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Report No.: 1508RSU01204  
Report Version: V01  
Issue Date: 09-06-2015

## Co-location Report

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**FCC ID:** 2ABX8SH-0000000011

**IC:** 12219A-000000000011

**APPLICANT:** Zhejiang shenghui lighting Co., Ltd. Shanghai Branch

**Application Type:** Certification

**Product:** Element hub

**Model No.:** Z01-hub

**Trademark:** sengled

**FCC Classification:** Digital Transmission System (DTS)

**Test Date:** August 26 ~ September 01, 2015

Reviewed By : Robin Wu  
( Robin Wu )

Approved By : Marlin Chen  
( Marlin Chen )



The test results relate only to the samples tested.

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in ANSI C63.4-2014. Test results reported herein relate only to the item(s) tested.

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
1508RSU01204	Rev. 01	Initial report	09-06-2015

## §2.1033 General Information

<b>Applicant:</b>	Zhejiang shenghui lighting Co., Ltd. Shanghai Branch
<b>Applicant Address:</b>	Rm. 801, 1st Xinye Building, 388 Tianlin Rd., Caohejing Development Zone, Shanghai, 200233, China
<b>Manufacturer:</b>	ZHEJIANG SHENGHUI LIGHTING Co., Ltd
<b>Manufacturer Address:</b>	South Jiachuang Rd., Xiuzhou Industrial Park Jiaxing, Zhejiang 314015 P.R. China
<b>Test Site:</b>	MRT Technology (Suzhou) Co., Ltd
<b>Test Site Address:</b>	D8 Building, No.2 Tian'edang Rd., Wuzhong Economic Development Zone, Suzhou, China
<b>MRT FCC Registration No.:</b>	809388
<b>MRT IC Registration No.:</b>	11384A
<b>FCC Rule Part(s):</b>	Part 15.247
<b>IC Rule:</b>	RSS-247 Issue 1
<b>Model No.:</b>	Z01-hub
<b>FCC ID:</b>	2ABX8SH-000000011
<b>IC:</b>	12219A-00000000011
<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

Measurements were performed at MRT Laboratory located in Tian'edang Rd., Suzhou, China.

- MRT facility is a FCC registered (MRT Reg. No. 809388) test facility with the site description report on file and has met all the requirements specified in Section 2.948 of the FCC Rules.
- MRT facility is an IC registered (MRT Reg. No. 11384A-1) test laboratory with the site description on file at Industry Canada.
- MRT facility is a VCCI registered (R-4179, G-814, C-4664, T-2206) test laboratory with the site description on file at VCCI Council.
- MRT Lab is accredited to ISO 17025 by the American Association for Laboratory Accreditation (A2LA) under the American Association for Laboratory Accreditation Program (A2LA Cert. No. 3628.01) in EMC, Telecommunications and Radio testing for FCC, Industry Canada, 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 Industry Canada Certification and Engineering Bureau.

### 1.2. MRT Test Location

The map below shows the location of the MRT LABORATORY, its proximity to the Taihu Lake. These measurement tests were conducted at the MRT Technology (Suzhou) Co., Ltd. Facility located at D8 Building, Youxin Industrial Park, No.2 Tian'edang Rd., Wuzhong Economic Development Zone, Suzhou, China. The detailed description of the measurement facility was found to be in compliance with the requirements of § 2.948 according to ANSI C63.4-2009 on September 30, 2013.

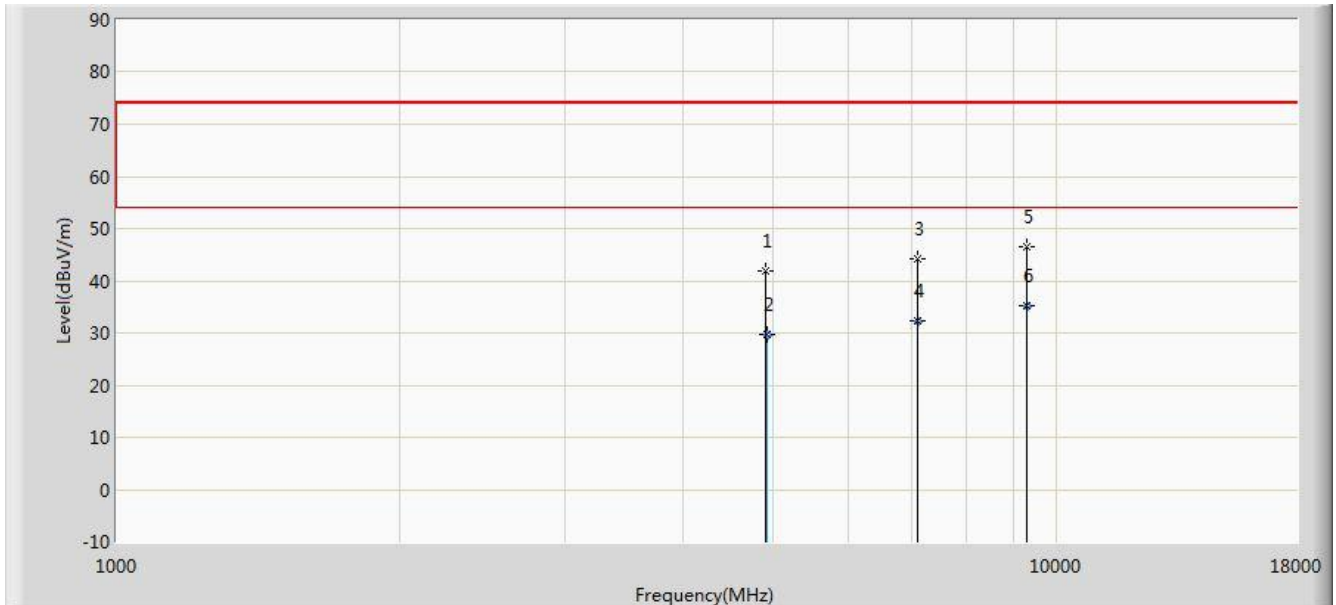


## 2. PRODUCT INFORMATION

Product Name	Element hub
Model No.	Z01-hub
<b>Zigbee Specification</b>	
Frequency Range	2405 ~ 2480 MHz
Type of Modulation	O-QPSK
<b>Wi-Fi Specification</b>	
Frequency Range	2412 ~ 2462 MHz
Type of Modulation	802.11b: DSSS 802.11g/n: OFDM

### 3. TEST RESULT of Radiated Emissions for Co-located

Test Mode:	2.4GHz Wi-Fi + 2.4GHz ZigBee	Test Site:	AC1
Test Engineer:	Milo Li	Polarity:	Horizontal
Remark:	There is the ambient noise within frequency range 9kHz~30MHz and 18GHz~40GHz, the permissible value is not show in the report.		

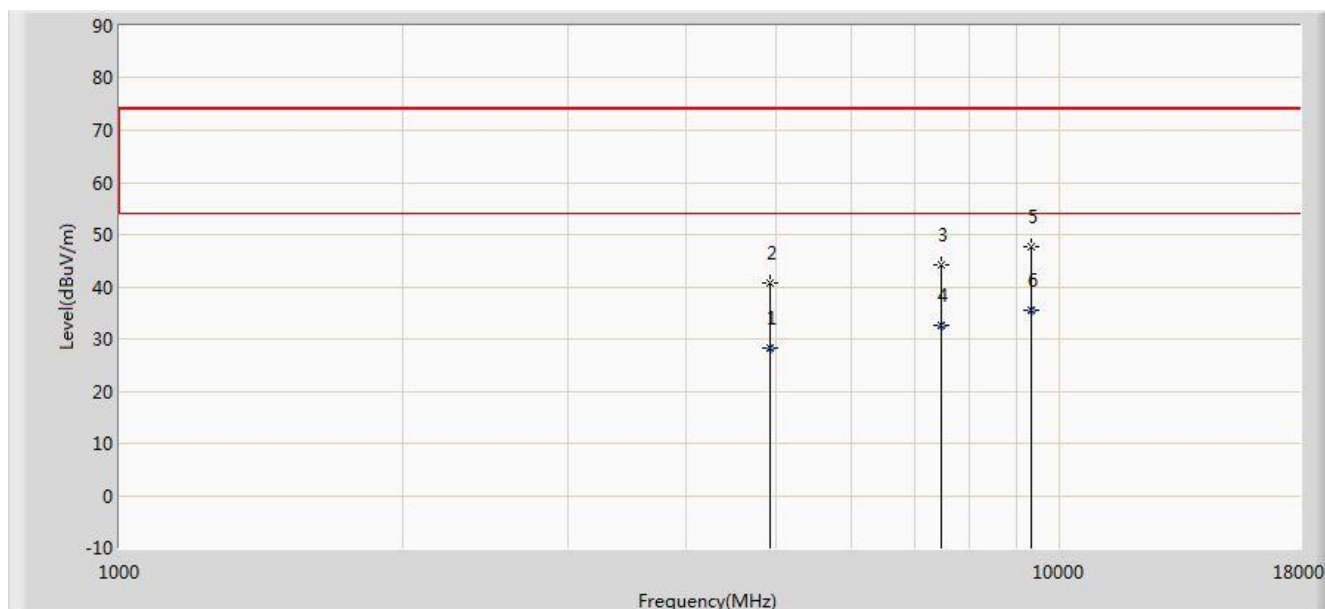


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			4912.500	41.939	39.200	-32.061	74.000	2.739	PK
2			4912.500	29.763	27.020	-24.237	54.000	2.743	AV
3			7121.500	44.076	36.465	-29.924	74.000	7.611	PK
4			7121.500	32.308	24.688	-21.692	54.000	7.620	AV
5			9297.800	46.587	36.239	-27.413	74.000	10.348	PK
6		*	9297.800	35.205	24.855	-18.795	54.000	10.350	AV

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) – Pre-Amplifier Gain (dB).

Test Mode:	2.4GHz Wi-Fi + 2.4GHz ZigBee	Test Site:	AC1
Test Engineer:	Milo Li	Polarity:	Vertical
Remark:	There is the ambient noise within frequency range 9kHz~30MHz and 18GHz~40GHz, the permissible value is not show in the report.		



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			4923.640	40.675	37.905	-33.325	74.000	2.770	PK
2			4923.640	28.150	25.386	-25.850	54.000	2.764	AV
3			7486.800	44.236	36.035	-29.764	74.000	8.201	PK
4			7486.800	32.562	24.358	-21.438	54.000	8.203	AV
5			9315.600	47.731	37.364	-26.269	74.000	10.367	PK
6		*	9315.600	35.508	25.133	-18.492	54.000	10.374	AV

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) – Pre-Amplifier Gain (dB).

The End