Nemko Test Report:	3L0353RUS1
Applicant:	SyChip, Inc. 1700 Alma Drive Suite 240 Plano, TX 75075
Equipment Under Test: **(E.U.T.)**	WLAN6065SD
In Accordance With:	**FCC Part 15, Subpart C, 15.247** Direct Sequence Spread Spectrum Transmitters
Tested By:	Nemko Dallas Inc. 802 N. Kealy Lewisville, Texas 75057-3136
Authorized By:	 David Light, Lab Resource Manager
Date:	20 October 2003
Total Number of Pages:	43

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Section 1. Summary of Test Results

Manufacturer: SyChip, Inc.

Model No.: WLAN6065SD

Serial No.: None

General: **All measurements are traceable to national standards.**

These tests were conducted on a sample of the equipment for the purpose of demonstrating compliance with Part 15, Subpart C, Paragraph 15.247 for Direct Sequence Spread Spectrum devices. Radiated tests were conducted is accordance with ANSI C63.4-1992. Radiated emissions are made on an open area test site. A description of the test facility is on file with the FCC.

☐ New Submission ☐ Production Unit

☒ Class II Permissive Change ☒ Pre-Production Unit

THIS TEST REPORT RELATES ONLY TO THE ITEM(S) TESTED.

THE FOLLOWING DEVIATIONS FROM, ADDITIONS TO, OR EXCLUSIONS FROM THE TEST SPECIFICATIONS HAVE BEEN MADE. NONE
See " Summary of Test Data".

NVLAP LAB CODE: 100426-0

Summary Of Test Data

NAME OF TEST	PARA. NO.	SPEC.	RESULT
Powerline Conducted Emissions	15.207(a)	Mask	Complies
Minimum 6 dB Bandwidth	15.247(a)(2)	>500 kHz	Complies
Maximum Peak Power Output	15.247(b)(1)	<1 Watt	Complies
Spurious Emissions (Antenna Conducted)	15.247(c)	-20 dBc/100kHz	Complies
Spurious Emissions (Restricted Bands)	15.247(c)	< 74 dBuV/m Peak < 54 dBuV/m Avg	Complies
Peak Power Spectral Density	15.247(d)	+8 dBm/3kHz	Complies

Footnotes:

Section 2. Equipment Under Test (E.U.T.)

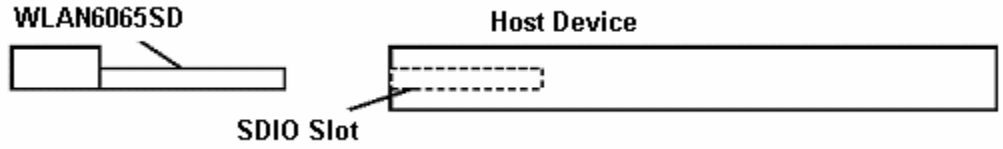
General Equipment Information

Frequency Band:	2412 to 2462 MHz
Channel Spacing:	4.5 MHz
User Frequency Adjustment:	Software controlled

Theory of Operation

WLAN6065SD Card from SyChip Inc is a Secure Digital Card form factor Wireless LAN NIC (Network Interface Card) incorporating the popular wireless Ethernet standard 802.11b. It uses Direct Sequence Spread Spectrum (DSSS) Wireless LAN technology to provide bandwidths of up to 11Mbps at ranges of up to 400 feet. This card enables next generation Pocket PC/PDAs, and Ultra-thin notebook computers to access the internet, email, corporate networks and transfer streaming video or audio, images or large files from a WLAN-enabled environment. It allows an extension of the corporate resources by enabling the mobile workforce and telecommuters. The card is idea for vertical markets such as manufacturing floors, car rentals, retail spaces, hospitals etc. In the consumer market, this WLAN card is ideal for users of next generation Palms, Pocket PCs, printers and scanners. Additionally, the card gives users the ability to work whilst away from the office by connecting to the rapidly expanding public hotspot infrastructure. Such venues as coffee shops, airports, shopping malls, hotels, etc are offering this capability based on the IEEE802.11b standard. For mobile applications, battery life is extended through the use of enhanced power saving features, which reduce the current drain whilst in standby mode (the card is in this state for the majority of the time as it awaits data destined for it).

System Diagram



Section 3. Powerline Conducted Emissions

NAME OF TEST: Powerline Conducted Emissions	PARA. NO.: 15.207(a)
TESTED BY: Eldon Berry	DATE: 15Oct03

Test Results: Complies.

Measurement Data: See attached plots.

Measurement Uncertainty: +/- 1.7 dB

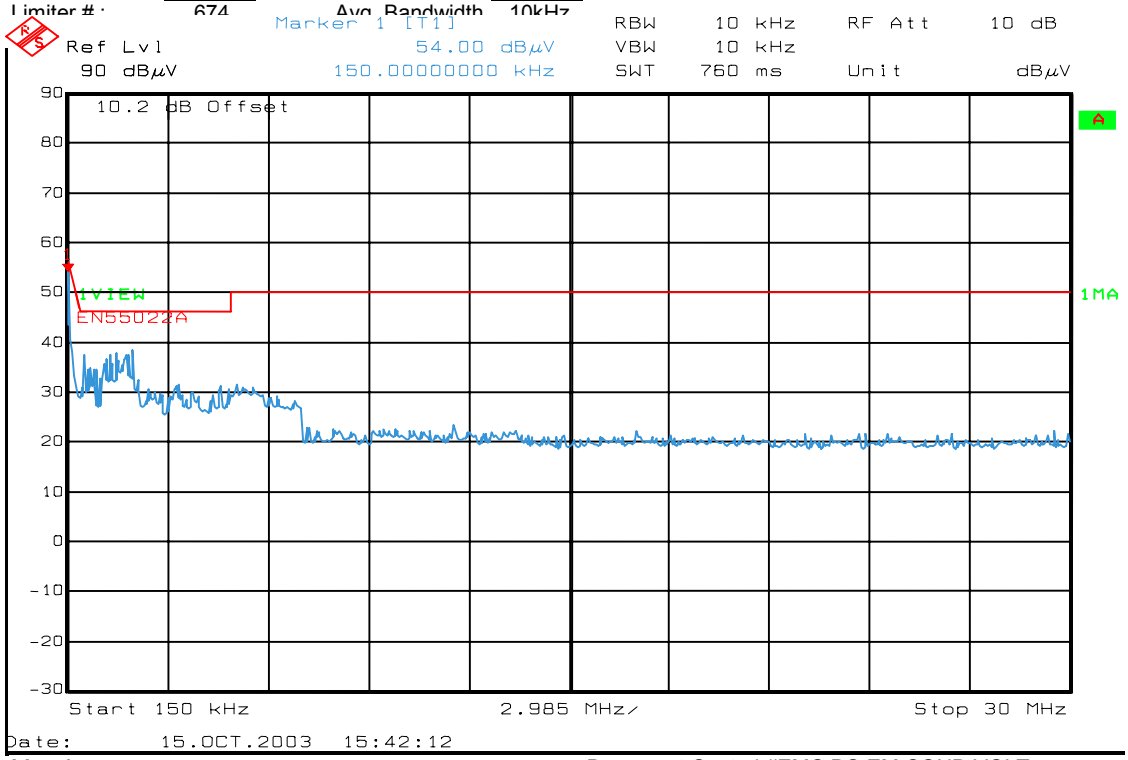
Test Data – Powerline Conducted Emissions

NEMKO Dallas, Inc.

Dallas Headquarters:
802 N. Kealy
Lewisville, TX 75057
Tel: (972) 436-9600
Fax: (972) 436-2667

Conducted Emissions
Powerline Voltage Measurement

Complete	X			Job # : 3L0353R	Test # : CE1
Preliminary				Page 1	of 2
Client Name :	SYCHIP				
EUT Name :	SDIO 802.11B Device				
EUT Config. :	In host PDA, Transmitting				
Specification :	15.247			Reference :	
Transducer # :	969	Temp. (deg. C) :	22	Date :	10/15/2003
HP Filter # :	1433	Humidity (%) :	36	Time :	15:00
Cable 1 # :	1547	EUT Voltage :	115	Staff :	Eldon Berry
Cable 2 # :	1129	EUT Frequency :	60	Location :	LAB 4
Detector 1 # :	1036	Peak Bandwidth:	10kHz	Photo ID:	NA
Detector 2 # :		QP Bandwidth	10kHz		
Limiter # :	674	Avg. Bandwidth	10kHz		



Line 1 Document Control #EMC DS EM COND VOLT

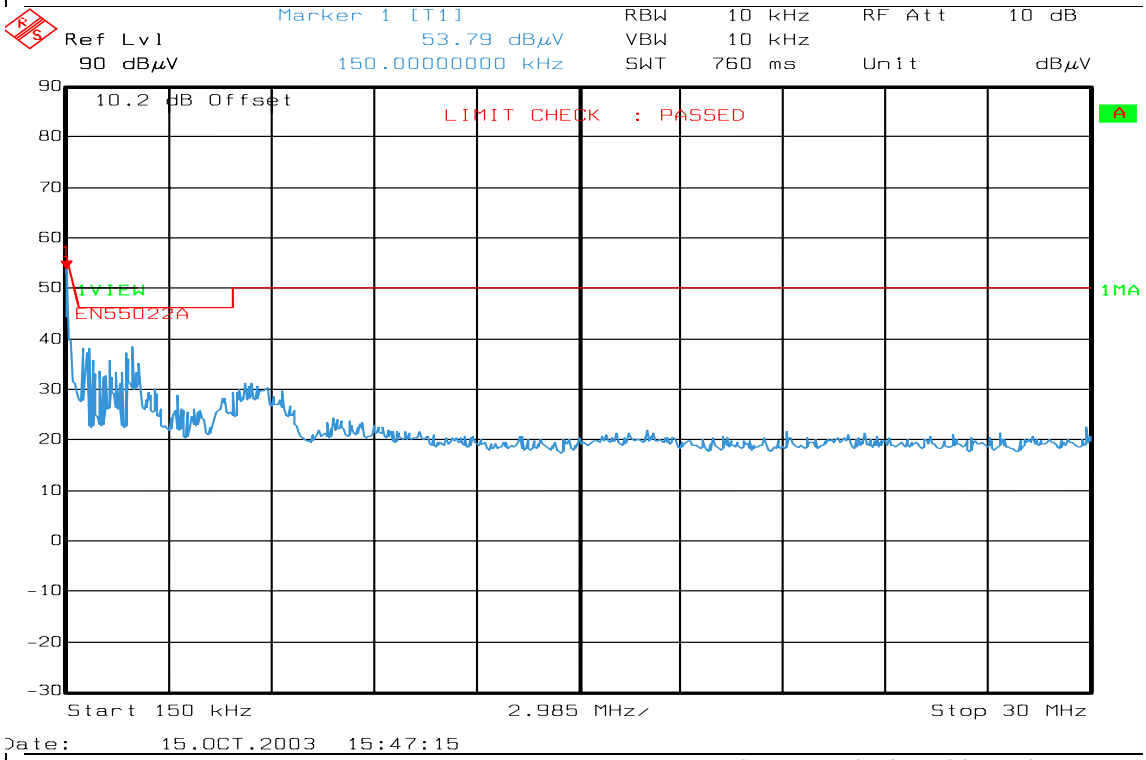
Test Data – Powerline Conducted Emissions

Conducted Emissions
Powerline Voltage Measurement

Complete	X	Job # : 3L0353R	Test # : CE1
Preliminary		Page 2	of 2

Client Name : SYCHIP
EUT Name : SDIO 802.11B Device
EUT Model # :
EUT Part # :
EUT Serial # :
EUT Config. : In host PDA, Transmitting

Specification : 15.247 Reference :

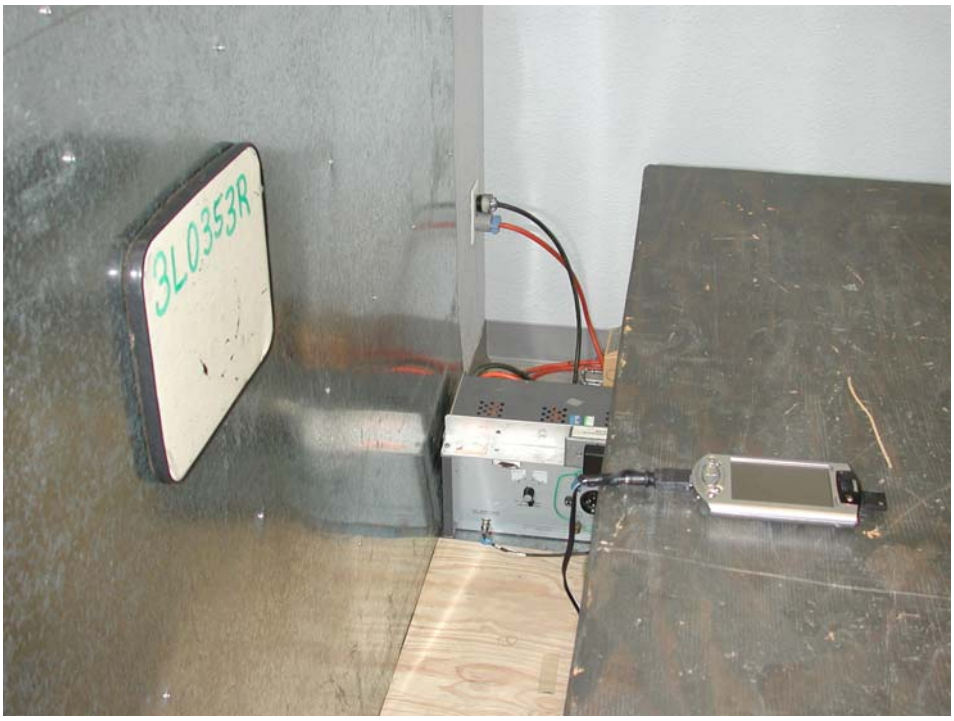


Line 2 Document Control #EMC DS EM COND VOLT

Photos – Powerline Conducted Emissions

Front

Rear



Section 4. Minimum 6 dB Bandwidth

NAME OF TEST: Minimum 6 dB Bandwidth	PARA. NO.: 15.247(a)(2)
TESTED BY: Eldon Berry	DATE: 15Oct03

Test Results: Complies.

Measurement Data: See attached plots

Equipment Used: 1036, 1627, 1473

Measurement Uncertainty: +/- 1.7 dB

Temperature: 23 °C

Relative Humidity: 36 %

Test Plots-6 dB Bandwidth

Data Plot **6 dB Bandwidth**

Page 1 of 3 Complete X

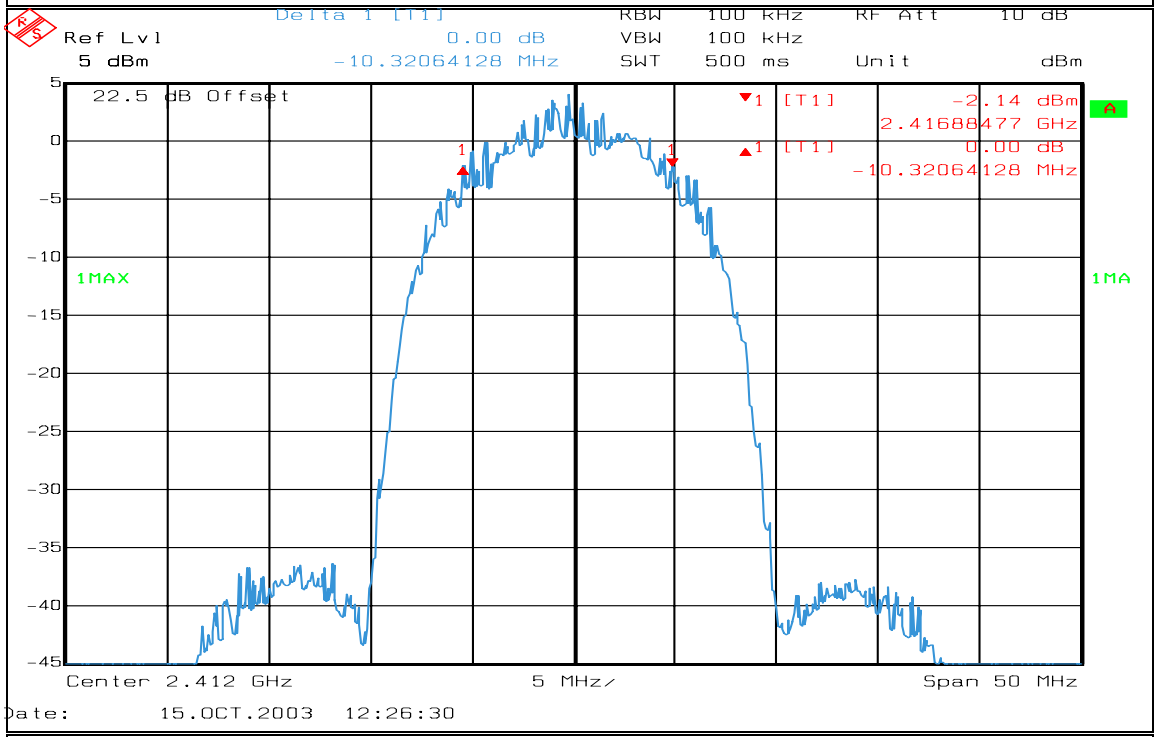
Job No.:	3L0353R	Date:	10/15/2003	Preliminary:	
Specification:	15.247(2)	Temperature(°C):	23		
Tested By:	Eldon Berry	Relative Humidity(%)	36		
E.U.T.:	802.11b Radio				
Configuration:	TX full power				
Sample Number:	S01				
Location:	Lab 1	RBW:	Refer to plots	Measurement	
Detector Type:	Peak	VBW:	Refer to plots	Distance:	m

Test Equipment Used

Antenna:		Directional Coupler:	
Pre-Amp:		Cable #1:	1627
Filter:		Cable #2:	
Receiver:	1036	Cable #3:	
Attenuator #1	1473	Cable #4:	
Attenuator #2:		Mixer:	

Additional equipment used:

Measurement Uncertainty: +/-1.7 dB

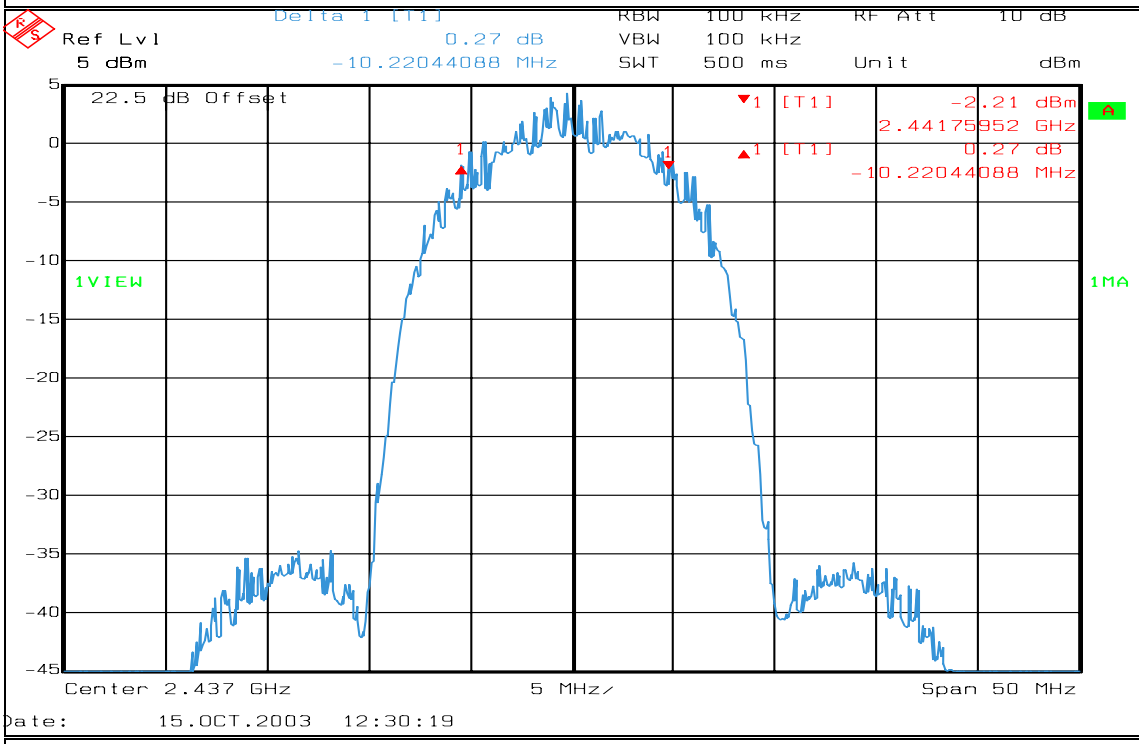


Notes: **Channel 1**

Data Plot **6 dB Bandwidth**

Page 2 of 3

Job No.:	3L0353R	Date:	10/15/2003
Specification:	15.247(2)	Temperature(°C):	23
Tested By:	Eldon Berry	Relative Humidity(%)	36
E.U.T.:	802.11b Radio		
Configuration:	TX full power		

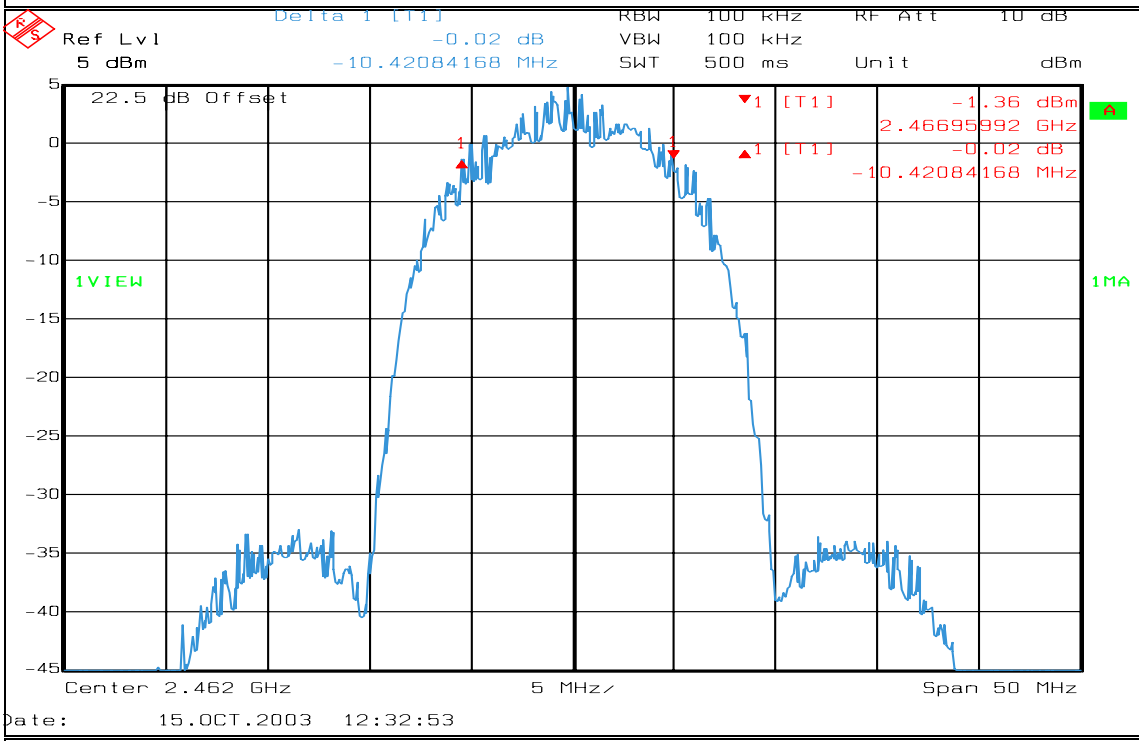


Notes: **Channel 6**

Data Plot **6 dB Bandwidth**

Page 3 of 3

Job No.:	3L0353R	Date:	10/15/2003
Specification:	15.247(2)	Temperature(°C):	23
Tested By:	Eldon Berry	Relative Humidity(%)	36
E.U.T.:	802.11b Radio		
Configuration:	TX full power		



Notes: **Channel 11**

Section 5. Maximum Peak Output Power

NAME OF TEST: Maximum Peak Output power	PARA. NO.: 15.247(b)(1)
TESTED BY: Eldon Berry	DATE: 15Oct03

Test Results: Complies.

Measurement Data:

Frequency (MHz)	Type	Output at Antenna Terminal (dBm)	Gain (dBi)	E.I.R.P. (dBm)
2412	Integral	14.37	3	17.37
2437	Integral	14.34	3	17.34
2462	Integral	14.90	3	17.90
Peak power output (EIRP): 61.66 mW				

Note – The device was tested at +/- 15% supply voltage to host with no effect to output power.

Equipment Used: 1036, 1627, 1473

Measurement Uncertainty: +/- 0.7 dB

Temperature: 23 °C

Relative Humidity: 36 %

Section 6. RF Exposure

NAME OF TEST: RF Exposure	PARA. NO.: 15.247(b)(4)

Test Results: See Separate SAR report.

Measurement Data:

See separate report for Body worn SAR.

Section 7. Spurious Emissions (conducted)

NAME OF TEST: Spurious Emissions (conducted)	PARA. NO.: 15.247(c)
TESTED BY: Eldon Berry	DATE: 15Oct03

Test Results: Complies.

Measurement Data: See attached plots.

Equipment Used: 1036, 1627, 1473

Measurement Uncertainty: +/- 0.7 dB

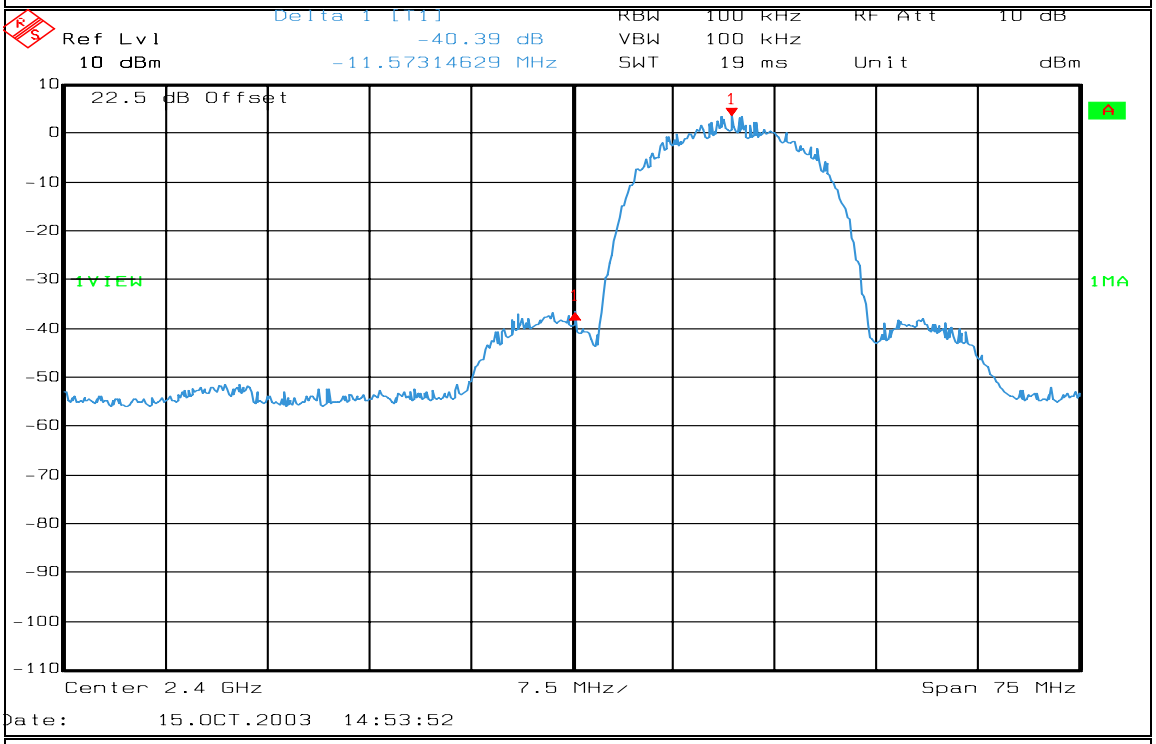
Temperature: 23 °C

Relative Humidity: 36 %

Test Plots-Spurious Emissions at Antenna Terminal

Test Plot: **Spurious Emissions at Antenna Terminals**

Page 1 of 1 3
Job No.: 3L0353R Date: 10/15/2003
Specification: 15.247 © Temperature(°C): 23
Tested By: Eldon Berry Relative Humidity(%) 36
E.U.T.: 802.11b Radio
Configuration: TX full power



Notes: **Channel 1, lower band edge**

Data Plot — Spurious Emissions at Antenna Terminals

Page 1 of 3

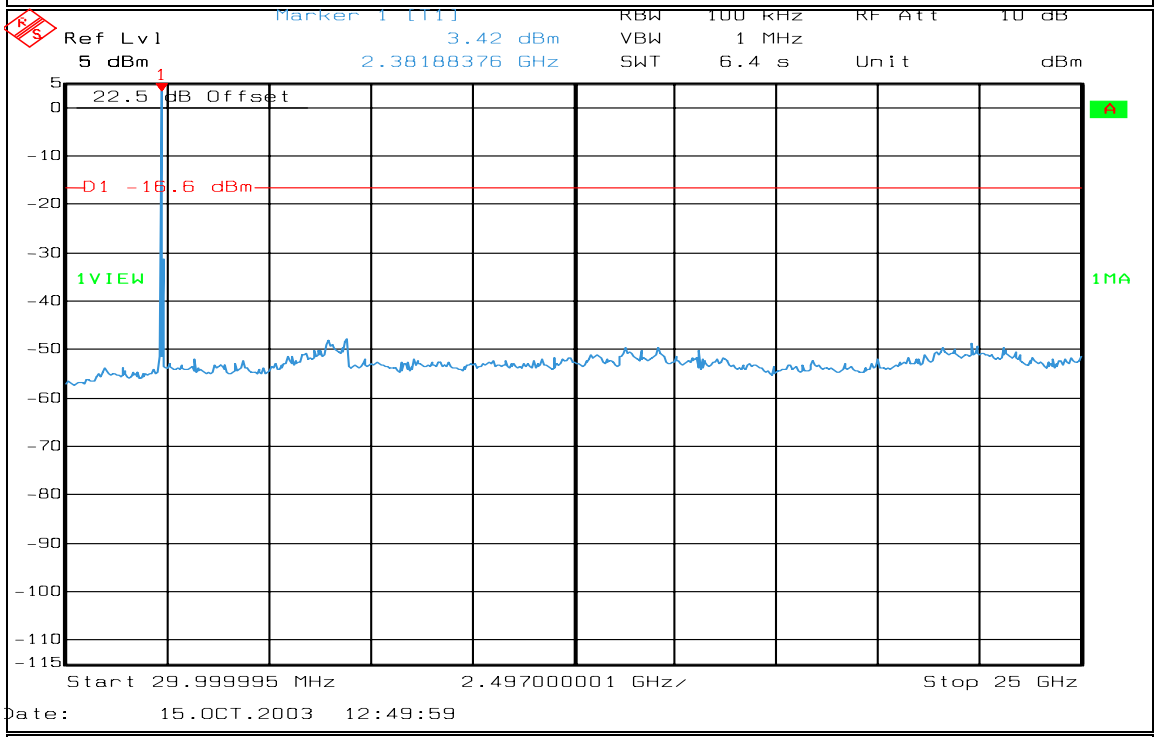
Job No.:	3L0353R	Date:	10/15/2003	Complete	X
Specification:	15.247 ©	Temperature(°C):	23	Preliminary:	
Tested By:	Eldon Berry	Relative Humidity(%)	36		
E.U.T.:	802.11b Radio				
Configuration:	TX full power				
Sample Number:	S01				
Location:	Lab 1	RBW:	Refer to plots	Measurement	
Detector Type:	Peak	VBW:	Refer to plots	Distance:	m

Test Equipment Used

Antenna:		Directional Coupler:	
Pre-Amp:		Cable #1:	1627
Filter:		Cable #2:	
Receiver:	1036	Cable #3:	
Attenuator #1	1473	Cable #4:	
Attenuator #2:		Mixer:	

Additional equipment used:

Measurement Uncertainty: +/-1.7 dB

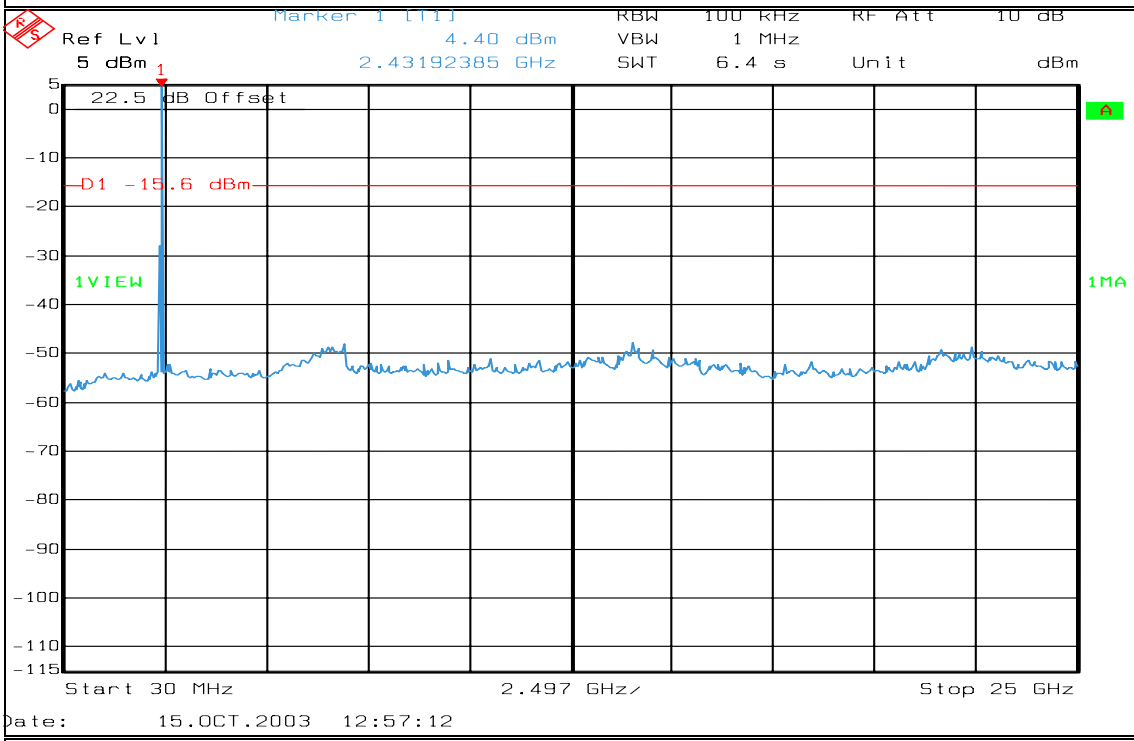


Notes: **Channel 1, CF = 2412 MHz.**
Display line = -20 dBc

Data Plot **Spurious Emissions at Antenna Terminals**

Page 2 of 3

Job No.:	3L0353R	Date:	10/15/2003
Specification:	15.247 ©	Temperature(°C):	23
Tested By:	Eldon Berry	Relative Humidity(%)	36
E.U.T.:	802.11b Radio		
Configuration:	TX full power		

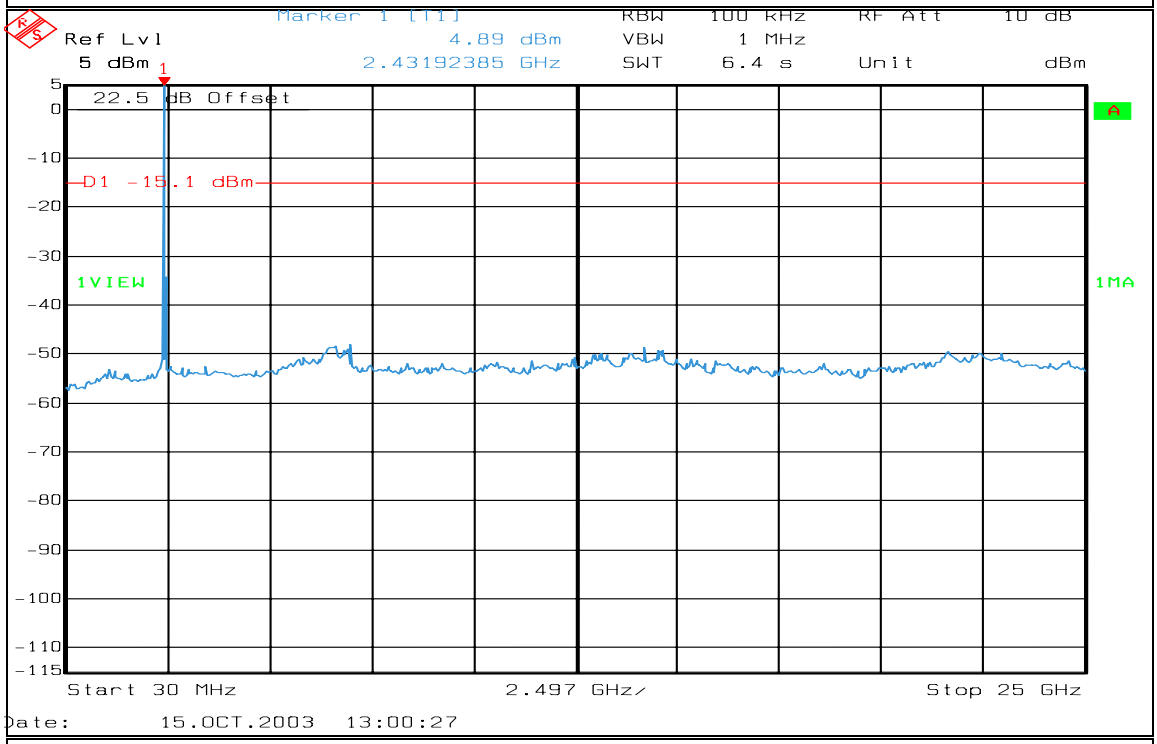


Notes: **Channel 6, CF = 2437 MHz.**
Display line = -20 dBc

Data Plot **Spurious Emissions at Antenna Terminals**

Page 3 of 3

Job No.:	3L0353R	Date:	10/15/2003
Specification:	15.247 ©	Temperature(°C):	23
Tested By:	Eldon Berry	Relative Humidity(%)	36
E.U.T.:	802.11b Radio		
Configuration:	TX full power		



Notes: **Channel 11, CF = 2462 MHz.**
Display line = -20 dBc

Section 8. Spurious Emissions (radiated)

NAME OF TEST: Spurious Emissions (radiated)	PARA. NO.: 15.247 (c)
TESTED BY: Eldon Berry	DATE: 13Oct03

Test Results: Complies.

Measurement Data: See attached table.

Duty Cycle Calculation:

Duty Cycle correction factor (dB) = 20 log (rf_{ON} in ms/100ms)

No duty cycle.

Note – The device was tested on three axis'.

Test Data – Radiated Emissions

Nemko Dallas, Inc.

Dallas Headquarters:
802 N. Kealy
Lewisville, TX 75057
Tel: (972) 436-9600
Fax: (972) 436-2667

Radiated Emissions

Page 1 of 2

Job No.:	3L0353R	Date:	10/13/2003
Specification:	15.247	Temperature(°C):	22
Tested By:	Eldon Berry	Relative Humidity(%)	41
E.U.T.:	SDIO 802.11B DEVICE		
Configuration:	TX FULL POWER		
Sample Number:	1		
Location:	AC 3	RBW:	1 MHz
Detector Type:	Peak	VBW:	1 MHz

Test Equipment Used

Antenna:	1304	Directional Coupler:	#N/A
Pre-Amp:	1016	Cable #1:	1484
Filter:	1482	Cable #2:	1485
Receiver:	1464	Cable #3:	#N/A
Attenuator #1	1473	Cable #4:	#N/A
Attenuator #2:	#N/A	Mixer:	#N/A

Measurement Uncertainty: +/- 3.7 dB

Frequency (GHz)	Meter Reading (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Pre-Amp Gain (dB)	Corrected Reading (dBuV/m)	Limit (dBuV/m)	Delta (dB)	Comment
								Channel 11
2.4835	45	28.9	3.1	12.6	64.4	74	-9.6	Horizontal-Peak
2.4835	32.8	28.9	3.1	12.6	52.2	54	-1.8	Horizontal-Average
4.924	44	33.9	4.7	32.7	49.9	54	-4.1	Horizontal-Average
7.386	43	36.7	6.1	32.5	53.3	54	-0.7	Horizontal-Average
12.31	46.3	42.1	8.3	35.1	61.6	74	-12.4	Horizontal-Peak
12.31	32.8	42.1	8.3	35.1	48.1	54	-5.9	Horizontal-Average
2.4835	44.2	28.9	3.1	12.6	63.6	74	-10.4	Vertical-Peak
2.4835	33	28.9	3.1	12.6	52.4	54	-1.6	Vertical-Average
4.9240	43.8	33.9	4.7	32.7	49.7	54	-4.3	Vertical-Average
7.386	43.2	36.7	6.1	32.5	53.5	54	-0.5	Vertical-Average
12.31	46.5	42.1	8.3	35.1	61.8	74	-12.2	Vertical-Peak
12.31	32.8	42.1	8.3	35.1	48.1	54	-5.9	Vertical-Average

Notes: **Scanned 30 MHz to 25 GHz**

Test Data – Radiated Emissions

Radiated Spurious Emissions

Page 2 of 2 **Continuation Page**

Job No.: 3L0353R Date: 10/13/2003

Specification: CFR 47, Part 15 Temperature(°C): 22

Tested By: Eldon Berry Relative Humidity(%) 41

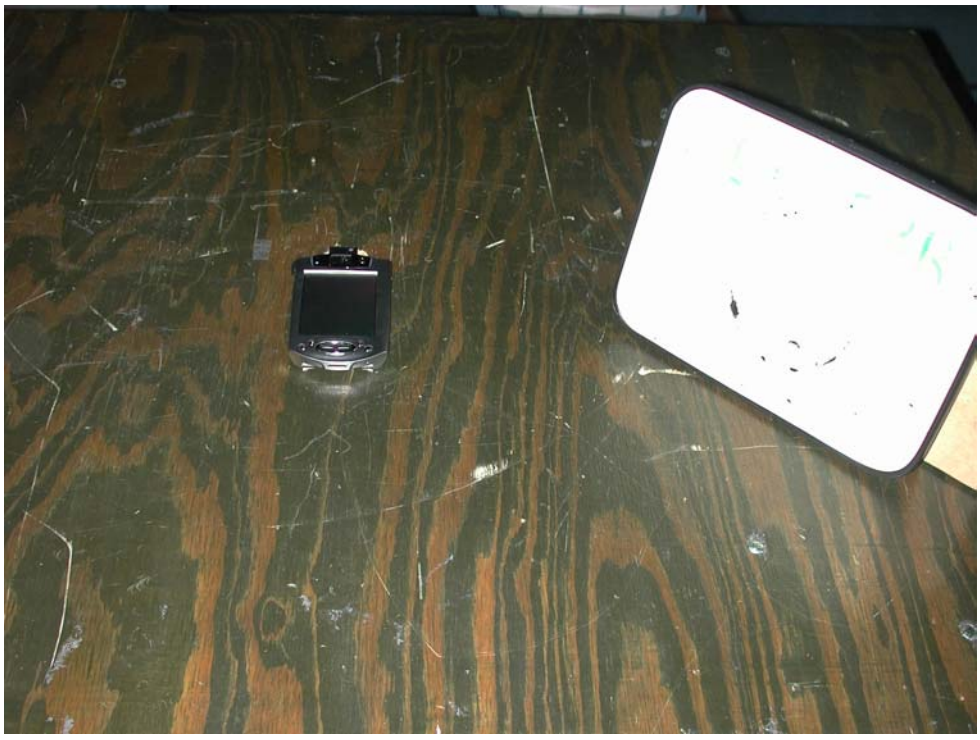
E.U.T.: SDIO 802.11B DEVICE

Configuration: TX FULL POWER

Frequency (GHz)	Meter Reading (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Pre-Amp Gain (dB)	Corrected Reading (dBuV/m)	Limit (dBuV/m)	Delta (dB)	Comment
								Channel 6
4.874	46.3	33.9	4.7	32.7	52.2	54	-1.8	Vertical-Peak
7.311	43.5	36.8	6.1	32.5	53.9	74	-20.1	Vertical-Peak
7.311	30.5	36.8	6.1	32.5	40.9	54	-13.1	Vertical-Average
12.185	45.5	42.1	8.3	35.1	60.8	74	-13.2	Vertical-Peak
12.185	31.7	42.1	8.3	35.1	47.0	54	-7.0	Vertical-Average
4.874	45.2	33.9	4.7	32.7	51.1	54	-2.9	Horizontal-Peak
7.311	43.7	36.8	6.1	32.5	54.1	74	-19.9	Horizontal-Peak
7.311	30.5	36.8	6.1	32.5	40.9	54	-13.1	Horizontal-Average
12.185	45.5	42.1	8.3	35.1	60.8	74	-13.2	Horzontal-Peak
12.185	31.7	42.1	8.3	35.1	47.0	54	-7.0	Horizontal-Average
								Channel 1
4.824	43.8	33.9	4.7	32.7	49.7	54	-4.3	Horizontal-Peak
12.060	44.7	42.1	8.3	35	60.1	74	-13.9	Horizontal-Peak
12.060	33.2	42.1	8.3	35	48.6	54	-5.4	Horizontal-Average
14.472	42.8	41.4	8.5	32.4	60.3	74	-13.7	Horizontal-Peak
14.472	31.8	41.4	8.5	32.4	49.3	54	-4.7	Horzonal-Average
4.824	45.5	33.9	4.7	32.7	51.4	54	-2.6	Vertical-Peak
12.060	45.8	42.1	8.3	35	61.2	74	-12.8	Vertical-Peak
12.060	33.0	42.1	8.3	35	48.4	54	-5.6	Vertical-Average
14.472	43.7	41.4	8.5	32.4	61.2	74	-12.8	Vertical-Peak
14.472	31.8	41.4	8.5	32.4	49.3	54	-4.7	Vertical-Average
Notes:	Scanned 30 MHz to 25 GHz							

If PEAK measurement met the AVERAGE limit, then an AVERAGE measurement was not taken.

Radiated Photographs



Section 9. Peak Power Spectral Density

NAME OF TEST: Peak Power Spectral Density	PARA. NO.: 15.247(d)
TESTED BY: Eldon Berry	DATE: 15Oct03

Test Results: Complies.

Measurement Data: See attached plots.

Equipment Used: 1036, 1627, 1473

Measurement Uncertainty: +/- 0.7 dB

Temperature: 23 °C

Relative Humidity: 36 %

Test Plots – Spectral Density

Data Plot **Peak Power Spectral Density**

Page 1 of 3 Complete X

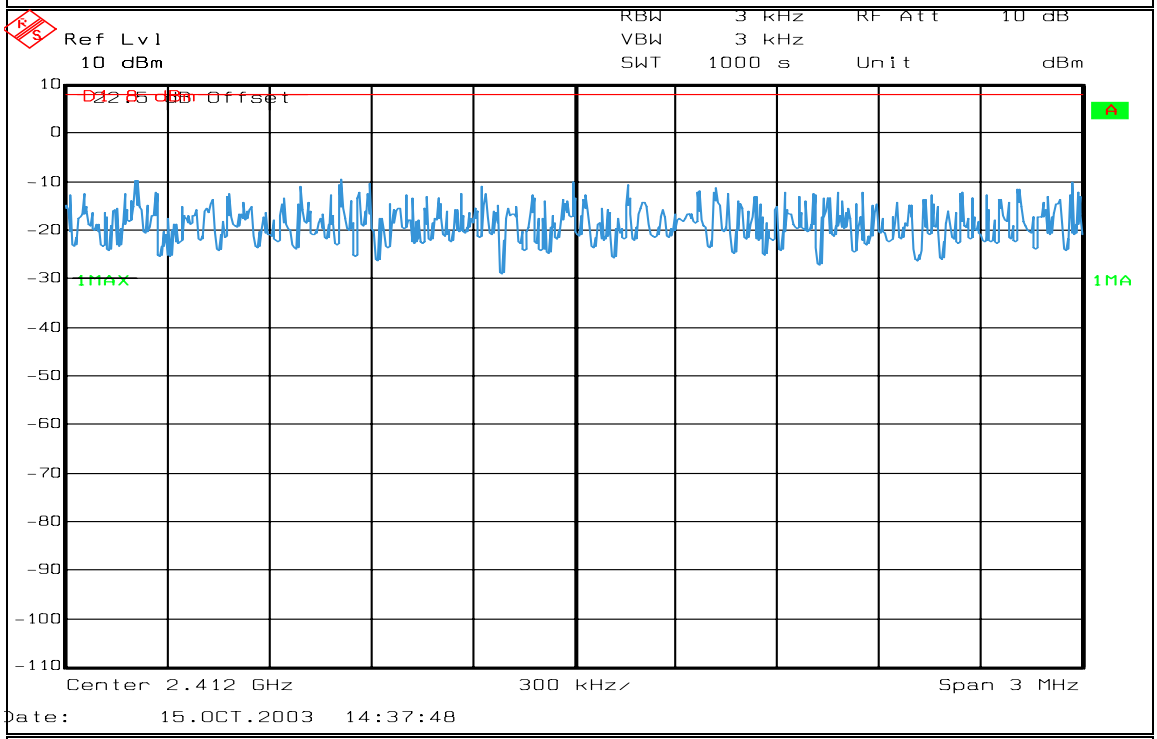
Job No.:	3L0353R	Date:	10/15/2003	Preliminary:	
Specification:	15.247 ©	Temperature(°C):	23		
Tested By:	Eldon Berry	Relative Humidity(%)	36		
E.U.T.:	802.11b Radio				
Configuration:	TX full power			a	
Sample Number:	S01				
Location:	Lab 1	RBW:	Refer to plots	Measurement	
Detector Type:	Peak	VBW:	Refer to plots	Distance:	m

Test Equipment Used

Antenna:		Directional Coupler:	
Pre-Amp:		Cable #1:	1627
Filter:		Cable #2:	
Receiver:	1036	Cable #3:	
Attenuator #1	1473	Cable #4:	
Attenuator #2:		Mixer:	

Additional equipment used:

Measurement Uncertainty: +/-1.7 dB

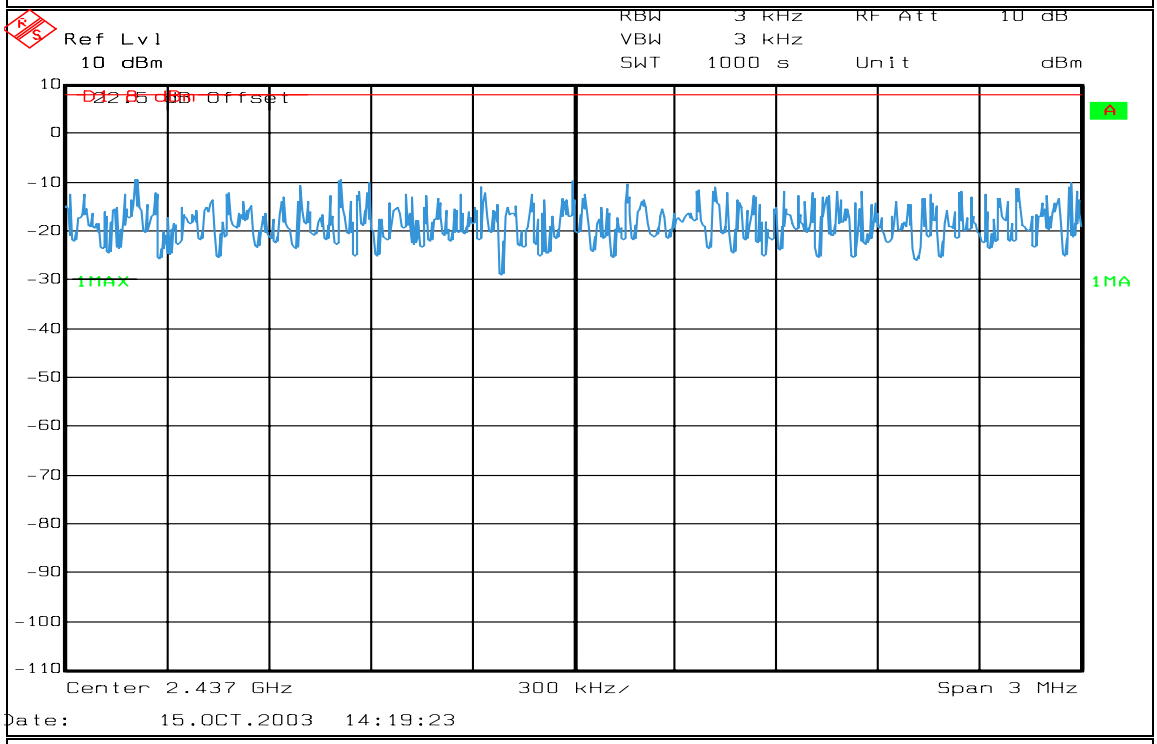


Notes: **Channel 1, CF = 2412 MHz.**

Data Plot **Peak Power Spectral Density**

Page 2 of 3

Job No.:	3L0353R	Date:	10/15/2003
Specification:	15.247 ©	Temperature(°C):	23
Tested By:	Eldon Berry	Relative Humidity(%)	36
E.U.T.:	802.11b Radio		
Configuration:	TX full power		

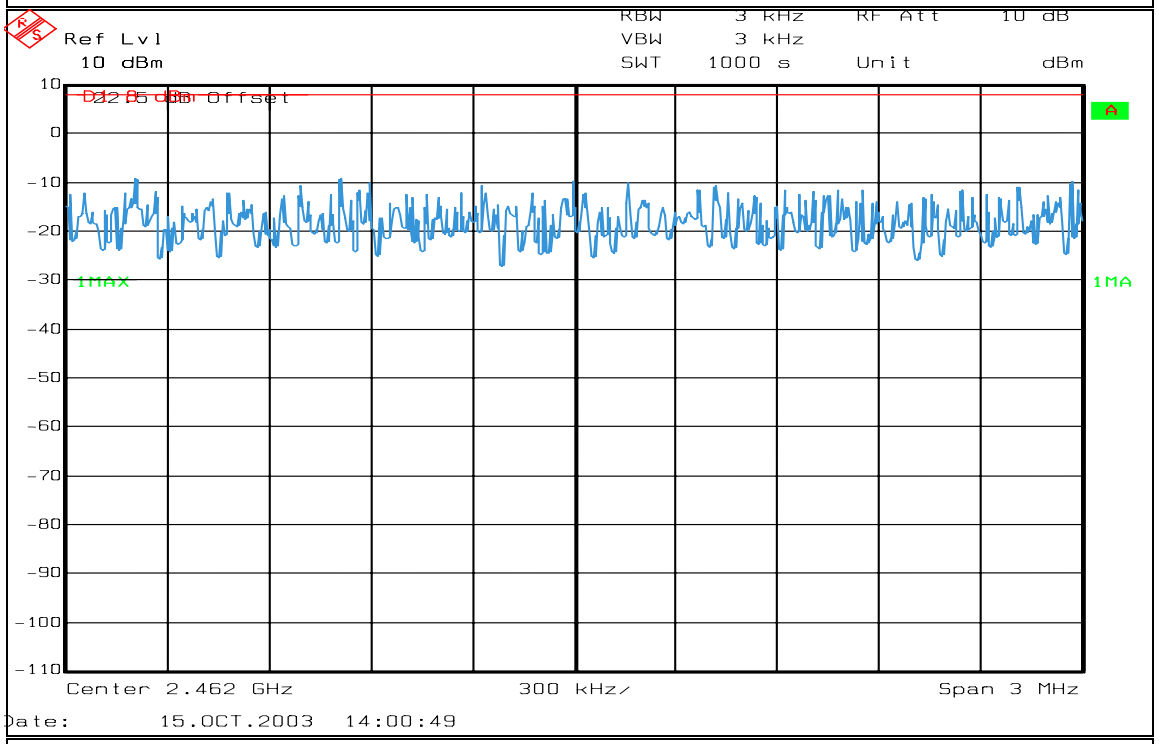


Notes: **Channel 6, CF = 2437 MHz.**

Data Plot **Peak Power Spectral Density**

Page 3 of 3

Job No.:	3L0353R	Date:	10/15/2003
Specification:	15.247 ©	Temperature(°C):	23
Tested By:	Eldon Berry	Relative Humidity(%)	36
E.U.T.:	802.11b Radio		
Configuration:	TX full power		



Notes: **Channel 11, CF = 2462 MHz.**

Section 10. Test Equipment List

Nemko ID	Description	Manufacturer Model Number	Serial Number	Calibration Date	Calibration Due
674	LIMITER	HP 11947A	3107A02200	CBU Verified 10/15	NA
969	lisn	Schwarzbeck 8120	8120281	08/01/03	07/31/04
1016	Pre-Amp	HEWLETT PACKARD 8449A	2749A00159	09/02/03	09/02/04
1036	SPECTRUM ANALYZER	ROHDE & SCHWARZ FSEK30	830844/006	12/18/01	12/19/03
1129	CABLE, 9.5m	KTL RG58	N/A	06/18/03	06/17/04
1304	HORN ANTENNA	ELECTRO METRICS RGA-60	6151	09/22/03	09/22/05
1433	High pass filter	Solar 7930-5.0	933142	02/24/03	02/24/04
1464	Spectrum analyzer	Hewlett Packard 8563E	3551A04428	02/11/03	02/11/05
1473	20db Attenuator DC 18 Ghz	Midwest Microwave 290-20db	NONE	CBU Verified 10/15	N/A
1482	Band Pass Filter	K & L 11SH10-4000/T12000-0/0	2	CBU Verified 10/15	N/A
1484	Cable 2.0-18.0 Ghz	Storm PR90-010-072	N/A	07/24/03	07/23/04
1485	Cable 2.0-18.0 Ghz	Storm PR90-010-216	N/A	07/24/03	07/23/04
1547	CABLE .6m	KTL RG223	N/A	09/15/03	09/14/04
1627	CABLE, 5 ft	MEGAPHASE 10312 1GVT4	N/A	07/29/03	07/28/04
283	Environmental Chamber with controller # 1189006	ENVIROTRONICS SH27 & 2030-22844	129010083	04/22/03	04/21/04

ANNEX A - TEST DETAILS

NAME OF TEST: Powerline Conducted Emissions	PARA. NO.: 15.207(a)

Minimum Standard: The R.F. that is conducted back onto the AC power line on any frequency within the band 0.45 to 30 MHz shall not exceed 250μV (48 dBμV) across 50 ohms.

NAME OF TEST: Minimum 6 dB bandwidth	PARA. NO.: 15.247(a)(2)

Minimum Standard: The minimum 6 dB bandwidth shall be at least 500 kHz

NAME OF TEST: Maximum Peak Output Power	PARA. NO.: 15.247(b)(1)

Minimum Standard: The maximum peak output power shall not exceed 1 watt.

If transmitting antennas of directional gain greater than 6 dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Systems operating in the 2400-2483.5 MHz band that are used exclusively for fixed, point to point operation may employ transmitting antennas with directional gain greater than 6 dBi provided the maximum peak output power is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceed 6 dBi.

Systems operating in the 5725 – 5850 MHz band that are used exclusively for fixed, point-to-point operation may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter peak output power.

Direct Measurement Method For Detachable Antennas:
If the antenna is detachable, a peak power meter is used to measure the power output with the transmitter operating into a 50 ohm load. The dBi gain of the antenna(s) employed shall be reported.

Calculation Of EIRP For Integral Antenna:
If the antenna is not detachable from the circuit then the Peak Power Output is derived from the peak radiated field strength of the fundamental emission by using the plane wave relation $GP/4\pi R^2 = E^2/120\pi$ and proceeding as follows:

$$P = \frac{E^2 R^2}{30G} = \frac{E^2 3^2}{30G}$$

where,

P = the equivalent isotropic radiated power in watts
E = the maximum measured field strength in V/m
R = the measurement range (3 meters)
G = the numeric gain of the transmit antenna in relation to an isotropic radiator

The RBW of the spectrum analyzer shall be set to a value greater than the measured 6 dB occupied bandwidth of the E.U.T.

Number of channels tested:

Tuning range	Number of channels tested	Channel location in band
1 MHz or less	1	middle
1 to 10 MHz	2	top and bottom
more than 10 MHz	3	top, middle, bottom

NAME OF TEST: RF Exposure	PARA. NO.: 15.247(b)(4)

Minimum Standard: Systems operating under the provisions of this section shall be operated in a manner that ensures the public is not exposed to radio frequency energy levels in excess of the Commission's guidelines stipulated in 1.1307(b)(1) of CFR 47.

NAME OF TEST: Spurious Emissions(conducted) PARA. NO.: 15.247(c)

Minimum Standard: In any 100kHz bandwidth outside the frequency band in which the transmitter is operating, emissions shall be at least 20 dB below the fundamental emission or shall not exceed the following field strength limits. Emissions falling in the restricted bands of 15.205 shall not exceed the following field strength limits:

Frequency (MHz)	Field Strength (μV/m @ 3m)	Field Strength (dB @ 3m)
30 - 88	100	40.0
88 - 216	150	43.5
216 - 960	200	46.0
Above 960	500	54.0

THE SPECTRUM IS SEARCHED TO THE 10th HARMONIC OF THE HIGHEST FREQUENCY GENERATED IN THE EUT.

Method Of Measurement:

30 MHz - 10th harmonic plot
RBW: 100 kHz
VBW: 300 kHz
Sweep: Auto
Display line: -20 dBc

Lower Band Edge
RBW: At least 1% of span/div.
VBW: >RBW
Span: As necessary to display any spurious at band edge.
Sweep: Auto
Center Frequency: 902 MHz, 2400 MHz, or 5725 MHz
Marker: Peak of fundamental emission
Marker Δ: Peak of highest spurious level below center frequency.

Upper Band Edge
RBW: At least 1% of span/div.
VBW: >RBW
Span: As necessary to display any spurious at band edge.
Sweep: Auto
Center Frequency: 928 MHz, 2483.5 MHz, or 5850 MHz
Marker: Peak of fundamental emission
Marker Δ: Peak of highest spurious level above center frequency.

Number of channels tested:

Tuning range	Number of channels tested	Channel location in band
1 MHz or less	1	middle
1 to 10 MHz	2	top and bottom
more than 10 MHz	3	top, middle, bottom

NAME OF TEST: Radiated Spurious Emissions PARA. NO.: 15.247(c)

Minimum Standard: In any 100kHz bandwidth outside the frequency band in which the transmitter is operating, emissions shall be at least 20 dB below the fundamental emission or shall not exceed the following field strength limits:

Emissions falling in the restricted bands of 15.205 shall not exceed the following field strength limits:

Frequency (MHz)	Field Strength (µV/m @ 3m)	Field Strength (dB @ 3m)
30 - 88	100	40.0
88 - 216	150	43.5
216 - 960	200	46.0
Above 960	500	54.0

THE SPECTRUM WAS SEARCHED TO THE 10th HARMONIC

15.205 Restricted Bands

MHz	MHz	MHz	GHz
0.09-0.11	16.42-16.423	399.9-410	4.5-5.25
0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.125-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2655-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	Above 38.6
13.36-13.41	1718		

Number of channels tested:

Tuning range	Number of channels tested	Channel location in band
1 MHz or less	1	middle
1 to 10 MHz	2	top and bottom
more than 10 MHz	3	top, middle, bottom

NAME OF TEST: Transmitter Power Density	PARA. NO.: 15.247(d)

Minimum Standard: The transmitted power density averaged over any 1 second interval shall not be greater than +8 dBm in any 3 kHz bandwidth.

Method Of Measurement: The spectrum analyzer is set as follows:

RBW: 3 kHz
VBW: >3 kHz
Span: => measured 6 dB bandwidth
Sweep: Span(kHz)/3 (i.e. for a span of 1.5 MHz the sweep rate is 1500/3 = 500 sec.
LOG dB/div.: 2 dB

Note: For devices with spectrum line spacing =< 3 kHz, the RBW of the analyzer is reduced until the spectral lines are resolved. The measurement data is normalized to 3 kHz by summing the power of all the individual spectral lines within a 3 kHz band in linear power units.

For Devices With Integral Antenna:

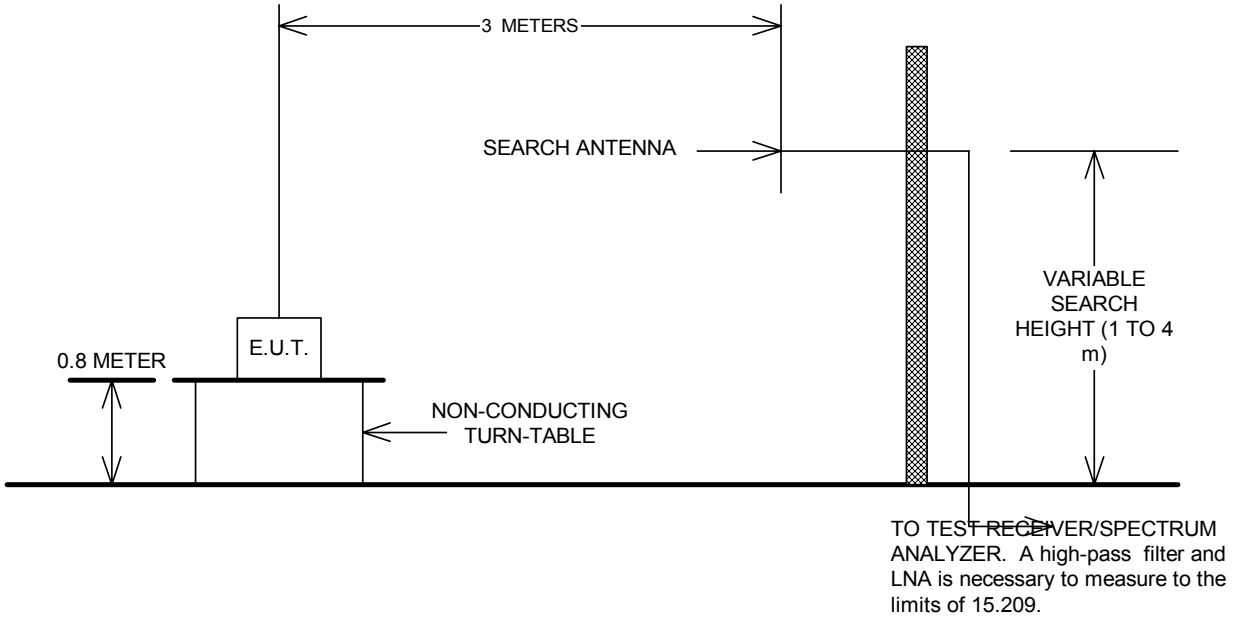
For devices with non-detachable antennas, the received field strength is peaked and the spectrum analyzer is set as above. The peak emission level is then measured and converted to a field strength by adding the appropriate antenna factor and cable loss. This field strength is then converted to an equivalent isotropic radiated power using the same method as described for Peak Power output.

Number of channels tested:

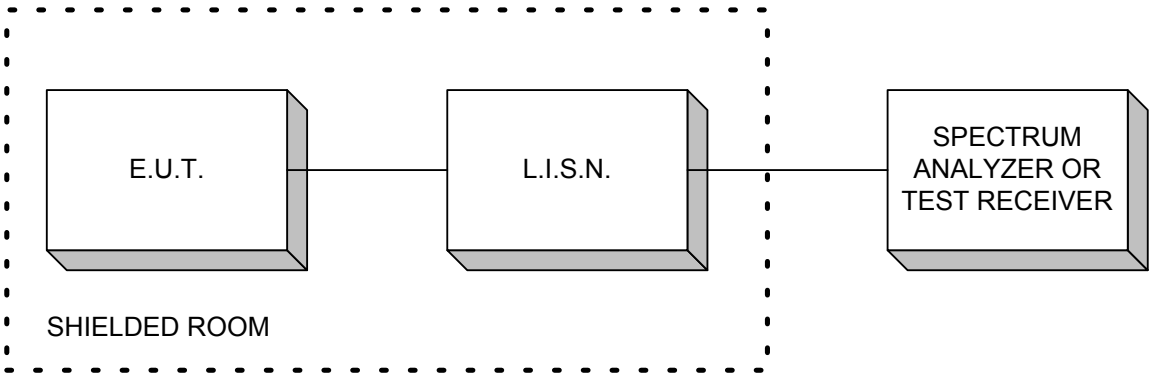
Tuning Range	Number Of Channels Tested	Channel Location In Band
1 MHz or Less	1	Middle
1 to 10 MHz	2	Top And Bottom
More Than 10 MHz	3	Top, Middle, Bottom

ANNEX B - TEST DIAGRAMS

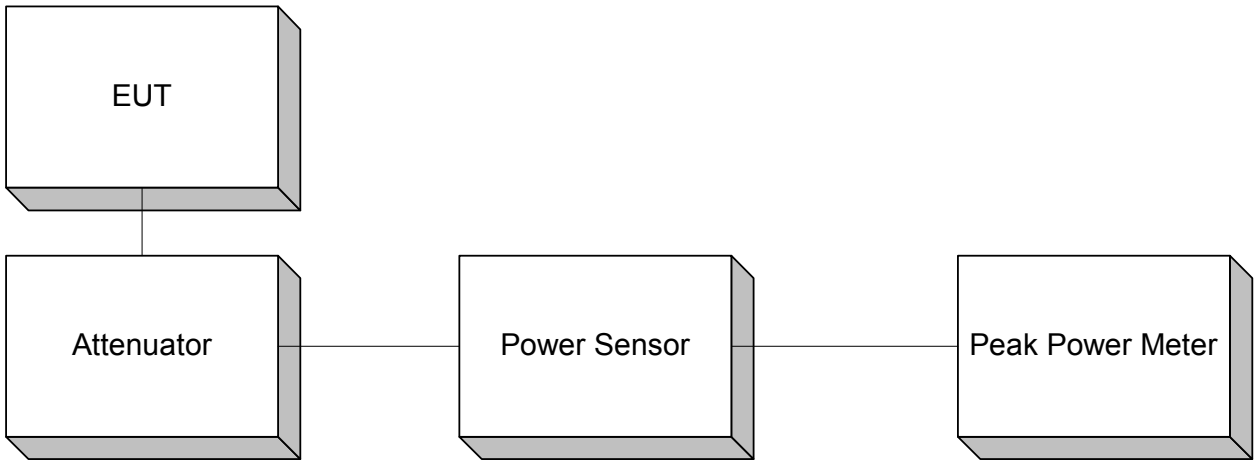
Test Site For Radiated Emissions



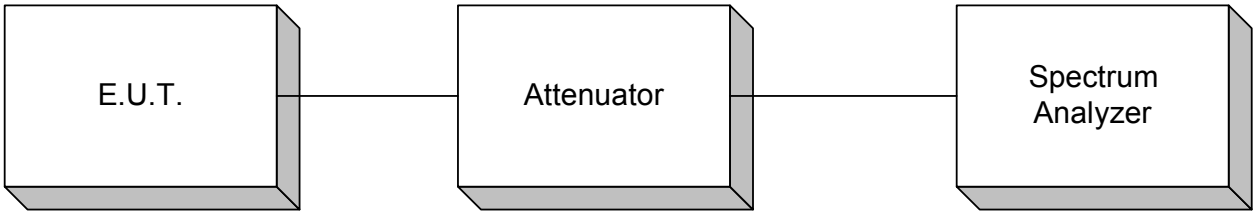
Conducted Emissions



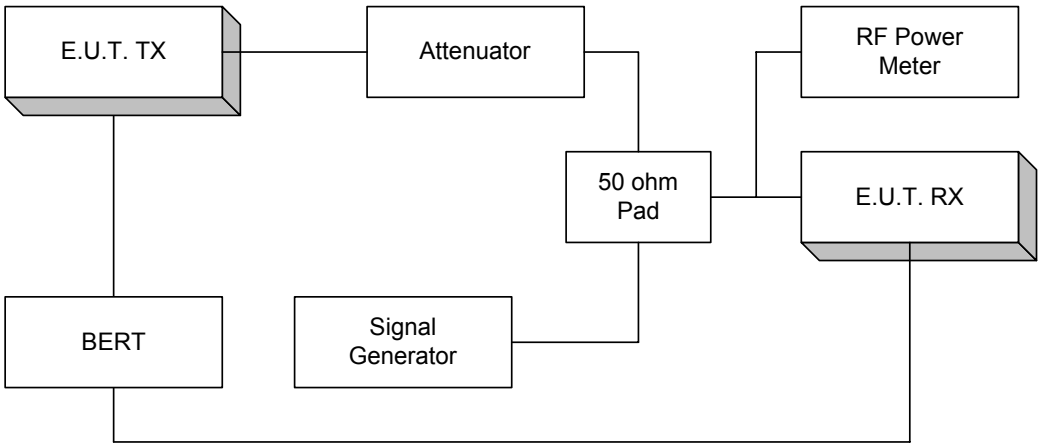
Peak Power At Antenna Terminals



Minimum 6 dB Bandwidth
Peak Power Spectral Density
Spurious Emissions (conducted)



Processing Gain



NOTE: This is a typical setup. The setup may vary slightly since many devices have BER test functions built into the device.