Radio Test Report

Report No.: CTA231109001H01

Issued for

ABN SYSTEMS INTERNATIONAL S.A.

Str. Marinarilor, nr. 31, Sector 1, Bucuresti, Romania

Product Name:	Solar Camera PTZ
Brand Name:	Tellur
Model Name:	TLL331551
Series Model(s):	N/A
FCC ID:	2A74I-TLL331551
Test Standard:	FCC 47CFR §2.1091

TEST REPORT

Applicant's Name	ABN SYSTEMS INTERNATIONAL S.A.
Address	Str. Marinarilor, nr. 31, Sector 1, Bucuresti, Romania
Manufacturer's Name	SHENZHEN MAGWELL TECHNOLOGY CO., LIMITED
Address	303 3/F No12-1, Da He industrial Zone, Guan Cheng community, Guanhu street, Longhua district shenzhen city, Guangdong province, China

Product Description

Product Name	Solar Camera PTZ
Brand Name	Tellur
Model Name	TLL331551
Series Model(s)	N/A
Test Standards	FCC 47CFR §2.1091 447498 D01 Interim General RF Exposure Guidance v06

Date of Test	
Date of receipt of test item	30 Aug. 2023
Date (s) of performance of tests	30 Aug. 2023 ~ 17 Nov. 2023
Date of Issue	17 Nov. 2023
Test Result	**Pass**

Testing Engineer : Zoey Cao

(Zoey Cao)

Technical Manager : Amy Wen

(Amy Wen)

Authorized Signatory : Eric Wang

(Eric Wang)

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Revision History

Rev.	Issue Date	Report No.	Effect Page	Contents
00	17 Nov. 2023	CTA231109001H01	ALL	Initial Issue

1. GENERAL INFORMATION

1.1 GENERAL DESCRIPTION OF THE EUT

<table>
<tr><td>Product Name</td><td>Solar Camera PTZ</td></tr>
<tr><td>Brand Name</td><td>Tellur</td></tr>
<tr><td>Model Name</td><td>TLL331551</td></tr>
<tr><td>Series Model(s)</td><td>N/A</td></tr>
<tr><td>Model Difference</td><td>N/A</td></tr>
<tr><td>Product Description</td><td>The EUT is Solar Camera PTZ
<table>
<tr><td>Operation Frequency:</td><td>802.11b/g/n(20MHz): 2412~2462MHz</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>5.15dBi</td></tr>
<tr><td>Antenna Designation:</td><td>External Antenna</td></tr>
</table></td></tr>
<tr><td>Rating</td><td>Input: DC5V 2A</td></tr>
<tr><td>Battery</td><td>Rated Voltage:3.7V
Charge Limit Voltage:4.2V
Capacity: 19200mAh</td></tr>
<tr><td>Hardware Version</td><td>SHH-66-SQG-3-4G-WIFI-V02</td></tr>
<tr><td>Software Version</td><td>V25.1.13</td></tr>
</table>

1.2 TEST FACTORY

Shenzhen CTA Testing Technology Co., Ltd.
Room 106, Building 1, Yibaolai Industrial Park, Qiaotou Community,Fuhai Street, Bao'an District, Shenzhen, China

FCC test Firm Registration Number: 517856

IC test Firm Registration Number: 27890

A2LA Certificate No.: 6534.01

IC CAB ID: CN0127

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

Friss Formula

Friss Transmission Formula: $Pd = (Pout * G) / (4*pi*r^2)$

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 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 TEST RESULT

Turn up

Mode	Detector	Max.Turn up Power
2.4 WIFI	PK	18±1dBm

Protocol	Fre. (GHz)	Separation distance (cm)	Max Turn up power (dBm)	ANT Gain (dBi)	Max EIRP (dBm)	Max EIRP (mW)	Power Density (mW/cm²)	Limit (mW/cm²)	Ratio	Result
2.4G WIFI	2462	20	19	5.15	24	251.19	0.05173	1	0.05173	Pass

Note: 1. The Maxinum power is less than the limit, complies with the exemption requirements.

※※※※※END OF THE REPORT※※※※※