RF EXPOSURE EVALUATION

Systems operating under the provisions of FCC 47 CFR section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as mobile device whereby a distance of 0.2m normally can be maintained between the user and the device, and below RF Permissible Exposure limit shall comply with.

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

FCC ID	2ATFT-J7PRO
EUT	Video projector
Frequency band (Operating)	☒ BT: 2.402GHz ~ 2.480GHz ☒ WLAN: 2.412GHz ~ 2.462GHz ☒ RLAN: 5.180GHz ~ 5.240GHz ☐ RLAN: 5.260GHz ~ 5.320GHz ☐ RLAN: 5.500GHz ~ 5.700GHz ☒ RLAN: 5.745GHz ~ 5.825GHz
Device category	☐ Portable (<20cm separation) ☒ Mobile (>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)	BT: 2.93 dBi WiFi 2.4G ANT1: 2.24dBi WiFi 2.4G ANT2: 1.84dBi WiFi 5.2G ANT1: 2.26dBi WiFi 5.2G ANT2: 2.07dBi WiFi 5.8G ANT1: 2.72dBi WiFi 5.8G ANT2: 2.52dBi
Evaluation applied	☒ MPE Evaluation ☐ 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: Pd=(Pout*G)\(4*pi*R2)

Where
Pd= Power density in mW/cm^2
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, $1mW/cm^2$. 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	Max. Tune up Power	Antenna Gain	Antenna Gain in linear	Power density at 20cm	Power density Limits
	(dBm)	(dBm)	(dBm)	(mW)	(dBi)	(Numerical value)	(mW/ cm2)	(mW/cm^2)
BDR+EDR	0.69	0.69 ±1	1.69	1.4757	2.93	1.9634	0.0006	1
BLE	1.88	1.88 ±1	2.88	1.9409	2.93	1.9634	0.0008	1
WiFi 2.4G MIMO	17.80	17.80 ±1	16.28	75.8578	5.05	3.1989	0.0483	1
WiFi 5.2G MIMO	17.14	17.14 ±1	15.15	65.1628	5.18	3.2961	0.0428	1
WiFi 5.8G MIMO	17.30	17.30 ±1	14.98	67.6083	5.63	3.6559	0.0492	1

The Maximum simultaneous transmission for BLE+WiFi 5.8G MIMO:

$$\sum_i \frac{S_i}{S_{Limit,i}}$$

$=S_{BLE}/S_{limit-2.4}+S_{WiFi\ 5.8G\ MIMO}/S_{limit-5.8}$

=0.0008/1+0.0492/1

=0.05

< 1.0

Result: No Standalone SAR test is required.