

ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORT

INTENTIONAL RADIATOR CERTIFICATION TO FCC PART 15 SUBPART C REQUIREMENT

OF

Product Name: USB Receiver
Brand Name: N/A
Model Name: TD1J
FCC ID: V2L-TD1J
Report No.: ER/2008/10038
Issue Date: Mar. 04, 2008
FCC Rule Part: §15.249
Prepared for: YI-PHONE INC.
7F-1, No. 286-1, Hsin-Ya Rd. Chien-Chen
District Kaohsiung, Taiwan.

Prepared by: SGS Taiwan Ltd.
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No. 134, Wu Kung Rd., Wuku Industrial
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VERIFICATION OF COMPLIANCE

Applicant: YI-PHONE INC.
7F-1, No. 286-1, Hsin-Ya Rd. Chien-Chen District Kaohsiung, Taiwan.

Product Description: USB Receiver

Brand Name: N/A

FCC ID Number: V2L-TD1J

Model No.: TD1J

Model Difference: N/A

File Number: ER/2008/10038

Date of test: Jan. 18, 2008 ~ Feb. 27, 2008

Date of EUT Received: Jan. 17, 2008

We hereby certify that:

The above equipment was tested by SGS Taiwan Ltd. Electronics & Communication Laboratory. 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 15.249.

The test results of this report relate only to the tested sample identified in this report.

Test By:

Sky Wang

Date

Mar. 04, 2008

Sky Wang / Sr. Engineer

Prepared By:

Gigi yeh

Date

Mar. 04, 2008

Gigi Yeh / Clerk

Approved By:

Vincent Su

Date

Mar. 04, 2008

Vincent Su / Manager

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Version

Version No.	Date
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1. GENERAL INFORMATION

1.1 Product Description

The YI-PHONE INC., Model: TD1J (referred to as the EUT in this report) is a Response Receiver.

A major technical descriptions of EUT is described as following:

A). Operation Frequency: 2402~2438MHz, 38 channels, 1MHz step

B). Modulation Type: DSSS (GFSK)

C). Power Supply: 5V from USB port

1.2 Related Submittal(s) / Grant (s)

This submittal(s) (test report) is intended for FCC ID: **V2L-TD1J** filing to comply with Section 15.249 of the FCC Part 15, Subpart C Rules.

1.3 Test Methodology

Both conducted and radiated testing were 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. 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. 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.

2. System Test Configuration

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.

EUT Exercise

The Transmitter was operated in the engineering operating mode. the Tx frequency was fixed which was for the purpose of the measurements.

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 and 13 of ANSI C63.4-2003. Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30 MHz 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 and measurement procedures for electric field radiated emissions above 1 GHz the EUT measurement is to be made "while keeping the antenna in the 'cone of radiation' from that area and pointed at the area both in azimuth and elevation, with polarization oriented for maximum response." is still within the 3dB illumination BW of the measurement antenna. according to the requirements in Section 8 and 13 and Subclause 8.3.1.2 of ANSI C63.4-2003.

Limitation

(1) Conducted Emission

According to section 15.207(a) Conducted Emission Limits is as following.

Frequency (MHz)	Conducted Limit (dBuV)	
	Quasi-Peak	Average
0.15 – 0.5	66 - 56	56 - 46
0.5 – 5	56	46
5 - 30	60	50

(2) Radiated Emission 15.249(a)

The field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following.

Frequency (MHz)	Field strength of Fundamental	Field strength of Harmonics	Distance (m)
902 - 928	50 mV/m (94dBuV/m)	500 uV/m (54dBuV/m)	3
2400 – 2483.5	50 mV/m (94dBuV/m)	500 uV/m (54dBuV/m)	3
5725 – 5875	50 mV/m (94dBuV/m)	500 uV/m (54dBuV/m)	3
24.0 – 24.25 GHz	250 mV/m (107.95dBuV/m)	2500 uV/m (67.95dBuV/m)	3

(3) Radiated Emission 15.249 (d)

Emission Radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50dB below the level of the fundamental or to the general radiated emission limits in Section 15.209 as below, whichever is the lesser attenuation.

Frequency (MHz)	Field strength $\mu\text{V/m}$	Distance (m)	Field strength at 3m $\text{dB}\mu\text{V/m}$
1.705-30	30	30	69.54
30-88	100	3	40
88-216	150	3	43.5
216-960	200	3	46
Above 960	500	3	54

(4) Radiated Emission 15.249(e)

For frequencies above 1000MHz, the above field strength limits are based on average limits. The peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20dB under any condition of modulation.

Remark: 1. Emission level in $\text{dB}\mu\text{V/m} = 20 \log (\mu\text{V/m})$

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

3. Only spurious frequency is permitted to locate within the Restricted Bands specified in provision of ξ 15.205

4. Emission spurious frequency which appearing within the Restricted Bands specified in provision of ξ 15.205, then the general radiated emission limits in ξ 15.209 apply.

Configuration of Tested System

Fig. 2-1 Configuration of TX

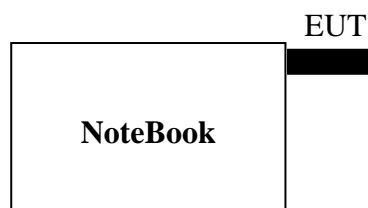


Table 2-2 Equipment Used in Tested System

Item	Equipment	Mfr/Brand	Model/ Type No.	FCC ID	Series No.	Data Cable	Power Cord
1.	NoteBook	IBM	T40	N/A	99HCYF4	N/A	N/A

Note: All the above equipment/cables were placed in worse case positions to maximize emission signals during emission test.

Grounding: Grounding was in accordance with the manufacturer's requirements and conditions for the intended use.

3. Summary of Test Results

FCC Rules	Description Of Test	Result
§15.207	Conducted Emission	Compliant
§15.249(a)(e)	Radiated Emission	Compliant
§15.249(d)	26dB band width Measurement	Compliant

Description of test modes

Frequency 2402MHz, 2420MHz and 2438MHz are chosen for full testing.

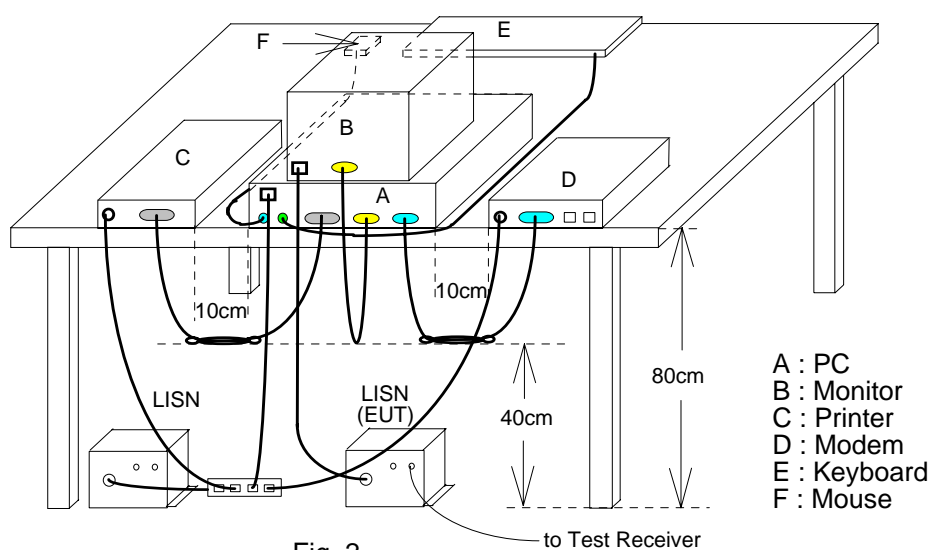
The X, Y and Z-axis of EUT were pre-test; X mode is the worst case and reported.

4. Conducted Emissions Test

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.

Test SET-UP (Block Diagram of Configuration)



Measurement Equipment Used:

Conducted Emission Test Site					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
EMC Analyzer	HP	8594EM	3624A00203	09/02/2007	09/03/2008
EMI Test Receiver	R&S	ESCS30	828985/004	06/09/2007	06/10/2008
Transient Limiter	HP	11947A	3107A02062	09/02/2007	09/03/2008
LISN	Rolf-Heine	NNB-2/16Z	99012	12/31/2007	12/30/2008
LISN	Rolf-Heine	NNB-2/16Z	99013	12/24/2007	12/23/2008
Coaxial Cables	N/A	No. 3, 4	N/A	12/01/2007	12/01/2208

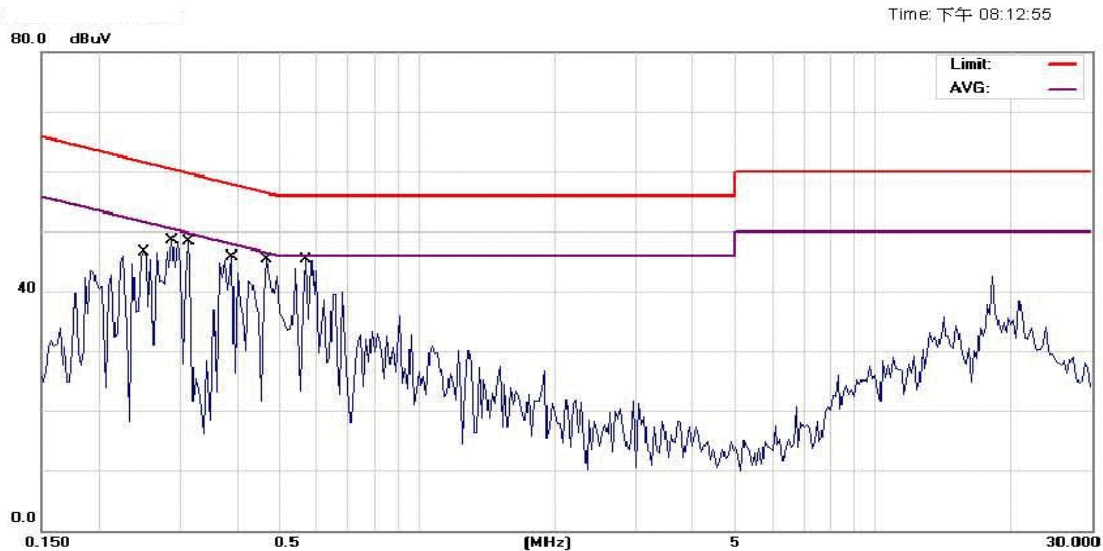
Measurement Result:

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AC POWER LINE CONDUCTED EMISSION TEST DATA

Operation Mode:	Operation mode			Test Date:	Jan 25, 2008
Temperature:	25	Humidity:	62 %	Test By:	Sky

Conducted Emission Measurement



Site SGS CONDUCTED #1

Limit: CISPR22 Class B Conduction(QP)

EUT: Miniature Physiologic Recorder

M/N: KY-1A

Note: OPERATION

Phase: L1

Power: AC 120V/60Hz

Distance:

Temperature: 25 °C

Humidity: 62 %

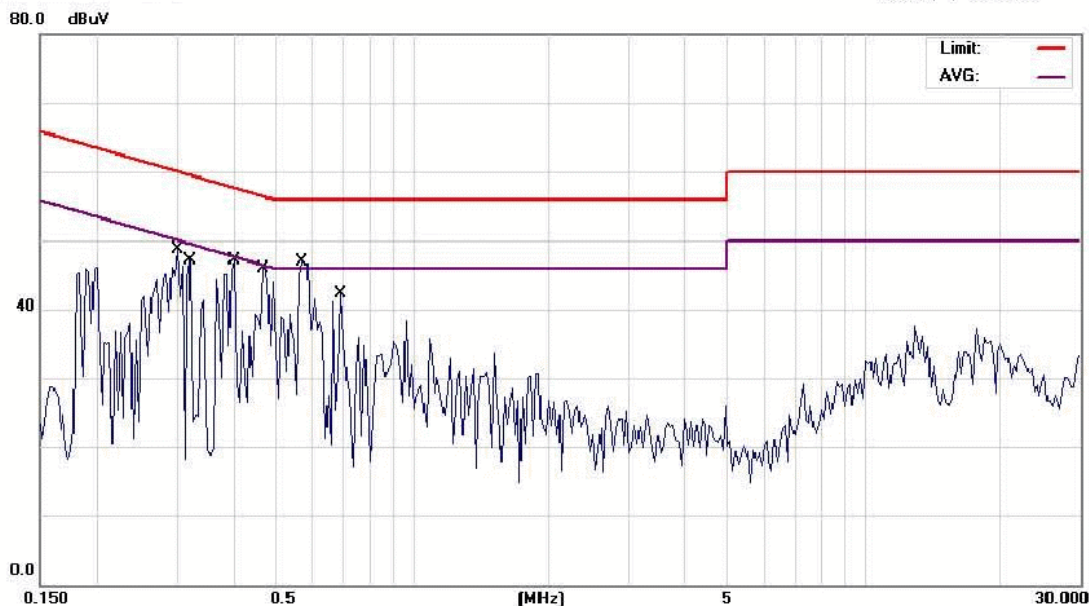
Air Pressure: hpa

No.	Mk.	Freq.	Reading Level	Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV	dBuV	dB		
1		0.2514	42.48	0.02	42.50	61.71	-19.21	QP	
2		0.2514	26.39	0.02	26.41	51.71	-25.30	AVG	
3		0.2909	46.38	0.02	46.40	60.50	-14.10	QP	
4		0.2909	35.41	0.02	35.43	50.50	-15.07	AVG	
5		0.3149	46.65	0.02	46.67	59.84	-13.17	QP	
6		0.3149	33.84	0.02	33.86	49.84	-15.98	AVG	
7		0.3945	44.42	0.02	44.44	57.97	-13.53	QP	
8		0.3945	34.15	0.02	34.17	47.97	-13.80	AVG	
9	*	0.4686	44.63	0.02	44.65	56.54	-11.89	QP	
10		0.4686	30.28	0.02	30.30	46.54	-16.24	AVG	
11		0.5716	43.83	0.02	43.85	56.00	-12.15	QP	
12		0.5716	30.27	0.02	30.29	46.00	-15.71	AVG	

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Conducted Emission Measurement

Time: 下午 08:35:08



Site SGS CONDUCTED #1

Limit: CISPR22 Class B Conduction(QP)

EUT: Miniature Physiologic Recorder

M/N: KY-1A

Note: OPERATION

Phase: N

Power: AC 120V/60Hz

Distance:

Temperature: 25 °C

Humidity: 62 %

Air Pressure: hpa

No. Mk.	Freq.	Reading Level	Factor	Measurement	Limit	Over	Detector	Comment
	MHz	dBuV	dB	dBuV	dBuV	dB		
1	0.3027	46.14	0.02	46.16	60.17	-14.01	QP	
2	0.3027	35.34	0.02	35.36	50.17	-14.81	AVG	
3	0.3234	46.45	0.02	46.47	59.62	-13.15	QP	
4	0.3234	25.99	0.02	26.01	49.62	-23.61	AVG	
5	0.4051	45.52	0.02	45.54	57.75	-12.21	QP	
6	0.4051	35.74	0.02	35.76	47.75	-11.99	AVG	
7	0.4686	45.32	0.02	45.34	56.54	-11.20	QP	
8	0.4686	31.39	0.02	31.41	46.54	-15.13	AVG	
9 *	0.5716	44.96	0.02	44.98	56.00	-11.02	QP	
10	0.5716	30.44	0.02	30.46	46.00	-15.54	AVG	
11	0.6973	39.76	0.02	39.78	56.00	-16.22	QP	
12	0.6973	26.63	0.02	26.65	46.00	-19.35	AVG	

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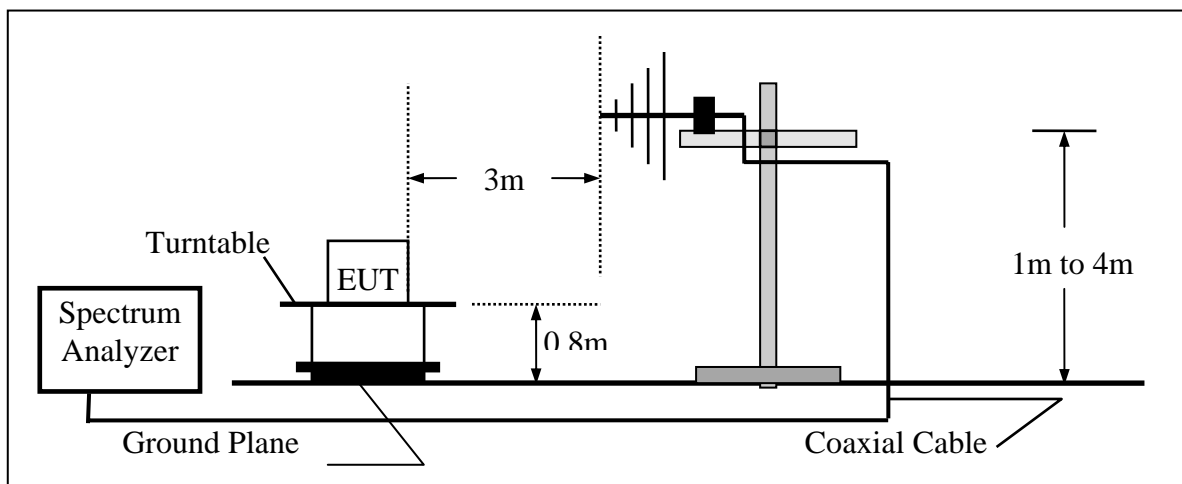
5. Radiated Emission Test

Measurement Procedure

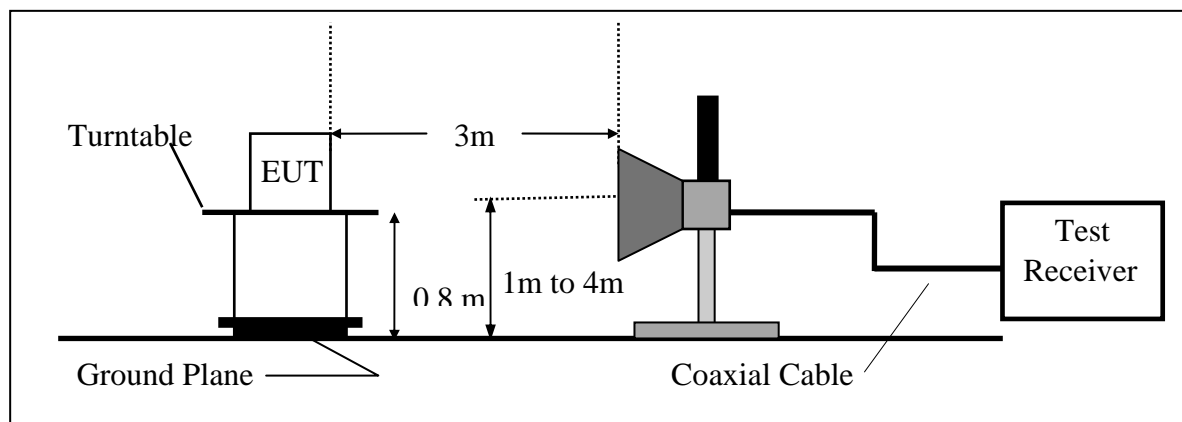
1. The EUT was placed on a turntable that is 0.8m above ground plane.
2. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
3. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
4. Repeat above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

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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Measurement Equipment Used:

966 Chamber					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
Spectrum Analyzer	Agilent	E4446A	MY43360126	03/29/2007	03/28/2008
Spectrum Analyzer	Agilent	E7405A	US41160416	08/27/2007	08/26/2008
Bilog Antenna	SCHWAZBECK	VULB9163	152	06/03/2007	06/02/2008
Horn antenna	Schwarzbeck	BBHA 9120D	309/320	08/16/2007	08/15/2008
Horn antenna	Schwarzbeck	BBHA 9170	184/185	07/04/2007	07/03/2008
Pre-Amplifier	HP	8447D	2944A09469	07/19/2007	07/18/2008
Pre-Amplifier	HP	8449B	3008A00578	02/26/2008	02/25/2009
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	10/09/2007	10/08/2008
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA-3M	3m	10/09/2007	10/08/2008
Site NSA	SGS	966 chamber	N/A	11/17/2007	11/16/2008

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	

Measurement Result

Radiated Spurious Emission Measurement Result (below 1GHz)

Operation Mode	TX Low	Test Date	Feb. 12, 2008
Fundamental Frequency	2402MHz	Test By	Sky
Temperature	25	Pol	Ver./Hor
Humidity	65 %		

Freq. (MHz)	Ant.Pol. H/V	Detector Mode (PK/QP)	Reading (dBuV)	Factor (dB)	Actual FS (dBuV/m)	Limit3m (dBuV/m)	Safe Margin (dB)
65.89	V	Peak	45.84	-15.09	30.75	40.00	-9.25
101.78	V	Peak	49.39	-16.87	32.52	43.50	-10.98
211.39	V	Peak	42.31	-15.22	27.09	43.50	-16.41
64.92	H	Peak	45.29	-14.83	30.46	40.00	-9.54
119.24	H	Peak	44.97	-15.32	29.65	43.50	-13.85
516.94	H	Peak	39.35	-8.17	31.18	46.00	-14.82

Remark :

- (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/QP detector mode.
- (3) Datas of measurement within this frequency range shown “ - ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (4) The IF bandwidth of SPA between 30MHz to 1GHz was 100KHz, VBW=300KHz.

Radiated Spurious Emission Measurement Result (below 1GHz)

Operation Mode	TX Mid	Test Date	Feb. 12, 2008
Fundamental Frequency	2420MHz	Test By	Sky
Temperature	25	Pol	Ver./Hor
Humidity	65 %		

Freq. (MHz)	Ant.Pol. H/V	Detector Mode (PK/QP)	Reading (dBuV)	Factor (dB)	Actual FS (dBuV/m)	Limit3m (dBuV/m)	Safe Margin (dB)
101.78	V	Peak	49.21	-16.87	32.34	43.50	-11.16
198.78	V	Peak	43.16	-15.56	27.60	43.50	-15.90
65.89	H	Peak	45.72	-15.09	30.63	40.00	-9.37
119.24	H	Peak	43.98	-15.32	28.66	43.50	-14.84
468.44	H	Peak	43.18	-8.55	34.63	46.00	-11.37

Remark :

- (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/QP detector mode.
- (3) Datas of measurement within this frequency range shown “ - ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (4) The IF bandwidth of SPA between 30MHz to 1GHz was 100KHz, VBW=300KHz.

Radiated Spurious Emission Measurement Result (below 1GHz)

Operation Mode	TX High	Test Date	Feb. 12, 2008
Fundamental Frequency	2438MHz	Test By	Sky
Temperature	25	Pol	Ver./Hor
Humidity	65 %		

Freq. (MHz)	Ant.Pol. H/V	Detector Mode (PK/QP)	Reading (dBuV)	Factor (dB)	Actual FS (dBuV/m)	Limit3m (dBuV/m)	Safe Margin (dB)
65.89	V	Peak	46.30	-15.09	31.21	40.00	-8.79
101.78	V	Peak	48.05	-16.87	31.18	43.50	-12.32
211.39	V	Peak	47.67	-15.22	32.45	43.50	-11.05
65.89	H	Peak	46.86	-15.09	31.77	40.00	-8.23
119.24	H	Peak	43.81	-15.32	28.49	43.50	-15.01
492.69	H	Peak	40.65	-8.50	32.15	46.00	-13.85

Remark :

- (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/QP detector mode.
- (3) Datas of measurement within this frequency range shown “ - ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (4) The IF bandwidth of SPA between 30MHz to 1GHz was 100KHz, VBW=300KHz.

Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode: TX Low
 Fundamental Frequency: 2402MHz
 Temperature : 25
 Humidity : 65 %

Test Date : Feb. 21, 2008
 Test By: Sky
 Pol: Vertical

Freq. (MHz)	Ant.Pol. H/V	Peak Reading (dBuV)	AV Reading (dBuV)	Factor (dB)	Actual Peak FS (dBuV/m)	Actual AV FS (dBuV/m)	Peak Limit at 3m (dBuV/m)	AV Limit at 3m (dBuV/m)	Margin (dB)	
2402.0	V	88.66	--	-1.30	87.36	--	114.00	94.00	-6.64	F
2390.0	V	35.30	--	-1.39	33.91	--	74.00	54.00	-20.09	
4796.0	V	45.14	--	5.99	51.13	--	74.00	54.00	-2.87	S
7201.0	V	39.27	--	12.89	52.16	--	74.00	54.00	-1.84	S
4804.0	V	--	--			--	74.00	54.00		H
7206.0	V	--	--			--	74.00	54.00		H
9608.0	V	--	--			--	74.00	54.00		H
12010.0	V	--	--			--	74.00	54.00		H
14412.0	V	--	--			--	74.00	54.00		H
16814.0	V	--	--			--	74.00	54.00		H
19216.0	V	--	--			--	74.00	54.00		H
21618.0	V	--	--			--	74.00	54.00		H
24020.0	V	--	--			--	74.00	54.00		H

Remark :

- (1) Measuring frequencies from 30MHz to the 10th of fundamental frequency .
- (2) Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB
- (3) "F" denotes fundamental frequency; "H" denotes harmonics frequency. "S" denotes spurious frequency.
- (4) Datas of measurement within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (5) Spectrum Peak mode IF bandwidth Setting : 1GHz- 26GHz, RBW= 1MHz, Sweep time= 200 ms., the VBW setting was 3 MHz.
- (6) Spectrum AV mode IF B bandwidth Setting : 1GHz- 26GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200 ms.

Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode: TX Low
 Fundamental Frequency: 2402MHz
 Temperature : 25
 Humidity : 65 %

Test Date : Feb. 21, 2008
 Test By: Sky
 Pol: Horizontal

Freq. (MHz)	Ant. Pol. H/V	Peak Reading (dBuV)	AV Reading (dBuV)	Factor (dB)	Actual Peak FS (dBuV/m)	Actual AV FS (dBuV/m)	Peak Limit at 3m (dBuV/m)	AV Limit at 3m (dBuV/m)	Margin (dB)	
2402.0	H	93.12	--	-1.30	91.82	--	114.00	94.00	-2.18	F
2390.0	H	33.43	--	-1.39	32.04	--	74.00	54.00	-21.96	
4796.0	H	48.88	38.77	5.99	54.87	44.76	74.00	54.00	-9.24	S
4804.0	H	--	--			--	74.00	54.00		H
7206.0	H	--	--			--	74.00	54.00		H
9608.0	H	--	--			--	74.00	54.00		H
12010.0	H	--	--			--	74.00	54.00		H
14412.0	H	--	--			--	74.00	54.00		H
16814.0	H	--	--			--	74.00	54.00		H
19216.0	H	--	--			--	74.00	54.00		H
21618.0	H	--	--			--	74.00	54.00		H
24020.0	H	--	--			--	74.00	54.00		H

Remark:

- (1) Measuring frequencies from 30MHz to the 10th of fundamental frequency .
- (2) Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB
- (3) "F" denotes fundamental frequency; "H" denotes harmonics frequency. "S" denotes spurious frequency.
- (4) Datas of measurement within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (5) Spectrum Peak mode IF bandwidth Setting : 1GHz- 26GHz, RBW= 1MHz, Sweep time= 200 ms., the VBW setting was 3 MHz.
- (6) Spectrum AV mode IF B bandwidth Setting : 1GHz- 26GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200 ms.

Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode: TX Mid
 Fundamental Frequency: 2420MHz
 Temperature : 25
 Humidity : 65 %

Test Date : Feb. 21, 2008
 Test By: Sky
 Pol: Vertical

Freq. (MHz)	Ant.Pol. H/V	Peak Reading (dBuV)	AV Reading (dBuV)	Factor (dB)	Actual Peak FS (dBuV/m)	Actual AV FS (dBuV/m)	Peak Limit at 3m (dBuV/m)	AV Limit at 3m (dBuV/m)	Margin (dB)	
2402.0	V	90.54	--	-1.12	89.42	--	114.00	94.00	-4.58	F
4828.5	V	46.13	33.58	6.05	52.18	39.63	74.00	54.00	-14.37	S
7253.0	V	38.69	--	12.91	51.60	--	74.00	54.00	-2.40	S
4804.0	V	--	--			--	74.00	54.00		H
7206.0	V	--	--			--	74.00	54.00		H
9608.0	V	--	--			--	74.00	54.00		H
12010.0	V	--	--			--	74.00	54.00		H
14412.0	V	--	--			--	74.00	54.00		H
16814.0	V	--	--			--	74.00	54.00		H
19216.0	V	--	--			--	74.00	54.00		H
21618.0	V	--	--			--	74.00	54.00		H
24020.0	V	--	--			--	74.00	54.00		H

Remark:

- (1) Measuring frequencies from 30MHz to the 10th of fundamental frequency .
- (2) Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB
- (3) "F" denotes fundamental frequency; "H" denotes harmonics frequency. "S" denotes spurious frequency.
- (4) Datas of measurement within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (5) Spectrum Peak mode IF bandwidth Setting : 1GHz- 26GHz, RBW= 1MHz, Sweep time= 200 ms., the VBW setting was 3 MHz.
- (6) Spectrum AV mode IF B bandwidth Setting : 1GHz- 26GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200 ms.

Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode: TX Mid
 Fundamental Frequency: 2420MHz
 Temperature : 25
 Humidity : 65 %

Test Date : Feb. 21, 2008
 Test By: Sky
 Pol: Horizontal

Freq. (MHz)	Ant. Pol. H/V	Peak Reading (dBuV)	AV Reading (dBuV)	Factor (dB)	Actual Peak FS (dBuV/m)	Actual AV FS (dBuV/m)	Peak Limit at 3m (dBuV/m)	AV Limit at 3m (dBuV/m)	Margin (dB)	
2402.0	H	93.82	--	-1.22	92.60	--	114.00	94.00	-1.40	F
4828.5	H	44.85	34.38	6.05	50.90	40.43	74.00	54.00	-13.57	S
4804.0	H	--	--			--	74.00	54.00		H
7206.0	H	--	--			--	74.00	54.00		H
9608.0	H	--	--			--	74.00	54.00		H
12010.0	H	--	--			--	74.00	54.00		H
14412.0	H	--	--			--	74.00	54.00		H
16814.0	H	--	--			--	74.00	54.00		H
19216.0	H	--	--			--	74.00	54.00		H
21618.0	H	--	--			--	74.00	54.00		H
24020.0	H	--	--			--	74.00	54.00		H

Remark :

- (1) Measuring frequencies from 30MHz to the 10th of fundamental frequency .
- (2) Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB
- (3) "F" denotes fundamental frequency; "H" denotes harmonics frequency. "S" denotes spurious frequency.
- (4) Datas of measurement within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (5) Spectrum Peak mode IF bandwidth Setting : 1GHz- 26GHz, RBW= 1MHz, Sweep time= 200 ms., the VBW setting was 3 MHz.
- (6) Spectrum AV mode IF B bandwidth Setting : 1GHz- 26GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200 ms.

Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode: TX High
 Fundamental Frequency: 2438MHz
 Temperature : 25
 Humidity : 65 %

Test Date : Feb. 21, 2008
 Test By: Sky
 Pol: Vertical

Freq. (MHz)	Ant. Pol. H/V	Peak Reading (dBuV)	AV Reading (dBuV)	Factor (dB)	Actual Peak FS (dBuV/m)	Actual AV FS (dBuV/m)	Peak Limit at 3m (dBuV/m)	AV Limit at 3m (dBuV/m)	Margin (dB)	
2438.0	V	90.19	--	-1.13	89.06	--	114.00	94.00	-4.94	F
2483.6	V	33.14	--	-0.92	32.22	--	114.00	94.00	-61.78	
4880.5	V	45.27	33.89	6.17	51.44	40.06	74.00	54.00	-13.94	S
4876.0	V	--	--			--	74.00	54.00		H
7314.0	V	--	--			--	74.00	54.00		H
9752.0	V	--	--			--	74.00	54.00		H
12190.0	V	--	--			--	74.00	54.00		H
14628.0	V	--	--			--	74.00	54.00		H
17066.0	V	--	--			--	74.00	54.00		H
19504.0	V	--	--			--	74.00	54.00		H
21942.0	V	--	--			--	74.00	54.00		H
24380.0	V	--	--			--	74.00	54.00		H

Remark :

- (1) Measuring frequencies from 30MHz to the 10th of fundamental frequency .
- (2) Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB
- (3) "F" denotes fundamental frequency; "H" denotes harmonics frequency. "S" denotes spurious frequency.
- (4) Datas of measurement within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (5) Spectrum Peak mode IF bandwidth Setting : 1GHz- 26GHz, RBW= 1MHz, Sweep time= 200 ms., the VBW setting was 3 MHz.
- (6) Spectrum AV mode IF B bandwidth Setting : 1GHz- 26GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200 ms.

Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode: TX High
 Fundamental Frequency: 2438MHz
 Temperature : 25
 Humidity : 65 %

Test Date : Feb. 21, 2008
 Test By: Sky
 Pol: Horizontal

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV)	AV Reading (dBuV)	Factor (dB)	Actual Peak FS (dBuV/m)	Actual AV FS (dBuV/m)	Peak Limit at 3m (dBuV/m)	AV Limit at 3m (dBuV/m)	Margin (dB)	
2438.0	H	93.96	--	-1.13	92.83	--	114.00	94.00	-1.17	F
2483.6	H	33.59	--	-0.92	32.67	--	114.00	94.00	-61.33	
4880.5	H	47.46	33.99	6.17	53.63	40.16	74.00	54.00	-13.84	S
4876.0	H	--	--			--	74.00	54.00		H
7314.0	H	--	--			--	74.00	54.00		H
9752.0	H	--	--			--	74.00	54.00		H
12190.0	H	--	--			--	74.00	54.00		H
14628.0	H	--	--			--	74.00	54.00		H
17066.0	H	--	--			--	74.00	54.00		H
19504.0	H	--	--			--	74.00	54.00		H
21942.0	H	--	--			--	74.00	54.00		H
24380.0	H	--	--			--	74.00	54.00		H

Remark :

- (1) Measuring frequencies from 30MHz to the 10th of fundamental frequency .
- (2) Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB
- (3) "F" denotes fundamental frequency; "H" denotes harmonics frequency. "S" denotes spurious frequency.
- (4) Datas of measurement within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (5) Spectrum Peak mode IF bandwidth Setting : 1GHz- 26GHz, RBW= 1MHz, Sweep time= 200 ms., the VBW setting was 3 MHz.
- (6) Spectrum AV mode IF B bandwidth Setting : 1GHz- 26GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200 ms.

6. 26 dB Band Width Measurement

Measurement Procedure

1. The EUT was placed on a turn table which is 0.8m above ground plane.
2. Set ETU normal operating mode.
3. Set SPA Center Frequency = fundamental frequency, RBW, VBW = 100KHz, Span = 3MHz.
4. Set SPA Max hold. Mark peak, -26dB.

Test SET-UP (Block Diagram of Configuration)

Same as 4.2 Radiated Emission Measurement.

Measurement Equipment Used:

Same as 4.2 Radiated Emission Measurement.

Measurement Results:

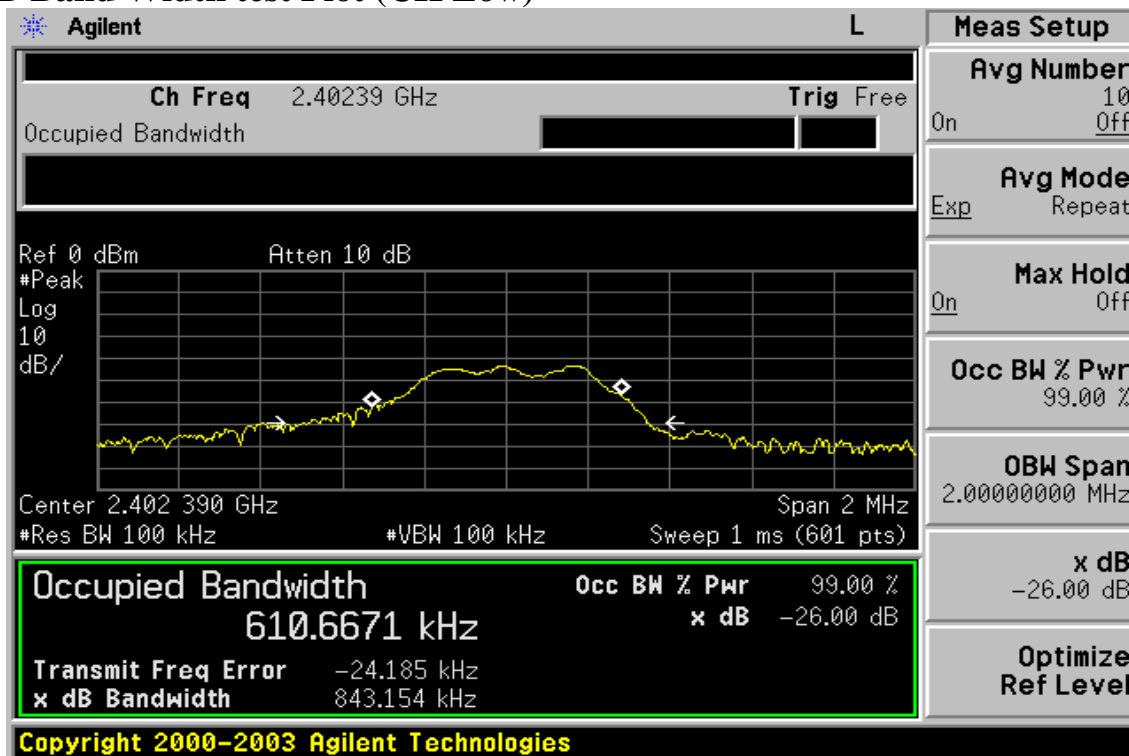
Channel Lowest = 843.154MHz

Channel Mid = 726.389MHz

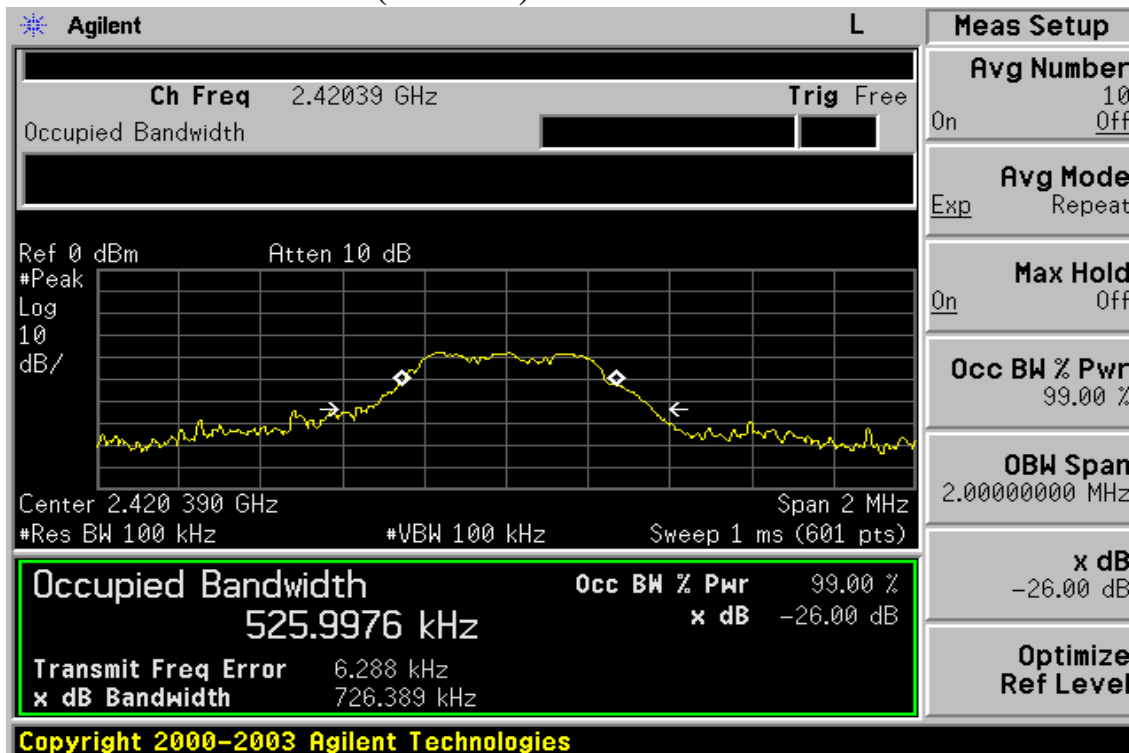
Channel Highest = 963.055MHz

Refer to attached data chart.

26dB Band Width test Plot (CH Low)

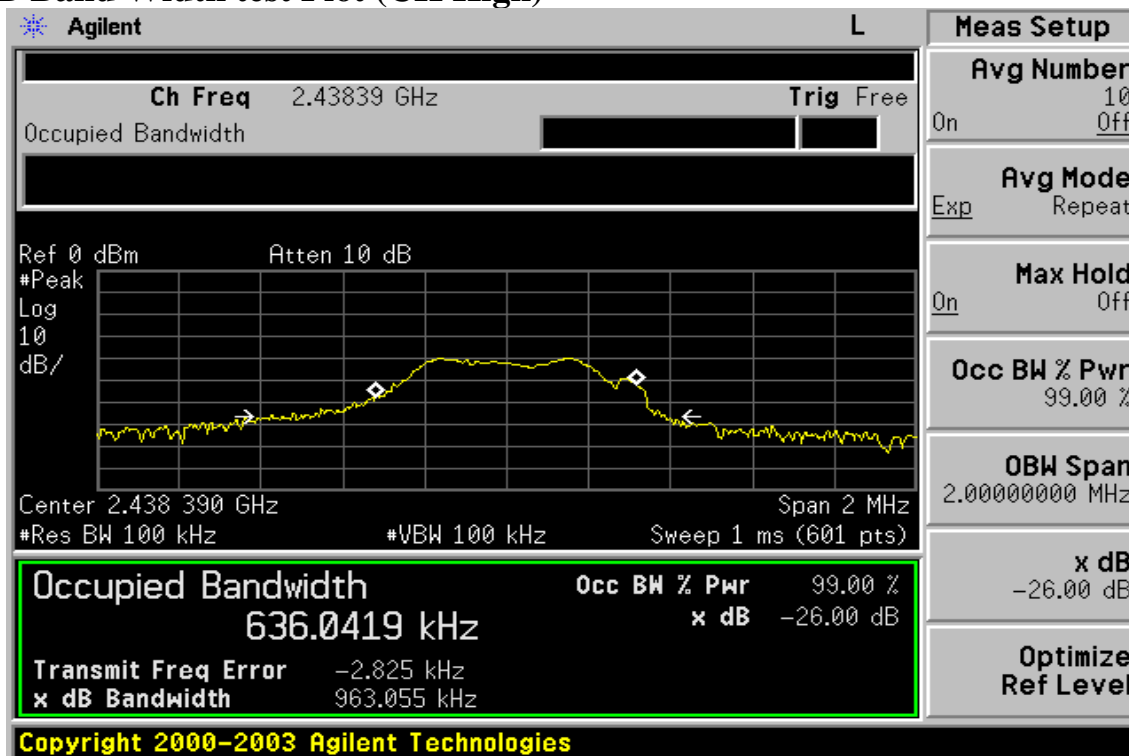


26dB Band Width test Plot (CH Mid)



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26dB Band Width test Plot (CH High)



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