



SHENZHEN MOST ELECTRONICS CO., LTD.  
Tel:(86) 755-26825180 Fax:(86) 755-86170310  
Http:// www. szmost.com Email: szmost@szmost.com

**Test Report**

Product Name: 49.860 MHZ WIRELESS INTERCOM SYSTEMS

FCC ID: T8NDIT002  
MODEL NO. : SB-101BWL

Applicant:

DIT DIGITAL CO., LTD.  
2F, 12st, LONGBI INDUSTRIAL PARK, BANTIAN VILLAGE, BUJI TOWN, SHENZHEN, CHINA

Date Received: 5/19/2006

Date Tested: 5/23/2006

APPLICANT: DIT DIGITAL CO., LTD.  
FCC ID: T8NDIT002

Cover Sheet



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## EMC Equipment List

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
EMI Test Receiver	ROHDE&SCHWARZ	ESCS30	100307	Mar 20,2006	1 Year
LISN	ROHDE&SCHWARZ	ESH3-Z5	100305	Mar 20,2006	1Year
Pulse Limiter	ROHDE&SCHWARZ	ESH3-Z2	100305	Mar 20,2006	1Year
50 Coaxial Switch	ANRITSU CORP	MP59B	6200283933	Mar 20,2006	1 Year
Spectrum Analyzer	ANRITSU	MS2651B	6200238856	Mar 20,2006	1 Year
Bilog Antenna	SCHWARZBECK	VULB 9163	9163-194	Mar 20,2006	1 Year
50 Coaxial Switch	ANRITSU CORP	MP59B	6200283933	Mar 20,2006	1 Year
Cable	Resenberger	N/A	NO.1	Mar 20,2006	1 Year
Cable	SCHWARZBECK	N/A	NO.2	Mar 20,2006	1 Year
Cable	SCHWARZBECK	N/A	NO.3	Mar 20,2006	1 Year
DC Power Filter	DuoJi	DL2×30B	N/A	N/A	N/A
Single Phase Power Line Filter	DuoJi	FNF 202B30	N/A	N/A	N/A
3 Phase Power Line Filter	DuoJi	FNF 402B30	N/A	N/A	N/A
AC Power Source	California Instruments	5001iX-400	55689	Mar 20,2006	1Year
Test analyzer	California Instruments	PACS-1	72254	Mar 20,2006	1Year
ESD Tester	HAEFELY	PESD 1610	H4001552	Mar 20,2006	1 Year
Signal Generator	IFR	2032	203002/100	Mar 20,2006	1 Year
Amplifier	A&R	150W1000	301584	NCR	NCR
Dual Directional Coupler	A&R	DC6080	301508	Mar 20,2006	1 Year
Power Head	A&R	PH2000	301193	Mar 20,2006	1 Year
Power Meter	A&R	PM2002	302799	Mar 20,2006	1 Year
Field Monitor	A&R	FM5004	300329	Mar 20,2006	1 Year
Field Probe	A&R	FP5000	300221	Mar 20,2006	1 Year
EMCPRO System	Thermo	RO-BASE	0403271	Mar 20,2006	1 Year
Capacitive Clamp	Thermo	PRO-CCL	0403272	Mar 20,2006	1 Year
EMCPRO System	Thermo	PRO-BASE	0403271	Mar 20,2006	1 Year
Coupler decoupler for telecom lines	Thermo	CM-TEL-CD	0403273	Mar 20,2006	1 Year
Signal Generator	IFR	2032	203002/100	Mar 20,2006	1 Year
Amplifier	A&R	150W1000	301584	NCR	NCR
EMCPRO System	Thermo	PRO-BASE	0403271	Mar 20,2006	1 Year



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## TEST PROCEDURE

**GENERAL:** This report shall NOT be reproduced except in full without the written approval of SHENZHEN MOST ELECTRONICS CO., LTD. The EUT was transmitting a test signal during the testing.

**POWER LINE CONDUCTED INTERFERENCE:** The test procedure used was ANSI Standard C63.4-2003 using a 50 UH 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 with a humidity of 58%.

**RADIATION INTERFERENCE:** The test procedure used was ANSI Standard C63.4-2003 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 100 kHz and the video bandwidth was 300 kHz up to 1 GHz and 1 MHz with a video BW of 3 MHz above 1 GHz. The ambient temperature of the EUT was 25 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. The antenna correction factors 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 = FS  
33                      20 dBuV + 10.36 dB = 30.36 dBuV/m @ 3m

**ANSI STANDARD C63.4-2003 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 C63.4-2003 10.1.7 with the EUT 40 cm from the vertical ground wall.



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**APPLICANT:** DIT DIGITAL CO., LTD.  
**FCC ID:** T8NDIT002  
**NAME OF TEST:** POWER LINE CONDUCTED INTERFERENCE  
**RULES PART NUMBER:** 15.107

MINIMUM REQUIREMENTS:	FREQUENCY	LEVEL
	MHz	uV
	0.450-30	250

**TEST PROCEDURE:** ANSI STANDARD C63.4-2003

THE HIGHEST EMISSION READ FOR LINE 1 WAS 29.0 uV @ 490kHz.

THE HIGHEST EMISSION READ FOR LINE 2 WAS 28.5 uV @ 490kHz.

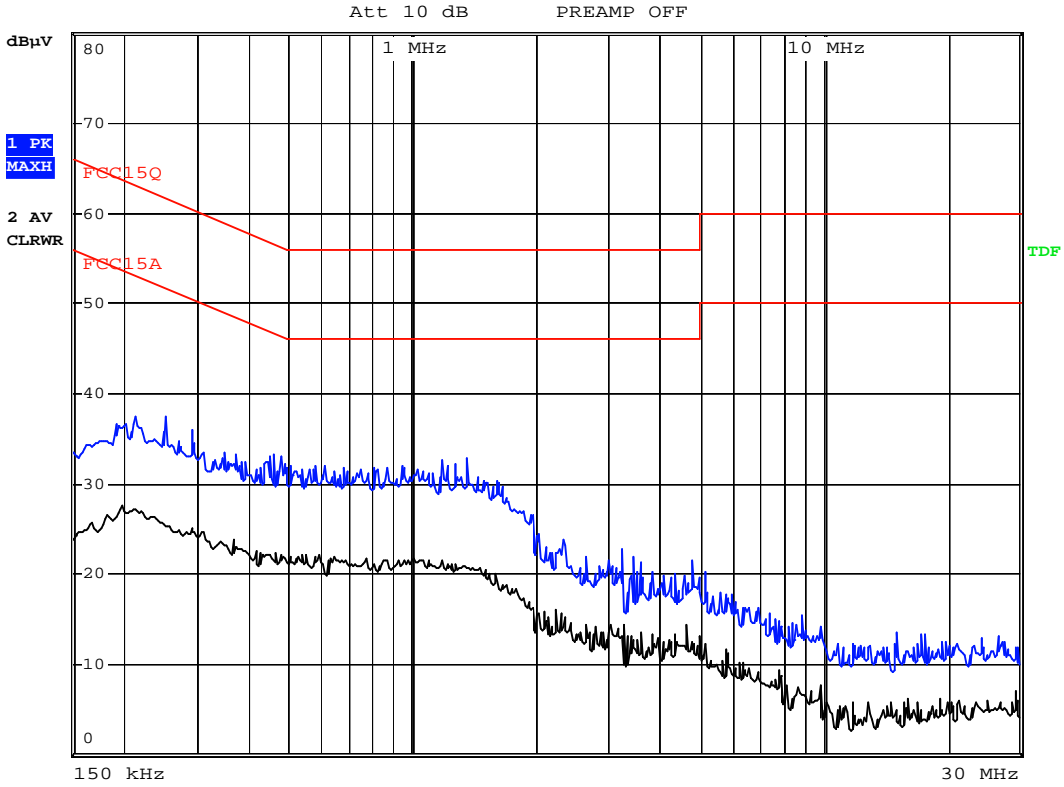
THE PLOTS ON THE NEXT PAGE REPRESENT THE EMISSIONS READ FOR POWER LINE CONDUCTED FOR THIS DEVICE.



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RBW 9 kHz  
MT 1 ms  
PREAMP OFF



Date: 19.MAY.2006 09:21:53 L Line

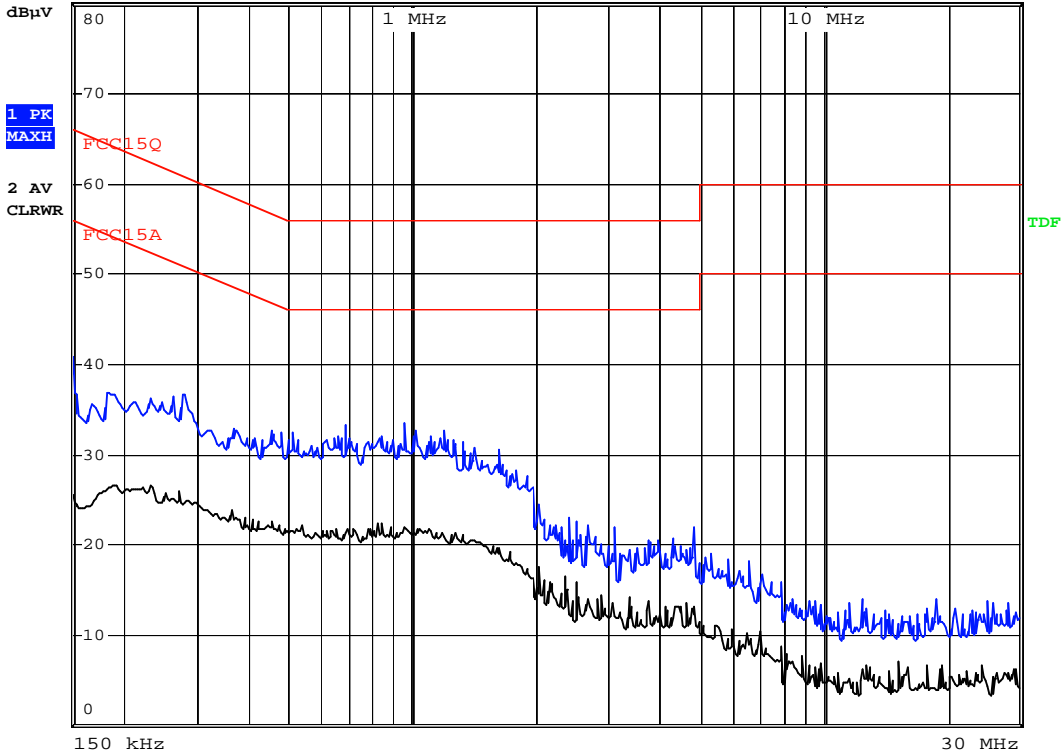


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RBW 9 kHz  
MT 10 ms  
PREAMP OFF

Att 10 dB



Date: 19.MAY.2006 09:25:15 N Line



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**APPLICANT:** DIT DIGITAL CO., LTD.

**FCC ID:** T8NDIT002

**NAME OF TEST:** RADIATION INTERFERENCE

**RULES PART NUMBER:** 15.235

**REQUIREMENTS:** CARRIER FREQUENCY WILL NOT EXCEEDS 80 dBuV/m AT 3M.  
 OUT-OF-BAND EMISSIONS SHALL NOT EXCEED:

30 - 88 MHz	40.0 dBuV/M MEASURED AT 3 METERS
88 - 216 MHz	43.5 dBuV/M
216 - 960 MHz	46.0 dBuV/M
ABOVE 960 MHz	54.0 dBuV/M

Fundamental Radiation Interference Data:

Frequency (MHz)	Antenna Polarization	Emission Level (dBuV/m)	FCC 15 Subpart C Limit (dBuV/m)
49.86	Horizontal	55.75	24.25
49.86	Vertical	65.30	14.70





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**APPLICANT:** DIT DIGITAL CO., LTD.

**FCC ID:** T8NDIT001

**NAME OF TEST:** RADIATION INTERFERENCE

**RULES PART NUMBER:** 15.235

**REQUIREMENTS:** CARRIER FREQUENCY WILL NOT EXCEEDS 80 dBuV/m AT 3M.  
 OUT-OF-BAND EMISSIONS SHALL NOT EXCEED:

30 - 88 MHz	40.0 dBuV/M MEASURED AT 3 METERS
88 - 216 MHz	43.5 dBuV/M
216 - 960 MHz	46.0 dBuV/M
ABOVE 960 MHz	54.0 dBuV/M

**Continued:**

Frequency (MHz)	Antenna Polarization	Emission Level (dBuV/m)	FCC 15 Subpart C Limit (dBuV/m)
99.80	Vertical	33.20	10.30
378.70	Vertical	27.15	18.85
453.50	Vertical	26.50	19.50

**SAMPLE CALCULATION:** FSdBuV/m = MR (dBuV) + ACFdB.

**TEST PROCEDURE:** The procedure used was ANSI STANDARD C63.4-2003. The spectrum was scanned from 30 MHz to 1000 MHz. When an emission was found, the table was rotated to produce the maximum signal strength. The antenna was placed in both the horizontal and vertical planes and the worse case emissions were reported.



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**APPLICANT:** DIT DIGITAL CO., LTD.

**FCC ID:** T8NDIT002

**NAME OF TEST:** Occupied Bandwidth

**RULES PART NUMBER:** 15.235

**REQUIREMENTS:** The field strength of any emissions appearing between the band edges and up to 10 kHz above and below the band edges shall be attenuated at least 26 dB below the level of the un-modulated carrier or to the general limits of 15.209, whichever permits the higher emission levels.

Band edge emissions plots are included on the following pages

**METHOD OF MEASUREMENT:** A small sample of the transmitter output was fed into the spectrum analyzer and the attached plot was printed. The vertical scale is set to -10 dB per division.

**TEST RESULTS:** The unit DOES meet the FCC requirements.



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