



RF EXPOSURE EXEMPT REPORT

APPLICANT : Golden Mark (HK) Limited
PRODUCT NAME : Plug-In Dimmer
MODEL NAME : PD700
BRAND NAME : N/A
FCC ID : 2AMY9PD700
STANDARD(S) : 47CFR 2.1093
KDB 447498
RECEIPT DATE : 2020-11-05
TEST DATE : 2020-11-17 to 2020-11-26
ISSUE DATE : 2020-12-18

Edited by: Peng Mi
Peng Mi (Rapporteur)

Approved by: Peng Huarui
Peng Huarui (Supervisor)

NOTE: This document is issued by MORLAB, the test report shall not be reproduced except in full without prior written permission of the company. The test results apply only to the particular sample(s) tested and to the specific tests carried out which is available on request for validation and information confirmed at our website.





DIRECTORY

- 1. Technical Information..... 3**
- 1.1 Applicant and Manufacturer Information..... 3**
- 1.2 Equipment Under Test (EUT) Description 3**
- 1.3 Applied Reference Documents 3**
- 2. Device Category and RF Exposure Limit 4**
- 3. RF Output Power..... 5**
- 4. RF Exposure Evaluation 6**
- Annex A Testing Laboratory Information 7**

Change History		
Version	Date	Reason for Change
1.0	2020-12-18	First edition



1. Technical Information

Note: Provide by applicant.

1.1 Applicant and Manufacturer Information

Applicant:	Golden Mark (HK) Limited
Applicant Address:	6/F, Kimberley Plaza, 45-47 Kimberley Road, Tsim Sha Tsui, Kowloon, Hong Kong
Manufacturer:	Golden Mark (HK) Limited
Manufacturer Address:	6/F, Kimberley Plaza, 45-47 Kimberley Road, Tsim Sha Tsui, Kowloon, Hong Kong

1.2 Equipment Under Test (EUT) Description

Product Name:	Plug-In Dimmer
Serial No:	(N/A, marked #1 by test site)
Hardware Version:	N/A
Software Version:	N/A
Equipment Type:	Z-Wave
Operating Frequency Range:	908.4MHz, 916.0MHz
Antenna Type:	Through-hole Antenna
Antenna Gain:	0dBi

1.3 Applied Reference Documents

Leading reference documents for testing:

No.	Identity	Document Title	Method determination /Remark
1	47 CFR§2.1093	Radio Frequency Radiation Exposure Evaluation: portable devices	No deviation
2	KDB 447498 D01v06	General RF Exposure Guidance	No deviation

Note 1: Additions to, deviation, or exclusions from the method shall be judged in the "method determination" column of add, deviate or exclude from the specific method shall be explained in the "Remark" of the above table.

Note 2: When the test result is a critical value, we will use the measurement uncertainty give the judgment result based on the 95% risk level.



2. Device Category and RF Exposure Limit

Per user manual, this device is a Plug-In Dimmer. Based on 47CFR 2.1093, this device belongs to portable device category with General Population/Uncontrolled exposure.

Portable Devices:

47CFR 2.1093(b)

For purposes of this section, a portable device is defined as a transmitting device designed to be used so that the radiating structure(s) of the device is/are within 20 centimeters of the body of the user.

General Population/Uncontrolled Exposure:

47CFR 2.1093(d) (2)

Limits for General Population/Uncontrolled exposure: 0.08 W/kg as averaged over the whole-body and spatial peak SAR not exceeding 1.6 W/kg as averaged over any 1 gram of tissue (defined as a tissue volume in the shape of a cube). Exceptions are the hands, wrists, feet and ankles where the spatial peak SAR shall not exceed 4 W/kg, as averaged over any 10 grams of tissue (defined as a tissue volume in the shape of a cube). General Population/Uncontrolled limits apply when the general public may be exposed, or when persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or do not exercise control over their exposure. Warning labels placed on consumer devices such as cellular telephones will not be sufficient reason to allow these devices to be evaluated subject to limits for occupational/controlled exposure in paragraph (d)(1) of this section.



3. RF Output Power

Frequency(MHz)	Max. Emission E(dB μ V/m)	Max. Emission (W)	Time-averaging E.I.R.P. (mW)
908.4	85.03	0.0178	0.09553
916.0	85.27	0.0183	0.10095

Note 1: According to KDB 447498 Section 4.3, SAR test exclusion conditions are based on source-based time-averaged maximum conducted output power of the RF channel requiring evaluation, adjusted for tune-up tolerance, and the minimum test separation distance required for the exposure conditions.

Note 2: The maximum average emission refers to report (Report No.: SZ20100058W01).

4. RF Exposure Evaluation

➤ **Standalone Transmission SAR Evaluation:**

1. According to KDB 447498 section 4.3.1, the 1-g SAR test exclusion thresholds at test separation Distances ≤ 50 mm are determined by:

$$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0.$$

- f(GHz) is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation
- The result is rounded to one decimal place for comparison

2. When standalone SAR is not required to be measured, per FCC KDB 447498 D01v06 4.3.2, the following equation must be used to estimate the standalone 1g SAR.

$$\text{Estimated SAR} = \frac{\sqrt{f(\text{GHz})}}{7.5} \cdot \frac{\text{Max. power of channel, mW}}{\text{Min. Separation Distance, mm}}$$

Frequency (MHz)	Time-averaging E.I.R.P. (mW)	Exposure Position	Hand/Body
		Test Distance (mm)	5
916.0	0.10095	Estimated SAR (W/kg)	0.003

➤ **Simultaneous SAR Evaluation:**

This device only incorporates one transmitter, therefore simultaneous SAR evaluation is not required.



Annex A Testing Laboratory Information

1. Identification of the Responsible Testing Laboratory

Laboratory Name:	Shenzhen Morlab Communications Technology Co., Ltd. Morlab Laboratory
Laboratory Address:	FL.3, Building A, FeiYang Science Park, No.8 LongChang Road, Block 67, BaoAn District, ShenZhen, GuangDong Province, P. R. China
Telephone:	+86 755 36698555
Facsimile:	+86 755 36698525

2. Identification of the Responsible Testing Location

Name:	Shenzhen Morlab Communications Technology Co., Ltd. Morlab Laboratory
Address:	FL.3, Building A, FeiYang Science Park, No.8 LongChang Road, Block 67, BaoAn District, ShenZhen, GuangDong Province, P. R. China

————— END OF REPORT —————