, LT-Zentron15, LT-Zentron15-DESK, LT-Zentron15-FLOOR, LT-Zentron15-T-RTWALL, LT-Zentron15-T, LT-Zentron15-T-DESK, LT-Zentron15-T-FLOOR
Model Difference:	Only the naming method differs between models.(LD-AITemp-RTWALL, LD-AITemp-WallDevice, LD-AITemp-Device, LD-AITemp-DMKiosk, LD-AITemp-FMKiosk. The above five models have no QR code scanning function)
Frequency band (Operating)	☐ BT: 2.402GHz ~ 2.480GHz ☐ BLE: 2.402GHz ~ 2.480GHz ☒ WLAN: 2.412GHz ~ 2.462GHz ☒ RLAN: 5.180GHz ~ 5.250GHz ☒ RLAN: 5.250GHz ~ 5.350GHz ☒ RLAN: 5.470GHz ~ 5.725GHz ☒ RLAN: 5.745GHz ~ 5.825GHz ☐ Others
Device category	☐ Portable (<5mm separation) ☐ Mobile (>20cm separation) ☒ fixed (>20cm separation) ☐ Others
Exposure classification	☐ Occupational/Controlled exposure (S=5mW/cm2) ☒ General Population/Uncontrolled exposure (S=1mW/cm2)
Antenna diversity	☒ Single antenna ☐ Multiple antennas ☐ Tx diversity ☐ Rx diversity ☐ Tx/Rx diversity
Antenna gain (Max)	2dBi
Evaluation applied	☒ MPE Evaluation ☐ SAR Evaluation

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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

P_d = Power density in mW/cm²

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

π = 3.1416

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

P_d 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

2.4G WIFI							
Type	Channel frequency (MHz)	Max. Measured Power (dBm)	Tune up tolerance (dBm)	Max. Tune up Power (dBm)	Antenna Gain (dBi)	Power density at 20cm (mW/cm ²)	Power density Limits (mW/cm ²)
802.11 g	2412	19.40	19±1	20	2	0.03153	1
802.11 g	2437	19.69	19±1	20	2	0.03153	1
802.11 g	2462	20.24	20±1	21	2	0.03970	1

5G WIFI U-NII-1							
Type	Channel frequency (MHz)	Max. Measured Power (dBm)	Tune up tolerance (dBm)	Max. Tune up Power (dBm)	Antenna Gain (dBi)	Power density at 20cm (mW/cm ²)	Power density Limits (mW/cm ²)
802.11a	5180	11.79	11±1	12	2	0.00500	1
802.11a	5200	11.43	11±1	12	2	0.00500	1
802.11a	5240	12.18	12±1	13	2	0.00629	1
802.11 ac40	5190	11.41	11±1	12	2	0.00500	1
802.11 n40	5230	10.17	10±1	11	2	0.00397	1
802.11 ac80	5210	8.43	8±1	9	2	0.00250	1

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5G WIFI U-NII-2A							
Type	Channel frequency (MHz)	Max. Measured Power (dBm)	Tune up tolerance (dBm)	Max. Tune up Power (dBm)	Antenna Gain (dBi)	Power density at 20cm (mW/cm ²)	Power density Limits (mW/cm ²)
802.11 ac20	5260	11.44	11±1	12	2	0.00500	1
802.11a	5280	10.60	10±1	11	2	0.00397	1
802.11 ac20	5320	10.43	10±1	11	2	0.00397	1
802.11 n40	5230	10.17	10±1	11	2	0.00397	1
802.11 ac40	5270	10.34	10±1	11	2	0.00397	1
802.11 ac40	5310	9.33	9±1	10	2	0.00315	1
802.11 ac80	5290	5.74	5±1	6	2	0.00126	1

5G WIFI U-NII-2C							
Type	Channel frequency (MHz)	Max. Measured Power (dBm)	Tune up tolerance (dBm)	Max. Tune up Power (dBm)	Antenna Gain (dBi)	Power density at 20cm (mW/cm ²)	Power density Limits (mW/cm ²)
802.11 ac20	5500	10.21	10±1	11	2	0.00397	1
802.11 ac20	5580	9.92	9±1	10	2	0.00315	1
802.11 ac20	5700	9.77	9±1	10	2	0.00315	1
802.11 ac40	5510	9.05	9±1	10	2	0.00315	1
802.11 ac40	5550	9.16	9±1	10	2	0.00315	1
802.11 n40	5670	8.23	8±1	9	2	0.00250	1
802.11 ac80	5530	7.06	7±1	8	2	0.00199	1
802.11 ac80	5610	7.15	7±1	8	2	0.00199	1



5G WIFI U-NII-3							
Type	Channel frequency (MHz)	Max. Measured Power (dBm)	Tune up tolerance (dBm)	Max. Tune up Power (dBm)	Antenna Gain (dBi)	Power density at 20cm (mW/cm ²)	Power density Limits (mW/cm ²)
802.11 ac	5745	10.44	10±1	11	2	0.00397	1
802.11 ac20	5785	10.33	10±1	11	2	0.00397	1
802.11 ac20	5825	10.60	10±1	11	2	0.00397	1
802.11 ac40	5755	9.42	9±1	10	2	0.00315	1
802.11 ac40	5795	8.32	8±1	9	2	0.00250	1
802.11 ac80	5775	6.17	6±1	7	2	0.00158	1

Note

1. For a more detailed features description, please refer to the RF Test Report.
2. The device can not transmit simultaneously, so MPE is not evaluated in this configuration.

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