



TEST REPORT

FCC ID: 2AFGBLY-95S

On Behalf of

Shenzhen Longzhiyuan Technology Co., Ltd.

Video Doorbell

Model No.: LY-95S

Prepared for : Shenzhen Longzhiyuan Technology Co., Ltd.
Address : 5F Building B, Zhuangbian 2nd Industrial Park, Hezhou Industrial District, Xixiang Town, Bao' an District, Shenzhen, China

Prepared By : Shenzhen Alpha Product Testing Co., Ltd.
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TEST REPORT DECLARATION

Applicant : Shenzhen Longzhiyuan Technology Co., Ltd.
 Address : 5F Building B, Zhuangbian 2nd Industrial Park, Hezhou Industrial District, Xixiang Town, Bao'an District, Shenzhen, China
 Manufacturer : Shenzhen Longzhiyuan Technology Co., Ltd.
 Address : 5F Building B, Zhuangbian 2nd Industrial Park, Hezhou Industrial District, Xixiang Town, Bao'an District, Shenzhen, China
 EUT Description : Video Doorbell
 (A) Model No. : LY-95S
 (B) Trademark : N/A

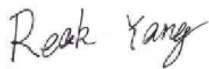
Measurement Standard Used:

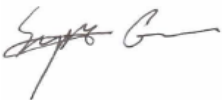
**FCC Rules and Regulations Part 15 Subpart C 2016,
ANSI C63.4:2014, ANSI C63.10:2013**

The device described above is tested by Shenzhen Alpha Product Testing Co., Ltd. to determine the maximum emission levels emanating from the device. The maximum emission levels are compared to the FCC Part 15 Subpart C limits both conducted and radiated emissions. The test results are contained in this test report and Shenzhen Alpha Product Testing Co., Ltd. is assumed of full responsibility for the accuracy and completeness of these tests.

After the test, our opinion is that EUT compliance with the requirement of the above standards.

This report applies to above tested sample only. This report shall not be reproduced in parts without written approval of Shenzhen Alpha Product Testing Co., Ltd.

Tested by (name + signature).....: Reak Yang
 Project Engineer 

Approved by (name + signature).....: Simple Guan
 Project Manager 

Date of issue.....: July 11,2017

Revision History

| Revision | Issue Date | Revisions | Revised By |
|----------|--------------|------------------------|-------------|
| 00 | July 11,2017 | Initial released Issue | Simple Guan |

1 General Information

1.1 Description of Device (EUT)

EUT Name : Video Doorbell
Trade Name : N/A
Model No. : LY-95S
Power supply : AC 18V from adapter input AC 120V/60Hz
IEEE 802.11b/g: 2412MHz-2462MHz
Operation frequency : IEEE 802.11n HT20: 2412MHz-2462MHz
IEEE 802.11n HT40: 2422MHz-2452MHz
IEEE 802.11b: DSSS(CCK,DQPSK,DBPSK)
Modulation : IEEE 802.11g: OFDM(64QAM, 16QAM, QPSK, BPSK)
IEEE 802.11n: OFDM (64QAM, 16QAM, QPSK,BPSK)
Antenna Type : PIFA Antenna, Maximum Gain is 3.55dBi for WIFI

Software version : V2.1
Hardware version : V2.0

1.2 Accessories of device (EUT)

Accessories1 : N/A

Model : N/A

1.3 Test Lab information

Shenzhen Alpha Product Testing Co., Ltd

Building i, No.2, Lixin Road, Fuyong Street, Bao'an District, 518103,
Shenzhen, Guangdong, China

August 11, 2014 File on Federal Communication Commission
Registration Number: 203110

July 26, 2017 Certificated by IC
Registration Number: 12135A

2 EMC Equipment List

| Equipment | Manufacture | Model No. | Serial No. | Last cal. | Cal Interval |
|--|---------------|-------------|-------------------|------------|--------------|
| 3m Semi-Anechoic | CHENYU | N/A | N/A | 2018.01.18 | 2Year |
| Spectrum analyzer | Agilent | E4407B | MY46185649 | 2017.01.16 | 1Year |
| Receiver | R&S | ESPI | 101873 | 2017.01.16 | 1Year |
| Receiver | R&S | ESCI | 101165 | 2017.01.16 | 1Year |
| Bilog Antenna | SCHWARZBECK | VULB 9168 | VULB9168-438 | 2018.01.18 | 2Year |
| Horn Antenna | SCHWARZBECK | BBHA 9120 D | BBHA 9120 D(1201) | 2017.01.20 | 2Year |
| Cable | Resenberger | N/A | No.1 | 2017.01.16 | 1Year |
| Cable | SCHWARZBECK | N/A | No.2 | 2017.01.16 | 1Year |
| Cable | SCHWARZBECK | N/A | No.3 | 2017.01.16 | 1Year |
| Pre-amplifier | HP | HP8347A | 2834A00455 | 2017.01.18 | 1Year |
| Pre-amplifier | Agilent | 8449B | 3008A02664 | 2017.01.18 | 1Year |
| vector Signal Generator | Agilent | N5182A | MY49060042 | 2016.11.16 | 1 Year |
| vector Signal Generator | Agilent | E4438C | US44271917 | 2016.11.16 | 1 Year |
| X-series USB Peak and Average Power Sensor | Agilent | U2021XA | MY54080020 | 2016.11.16 | 1 Year |
| X-series USB Peak and Average Power Sensor | Agilent | U2021XA | MY54110001 | 2016.11.16 | 1 Year |
| Signal Analyzer | Agilent | N9020A | MY48030494 | 2016.11.16 | 1 Year |
| L.I.S.N.#1 | Schwarzbeck | NSLK8126 | 8126466 | 2017.01.16 | 1 Year |
| L.I.S.N.#2 | ROHDE&SCHWARZ | ENV216 | 101043 | 2017.01.16 | 1 Year |

3 Test Procedure

POWER LINE CONDUCTED INTERFERENCE: The test procedure used was ANSI Standard ANSI C63.4:2014 using a 50 u H LISN. Both Lines were observed. The bandwidth of the receiver was 10kHz with an appropriate sweep speed. The ambient temperature of the EUT was 25°C with a humidity of 58%.

RADIATION INTERFERENCE: The test procedure used was ANSI Standard ANSI C63.4:2014 using a ANRITSU spectrum analyzer with a pre-selector. The analyzer was calibrated in dB above a micro volt at the output of the antenna. The resolution bandwidth was 100kHz and the video bandwidth was 300 kHz up to 1 GHz and 1 MHz with a video BW of 3MHz above 1 GHz. The ambient temperature of the EUT was 25°C with a humidity of 58%.

FORMULA OF CONVERSION FACTORS: The Field Strength at 3m was established by adding the meter reading of the spectrum analyzer (which is set to read in units of dBuV) to the antenna correction factor supplied by the antenna manufacturer and cable loss. The antenna correction factors and cable loss are stated in terms of dB. The gain of the Pre-selector was accounted for in the Spectrum Analyzer Meter Reading.

Example:

Freq (MHz) METER READING + ACF + CABLE = FS

33.20 dBuV + 10.36 dB + 0.9 dB= 44.46 dBuV/m @ 3m

ANSI STANDARD ANSI C63.4:2014 10.1.7 MEASUREMENT PROCEDURES: The EUT was placed on a table 80 cm high and with dimensions of 1m by 1.5m. The EUT was placed in the center of the table (1.5m side). The table used for radiated measurements is capable of continuous rotation. When an emission was found, the table was rotated to produce the maximum signal strength. At this point, the antenna was raised and lowered from 1m to 4m. The antenna was placed in both the horizontal and vertical planes. The situation was similar for the conducted measurement except that the table did not rotate. The EUT was setup as described in ANSI Standard ANSI C63.4:2014 10.1.7 with the EUT 40 cm from the vertical ground wall.

4 Summary of Measurement

4.1 Summary of test result

Note: The EUT has been tested as an independent unit. And Continual Transmitting in

| Test Item | Test Requirement | Standards Paragraph | Result |
|---------------------|------------------------------------|---|------------|
| Spurious Emission | FCC PART 15 : 2014 & IC RSS-247 | Section 15.247&15.209 & RSS-247 Section 5.5 | Compliance |
| Conduction Emission | FCC PART 15 : 2015 & IC RSS Gen | Section 15.207&7.2.4 | Compliance |
| Bandwidth Test | FCC PART 15 : 2015 & IC RSS-247 | Section 15.247& RSS-247 5.1(2) | Compliance |
| Peak Power | FCC PART 15 : 2015 & IC RSS-247 | Section 15.247 & RSS-247 5.4(2) | Compliance |
| Power Density | FCC PART 15 : 2015 & IC RSS-247 | Section 15.247 & Section 5.2(2) | Compliance |
| Band Edge | FCC PART 15 : 2015 & IC RSS-247 | Section 15.247 & Section 5.5 | Compliance |
| Antenna Requirement | FCC PART 15 : 2015 & IC RSS Gen | Section 15.203&7.1.4 | Compliance |

maximum power (The adapter be used during Test)

4.2 Test connection



4.3 Assistant equipment used for test

| | | |
|--------------|---|----------|
| Description | : | Adapter |
| Manufacturer | : | CAIXING |
| Model No. | : | AC-AC18V |

4.4 Test mode

| Duty cycle :100% | | | |
|---|-------------------------------|-------------|--------------------|
| Keeping TX | | | |
| Mode | data rate (Mbps)(see Note) | Channel | Frequency (MHz) |
| IEEE 802.11b | 1 | Low :CH1 | 2412 |
| | 1 | Middle: CH6 | 2437 |
| | 1 | High: CH11 | 2462 |
| IEEE 802.11g | 6 | Low :CH1 | 2412 |
| | 6 | Middle: CH6 | 2437 |
| | 6 | High: CH11 | 2462 |
| IEEE 802.11 n/HT20 with 2.4G | 6.5 | Low :CH1 | 2412 |
| | 6.5 | Middle: CH6 | 2437 |
| | 6.5 | High: CH11 | 2462 |
| IEEE 802.11 n/HT40 with 2.4G | 13.5 | Low :CH3 | 2422 |
| | 13.5 | Middle:CH6 | 2437 |
| | 13.5 | High:CH9 | 2452 |
| Note: According exploratory test, EUT will have maximum output power in those data rate. so those data rate were used for all test. | | | |

4.5 Channel list

| For IEEE 802.11b/g and IEEE 802.11n/HT20 with 2.4G | | | | | |
|--|--------------------|---------|--------------------|---------|--------------------|
| Channel | Frequency (MHz) | Channel | Frequency (MHz) | Channel | Frequency (MHz) |
| CH1 | 2412 | CH5 | 2432 | CH9 | 2452 |
| CH2 | 2417 | CH6 | 2437 | CH10 | 2457 |
| CH3 | 2422 | CH7 | 2442 | CH11 | 2462 |
| CH4 | 2427 | CH8 | 2447 | | |

| For IEEE 802.11n/HT40 with 2.4G | | | | | |
|---------------------------------|--------------------|---------|--------------------|---------|--------------------|
| Channel | Frequency (MHz) | Channel | Frequency (MHz) | Channel | Frequency (MHz) |
| CH1 | / | CH5 | 2432 | CH9 | 2452 |
| CH2 | / | CH6 | 2437 | / | / |
| CH3 | 2422 | CH7 | 2442 | / | / |
| CH4 | 2427 | CH8 | 2447 | / | / |

4.6 Test Conditions

| | |
|-------------------|-----------|
| Temperature range | 21-25°C |
| Humidity range | 40-75% |
| Pressure range | 86-106kPa |

4.7 Measurement Uncertainty (95% confidence levels, k=2)

| Item | MU | Remark |
|---|--------------------|-------------|
| Uncertainty for Power point Conducted Emissions Test | 2.42dB | |
| Uncertainty for Radiation Emission test in 3m chamber (below 30MHz) | 2.13 dB | Polarize: V |
| | 2.57dB | Polarize: H |
| Uncertainty for Radiation Emission test in 3m chamber (30MHz to 1GHz) | 3.54dB | Polarize: V |
| | 4.1dB | Polarize: H |
| Uncertainty for Radiation Emission test in 3m chamber (1GHz to 25GHz) | 2.08dB | Polarize: H |
| | 2.56dB | Polarize: V |
| Uncertainty for radio frequency | 1×10 ⁻⁹ | |
| Uncertainty for conducted RF Power | 0.65dB | |
| Uncertainty for temperature | 0.2°C | |
| Uncertainty for humidity | 1% | |
| Uncertainty for DC and low frequency voltages | 0.06% | |

5 Spurious Emission

5.1 Radiation Emission

5.1.1 Radiation Emission Limits(15.209)

| Frequencies (MHz) | Field Strength (micorvolts/meter) | Measurement Distance (meters) |
|----------------------|--------------------------------------|----------------------------------|
| 0.009~0.490 | 2400/F(KHz) | 300 |
| 0.490~1.705 | 24000/F(KHz) | 30 |
| 1.705~30.0 | 30 | 30 |
| 30~88 | 100 | 3 |
| 88~216 | 150 | 3 |
| 216~960 | 200 | 3 |
| Above 960 | 500 | 3 |

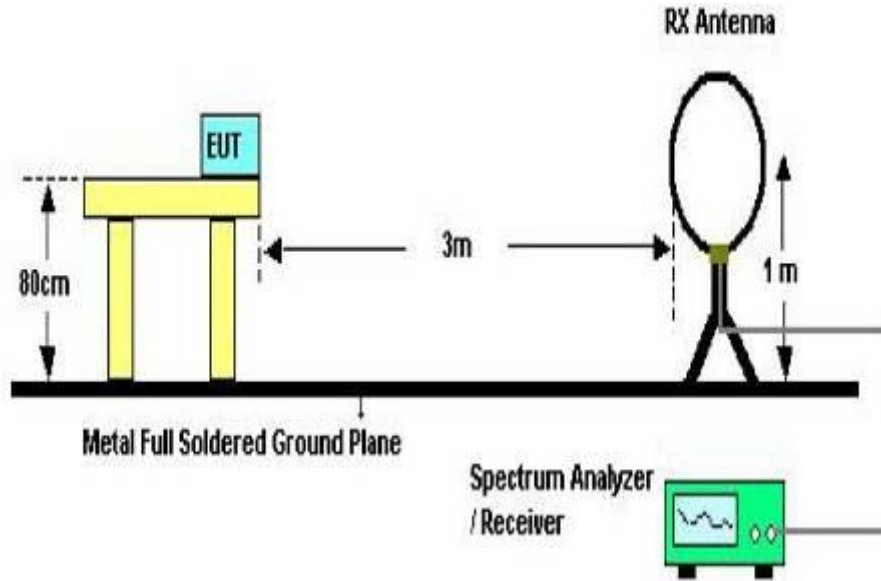
Harmonic emissions limits comply with below 54 dBuV/m at 3m. Other emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or comply with the radiated emissions limits specified in section 15.209(a) limit in the table below has to be followed.

NOTE:

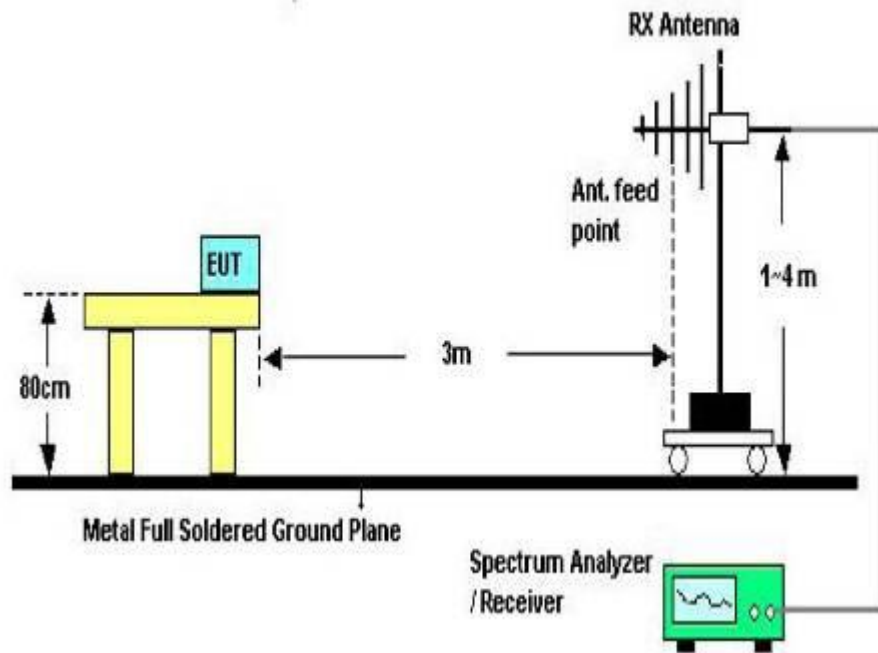
- a) The tighter limit applies at the band edges.
- b) Emission Level(dB uV/m)=20log Emission Level(Uv/m)

5.1.2 Test Setup

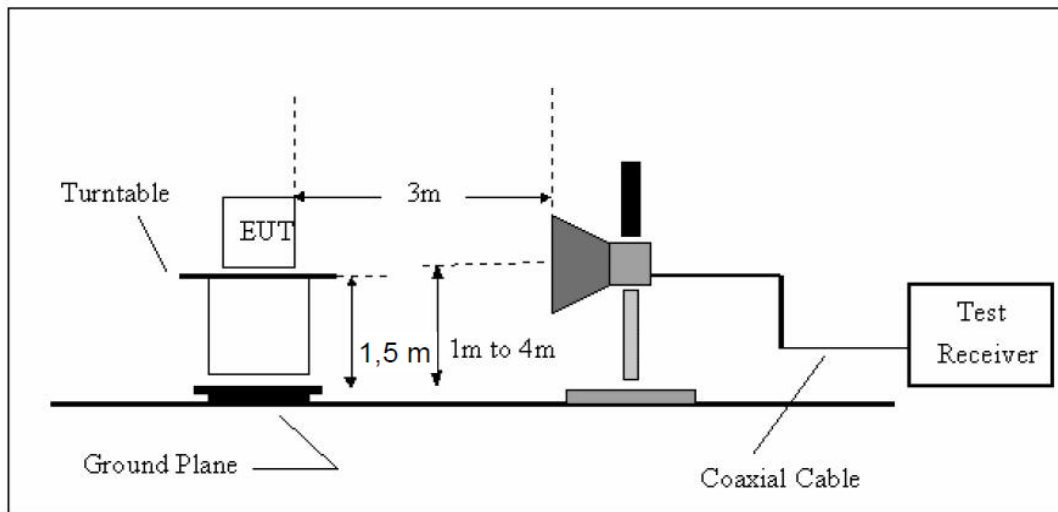
See the next page



Below 30MHz Test Setup



Above 30MHz Test Setup



Above 1GHz Test Setup

5.1.3 Test Procedure

- a) The measuring distance of 3m shall be used for measurements at frequency up to 1GHz and above 1GHz, The EUT was placed on a rotating 0.8 m high above ground, The table was rotated 360 degrees to determine the position of the highest radiation
- b) The Test antenna shall vary between 1m and 4m, Both Horizontal and Vertical antenna are set of make measurement.
- c) The initial step in collecting conducted emission data is a spectrum analyzer Peak detector mode pre-scanning the measurement frequency range. Significant Peaks are then marked. and then Qusia Peak Detector mode premeasured
- d) If Peak value comply with QP limit Below 1GHz. The EUT deemed to comply with QP limit. But the Peak value and average value both need to comply with applicable limit above 1GHz.
- e) For the actual test configuration, please see the test setup photo.

5.1.4 Test Equipment Setting For emission test Result

| | | |
|--------------|------------|------------|
| 9KHz~150KHz | RBW 200Hz | VBW1KHz |
| 150KHz~30MHz | RBW 9KHz | VBW 30KHz |
| 30MHz~1GHz | RBW 120KHz | VBW 300KHz |
| Above 1GHz | RBW 1MHz | VBW 3MHz |

5.1.5 Test Condition

Continual Transmitting in maximum power.

5.1.6 Test Result

We have scanned the 9KHz from 25GHz to the EUT.
Detailed information please see the following page.

From 9KHz to 30MHz: Conclusion: PASS

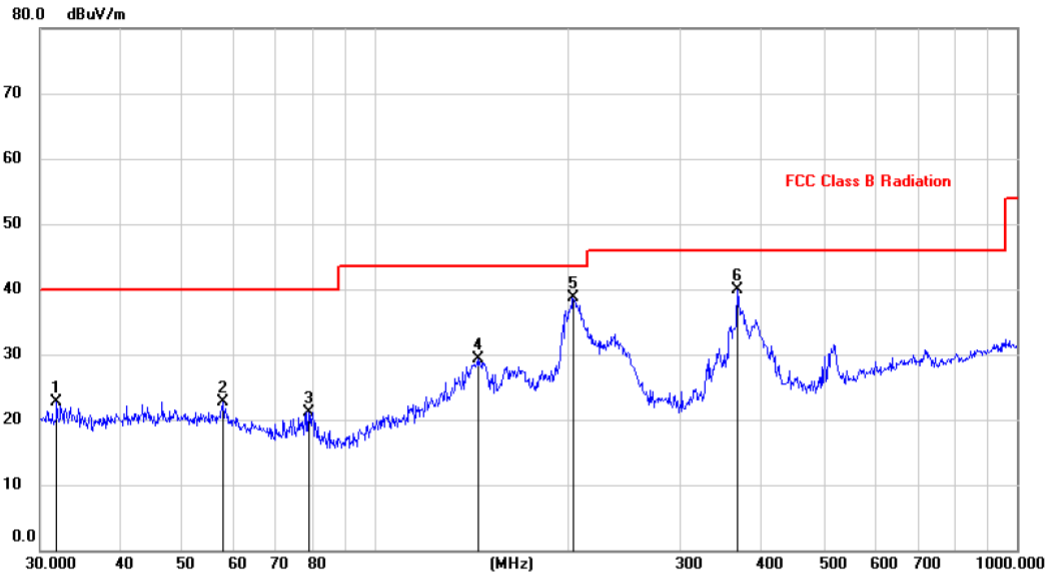
Note: The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

Site: LAB
 Limit: FCC Class B Radiation
 EUT: Video Doorbell
 M/N: LY-95S
 Mode: WIFI
 Note:
 Engineer Signature:

Polarization: **Vertical**
 Power: AC 120V/60Hz
 Distance: 3m
 Temperature: 23.9
 Humidity: 46 %

Radiated Emission Measurement

File :LY-95S Data :#3 Date: 2017/6/30 Time: 16:33:09



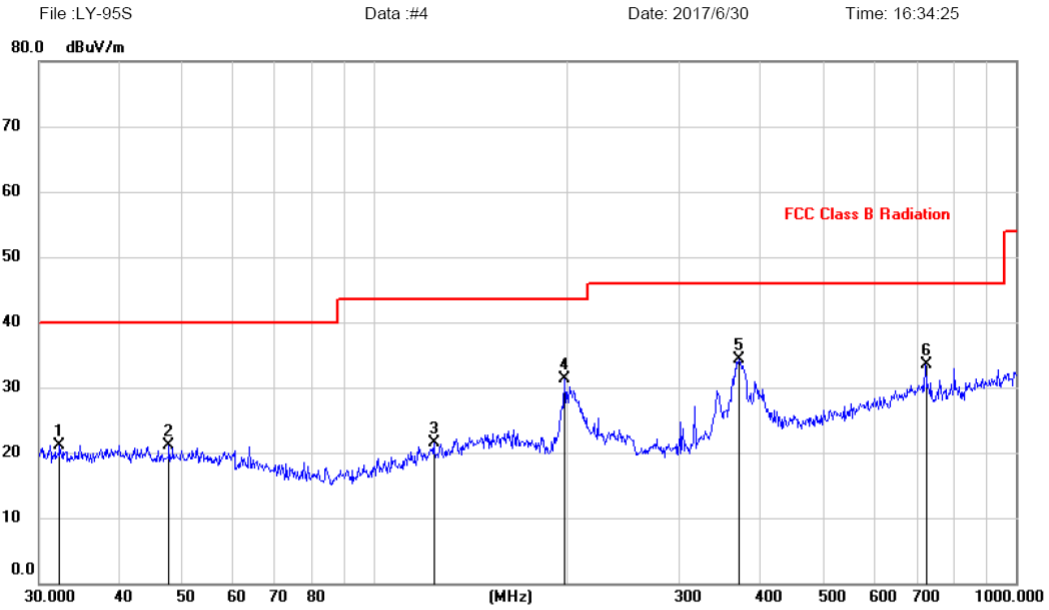
| No. | Mk. | Freq. | Reading Level | Correct Factor | Measurement | Limit | Margin | Antenna Height | Table Degree | |
|-----|-----|----------|---------------|----------------|-------------|--------|--------|----------------|--------------|---------|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | cm | degree | Comment |
| 1 | | 31.8427 | 9.30 | 13.38 | 22.68 | 40.00 | -17.32 | | | peak |
| 2 | | 57.7962 | 9.56 | 13.12 | 22.68 | 40.00 | -17.32 | | | peak |
| 3 | | 78.6888 | 11.55 | 9.64 | 21.19 | 40.00 | -18.81 | | | peak |
| 4 | | 144.8418 | 15.11 | 14.17 | 29.28 | 43.50 | -14.22 | | | peak |
| 5 | * | 203.5228 | 28.19 | 10.46 | 38.65 | 43.50 | -4.85 | | | peak |
| 6 | | 366.8231 | 24.88 | 14.97 | 39.85 | 46.00 | -6.15 | | | peak |

Note: 1. *:Maximum data; x:Over limit; !:over margin.
 2.Measurement=Reading Level+Correct Factor; Correct Factor=Antenna Factor+Cable Loss.

Site LAB
 Limit: FCC Class B Radiation
 EUT: Video Doorbell
 M/N: LY-95S
 Mode:WIFI
 Note:
 Engineer Signature:

Polarization: **Horizontal**
 Power: AC 120V/60Hz
 Distance: 3m
 Temperature: 23.9
 Humidity: 46 %

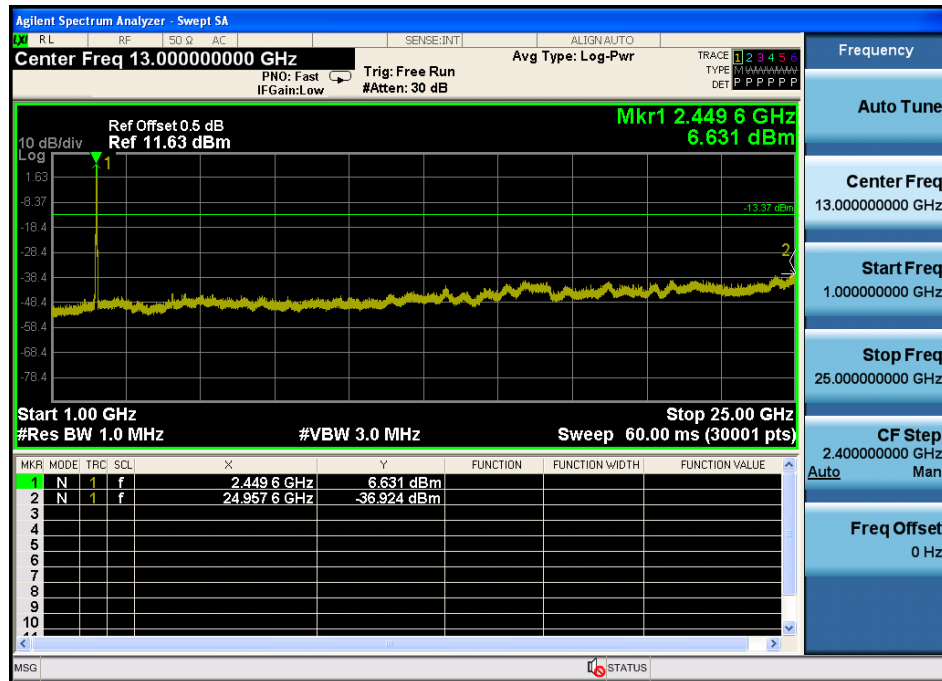
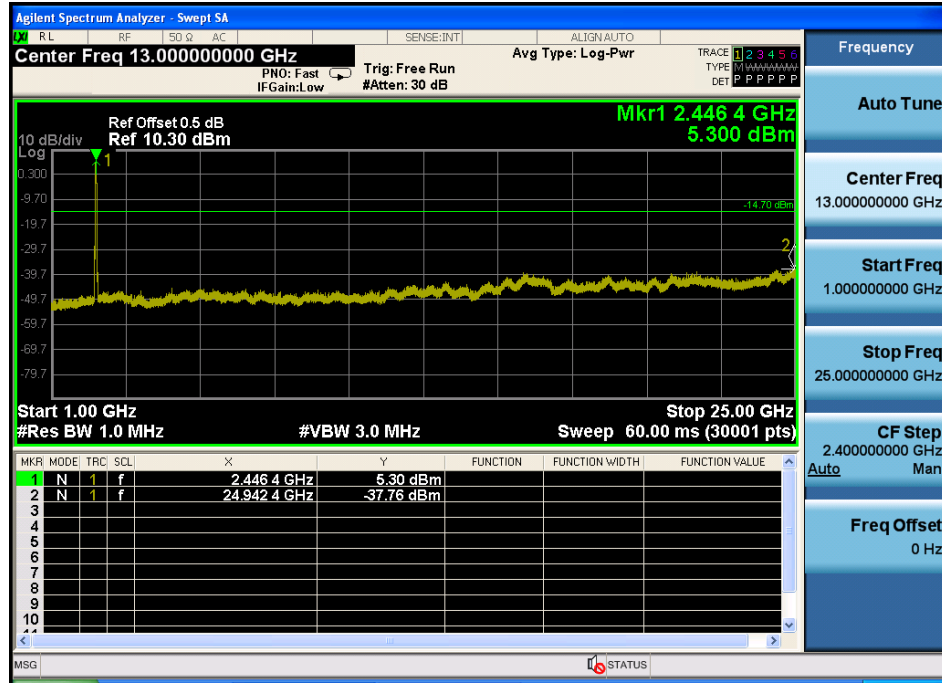
Radiated Emission Measurement



| No. | Mk. | Freq. | Reading Level | Correct Factor | Measurement | Limit | Margin | Antenna Height | Table Degree | |
|-----|-----|----------|---------------|----------------|-------------|--------|--------|----------------|--------------|---------|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | cm | degree | Comment |
| 1 | | 32.2925 | 7.64 | 13.40 | 21.04 | 40.00 | -18.96 | | | peak |
| 2 | | 47.8260 | 7.50 | 13.69 | 21.19 | 40.00 | -18.81 | | | peak |
| 3 | | 124.1330 | 8.66 | 12.86 | 21.52 | 43.50 | -21.98 | | | peak |
| 4 | | 197.8928 | 20.85 | 10.46 | 31.31 | 43.50 | -12.19 | | | peak |
| 5 | * | 369.4047 | 19.25 | 15.15 | 34.40 | 46.00 | -11.60 | | | peak |
| 6 | | 724.2611 | 12.33 | 21.25 | 33.58 | 46.00 | -12.42 | | | peak |

Note:1. *:Maximum data; x:Over limit; !:over margin.
 2.Measurement=Reading Level+Correct Factor; Correct Factor=Antenna Factor+Cable Loss.

Remark: All modes and channels have been tested and only worst data of 802.11b, 2412MHz is listed in this report.



6 POWER LINE CONDUCTED EMISSION

6.1 Conducted Emission Limits(15.207)

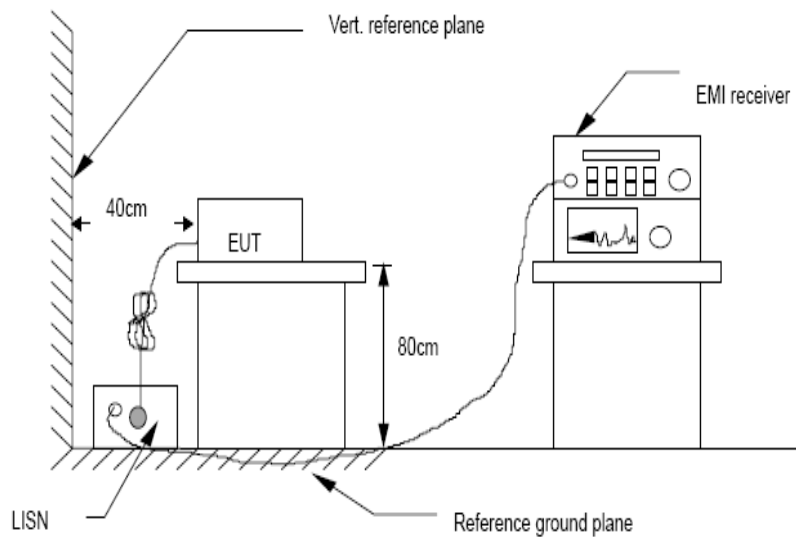
| Frequency MHz | Limits dB(μ V) | |
|------------------|---------------------|---------------|
| | Quasi-peak Level | Average Level |
| 0.15 -0.50 | 66 -56* | 56 - 46* |
| 0.50 -5.00 | 56 | 46 |
| 5.00 -30.00 | 60 | 50 |

Notes: 1. *Decreasing linearly with logarithm of frequency.

2. The lower limit shall apply at the transition frequencies.

3. The limit decreases in line with the logarithm of the frequency in the rang of 0.15 to 0.50 MHz.

6.2 Test Setup



6.3 Test Procedure

The EUT is put on the plane 0.8m high above the ground by insulating support and is connected to the power mains through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm coupling impedance for the EUT system. Please refer the block diagram of the test setup and photographs. Both sides of AC lines are checked to find out the maximum conducted emission. In order to find the maximum emission levels, the relative positions of equipment and all of the interface cables shall be changed according to ANSI C63.4:2014 on Conducted Emission Measurement. The bandwidth of test receiver is set at 9 kHz.

6.4 Test Results

Worse case is reported only

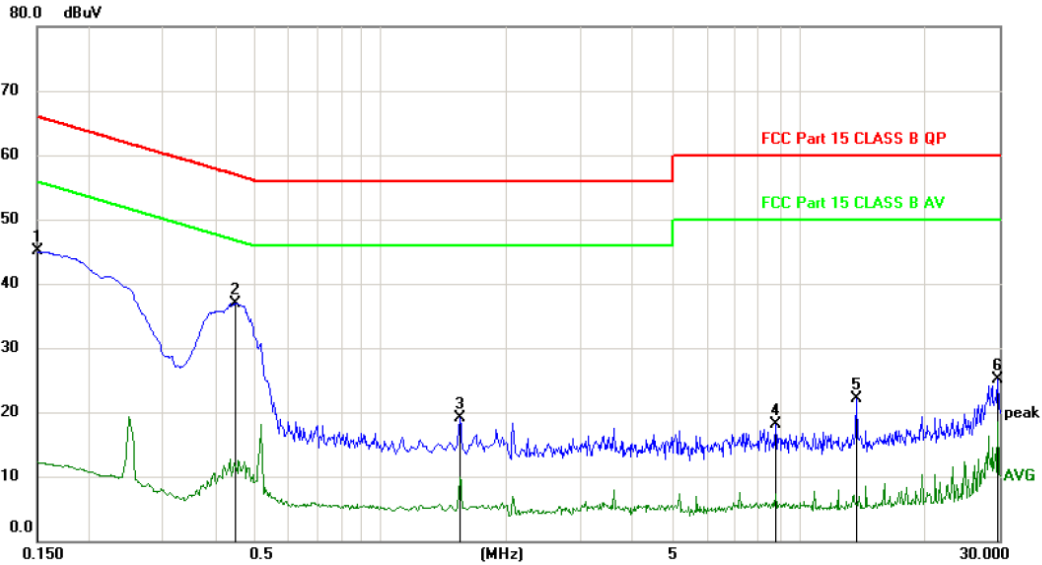
PASS

Detailed information please see the following page.

| | | |
|-------------------------------|---------------------|-------------------|
| Site LAB | Phase: N | Temperature: 24.2 |
| Limit: FCC Part 15 CLASS B QP | Power: AC 120V/60Hz | Humidity: 53 % |
| EUT: Video Doorbell | | |
| M/N: LY-95S | | |
| Mode: WIFI | | |
| Note: | | |
| Engineer Signature: | | |

Conducted Emission Measurement

File :LY-95S Data :#3 Date: 2017-6-29 Time: 10:39:21



| No. | Mk. | Freq. MHz | Reading Level | Correct Factor | Measure- ment | Limit | Margin | Detector | Comment |
|-----|-----|--------------|------------------|-------------------|------------------|-------|--------|----------|---------|
| | | | | | dBuV | dBuV | dB | | |
| 1 | | 0.1500 | 35.28 | 9.73 | 45.01 | 66.00 | -20.99 | peak | |
| 2 | * | 0.4470 | 27.11 | 9.78 | 36.89 | 56.93 | -20.04 | peak | |
| 3 | | 1.5405 | 9.27 | 9.88 | 19.15 | 56.00 | -36.85 | peak | |
| 4 | | 8.7405 | 7.71 | 10.31 | 18.02 | 60.00 | -41.98 | peak | |
| 5 | | 13.6605 | 11.73 | 10.33 | 22.06 | 60.00 | -37.94 | peak | |
| 6 | | 29.8205 | 13.94 | 11.21 | 25.15 | 60.00 | -34.85 | peak | |

*:Maximum data x:Over limit !:over margin

Note: Measurement=Reading Level+Correc Factor. Factor=(LISN or ISN or PLC or Current Probe)Factor+Cable

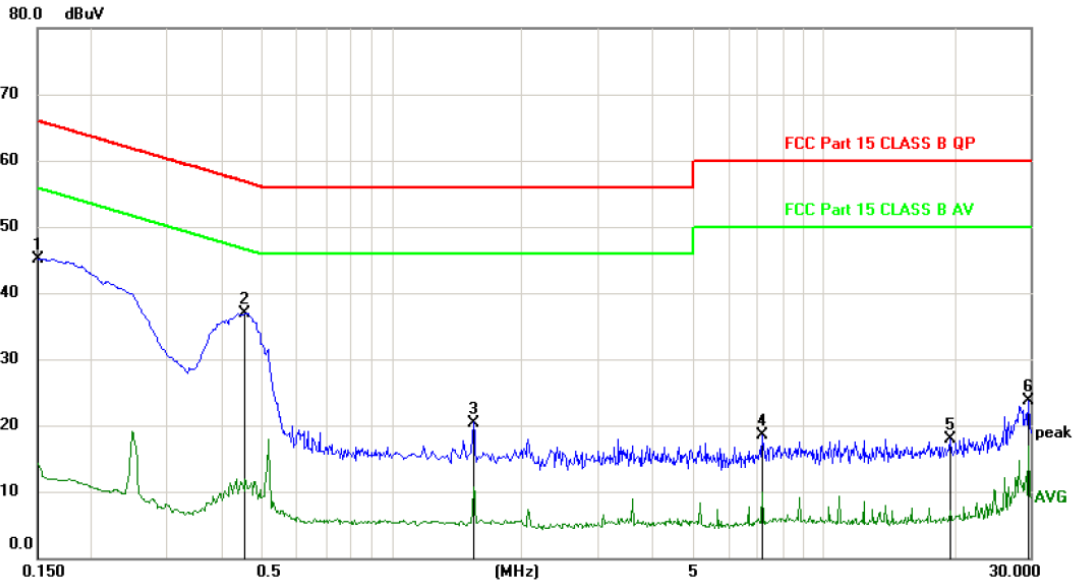
Site LAB
 Limit: FCC Part 15 CLASS B QP
 EUT: Video Doorbell
 M/N: LY-95S
 Mode: WIFI
 Note:
 Engineer Signature:

Phase: **L1**
 Power: AC 120V/60Hz

Temperature: 24.2
 Humidity: 53 %

Conducted Emission Measurement

File :LY-95S Data :#4 Date: 2017-6-29 Time: 10:41:26



| No. | Mk. | Freq. MHz | Reading Level dBuV | Correct Factor dB | Measure- ment dBuV | Limit dBuV | Margin dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|--------------------------|---------------|--------------|----------|---------|
| 1 | | 0.1500 | 35.46 | 9.73 | 45.19 | 66.00 | -20.81 | peak | |
| 2 | * | 0.4560 | 27.12 | 9.78 | 36.90 | 56.77 | -19.87 | peak | |
| 3 | | 1.5405 | 10.52 | 9.88 | 20.40 | 56.00 | -35.60 | peak | |
| 4 | | 7.2005 | 8.29 | 10.28 | 18.57 | 60.00 | -41.43 | peak | |
| 5 | | 19.5405 | 7.44 | 10.48 | 17.92 | 60.00 | -42.08 | peak | |
| 6 | | 29.8205 | 12.54 | 11.21 | 23.75 | 60.00 | -36.25 | peak | |

*:Maximum data x:Over limit !:over margin

Note: Measurement=Reading Level+Correc Factor. Factor=(LISN or ISN or PLC or Current Probe)Factor+Cable

Remark: All modes and channels have been tested and only worst data of 802.11b, 2412MHz is listed in this report.

7 Conducted Maximum Output Power

7.1 Test limit

Please refer section 15.247.

Regulation 15.247(b) The limit of Maximum Peak Output Power Measurement is 1W(30dBm)

7.2 Test Procedure

Details see the KDB558074 Meas Guidance V03

7.2.1 Place the EUT on the table and set it in transmitting mode.

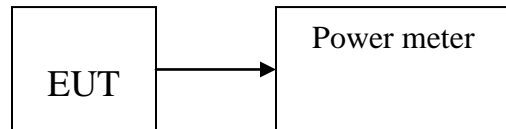
7.2.2 Connected the EUT's antenna port to peak power meter by 20dB attenuator.

7.2.3 Measure out each mode and each bands peak output power of EUT.

Note: The cable loss and attenuator loss were offset into measure device as amplitude offset.

Details see the KDB558074 DTS Meas Guidance V03

7.3 Test Setup



7.4 Test Results

PASS

Detailed information please see the following page.

| EUT: Video Doorbell | | M/N: LY-95S | | | | |
|------------------------------|-----------------|--------------------|----------------------|------------------------|-------------|-------------|
| Test date: 2017-06-30 | | Test site: RF site | | Tested by: Simple Guan | | |
| Mode | Frequency (MHz) | Ant Port | PK Output power(dBm) | | Limit (dBm) | Margin (dB) |
| IEEE 802.11 b | CH1: 2412 | 0 | 7.81 | 7.81 | 30 | 22.19 |
| | | 1 | / | | | |
| | CH6: 2437 | 0 | 8.18 | 8.18 | 30 | 21.82 |
| | | 1 | / | | | |
| | CH11: 2462 | 0 | 7.81 | 7.81 | 30 | 22.19 |
| | | 1 | / | | | |
| IEEE 802.11 g | CH1: 2412 | 0 | 5.65 | 5.65 | 30 | 24.35 |
| | | 1 | / | | | |
| | CH6: 2437 | 0 | 4.77 | 4.77 | 30 | 25.23 |
| | | 1 | / | | | |
| | CH11: 2462 | 0 | 3.42 | 3.42 | 30 | 26.58 |
| | | 1 | / | | | |
| IEEE 802.11 n/HT20 with 2.4G | CH1: 2412 | 0 | 3.72 | 3.72 | 30 | 26.28 |
| | | 1 | / | | | |
| | CH6: 2437 | 0 | 4.08 | 4.08 | 30 | 25.92 |
| | | 1 | / | | | |
| | CH11: 2462 | 0 | 4.01 | 4.01 | 30 | 25.99 |
| | | 1 | / | | | |
| IEEE 802.11 n/HT40 with 2.4G | CH1: 2422 | 0 | 1.43 | 1.43 | 30 | 28.57 |
| | | 1 | / | | | |
| | CH4: 2437 | 0 | -0.54 | -0.54 | 30 | 30.54 |
| | | 1 | / | | | |
| | CH7: 2452 | 0 | 0.92 | 0.92 | 30 | 29.08 |
| | | 1 | / | | | |
| Conclusion: PASS | | | | | | |

8 PEAK POWER SPECTRAL DENSITY

8.1 Test limit

8.1.1 Please refer section 15.247.

8.1.2 For direct sequence systems, the peak power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8dBm in any 3kHz band during any time interval of continuous transmission.

8.1.3 The direct sequence operating of the hybrid system, with the frequency hopping operation turned off, shall comply with the power density requirements of paragraph (d) of this section.

8.2 Method of measurement

Details see the KDB558074 DTS Meas Guidance V03

8.2.1 Place the EUT on the table and set it in transmitting mode.

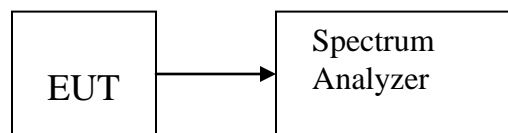
8.2.2 Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.

8.2.3 Set the spectrum analyzer as RBW = 3kHz, VBW = 10kHz, span=5-30%EBW, detail see the test plot.

8.2.4 Record the max reading.

8.2.5 Repeat the above procedure until the measurements for all frequencies are completed.

8.3 Test Setup



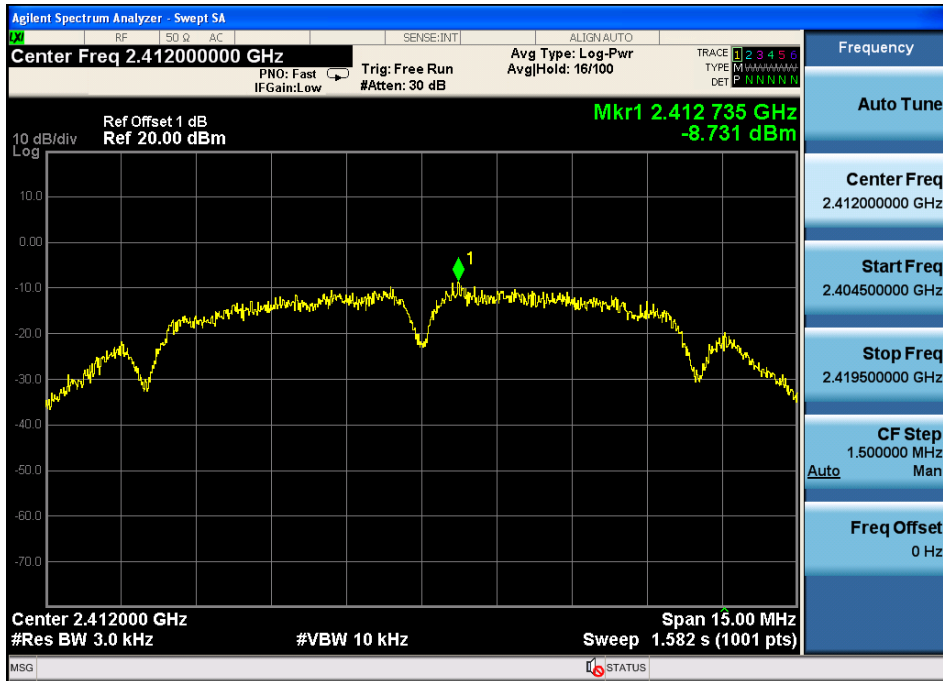
8.4 Test Results

PASS.

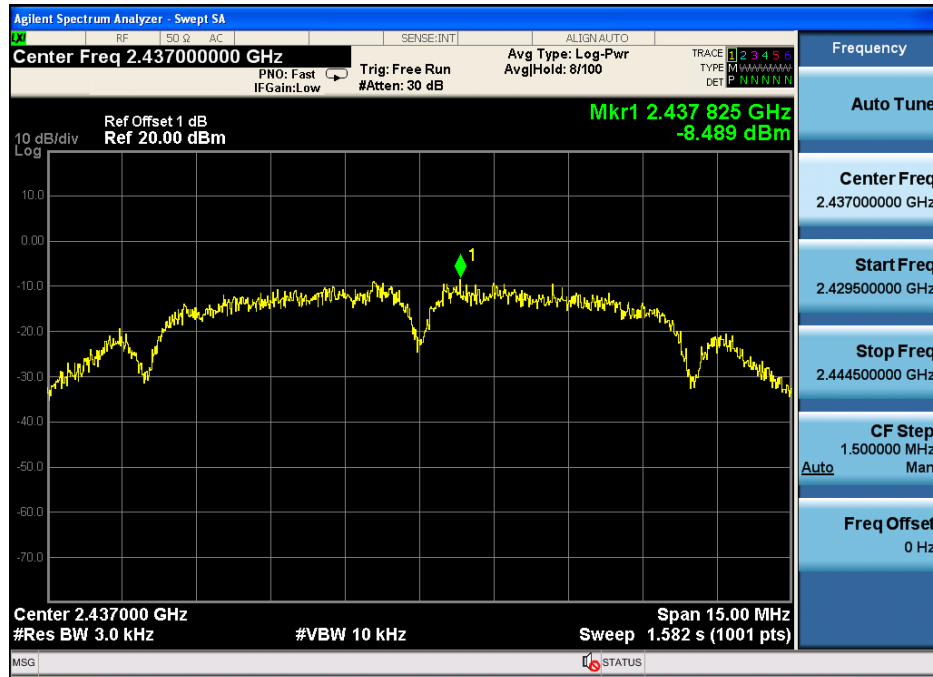
Detailed information please see the below.

| EUT: Video Doorbell | | M/N: LY-95S | | | | |
|------------------------------|-----------------|--------------------|----------------------|------------------------|-------------|--------|
| Test date: 2017-06-30 | | Test site: RF site | | Tested by: Simple Guan | | |
| Mode | Frequency (MHz) | Ant Port | PK Output power(dBm) | | Limit (dBm) | Result |
| IEEE 802.11 b | CH1: 2412 | 0 | -8.73 | -8.73 | 8 | PASS |
| | | 1 | / | | | |
| | CH6: 2437 | 0 | -8.85 | -8.85 | 8 | PASS |
| | | 1 | / | | | |
| | CH11: 2462 | 0 | -8.85 | -8.85 | 8 | PASS |
| | | 1 | / | | | |
| IEEE 802.11 g | CH1: 2412 | 0 | -14.80 | -14.80 | 8 | PASS |
| | | 1 | / | | | |
| | CH6: 2437 | 0 | -10.96 | -10.96 | 8 | PASS |
| | | 1 | / | | | |
| | CH11: 2462 | 0 | -12.89 | -12.89 | 8 | PASS |
| | | 1 | / | | | |
| IEEE 802.11 n/HT20 with 2.4G | CH1: 2412 | 0 | -14.06 | -14.06 | 8 | PASS |
| | | 1 | / | | | |
| | CH6: 2437 | 0 | -12.93 | -12.93 | 8 | PASS |
| | | 1 | / | | | |
| | CH11: 2462 | 0 | -12.16 | -12.16 | 8 | PASS |
| | | 1 | / | | | |
| IEEE 802.11 n/HT40 with 2.4G | CH1: 2422 | 0 | -16.11 | -16.11 | 8 | PASS |
| | | 1 | / | | | |
| | CH4: 2437 | 0 | -17.54 | -17.54 | 8 | PASS |
| | | 1 | / | | | |
| | CH7: 2452 | 0 | -15.85 | -15.85 | 8 | PASS |
| | | 1 | / | | | |
| Conclusion: PASS | | | | | | |

IEEE 802.11b :
CH Low :



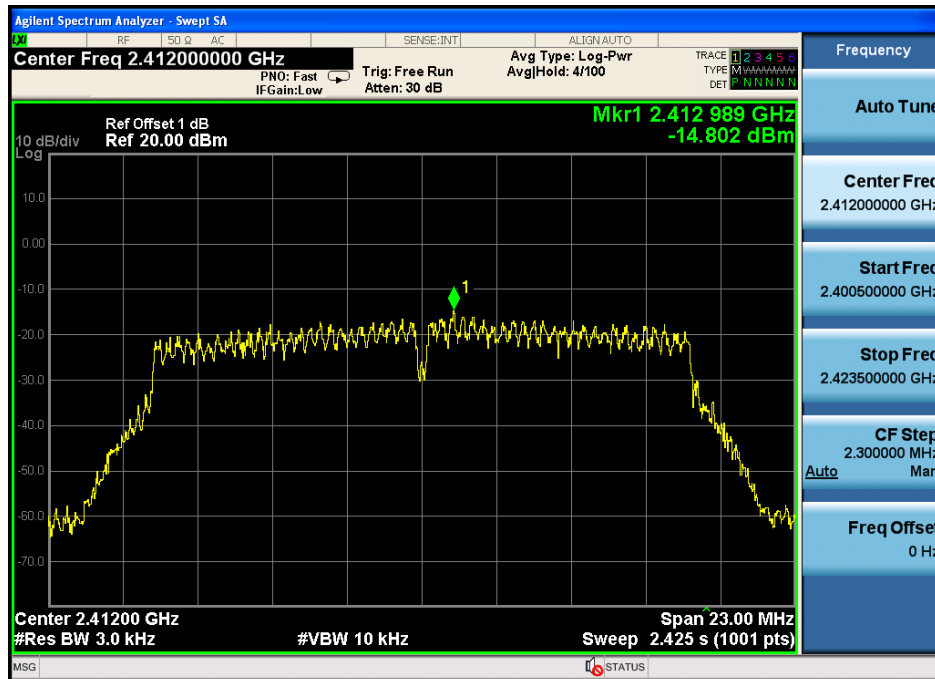
CH Mid:



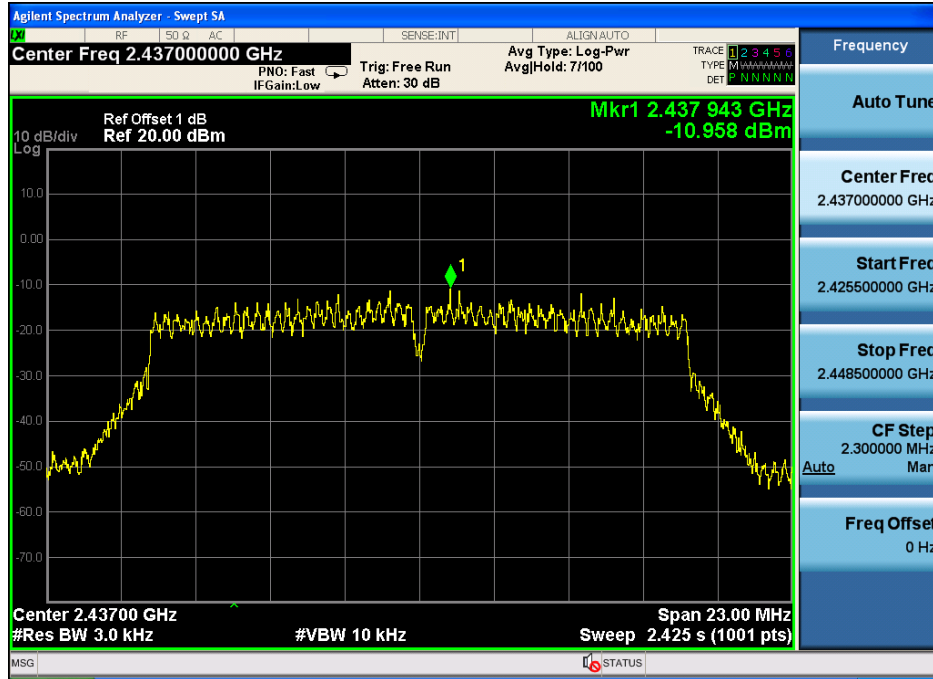
CH Hig:



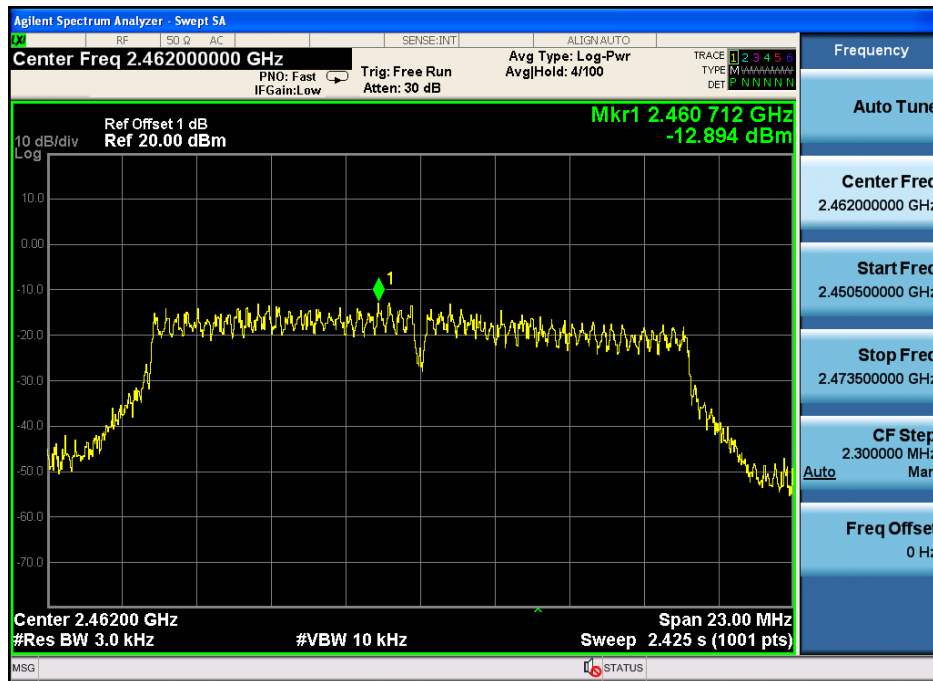
IEEE 802.11g :
CH Low



CH Mid:

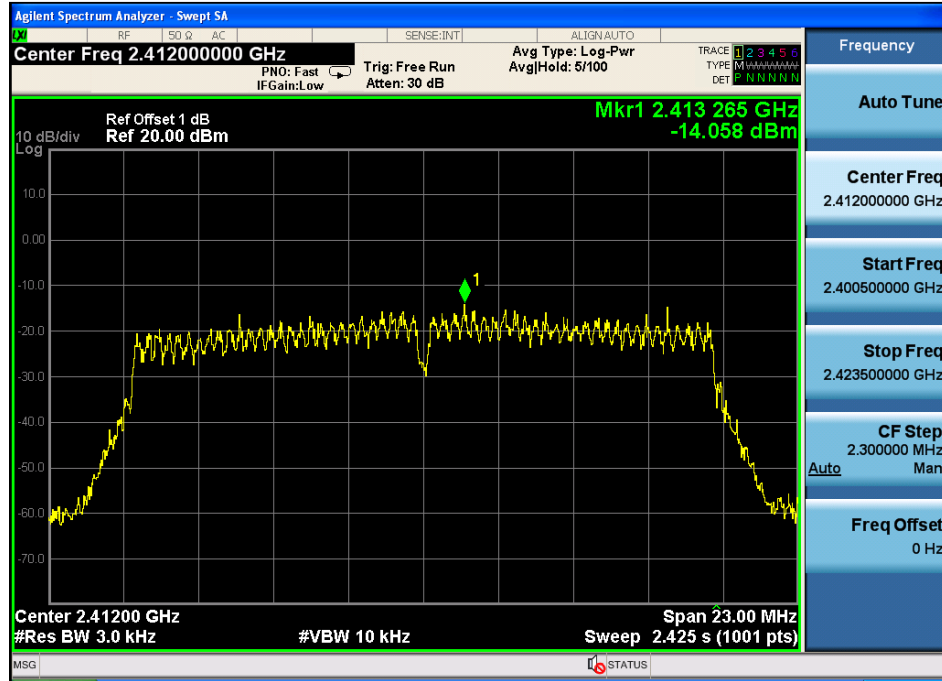


CH Hig:

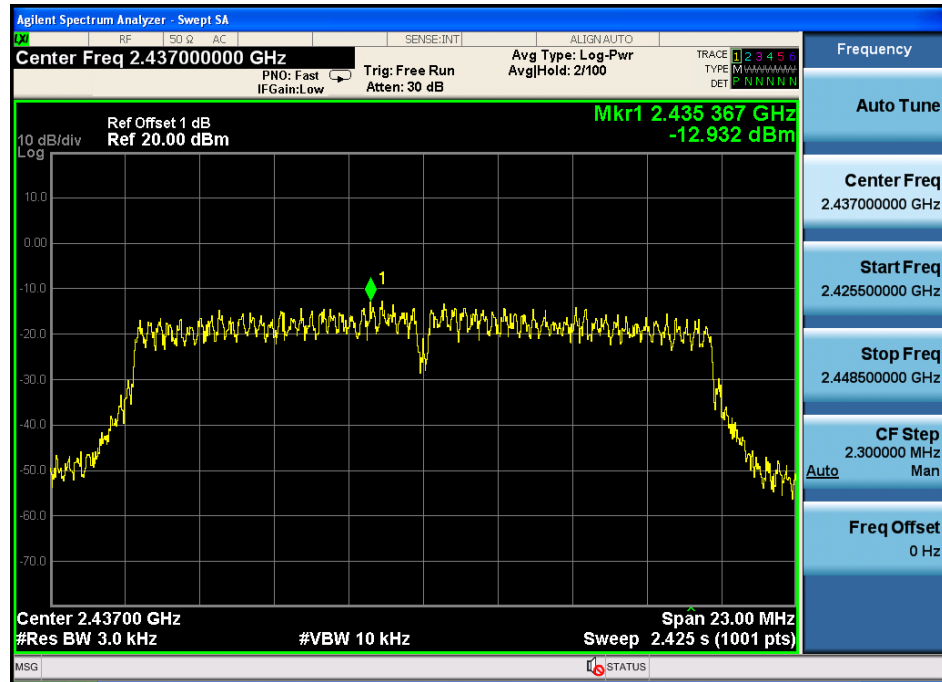


IEEE 802.11n HT20 :

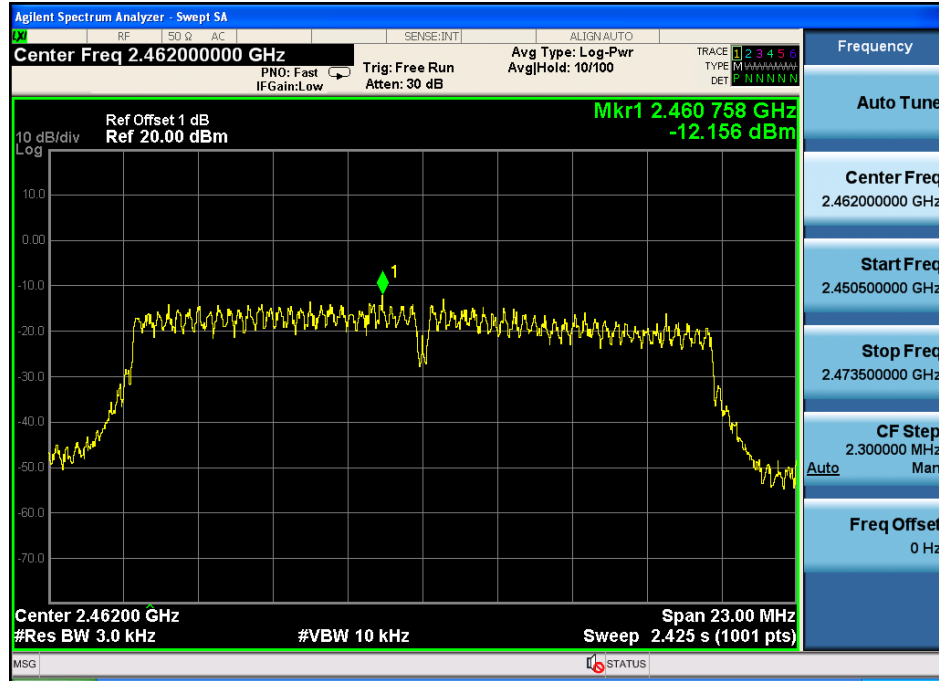
CH Low :



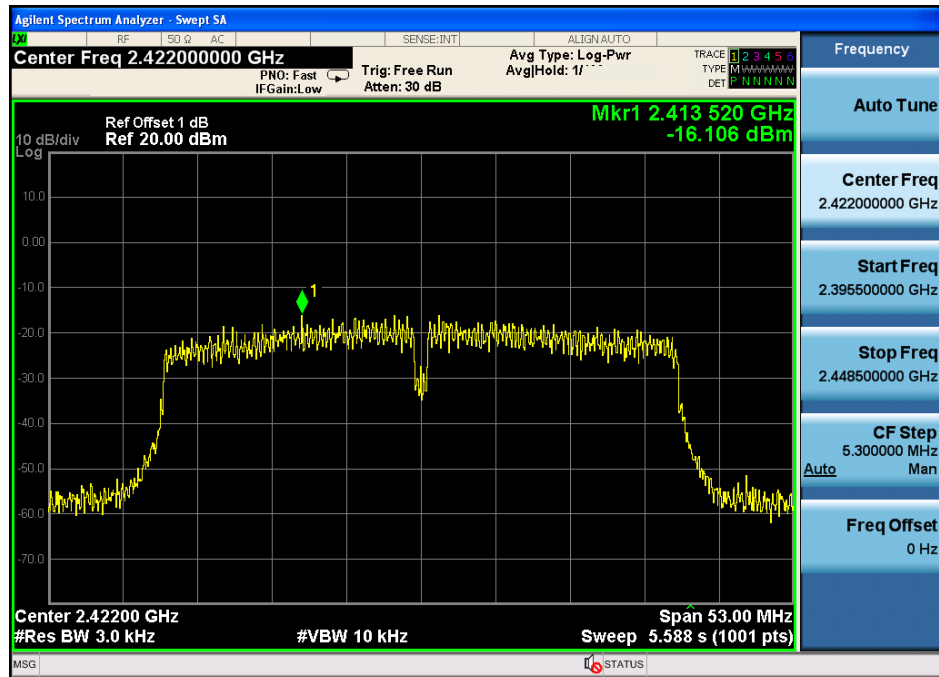
CH Mid:



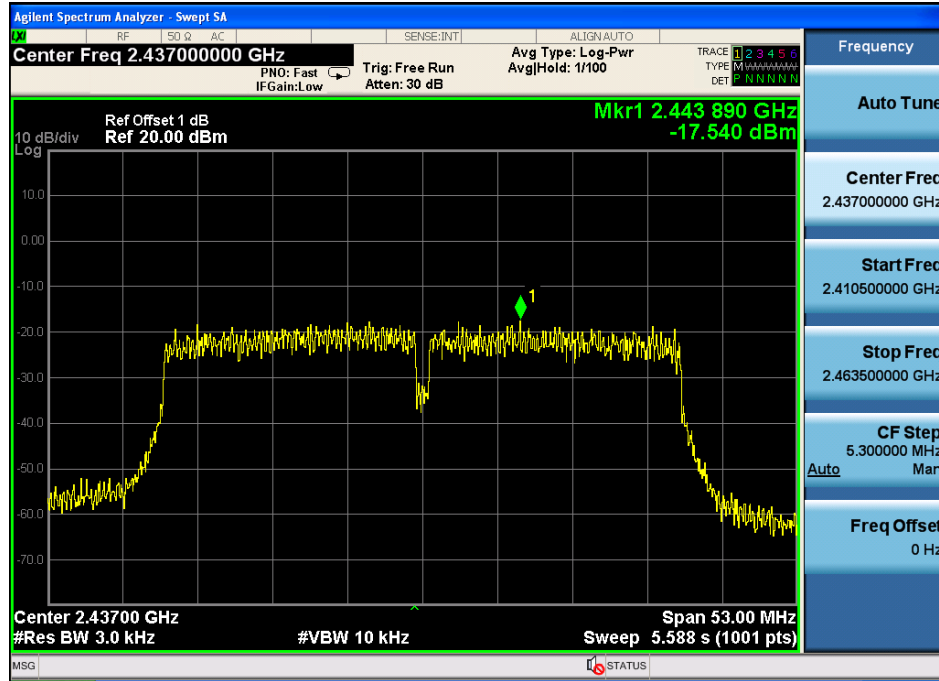
CH Hig:



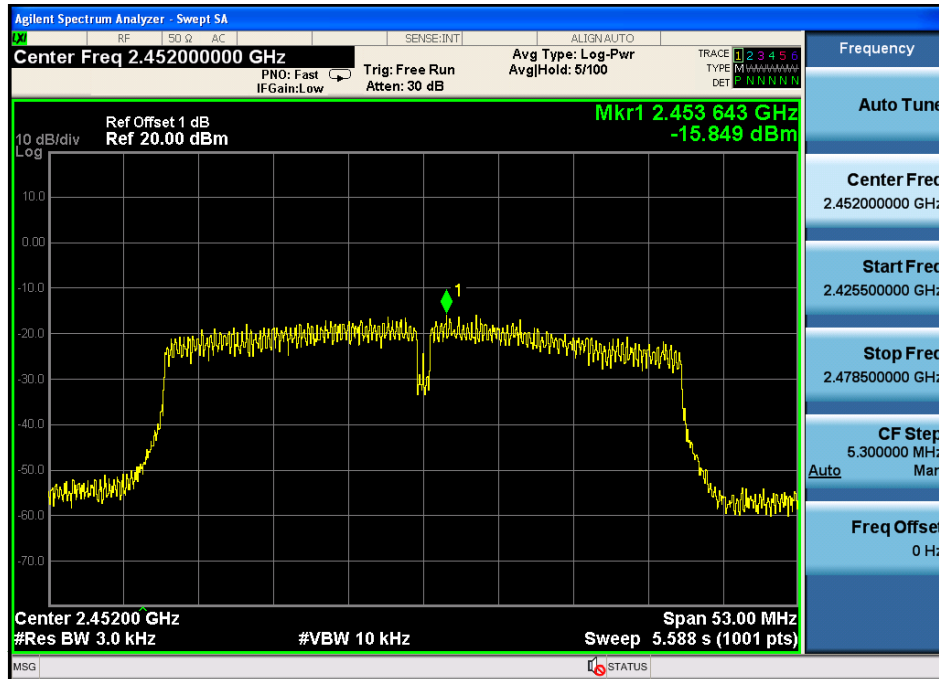
IEEE 802.11n HT40 :
CH Low :



CH Mid:



CH Hig:



9 Bandwidth

9.1 Test limit

Please refer section 15.247

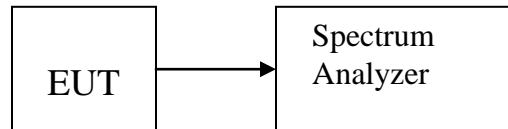
For direct sequence systems, the minimum 6dB bandwidth shall be at least 500 kHz.

9.2 Method of measurement

Details see the KDB558074 D01 Meas Guidance

- a) The bandwidth is measured at an amplitude level reduced 20dB from the reference level. The reference level is the level of the highest amplitude signal observed from the transmitter at the fundamental frequency. Once the reference level is established, the equipment is conditioned with typical modulating signal to produce the worst-case (i.e. the widest) bandwidth.
- b) The test receiver set $RBW = 1-5 \% EBW$, $VBW \geq 3RBW$, Peak Detector, Sweep time set auto, detail see the test plot.

9.3 Test Setup



9.4 Test Results

PASS.

Detailed information please see the following page.

| Channel | Frequency (MHz) | 6dB Bandwidth (MHz) | 99% Occupied Bandwidth (MHz) | Limit (MHz) | Result |
|--------------------|-----------------|---------------------|------------------------------|-------------|--------|
| IEEE 802.11b: | | | | | |
| Low | 2412 | 9.56 | 12.318 | 0.5 | PASS |
| Mid | 2437 | 10.06 | 12.540 | 0.5 | PASS |
| High | 2462 | 9.59 | 12.610 | 0.5 | PASS |
| IEEE 802.11g | | | | | |
| Low | 2412 | 15.34 | 16.374 | 0.5 | PASS |
| Mid | 2437 | 15.39 | 16.416 | 0.5 | PASS |
| High | 2462 | 15.75 | 16.433 | 0.5 | PASS |
| IEEE 802.11n/HT20: | | | | | |
| Low | 2412 | 17.34 | 17.634 | 0.5 | PASS |
| Mid | 2437 | 17.65 | 17.664 | 0.5 | PASS |
| High | 2462 | 17.22 | 17.670 | 0.5 | PASS |
| IEEE 802.11n/HT40: | | | | | |
| Low | 2422 | 35.39 | 35.916 | 0.5 | PASS |
| Mid | 2437 | 36.36 | 36.059 | 0.5 | PASS |
| High | 2452 | 35.53 | 36.861 | 0.5 | PASS |