

FCC RF Exposure

Applicant: Ningbo Sharkward Electronics Co Ltd

No 88 Gongmao Road No 3 Jishigang Industrial Zone

Haishu District Ningbo, Zhejiang Sheng 315000 China

Product Name: Low Voltage Microwave Bi-level Sensor

Brand Mark : Sharkward

Model : ANT-3C

ANT-3C-B, ANT-3A, ANT-3B, ANT-3D, ANT-7, ANT-7D,

Series model : ANT-7-H, ANT-9C, ANT-9, ANT-11, ANT-8A, ANT-1M-5T,

ANT-2M-4T, ANT-21-4T

FCC ID : 2AVMOANT-2

Report Number : BLA-EMC-202505-A1002

Date of Receipt : May 07, 2025

Date of Test : May 07, 2025 to May 16, 2025

47 CFR Part 15, Part1.1307

Test Standard: 47 CFR Part 15, Part2.1093

KDB447498D04 General RF Exposure Guidance v01

Test Result : Pass

Compiled by: Mark han Review by: Lavier

Approved by:

Issued Date: I

May 16, 2025

BlueAsia of Technical Services(Shenzhen) Co.,Ltd.

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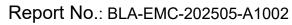
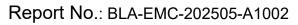






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Revise Record

Version No.	ersion No. Date Description			
01	May 16, 2025	Original		



1 General information

1.1 General information

Applicant	Ningbo Sharkward Electronics Co Ltd
Address	No 88 Gongmao Road No 3 Jishigang Industrial Zone Haishu District
	Ningbo, Zhejiang Sheng 315000 China
Manufacturer	Ningbo Sharkward Electronics Co Ltd
Address	No 88 Gongmao Road No 3 Jishigang Industrial Zone Haishu District
	Ningbo, Zhejiang Sheng 315000 China
Factory	Ningbo Sharkward Electronics Co Ltd
Address	No 88 Gongmao Road No 3 Jishigang Industrial Zone Haishu District
	Ningbo, Zhejiang Sheng 315000 China

1.2 General description of EUT

Low Voltage Microwave Bi-level Sensor
ANT-3C
ANT-3C-B, ANT-3A, ANT-3B, ANT-3D, ANT-7, ANT-7D, ANT-7-H,
ANT-9C, ANT-9, ANT-11, ANT-8A, ANT-1M-5T, ANT-2M-4T, ANT-21-4T
The above models are identical in PCB layout, internal structure and
components ,only Item number and color is different
5725MHz-5875MHz
CW
1
microstrip antenna
2.7dBi(Provided by the customer)
DC 12V
V1
V1



2 RF Exposure Compliance Requirement

2.1 Standard Requirement

According to 447498 D04 Interim General RF Exposure Guidance v01

Standalone SAR test exclusion considerations

Unless specifically required by the published RF exposure KDB procedures, standalone 1-g head or body and 10-g extremity SAR evaluation for general population exposure conditions, by measurement or numerical simulation, is not required when the corresponding SAR Exclusion Threshold condition, listed below, is satisfied.

2.2 Limits

$$P_{\text{th}} \text{ (mW)} = \begin{cases} ERP_{20 \text{ cm}} (d/20 \text{ cm})^x & d \le 20 \text{ cm} \\ ERP_{20 \text{ cm}} & 20 \text{ cm} < d \le 40 \text{ cm} \end{cases}$$
(B. 2)

where

$$x = -\log_{10}\left(\frac{60}{ERP_{20 \text{ cm}}\sqrt{f}}\right)$$

and f is in GHz, d is the separation distance (cm), and ERP_{20cm} is per Formula (B.1).

Example values shown in Table B.2 are for illustration only.

Table B.2—Example Power Thresholds (mW)

					Di	stance	(mm)				
		5	10	15	20	25	30	35	40	45	50
(Z	300	39	65	88	110	129	148	166	184	201	217
(MHz)	450	22	44	67	89	112	135	158	180	203	226
	835	9	25	44	66	90	116	145	175	207	240
Frequency	1900	3	12	26	44	66	92	122	157	195	236
nba	2450	3	10	22	38	59	83	111	143	179	219
Ē	3600	2	8	18	32	49	71	96	125	158	195
	5800	1	6	14	25	40	58	80	106	136	169

$$P_{\text{th }}(\text{mW}) = ERP_{20 \text{ cm }}(\text{mW}) = \begin{cases} 2040f & 0.3 \text{ GHz} \le f < 1.5 \text{ GHz} \\ \\ 3060 & 1.5 \text{ GHz} \le f \le 6 \text{ GHz} \end{cases}$$
(B. 1)

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2.3 Result

EIRP = pt x gt = $(E \times d)2/30$

Where:

pt = transmitter output power in watts,

gt = numeric gain of the transmitting antenna (unitless),

E = electric field strength in V/m,

d = measurement distance in meters (m)

Spot = $(EXd)2/30 \times gt$

Separation distance= 20cm

5.8GHz: Ant gain = 2.7dBi

For 5.8G:

Max. Field Strength: 82.37dBuV/m@3m

Note:

The maximum Equivalent Isotropic Radiated Power(EIRP): 82.37dBuV/m-95.2=-12.83dBm

(refer to C63.10, section 10.3.9)@5.8GHz

ERP = -12.83dBm-2.15=-14.98dBm=0.032mW< 3060 mW

it's deemed to fulfil the RF exposure requirement.

----END OF REPORT----

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