



FCC RF EXPOSURE REPORT

For

Powerlync Plug

MODEL NUMBER: PWLY-278383-A1

FCC ID: 2AHFD031707

REPORT NUMBER: 4789809723-3

ISSUE DATE: February 07, 2021

Prepared for

**Insight Energy Ventures DBA Powerley
29488 Woodward #312 Royal Oak Michigan 48073 United States**

Prepared by

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1. ATTESTATION OF TEST RESULTS

Applicant Information

Company Name: Insight Energy Ventures DBA Powerley
Address: 29488 Woodward #312 Royal Oak Michigan 48073 United States

Manufacturer Information

Company Name: Insight Energy Ventures DBA Powerley
Address: 29488 Woodward #312 Royal Oak Michigan 48073 United States

EUT Information

EUT Name: Powerlync Plug
Model: PWLY-278383-A1
Brand: Powerley
Sample Received Date: January 28, 2021
Sample Status: Normal
Sample ID: 3594063
Date of Tested: January 28, 2021~ February 5, 2021

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
FCC 47CFR§2.1091	PASS
KDB-447498 D01 V06	

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2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with KDB 447498 D01 General RF Exposure Guidance v06.

3. FACILITIES AND ACCREDITATION

Accreditation Certificate	A2LA (Certificate No.: 4102.01) UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been assessed and proved to be in compliance with A2LA. FCC (FCC Designation No.: CN1187) UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. Has been recognized to perform compliance testing on equipment subject to the Commission's Declaration of Conformity (DoC) and Certification rules ISED(Company No.: 21320) UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been registered and fully described in a report filed with Industry Canada. The Company Number is 21320. VCCI (Registration No.: G-20019, R-20004, C-20012 and T-20011) UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been assessed and proved to be in compliance with VCCI, the Membership No. is 3793. Facility Name: Chamber D, the VCCI registration No. is G-20019 and R-20004 Shielding Room B , the VCCI registration No. is C-20012 and T-20011
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Note 1: All tests measurement facilities use to collect the measurement data are located at Building 10, Innovation Technology Park, Song Shan Lake Hi tech Development Zone, Dongguan, 523808, China

Note 2: The test anechoic chamber in UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch had been calibrated and compared to the open field sites and the test anechoic chamber is shown to be equivalent to or worst case from the open field site.

Note 3: For below 30MHz, lab had performed measurements at test anechoic chamber and comparing to measurements obtained on an open field site. And these measurements below 30MHz had been correlated to measurements performed on an OFS.



4. EQUIPMENT UNDER TEST

4.1. DESCRIPTION OF EUT

EUT Name	Powerlync Plug
Model	PWLY-278383-A1
Radio Technology	WLAN (IEEE 802.11b/g/n HT20/n HT40)
Operation frequency	IEEE 802.11b: 2412MHz ~ 2462MHz IEEE 802.11g: 2412MHz ~ 2462MHz IEEE 802.11n HT20: 2412MHz ~ 2462MHz IEEE 802.11n HT40: 2422MHz ~ 2452MHz
Modulation	IEEE 802.11b: DSSS (CCK, DQPSK, DBPSK) IEEE 802.11g: OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n HT20: OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n HT40: OFDM (64QAM, 16QAM, QPSK, BPSK)

Radio Technology	Zigbee		
Operation frequency	Operation Frequency	2405 MHz ~ 2480 MHz	
	Modulation Type		Data Rate
	O-QPSK		250kbps
Power supply	AC120 V,60 Hz		



5. REQUIREMENT

LIMIT

Limits for General Population/Uncontrolled Exposure

Limits for General Population/Uncontrolled Exposure				
Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f ²)*	30
30-300	27.5	0.073	0.2	30
300-1500	--	--	f/150	30
1500-100,000	--	--	1.0	30
Note 1: f = frequency in MHz, * means Plane-wave equivalent power density				
Note 2: General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure.				
Note 3: The limit value 1.0mW/cm ² is available for this EUT.				

MPE CALCULATION METHOD

$$S = PG / (4\pi R^2)$$

where: S = power density (in appropriate units, e.g. mW/ cm²)

P = power input to the antenna (in appropriate units, e.g., mW)

G = power gain of the antenna in the direction of interest relative to an isotropic radiator

R = distance to the center of radiation of the antenna (appropriate units, e.g., cm)



CALCULATED RESULTS

Radio Frequency Radiation Exposure Evaluation

WIFI 2.4G (Worst case)					
Operating Mode	Max. Power	Max. Antenna Gain		Power density	Limit
	(dBm)	(dBi)	(num)	(mW/ cm ²)	
2.4 G Wifi	18	-1	0.794	0.00997	1

Zigbee (Worst case)					
Operating Mode	Max. Power	Max. Antenna Gain		Power density	Limit
	(dBm)	(dBi)	(num)	(mW/ cm ²)	
Zigbee	19.5	-1	0.794	0.014084	1

Note:

1. The calculated distance is 20cm.
2. Zigbee and WIFI cannot simultaneously transmitting.

END OF REPORT