



## HCT CO., LTD.

Product Compliance Division

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### CERTIFICATE OF COMPLIANCE FCC PART 15.231 Certification

Applicant Name:

BLUE DREAM TECH., INC.

Address:

3<sup>RD</sup> 2170 DAEHWA-DONG ILSANSEO-GU GOYANG-SI  
GYEONGGI-DO KOREA

Date of Issue:

August 07, 2009

Test Site/Location:

HCT.CO., LTD., San 136-1 Ami-ri, Bubal-eup, Icheon-si,  
Kyungki-do, Korea

Test Report No.: HCT-RF09-0727-1

HCT FRN: 0005866421

IC Recognition No.: 5944A-1

**FCC ID: XID-BDT-1002**

**APPLICANT: BLUE DREAM TECH., INC.**

Model(s): BDT-1002

EUT Type: WALL-PAD

Tx Frequency: 433.164 MHz

Type of Modulation: FSK

Equipment Class: DSC - Part 15 Security / Remote Control Transmitter

FCC Rule Part(s) Part 15 subpart C 15.231

Engineering Statement:

The measurements shown in this report were made in accordance with the procedures indicated, and the emissions from this equipment were found to be within the limits applicable. I assume full responsibility for the accuracy and completeness of these measurements, and for the qualifications of all persons taking them.

HCT.CO., LTD. Certifies that no party to this application has been denied FCC benefits pursuant to section 5301 of the Anti-Drug Abuse Act of 1998, 21 U.S.C. 853(a)

  
Report prepared by

: Hyo Sun Kwak

Test engineer of RF Team

  
Approved by

: Sang Jun Lee

Manager of RF Team

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## 1. GENERAL INFORMATION

**Applicant:** BLUE DREAM TECH., INC.

**Address:** 3<sup>RD</sup> 2170 DAEHWA-DONG ILSANSEO-GU GOYANG-SI GYEONGGI-DO KOREA

**FCC ID:** XID-BDT-1002

**EUT:** WALL-PAD

**Model:** BDT-1002

**Date of Test:** July 16, 2009 ~ August 07, 2009

**Contact person:** Name: CHUN,JONG SEOK  
Phone #: +82-31-911-9601  
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## 2. EUT DESCRIPTION

<b>Type</b>	WALL-PAD
<b>Model Name</b>	BDT-1002
<b>Power Supply</b>	DC 12V
<b>Frequency Range</b>	433.164 MHz
<b>Type of Modulation</b>	FSK
<b>Antenna</b>	Antenna type: HELICAL Type Antenna Peak Gain : 0.26 dBi

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### 3. TEST METHODOLOGY

The measurement procedure described in the American National Standard for Methods of Measurement of Radio-Noise Emission from Low-Voltage Electrical and Electronic Equipment in the Range of 9kHz to 40GHz (ANSI C63.4-2003) and FCC Public Notice DA 00-705 dated March 30, 2000 entitled "Filing and Measurement Guidelines for Transmitter for WALL-PAD System" were used in the measurement of the **BLUE DREAM TECH., INC. WALL-PAD**

**FCC ID: XID-BDT-1002**

#### 3.1 EUT CONFIGURATION

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner that intends to maximize its emission characteristics in a continuous normal application.

#### 3.2 EUT EXERCISE

The EUT was operated in the engineering mode to fix the Tx frequency that was for the purpose of the measurements. According to its specifications, the EUT must comply with the requirements of the Section 15.205, 15.207, 15.209 and 15.231 under the FCC Rules Part 15 Subpart C.

#### 3.3 GENERAL TEST PROCEDURES

##### Conducted Emissions

The EUT is placed on the turntable, which is 0.8 m above ground plane. According to the requirements in Section 13.1.4.1 of ANSI C63.4. (Version :2003) Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30MHz using CISPR Quasi-peak and average detector modes.

##### Radiated Emissions

The EUT is placed on a turn table, which is 0.8 m above ground plane. The turntable shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3 m away from the receiving antenna, which varied from 1 m to 4 m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the max. emission, the relative positions of this hand-held transmitter (EUT) was rotated through three orthogonal axes according to the requirements in Section 13.1.4.1 of ANSI C63.4. (Version: 2003)

#### 3.4 DESCRIPTION OF TEST MODES

The EUT has been tested under engineering test mode condition and the EUT staying in continuous transmitting mode.

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## 4. INSTRUMENT CALIBRATION

The measuring equipment, which was utilized in performing the tests documented herein, has been calibrated in accordance with the manufacturer's recommendations for utilizing calibration equipments, which is traceable to recognized national standards.

## 5. FACILITIES AND ACCREDITATIONS

### 5.1 FACILITIES

The open area test site and conducted measurement facility used to collect the radiated data are located at the 254-1, Maekok-Ri, Hobup-Myun, Ichon-Si, Kyoungki-Do, 467-701, KOREA. The site is constructed in conformance with the requirements of ANSI C63.4. (Version :2003) and CISPR Publication 22. Detailed description of test facility was submitted to the Commission and accepted dated June 10, 2009 (Registration Number: 90661)

### 5.2 EQUIPMENT

Radiated emissions are measured with one or more of the following types of Linearly polarized antennas: tuned dipole, bi-conical, log periodic, bi-log, and/or ridged waveguide, horn. Spectrum analyzers with pre-selectors and quasi-peak detectors are used to perform radiated measurements. Conducted emissions are measured with Line Impedance Stabilization Networks and EMI Test Receivers. Calibrated wideband preamplifiers, coaxial cables, and coaxial attenuators are also used for making measurements.

All receiving equipment conforms to CISPR Publication 16-1, "Radio Interference Measuring Apparatus and Measurement Methods."

## 6. ANTENNA REQUIREMENTS

### According to FCC 47 CFR §15.203:

"An intentional radiator antenna shall be designed to ensure that no antenna other than that furnished by the responsible party can 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 antennas of this E.U.T are permanently attached.

\*The E.U.T Complies with the requirement of §15.203

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## 7. LIMITS AND TEST RESULT

### Summary of Test Results

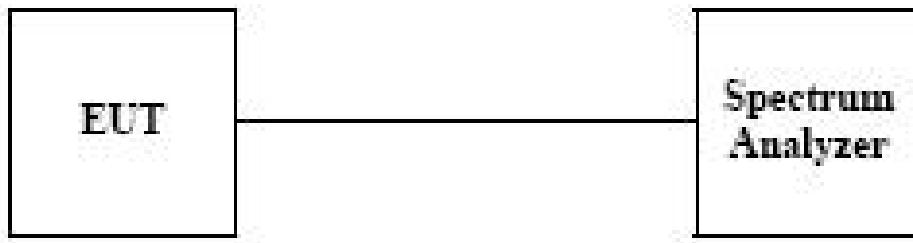
Report Section	FCC Part Section(s)	Test Description	Test Result
<b>TRANSMITTER MODE (TX)</b>			
7.2	15.231(a)	Timing of the transmitter	PASS
7.3	15.231(b)	Field Strength of Fundamental	PASS
7.3	15.231(b)	Field Strength of harmonics and spurious	PASS
7.1	15.231(c)	20dB Bandwidth	PASS
8	15.207	AC power conducted emissions	PASS

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## 7.1 20dB BANDWIDTH

### Test Set-up



### LIMIT

§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. 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 20dB down from the modulated carrier.

### TEST PROCEDURE

1. The transmitter output is connected to the spectrum analyzer.
2. The bandwidth of the fundamental frequency was measured with the spectrum analyzer using RBW=10 kHz, VBW=10 kHz and Span=500 KHz.
3. The bandwidth of fundamental frequency was measured and recorded.

### RESULTS

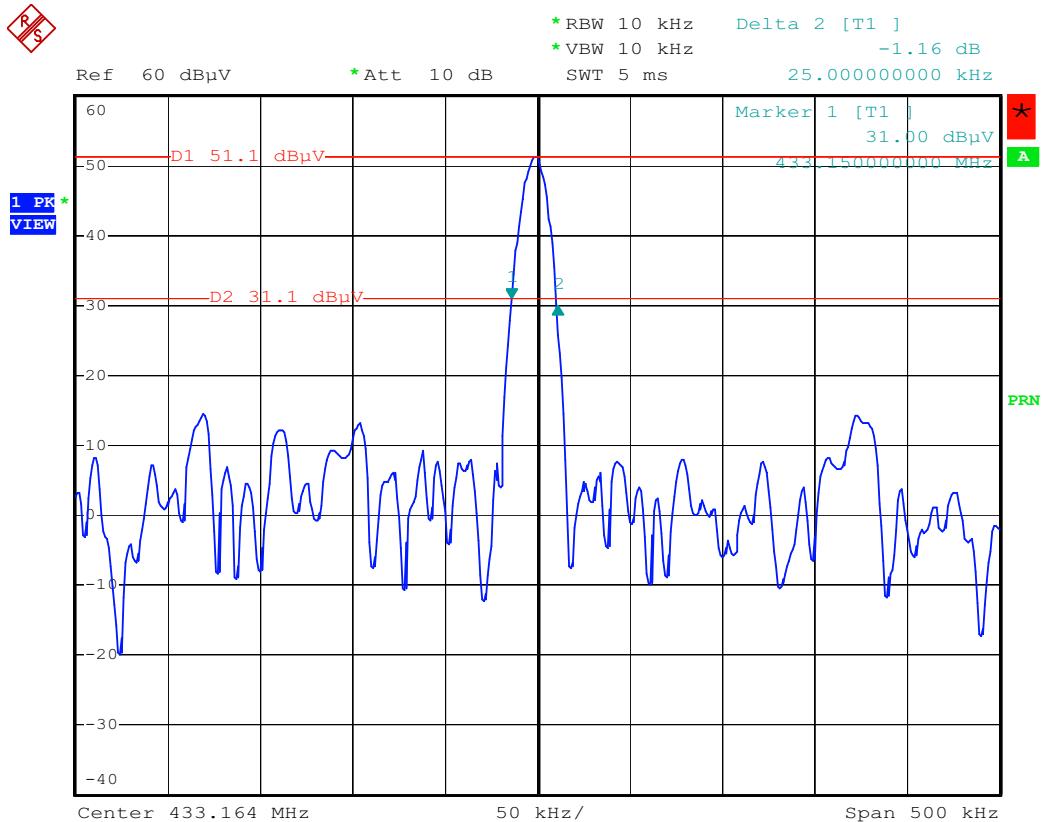
NO non-compliance noted.

Carrier Frequency (MHz)	Bandwidth of the emission(KHz)	Limit (MHz)	Remark
433.164	25.0	1.0825	The point 20dB down from the modulated carrier

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## □ RESULT PLOTS

### 20dB BANDWIDTH



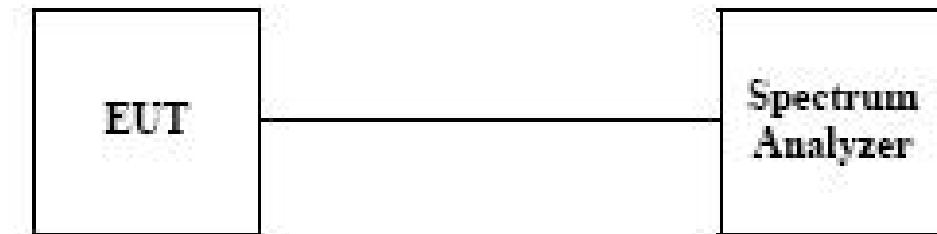
Date: 16.JUL.2009 10:45:50

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## 7.2 LIMIT OF TRANSMISSION TIME

### Test Set-up



### LIMIT

§15.231 (a)

A manually operated transmitter shall employ a switch that will automatically deactivate the transmitter within not more than 5 seconds of being released.

### TEST PROCEDURE

The transmitter output is connected to a spectrum analyzer or radiated field strength. The RBW is set to 1 MHz and the VBW is set to 1 MHz. The sweep time is set to 5 seconds and the span is set to 0 Hz.

### RESULTS

NO non-compliance noted.

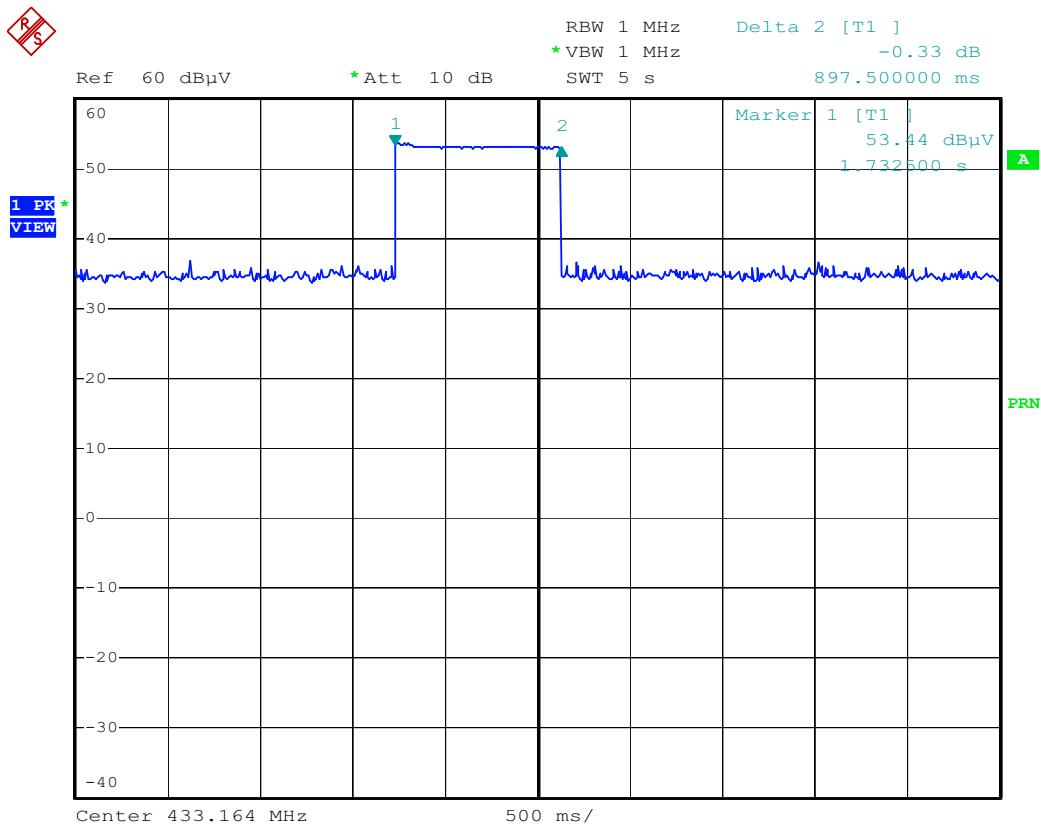
Frequency (MHz)	Transmission time (ms)	Limit (Second)	Remark
433.164	897.5	5.00	PASS

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LESS THAN 5 SECONDS

□ RESULT PLOTS



Date: 16.JUL.2009 10:36:22

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## 7.3 RADIATED EMISSIONS

### 7.3.1 TRANSMITTER RADIATED SPURIOUS EMISSIONS

#### LIMITS

According to 15.231(a), Periodic operation in the band 40.66-40.70 MHz and above 70 MHz, except as shown in paragraph 15.231(e), the field strength of emissions from intentional radiators operated under this section shall not exceed the following:

Frequency Band (MHz)	Field strength of Fundamental (uV/m)	Field strength of Spurious (uV/m)
40.66-40.70	2250	225
70-130	1250	125
130-174	*1,250 to 3,750	*125 to 375
174-260	3750	375
260-470	*3,750 to 12,500	*375 to 1250
Above 470	12500	1250

\* Linear interpolations.

According to 15.231(e), Intentional radiators may operate at a periodic rate exceeding that specified in paragraph (a) and may be employed for any type of operation, including operation prohibited in paragraph (a), provided the intentional radiator complies with the provisions of paragraphs (b) through (d) of this Section, except the field strength table in paragraph (b) is replaced by the following:

Frequency Band (MHz)	Field strength of Fundamental (uV/m)	Field strength of Spurious (uV/m)
40.66-40.70	1,000	100
70-130	500	50
130-174	*500 to 1,500	*50 to 150
174-260	1,500	150
260-470	*1,500 to 5,000	*150 to 500
Above 470	5,000	500

\* Linear interpolations

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§15.209 (a) Except as provided elsewhere in this Subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table ;

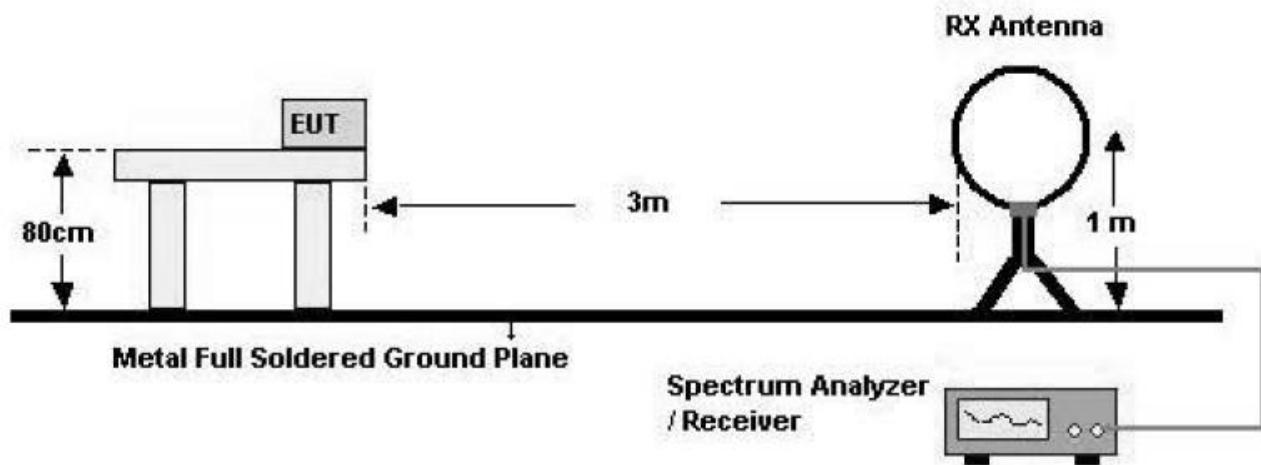
Frequency (MHz)	Field Strength (uV/m)	Field Strength (dBuV/m)
30-88	100	40.0
88-216	150	43.5
216-960	200	46.0
Above 960	500	54.0

**\*\* Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz However, operation within these frequency bands is permitted under other sections of this part, e.g., Sections 15.231 and 15.241**

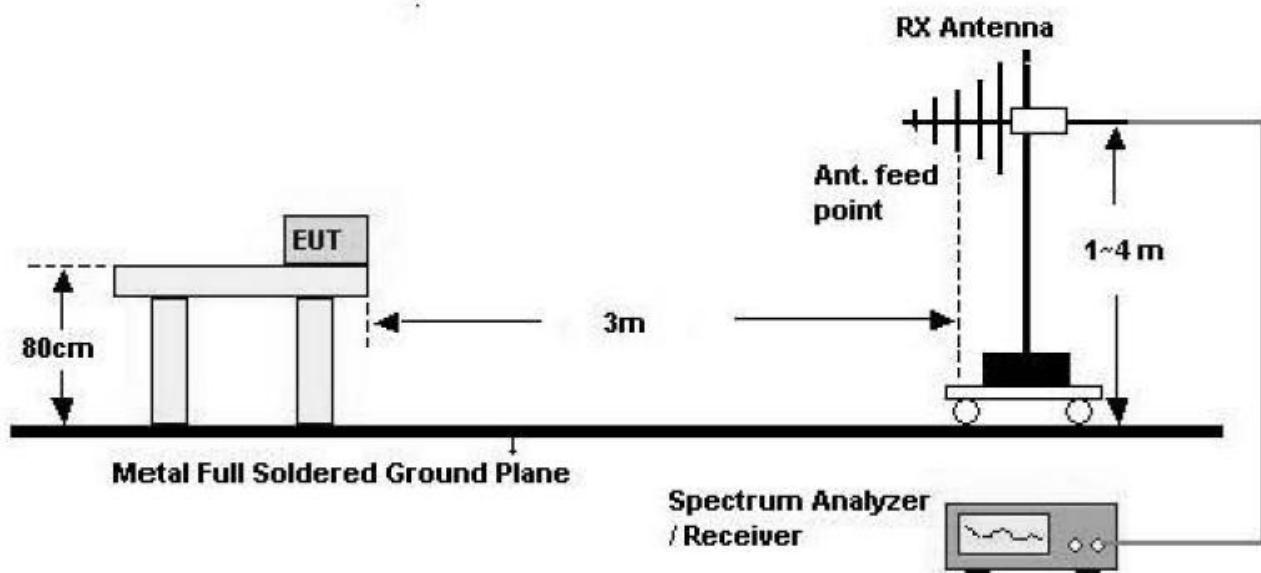
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## Test Configuration

### Below 30 MHz

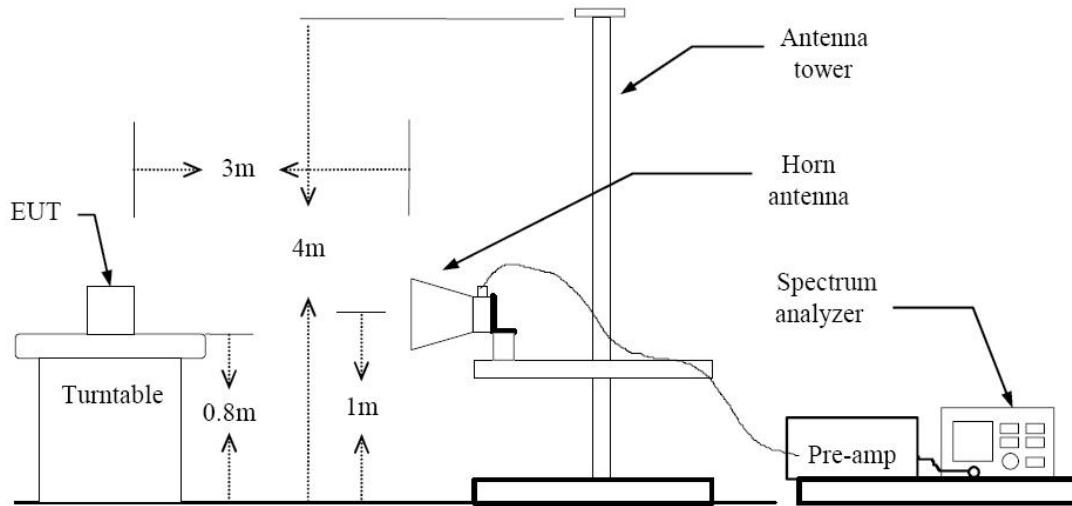


### 30 MHz - 1 GHz



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## Above 1 GHz



### TEST PROCEDURE

The EUT is placed on a non-conducting table 80 cm above the ground plane. The antenna to EUT distance is 3 meters. The EUT is configured in accordance with ANSI C63.4. The EUT is set to transmit in a continuous mode.

For measurements below 1 GHz the resolution bandwidth is set to 100 KHz for peak detection measurements or 120 KHz or quasi-peak detection measurements. Peak detection is used unless otherwise noted as quasi-peak.

For measurements above 1 GHz the resolution bandwidth is set to 1 MHz, then the video bandwidth is set to 1 MHz for peak measurements.

The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized in both the vertical and the horizontal positions.

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### 7.3.2 TEST RESULTS

#### Fundamental :

Frequency [MHz]	Reading dBuV	Ant. Factor dB/m	Cable Loss dB	Pol [H/V]	Field Strength [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
<b>PEAK data</b>								
433.164	33.4	16.0	4.9	H	54.3	100.8	46.5	PK
						80.8	-	AV
433.164	38.2	16.0	4.9	V	59.1	100.8	41.7	PK
						80.8	-	AV

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## Below 1 GHz

Frequency	Reading	Ant. Factor	Cable Loss	ANT POL	Total	Limit	Margin	Detect
MHz	dBuV	dB/m	dB	(H/V)	dBuV/m	dBuV/m	dB	
54.0	19.4	13.1	1.7	V	34.2	80.80	46.6	PK
						60.80	-	AV
129.0	21.7	11.3	2.7	V	35.7	80.80	45.1	PK
						60.80	-	AV
129.0	29.4	11.3	2.7	H	43.4	80.80	37.4	PK
						60.80	-	AV
137.0	26.1	12.1	2.8	H	41.0	80.80	39.8	PK
						60.80	-	AV
163.0	20.8	12.7	3.0	H	36.5	80.80	44.3	PK
						60.80	-	AV
190.0	23.3	10.1	3.3	V	36.7	80.80	44.1	PK
						60.80	-	AV
190.0	28.4	10.1	3.3	H	41.8	80.80	39.0	PK
						60.80	-	AV
195.0	25.9	9.6	3.4	H	38.9	80.80	41.9	PK
						60.80	-	AV
243.0	29.1	11.0	3.7	V	43.8	80.80	37.0	PK
						60.80	-	AV
243.0	28.9	11.0	3.7	H	43.6	80.80	37.2	PK
						60.80	-	AV
260.0	24.8	11.6	3.9	V	40.3	80.80	40.5	PK
						60.80	-	AV
260.0	22.5	11.6	3.9	H	38.0	80.80	42.8	PK
						60.80	-	AV
270.0	24.6	11.9	4.0	V	40.5	80.80	40.3	PK
						60.80	-	AV
270.0	21.0	11.9	4.0	H	36.9	80.80	43.9	PK
						60.80	-	AV
326.0	21.4	13.5	4.3	V	39.2	80.80	41.6	PK
						60.80	-	AV
326.0	21.7	13.5	4.3	H	39.5	80.80	41.3	PK
						60.80	-	AV

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866.3	7.9	22.4	7.1	V	37.4	80.80	43.4	PK
						60.80	-	AV
866.3	7.0	22.4	7.1	H	36.5	80.80	44.3	PK
						60.80	-	AV

Note

1. Measuring frequencies from 30 MHz to the 1GHz.
2. Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak detector mode.
3. The antenna is manipulated through typical positions, polarity and length during the testing
3. There is detected level above reference noise floor spectrum analyzer. Except above frequency

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## Above 1 GHz

Frequency [MHz]	Peak Reading dBuV	※A.F+CL-AMP GAIN [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
1299.49	54.32	-14.78	V	39.54	80.8	41.26	PK
					60.8	-	AV
1732.66	50.98	-12.94	V	38.04	80.8	42.76	PK
					60.8	-	AV
2165.82	57.42	-11.11	V	46.31	80.8	34.49	PK
					60.8	-	AV
2598.98	51.07	-9.27	V	41.80	80.8	39.00	PK
					60.8	-	AV
1299.49	54.20	-14.78	H	39.42	80.8	41.38	PK
					60.8	-	AV
1732.66	52.02	-12.94	H	39.08	80.8	41.72	PK
					60.8	-	AV
2165.82	58.35	-11.11	H	47.24	80.8	33.56	PK
					60.8	-	AV
2598.98	52.12	-9.27	H	42.85	80.8	37.95	PK
					60.8	-	AV

※ A·F: ANTENNA FACTOR

C·L: CABLE LOSS

AMP GAIN: AMPLIFIER GAIN

### Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Spectrum setting:
  - a. Peak Setting 1 GHz – 26 GHz, RBW = 1 MHz, VBW = 1 MHz.
  - b. AV Setting 1 GHz – 26 GHz, RBW = 1 MHz, VBW = 10 Hz.

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### 7.3.3 FIELD STRENGTH CALCULATION

The field strength is calculated by adding the Antenna Factor and Cable Factor.

The basic equation with a sample calculation is as follows:

$$FS = RA + AF + CF$$

where FS = Field Strength

RA = Receiver Amplitude

AF = Antenna Factor

CF = Cable Attenuation Factor

Assume a receiver reading of 21.5 dBuV is obtained. The Antenna Factor of 7.4 dB/m and a Cable Factor of 1.1 dB is added. The 30 dBuV/m value is mathematically converted to its corresponding level in uV/m.

$$FS = 21.5 + 7.4 + 1.1 = 30 \text{ dBuV/m}$$

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## 8. POWERLINE CONDUCTED EMISSIONS

### LIMIT

For an intentional radiator which is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed 250 microvolt (The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz). The limits at specific frequency range is listed as follows:

Frequency Range (MHz)	Limits (dB $\mu$ V)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56	56 to 46
0.50 to 5	56	46
5 to 30	60	50

Compliance with this provision shall be based on the measurement of the radio frequency voltage between each power line (LINE and NEUTRAL) and ground at the power terminals.

### Test Configuration

See test photographs attached in Appendix 1 for the actual connections between EUT and support equipment.

### TEST PROCEDURE

1. The EUT is placed on a wooden table 80 cm above the reference ground plane.
2. The EUT is connected via LISN to a test power supply.
3. The measurement results are obtained as described below:
4. Detectors – Quasi Peak and Average Detector.

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## Conducted emissions (Line 1) – NEUTRAL

EUT : BDT-1002

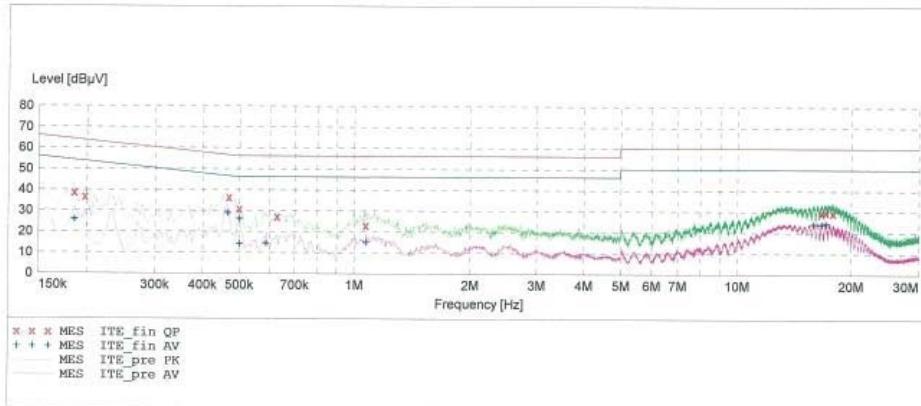
**HCT**

**EMC**

EUT: BDT-1002  
Manufacturer: BLUE DREAM TECH., INC.  
Operating Condition: NORMAL MODE  
Test Site: SHIELD ROOM  
Operator: KH-YOON  
Test Specification: CISPR22 Class B  
Comment: N

### SCAN TABLE: "CISPR22 CLASS B"

KN22 CLASS B						
Start Frequency	Stop Frequency	Step Width	Detector	Meas. Time	IF Bandw.	Transducer
150.0 kHz	500.0 kHz	4.0 kHz	MaxPeak	10.0 ms	9 kHz	None
			Average			
500.0 kHz	5.0 MHz	4.0 kHz	MaxPeak	10.0 ms	9 kHz	None
			Average			
5.0 MHz	30.0 MHz	4.0 kHz	MaxPeak	10.0 ms	9 kHz	None
			Average			



### MEASUREMENT RESULT: "ITE\_fin\_QP"

8/7/2009 2:23PM	Frequency	Level	Transd	Limit	Margin	Line	PE
	MHz	dB $\mu$ V	dB	dB $\mu$ V	dB		
	0.186000	38.60	10.1	64	25.6	---	---
	0.198000	36.60	10.1	64	27.1	---	---
	0.470000	36.20	10.1	57	20.3	---	---
	0.500000	30.80	10.1	56	25.2	---	---
	0.628000	27.20	10.1	56	28.8	---	---
	1.072000	23.00	10.1	56	33.0	---	---
	16.712000	29.60	11.2	60	30.4	---	---
	17.132000	29.90	11.2	60	30.1	---	---
	17.916000	29.50	11.3	60	30.5	---	---

### MEASUREMENT RESULT: "ITE\_fin\_AV"

8/7/2009 2:23PM	Frequency	Level	Transd	Limit	Margin	Line	PE
	MHz	dB $\mu$ V	dB	dB $\mu$ V	dB		
	0.186000	25.90	10.1	54	28.3	---	---
	0.466000	28.90	10.1	47	17.7	---	---

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**MEASUREMENT RESULT: "ITE\_fin AV"**

(continued)

Frequency MHz	Level dB $\mu$ V	Transd dB	Limit dB $\mu$ V	Margin dB	Line dB	PE
0.500000	26.10	10.1	46	19.9	---	---
0.500000	14.20	10.1	46	31.8	---	---
0.588000	14.40	10.1	46	31.6	---	---
1.072000	15.10	10.1	46	30.9	---	---
15.900000	24.20	11.1	50	25.8	---	---
16.696000	24.10	11.2	50	25.9	---	---
17.136000	24.40	11.2	50	25.6	---	---

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## Conducted emissions (Line 2) – HOT

EUT : BDT-1002

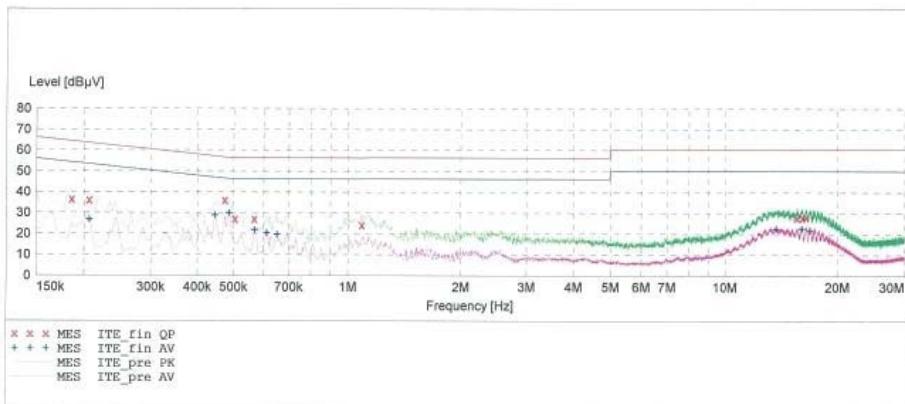
**HCT**

**EMC**

EUT: BDT-1002  
 Manufacturer: BLUE DREAM TECH., INC.  
 Operating Condition: NORMAL MODE  
 Test Site: SHIELD ROOM  
 Operator: KH-YOON  
 Test Specification: CISPR22 Class B  
 Comment: H

### SCAN TABLE: "CISPR22 CLASS B"

Start Frequency	Stop Frequency	Step Width	Detector	Meas.	IF Time	Transducer Bandw.
150.0 kHz	500.0 kHz	4.0 kHz	MaxPeak	10.0 ms	9 kHz	None
			Average			
500.0 kHz	5.0 MHz	4.0 kHz	MaxPeak	10.0 ms	9 kHz	None
			Average			
5.0 MHz	30.0 MHz	4.0 kHz	MaxPeak	10.0 ms	9 kHz	None
			Average			



### MEASUREMENT RESULT: "ITE\_fin\_QP"

8/7/2009 2:07PM

Frequency MHz	Level dB $\mu$ V	Transd dB	Limit dB $\mu$ V	Margin dB	Line	PE
0.186000	36.40	10.1	64	27.8	---	---
0.206000	36.10	10.1	63	27.2	---	---
0.474000	35.90	10.1	56	20.6	---	---
0.504000	26.90	10.1	56	29.1	---	---
0.568000	27.00	10.1	56	29.0	---	---
1.088000	24.10	10.1	56	31.9	---	---
15.636000	27.70	11.1	60	32.3	---	---
16.148000	27.80	11.1	60	32.2	---	---
16.512000	28.10	11.2	60	31.9	---	---

### MEASUREMENT RESULT: "ITE\_fin\_AV"

8/7/2009 2:07PM

Frequency MHz	Level dB $\mu$ V	Transd dB	Limit dB $\mu$ V	Margin dB	Line	PE
0.206000	26.70	10.1	53	26.6	---	---
0.446000	28.80	10.1	47	18.2	---	---

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**MEASUREMENT RESULT: "ITE\_fin AV"**

(continued)

Frequency MHz	Level dB $\mu$ V	Transd dB	Limit dB $\mu$ V	Margin dB	Line	PE
0.486000	29.90	10.1	46	16.4	---	---
0.568000	21.90	10.1	46	24.1	---	---
0.612000	20.40	10.1	46	25.6	---	---
0.652000	19.70	10.1	46	26.3	---	---
13.712000	22.50	11.0	50	27.5	---	---
16.060000	22.60	11.1	50	27.4	---	---
16.880000	21.60	11.2	50	28.4	---	---

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## 9. LIST OF TEST EQUIPMENT

Manufacturer	Model / Equipment	Cal Interval	Calibration Due	Serial No.
Rohde & Schwarz	ESH2-Z5/ LISN	Annual	04/10/2010	861741/013
Rohde & Schwarz	ESH3-Z6/ LISN	Annual	06/13/2010	100329
Schwarzbeck	VULB 9160/ TRILOG Antenna	Biennial	12/18/2010	9160-3150
HD	MA240/ Antenna Position Tower	N/A	N/A	556
EMCO	1050/ Turn Table	N/A	N/A	114
HD GmbH	HD 100/ Controller	N/A	N/A	13
HD GmbH	KMS 560/ SlideBar	N/A	N/A	12
Rohde & Schwarz	ESH3-Z2/ PULSE LIMITER	Annual	10/30/2009	375.8810.352
MITEQ	AMF-60-0010 1800-35-20P/AMP	Annual	05/20/2010	1200937
Schwarzbeck	BBHA 9120D/ Horn Antenna	Biennial	03/26/2010	147
Rohde & Schwarz	6502/Loop Antenna	Biennial	12/26/2009	9009-2536
Rohde & Schwarz	FSP30/Spectrum Analyzer	Annual	07/31/2010	839117/011
Agilent	E4416A /Power Meter	Annual	01/21/2010	GB41291412
Wainwright Instrument	WHF3.3/18G-10EF / High Pass Filter	Annual	06/29/2010	1
Hewlett Packard	11636B/Power Divider	Annual	12/24/2009	11377
DIGITAL	EP-3010 /DC POWER SUPPLY	Annual	01/07/2010	3110117

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