

1 Cover Page

RF Exposure Evaluation Report

Application No.: KSCR2208001551AT
FCC ID: 2AXNA-DTCSL
Applicant: AGM Global Vision LLC
Address of Applicant: 173 West Main Street, #962, Springerville, AZ 85938 USA
Manufacturer: AGM Global Vision LLC
Address of Manufacturer: 173 West Main Street, #962, Springerville, AZ 85938 USA
Equipment Under Test (EUT):
EUT Name: Digital Rifle Scope
Model No.: AGM Horus LRF DS50-2MP, AGM Horus LRF DS50-4MP, AGM Horus LRF DS50-4K, AGM Horus LRF DS50-2MP G2, AGM Horus LRF DS50-4MP G2, AGM Horus LRF DS50-4K G2
Trade Mark:



Standard(s) : FCC Rules 47 CFR §2.1093
KDB447498 D01 General RF Exposure Guidance v06
Date of Receipt: 2022-08-29
Date of Test: 2022-09-01 to 2022-09-02
Date of Issue: 2022-09-04

Test Result:	Pass*
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* In the configuration tested, the EUT complied with the standards specified above.

Eric Lin
EMC Laboratory Manager



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Revision Record				
Version	Chapter	Date	Modifier	Remark
01		2022-09-04		Original

Authorized for issue by:			
		Damon Zhou	
		<hr/> Damon_Zhou/Project Engineer	
		Eric Lin	
		<hr/> Eric Lin /Reviewer	



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3 General Information

3.1 General Description of E.U.T.

Power supply:	DC 5V, 9V, 12V by Adapter or DC 3.6V by battery
Product Type:	<input checked="" type="checkbox"/> Portable device
	<input type="checkbox"/> Mobile device
	<input type="checkbox"/> Fixed device

3.2 Details of E.U.T.

BT

Operation Frequency:	2402MHz to 2480MHz
Bluetooth Version:	V5.0 Classic
Modulation Type:	GFSK, $\pi/4$ DQPSK, 8DPSK
Number of Channels:	79
Channel Spacing:	1MHz
Spectrum Spread Technology:	Frequency Hopping Spread Spectrum(FHSS)
Antenna Type:	PCB Antenna
Antenna Gain:	-17.47dBi(Provided by the manufacturer)

2.4G WiFi

Operation Frequency:	802.11b/g/n(HT20): 2412MHz to 2462MHz;802.11n(HT40): 2422MHz to 2452MHz
Modulation Type:	802.11b: DSSS (CCK, DQPSK, DBPSK);802.11g/n: OFDM (64QAM, 16QAM, QPSK, BPSK)
Number of Channels:	802.11b/g/n(HT20):11;802.11n(HT40):7
Channel Spacing:	5MHz
Antenna Type:	PCB Antenna
Antenna Gain:	-2.16dBi(Provided by the manufacturer)



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3.3 Test Location

All tests were performed at:

Compliance Certification Services (Kunshan) Inc.

No.10 Weiye Rd, Innovation park, Eco&Tec, Development Zone, Kunshan City, Jiangsu, China.

Tel: +86 512 5735 5888 Fax: +86 512 5737 0818

No tests were sub-contracted.

Note:

- 1.SGS is not responsible for wrong test results due to incorrect information (e.g. max. clock frequency, highest internal frequency, antenna gain, cable loss, etc) is provided by the applicant. (if applicable).
- 2.SGS is not responsible for the authenticity, integrity and the validity of the conclusion based on results of the data provided by applicant. (if applicable).

3.4 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

• **CNAS (No. CNAS L4354)**

CNAS has accredited Compliance Certification Services (Kunshan) Inc. to ISO/IEC 17025:2017 General Requirements for the Competence of Testing and Calibration Laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing.

• **A2LA (Certificate No. 2541.01)**

Compliance Certification Services (Kunshan) Inc. is accredited by the American Association for Laboratory Accreditation (A2LA). Certificate No. 2541.01.

• **FCC (Designation Number: CN1172)**

Compliance Certification Services (Kunshan) Inc. has been recognized as an accredited testing laboratory.

Designation Number: CN1172.

• **ISED (CAB identifier: CN0072)**

Compliance Certification Services (Kunshan) Inc. has been recognized by Innovation, Science and Economic Development Canada (ISED) as an accredited testing laboratory.

Company Number: 2324E

• **VCCI (Member No.: 1938)**

The 3m and 10m Semi-anechoic chamber and Shielded Room of Compliance Certification Services (Kunshan) Inc. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-20134, R-11600, C-11707, T-11499, G-10216 respectively.



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4 FCC Radiofrequency radiation exposure limits

4.1 FCC Radiofrequency radiation exposure limits:

a) The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances \leq 50 mm are determined by:

$[(\text{max power of channel})/(\text{min test separation distance})] \cdot \sqrt{f(\text{GHz})} \leq 3.0$ for 1-g SAR and ≤ 7.5 for 10-g extremity SAR, where

- $f(\text{GHz})$ is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm
- The result is rounded to one decimal place for comparison
- 3.0 and 7.5 are referred to as the numeric thresholds

For 2.4G WiFi the limit is 9.56mW

$$P_{\text{max}} \leq 3 \cdot D_{\text{min}} / \sqrt{f} = 3 \cdot 5 / \sqrt{2.462} = 9.56 \text{ mW}$$

For BT the limit is

$$P_{\text{max}} \leq 3 \cdot D_{\text{min}} / \sqrt{f} = 3 \cdot 5 / \sqrt{2.480} = 9.53 \text{ mW}$$

The test exclusions are applicable only when the minimum test separation distance is \leq 50 mm, and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is $<$ 5 mm, a distance of 5 mm according to 4.1 f) is applied to determine SAR test exclusion.

b) For 100 MHz to 6 GHz and test separation distances $>$ 50 mm, the 1-g and 10-g SAR test exclusion thresholds are determined by the following (also illustrated in Appendix B):

1) $\{[\text{Power allowed at numeric threshold for 50 mm in step a)}] + [(\text{test separation distance} - 50 \text{ mm}) \cdot (f(\text{MHz})/150)]\}$ mW, for 100 MHz to 1500 MHz

2) $\{[\text{Power allowed at numeric threshold for 50 mm in step a)}] + [(\text{test separation distance} - 50 \text{ mm}) \cdot 10]\}$ mW, for $>$ 1500 MHz and \leq 6 GHz



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5 Measurement and Calculation

5.1 Maximum transmit power

The Power Data is based on the RF Test Report KSCR220800155101, KSCR220800155102

2.4G

Test Mode	Test Channel	Ant	Power [dBm]	Power [mW]
11B	2412	Ant1	7.97	6.27
11B	2437	Ant1	8.30	6.76
11B	2462	Ant1	8.27	6.71
11G	2412	Ant1	7.82	6.05
11G	2437	Ant1	8.12	6.49
11G	2462	Ant1	8.10	6.46
11N20SISO	2412	Ant1	7.69	5.87
11N20SISO	2437	Ant1	8.03	6.35
11N20SISO	2462	Ant1	8.02	6.34
11N40SISO	2422	Ant1	7.90	6.17
11N40SISO	2437	Ant1	8.06	6.40
11N40SISO	2452	Ant1	8.07	6.41

BT

Test Mode	Test Frequency (MHz)	Output Power (dBm)	Reading Power (mW)
GFSK	2402	3.67	2.33
	2441	3.28	2.13
	2480	2.81	1.91
π/4DQPSK	2402	3.70	2.34
	2441	3.32	2.15
	2480	2.83	1.92
8DPSK	2402	4.02	2.52
	2441	3.62	2.30
	2480	3.14	2.06



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5.2 RF Exposure Calculation

For 2.4G WIFI:

The Max Conducted Peak Output Power is 6.76mW. The best case gain of the antenna is -2.16dBi.

-2.16dBi logarithmic terms convert to numeric result is nearly 0.61.

According to the formula. calculate the power test result:

$$P = 6.76\text{mW} < 9.56\text{mW}$$

For BT:

The Max Conducted Peak Output Power is 2.52mW. The best case gain of the antenna is -17.47dBi.

-17.47dBi logarithmic terms convert to numeric result is nearly 0.02.

According to the formula. calculate the power test result:

$$P = 2.52\text{mW} < 9.53\text{mW}$$

2.4G WIFI and BT can transmit simultaneously, and $6.76/9.56 + 2.52/9.53 = 0.97 < 1$, so the device is to qualify for SAR test exemption.

--End of the Report--



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