

EN 62311:2008
ASSESSMENT REPORT

For

Shenzhen Sonoff Technologies Co.,Ltd.

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Tested Model: TH16
Multiple Model: TH10

Report Type: Original Report	Product Type: WiFi Smart Switch
Report Number:	RDG180807018
Report Date:	2018-08-31
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Note: This test report is prepared for the customer shown above and for the device described herein. It may not be duplicated or used in part without prior written consent from Bay Area Compliance Laboratories Corp. (Dongguan).

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FINAL

GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

EUT Name:	WiFi Smart Switch
EUT Model:	TH16
Multiple Models:	TH10
Rated Input Voltage:	90~250Vac
External Dimension:	114mm(L)*51mm(W)*32mm(H)
Serial Number:	180807018
EUT Received Date:	2018-08-10

Note: The series product, model TH16, TH10 are electrically identical. For marketing purpose, we selected TH16 for fully test. The differences between them are explained in the declaration letter.

Objective

This report is prepared on behalf of *Shenzhen Sonoff Technologies Co.,Ltd.* in accordance with EN 62311:2008, Generic standard to demonstrate the compliance of electronic and electrical apparatus with the basic restrictions related to human exposure to electromagnetic fields (0 Hz–300 GHz) is to demonstrate the compliance of apparatus with the basic restrictions or reference levels on exposure of the general public related to electric, magnetic, electromagnetic fields as well as induced and contact current.

The objective is to determine the compliance of EUT with EN 62311:2008.

Related Submittal(s)/Grant(s)

No related submittal(s).

Test Methodology

All measurements contained in this report were conducted with EN 62311:2008.

Technical Requirements Specification in EN 62311

General Description of Applied Standards

EN 62311 Generic standard to demonstrate the compliance of electronic and electrical apparatus with the basic restrictions related to human exposure to electromagnetic fields (0 Hz–300 GHz) is to demonstrate the compliance of apparatus with the basic restrictions or reference levels on exposure of the general public related to electric, magnetic, electromagnetic fields as well as induced and contact current.

RF Exposure Evaluation

Limit:

According to EN 62311, the criteria listed in the below table shall be used to evaluate the environmental impact of human exposure to radio-frequency (RF) radiation as specified table 2 of Council Recommendation 1999/519/EC.

Reference levels for electric, magnetic and electromagnetic fields
(0 Hz to 300 GHz, unperturbed rms values)

Frequency range	E-field strength (V/m)	H-field strength (A/m)	B-field(μ T)	Equivalent plane wave power density $S_{eq}(W/m^2)$
0-1 Hz	-	$3,2 \times 10^4$	4×10^4	-
1-8 Hz	10 000	$3,2 \times 10^4/f^2$	$4 \times 10^4/f^2$	-
8-25 Hz	10 000	4 000/f	5 000/f	-
0,025-0,8 kHz	250/f	4/f	5/f	-
0,8-3 kHz	250/f	5	6,25	-
3-150 kHz	87	5	6,25	-
0,15-1 MHz	87	0,73/f	0,92/f	-
1-10 MHz	$87/f^{1/2}$	0,73/f	0,92/f	-
10-400 MHz	28	0,073	0,092	2
400-2 000 MHz	$1,375 f^{1/2}$	$0,0037 f^{1/2}$	$0,0046 f^{1/2}$	f/200
2-300 GHz	61	0,16	0,20	10

Notes:

- f as indicated in the frequency range column.

Test method

The antenna of the product, under normal use condition is at least 20cm away from the body of the user. Warning statement of the user for keeping 20cm separation distance and the prohibition of operating to a person has been printed on the user manual. So, this product under normal use is located on electromagnetic far field between the human body.

Far Field Calculation Formula

$$E = \frac{\sqrt{30PG(\theta, \phi)}}{r}$$

G= antenna gain relative to an isotropic antenna
 θ, ϕ = elevation and azimuth angles to point of investigation
 r= distance from observation point to the antenna

Test Data

Test Mode: Transmitting(Worst case)

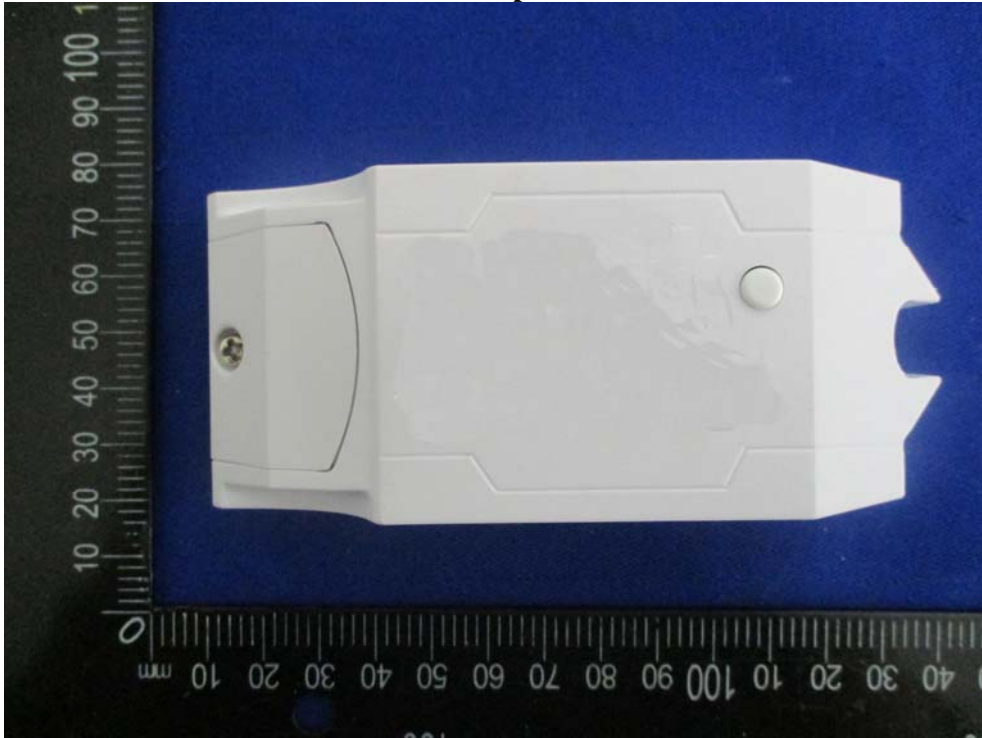
Mode	Frequency	EIRP	EIRP	E-Field Strength	E-Field Limit	Result
	MHz	(dBm)	(W)	(V/m)	(V/m)	
WIFI	2412-2472	16	0.04	5.48	61	Pass

Note: The distance from observation point to the antenna is 20 cm.
 Conclusion: Compliance

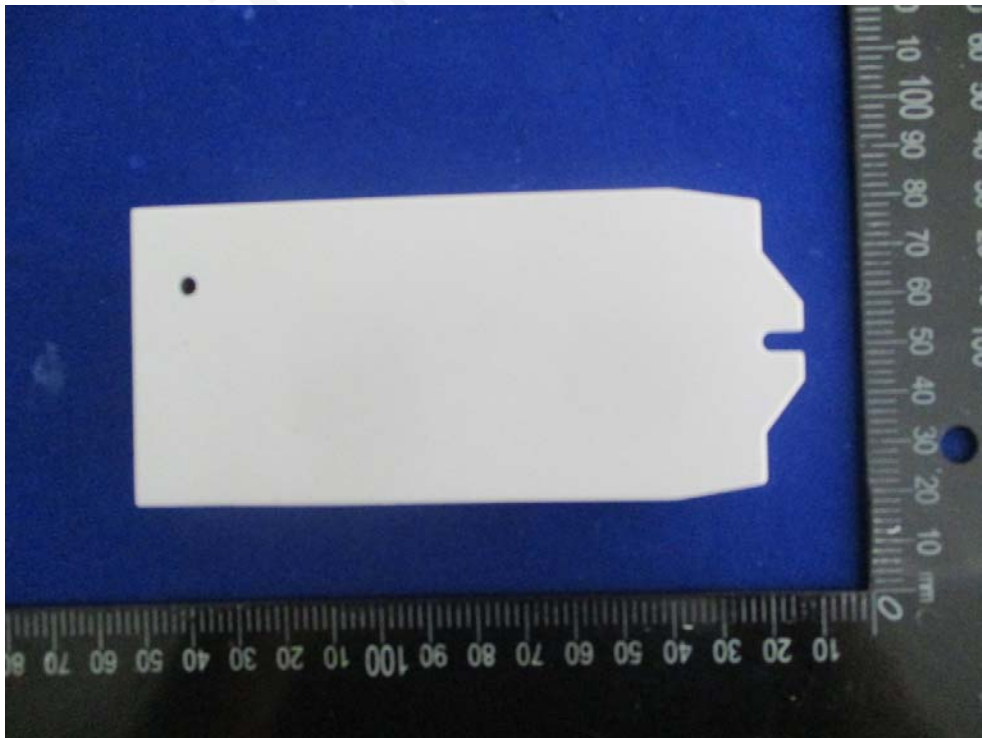
EXHIBIT A - EUT PHOTOGRAPHS

Model: TH16

EUT – Top View



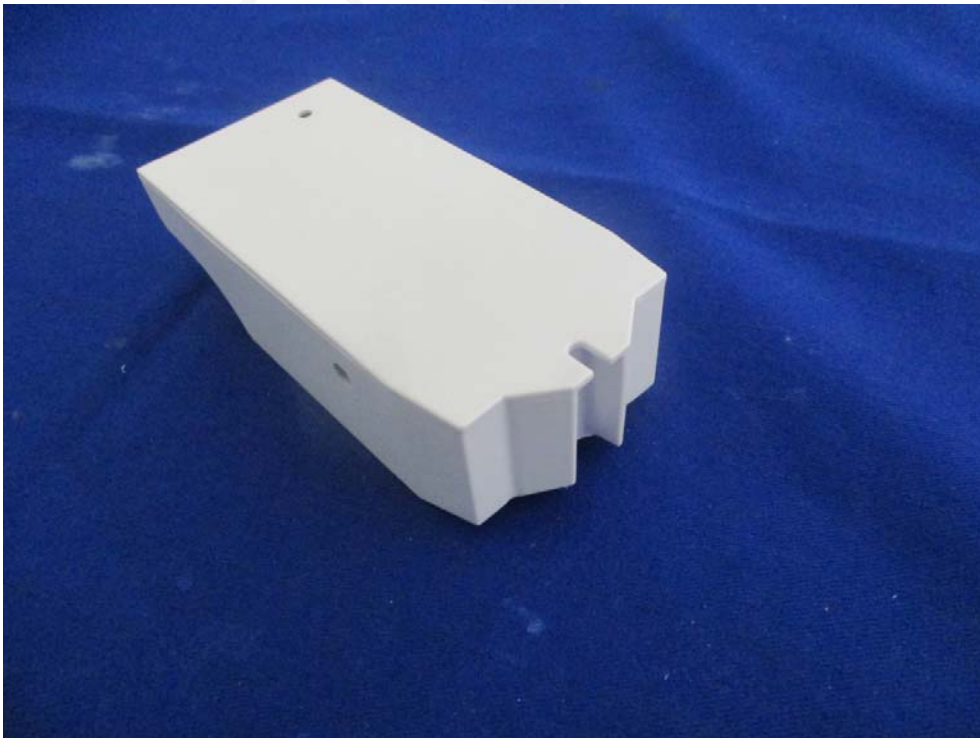
EUT – Bottom View



EUT – Side View



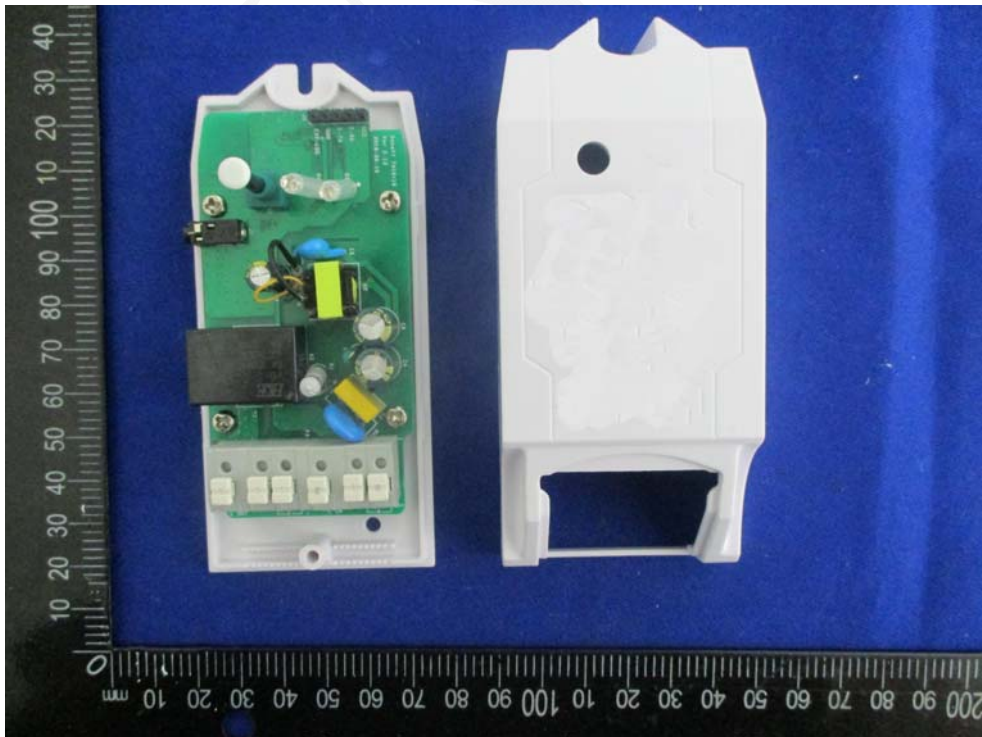
EUT – Side View



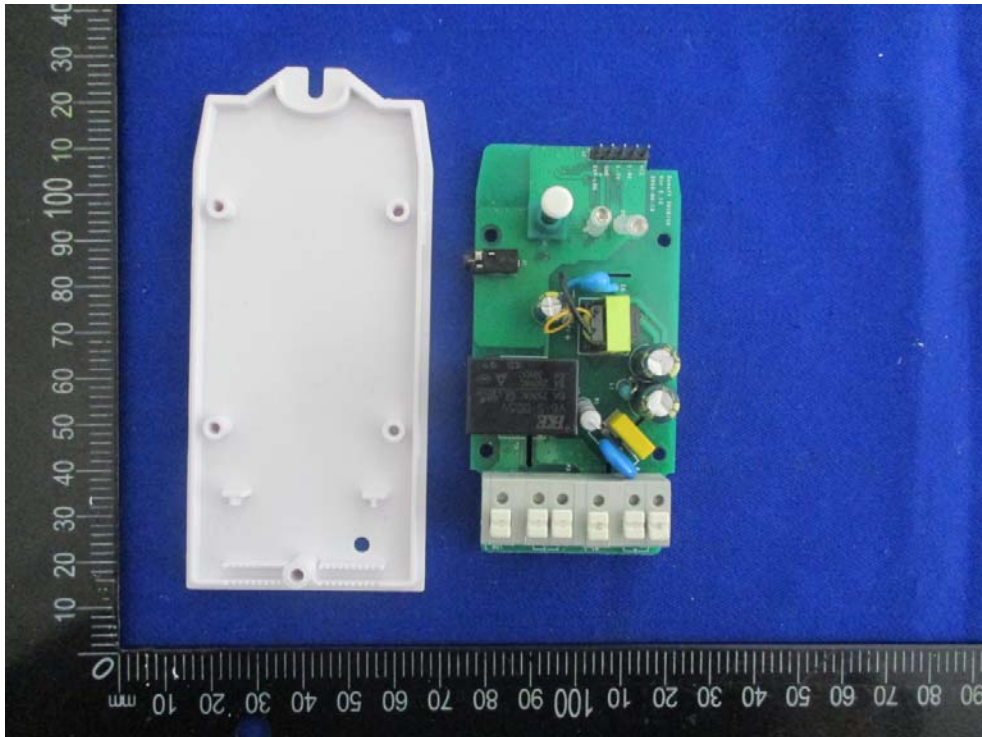
EUT – Uncover View



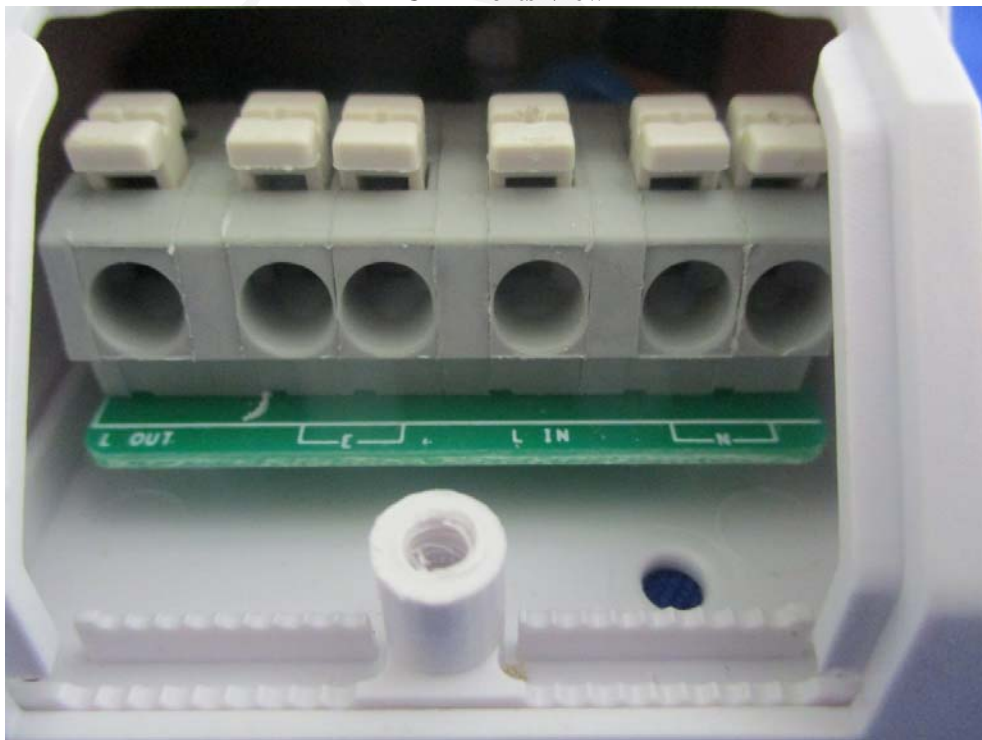
EUT – Uncover View



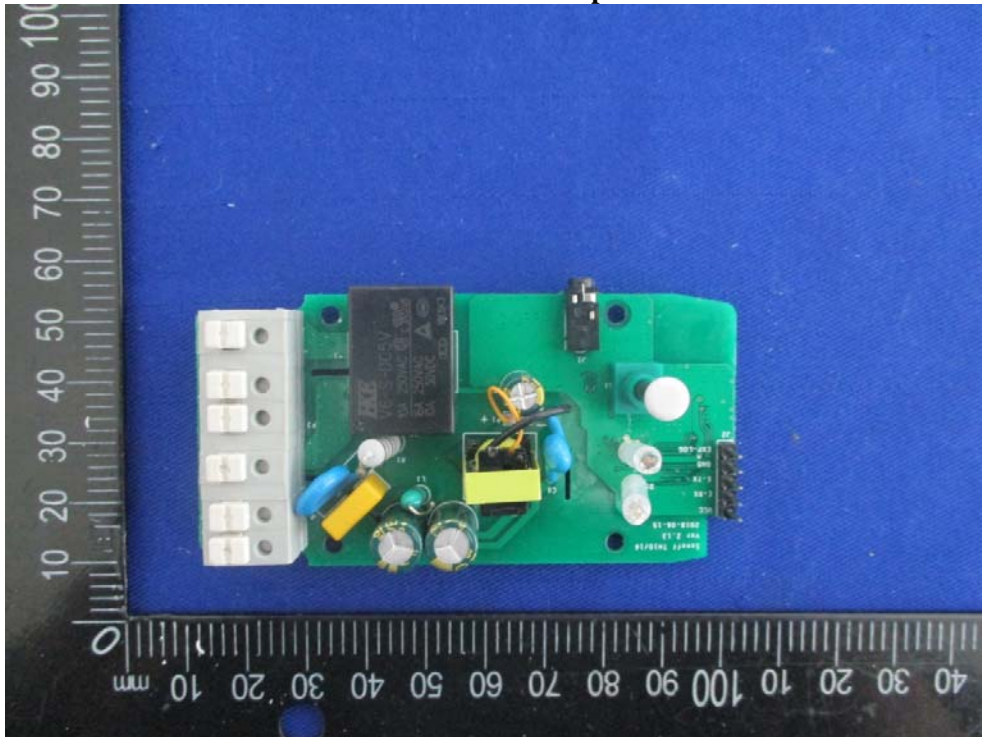
EUT – Uncover View



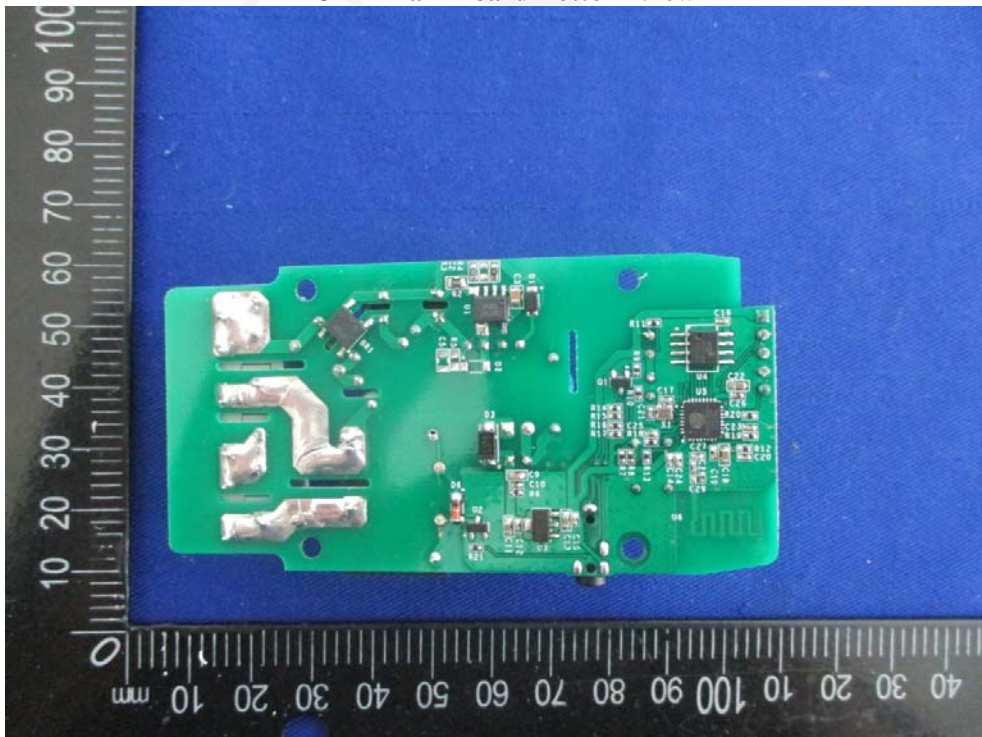
EUT – Ports View



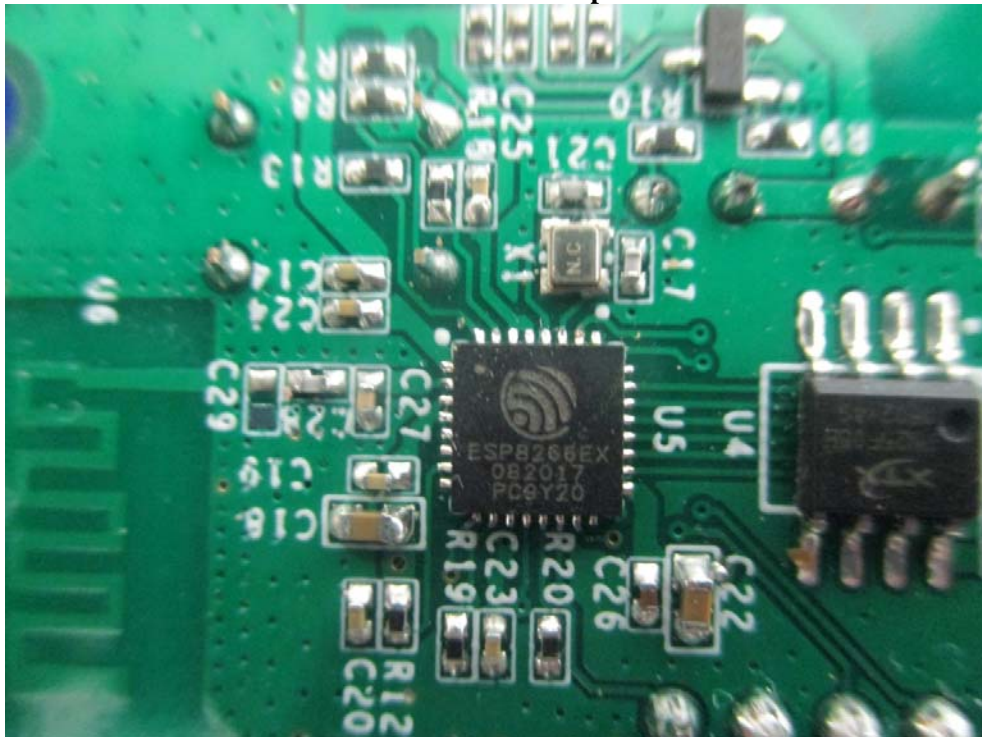
EUT – Main Board Top View



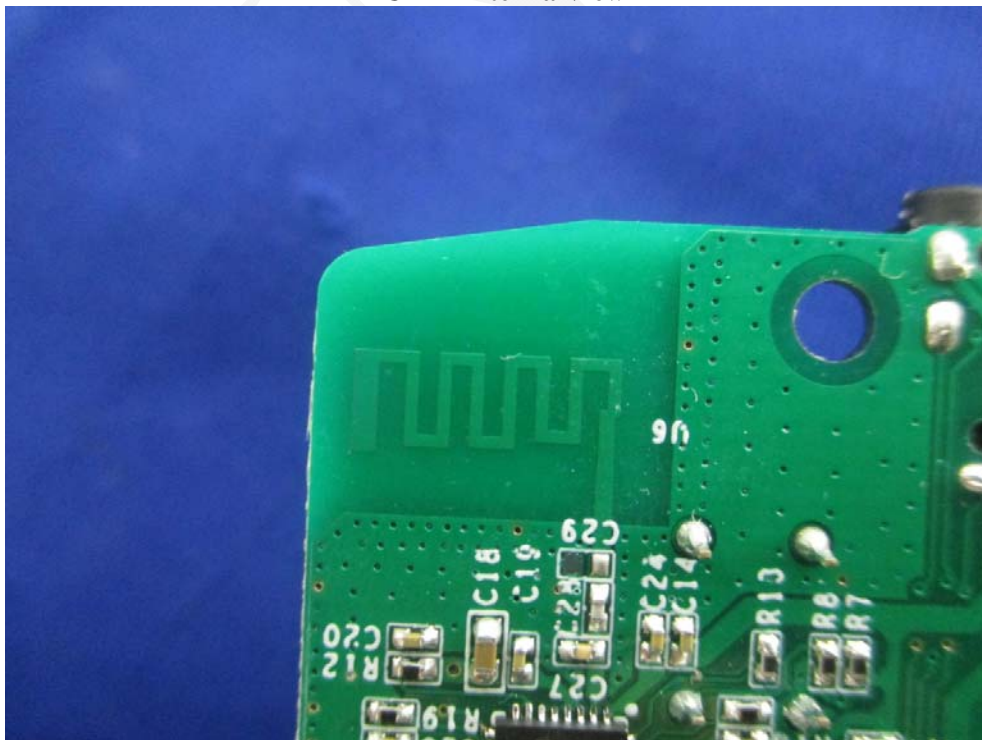
EUT – Main Board Bottom View



EUT – 2.4G Wi-Fi Chip View



EUT – Antenna View

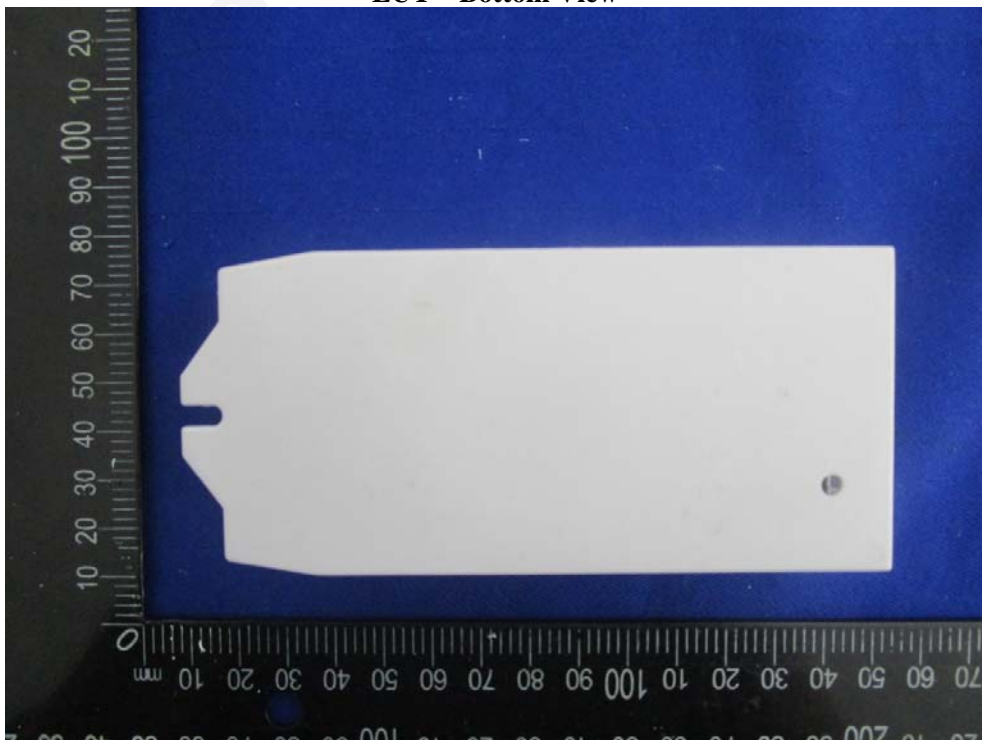


Model: TH10

EUT – Top View



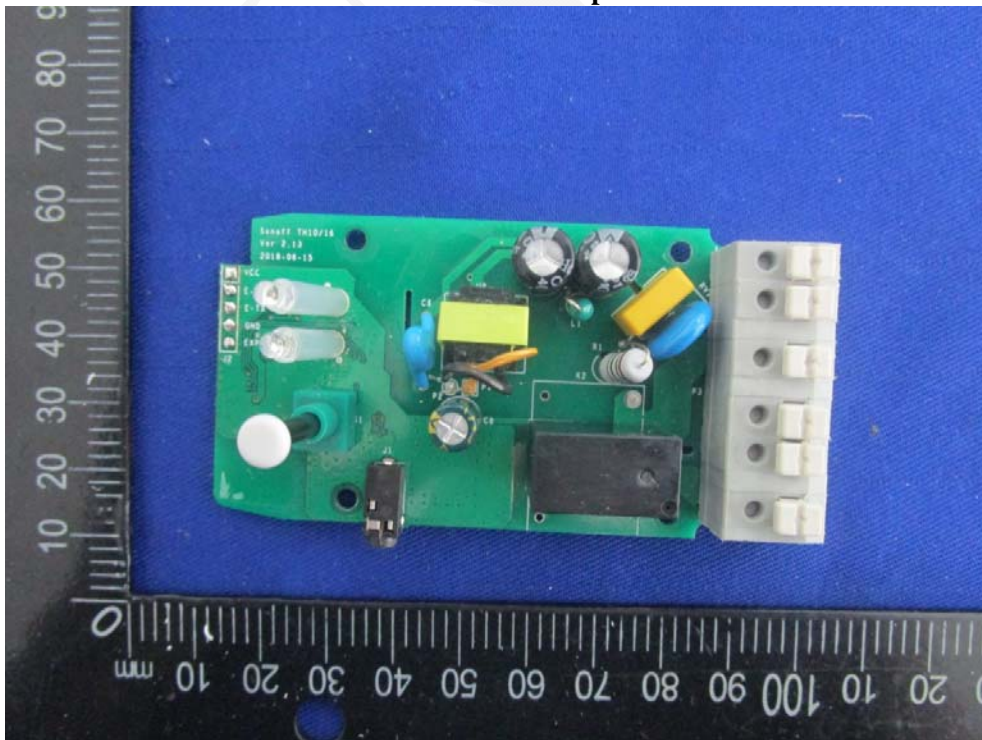
EUT – Bottom View



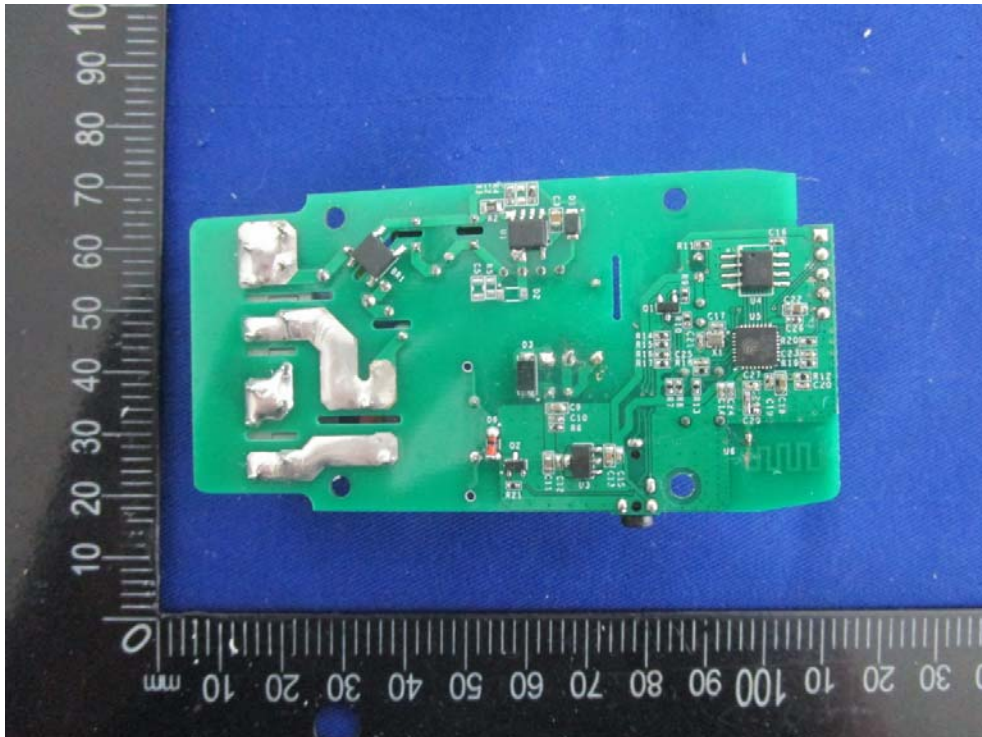
EUT –Uncover View



EUT – Main Board Top View



EUT – Main Board Bottom View



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