

**FCC PART 15.231**  
**MEASUREMENT AND TEST REPORT**

For

**Kenyazi Investment Limited**

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Kwai Fong, N.T Hong Kong

**FCC ID: PKH-WLNS67811TX**

|  |   |
|--|---|
| <b>Report Type:</b><br>Original Report   | <b>Product Type:</b><br>Wireless Lights & Sounds of Christmas |
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\* This report may contain data that are not covered by the NVLAP accreditation and are marked with an asterisk "\*" page 2

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## 1 GENERAL INFORMATION

### 1.1 Product Description for Equipment Under Test (EUT)

The *Kenyazi Investment Limited's* product, model: *WLNS67811 (TX)* or the "EUT" as referred to in this report is a Wireless Lights & Sounds of Christmas, rated input voltage: AC 120V/60Hz.

### 1.2 Mechanical Description of EUT

The *Kenyazi Investment Limited's* product, model number: *WLNS67811 (TX)*, measures approximately 17.5 cm L x 12.7 cm W x 17.3 cm H

*\* All measurement and test data in this report was gathered from production sample serial number: 0808049 (Assigned by BACL, Shenzhen). The EUT was received on 2008-08-22.*

### 1.3 EUT Photograph



### 1.4 Objective

This document is a test report based on the Electromagnetic Interference (EMI) tests performed on the EUT. The EMI measurements were performed according to the measurement procedure described in ANSI C63.4-2003.

The tests were performed in order to determine compliance with FCC Part 15, Subpart C, and section 15.203, 15.205, 15.209 and 15.231 rules.

## 1.5 Related Submittal(s)/Grant(s)

No Related Submittals

## 1.6 Test Methodology

All measurements contained in this report were conducted with ANSI C63.4 - 2003, American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the range of 9 kHz to 40 GHz. All radiated and conducted emissions measurement was performed at Bay Area Compliance Laboratories Corp. (Shenzhen). The radiated testing was performed at an antenna-to-EUT distance of 3 meters.

## 1.7 Test Facility

The Test site used by Bay Area Compliance Laboratories Corp. (Shenzhen) to collect test data is located in the 6/F, the 3rd Phase of WanLi Industrial Building, ShiHua Road, FuTian Free Trade Zone Shenzhen, Guangdong, China.

Test site at Bay Area Compliance Laboratories Corp. (Shenzhen) has been fully described in reports submitted to the Federal Communication Commission (FCC). The details of these reports have been found to be in compliance with the requirements of Section 2.948 of the FCC Rules on November 04, 2004. The facility also complies with the radiated and AC line conducted test site criteria set forth in ANSI C63.4-2003.

The Federal Communications Commission has the reports on file and is listed under FCC Registration No.: 382179. The test site has been approved by the FCC for public use and is listed in the FCC Public Access Link (PAL) database.

Additionally, Bay Area Compliance Laboratories Corp. (Shenzhen) is a National Institute of Standards and Technology (NIST) accredited laboratory, under the National Voluntary Laboratory Accredited Program (Lab Code 200707-0).



NVLAP LAB CODE 200707-0

The current scope of accreditations can be found at  
<http://ts.nist.gov/Standards/scopes/2007070.htm>

## 2 SYSTEM TEST CONFIGURATION

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### 2.1 Justification

The system was configured for testing in a typical fashion (as normally used by a typical user).

### 2.2 EUT Exercise Software

N/A.

### 2.3 Special Accessories

The special accessories were provided by Bay Area Compliance Laboratories Corp. (Shenzhen).

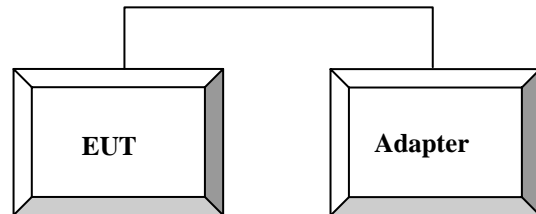
### 2.4 Equipment Modifications

No modifications were made to the unit tested.

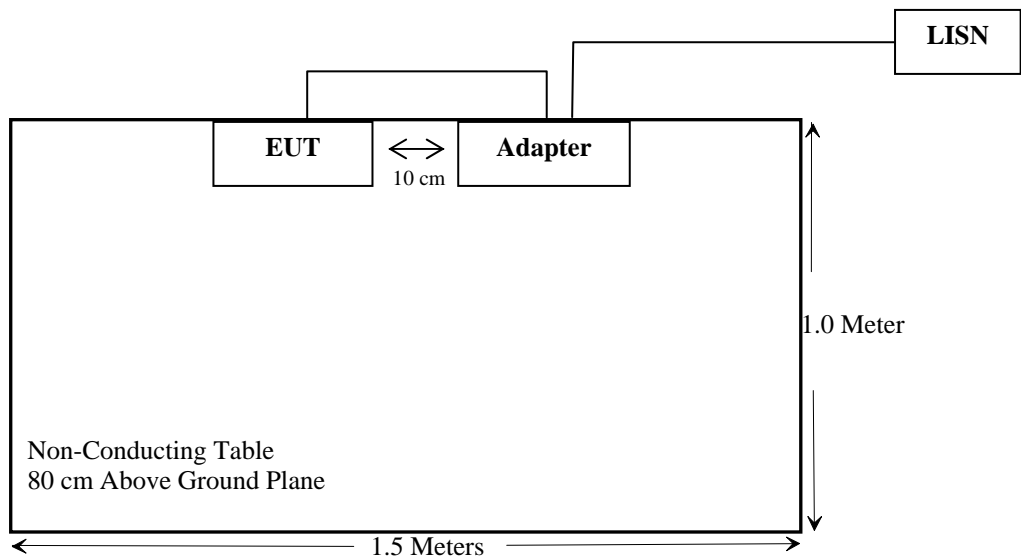
### 2.5 External I/O Cable

| Cable Description              | Length<br>(m) | From/Port | To      |
|--------------------------------|---------------|-----------|---------|
| Unshielded Detachable AC Cable | 1.90          | EUT       | Adapter |

## 2.6 Configuration of Test Setup



## 2.7 Block Diagram of Test Setup



### 3 SUMMARY OF TEST RESULTS

| FCC Rules      | Description of Test     | Result    |
|----------------|-------------------------|-----------|
| §15.203        | Antenna Requirement     | Compliant |
| §15.205        | Restricted Band         | Compliant |
| §15.209        | General Requirement     | Compliant |
| §15.207 (a)    | Conducted Emissions     | Compliant |
| §15.231 (b)    | Radiated Emissions      | Compliant |
| §15.231 (c)    | 20dB Band Width Testing | Compliant |
| §15.231 (a)(1) | Deactivation Testing    | Compliant |
| §15.231        | Duty Cycle              | Compliant |



## **4 CFR47 §15.203 - ANTENNA REQUIREMENT**

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### **4.1 Standard Applicable**

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.

The antenna of the EUT was built on PCB board.

**Result:** Compliant.

Please refer to the EUT Internal photos.

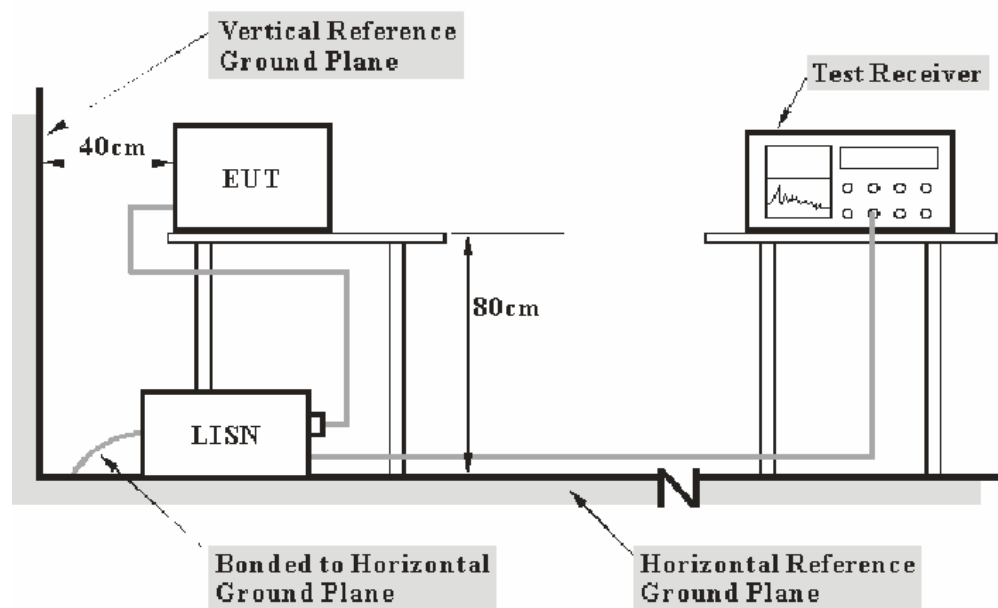
## 5 CFR47 §15.207 (a) - CONDUCTED EMISSIONS

### 5.1 Measurement Uncertainty

All measurements involve certain levels of uncertainties, especially in field of EMC. The factors contributing to uncertainties are spectrum analyzer, cable loss, and LISN.

Based on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of any conducted emissions measurement at Bay Area Compliance Laboratories Corp.(Shenzhen) is  $\pm 2.4$  dB.

### 5.2 EUT Setup



- Note: 1. Support units were connected to second LISN.  
2. Both of LISNs (AMN) 80 cm from EUT and at the least 80 cm from other units and other metal planes support units.

The setup of EUT is according with per ANSI C63.4-2003 measurement procedure. The specification used was with the FCC Part 15 Class B limits.

The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.

The adapter was connected to a 120 VAC/60 Hz power source.

### 5.3 EMI Test Receiver Setup

The EMI test receiver was set to investigate the spectrum from 150 kHz to 30 MHz.

During the conducted emission test, the EMI test receiver was set with the following configurations:

| <i><b>Frequency Range</b></i> | <i><b>IF B/W</b></i> |
|-------------------------------|----------------------|
| 150 kHz – 30 MHz              | 9 kHz                |

### 5.4 Test Equipment List and Details

| <b>Manufacturer</b> | <b>Description</b> | <b>Model</b> | <b>Serial Number</b> | <b>Calibration Date</b> | <b>Calibration Due Date</b> |
|---------------------|--------------------|--------------|----------------------|-------------------------|-----------------------------|
| Com-Power           | L.I.S.N.           | LI-200       | 12005                | N/A                     | N/A                         |
| Com-Power           | L.I.S.N.           | LI-200       | 12008                | N/A                     | N/A                         |
| Rohde & Schwarz     | EMI Test Receiver  | ESCI         | 100035               | 2007-10-16              | 2008-10-16                  |
| Rohde & Schwarz     | L.I.S.N.           | ESH2-Z5      | 892107/021           | 2008-03-25              | 2009-03-25                  |

\* Com-Power's LISN were used as the supporting equipment.

\* **Statement of Traceability:** Bay Area Compliance Laboratories Corp.(Shenzhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

### 5.5 Test Procedure

During the conducted emission test, the adapter connected to the outlet of the LISN.

Maximizing procedure was performed on the six (6) highest emissions of the EUT.

All data was recorded in the Quasi-peak and average detection mode.

### 5.6 Test Results Summary

According to the recorded data in following table, the EUT complied with the FCC Part 15.207, with the worst margin reading of:

**25.30 dB at 30.000 MHz in the Line conductor mode**

## 5.7 Test Data

### Environmental Conditions

|                           |           |
|---------------------------|-----------|
| <b>Temperature:</b>       | 25 °C     |
| <b>Relative Humidity:</b> | 56 %      |
| <b>ATM Pressure:</b>      | 100.0 kPa |

The testing was performed by Alvin Huang on 2008-08-24.

Test Mode: Transmitting

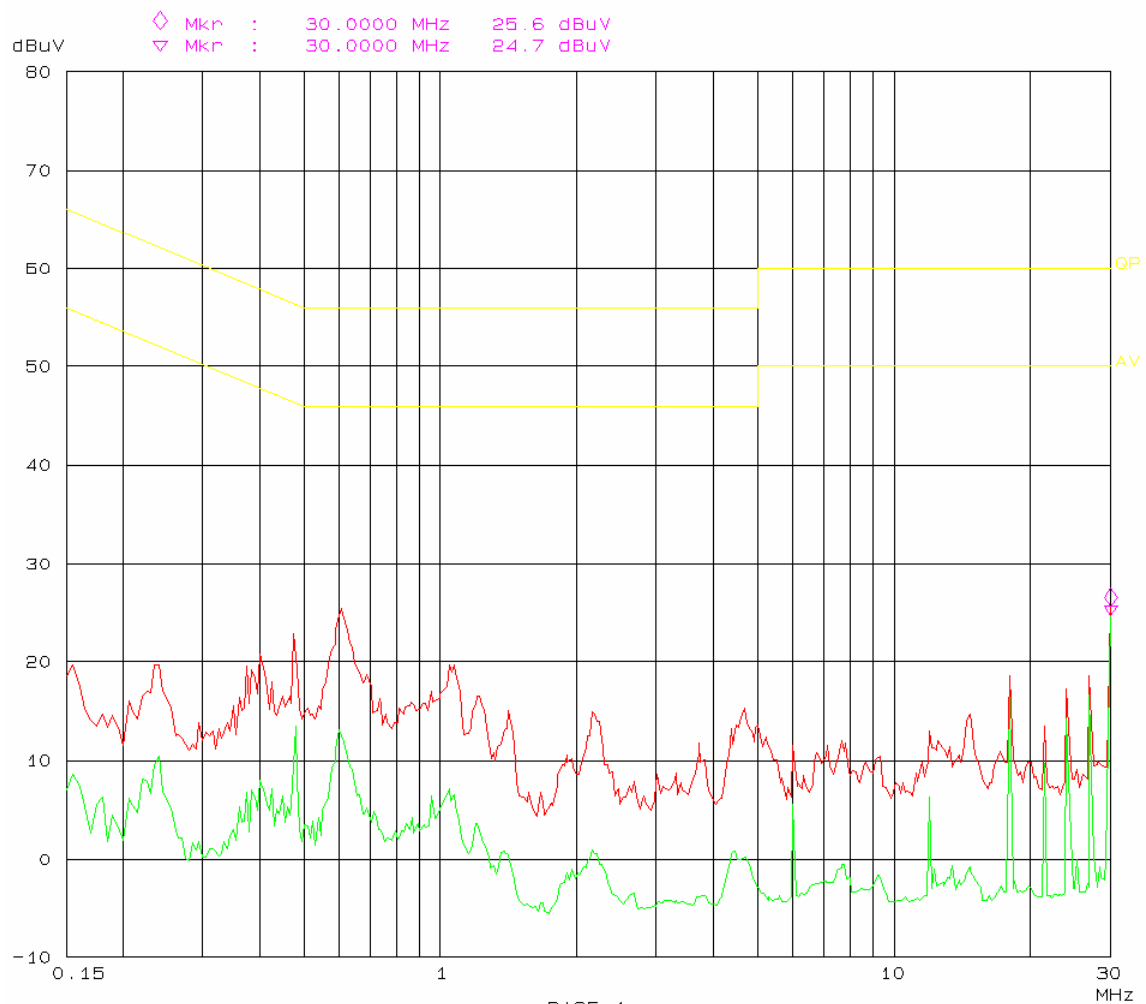
| Line Conducted Emissions |                  |                  |                      | FCC Part 15.207 |             |
|--------------------------|------------------|------------------|----------------------|-----------------|-------------|
| Frequency (MHz)          | Amplitude (dBμV) | Detector (QP/AV) | Phase (Line/Neutral) | Limit (dBμV)    | Margin (dB) |
| 30.000                   | 24.70            | AV               | Line                 | 50.00           | 25.30       |
| 0.605                    | 26.90            | QP               | Neutral              | 56.00           | 29.10       |
| 18.000                   | 20.60            | AV               | Neutral              | 50.00           | 29.40       |
| 0.475                    | 16.00            | AV               | Neutral              | 46.43           | 30.43       |
| 0.600                    | 24.70            | QP               | Line                 | 56.00           | 31.30       |
| 0.475                    | 24.60            | QP               | Neutral              | 56.43           | 31.83       |
| 0.605                    | 13.60            | AV               | Neutral              | 46.00           | 32.40       |
| 0.600                    | 13.10            | AV               | Line                 | 46.00           | 32.90       |
| 27.000                   | 16.60            | AV               | Line                 | 50.00           | 33.40       |
| 18.000                   | 16.40            | AV               | Line                 | 50.00           | 33.60       |
| 30.000                   | 25.60            | QP               | Line                 | 60.00           | 34.40       |
| 24.000                   | 15.60            | AV               | Neutral              | 50.00           | 34.40       |
| 1.030                    | 21.20            | QP               | Neutral              | 56.00           | 34.80       |
| 24.000                   | 14.20            | AV               | Line                 | 50.00           | 35.80       |
| 1.075                    | 19.80            | QP               | Line                 | 56.00           | 36.20       |
| 21.505                   | 12.70            | AV               | Neutral              | 50.00           | 37.30       |
| 18.000                   | 22.30            | QP               | Neutral              | 60.00           | 37.70       |
| 1.025                    | 8.00             | AV               | Neutral              | 46.00           | 38.00       |
| 1.075                    | 6.50             | AV               | Line                 | 46.00           | 39.50       |
| 24.000                   | 18.80            | QP               | Neutral              | 60.00           | 41.20       |
| 18.000                   | 18.60            | QP               | Line                 | 60.00           | 41.40       |
| 27.000                   | 18.60            | QP               | Line                 | 60.00           | 41.40       |
| 24.000                   | 17.30            | QP               | Line                 | 60.00           | 42.70       |
| 21.505                   | 15.40            | QP               | Neutral              | 60.00           | 44.60       |

## 5.8 Plot(s) of Test Data

Conducted Emission

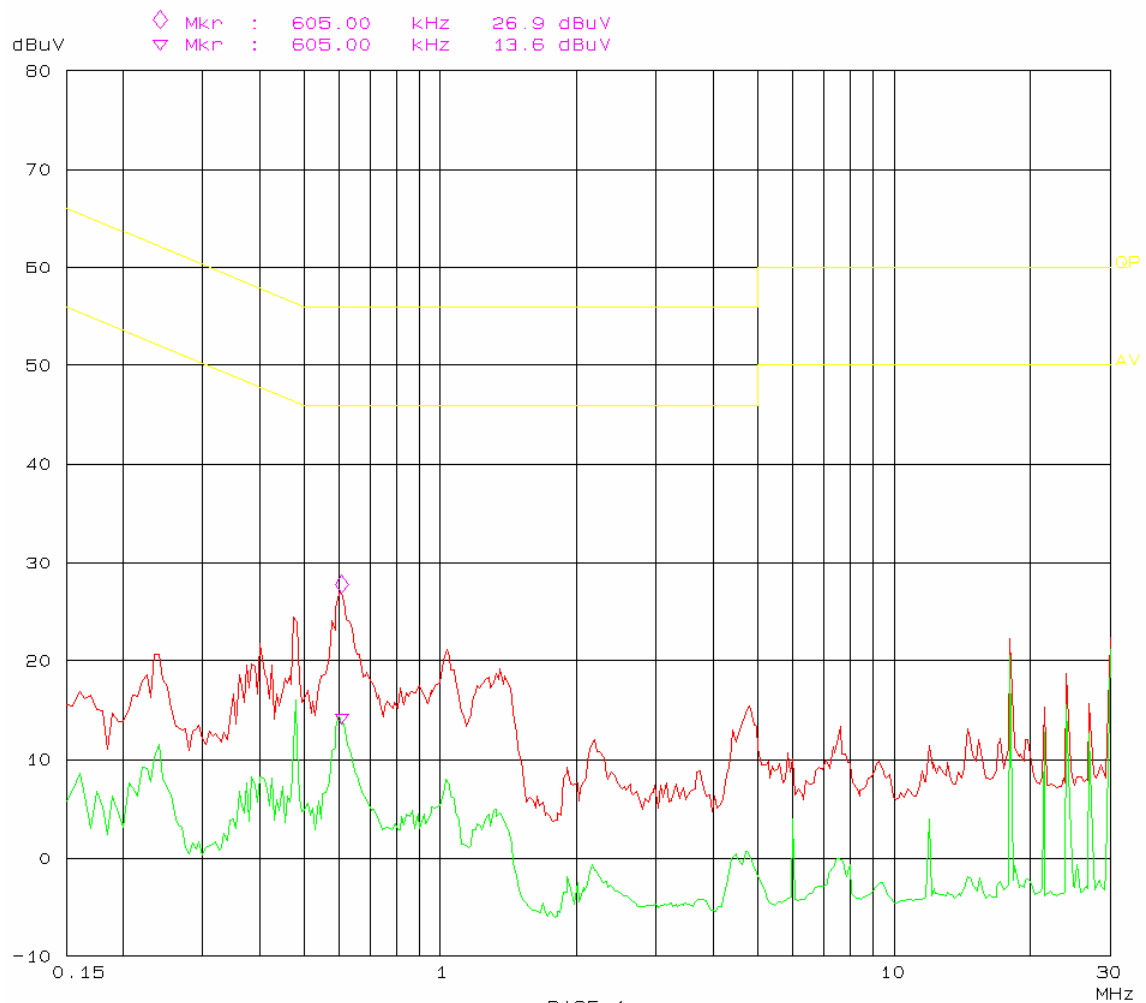
FCC part 15

EUT: TRANSMITTER M/N: WLNS67811  
Manuf: NEW KENYAZI INVESTMENT LTD  
Op Cond: TRANSMITTING  
Operator: Alvin  
Test Spec: AC 120V/60Hz Line  
Comment: Temp: 25 Hum: 56%



# Conducted Emission FCC part 15

EUT: TRANSMITTER M/N: WLNS67811  
Manuf: NEW KENYAZI INVESTMENT LTD  
Op Cond: TRANSMITTING  
Operator: Alvin  
Test Spec: AC 120V/60Hz Neutral  
Comment: Temp: 25 Hum: 56%



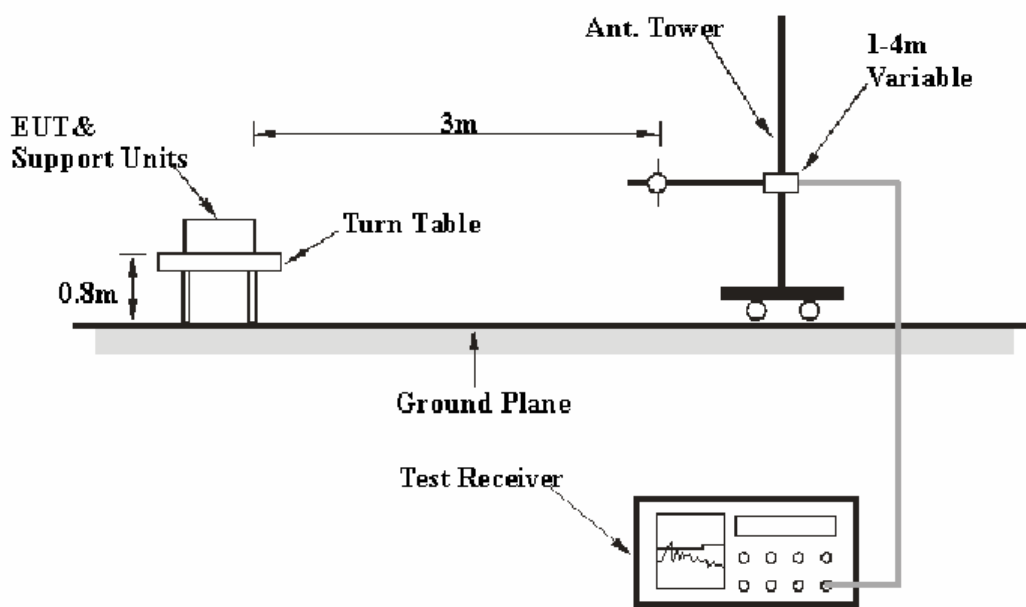
## 6 CFR47 §15.205, §15.209, §15.231 (b) - RADIATED EMISSIONS

### 6.1 Measurement Uncertainty

All measurements involve certain levels of uncertainties, especially in field of EMC. The factors contributing to uncertainties are spectrum analyzer, cable loss, antenna factor calibration, antenna directivity, antenna factor variation with height, antenna phase center variation, antenna factor frequency interpolation, measurement distance variation, site imperfections, mismatch (average), and system repeatability.

Based on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of a radiation emissions measurement at Bay Area Compliance Laboratories Corp. (Shenzhen) is  $\pm 4.0$  dB.

### 6.2 EUT Setup



The radiated emission tests were performed in the 3 meters chamber B test site, using the setup accordance with the ANSI C63.4 - 2003. The specification used was the FCC 15 § 15.209 and 15.231.

The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.

The adapter was connected to a 120 VAC/60 Hz power source.

### 6.3 EMI Test Receiver Setup

The system was investigated from 30 MHz to 5 GHz.

During the radiated emission test, the test receiver was set with the following configurations:

| <i><b>Frequency Range</b></i> | <i><b>RBW</b></i> | <i><b>VBW</b></i> |
|-------------------------------|-------------------|-------------------|
| 30 – 1000 MHz                 | 100 kHz           | 300 kHz           |
| 1000 MHz – 5 GHz              | 1 MHz             | 3 MHz             |

## 6.4 Test Equipment List and Details

| Manufacturer    | Description       | Model   | Serial Number | Calibration Date | Calibration Due Date |
|-----------------|-------------------|---------|---------------|------------------|----------------------|
| HP              | Amplifier         | HP8447D | 2944A09795    | 2007-11-15       | 2008-11-15           |
| Rohde & Schwarz | EMI Test Receiver | ESCI    | 100035        | 2007-10-16       | 2008-10-16           |
| Sunol Sciences  | Broadband Antenna | JB1     | A040904-1     | 2008-08-14       | 2009-08-14           |
| HP              | Amplifier         | 8449B   | 3008A00277    | 2007-09-29       | 2008-09-29           |
| Sunol Sciences  | Horn Antenna      | DRH-118 | A052604       | 2007-09-25       | 2008-09-25           |

\* **Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed per the NVLAP requirements, traceable to NIST.

## 6.5 Test Procedure

Maximizing procedure was performed on the highest emissions to ensure that the EUT complied with all installation combinations.

All data was recorded in the Peak and Average detection mode.

## 6.6 Standard Applicable

According to §15.231(b), the field strength of emissions from intentional radiators operated under this section shall not exceed the following:

| Fundamental frequency (MHz) | Field Strength of Fundamental (Microvolts /meter) | Field Strength of spurious emissions ((Microvolts /meter) |
|-----------------------------|---|---|
| 40.66-40.70                 | 2,250   | 225   |
| 70-130                      | 1,250   | 125   |
| 130-174                     | 1,250 to 3,370 *                                  | 125 to 375 *  |
| 174-260                     | 3,750   | 375   |
| 260-470                     | 3,750 to 12, 500*                                 | 375 to 1,250*   |
| Above 470                   | 12,500  | 1,250   |

Linear interpolations for frequency ranges 130 - 174 MHz and 260 - 470 MHz.

The above field strength limits are specified at a distance of 3-meters the tighter limits apply at the band edges.

## 6.7 Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Loss and Cable Loss, and subtracting the Amplifier Gain from the Meter Reading. The basic equation is as follows:

$$\text{Corrected Amplitude} = \text{Meter Reading} + \text{Antenna Loss} + \text{Cable Loss} - \text{Amplifier Gain}$$



The “**Margin**” column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of 5.8dB means the emission is 5.8dB below the limit. The equation for margin calculation is as follows:

$$\text{Margin} = \text{Limit} - \text{Corrected Amplitude}$$

## 6.8 Test Data

### Environmental Conditions

|                           |           |
|---------------------------|-----------|
| <b>Temperature:</b>       | 25 °C     |
| <b>Relative Humidity:</b> | 52%       |
| <b>ATM Pressure:</b>      | 100.9 kPa |

*The testing was performed by Alvin Huang on 2008-08-24.*

| Frequency (MHz) | Meter Reading (dBμV) | Detector (PK/AV) | Direction (Degree) | Antenna    |              |               | Cable Loss (dB) | Pre-Amp. Gain (dB) | Duty Cycle Factor (dB) | Cord. Amp. (dBμV/m) | FCC Part 15.231 |             |
|-----------------|----------------------|------------------|--------------------|------------|--------------|---------------|-----------------|--------------------|------------------------|---------------------|-----------------|-------------|
|                 |                      |                  |                    | Height (m) | Polar. (H/V) | Factor (dB/m) |                 |                    |                        |                     | Limits (dBμV/m) | Margin (dB) |
| 433             | 71.98                | *                | 356                | 1.3        | H            | 14.5          | 1.73            | 0.0                | -8.01                  | 80.20               | 80.79           | 0.59        |
| 2598            | 61.01                | *                | 189                | 1.1        | H            | 30.6          | 8.09            | 33.9               | -8.01                  | 57.79               | 60.79           | 3.00        |
| 2598            | 59.89                | *                | 1                  | 1.2        | V            | 30.6          | 8.09            | 33.9               | -8.01                  | 56.67               | 60.79           | 4.12        |
| 433             | 67.15                | *                | 23                 | 1.5        | V            | 14.5          | 1.73            | 0.0                | -8.01                  | 75.37               | 80.79           | 5.42        |
| 2165            | 61.15                | *                | 0                  | 1.2        | H            | 29.8          | 6.32            | 34.0               | -8.01                  | 55.26               | 60.79           | 5.53        |
| 2165            | 58.12                | *                | 0                  | 1.2        | V            | 29.8          | 6.32            | 34.0               | -8.01                  | 52.23               | 60.79           | 8.56        |
| 866             | 36.15                | *                | 180                | 1.4        | H            | 19.9          | 3.86            | 0.0                | -8.01                  | 51.90               | 60.79           | 8.89        |
| 433             | 71.98                | PK               | 186                | 1.3        | H            | 14.5          | 1.73            | 0.0                | N/A                    | 88.21               | 100.79          | 12.58       |
| 866             | 31.34                | *                | 186                | 1.4        | V            | 19.9          | 3.86            | 0.0                | -8.01                  | 47.09               | 60.79           | 13.70       |
| 1732            | 54.86                | *                | 187                | 1.3        | V            | 27.8          | 5.62            | 34.4               | -8.01                  | 45.87               | 60.79           | 14.92       |
| 2598            | 61.01                | PK               | 187                | 1.2        | H            | 30.6          | 8.09            | 33.9               | N/A                    | 65.80               | 80.79           | 14.99       |
| 2598            | 59.89                | PK               | 6                  | 1.4        | V            | 30.6          | 8.09            | 33.9               | N/A                    | 64.68               | 80.79           | 16.11       |
| 1732            | 53.45                | *                | 90                 | 1.5        | H            | 27.8          | 5.62            | 34.4               | -8.01                  | 44.46               | 60.79           | 16.33       |
| 433             | 67.15                | PK               | 360                | 1.4        | V            | 14.5          | 1.73            | 0.0                | N/A                    | 83.38               | 100.79          | 17.41       |
| 2165            | 61.15                | PK               | 360                | 1.1        | H            | 29.8          | 6.32            | 34.0               | N/A                    | 63.27               | 80.79           | 17.52       |
| 2165            | 58.12                | PK               | 278                | 1.1        | V            | 29.8          | 6.32            | 34.0               | N/A                    | 60.24               | 80.79           | 20.55       |
| 866             | 36.15                | PK               | 256                | 1.2        | H            | 19.9          | 3.86            | 0.0                | N/A                    | 59.91               | 80.79           | 20.88       |
| 1299            | 63.56                | PK               | 12                 | 1.1        | H            | 24.8          | 5.11            | 34.8               | N/A                    | 58.67               | 80.79           | 22.12       |
| 1299            | 61.22                | PK               | 0                  | 1.4        | V            | 24.8          | 5.11            | 34.8               | N/A                    | 56.33               | 80.79           | 24.46       |
| 866             | 31.34                | PK               | 276                | 1.5        | V            | 19.9          | 3.86            | 0.0                | N/A                    | 55.10               | 80.79           | 25.69       |
| 1732            | 54.86                | PK               | 187                | 1.3        | V            | 27.8          | 5.62            | 34.4               | N/A                    | 53.88               | 80.79           | 26.91       |
| 1732            | 53.45                | PK               | 180                | 1.5        | H            | 27.8          | 5.62            | 34.4               | N/A                    | 52.47               | 80.79           | 28.32       |
| 1299            | 63.56                | *                | 180                | 1.5        | H            | 24.8          | 5.11            | 34.8               | -8.01                  | 50.66               | 80.79           | 30.13       |
| 1299            | 61.22                | *                | 349                | 1.1        | V            | 24.8          | 5.11            | 34.8               | -8.01                  | 48.32               | 80.79           | 32.47       |

**Note:** \*Calculate Average value based on Duty Cycle correction factor

$$AV = PK - 20 \log(\text{Duty Cycle})$$

## 7 CFR47 §15.231(c) - 20dB BANDWIDTH TESTING

### 7.1 Requirement

Per 15.231(c), The bandwidth of the emission shall be no wider than 0.25% of the center frequency for devices operating above 70 MHz and below 900 MHz. Bandwidth is determined at the points 20 dB down from the modulated carrier.

### 7.2 Test Equipment List and Details

| Manufacturer    | Description       | Model | Serial Number | Calibration Date | Calibration Due Date |
|-----------------|-------------------|-------|---------------|------------------|----------------------|
| Rohde & Schwarz | EMI Test Receiver | ESCI  | 100035        | 2007-10-16       | 2008-10-16           |
| HP              | Amplifier         | 8447E | 1937A01046    | 2007-11-15       | 2008-11-15           |
| Sunol Sciences  | Bilog Antenna     | JB1   | A040904-2     | 2008-08-14       | 2009-08-14           |

\* **Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed per the NVLAP requirements, traceable to NIST.

### 7.3 Test Procedure

With the EUT's antenna attached, the waveform was received by the test antenna which was connected to the spectrum analyzer, plot the 20 dB bandwidth.

### 7.4 Test Data

#### Environmental Conditions

|                           |           |
|---------------------------|-----------|
| <b>Temperature:</b>       | 25 ° C    |
| <b>Relative Humidity:</b> | 50%       |
| <b>ATM Pressure:</b>      | 100.9 kPa |

*The testing was performed by Alvin Huang on 2008-08-22.*

*Test Mode: Transmitting*

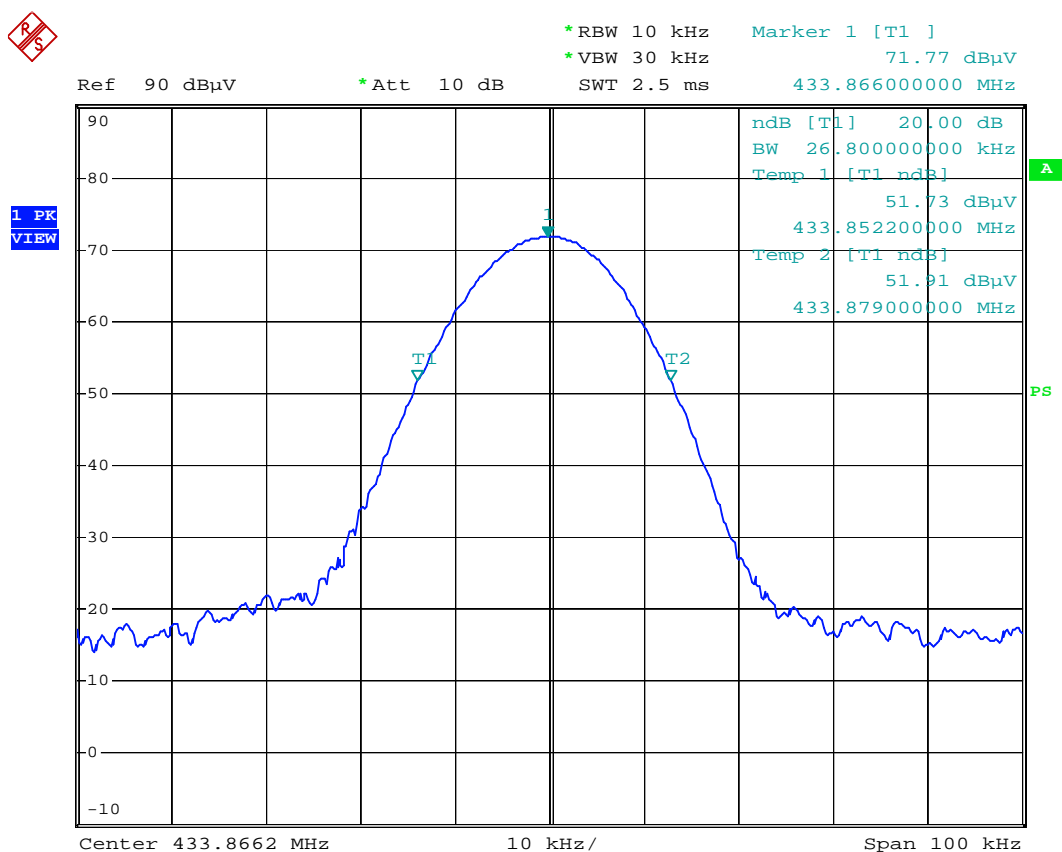
**Test Result:** Compliant.

Please refer to following table and plot.

| Frequency (MHz) | Measured 20 dB BW (MHz) | Limit (MHz) | Result |
|-----------------|-------------------------|-------------|--------|
| 433             | 0.0268                  | 1.0825 *    | Pass   |

**Note:** 20 dB Bandwidth Limit = 0.25% \* center frequency = 0.25% \* 433MHz = 1.0825 MHz

### 20 dB Bandwidth



20db bandwidth

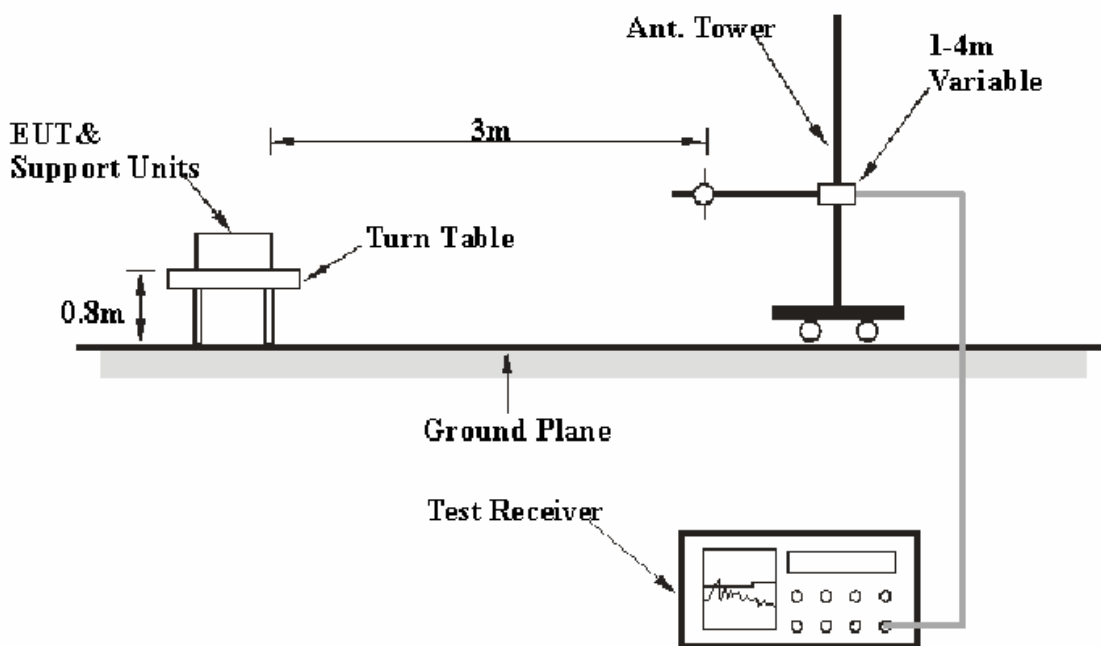
Date: 22.AUG.2008 21:10:08

## 8 CFR47 §15.231(a) - DEACTIVATION TESTING

### 8.1 Requirement

Per 15.231(a) (1), a manually operated transmitter shall employ a switch that will automatically deactivate the transmitter within not more than 5 seconds of being released.

### 8.2 EUT Setup



The deactivation test was performed in the 3 meters chamber B test site, using the setup accordance with the ANSI C63.4 - 2003. The specification used was the FCC 15.231(a) limits.

The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.

The adapter was connected to a 120 VAC/60 Hz power source.

### 8.3 Test Equipment List and Details

| Manufacturer    | Description       | Model | Serial Number | Calibration Date | Calibration Due Date |
|-----------------|-------------------|-------|---------------|------------------|----------------------|
| Rohde & Schwarz | EMI Test Receiver | ESCI  | 100035        | 2007-10-16       | 2008-10-16           |
| HP              | Amplifier         | 8447E | 1937A01046    | 2007-11-15       | 2008-11-15           |
| Sunol Sciences  | Bilog Antenna     | JB1   | A040904-2     | 2008-08-14       | 2009-08-14           |

**\* Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed per the NVLAP requirements, traceable to NIST.

## 8.4 Test Data

### Environmental Conditions

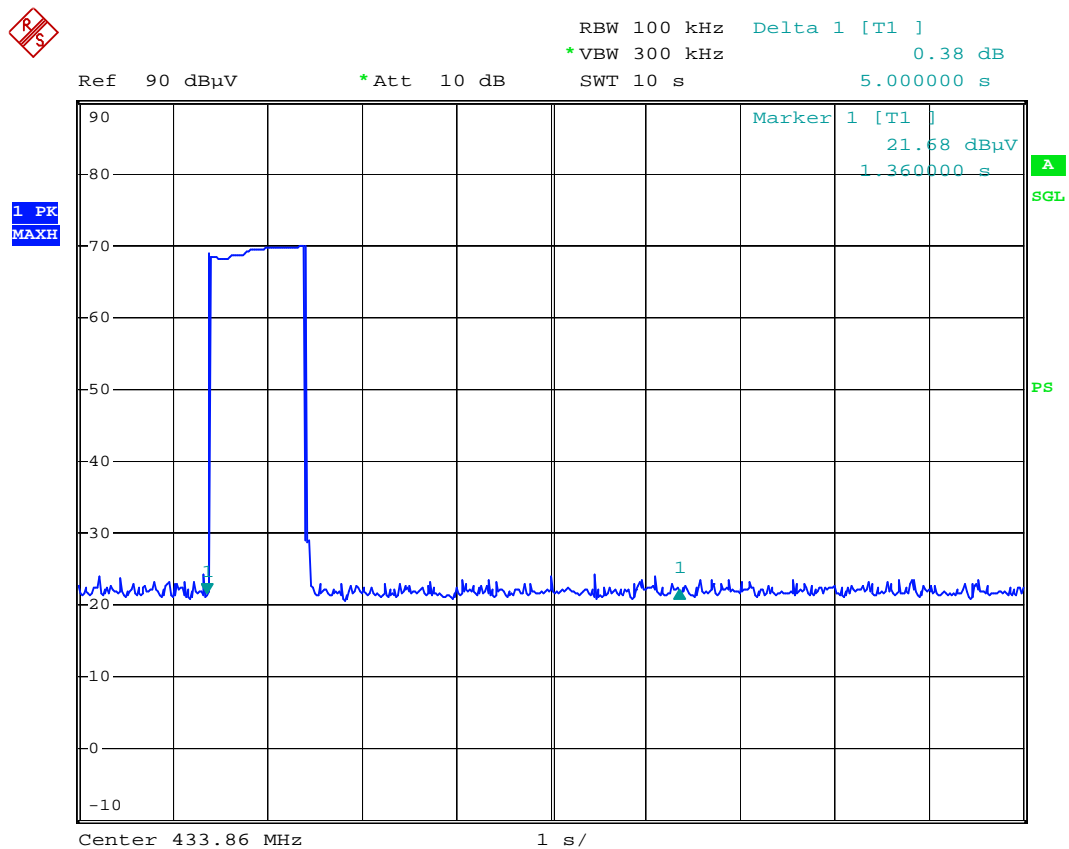
|                    |           |
|--------------------|-----------|
| Temperature:       | 25 ° C    |
| Relative Humidity: | 50%       |
| ATM Pressure:      | 103.2 kPa |

The testing was performed by Alvin Huang on 2008-08-22.

Test Mode: Transmitting

**Test Result:** Compliant.

Please refer to following plot



Deactivation-time

Date: 22.AUG.2008 21:59:47

## 9 CFR47 §15.231- DUTY CYCLE

### 9.1 Limit

Nil (No dedicated limit specified in the Rules).

### 9.2 Test Equipment List and Details

| Manufacturer    | Description       | Model | Serial Number | Calibration Date | Calibration Due Date |
|-----------------|-------------------|-------|---------------|------------------|----------------------|
| Rohde & Schwarz | EMI Test Receiver | ESCI  | 100224        | 2007-10-16       | 2008-10-16           |

\* **Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed per the NVLAP requirements, traceable to NIST.

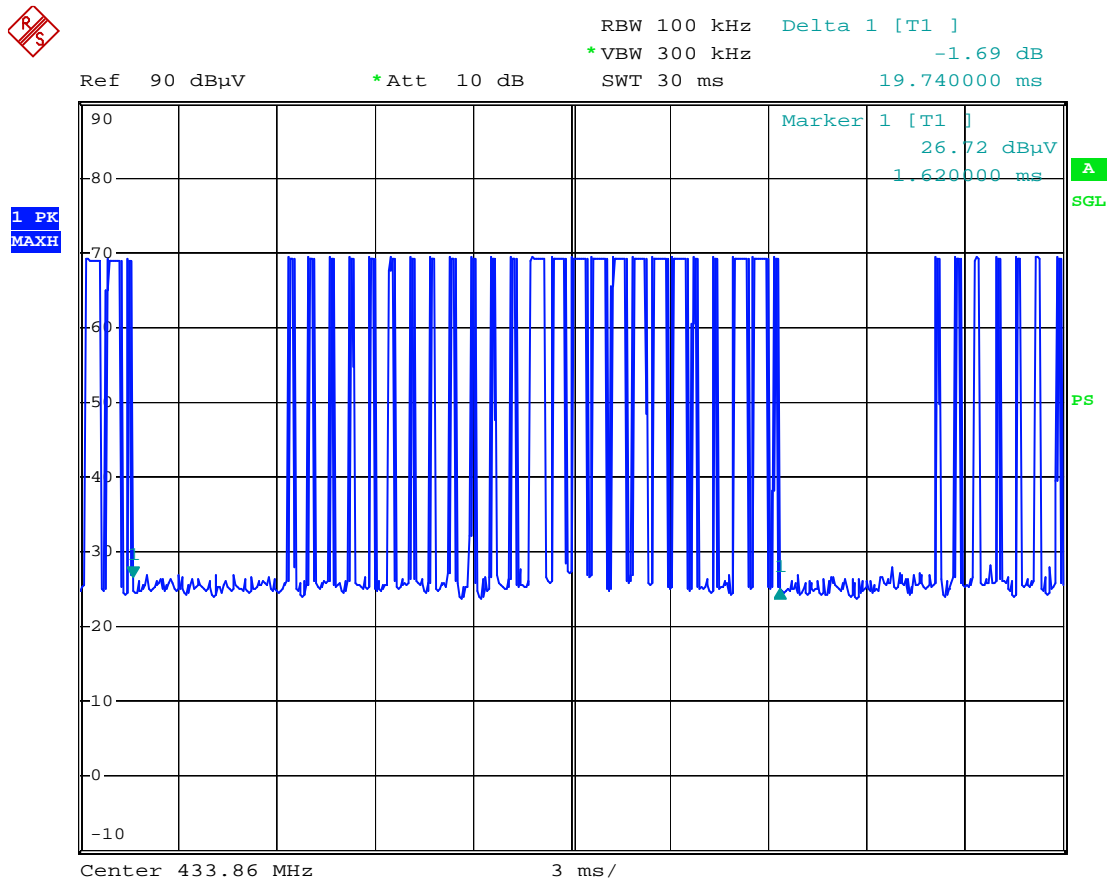
### 9.3 Test Procedure

1. Place the EUT on the table and set it in transmitting mode.
2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
3. Set center frequency of spectrum analyzer=operating frequency.
4. Set the spectrum analyzer as RBW=100 kHz, VBW=300 kHz, Span=0Hz.
5. Repeat above procedures until all frequency measured was complete.

### 9.4 Test Data

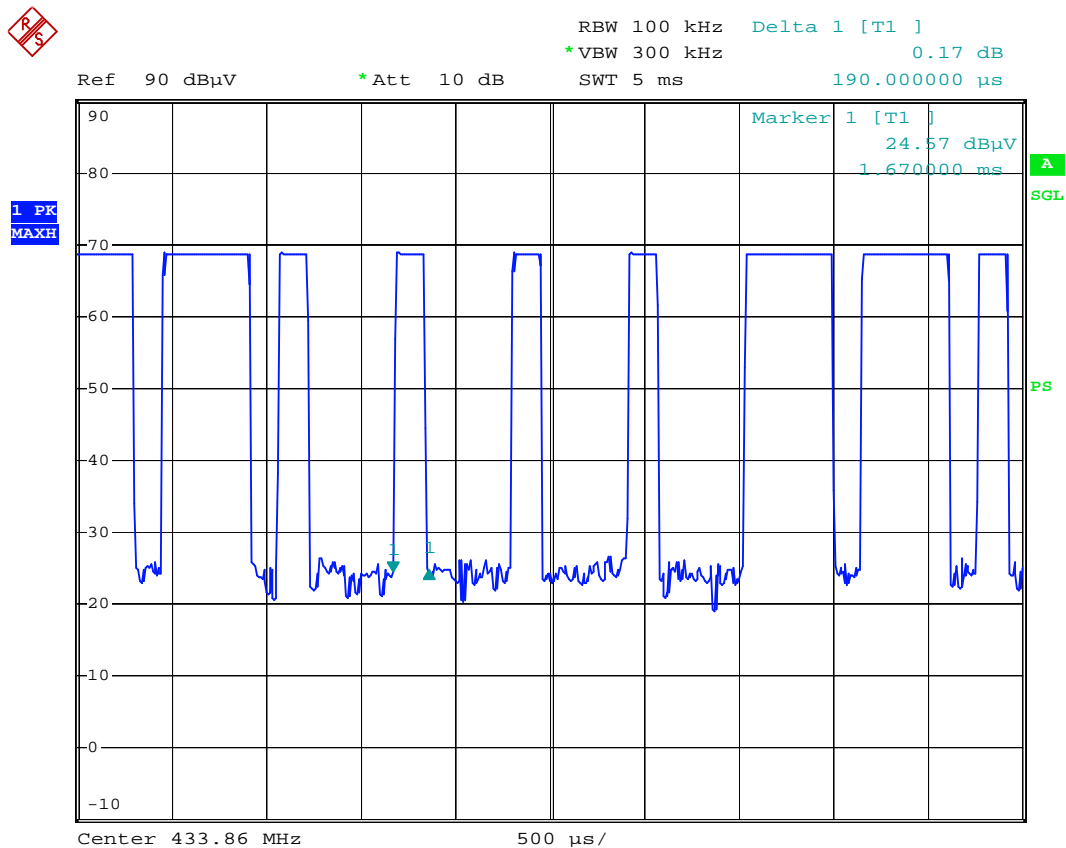
$$T_p = 19.74 \text{ ms} ; T_{on} = 15 \times 0.19 + 10 \times 0.5 = 7.85 \text{ ms}$$

$$\text{Duty Cycle Factor} = 20 \log (T_{on}/T_p) = 20 \times \log (7.85/19.74) = -8.01 \text{ dB}$$



T-tp

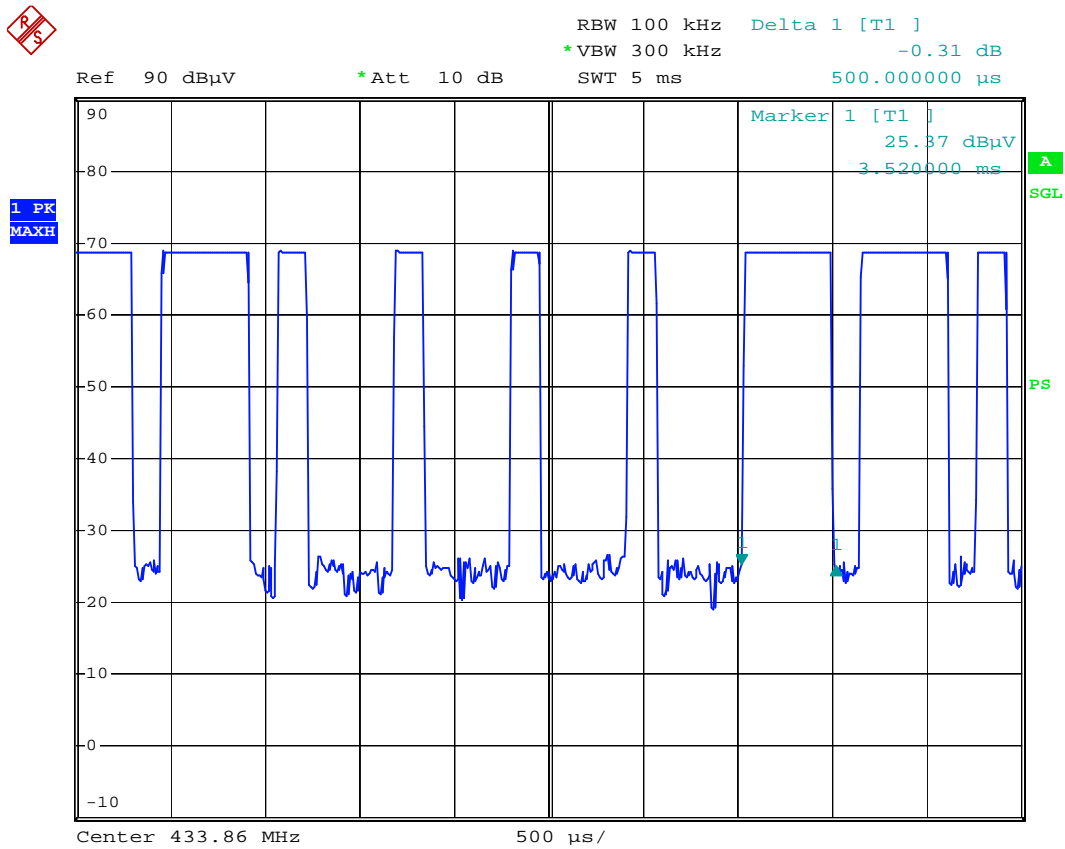
Date: 22.AUG.2008 21:54:10



T-on-1

Date: 22.AUG.2008 21:55:44





T-on-2

Date: 22.AUG.2008 21:56:33

\*\*\*\*\*END OF REPORT\*\*\*\*\*