Testing Report

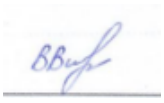
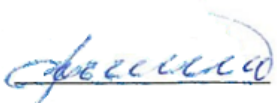
Customer Name: AJAX SYSTEMS

Product Name: Video doorbell

Sample Model: -

Reference Standard: GB/T 9410-2008; ANSI/IEEE Std149

Issue Date: 2025.01.15

Engineer: V. Velyhorskyi 	Date: 2025.01.15
Approver: O. Koshelieva 	Date: 2025.01.15

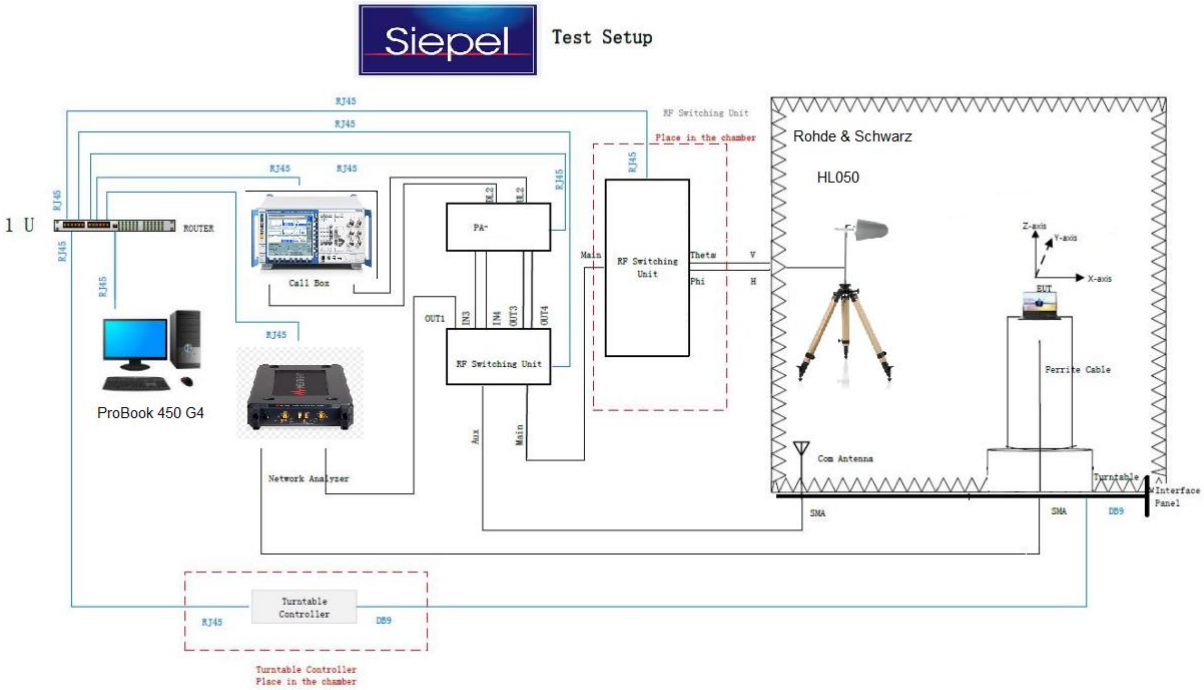
Contents

1.**General Information**

1.1 General information of testing institutions

Name	SE "UKRMETRTESTSTANDART" (Scientific and technical testing center UkrTEST)
Addres	4 Metrologichna str., Kyiv, 03143, Ukraine
Tel	Tel.: +38 (044) 526-65-01
E-mail	gmamchin@ukrcsm.kiev.ua

1.2 Testing principle



1.3 Test equipment

Equipment	Manufacturer	Model	Identifier (serial number)	Calibration date
Vector network analyzer	KEYSIGHT	P5020A	MY58100623	10/2024 – 10/2025
Antenna	Rohde & Schwarz	HL050	100664	09/2024 – 09/2025
Shielded room	Siepel	—	—	—
Controller	Maturo	NCD/325/2240.01	—	—
Electric antenna stand	Maturo	EAS 1.0/2.0-10kg	—	—
Turn device	Maturo	TD 1.5-10kg	—	—
Turn table	Maturo	TT 1.0 PF	—	—
Personal computer	hp	ProBook 450 G4	5CD722343J	—

1.4 Test environment

Temperature	22.5℃
Humidity	58%RH
Pressure	100.20kPa

1.5 Statement

(1) The test results in the report are only applicable to the tested samples and the tested samples work under the environment described in the report.

(2) Only «Scientific and technical testing center UkrTEST» have the right to modify the report, and the modification information shall be annotated in the revision form.

(3) Any objection to this report shall be raised within 30 days after formal confirmation of the report.

(4) This report is invalid if there is any evidence that the sample information provided is falsified.

(5) The report is invalid without the signature of the approver

2.**Sample Information**

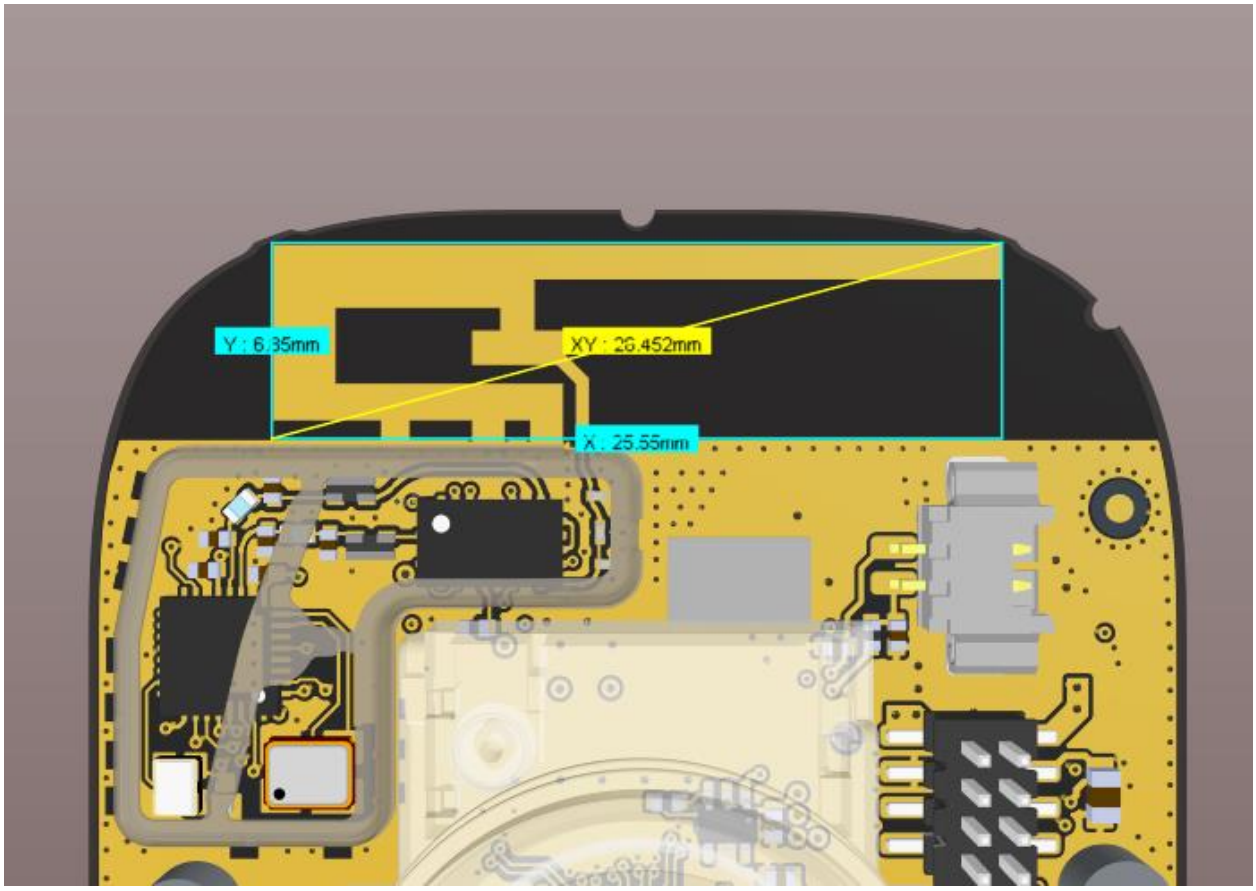
2.1 Client

Name	«AJAX SYSTEMS MANUFACTURING» LLC
Address	5 Sklyarenka Str., Kyiv, 04073, Ukraine
Manufacturer	«AJAX SYSTEMS MANUFACTURING» LLC

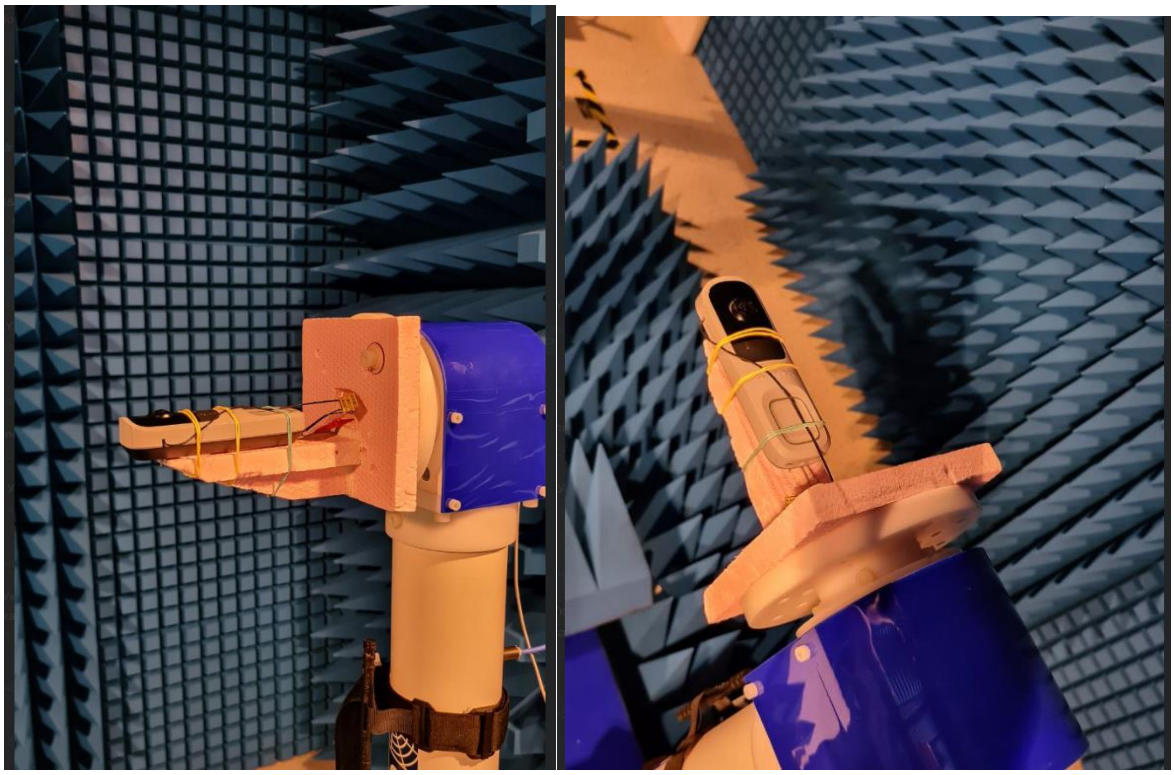
2.2 Description of EUT

Product Name	Video doorbell
Antenna Size	26mm*7mm
Serial No.	-
Antenna Type	PCB antenna
Test Item	VSWR; Antenna gain; Efficiency; Radiation pattern
Frequency Range	2412-2484MHz
HW info	**DB.001.MB2.001v16, DB.001.LED.001v10, DB.001.PWR.001v12, DB.001.IRL.001v7, DB.001.MIC.001v1, DB.001.ICN.001v1**

2.3 EUT appearance



2.4 EUT setup photo of free space



3. **Test Result**

3.1 Test standard

Name	Parameter	Method	Standard no.
Mobile communication antenna	Antenna gain	Generic specification for antennas used in the mobile communications	GB/T 9410-2008
	Radiation pattern		
	VSWR		
Antenna	Radiation efficiency	IEEE Standard Test Procedures for Antennas	ANSI/IEEE Std 149-1979
	Gain and directivity		

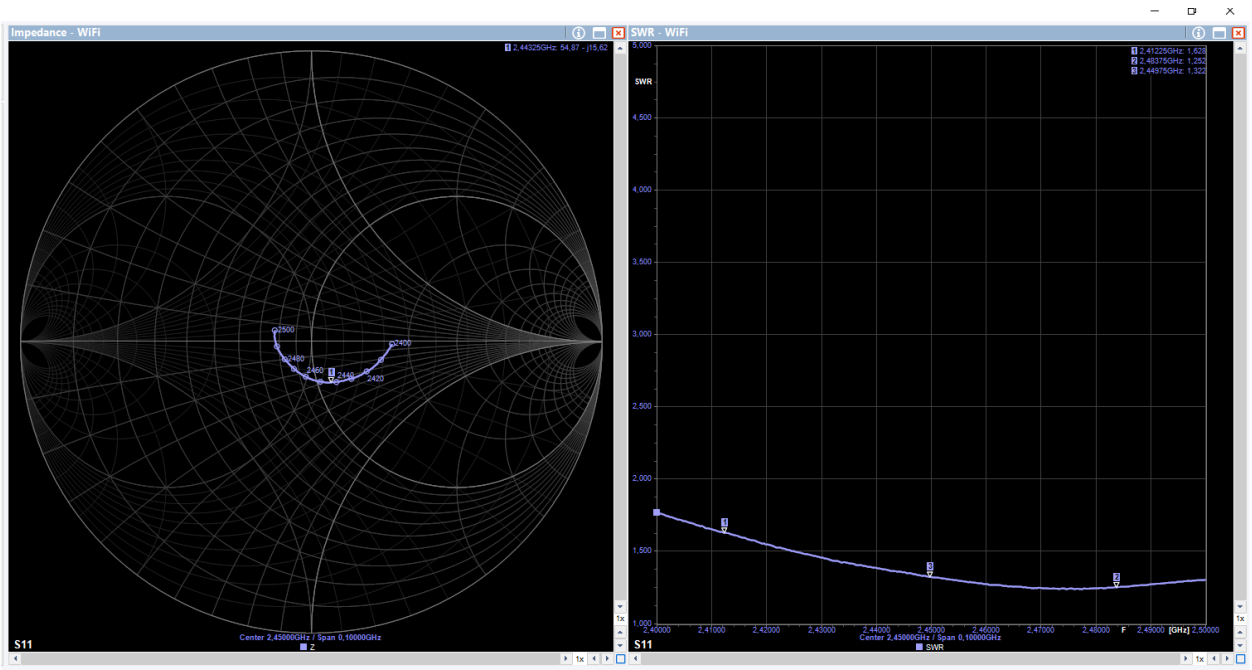
3.2 Test uncertainty

The uncertainty was calculated on the basis of the GUM published by ISO, using the inclusion factor of K=2 and the 95% confidence level to express the extended uncertainty.

Item	Uncertainty
VSWR	±0.2
Antenna gain	±0.6
Radiation efficiency	±0.6

3.3 Test data

3.3.1 VSWR parameters



3.3.2 VSWR data

Frequency/MHz	2412	2450	2484
VSWR	1.7	1.4	1.3

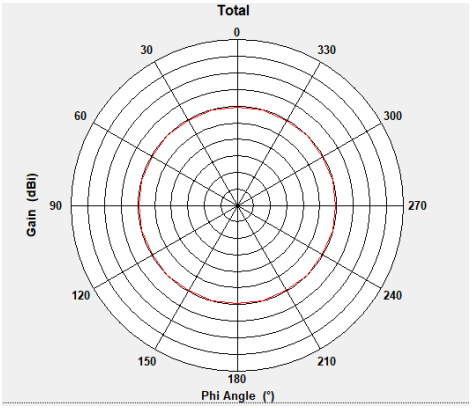
3.3.3 Typical efficiency and gain

Frequency/MHz	2412	2450	2484
Peak Gain/dBi	2,9	3,2	3,1
Efficiency/%	47	57	53

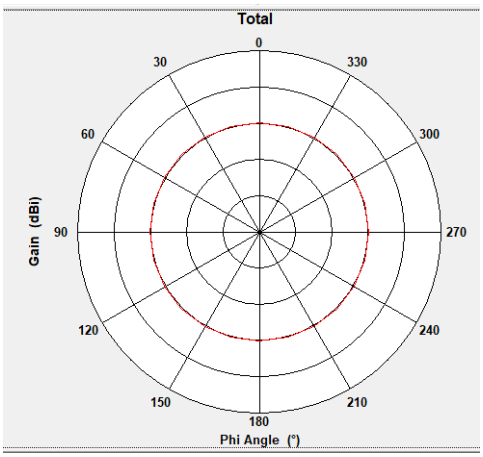
3.3.4 Typical free space radiation pattern

XZ theta0 phi0-360

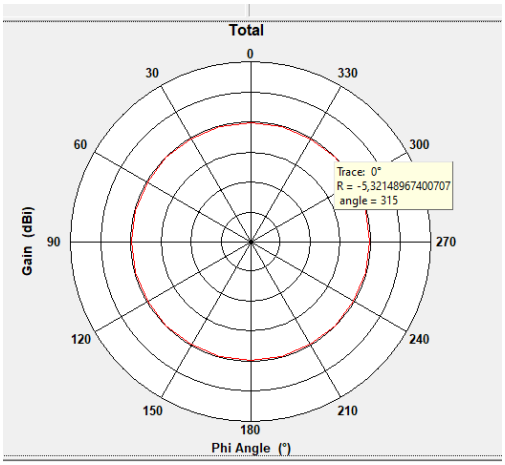
2412 MHz



2450 MHz

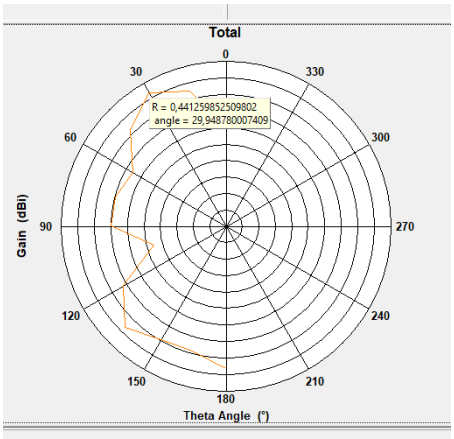


2484 MHz

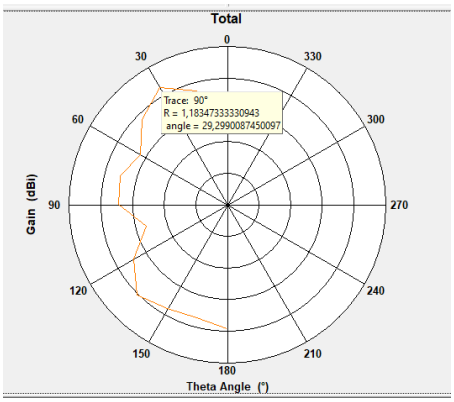


XY phi90 theta 0-180

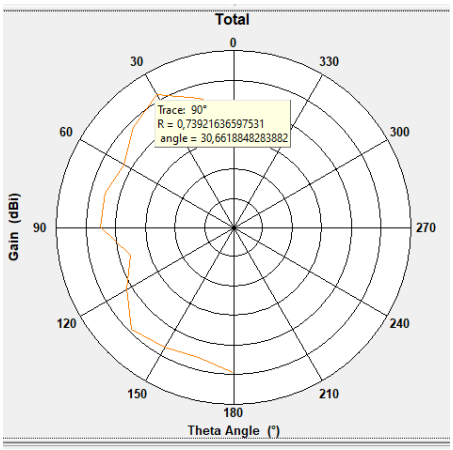
2412 MHz



2450 MHz

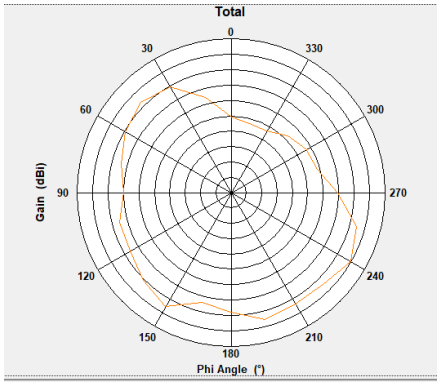


2484 MHz

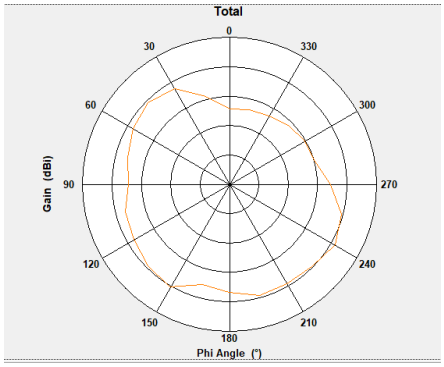


ZY theta90 phi0-360

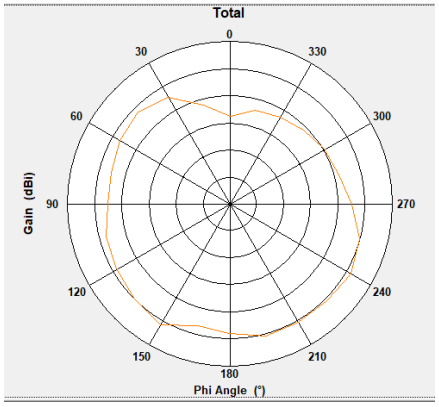
2412 MHz



2450 MHz



2484 MHz



3D Radiation Pattern at 2450MHz(dBi)