



RADIO TEST REPORT

Report No: STS2202140W01

Issued for

Shenzhen YGH Electronic Equipment Co.,Ltd

3/F, Building D, Liangxiang Industrial Zone, No. , Fucheng
Street, Guanlan, Shenzhen, China

Product Name:	Security Surveillance Camera
Brand Name:	YGH
Model Name:	YGH-WF93AR
Series Model:	WF93AR-2MP-30X, WF93AR-5MP-30X, WF93AR-8MP-30X, MG93AR-2MP-30X, MG93AR-5MP-30X, MG93AR-8MP-30X, W54F5MP-WP, W55F, W56F, W57F, W58F, W59F
FCC ID:	2A5BG-YGH93
Test Standard:	FCC 47CFR §2.1091

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Test Report Certification

Applicant's Name : Shenzhen YGH Electronic Equipment Co.,Ltd
Address : 3/F, Building D, Liangxiang Industrial Zone, No. , Fucheng Street, Guanlan, Shenzhen, China
Manufacturer's Name : SHENZHEN BOAVISION TECHNOLOGY CO.,LIMITED(CHINA limited company(ltd.))
Address : RM#511, Floor #5, Building #11, BaiMenQian Industrial Zone, NanWan Street, LongGang District, Shenzhen, China

Product Description

Product Name : Security Surveillance Camera
Brand Name : YGH
Model Name : YGH-WF93AR
WF93AR-2MP-30X, WF93AR-5MP-30X, WF93AR-8MP-30X,
Series Model : MG93AR-2MP-30X, MG93AR-5MP-30X, MG93AR-8MP-30X, W54F5MP-WP, W55F, W56F, W57F, W58F, W59F

Standards : FCC 47CFR §2.1091

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Date of Test :

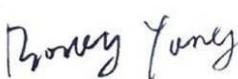
Date of receipt of test item : 23 Feb. 2022
Date (s) of performance of tests : 25 Feb. 2022 ~ 11 Mar. 2022
Date of Issue : 11 Mar. 2022
Test Result : **Pass**

Testing Engineer : 

(Chris Chen)

Technical Manager : 

(Sean she)

Authorized Signatory : 

(Bovey Yang)





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**Revision History**

Rev.	Issue Date	Report No.	Effect Page	Contents
00	11 Mar. 2022	STS2202140H02	ALL	Initial Issue





1. GENERAL INFORMATION

1.1 GENERAL DESCRIPTION OF THE EUT

Product Name	Security Surveillance Camera									
Brand Name	YGH									
Model Name	YGH-WF93AR									
Series Model	WF93AR-2MP-30X, WF93AR-5MP-30X, WF93AR-8MP-30X, MG93AR-2MP-30X, MG93AR-5MP-30X, MG93AR-8MP-30X, W54F5MP-WP, W55F, W56F, W57F, W58F, W59F									
Model Difference	only difference in model name									
Product Description	<p>The EUT is Security Surveillance Camera</p> <table border="1"><tr><td>Operation Frequency:</td><td>802.11b/g/n 20: 2412~2462 MHz 802.11n(40MHz):2422~2452MHz</td></tr><tr><td>Modulation Type:</td><td>802.11b(DSSS):CCK,DQPSK,DBPSK 802.11g(OFDM):BPSK,QPSK,16-QAM,64-QAM 802.11n(OFDM):BPSK,QPSK,16-QAM,64-QAM</td></tr><tr><td>Antenna gain:</td><td>5dBi</td></tr><tr><td>Antenna Designation:</td><td>external Antenna</td></tr></table>		Operation Frequency:	802.11b/g/n 20: 2412~2462 MHz 802.11n(40MHz):2422~2452MHz	Modulation Type:	802.11b(DSSS):CCK,DQPSK,DBPSK 802.11g(OFDM):BPSK,QPSK,16-QAM,64-QAM 802.11n(OFDM):BPSK,QPSK,16-QAM,64-QAM	Antenna gain:	5dBi	Antenna Designation:	external Antenna
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Antenna gain:	5dBi									
Antenna Designation:	external Antenna									
Adapter	Input: 100-240VAC,50/60Hz,0.8A Output: DC 12V 4000mA									
Hardware Version	7105V3-335AF-1.0									
Software Version	V24.1.13.16.79-20220117									



1.2 TEST FACTORY

SHENZHEN STS TEST SERVICES CO., LTD

Add. : A 1/F, Building B, Zhuoke Science Park, No.190 Chongqing Road, HepingShequ, Fuyong Sub-District, Bao'an District, Shenzhen, Guang Dong, China

FCC test Firm Registration Number: 625569

IC test Firm Registration Number: 12108A

A2LA Certificate No.: 4338.01





2. FCC 47CFR §2.1091 REQUIREMENT

2.1 TEST STANDARDS

The limit for Maximum Permissible Exposure (MPE) specified in FCC 1.1310 is followed. The gain of the antennas used in the product is extracted from the Antenna data sheets provided and also the maximum total power input to the antenna is measured. Through the Friis transmission formula and the maximum gain of the antenna, we can calculate the distance, away from the product, where the limit of MPE is reached.

Although the Friis Transmission formula is far field assumption, the calculated result of that is an over-prediction for near field power density. It is taken as worst case to specify the safety range.

2.2 LIMIT

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environmental impact of the human exposure to radio-frequency (RF) radiation as specified in 1.1307 (b)

Limits for Maximum Permissible Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm ²)
Limits for Occupational / controlled Exposures			
300 - 1500	--	--	F/300
1500 – 100000	--	--	5.0
Limits for General population / Uncontrolled Exposure			
300 - 1500	--	--	F/1500
1500 – 100000	--	--	1.0

F= Frequency in MHz

Friis Formula

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 the center of radiator in cm

If we know the maximum gain of the antenna and the total output power to the antenna, through calculation, we will know MPE value at distance 20cm.

2.3 EUT OPERATION CONDITION

EUT was enabled to transmit and receive at lowest, middle and highest channels.

2.4 CLASSIFICATION

The antenna of this product, under normal use condition, is at least 20cm away from the body of the user. Warning statement to the user for keeping at least 20cm or more separation distance from the antenna should be included in the User manual. So, this device is classified as Mobile device.



2.5 TEST RESULT

Turn up

Mode	Detector	Turn up Power
802.11b	AV	11±1dBm

ANT Gain (G)

2402-2483.5MHz: 5dBi (gain of antenna in linear scale=3.162)

Protocol	Max Turn up Power (dBm)	Max Turn up Power (mW)	ANT Gain(gain of antenna in linear scale)	Power Density (mW/cm ²)	Limit (mW/c m ²)	Ratio	Result
802.11b	12	15.849	3.162	0.01	1	0.01	Pass

***** END OF THE REPORT *****