



FCC Test Report

Report No.: LDF-ESH-P24111301B-1

FCC ID: DWN-GL2UWF50ZHP

Product: GLYDEA2 ULTRA WF 50 ZIGBEE HP

Test Model: 1246594

Received Date: Nov.25, 2024

Test Date: Nov.25 to Dec.24, 2024

Issued Date: Dec.26, 2024

Applicant: Somfy Systems, Inc.

Address: 121 Herrod Blvd. Dayton, NJ 08810

Manufacturer: Somfy Systems, Inc.

Address: 121 Herrod Blvd. Dayton, NJ 08810

Issued By: BUREAU VERITAS ADT (Shanghai) Corporation

Lab Address: No. 829, Xinzhuang Road, Shanghai, P.R.China (201612)



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Release Control Record

Issue No.	Description	Date Issued
LDF-ESH-P24111301B-1	Original release	Dec.24, 2024

1 Certificate of Conformity

Product: GLYDEA2 ULTRA WF 50 ZIGBEE HP

Brand: **somfy**

Test Model: 1246594

Applicant: Somfy Systems, Inc.

Test Date: Nov.25 to Dec.24, 2024

Standards: 47 CFR FCC Part 15, Subpart C (Section 15.247)
ANSI C63.10:2020

The above equipment has been tested by **BUREAU VERITAS ADT (Shanghai) Corporation**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

Prepared by :



, Date:

Dec.26, 2024

Yan ZHOU Project Engineer

Approved by :



, Date:

Dec.26, 2024

Sean YU
RF Supervisor

2 Summary of Test Results

The EUT has been tested according to the following specifications:

47 CFR FCC Part 15, Subpart C (SECTION 15.247)			
FCC Clause	Test Item	Result	Remarks
15.203	Antenna Requirement	PASS	No antenna connector is used.
15.207	AC Power Conducted Emission	PASS	Meet the requirement of limit.
15.247(a)(2)	Minimum 6dB Bandwidth	PASS	Meet the requirement of limit.
15.247(b)	Conducted Output Power	PASS	Meet the requirement of limit.
15.247(e)	Power Spectral Density	PASS	Meet the requirement of limit.
15.247(d)	Conducted Band Edges Measurement	PASS	Meet the requirement of limit.
15.247(d)	Conducted Spurious Emissions	PASS	Meet the requirement of limit.
15.247(d)	Emissions in restricted frequency bands	PASS	Meet the requirement of limit.
15.205 / 15.209 / 15.247(d)	Radiated Emissions Measurement	PASS	Meet the requirement of limit.

2.1 Test Facility

Laboratory Name: Bureau Veritas ADT (ShangHai) Corporation

Laboratory Address: No.829, Xin Zhuan Road, Song Jiang District, Shanghai, China

Test Location: No.829, Xin Zhuan Road, Song Jiang District, Shanghai, China

A2LA Lab Code: 2343.01

FCC-Recognized Accredited Testing Lab: CN1213

ISED Recognized Lab: 6392A

FCC Accredited Test Site Number: 176467

2.2 Test Instruments

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Hybrid Antenna(30MHz-1GHz)	Schwarzbeck	VULB9168	E1A1012	8/17/2023	8/16/2025
Horn Antenna(1GHz -18GHz)	Schwarzbeck	BBHA9120D	E1A1017	7/2/2024	7/1/2025
Horn Antenna(18GHz-40GHz)	Com-Power	AH-840	E1A1040	7/24/2024	7/23/2026
Pre-Amplifier(0.1MHz~1300MHz)	Agilent	8447D	E1A2001	2/18/2024	2/17/2025
Pre-Amplifier(18GHz-40GHz)	EMC Instruments Corporation	EMC184045SE	E1A2008	8/10/2024	8/9/2025
EMI Test Receiver	R&S	ESR7	E1R1005	2/18/2024	2/17/2025
EMI Test Spectrum	Keysight	N9030B	E1S1003	8/28/2024	8/27/2025
Signal Analyzer	Keysight	N9020A	E1S1004	2/19/2024	2/18/2025
EMI Test Receiver	R&S	ESR3	E1R1008	5/31/2024	5/30/2025
LISN(signle phase)	Rohde&Schwarz	ENV216	E1L1011	8/12/2024	8/11/2025
RF Control Unit	Toscend	JS0806-2	E1C5003	N/A	N/A
Test Software	Toscend	JS32-CE	5.0.0.1	N/A	N/A
Test Software	Toscend	JS32-RE	5.0.0	N/A	N/A
Test Software	Toscend	JS1120-3	V3.2.22	N/A	N/A

The Test Coax Cable is placed in the receiver and the combination is calibrated as a single unit before acquiring data. Date Calibrated: 11/25/24

2.3 Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT:

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k=2$.

Measurement	Frequency	Expanded Uncertainty ($k=2$) ($\pm$)
Conducted Emissions at mains ports	150kHz ~ 30MHz	1.83 dB
Radiated Emissions up to 1 GHz	30MHz ~ 1GHz	5.36 dB
Radiated Emissions above 1 GHz	1GHz ~ 6GHz	3.47 dB
	6GHz ~ 18GHz	3.75 dB
	18GHz ~ 40GHz	3.30 dB

2.4 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	GLYDEA2 ULTRA WF 50 ZIGBEE HP
Brand	somfy®
Test Model	1246594
Power Rating	30W 0.7 Nm 21.9V --- 20min ON
Modulation Type	GFSK
Modulation Technology	Bluetooth Low Energy 5.0
Operating Frequency	2402MHz ~ 2480MHz
Number of Channel	40
Antenna Type	FPC Dipole Antenna
Antenna Connector	--
Antenna Gain	1 dBi

Note: For more details, please refer to the User's manual of the EUT.

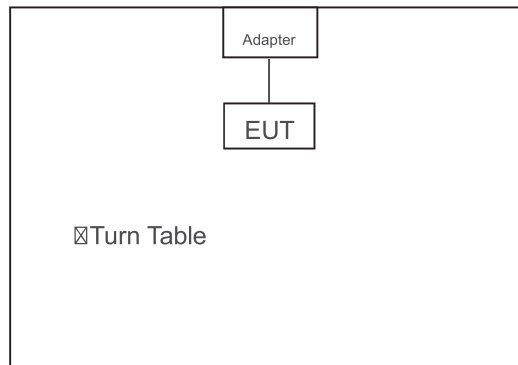
3.2 Description of Test Modes

40 channels are provided for Bluetooth LE.

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
0	2402 MHz	20	2442 MHz
1	2404 MHz	21	2444 MHz
2	2406 MHz	22	2446 MHz
3	2408 MHz	23	2448 MHz
4	2410 MHz	24	2450 MHz
5	2412 MHz	25	2452 MHz
6	2414 MHz	26	2454 MHz
7	2416 MHz	27	2456 MHz
8	2418 MHz	28	2458 MHz
9	2420 MHz	29	2460 MHz
10	2422 MHz	30	2462 MHz
11	2424 MHz	31	2464 MHz
12	2426 MHz	32	2466 MHz
13	2428 MHz	33	2468 MHz
14	2430 MHz	34	2470 MHz
15	2432 MHz	35	2472 MHz
16	2434 MHz	36	2474 MHz
17	2436 MHz	37	2476 MHz
18	2438 MHz	38	2478 MHz
19	2440 MHz	39	2480 MHz

3.3 DESCRIPTION OF SYSTEM UNDER TEST

RADIATED TEST CONFIGURATION



3.3.1 Test Mode Applicability:

EUT Configure Mode	Applicable to				Description
	RE ≥ 1G	RE < 1G	PLC	APCM	
-	√	√	√	√	-

Where **RE≥1G**: Radiated Emission above 1GHz

RE< 1G: Radiated Emission below 1GHz

PLC: Power Line Conducted Emission

APCM: Antenna Port Conducted Measurement

Radiated Emission Test (Above 1 GHz):

- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- ☒ Following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TYPE
-	BLE	0 to 39	0, 19, 39	GFSK

Radiated Emission Test (Below 1 GHz):

- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- ☒ Following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TYPE
-	BLE	0 to 39	0	GFSK

Power Line Conducted Emission Test:

- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- ☒ Following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TYPE
-	BLE	0 to 39	0	GFSK

Antenna Port Conducted Measurement

- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- ☒ Following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TYPE
-	BLE	0 to 39	0, 19, 39	GFSK

3.3.2 Test Condition:

Applicable to	Normal Environmental Conditions	Normal Input Power
RE ≥ 1G	23deg. C, 58%RH	Powered by Battery
RE < 1G	23deg. C, 58%RH	Powered by Battery
PLC	23deg. C, 58%RH	Powered by Battery
APCM	25deg. C, 58%RH	Powered by Battery

3.4 Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units.

3.5 General Description of Applied Standards

The EUT is a RF Product. According to the specifications of the manufacturer, it must comply with the requirements of the following standard:

FCC Part 15, Subpart C (15.247)

KDB 558074 D01 DTS Meas Guidance v05r02

ANSI C63.10:2020

All relaxed test items have been performed and recorded as per the above standard.

4 Test Procedure and Results

4.1 AC Power Conducted Emission

4.1.1 Limits

Frequency (MHz)	Conducted Limit (dBuV)	
	Quasi-peak	Average
0.15 - 0.5	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30.0	60	50

Note: 1. The lower limit shall apply at the transition frequencies.

2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

4.1.2 Test Procedures

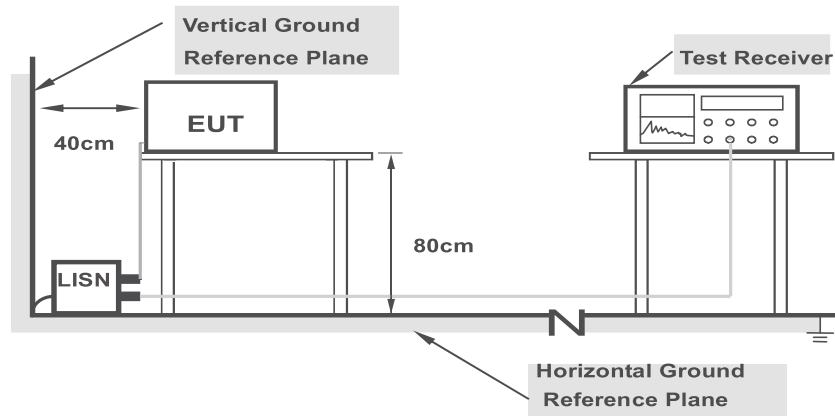
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.
- Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

NOTE: The resolution bandwidth and video bandwidth of test receiver is 9kHz for quasi-peak detection (QP) and average detection (AV) at frequency 0.15MHz-30MHz.

4.1.3 Deviation from Test Standard

No deviation.

4.1.4 Test Setup



Note: 1.Support units were connected to second LISN.

For the actual test configuration, please refer to the attached file (Test Setup Photo).

4.1.5 EUT Operating Conditions

Same as 4.1.6.