1. MAXIMUM PERMISSIBLE EXPOSURE (MPE)

1.1 General Information

Client Information

Applicant:	FLARM Technology AG
Address of applicant:	Industriestrasse 49, 6300 Zug, Zug, Switzerland
Manufacturer:	FLARM Technology AG
Address of manufacturer:	Industriestrasse 49, 6300 Zug, Zug, Switzerland

General Description of EUT:

Product Name:	Atom UAV MMCX
Trade Name:	/
Model No.:	FLATMUACW
Adding Model(s):	/
Rated Voltage:	Type-C Port:DC5V
FCC ID:	2AXJM-FLATMUACW
Equipment Type:	Fixed device

Technical Characteristics of EUT:	
Frequency Range:	902.6-927.4MHz
RF Output Power:	7.28dBm (Conducted)
Modulation:	GFSK
Quantity of Channels:	63
Channel Separation:	400kHz
Type of Antenna:	External Antenna
Antenna Gain:	1.54dBi

1.2 Standard Applicable

According to §1.1307(b)(1) and KDB 447498 D01 General RF Exposure Guidance v06, system operating under the provisions of this section shall be operating in a manner that the public is not exposed to radio frequency energy level in excess limit for maximum permissible exposure.

(a) Limits for Occupational / Controlled Exposure

Frequency range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm^2)	Averaging Times $\|E\|^2$, $\|H\|^2$ or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	(900/f)*	6
30-300	61.4	0.163	1.0	6
300-1500	/	/	F/300	6
1500-100000	/	/	5	6

(b) Limits for General Population / Uncontrolled Exposure

Frequency range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm^2)	Averaging Times $\|E\|^2$, $\|H\|^2$ or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f)*	30
30-300	27.5	0.073	0.2	30
300-1500	/	/	F/1500	30
1500-100000	/	/	1	30

Note: f = frequency in MHz: * = Plane-wave equivalents power density

1.3 MPE Calculation Method

$S = (30*P*G) / (377*R^2)$

S = power density (in appropriate units, e.g., mw/cm^2)

P = power input to the antenna (in appropriate units, e.g., mw)

G = power gain of the antenna in the direction of interest relative to an isotropic radiator, the power gain factor is normally numeric gain.

R = distance to the center of radiation of the antenna (in appropriate units, e.g., cm)

1.4 MPE Calculation Result

For SRD

Maximum Tune-Up output power: 7.50(dBm)

Maximum peak output power at antenna input terminal: 5.62(mW)

Prediction distance: >20(cm)

Prediction frequency: 902.6 (MHz)

Antenna gain: 1.54 (dBi)

Directional gain (numeric gain): 1.43

The worst case is power density at prediction frequency at 20cm: 0.0016 (mw/cm^2)

MPE limit for general population exposure at prediction frequency: 0.6017 (mw/cm^2)

For Wi-Fi & Bluetooth Internet of Things Module:
Wi-Fi:
The worst case is power density at prediction frequency at 20cm: 0.0195 (mw/cm2)

Bluetooth:
The worst case is power density at prediction frequency at 20cm: 0.0029 (mw/cm2)

Mode for Simultaneous Multi-band Transmission
The worst case is SRD+ Wi-Fi
Evaluation Result: 0.0016 /0.6017+0.0195/1=0.0222

The worst case is SRD+ Bluetooth
Evaluation Result: 0.0016 /0.6017+0.0029/1=0.0056

Limit: 1
Result: Pass