

# FCC RF Test Report

APPLICANT : PASSTIME  
EQUIPMENT : Dock device  
BRAND NAME : Distracted Driving Device  
MODEL NAME : DDD-1  
MARKETING NAME : DDD  
FCC ID : WXT-DDD1RX  
STANDARD : FCC Part 15 Subpart C §15.231  
CLASSIFICATION : (DSC) Security/Remote Control Transmitter

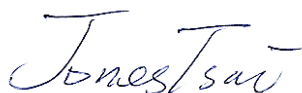
The testing was completed on Aug. 29, 2017. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC., the test report shall not be reproduced except in full.



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Reviewed by: Joseph Lin / Supervisor



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Approved by: Jones Tsai / Manager



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SPORTON INTERNATIONAL INC.

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FCC ID : WXT-DDD1RX

Page Number : 1 of 16

Report Issued Date : Sep. 28, 2017

Report Version : Rev. 02

Report Template No.: BU5-FR15C-15.231 Version 1.0



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## REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR772705A	Rev. 01	Initial issue of report	Sep. 04, 2017
FR772705A	Rev. 02	Revise the test description of limit in section 3.1.1 and 3.1.5.	Sep. 28, 2017



## SUMMARY OF THE TEST RESULT

Applied Standard: 47 CFR FCC Part 15 Subpart C				
	FCC Rule Part 15C	Description of Test	Result	Remark
3.2	15.231(a)	Types of Momentary Signals	Complies	
3.2	15.231(c)	20dB and 99% Occupied Bandwidth	Complies	
3.3	15.231(b) 15.231(e)	Field Strength of Fundamental and Spurious Emissions	Complies	Under limit 32.69 dB at 909.000 MHz



# **1. GENERAL INFORMATION**

## **1.1 Applicant**

**PASSTIME**

861 Southpark Dr #200 Littleton, CO 80120

## **1.2 Manufacturer**

**Wistron NeWeb Corp.**

20 Park Avenue II, Hsinchu Science Park, Hsinchu 308, Taiwan, R.O.C.

## **1.3 Product Feature of Equipment Under Test**

Bluetooth and SRD (433MHz)

Product Specification subjective to this standard	
Antenna Type	Bluetooth: PCB Antenna SRD (433MHz): PCB Antenna

## **1.4 Modification of EUT**

No modifications are made to the EUT during all test items.

## 1.5 Testing Location

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code : 1190) and the FCC designation No. TW0007 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC Test.

<b>Test Site</b>	SPORTON INTERNATIONAL INC.
<b>Test Site Location</b>	No. 52, Hwa Ya 1 <sup>st</sup> Rd., Hwa Ya Technology Park, Kwei-Shan District, Tao Yuan City, Taiwan, R.O.C. TEL: +886-3-3273456 / FAX: +886-3-3284978
<b>Test Site No.</b>	<b>Sporton Site No.</b> TH05-HY
<b>Test Engineer</b>	Tommy Lee
<b>Temperature</b>	21~25°C
<b>Relative Humidity</b>	51~54%

**Note:** The test site complies with ANSI C63.4 2014 requirement.

<b>Test Site</b>	SPORTON INTERNATIONAL INC.
<b>Test Site Location</b>	No.58, Aly. 75, Ln. 564, Wenhua 3rd Rd. Guishan Dist, Taoyuan City, Taiwan (R.O.C.) TEL: +886-3-327-0868 / FAX: +886-3-327-0855
<b>Test Site No.</b>	<b>Sporton Site No.</b> 03CH11-HY
<b>Test Engineer</b>	J.C. Liang and Jacky Hung
<b>Temperature</b>	24~26°C
<b>Relative Humidity</b>	50~55%

**Note:** The test site complies with ANSI C63.4 2014 requirement.

## 1.6 Applicable Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- ♦ FCC Part 15 Subpart C §15.231
- ♦ ANSI C63.10-2013

## 2. TEST CONFIGURATION OF EQUIPMENT UNDER TEST

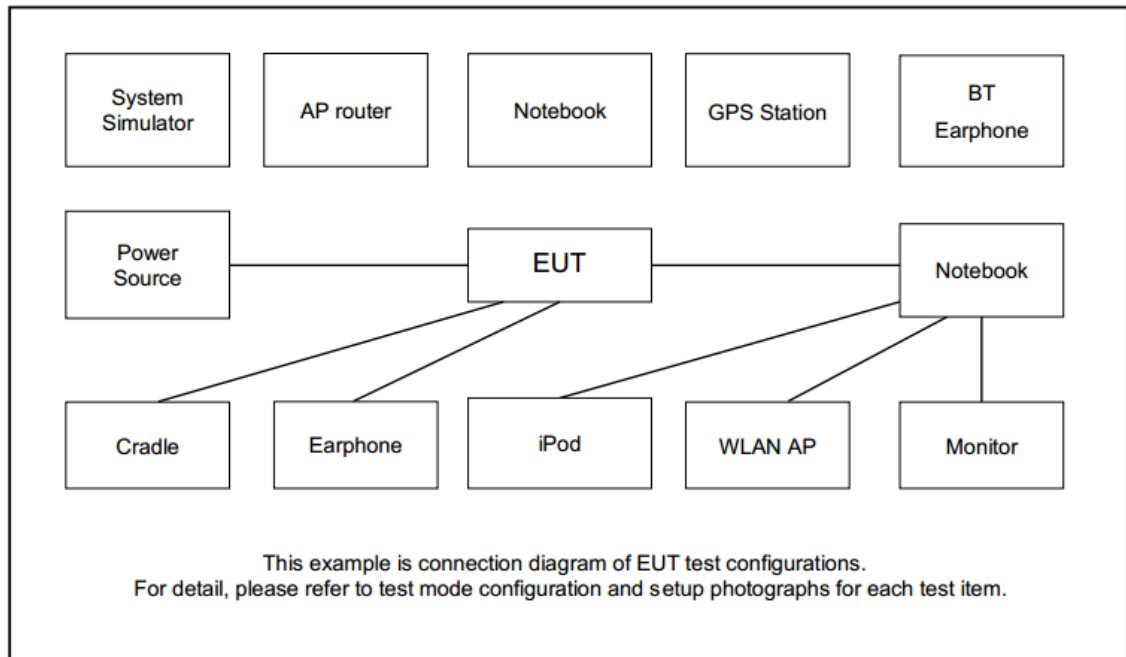
### 2.1 Descriptions of Test Mode

Investigation has been done on all the possible configurations for searching the worst cases.

The following table is a list of the test modes shown in this test report.

Test Items	
AC Power Line Conducted Emissions	20dB and 99% occupied bandwidth
Test Result of transmission time	Field Strength of Fundamental and Spurious Emissions

### 2.2 Connection Diagram of Test System



### 2.3 EUT Operation Test Setup

The EUT was programmed to be in continuously transmitting mode.



### 3. TEST RESULTS

#### 3.1 Types of Momentarily Operated Devices

##### 3.1.1 Limit

<input type="checkbox"/>	<p>§15.231 (a)(1)</p> <p>A manually operated transmitter shall employ a switch that will automatically deactivate the transmitter within not more than 5 seconds of being released.</p>
<input checked="" type="checkbox"/>	<p>§15.231 (a)(2)</p> <p>A transmitter activated automatically shall cease transmission within 5 seconds after activation.</p>
<input type="checkbox"/>	<p>§15.231 (a)(3)</p> <p>Periodic transmissions at regular predetermined intervals are not permitted. However, polling or supervision transmissions, including data, to determine system integrity of transmitters used in security or safety applications are allowed if the total duration of transmissions does not exceed more than two seconds per hour for each transmitter. There is no limit on the number of individual transmissions, provided the total transmission time does not exceed two seconds per hour.</p>
<input type="checkbox"/>	<p>§15.231 (a)(4)</p> <p>Intentional radiators which are employed for radio control purposes during emergencies involving fire, security, and safety of life, when activated to signal an alarm, may operate during the pendency of the alarm condition.</p>
<input type="checkbox"/>	<p>§15.231 (a)(5)</p> <p>Transmission of set-up information for security systems may exceed the transmission duration limits in paragraphs (a)(1) and (a)(2) of this section, provided such transmissions are under the control of a professional installer and do not exceed ten seconds after a manually operated switch is released or a transmitter is activated automatically. Such set-up information may include data.</p>



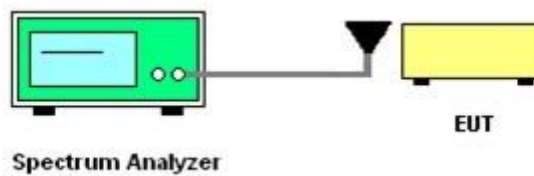
### 3.1.2 Measuring Instruments

See list of measuring instruments of this test report.

### 3.1.3 Test Procedures

1. The spectrum analyzer connected via a receive antenna placed near the EUT in peak Max hold mode.
2. The resolution bandwidth of 1 kHz and the video bandwidth of 3 kHz were used.
3. Measured the spectrum width with power higher than 20dB below carrier.
4. Measured the transmission period of EUT under specified condition.

### 3.1.4 Test Setup



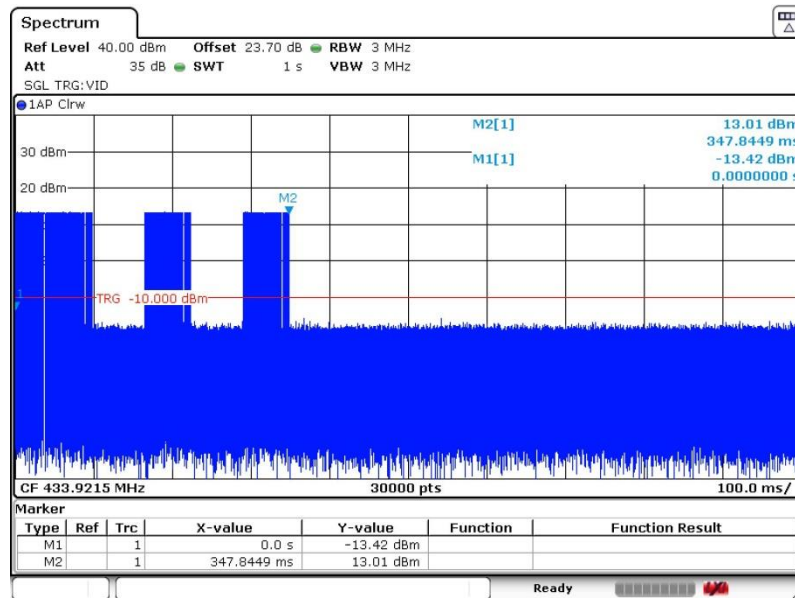


### 3.1.5 Test Result of transmission time



§15.231 (a)(2)

A transmitter activated automatically shall cease transmission within 5 seconds after activation.



Date: 25.AUG.2017 20:14:55

Button push @ M1

Button release @ 1 second later

## 3.2 20dB and 99% Occupied Bandwidth Measurement

### 3.2.1 Limit

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. For devices operating above 900 MHz, the emission shall be no wider than 0.5% of the center frequency. Bandwidth is determined at the points 20 dB down from the modulated carrier.

The 99% bandwidth of momentarily operated devices shall be less or equal to 0.25% of the centre frequency for devices operating between 70 MHz and 900 MHz. For devices operating above 900 MHz, the 99% bandwidth shall be less or equal to 0.5% of the centre frequency.

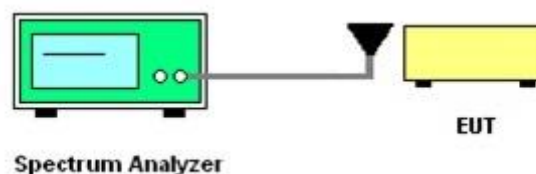
### 3.2.2 Measuring Instruments

See list of measuring instruments of this test report.

### 3.2.3 Test Procedures

1. The spectrum analyzer connected via a receive antenna placed near the EUT in peak Max hold mode.
2. The resolution bandwidth of 1 kHz and the video bandwidth of 3 kHz were used.
3. Measured the spectrum width with power higher than 20dB below carrier.
4. Measured the 99% OBW.

### 3.2.4 Test Setup



### 3.2.5 Test Result of Conducted Test Items

Please refer to Appendix A.

### 3.3 Field Strength of Fundamental and Spurious Emissions

#### 3.3.1 Limit

☒

15.231(b)

In addition to the provisions of §15.205, the field strength of emissions from intentional radiators operated under this section shall not exceed the following

Rules and specifications	FCC CFR 47 Part 15 section 15.231	
Fundamental frequency (MHz)	Field strength of fundamental (µV/m) at 3m	Field strength of spurious emissions (dBµV/m) at 3m
40.66-40.70	2250	225
70-130	1250	125
130-174	1250 to 3750*	125 to 375*
174-260	3750	375
260-470	3750 to 12500*	375 to 1250*
Above 470	12500	1250

\* Linear interpolation with frequency, f, in MHz.

☐

15.231(e)

Intentional radiators may operate at a periodic rate exceeding that specified in paragraph (a) of this section and may be employed for any type of operation, including operation prohibited in paragraph (a) of this section, provided the intentional radiator complies with the provisions of paragraphs (b) through (d) of this section, except the field strength table in paragraph (b) of this section is replaced by the following:

Rules and specifications	FCC CFR 47 Part 15 section 15.231	
Fundamental frequency (MHz)	Field strength of fundamental (µV/m) at 3m	Field strength of spurious emissions (dBµV/m) at 3m
40.66-40.70	1000	100
70-130	500	50
130-174	500 to 1500	50 to 150
174-260	1500	150
260-470	1500 to 5000	150 to 500
Above 470	5000	500

\* Linear interpolation with frequency, f, in MHz.

### 3.3.2 Measuring Instruments

See list of measuring instruments of this test report.

### 3.3.3 Test Procedures

1. Configure the EUT according to ANSI C63.10. The EUT was placed on the top of the turntable 0.8 meter above ground. The phase center of the loop receiving antenna mounted antenna tower was placed 3 meters far away from the turntable.
2. Power on the EUT and all the supporting units. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
3. The height of the receiving antenna was fixed at one meter above ground to find the maximum emissions field strength.
4. For Fundamental emissions, use the receiver to measure Average reading.
5. For average measurement: use duty cycle correction factor method per 15.35(c).  

$$\text{Duty cycle} = \text{On time} / 100 \text{ milliseconds}$$

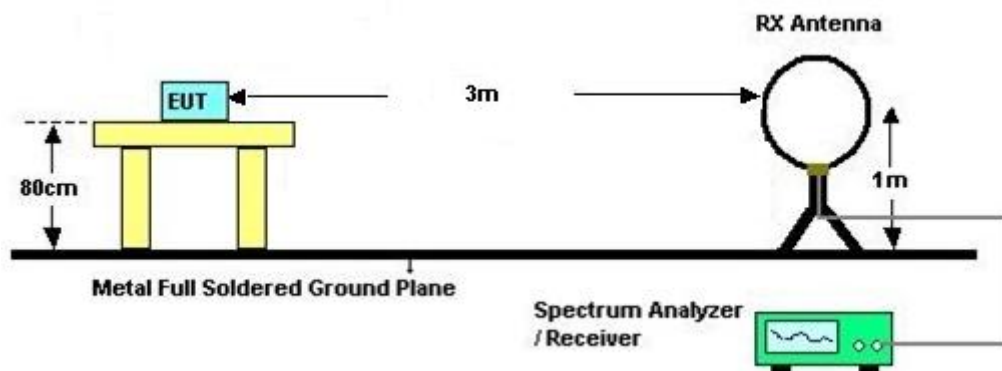
$$\text{On time} = N1 * L1 + N2 * L2 + \dots + Nn-1 * L_{Nn-1} + Nn * L_n$$

Where N1 is number of type 1 pulses, L1 is length of type 1 pulses, etc.

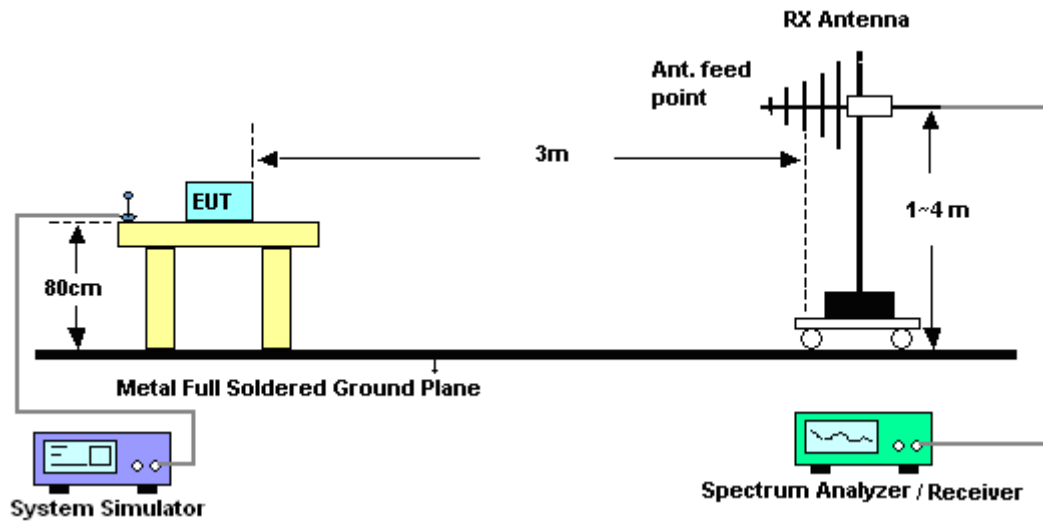
$$\text{Average Emission Level} = \text{Peak Emission Level} + 20 * \log(\text{Duty cycle})$$
6. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level

### 3.3.4 Test Setup

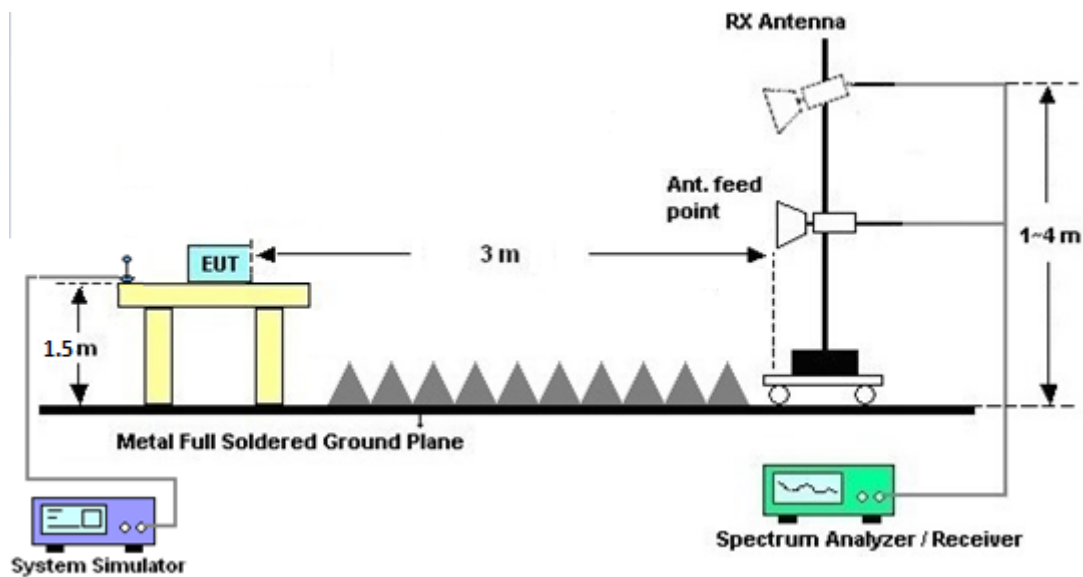
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz

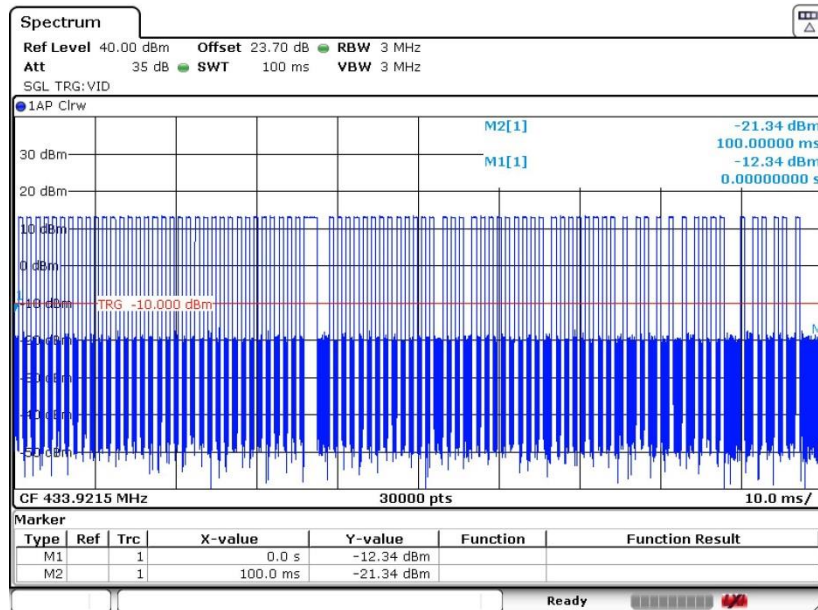


### 3.3.5 Test Results of Radiated Spurious Emissions (9 kHz ~ 30 MHz)

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line per 15.31(o) was not reported.

### 3.3.6 Duty cycle correction factor for average measurement

**433.92MHz on time Plot**



Date: 25.AUG.2017 20:10:45

**DFS & Adaptivity Test Tools Ver1.0 (2015-05-22)**

**Option**

Trigger Level(dBm):	MK1 Time(s)	MK2 Time(s)	Delta2 Time(s)
0	0.0000us	100.0000ms	100.0000ms
On Time Point:	Total Point:	Sum of On Time(s):	
13472	30000	44.9067ms	
Sweep Time(s)	Sweep Point	Duty Cycle(%):	
100.00ms	30000	44.9067%	

**Run**

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**Note:**

1. Worst case Duty cycle = on time/100 milliseconds = 44.90 %
2. Worst case Duty cycle correction factor =  $20 \cdot \log(\text{Duty cycle}) = -6.95 \text{ dB}$

### 3.3.7 Test Result of Fundamental and Spurious Emissions

Please refer to Appendix B.



## 4. LIST OF MEASURING EQUIPMENT

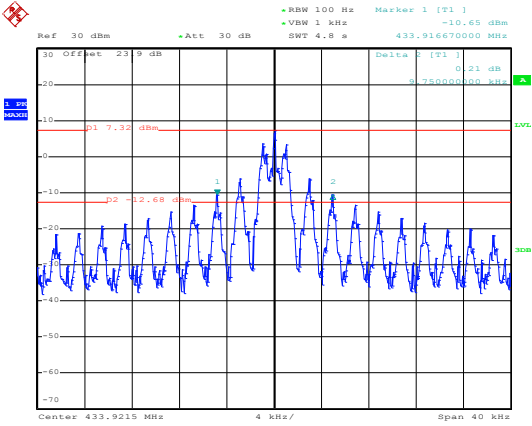
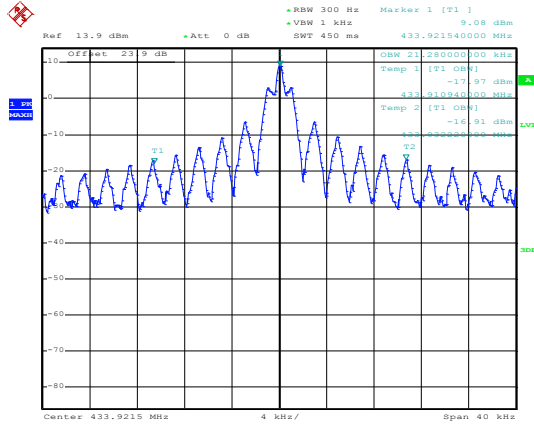
Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	Rohde & Schwarz	FSP40	100057	9kHz-40GHz	Nov. 25, 2016	Aug. 03, 2017 ~ Aug. 29, 2017	Nov. 24, 2017	Conducted (TH05-HY)
Signal Analyzer	Rohde & Schwarz	FSV40	101397	10Hz~40GHz	Nov. 04, 2016	Aug. 03, 2017 ~ Aug. 29, 2017	Nov. 03, 2017	Conducted (TH05-HY)
Amplifier	MITEQ	TTA1840-35-HG	1871923	18GHz~40GHz, VSWR : 2.5:1 max	Jul. 21, 2017	Aug. 15, 2017	Jul. 20, 2018	Radiation (03CH11-HY)
Amplifier	SONOMA	310N	187312	9kHz~1GHz	Nov. 10, 2016	Aug. 15, 2017	Nov. 09, 2017	Radiation (03CH11-HY)
Bilog Antenna	TESEQ	CBL 6111D&N-6-06	35414&AT-N 0602	30MHz~1GHz	Oct. 15, 2016	Aug. 15, 2017	Oct. 14, 2017	Radiation (03CH11-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120 D	9120D-1326	1GHz ~ 18GHz	Oct. 07, 2016	Aug. 15, 2017	Oct. 06, 2017	Radiation (03CH11-HY)
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100488	9 kHz~30 MHz	Oct. 20, 2016	Aug. 15, 2017	Oct. 19, 2018	Radiation (03CH11-HY)
Preamplifier	Keysight	83017A	MY5327008 0	1GHz~26.5GHz	Nov. 10, 2016	Aug. 15, 2017	Nov. 09, 2017	Radiation (03CH11-HY)
Preamplifier	MITEQ	AMF-7D-001 01800-30-10 P	1902247	1GHz~18GHz	Jun. 23, 2017	Aug. 15, 2017	Jun. 22, 2018	Radiation (03CH11-HY)
Spectrum Analyzer	Keysight	N9010A	MY5420048 6	10Hz ~ 44GHz	Oct. 12, 2016	Aug. 15, 2017	Oct. 11, 2017	Radiation (03CH11-HY)
Antenna Mast	EMEC	AM-BS-4500 -B	N/A	1~4m	N/A	Aug. 15, 2017	N/A	Radiation (03CH11-HY)
Turn Table	EMEC	TT 2000	N/A	0~360 Degree	N/A	Aug. 15, 2017	N/A	Radiation (03CH11-HY)
EMI Test Receiver	Agilent	N9038A(MXE)	MY5329005 3	20Hz to 26.5GHz	Jan. 12, 2017	Aug. 15, 2017	Jan. 11, 2018	Radiation (03CH11-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA91705 84	18GHz- 40GHz	Nov. 08, 2016	Aug. 15, 2017	Nov. 07, 2017	Radiation (03CH11-HY)





## Appendix A. Test Results of Conducted Test Items

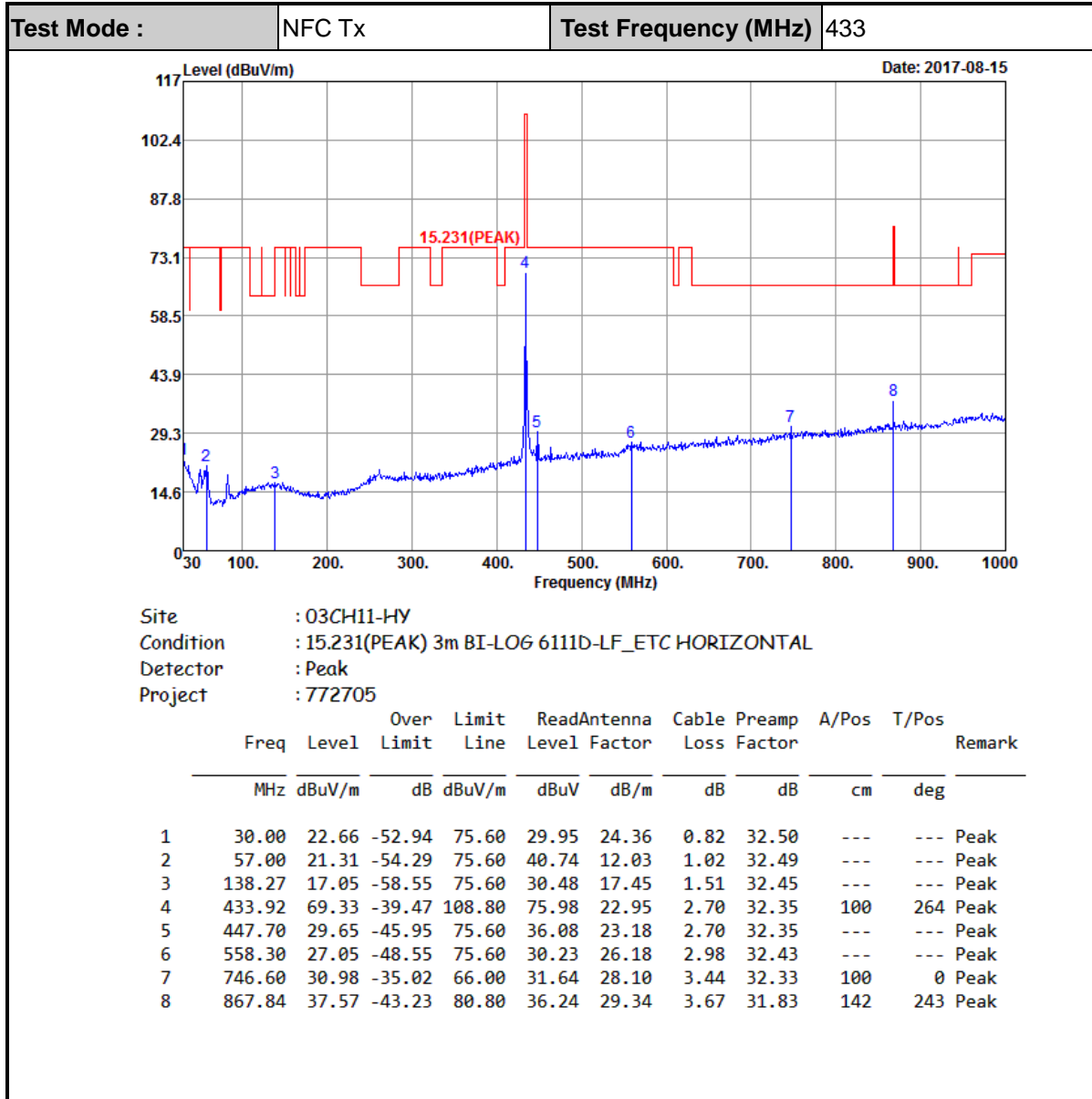
### A1. Test Result of 20dB and Occupied Bandwidth

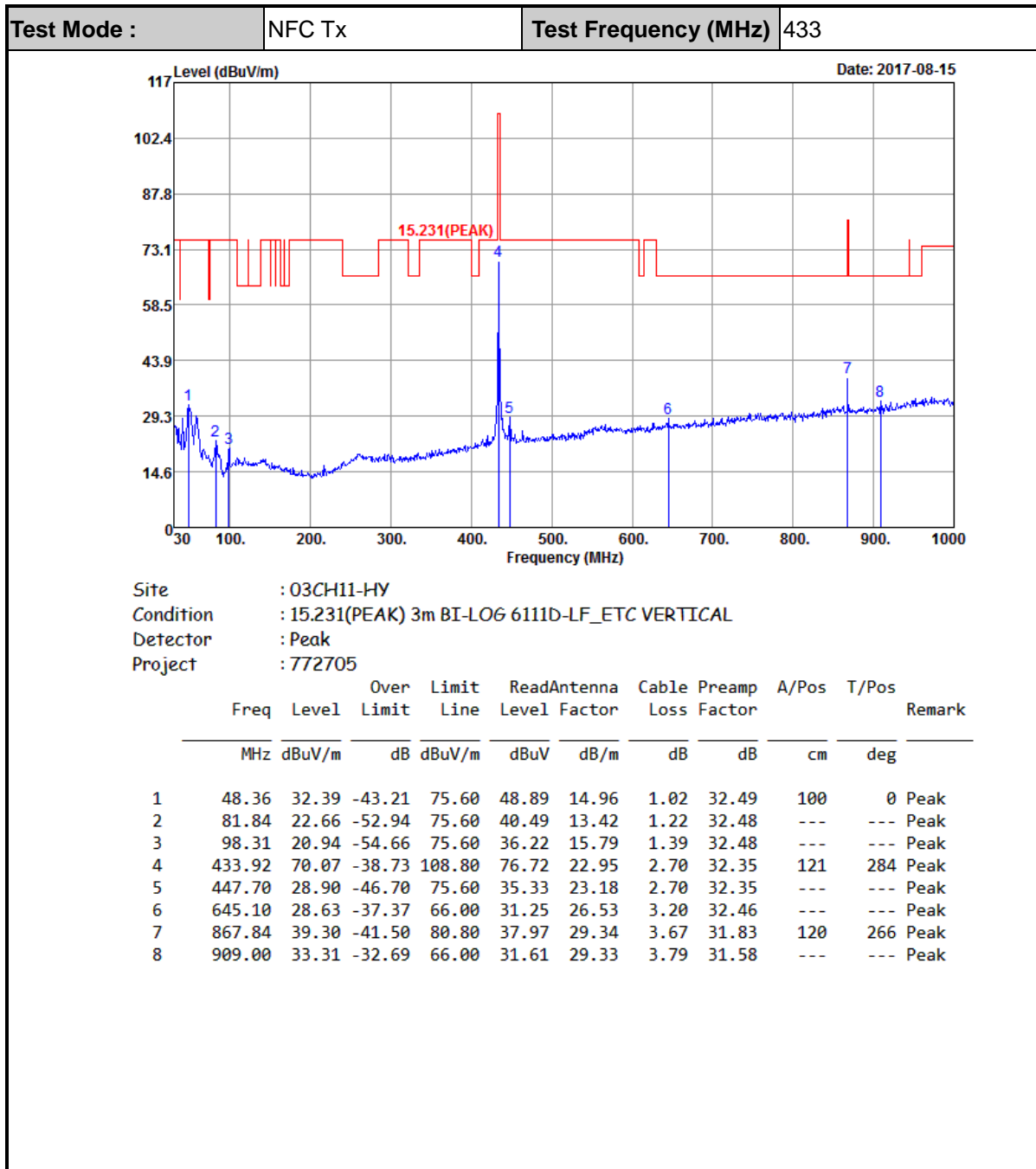
Test mode	433.92MHz Tx	Test Frequency (MHz)	433.92
 <p>Date: 16.AUG.2017 17:24:57</p>		 <p>Date: 16.AUG.2017 18:09:07</p>	
20dB Bandwidth (kHz)	9.75	99% OccupiedBW(kHz)	21.28
Bandwidth Limit	Shall be less than 0.25% of 433.92MHz	Shall be less than 0.25% of 433.92MHz	Test Result
	< 1084.8kHz	< 1084.8kHz	Complies



## Appendix B. Test Results of Radiated Test Items

### B1. Test Result of Field Strength of Fundamental Emissions (30MHz~1GHz)





**B2. Test Result of Field Strength of Fundamental Emissions (1GHz~5GHz)**