

## RF Exposure Evaluation Declaration

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**FCC ID** : 2AXJ4P125

**Applicant** : TP-Link Corporation Limited

**Application Type** : Certification

**Product** : Mini Smart Wi-Fi Plug

**Model No.** : Tapo P125

**Brand Name** : tp-link

**FCC Classification** : Digital Transmission System (DTS)  
Unlicensed National Information Infrastructure (NII)

**Received Date** : May 19 ,2022

**Test Date** : May 27 ,2022

**Tested By** : Owen Tsai  
( Owen Tsai )

**Reviewed By** : Paddy Chen  
( Paddy Chen )

**Approved By** : Chenz Ker  
( Chenz Ker )



The test results relate only to the samples tested.

The test results shown in the test report are traceable to the national/international standards through the calibration of the equipment and evaluated measurement uncertainty herein.

The test report shall not be reproduced except in full without the written approval of MRT Technology (Taiwan) Co., Ltd.

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## Revision History

Report No.	Version	Description	Issue Date	Note
2205TW0111-U3	1.0	Original Report	2022-07-05	Valid

## CONTENTS

Description	Page
<b>1. INTRODUCTION.....</b>	<b>5</b>
1.1. Scope .....	5
1.2. MRT Test Location.....	5
<b>2. PRODUCT INFORMATION.....</b>	<b>6</b>
2.1. Feature of Equipment under Test.....	6
2.2. Description of Antenna RF Port.....	7
<b>3. RF Exposure Evaluation .....</b>	<b>8</b>
3.1. Limits .....	8
3.2. Test Result of RF Exposure Evaluation .....	9
<b>Appendix A : External Photograph .....</b>	<b>10</b>
<b>Appendix B : Internal Photograph .....</b>	<b>11</b>

**General Information**

<b>Applicant</b>	TP-Link Corporation Limited
<b>Applicant Address</b>	Room 901, 9/F. , New East Ocean Centre, 9 Science Museum Road, Tsim Sha Tsui, Kowloon, Hongkong
<b>Manufacturer</b>	TP-Link Corporation Limited
<b>Manufacturer Address</b>	Room 901, 9/F. , New East Ocean Centre, 9 Science Museum Road, Tsim Sha Tsui, Kowloon, Hongkong
<b>Test Site</b>	MRT Technology (Taiwan) Co., Ltd
<b>Test Site Address</b>	No. 38, Fuxing Second Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C)
<b>MRT FCC Registration No.</b>	291082
<b>Test Device Serial No.</b>	N/A <input type="checkbox"/> Production <input checked="" type="checkbox"/> Pre-Production <input type="checkbox"/> Engineering

**Test Facility / Accreditations**

1. MRT facility is a FCC registered (Reg. No. 291082) test facility with the site description report on file and is designated by the FCC as an Accredited Test Firm.
2. MRT facility is an IC registered (MRT Reg. No. 21723) test laboratory with the site description on file at Industry Canada.
3. MRT Lab is accredited to ISO 17025 by the Taiwan Accreditation Foundation (TAF Cert. No. 3261) in EMC, Telecommunications and Radio testing for FCC (Designation Number: TW3261), Industry Taiwan, EU and TELEC Rules.

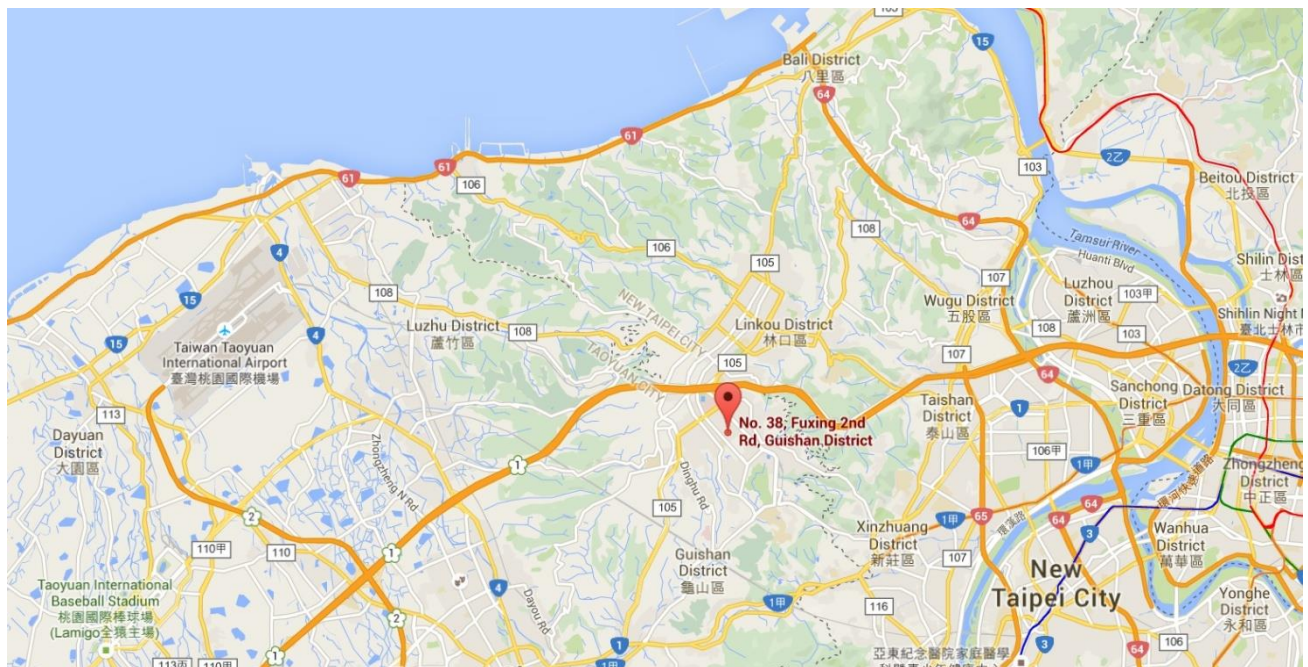
# 1. INTRODUCTION

## 1.1. Scope

Measurement and determination of electromagnetic emissions (EMC) of radio frequency devices including intentional and/or unintentional radiators for compliance with the technical rules and regulations of the Federal Communications Commission and the Innovation, Science and Economic Development Canada and Certification and Engineering Bureau.

## 1.2. MRT Test Location

The map below shows the location of the MRT LABORATORY, its proximity to the Taoyuan City. These measurement tests were conducted at the MRT Technology (Taiwan) Co., Ltd. Facility located at No.38, Fuxing 2nd Rd., Guishan Dist., Taoyuan City 33377, Taiwan (R.O.C).




## 2. PRODUCT INFORMATION

### 2.1. Feature of Equipment under Test

Product Name:	Mini Smart Wi-Fi Plug
Model No.:	Tapo P125
Brand Name:	tp-link
Supports Radios Spec.	<b>WLAN:</b> 2.4G: 802.11b/g/n-20 <b>WPAN:</b> Bluetooth: BLE V4.2
Wi-Fi Specification:	802.11b/g/n (1TX / 1RX)
Antenna Type	PCB Antenna
Antenna Gain	-0.71dBi

## 2.2. Description of Antenna RF Port

Antenna RF Port	
Software Control	2.4G Port
Port	Ant 0





### 3. RF Exposure Evaluation

#### 3.1. Limits

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in 1.1307(b)

##### LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm <sup>2</sup> )	Average Time (Minutes)
(A) Limits for Occupational/ Control Exposures				
300-1500	--	--	f/300	6
1500-100,000	--	--	5	6
(B) Limits for General Population/ Uncontrolled Exposures				
300-1500	--	--	f/1500	6
1500-100,000	--	--	1	30

f= Frequency in MHz

Calculation Formula:  $P_d = (P_{out} * G) / (4 * \pi * r^2)$

Where

$P_d$  = power density in mW/cm<sup>2</sup>

$P_{out}$  = output power to antenna in mW

$G$  = gain of antenna in linear scale

$\pi$  = 3.1416

$r$  = distance between observation point and center of the radiator in cm

$P_d$  is the limit of MPE, 1mW/cm<sup>2</sup>. If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance  $r$  where the MPE limit is reached.



### 3.2. Test Result of RF Exposure Evaluation

Product	Mini Smart Wi-Fi Plug
Test Item	RF Exposure Evaluation

Antenna Gain: Refer to clause 2.1.

Test Mode	Frequency Band (MHz)	Conducted Power (dBm)	Antenna Gain (dBi)	Maximum EIRP (dBm)
BLE	2402 ~ 2480	5.30	-0.71	4.59
802.11b/g/n	2412 ~ 2462	20.07	-0.71	19.36

Test Mode	Frequency Band (MHz)	Maximum EIRP (dBm)	Compliance Distance (cm)	Power Density (mW/cm <sup>2</sup> )	Limit of Power Density (mW/cm <sup>2</sup> )
BLE	2402 ~ 2480	4.59	20.00	0.0006	1
802.11b/g/n	2412 ~ 2462	19.36	20.00	0.0172	1

#### Conclusion:

**BLE and Wi-Fi cannot transmit simultaneously.**

The max Power Density at R (20 cm) = 0.0172mW/cm<sup>2</sup> < 1mW/cm<sup>2</sup>.

\_\_\_\_\_ The End \_\_\_\_\_

## **Appendix A : External Photograph**

Refer to “2205TW0111-External Photo” file.

## **Appendix B : Internal Photograph**

Refer to “2205TW0111-Internal Photo” file.