

## ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORT

### UN-INTENTIONAL RADIATOR CERTIFICATION TO FCC PART 15 SUBPART B CERTIFICATION REQUIREMENT

OF

**Product Name:** CDMA TS002  
**Brand Name:** N/A  
**Model Name:** CN9-J01  
**Model Difference:** N/A  
**Report No.:** EI/2009/30005  
**Issue Date:** Mar. 30, 2009  
**FCC Rule Part:** Part 15 B, Class B  
**Filing Type:** Certification  
**Prepared for:** Toshiba Corporation, Mobile Communications Co., Quality Management Division  
1-1, Asahigaoka 3-Chome, Hino-Shi, Tokyo, 191-8555, Japan  
**Prepared by:** SGS Taiwan Ltd.  
Electronics & Communication Laboratory  
No. 134, Wu Kung Rd., Wuku Industrial Zone, Taipei County, Taiwan



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## VERIFICATION OF COMPLIANCE

**Applicant:** Toshiba Corporation, Mobile Communications Co., Quality Management Division  
1-1, Asahigaoka 3-Chome, Hino-Shi, Tokyo, 191-8555, Japan

**Manufacturer:** Toshiba Corporation, Mobile Communications Co., Quality Management Division  
1-1, Asahigaoka 3-Chome, Hino-Shi, Tokyo, 191-8555, Japan

**Product Name:** CDMA TS002

**Brand Name:** N/A

**Model Name:** CN9-J01

**Model Difference:** N/A

**File Number:** EI/2009/30005

**Date of test:** Mar. 09, 2009 ~ Mar. 30, 2009

**Date of EUT Receive:** Mar. 09, 2009

### We hereby certify that:

The above equipment was tested by SGS Taiwan Ltd. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.4 (2003) and the energy emitted by the sample EUT tested as described in this report is in compliance with conducted and radiated emission limits of FCC Rules Part 15B, Class B. The test results of this report relate only to the tested sample identified in this report.

**Test By:**



**Date:**

Mar. 30, 2009

*Eric Su / Asst. Supervisor*

**Prepared By:**



**Date:**

Mar. 30, 2009

*Elisa Chen / Supervisor*

**Approved By:**



**Date:**

Mar. 30, 2009

*Vincent Su / Manager*

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## Version

Version No.	Date	Description
00	Mar. 30, 2009	Initial creation of document

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## 1. GENERAL INFORMATION

### General:

Type Name:	CDMA TS002		
Brand Name:	N/A		
Model Name:	CN9-J01		
Model Difference:	N/A		
Software Version:	V55.11.01		
Hardware Version:	Ver.1.3.0		
Data Cable:	1 provided; Model: N/A		
Simple Hands-free (SHF)	N/A		
Power Supply:	3.7 Vdc re-chargeable battery or 5Vdc by AC/DC power adapter		
	Battery:	Model: 61TSUAA; Supplier: KDDI	
	Adaptor:	N/A	

### GSM and CDMA:

	Operating Frequency			Rated Power		
Cellular Phone Standards Frequency Range and Power:	CDMA2000 Cellular	TX:	824.70-848.31 MHz	24.5 dBm		
		RX:	869.70-893.31 MHz			
	GSM/GPRS 900, Class 12	880.2MHz – 914.8MHz		33 dBm		
	GSM/GPRS 1800, Class 12	1710.2MHz-1784.8MHz		30 dBm		
	GSM/GPRS 1900, Class 12	1850.2MHz – 1909.8MHz		30 dBm		
Type of Emission:	GSM1900: 246KGXW CDMA2000 Cellular: 1M28F9W					
IMEI:	0000000000000000-0-01					
Antenna Type:	Metal Antenna					

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

This submittal(s) (test report) is intended for FCC ID: **WVS-CN9-J01** filing to comply with Part15 Subpart B, class B of the FCC CFR 47 Rules.

## 1.3 Test Methodology

Both conducted and radiated testing was performed according to the procedures in ANSI C63.4 (2003). Radiated testing was performed at an antenna to EUT distance 3 meters.

## 1.4 Test Facility

The measurement facilities used to collect the 3m Radiated Emission and AC power line conducted data are located on the address of SGS Taiwan Ltd. Electronics & Communication Laboratory No. 134, Wu Kung Rd., Wuku Industrial Zone, Taipei Country, Taiwan which are constructed and calibrated to meet the FCC requirements in documents ANSI C63.4: 2003. FCC Registration Number are: 990257 and 236194, Canada Registration Number: 4620A-1

The 10 m Open Area Test Sites located on the address of SGS Taiwan Ltd. Electronics & Communication Laboratory No. 29, Pau-Tou-Tsuo Valley Chia-Pau Tsuen, Linkou Hsiang, Taipei county, which is constructed and calibrated to meet the CISPR 22/EN 55022 requirements. SGS Site No. 1(3 &10 meters) and FCC Registration Number: 94644

## 1.5 Special Accessories

Not available for this EUT intended for grant.

## 1.6 Equipment Modifications

Not available for this EUT intended for grant.

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## 2. System Test Configuration

### 2.1 EUT Configuration

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

### 2.2 EUT Exercise

The Toshiba CDMA cellular phone FCC ID: WVS-TM7-N01 was tested with a computer connected via USB interface port. The Phone drivers were installed on the computer to be able to communicate with the phone by continuously sending a querying text file (AT commands) to the phone using HyperTerminal . For more information please see section 5.4 and section 6.5 for test data and APPENDIX 1 for set-up photographs.

### 2.3 Test Procedure

#### 2.3.1 Conducted Emissions

The EUT is placed on a turn table which is 0.8 m above ground plane. According to the requirements in Section 7 of ANSI C63.4-2003. Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30MHz using CISPR Quasi-Peak and average detector mode.

#### 2.3.2 Radiated Emissions

The EUT is placed on a turn table which is 0.8 m above ground plane. The turn table shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna which varied from 1m to 4m 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 8 of ANSI C63.4-2003.

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## 2.4 Limitation

### (1) Conducted Emission

According to section 15.107(a), Conducted Emission Class B Limits is as following.

Frequency range MHz	Class B Limits dB (uV)	
	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

**Note**

1. The lower limit shall apply at the transition frequencies

2. The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz.

### (2) Radiated Emission

According to section 15.109(a), Radiated Emission Class B Limits is as following:

Frequency (MHz)	Field strength μV/m	Distance (m)	Field strength at 3m dBμV/m
30-88	100	3	40
88-216	150	3	43.5
216-960	200	3	46
Above 960	500	3	54

**Remark:** 1. Emission level in dB<sub>B</sub>V/m=20 log (uV/m)

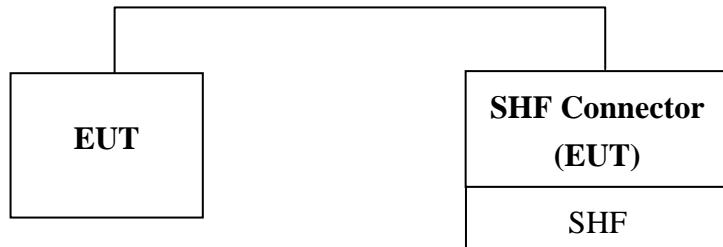
2. Measurement was performed at an antenna to the closed point of EUT distance of 3 meters.

## 2.5 Configuration of Tested System

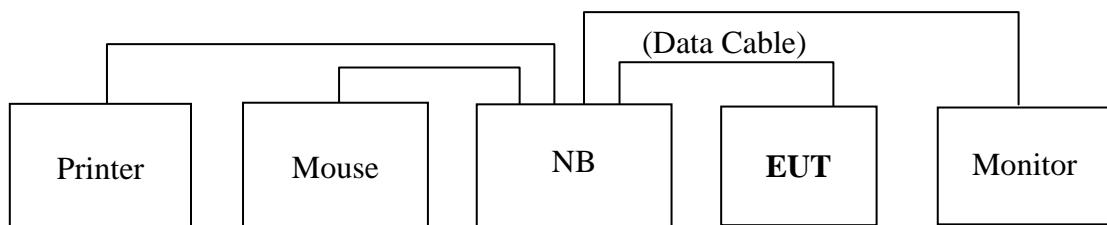
**Fig. 2-1 Configuration of Tested System (Charge Mode)**



**Fig. 2-2 Configuration of Tested System (Play Mode)**

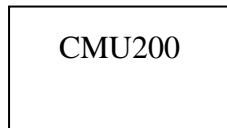


**Fig. 2-3 Configuration of Tested System (Data Link Mode)**



**Fig. 2-4 Configuration of Tested System (Remote Side)**

(Remote Side)



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**Table 2-1 Equipment Used in Tested System**

Item	Equipment	Mfr/Brand	Model/Type No.	Series No.	Data Cable	Power Cord
1.	EUT	N/A	CN9-J01	N/A	N/A	N/A
2.	SHF Connector	N/A	N/A	N/A	Un-shielded, 0.15m	N/A
3.	Battery	KDDI	61TSUAA	N/A	N/A	N/A

**Table 2-2 Support Equipment Used in Tested System**

Item	Equipment	Mfr/Brand	Model/Type No.	Series No.	Data Cable	Power Cord
1.	SHF	N/A	N/A	N/A	Un-shielded	N/A
2.	Printer	HP	DJ640C	TH12QE110Y	Shielded	Un-shielded
3.	Mouse	HP	P8131-D	K023302209	Shielded	N/A
4.	Notebook	IBM	T43	L3LHHN6	N/A	Un-shielded
5.	Monitor	HP	Vf51	TWTFG01092	N/A	Un-shielded
6.	Radio Communication Analyzer	R&S	CMU200	102189	N/A	Un-shielded
7.	Adaptor	KDDI	0203PQA	N/A	N/A	Un-shielded, 0.15m

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### 3. Summary of Test Results

FCC Rules	Description Of Test	Result
§15.107	Conducted Emission Class B	Compliant
§15.109	Radiated Emission Class B	Compliant

### 4. Description of test modes

The EUT was stayed in normal operation mode with CMU200.

The data cable was connected to notebook PC and data transferred by program.

Test Plan

Conducted Emission

1. Charge Mode
2. Data Link Mode

Radiated Emission

1. Charge Mode
2. EUT + SHF (playing MP3)
3. Data Link Mode

The Mid channel of cellular band was worst case for both Conducted Emission and Radiated Emission test.

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## 5. Conducted Emissions Test

### 5.1 Measurement Procedure:

1. The EUT was placed on a table which is 0.8m above ground plane.
2. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
3. Repeat above procedures until all frequency measured were complete.

### 5.2 Test SET-UP (Block Diagram of Configuration)

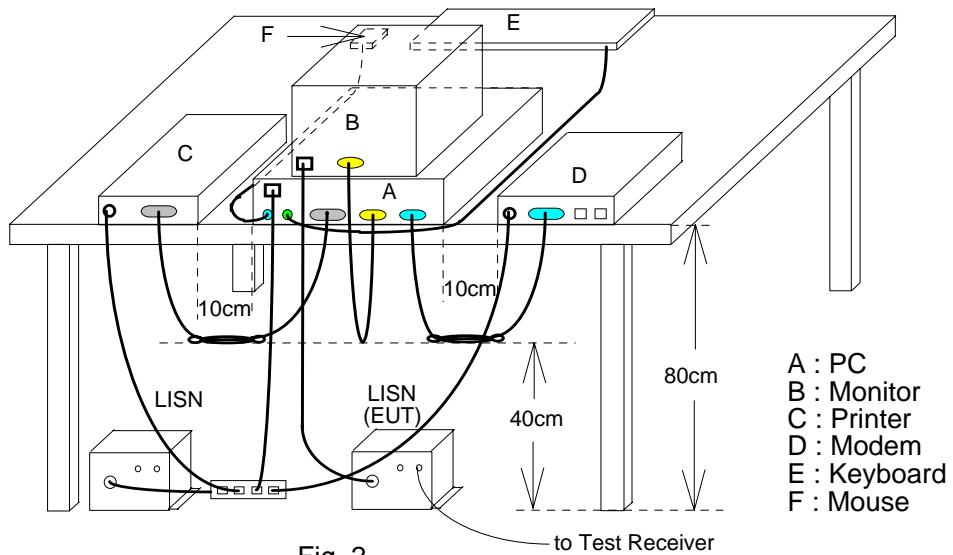


Fig. 2

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### 5.3 Measurement Equipment Used:

Conducted Emission Test Site					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
EMI Test Receiver	R&S	ESCS30	828985/004	09/16/2008	09/15/2009
LISN	Rolf-Heine	NNB-2/16Z	99012	04/28/2008	04/27/2009
LISN	FCC	FCC-LISN-50/250-25-2-01	04034	04/28/2008	04/27/2009
Transient Limiter	R&S	ESH3Z2	357.8810.52	05/19/2008	05/18/2009
50 Ohms terminator	N/A	EMC-049-1	N/A	06/04/2008	06/03/2009
Coaxial Cables	N/A	WK CE Cable	N/A	10/30/2008	10/29/2009

### 5.4 Measurement Result

The initial step in collecting conducted data is a spectrum analyzer peak scan of the measurement range. Significant peaks are then marked as shown on the following data page, and these signals are then quasi-peaked.

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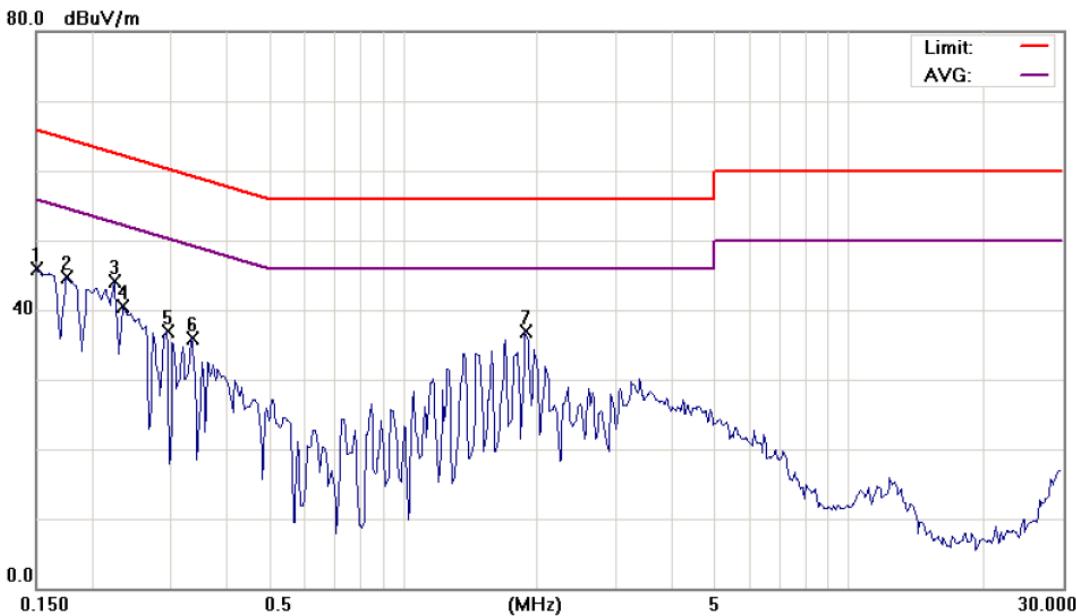
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## AC POWER LINE CONDUCTED EMISSION TEST DATA

Operation Mode:	Charge Mode			Test Date:	Mar. 12, 2009
Temperature:	23 °C	Humidity:	61 %	Test By:	Eric

Conducted Emission Measurement  
File :(EI-2009-30004-5)Toshiba Data #:12 Date: 2009/03/12 Time: 上午 10:19:34



Site SGS CONDUCTED #1 Phase: **L1** Temperature: 23 °C  
Limit: FCC Class B Conduction(QP) Power: AC 120V/60Hz Humidity: 61 %  
EUT: CDMA TS002 Distance: Air Pressure: hpa  
M/N: KD47  
Note: Charge mode

No.	Mk.	Freq.	Reading	Factor	Measure-	Limit	Over	Detector	Comment
			Level		ment				
		MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB		
1		0.1500	45.68	0.18	45.86	66.00	-20.14	peak	
2		0.1750	44.50	0.15	44.65	64.72	-20.07	peak	
3	*	0.2250	44.08	0.12	44.20	62.63	-18.43	peak	
4		0.2350	40.38	0.11	40.49	62.27	-21.78	peak	
5		0.2950	36.73	0.10	36.83	60.38	-23.55	peak	
6		0.3350	35.81	0.09	35.90	59.33	-23.43	peak	
7		1.8800	36.73	0.13	36.86	56.00	-19.14	peak	

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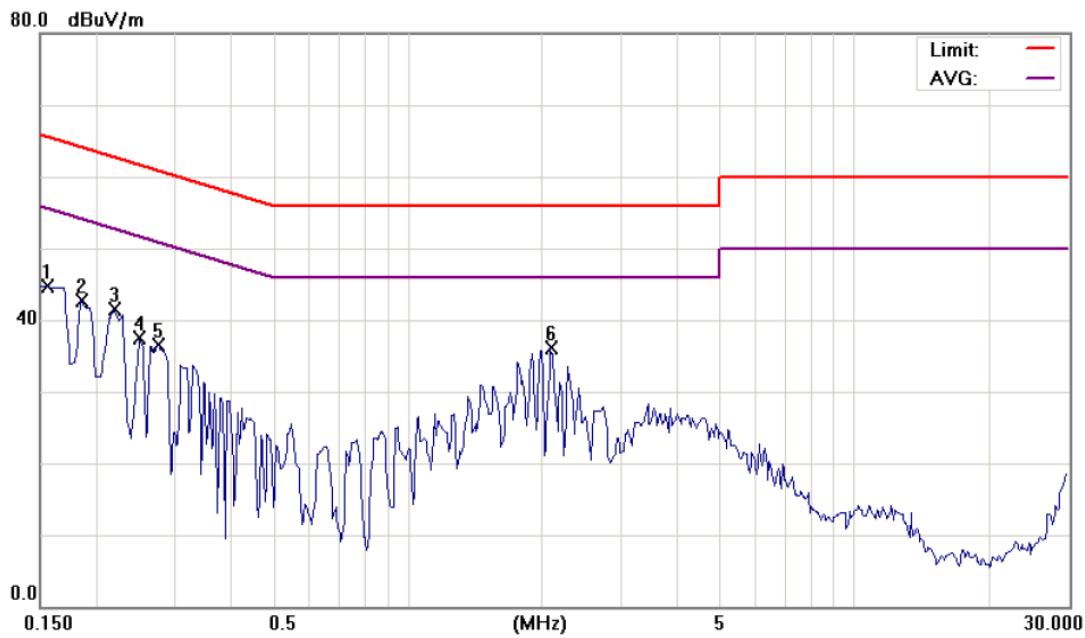
**Conducted Emission Measurement**

File : (EI-2009-30004-5)Toshiba

Data #:11

Date: 2009/03/12

Time: 上午 10:16:12



Site SGS CONDUCTED #1

Phase: **N**

Temperature: 23 °C

Limit: FCC Class B Conduction(QP)

Power: AC 120V/60Hz

Humidity: 61 %

EUT: CDMA TS002

Distance:

Air Pressure: hpa

M/N: KD47

Note: Charge mode

No.	Mk.	Freq.	Reading Level	Factor	Measure-ment		Limit	Over	Detector	Comment
					MHz	dBuV/m	dB			
1		0.1550	44.57	0.19	44.76	65.73	-20.97	peak		
2		0.1850	42.58	0.16	42.74	64.26	-21.52	peak		
3		0.2200	41.29	0.14	41.43	62.82	-21.39	peak		
4		0.2500	37.44	0.13	37.57	61.76	-24.19	peak		
5		0.2750	36.43	0.13	36.56	60.97	-24.41	peak		
6	*	2.0900	36.02	0.15	36.17	56.00	-19.83	peak		

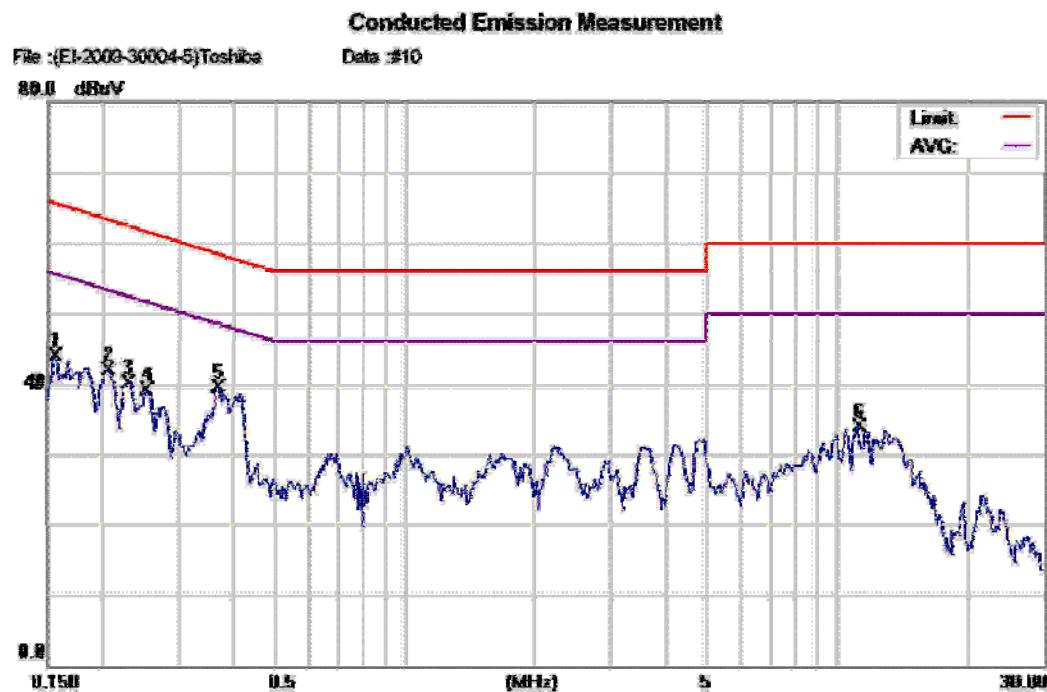
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## AC POWER LINE CONDUCTED EMISSION TEST DATA

Operation Mode:	Data Link Mode			Test Date:	Mar. 30, 2009
Temperature:	23 °C	Humidity:	61 %	Test By:	Eric



Site SGS CONDUCTED #1      Phase: *L1*      Temperature: 23 °C  
 Limit: FCC Class B Conduction(QP)      Power: DC 5V      Humidity: 61 %  
 EUT: CDMA TS002      Distance:      Air Pressure: hpa  
 M/N: KD47  
 Note: Data link

No.	Mk.	Freq.	Reading Level	Factor	Measure- ment	Limit	Over		Comment
							MHz	dBuV	dB
1		0.1550	43.96	0.17	44.13	65.73	-21.60	peak	
2		0.2072	41.98	0.12	42.10	63.32	-21.22	peak	
3		0.2300	40.28	0.11	40.39	62.45	-22.06	peak	
4		0.2535	39.13	0.11	39.24	61.64	-22.40	peak	
5	*	0.3712	39.61	0.09	39.70	58.47	-18.77	peak	
6		11.2400	33.65	0.42	34.07	60.00	-25.93	peak	

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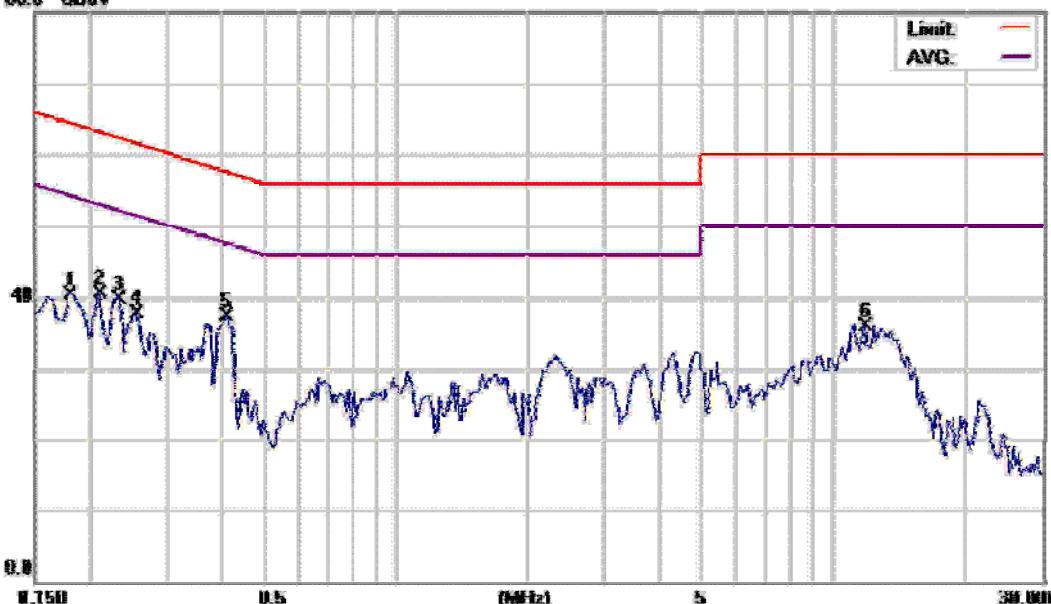
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## Conducted Emission Measurement

File : (EI-2009-30004-5)Toshiba

Data #13

68.0 dBuV



Site SGS CONDUCTED #1

Phase: **N**

Temperature: 23 °C

Limit: FCC Class B Conduction(QP)

Power: DC 5V

Humidity: 61 %

EUT: CDMA TS002

Distance:

Air Pressure: hpa

M/N: KD47

Note: Data link

No.	Mk.	Freq.	Reading Level	Factor	Measure- ment	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV	dBuV	dB		
1		0.1800	40.42	0.16	40.58	64.49	-23.91	peak	
2		0.2100	40.60	0.14	40.74	63.21	-22.47	peak	
3		0.2329	39.69	0.14	39.83	62.35	-22.52	peak	
4		0.2550	37.83	0.13	37.96	61.59	-23.63	peak	
5	*	0.4100	37.39	0.11	37.50	57.65	-20.15	peak	
6		11.8000	35.70	0.44	36.14	60.00	-23.86	peak	

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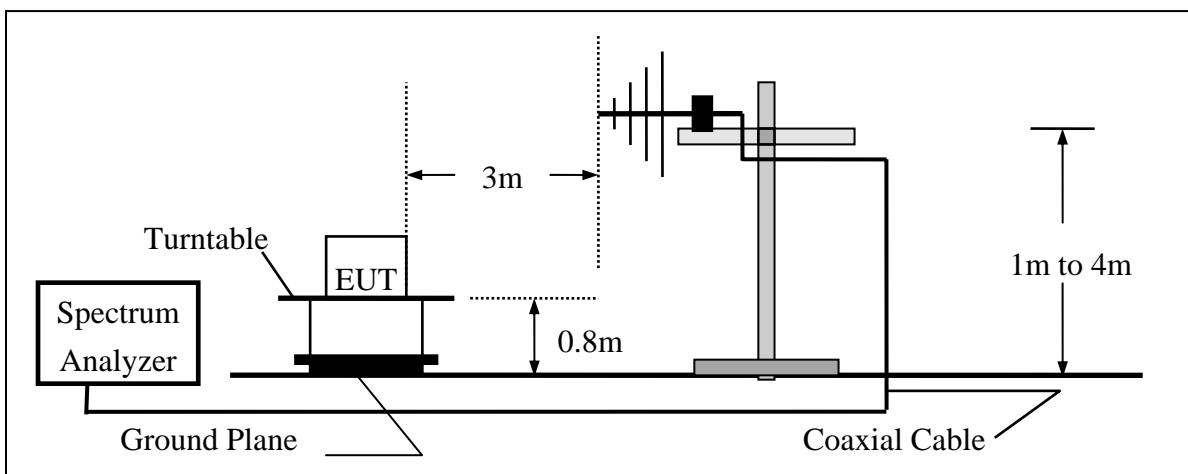
## 6. Radiated Emission Test

### 6.1 Measurement Procedure

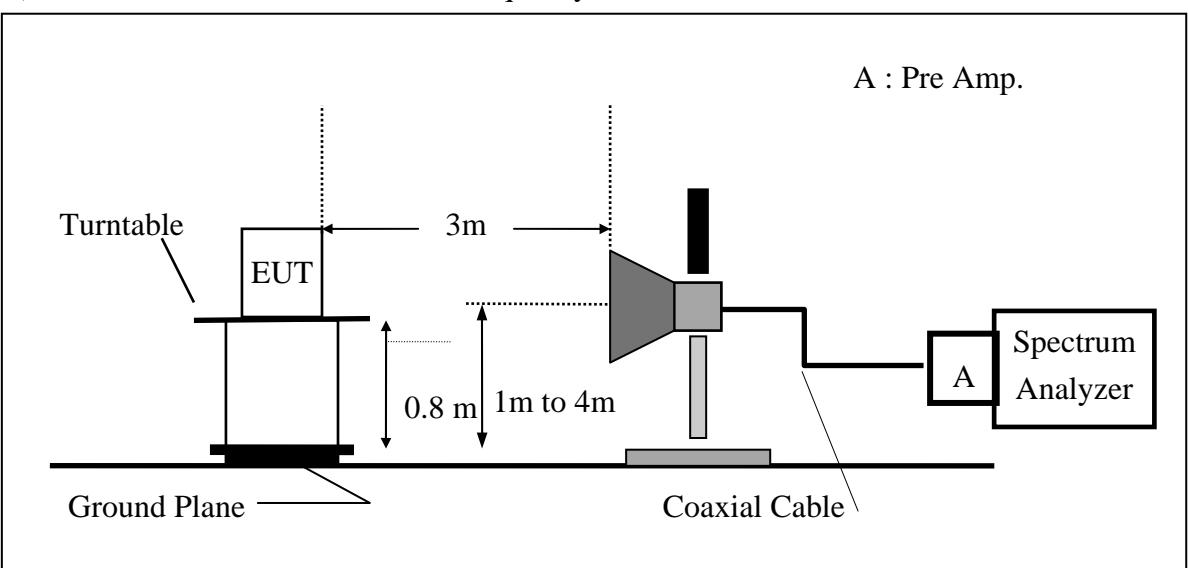
1. The EUT was placed on a turn table which is 0.8m above ground plane.
2. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
3. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
4. Repeat above procedures until all frequency measured were complete.

### 6.2 Test SET-UP (Block Diagram of Configuration)

(A) Radiated Emission Test Set-Up, Frequency Below 1000MHz



(B) Radiated Emission Test Set-UP Frequency Over 1 GHz



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### 6.3 Measurement Equipment Used:

966 Chamber					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
Spectrum Analyzer	R&S	FSP 40	100034	02/12/2009	02/11/2010
Bilog Antenna	SCHWAZBECK	VULB9160	9160-3136	11/15/2008	11/14/2009
Horn antenna	SCHWAZBECK	BBHA 9120D	9120D-320	03/14/2009	03/13/2010
Pre-Amplifier	Agilent	8447D	1937A02834	11/30/2008	11/29/2009
Pre-Amplifier	Agilent	8449B	3008A01973	01/05/2009	01/04/2010
Turn Table	HD	DT420	N/A	N.C.R	N.C.R
Antenna Tower	HD	MA240-N	240/657	N.C.R	N.C.R
Controller	HD	HD100	N/A	N.C.R	N.C.R
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA-10M	10m	01/05/2009	01/04/2010
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA-3M	3m	01/05/2009	01/04/2010

### 6.4 Field Strength Calculation

The field strength is calculated by adding the Antenna Factor and Cable Factor and subtracting the Amplifier Gain and Duty Cycle Correction Factor (if any) from the measured reading. The basic equation with a sample calculation is as follows:

$$FS = RA + AF + CL - AG$$

Where	FS = Field Strength	CL = Cable Attenuation Factor (Cable Loss)
	RA = Reading Amplitude	AG = Amplifier Gain
	AF = Antenna Factor	

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## 6.5 Measurement Result (below 1G)

Test Mode: Charge Mode

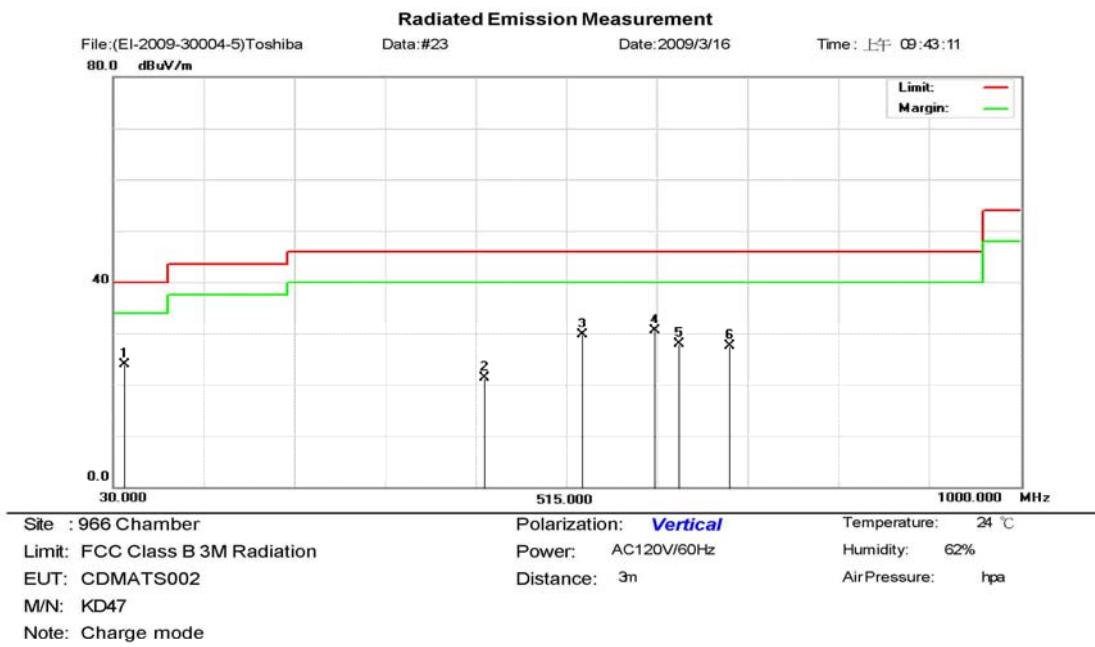
Test Date : Mar. 16, 2009

Frequency Range: 30MHz-10GHz

Test By: Eric

Temperature : 24 °C

Humidity : 62 %



No.	Mk.	Freq. MHz	Reading Level dBuV	Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over	
							Detector	Comment
1		42.1250	38.12	-14.13	23.99	40.00	-16.01	QP
2		427.7000	28.97	-7.72	21.25	46.00	-24.75	QP
3		531.9750	36.12	-6.33	29.79	46.00	-16.21	QP
4 *		609.5750	34.52	-4.07	30.45	46.00	-15.55	QP
5		636.2500	31.30	-3.47	27.83	46.00	-18.17	QP
6		689.6000	29.53	-2.09	27.44	46.00	-18.56	QP

Remark :

- (1) Measuring frequencies from 30 MHz to the 10GHz .
- (2) All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurement as necessary.
- (3) The IF bandwidth of SPA 30MHz to 1GHz was 100KHz and 1GHz to 10GHz was 1MHz

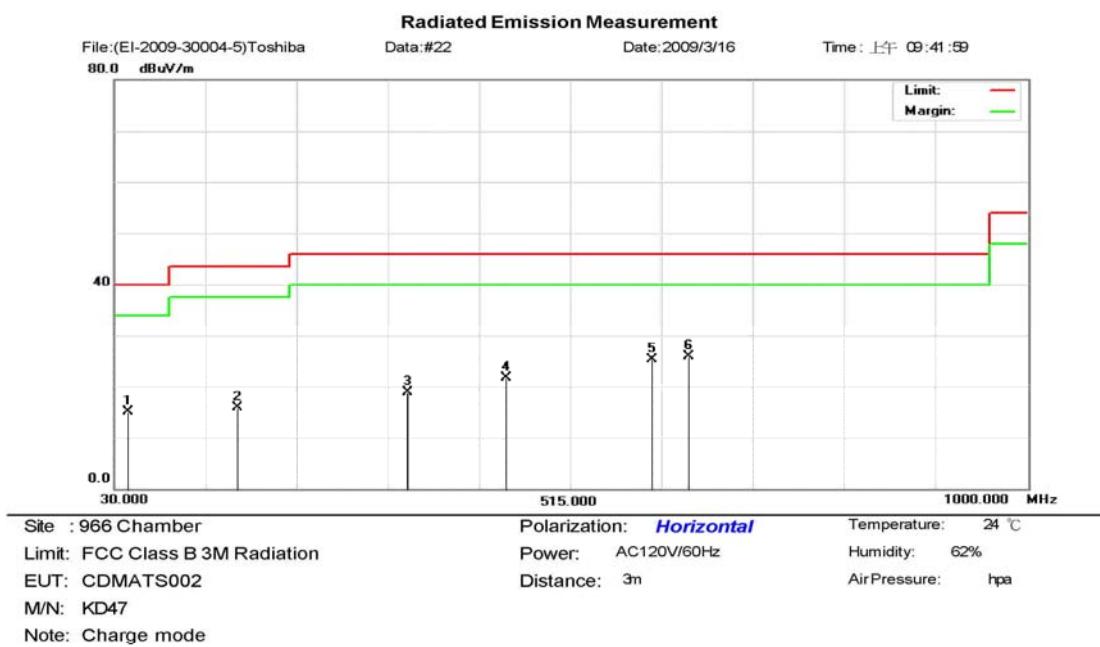
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Test Mode: Charge Mode  
 Frequency Range: 30MHz-10GHz  
 Temperature : 24 °C

Test Date : Mar. 16, 2009  
 Test By: Eric  
 Humidity : 62 %



No.	Mk.	Freq. MHz	Reading Level dBuV	Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Over	
								Detector	Comment
1		44.5500	29.05	-13.94	15.11	40.00	-24.89	QP	
2		160.9500	28.50	-12.68	15.82	43.50	-27.68	QP	
3		342.8250	29.21	-10.29	18.92	46.00	-27.08	QP	
4		447.1000	28.79	-7.15	21.64	46.00	-24.36	QP	
5		602.3000	29.46	-4.24	25.22	46.00	-20.78	QP	
6	*	641.1000	29.36	-3.36	26.00	46.00	-20.00	QP	

#### Remark :

- (1) Measuring frequencies from 30 MHz to the 10GHz .
- (2) All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurement as necessary.
- (3) The IF bandwidth of SPA 30MHz to 1GHz was 100KHz and 1GHz to 10GHz was 1MHz

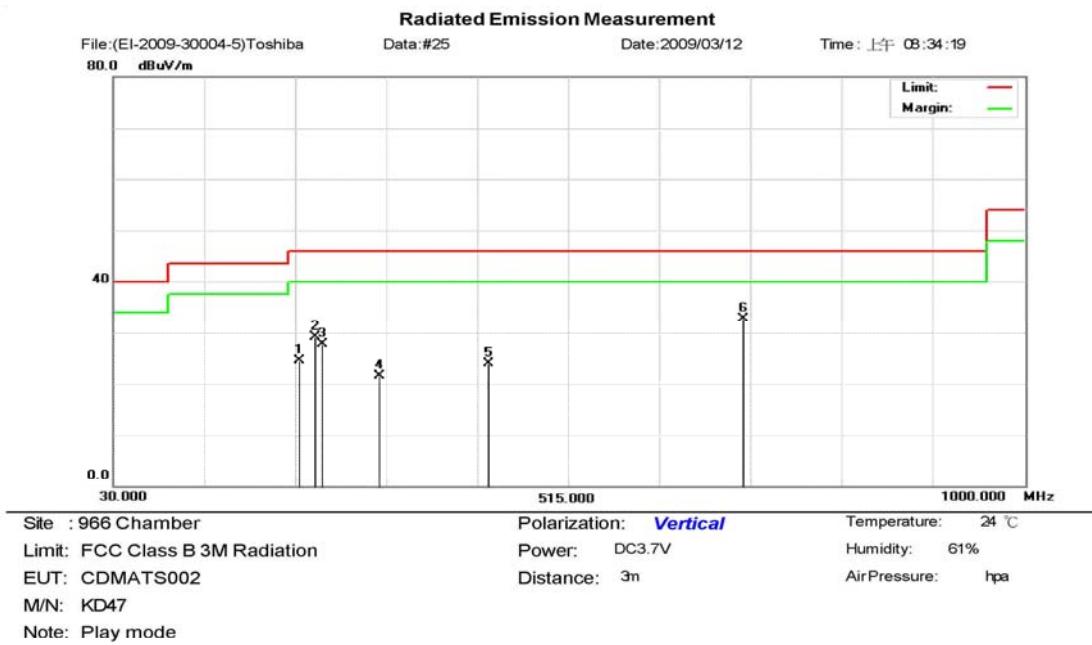
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Test Mode: Play Mode  
Frequency Range: 30MHz-10GHz  
Temperature : 24 °C

Test Date : Mar. 16, 2009  
Test By: Eric  
Humidity : 62 %



No.	Mk.	Freq.	Reading Level	Factor	Measure- ment		Limit	Over	Detector	Comment	
					MHz	dBuV	dB	dBuV/m	dB		
1	228.8500	37.93	-13.38	24.55	46.00	-21.45	46.00	-21.45	QP		
2	245.8250	42.05	-12.99	29.06	46.00	-16.94	46.00	-16.94	QP		
3	253.1000	40.59	-12.83	27.76	46.00	-18.24	46.00	-18.24	QP		
4	313.7250	32.40	-10.92	21.48	46.00	-24.52	46.00	-24.52	QP		
5	430.1250	31.51	-7.65	23.86	46.00	-22.14	46.00	-22.14	QP		
6	*	701.7250	34.52	-1.76	32.76	46.00	-13.24	46.00	-13.24	QP	

**Remark :**

- (1) Measuring frequencies from 30 MHz to the 10GHz .
- (2) All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurement as necessary.
- (3) The IF bandwidth of SPA 30MHz to 1GHz was 100KHz and 1GHz to 10GHz was 1MHz

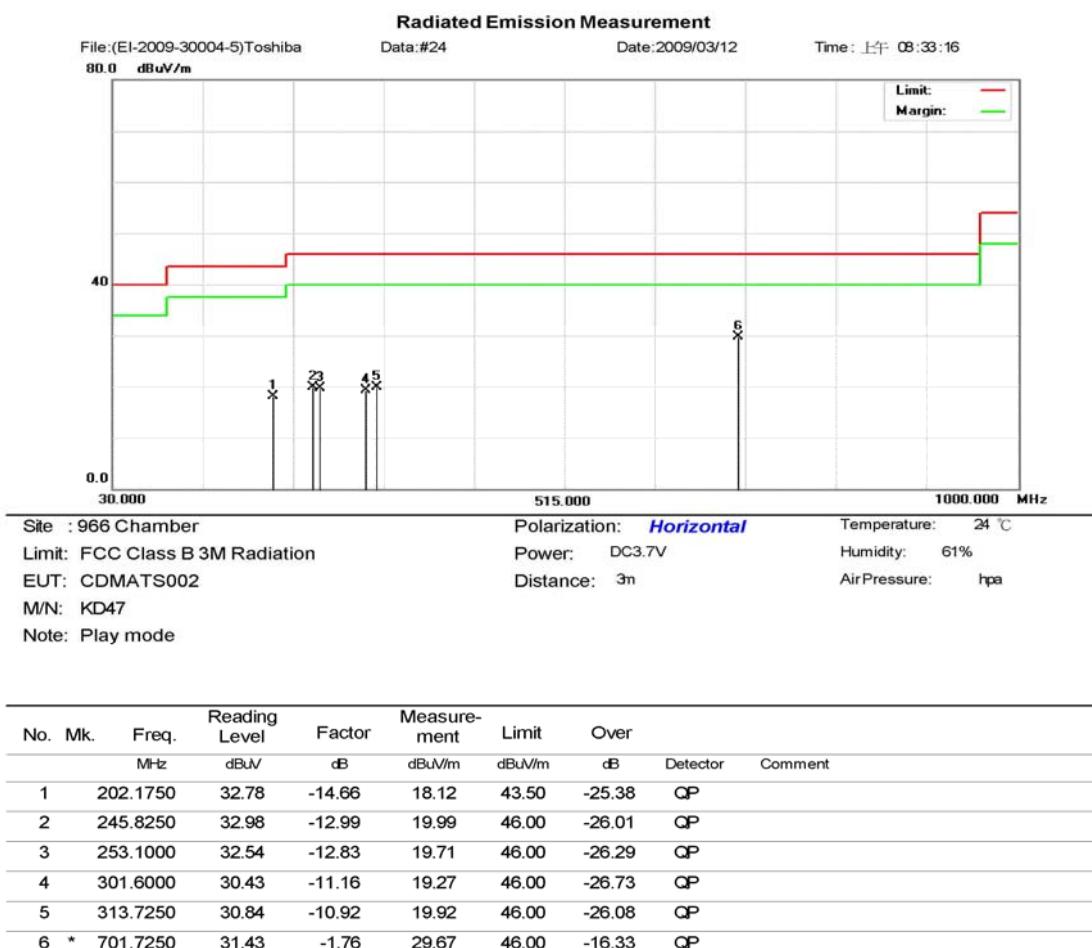
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Test Mode: Play Mode  
Frequency Range: 30MHz-10GHz  
Temperature : 24 °C

Test Date : Mar. 16, 2009  
Test By: Eric  
Humidity : 61 %



#### Remark :

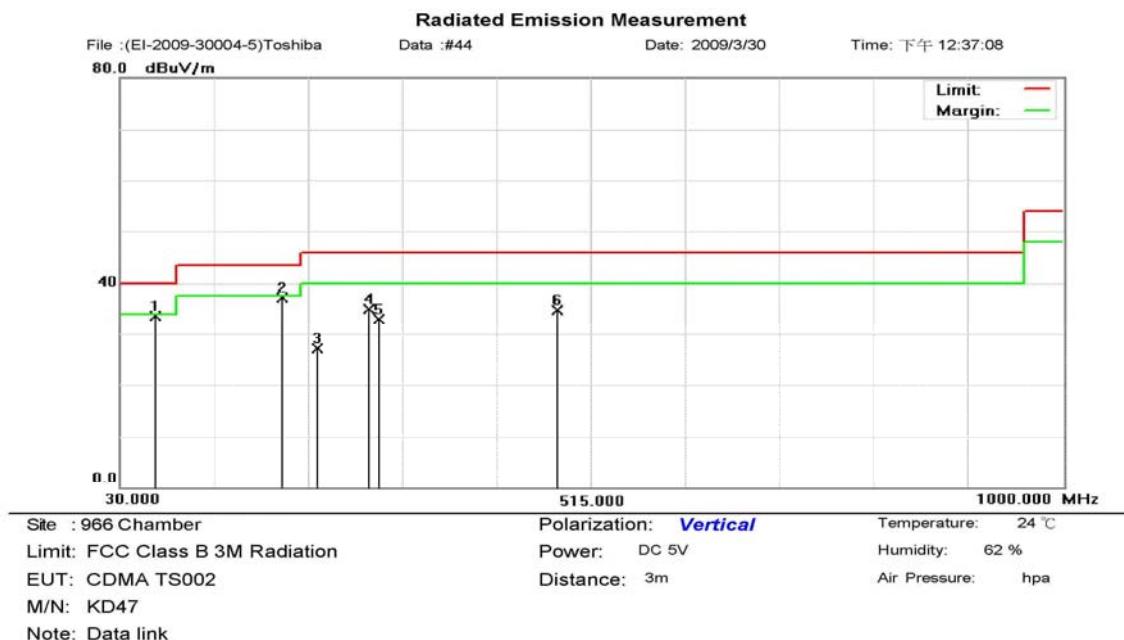
- (1) Measuring frequencies from 30 MHz to the 10GHz .
- (2) All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurement as necessary.
- (3) The IF bandwidth of SPA 30MHz to 1GHz was 100KHz and 1GHz to 10GHz was 1MHz

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Test Mode: Data Link Mode  
Frequency Range: 30MHz-10GHz  
Temperature : 24 °C

Test Date : Mar. 30, 2009  
Test By: Eric  
Humidity : 62 %



No.	Mk.	Freq.	Reading Level	Factor	Measure-ment		Limit	Over	Comment
					MHz	dBuV	dB	dBuV/m	
1		66.3750	48.62	-15.05	33.57	40.00	-6.43	QP	
2	*	197.3250	51.77	-14.61	37.16	43.50	-6.34	QP	
3		233.7000	40.34	-13.28	27.06	46.00	-18.94	QP	
4		287.0500	46.32	-11.45	34.87	46.00	-11.13	QP	
5		296.7500	44.21	-11.25	32.96	46.00	-13.04	QP	
6		481.0500	41.75	-6.95	34.80	46.00	-11.20	QP	

**Remark :**

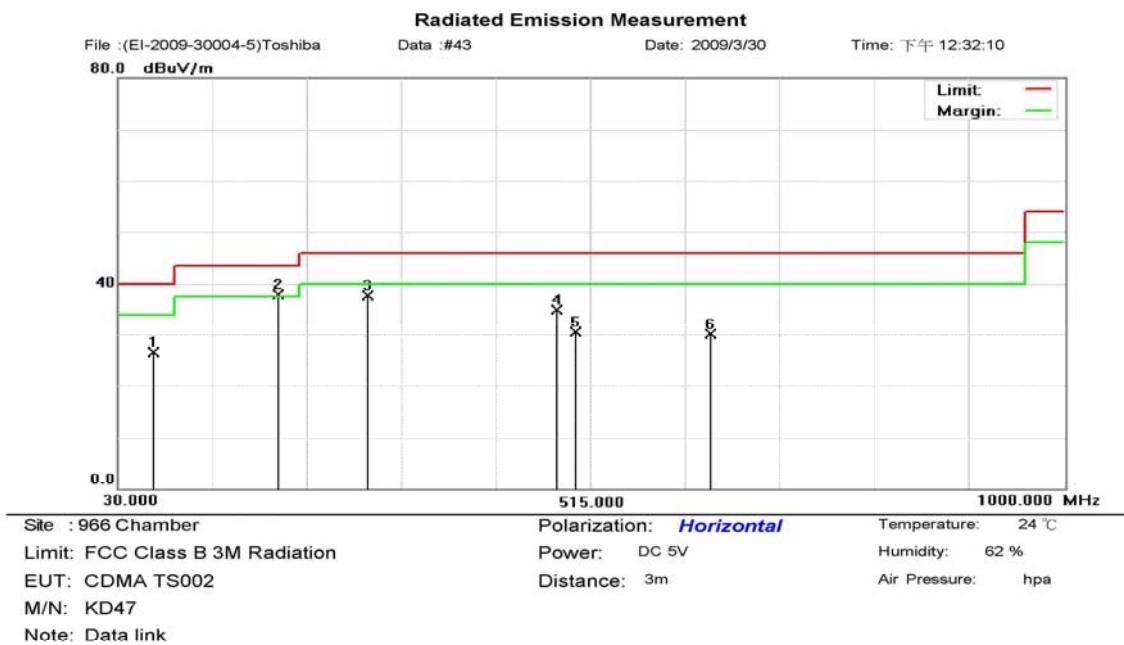
- (1) Measuring frequencies from 30 MHz to the 10GHz °
- (2) All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurement as necessary.
- (3) The IF bandwidth of SPA 30MHz to 1GHz was 100KHz and 1GHz to 10GHz was 1MHz

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Test Mode: Data Link Mode  
Frequency Range: 30MHz-10GHz  
Temperature : 24 °C

Test Date : Mar. 30, 2009  
Test By: Eric  
Humidity : 61 %



No.	Mk.	Freq.	Reading	Factor	Measure- ment	Limit	Over	Detector	Comment
			Level						
MHz		dBuV	dB	dBuV/m	dBuV/m	dB			
1	66.3750	41.54	-15.05	26.49	40.00	-13.51	QP		
2 *	194.5300	52.35	-14.46	37.89	43.50	-5.61	QP		
3	287.0500	49.13	-11.45	37.68	46.00	-8.32	QP		
4	481.0500	41.77	-6.95	34.82	46.00	-11.18	QP		
5	500.4500	37.39	-6.91	30.48	46.00	-15.52	QP		
6	638.6750	33.61	-3.44	30.17	46.00	-15.83	QP		

#### Remark :

- (1) Measuring frequencies from 30 MHz to the 10GHz .
- (2) All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurement as necessary.
- (3) The IF bandwidth of SPA 30MHz to 1GHz was 100KHz and 1GHz to 10GHz was 1MHz

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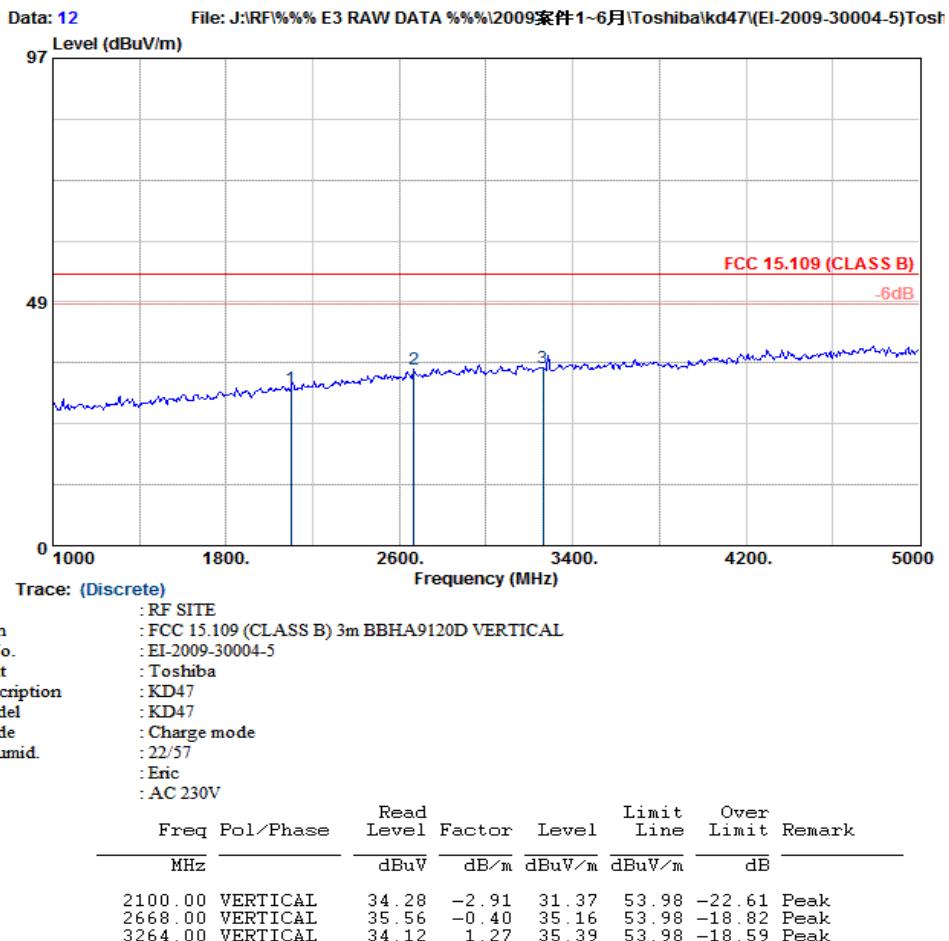
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**Measurement Result (above 1G)**

Test Mode: Charge Mode  
Frequency Range: 1GHz – 5GHz  
Temperature : 22 °C

Test Date : Mar. 16, 2009  
Test By: Eric  
Humidity : 57 %

**Remark :**

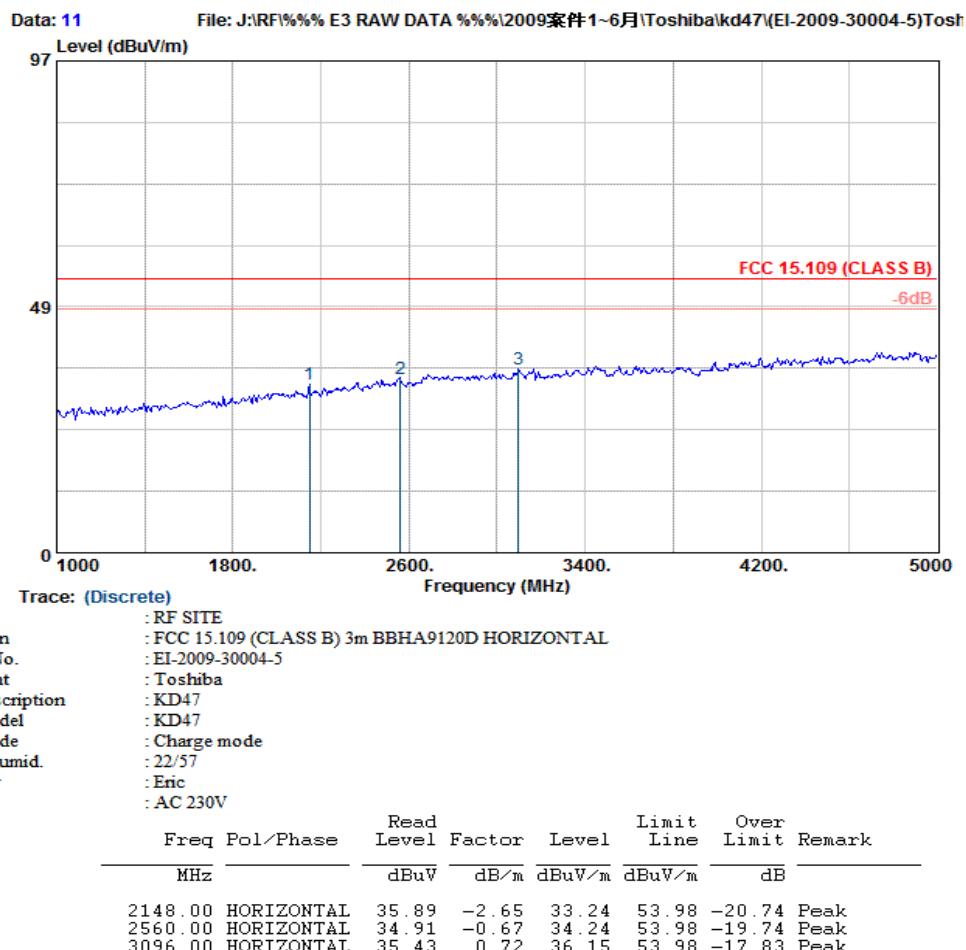
- (1) Measuring frequencies from 1GHz to the 13GHz .
- (2) All Readings above 1GHz are Peak and Average measurement as necessary.
- (3) The IF bandwidth of SPA 30MHz to 1GHz was 100KHz and 1GHz to 10GHz was 1MHz

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Test Mode: Charge Mode  
Frequency Range: 1GHz – 5GHz  
Temperature : 22 °C

Test Date : Mar. 16, 2009  
Test By: Eric  
Humidity : 57 %



Remark :

- (1) Measuring frequencies from 1GHz to the 13GHz .
- (2) All Readings above 1GHz are Peak and Average measurement as necessary.
- (3) The IF bandwidth of SPA 30MHz to 1GHz was 100KHz and 1GHz to 10GHz was 1MHz

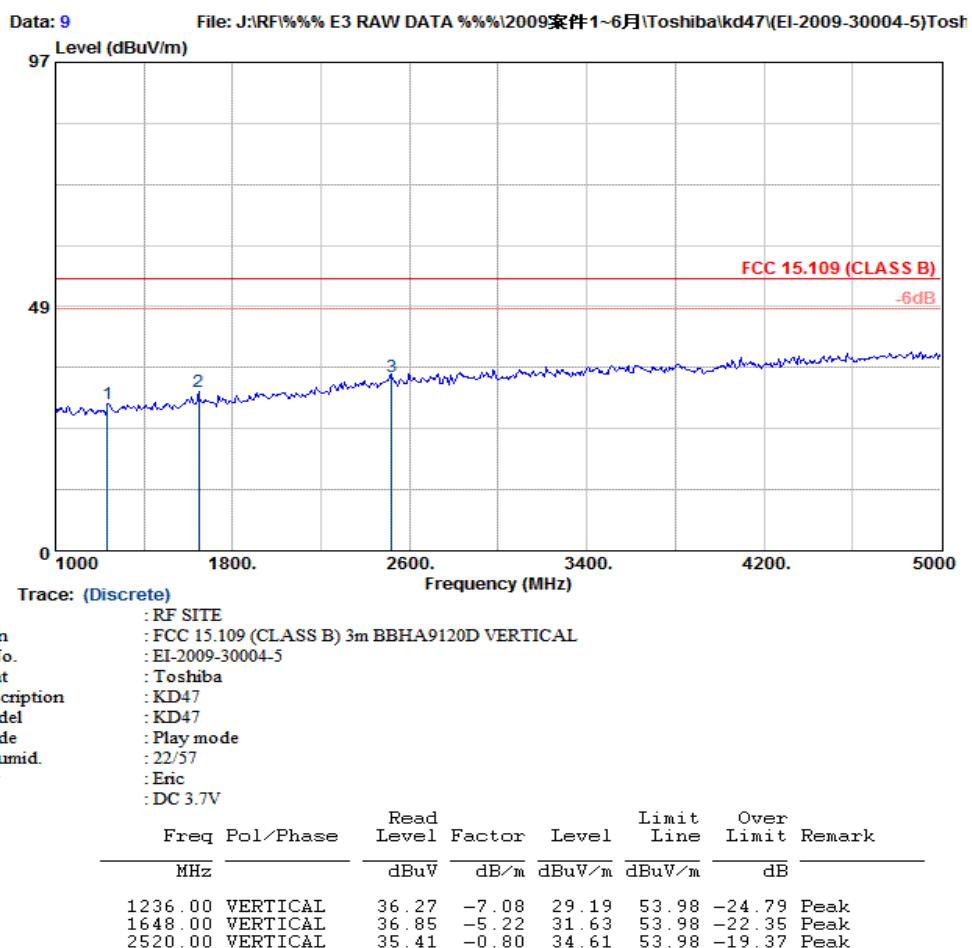
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Test Mode: Play Mode  
Frequency Range: 1GHz – 5GHz  
Temperature : 22 °C

Test Date : Mar. 16, 2009  
Test By: Eric  
Humidity : 57 %



Remark :

- (1) Measuring frequencies from 1GHz to the 13GHz .
- (2) All Readings above 1GHz are Peak and Average measurement as necessary.
- (3) The IF bandwidth of SPA 30MHz to 1GHz was 100KHz and 1GHz to 10GHz was 1MHz

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Test Mode:  Play Mode

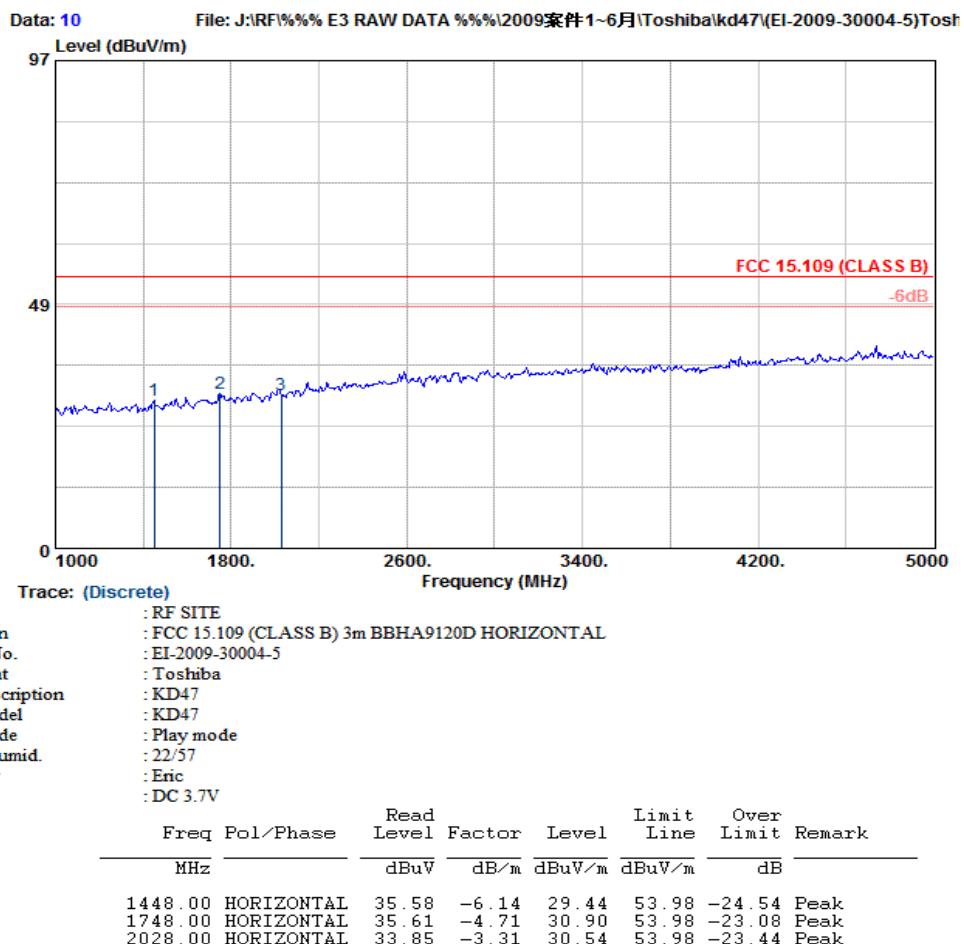
Test Date : Mar. 16, 2009

Frequency Range: 1GHz – 5GHz

Test By: Eric

Temperature : 22 °C

Humidity : 57 %



Remark :

- (1) Measuring frequencies from 1GHz to the 13GHz .
- (2) All Readings above 1GHz are Peak and Average measurement as necessary.
- (3) The IF bandwidth of SPA 30MHz to 1GHz was 100KHz and 1GHz to 10GHz was 1MHz

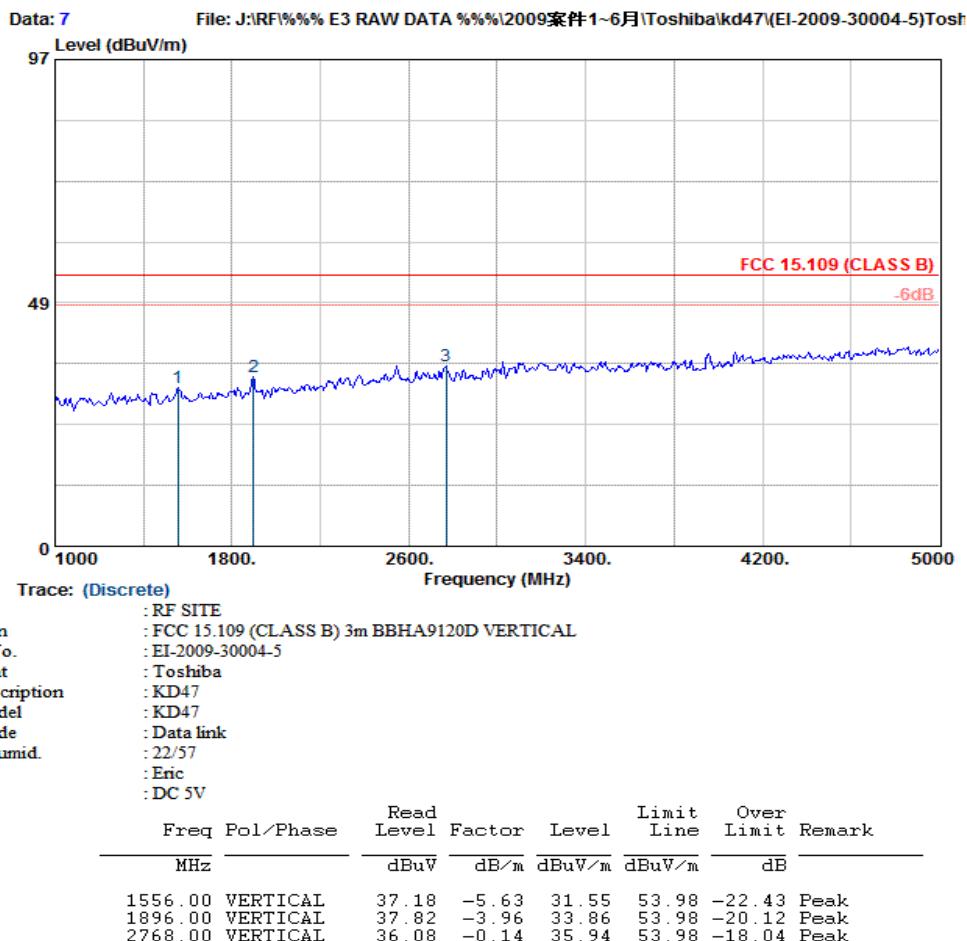
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Test Mode: Data Link Mode  
Frequency Range: 1GHz – 5GHz  
Temperature : 22 °C

Test Date : Mar. 30, 2009  
Test By: Eric  
Humidity : 57 %



Remark :

- (1) Measuring frequencies from 1GHz to the 13GHz .
- (2) All Readings above 1GHz are Peak and Average measurement as necessary.
- (3) The IF bandwidth of SPA 30MHz to 1GHz was 100KHz and 1GHz to 10GHz was 1MHz

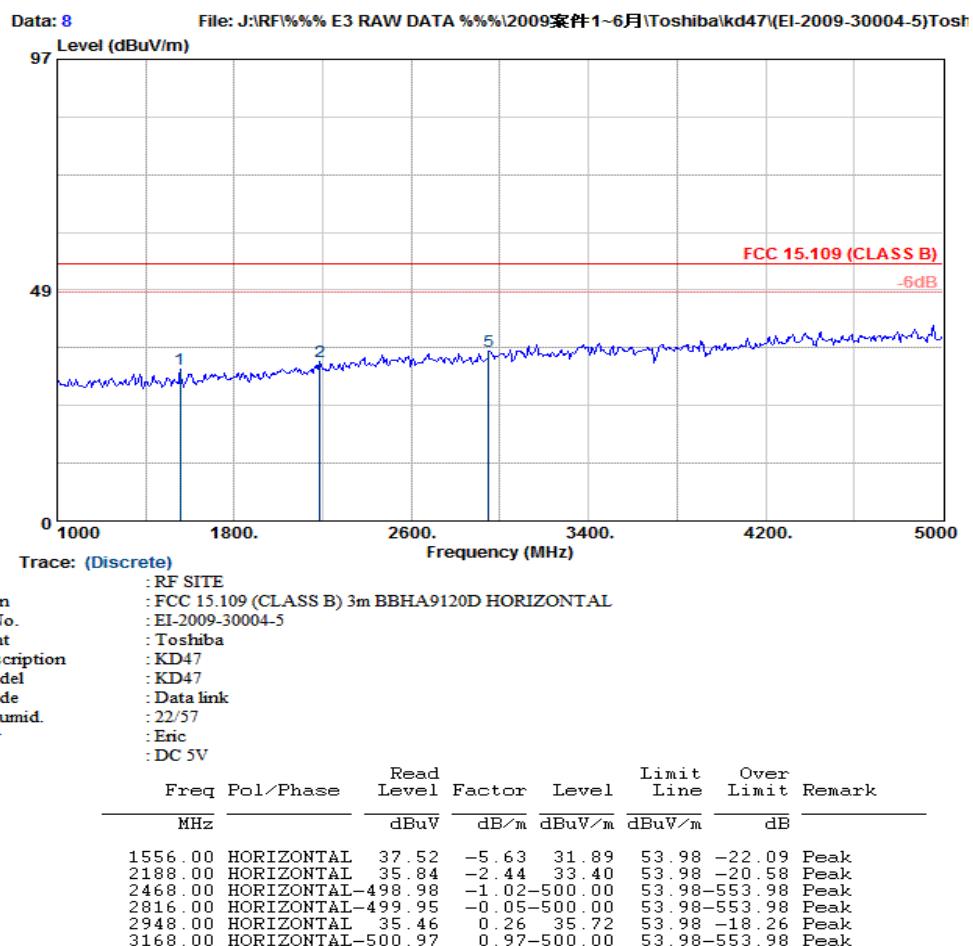
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Test Mode: Data Link Mode  
Frequency Range: 1GHz – 5GHz  
Temperature : 22 °C

Test Date : Mar. 30, 2009  
Test By: Eric  
Humidity : 57 %



**Remark :**

- (1) Measuring frequencies from 1GHz to the 13GHz .
- (2) All Readings above 1GHz are Peak and Average measurement as necessary.
- (3) The IF bandwidth of SPA 30MHz to 1GHz was 100KHz and 1GHz to 10GHz was 1MHz

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