



RF Exposure Evaluation Declaration

FCC ID: 2AGN8-P22N12

APPLICANT: Sengled Co., Ltd.

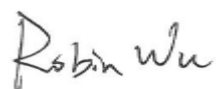
Application Type: Certification


Product: Pulse2

Model No.: P22-N12

Brand Name: sengled

FCC Classification: FCC Part 15 Spread Spectrum Transmitter(DSS)
Unlicensed National Information Infrastructure (UNII)

Reviewed By : 
Manager : _____
(Robin Wu)

Approved By : 
CEO : _____
(Marlin Chen)



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 (Suzhou) Co., Ltd.

Revision History

| Report No. | Version | Description | Issue Date | Note |
|--------------|---------|----------------|------------|-------|
| 1608RSU01002 | Rev. 01 | Initial report | 08-26-2016 | Valid |
| | | | | |

1. PRODUCT INFORMATION

1.1. Equipment Description

| | |
|--------------------|---|
| Product Name | Pulse2 |
| Model No. | P22-N12 |
| Frequency Range | <u>Wireless:</u> 5150~5250MHz, 5725~5850MHz |
| Type of Modulation | <u>Wireless:</u> QPSK |

1.2. Antenna Description

| Antenna No. | Antenna Type | Frequency Band (MHz) | Manufacturer | Tx Paths | Max Peak Gain (dBi) |
|-------------------------|--------------|----------------------|--------------|----------|---------------------|
| Wireless Antenna | | | | | |
| Antenna A | PCB Antenna | 5180 ~ 5240 | SMSC Inc. | 1 | 3.0 |
| | | 5736 ~ 5814 | | 1 | 3.2 |
| Antenna B | PCB Antenna | 5180 ~ 5240 | SMSC Inc. | 1 | 3.0 |
| | | 5736 ~ 5814 | | 1 | 3.2 |

2. RF Exposure Evaluation

2.1. 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 ²) | 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: $P_d = (P_{out} \cdot G) / (4 \cdot \pi \cdot r^2)$

Where

P_d = power density in mW/cm²

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

π = 3.1416

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

P_d is the limit of MPE, 1mW/cm². 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.

2.2. Test Result of RF Exposure Evaluation

| | |
|-----------|------------------------|
| Product | Pulse2 |
| Test Item | RF Exposure Evaluation |

Antenna Gain: Refer to Clause 1.2 of antenna description.

| Test Mode | Frequency Band (MHz) | Maximum Output Power (dBm) | Power Density at R = 20 cm (mW/cm ²) | Limit (mW/cm ²) |
|-----------|----------------------|----------------------------|--|-----------------------------|
| Wireless | 5180 ~ 5240 | 9.46 | 0.0035 | 1 |
| | 5736 ~ 5814 | 13.18 | 0.0086 | 1 |

CONCULISON:

The Max Power Density at R (20 cm) = 0.0086mW/cm² < 1mW/cm².

So the EUT complies with the requirement.

_____ The End _____