Nemko Test Report:	6L0264RUS1
Applicant:	Alcatel U.S.A. 3400 West Plano Pkwy Plano, TX 75075 USA
Equipment Under Test: **(E.U.T.)**	MDR-8702U-16 MDR-8702U-8 MDR-8702U-4 MDR-8502U-8 MDR-8502U-4
In Accordance With:	**FCC Part 15, Subpart C, 15.247** Digital Transmission System Transmitter
Tested By:	Nemko USA Inc. 802 N. Kealy Lewisville, Texas 75057-3136
Authorized By:	 Kevin Rose Wireless Engineer
Date:	July 28, 2006

Total number of pages 54

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Section 1. Summary of Test Results

Manufacturer: Alcatel USA

Model No.: MDR-8X02U

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 Digital Transmission Systems. Radiated tests were conducted is accordance with ANSI C63.4-2003. 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.
See " Summary of Test Data".

NVLAP LAB CODE: 100426-0

Summary Of Test Data

NAME OF TEST	PARA. NO.	RESULT
Powerline Conducted Emissions	15.207(a)	Complies
Minimum 6 dB Bandwidth	15.247(a)(2)	Complies
Maximum Peak Power Output	15.247(b)(3)	Complies
Spurious Emissions (Antenna Conducted)	15.247(d)	Complies
Spurious Emissions (Restricted Bands)	15.247(d)	Complies
Peak Power Spectral Density	15.247(e)	Complies

Footnotes:

Capacity Justification

The change of capacity is done by replacing a hardware key which is physically located on the transmitter module. Changing in capacity key changes the shape of the anti-aliasing filter and does not affect digital emissions. Therefore this test can be performed at one capacity. Alcatel choose the highest capacity for the lowest and highest modulation bandwidths(16 DS1/128 TCM for 4 MHz channel and 4 DS1/32 TCM for 1 MHz channel) because they exercised the most DS1 lines.

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

General Equipment Information

Frequency Band:	2400 to 2483.5 MHz
Operating Frequencies of Sample:	2402.5 to 2480.375 MHz
Rated RF Output:	1 Watt fixed
6 dB Bandwidth:	4 MHz or 1.1 MHz
User Frequency Adjustment:	Single channel operation requiring hardware change for frequency adjustment or modulation bandwidth.

Description of EUT

Single channel 2.4 GHz point to point unlicensed transmitter.

System Diagram

Refer to separate exhibit.

Section 3. Powerline Conducted Emissions

NAME OF TEST: Powerline Conducted Emissions	PARA. NO.: 15.207(a)
TESTED BY: Brian Boyea	DATE: 23 July 2006

Test Results: Complies.

Measurement Data: See attached plots.

Measurement Uncertainty: +/- 1.7 dB

Equipment Used: 1188-704-1977-2076-966-1284-674

Measurement Uncertainty: +/- 1.7 dB

Temperature: 31 °C

Relative Humidity: 21 %

Test Data – Powerline Conducted Emissions

Specification :	CFR 47 Part 15 Subpart C, 15.207			Reference :	
Transducer # :	1188	Temp. (deg. C) :	31	Date :	07/23/06
HP Filter # :	704	Humidity (%) :	21	Time :	8:00 A.M.
Cable 1 # :	1977	EUT Voltage :	120 Vac	Staff :	Brian Boyea
Cable 2 # :	2076	EUT Frequency :	60 Hz	Location :	Lab 5
Detector 1 # :	966	Peak Bandwidth:	10kHz	Photo ID:	6L0264E CEPV-01
Detector 2 # :	1284	QP Bandwidth	9kHz		
Limiter # :	674	Avg. Bandwidth	9kHz		

Meas. Freq. (MHz)	EUT Test Point	Detector Type (P,QP, A)	Limit Type (QP, A)	Meter Reading (dBuV)	Path Loss (dB)	Transducer Factor (dB)	Corrected Reading (dBuV)	Spec.limit (dBuV) Q.P.	Spec.limit (dBuV) Avg.	CR/SL Diff. (dB)	Pass Fail Unc.	Comment
0.5	H	QP	QP	54.0	0	0	54.0	56	46	-2.0	Pass	
0.5	H	A	A	28.0	0	0	28.0	56	46	-18.0	Pass	
0.1502	H	QP	QP	57.3	0	0	57.3	65.99	55.989	-8.7	Pass	
0.1502	H	A	A	30.0	0	0	30.0	65.99	55.989	-26.0	Pass	
0.503	N	QP	QP	55.5	0	0	55.5	56	46	-0.5	Pass	
0.503	N	A	A	29.0	0	0	29.0	56	46	-17.0	Pass	
0.15	N	QP	QP	58.0	0	0	58.0	66	56	-8.0	Pass	
0.15	N	A	A	30.5	0	0	30.5	66	56	-25.5	Pass	

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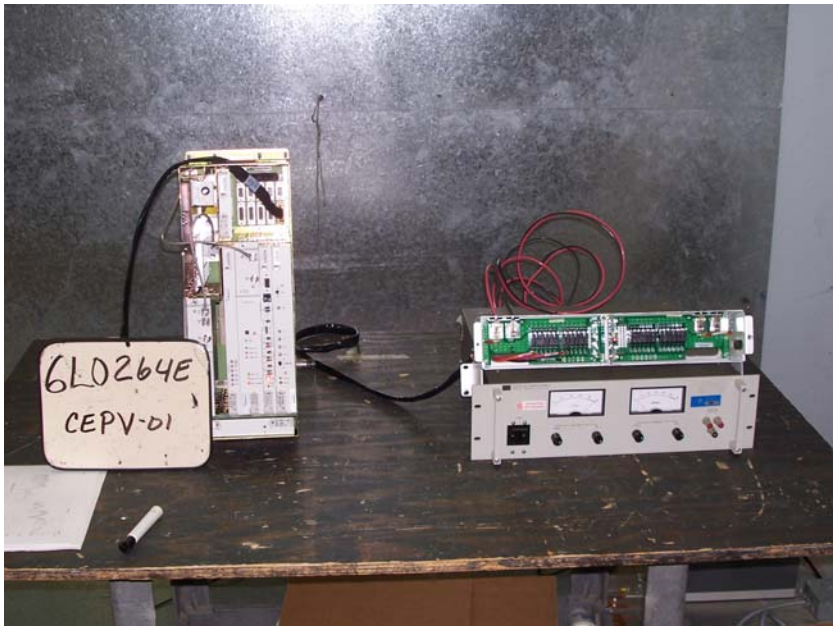
Photos – Powerline Conducted Emissions

Front



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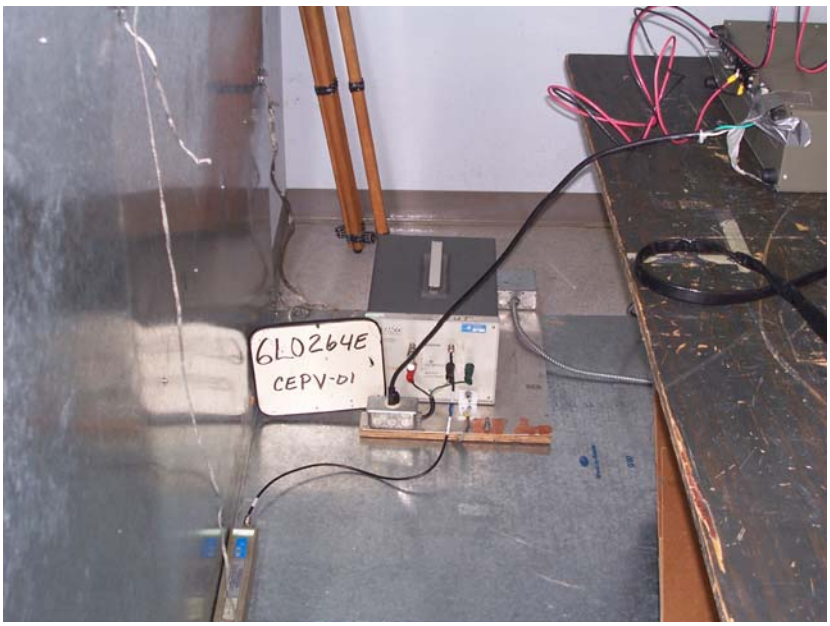


Section 4. Occupied Bandwidth

NAME OF TEST: Occupied Bandwidth	PARA. NO.: 15.247(a)(2)
TESTED BY: David Light	DATE: 26 July 2006

Test Results: Complies.

Measurement Data: See 6 dB BW plot

Measured 6 dB bandwidth: 4.12 MHz or 1.1 MHz Dependent on module installed.

Equipment Used: 1082-1659-1604-1471

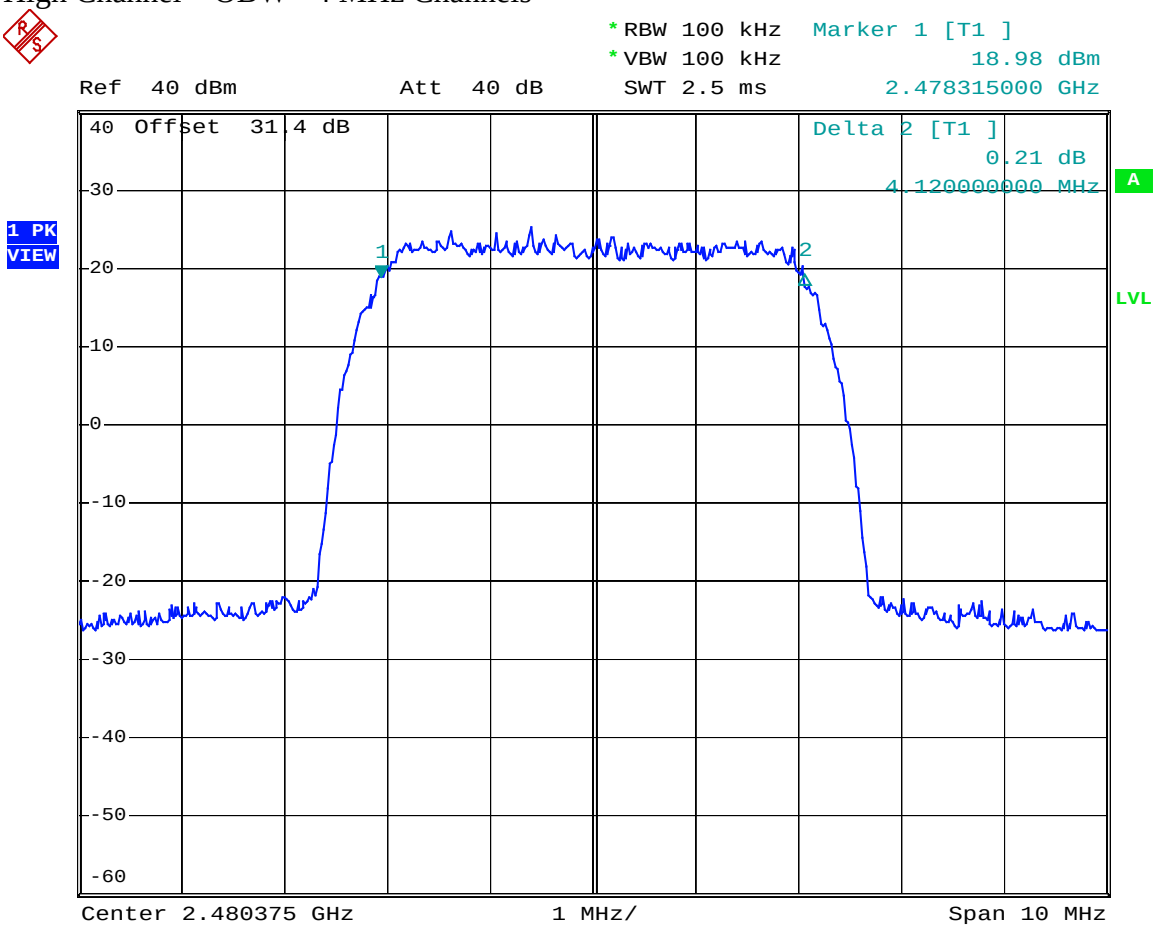
Measurement Uncertainty: 1.7db

Temperature: 23 °C

Relative Humidity: 35 %

Test Data – Occupied Bandwidth

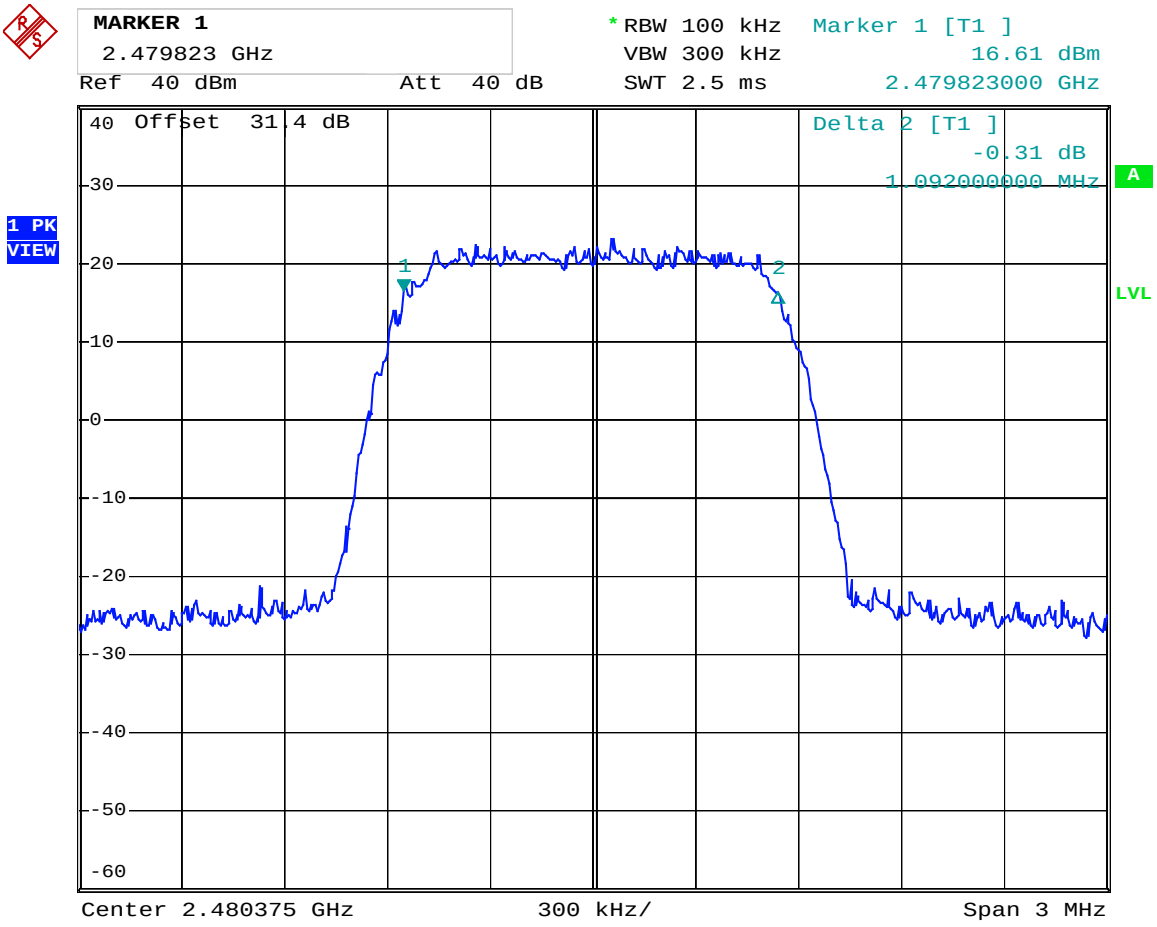
High Channel – OBW - 4 MHz Channels



Date: 26.JUL.2006 09:58:04

Test Data – Occupied Bandwidth

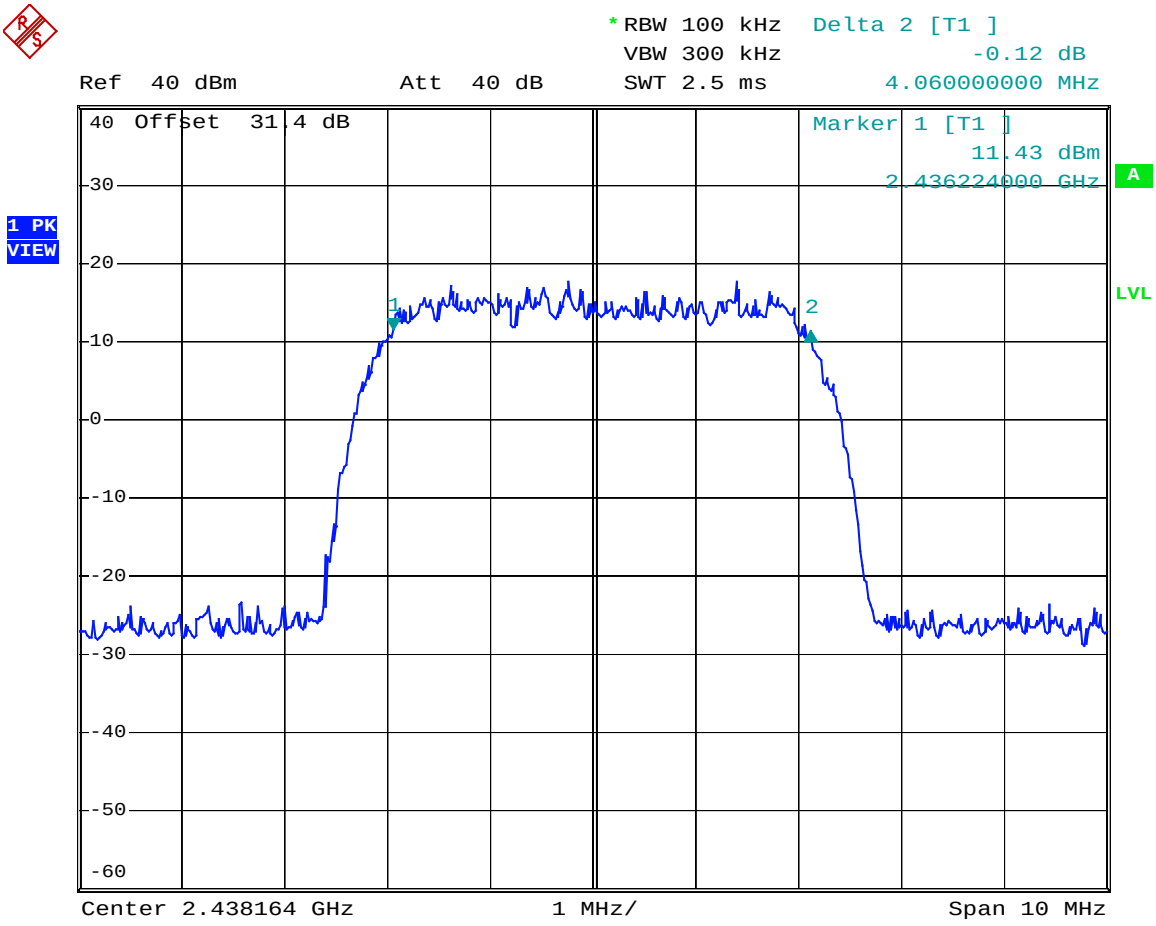
High channel – OBW - 1.1 MHz Channel



Date: 26.JUL.2006 15:09:42

Test Data – Occupied Bandwidth

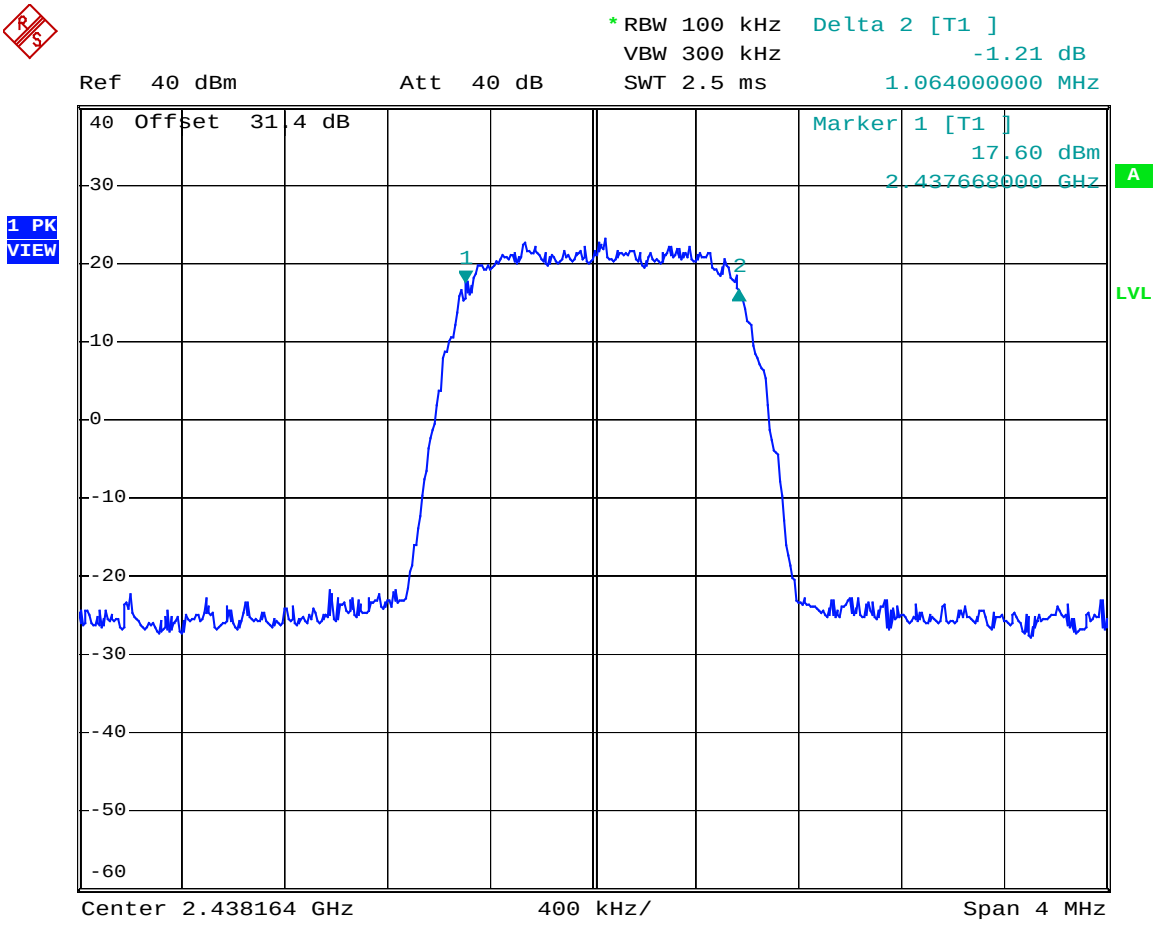
Mid Channel – OBW - 4 MHz Channel



Date: 26.JUL.2006 16:02:53

Test Data – Occupied Bandwidth

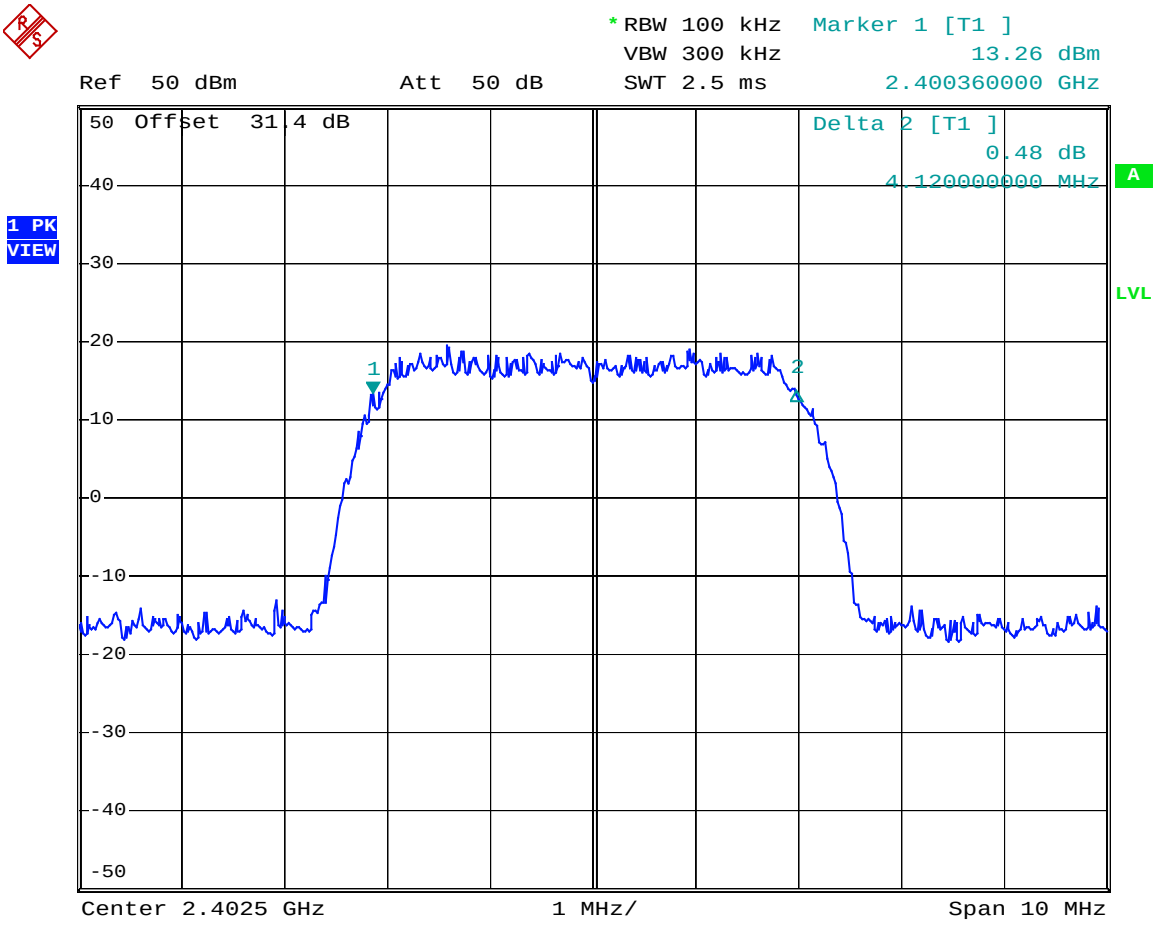
Mid channel – OBW - 1.1 MHz Channel



Date: 27.JUL.2006 09:19:21

Test Data – Occupied Bandwidth

Low channel – OBW - 4 MHz Channel



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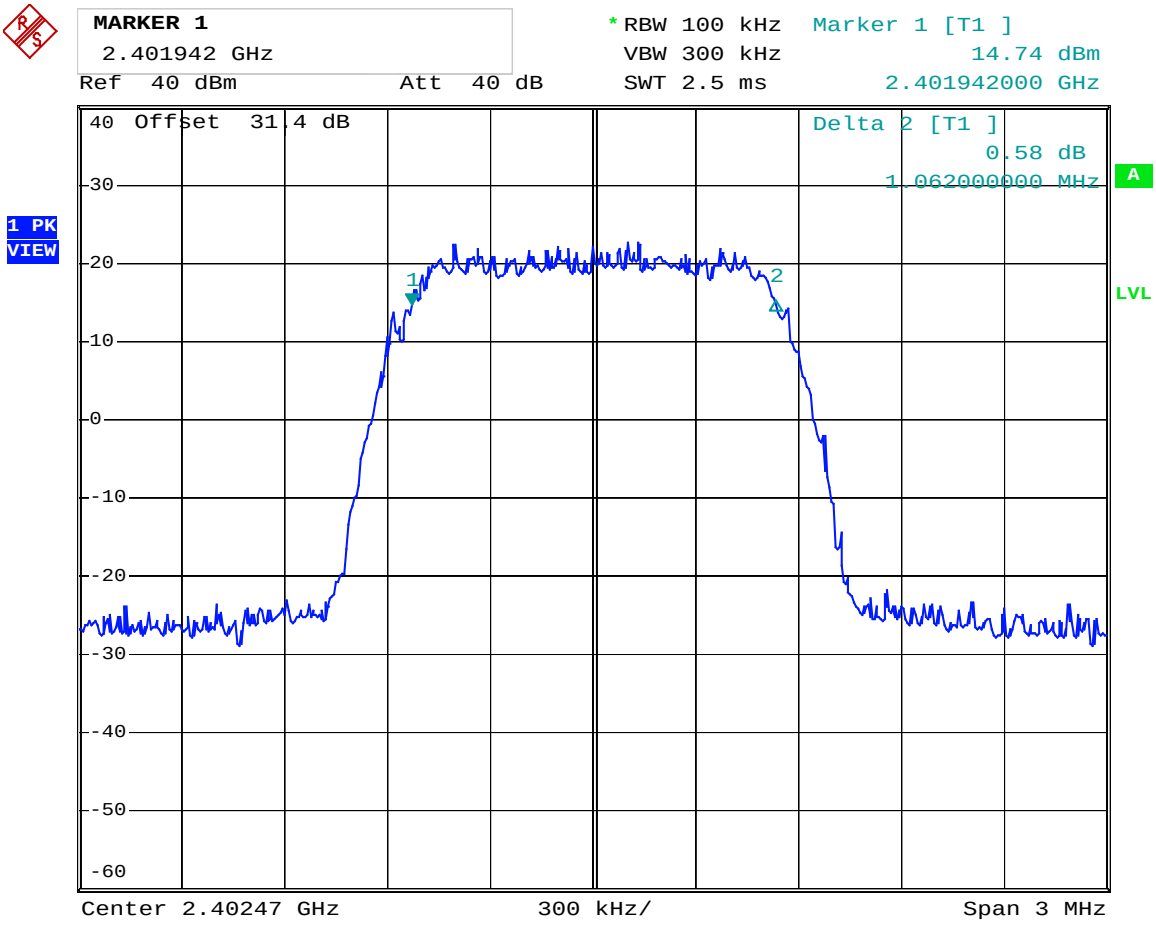
Test Data – Occupied Bandwidth

Low channel – OBW - 1.1 MHz Channel



Date: 26.JUL.2006 15:39:03

Section 5. Maximum Peak Output Power

NAME OF TEST: Maximum Peak Output power	PARA. NO.: 15.247(b)(3)
TESTED BY: David Light	DATE: 26 July 2006

Test Results: Complies.

Measurement Data: Refer to attached data

The measurement was repeated at +/- 15% of nominal supply voltage with no variation noted in RF power output.

A spectrum analyzer was used to make this measurement.

Settings RBW=VBW=10 MHz for 4 MHz carrier
RBW=3 MHz / VBW=10 MHz 1.1 MHz carrier

Equipment Used: 1082-1659-1604-1471

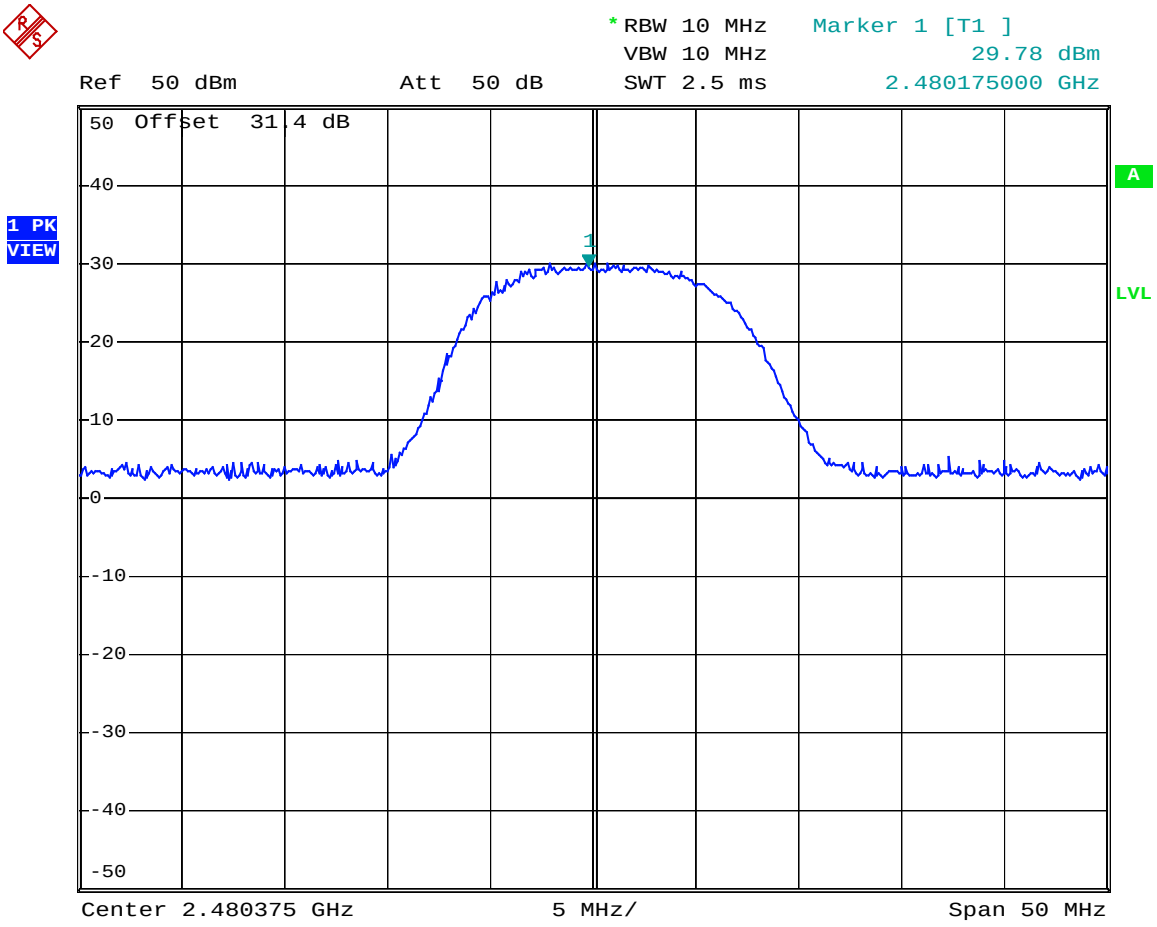
Measurement Uncertainty: 1.7db

Temperature: 23 °C

Relative Humidity: 35 %

Test Data – Peak Power

High Channel – Power - 4 MHz Channels



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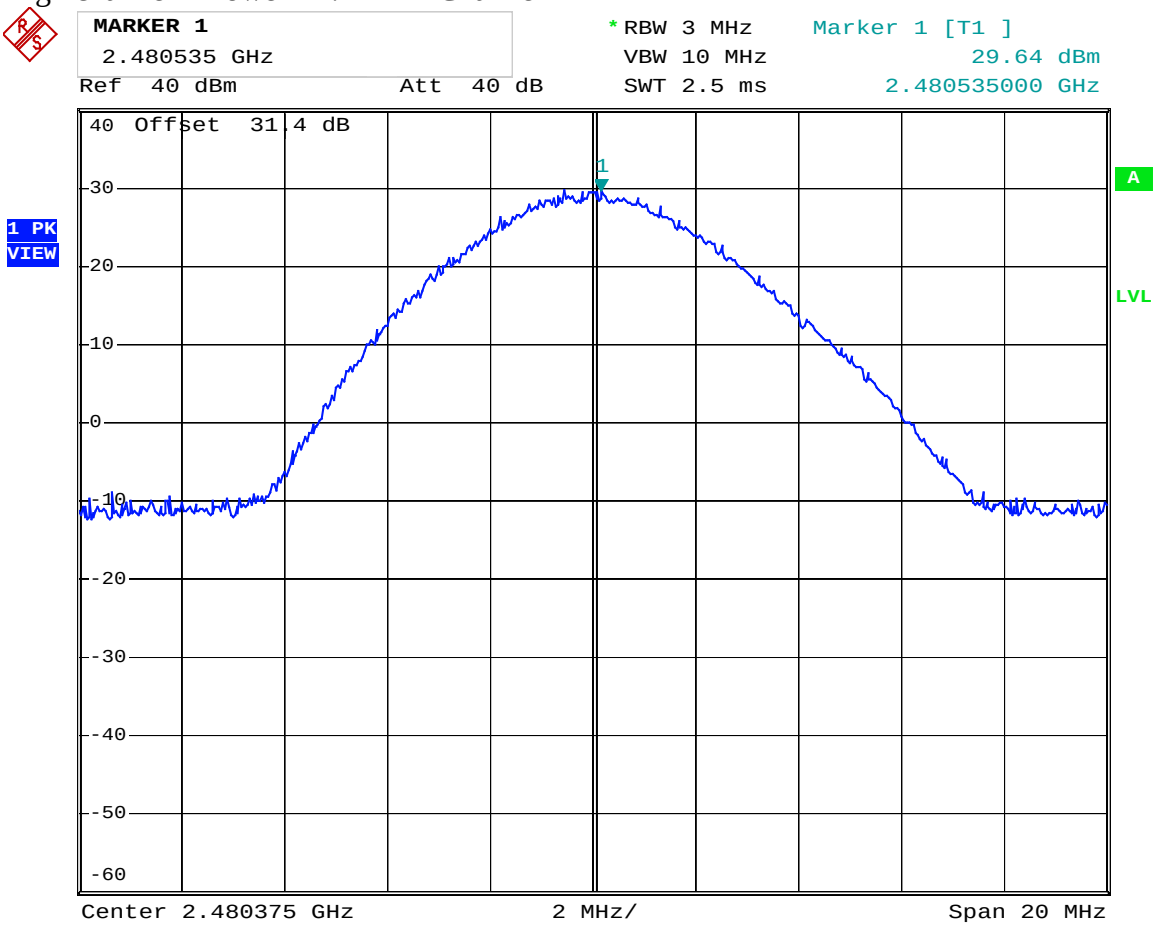
Test Data – Peak Power

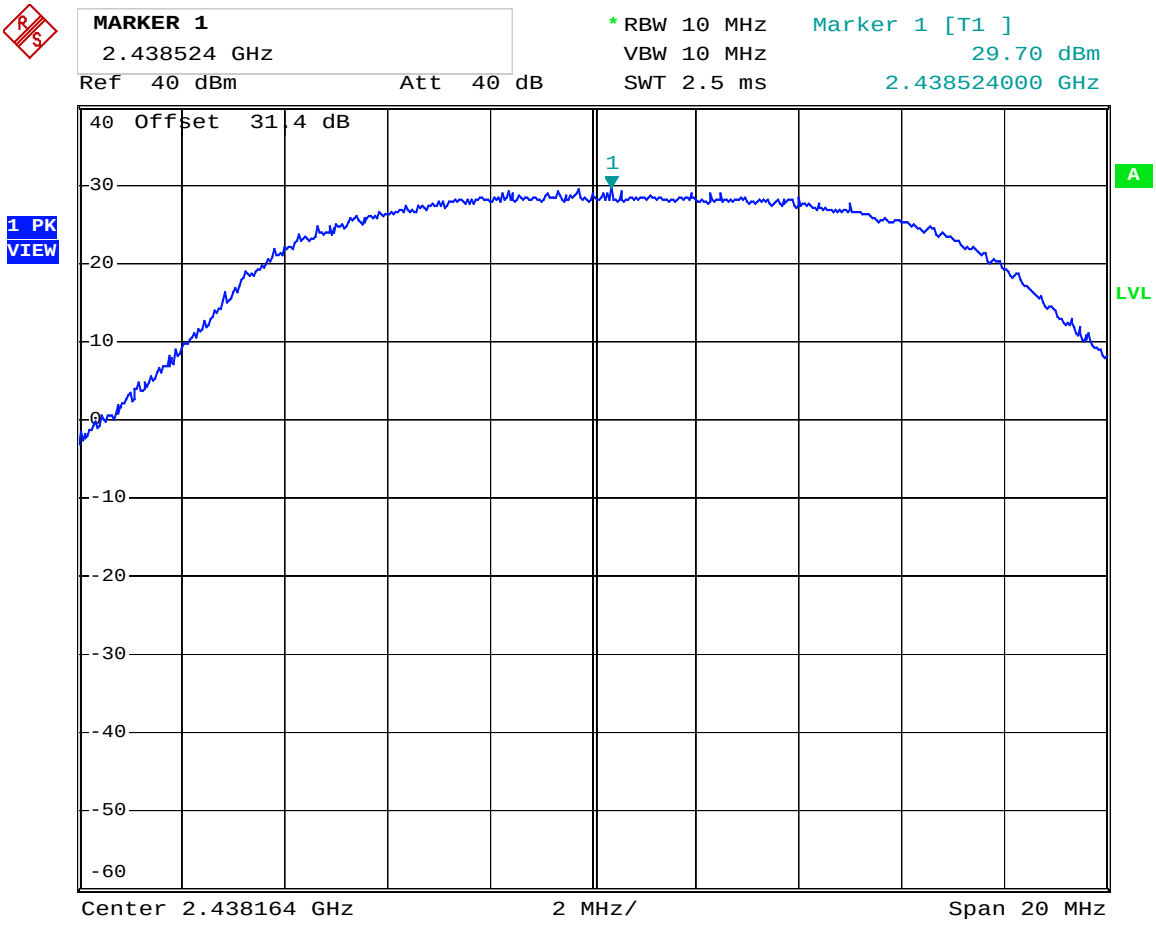
High channel – Power - 1.1 MHz Channel



Date: 26.JUL.2006 15:11:08

Test Data – Peak Power

Mid Channel – Power - 4 MHz Channel



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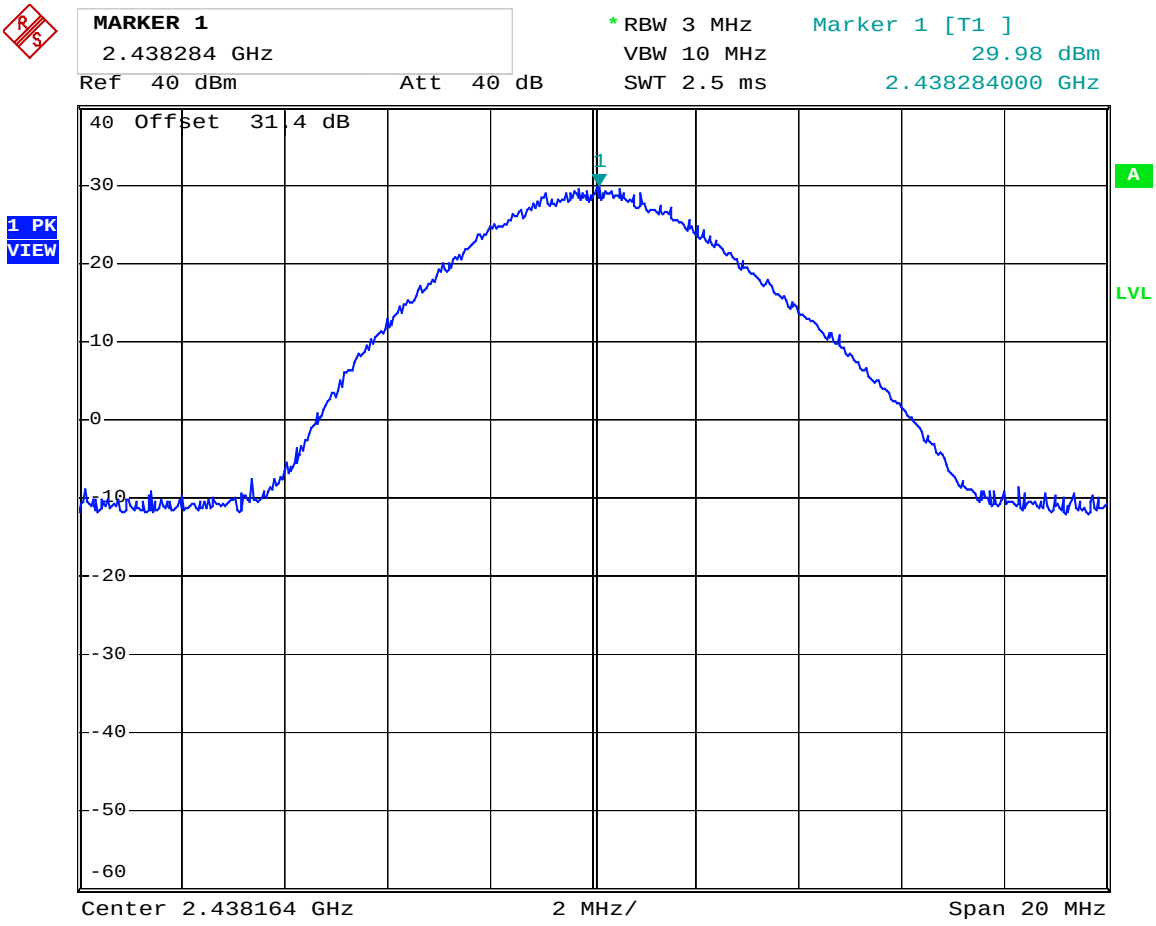
Test Data – Peak Power

Mid channel – Power - 1.1 MHz Channel



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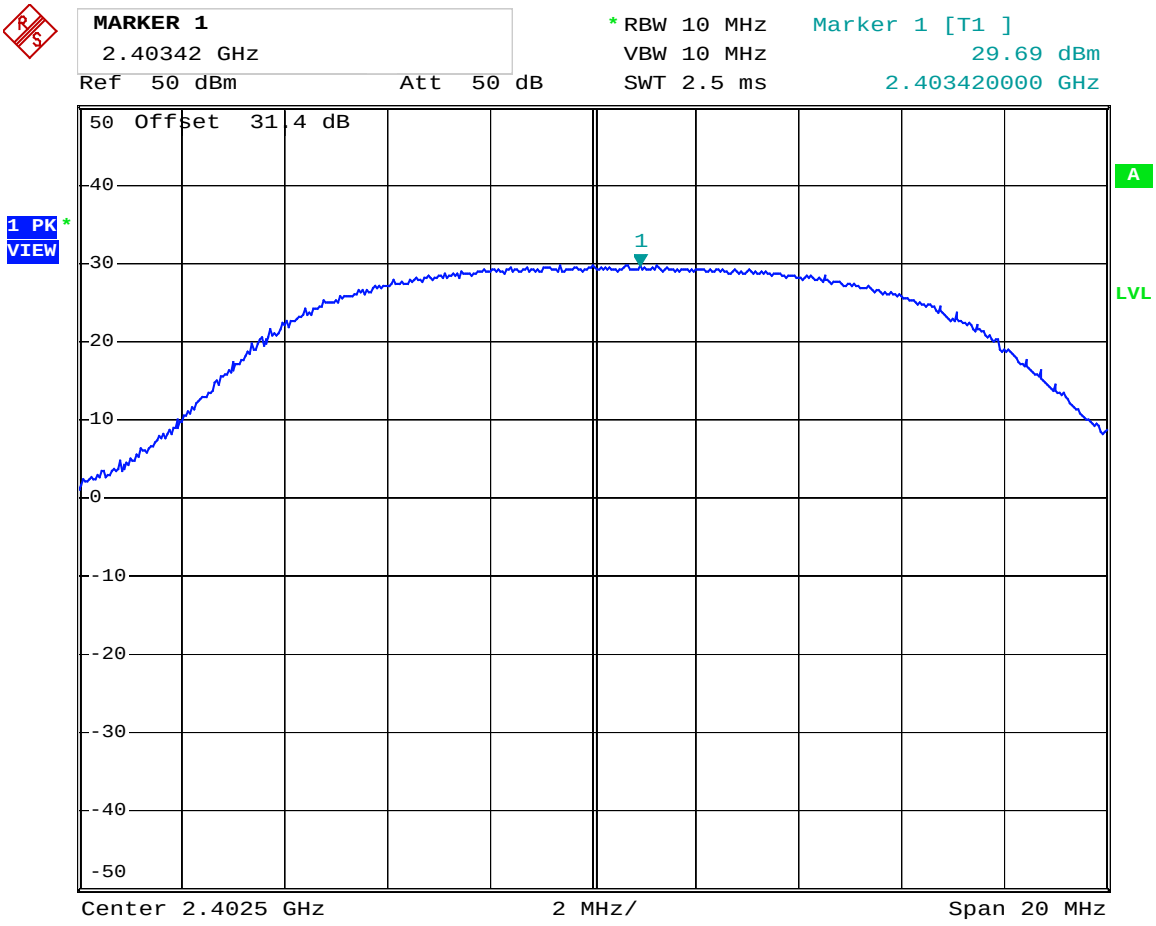
Test Data – Peak Power

Low channel – Power - 4 MHz Channel



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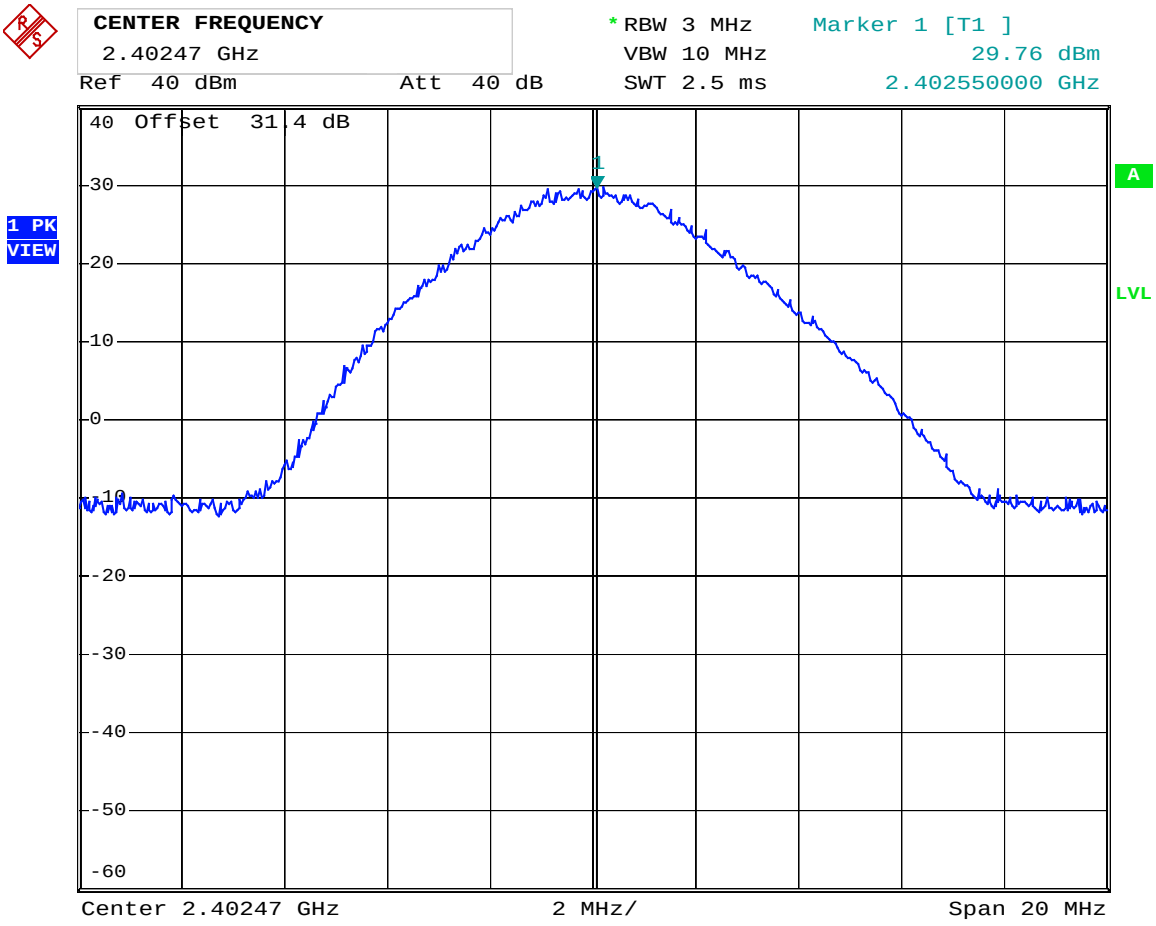
Test Data – Peak Power

Low channel – Power - 1.1 MHz Channel



Date: 26.JUL.2006 15:37:28

Section 6 Spurious Emissions at Antenna Terminals

NAME OF TEST: Spurious Emissions at Antenna Terminals	PARA. NO.: 15.247 (d)
TESTED BY: David Light	DATE: 26 July 2006

Test Results: Complies.

Measurement Data: See attached plots.

Equipment Used: 1082-1659-1604-1471

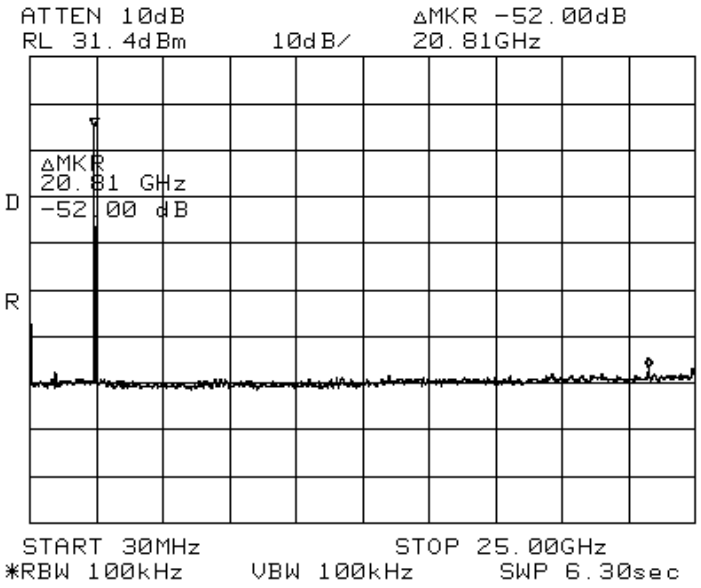
Measurement Uncertainty: 1.7db

Temperature: 23 °C

Relative Humidity: 35 %

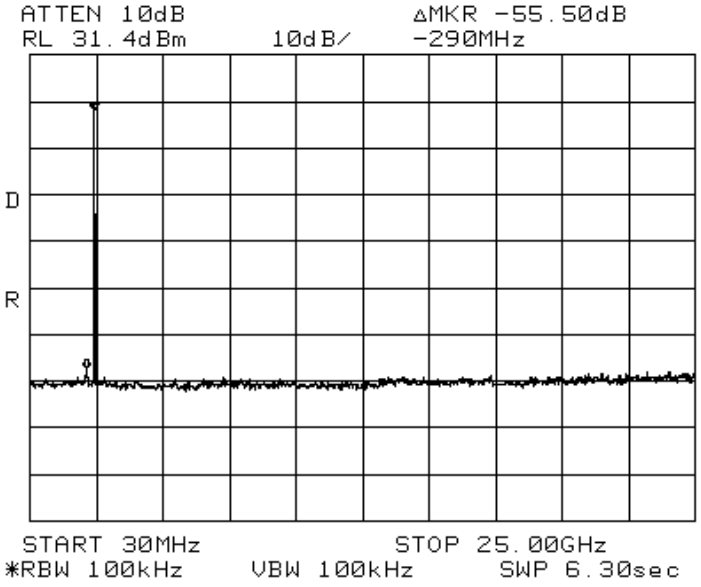
Test Data – Spurious Emissions at Antenna Terminals

High channel – Spurious Emissions - 4 MHz channel



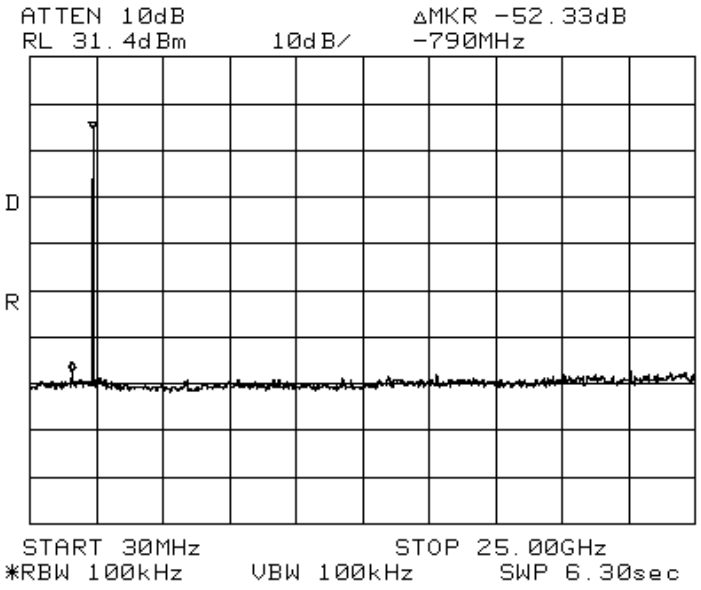
Test Data – Spurious Emissions at Antenna Terminals

High Channel – Spurious Emissions - 1.1 MHz Channel



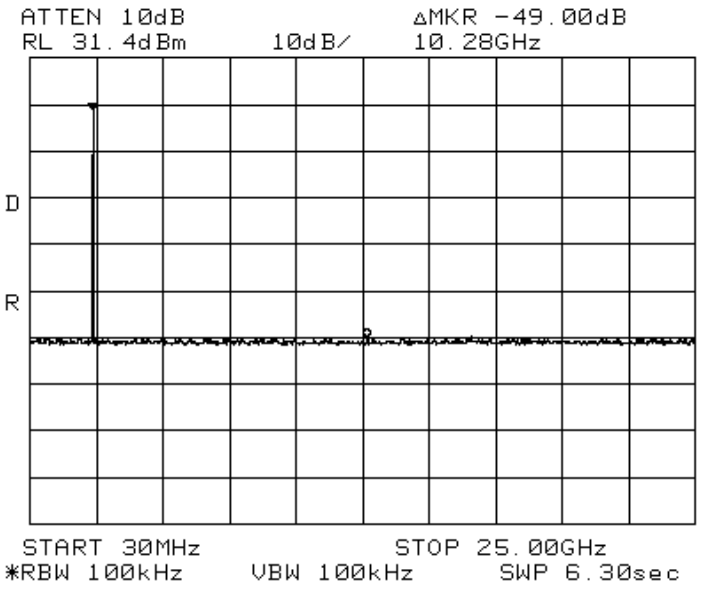
Test Data – Spurious Emissions at Antenna Terminals

Mid Channel – Spurious Emissions - 4 MHz Channel



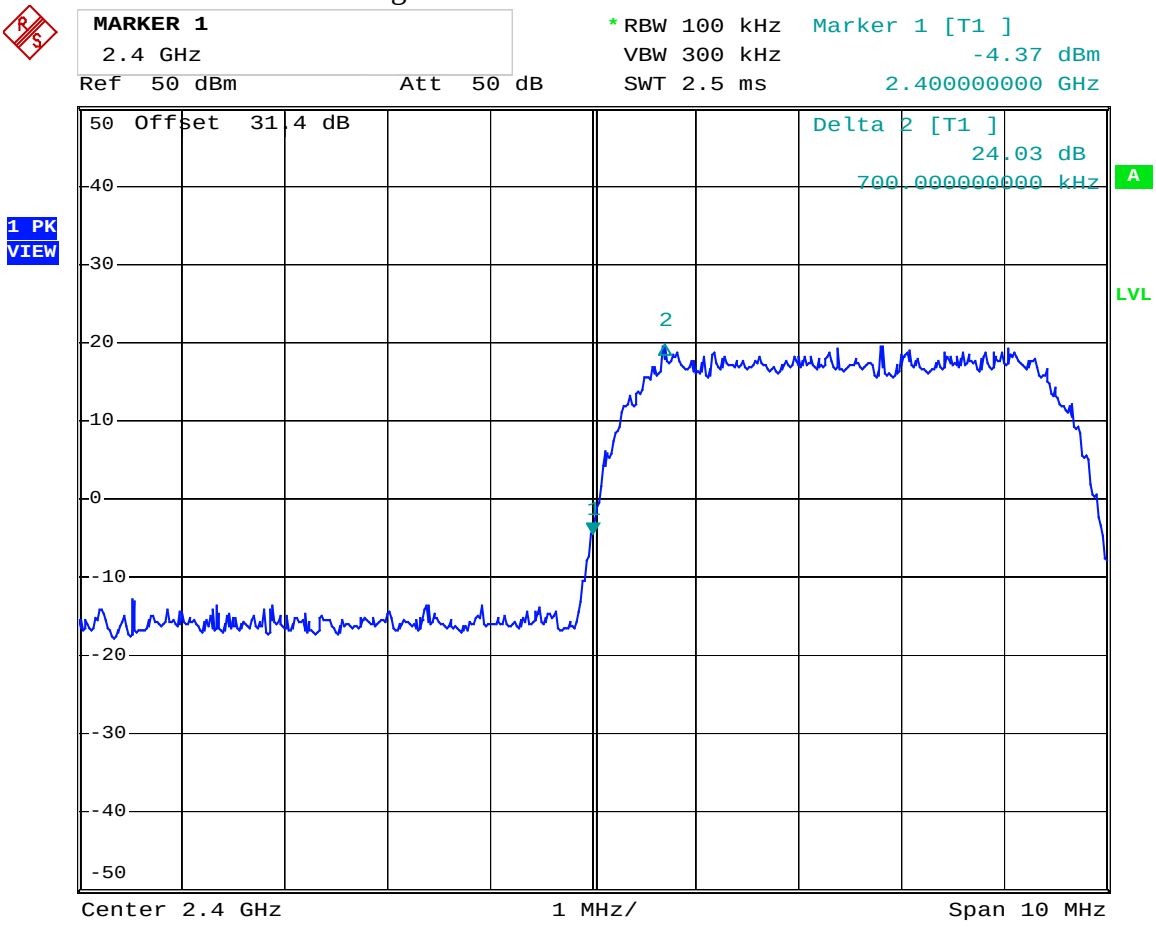
Test Data – Spurious Emissions at Antenna Terminals

Mid channel – Spurious Emissions - 1.1 MHz Channel



Test Data – Spurious Emissions at Antenna Terminals

Low channel – Lower Bandedge - 4 MHz Channel



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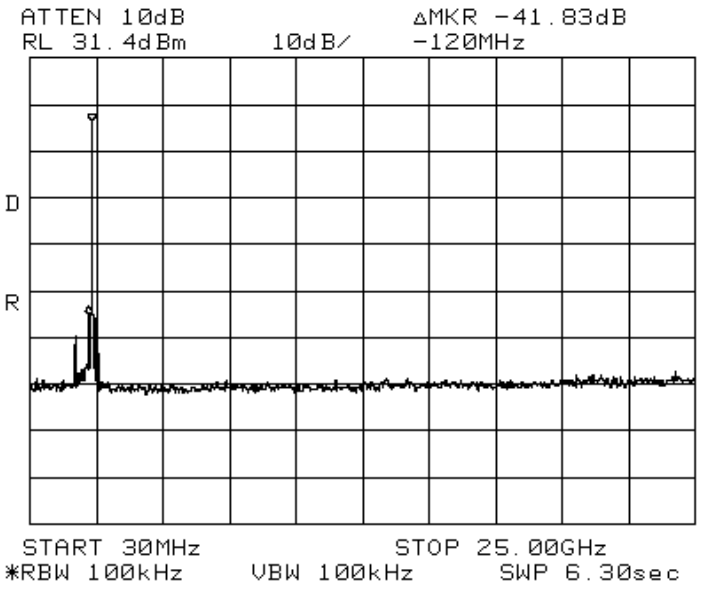
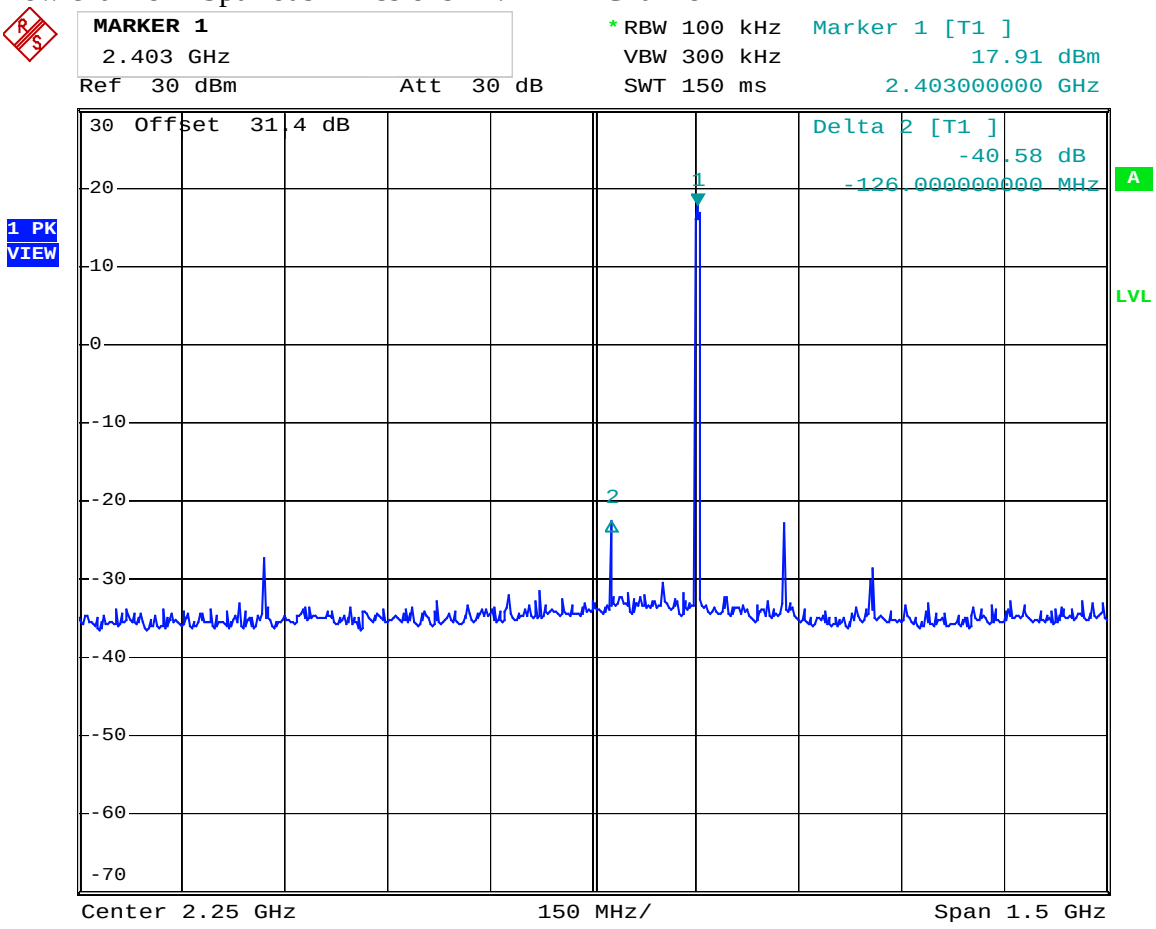
Test Data – Spurious Emissions at Antenna Terminals

Low channel – Spurious Emissions - 4 MHz Channel



Test Data – Spurious Emissions at Antenna Terminals

Low channel – Spurious Emissions - 1.1 MHz Channel



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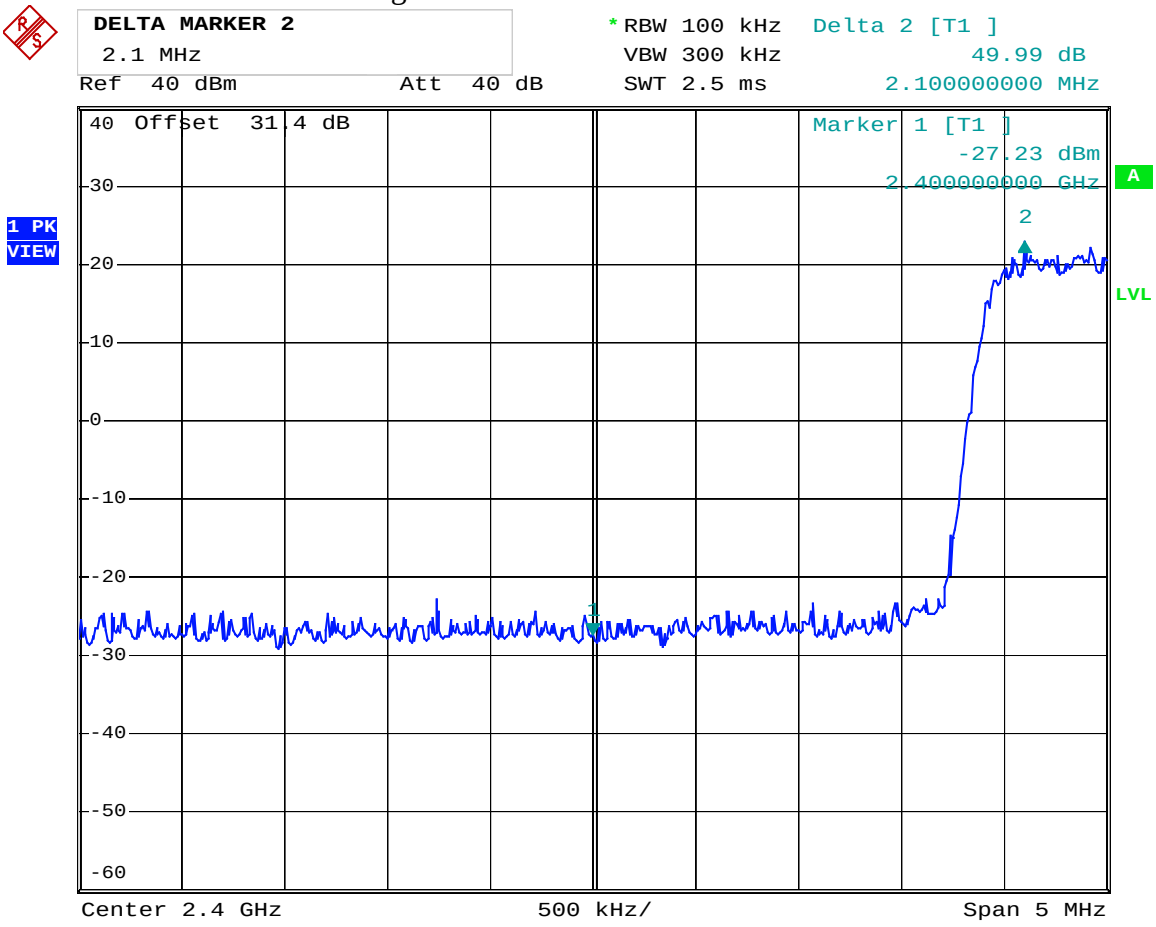
Test Data – Spurious Emissions at Antenna Terminals

Low channel – Lower Bandedge - 1.1 MHz Channel



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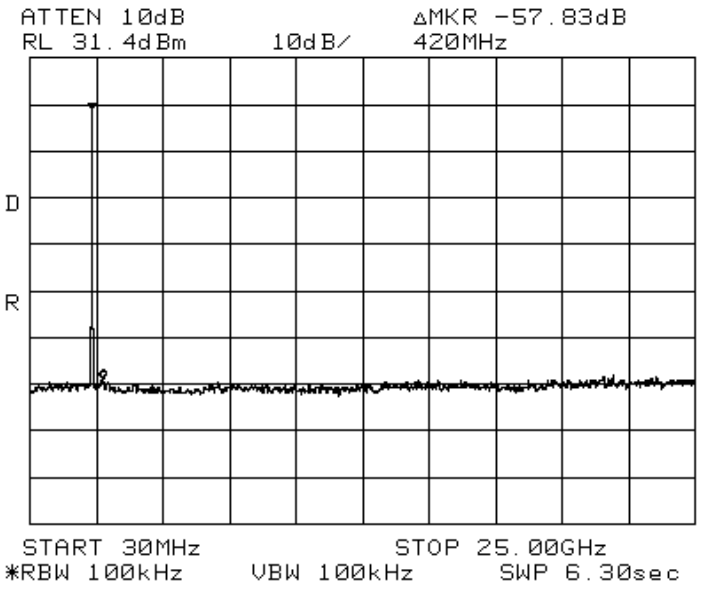
Test Data – Spurious Emissions at Antenna Terminals

Low channel – Spurious Emissions - 1.1 MHz Channel



Section 7. Radiated Emissions

NAME OF TEST: Radiated Emissions	PARA. NO.: 15.247 (d)
TESTED BY: David Light	DATE: 27 July 2006

Test Results: Complies.

Measurement Data: See attached table.

Note: The transmitter was tested at 2402.5, 2438 and 2480.375 MHz as well as at 4 and 1 MHz wide channels. The data presented here for the highest channel at 4 MHz is representative of the noise floor measurements made for all frequencies and modulation bandwidths.

Peak emissions were at least 20 dB below the specification limit of 74 dBµV/m at 3 meters. Average readings reported are noise floor readings.

The marker delta method was used for measuring emissions at the upper band edge.

Spectrum analyzer settings RBW=VBW=1 MHz.

The spectrum was searched from 30 MHz to the tenth harmonic of the highest transmit frequency. No emissions were detected except at band edge.

Equipment Used: 1464-1484-1485-759-760-993-991-791-1016-983

Measurement Uncertainty: 1.7db

Temperature: 23 °C

Relative Humidity: 35 %

Radiated Emissions

Customer: **Alcatel**
Specification: **15.247 / 15.209**
Work Order #: **6L0264** Date: 07/27/2006
Test Type: **Radiated Scan** Time: 15:08:39
Equipment: **2.4 GHz Transmitter** Sequence#: 1
Manufacturer: Alcatel Tested By: David Light
Model: MDR-8X02U
S/N: None

Test Conditions / Notes:

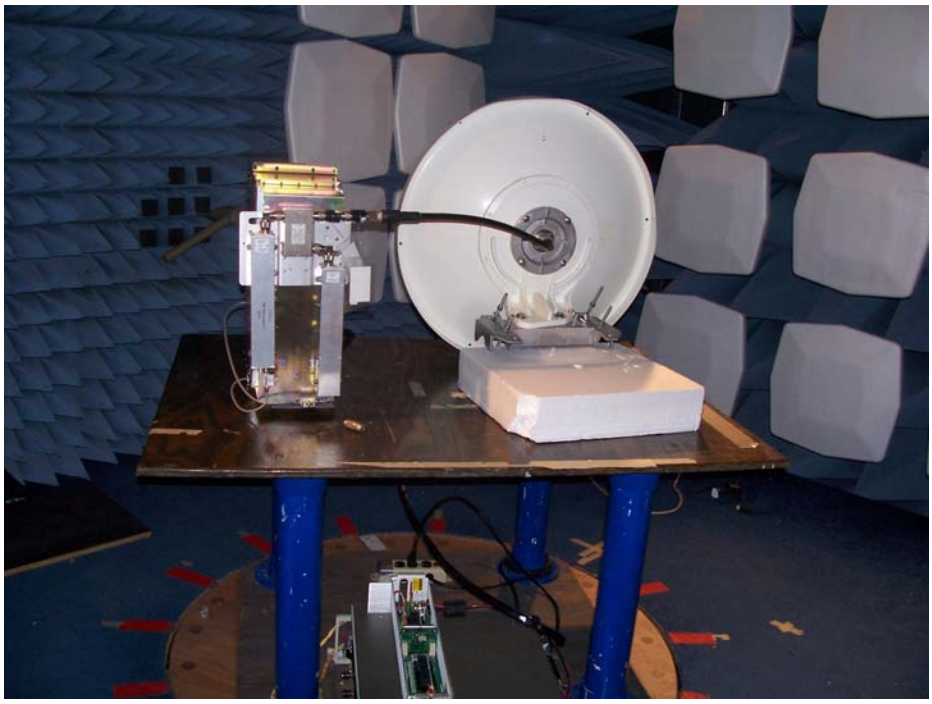
22ºC / 40% RH

Measurement Data: Reading listed by order taken. Test Distance: 3 Meters

#	Freq MHz	Rdng dBµV	Cable Delta dB	Cable dB	Horn dB	Pre-A dB	Dist Table	Corr dBµV/m	Spec dBµV/m	Margin dB	Polar Ant
1	2483.500	81.9	+0.8	+2.3	+29.0	-0.0	+0.0	60.9	74.0	-13.1	Vert
	Peak		-53.1								
2	2483.500	72.9	+0.8	+2.3	+29.0	-0.0	+0.0	51.9	54.0	-2.1	Vert
	Ave		-53.1								
3	4960.700	31.8	+1.0	+3.3	+33.7	-32.6	+0.0	37.2	54.0	-16.8	Vert
	Ave		+0.0								
4	7441.050	30.3	+1.2	+4.1	+35.9	-32.5	+0.0	39.0	54.0	-15.0	Vert
	Ave		+0.0								
5	9921.399	32.0	+1.1	+5.0	+37.2	-35.7	+0.0	39.6	54.0	-14.4	Vert
	Ave		+0.0								
6	12401.750	30.8	+1.8	+5.5	+40.1	-34.5	+0.0	43.7	54.0	-10.3	Vert
	Ave		+0.0								
7	14882.100	29.5	+1.5	+5.8	+40.7	-32.1	+0.0	45.4	54.0	-8.6	Vert
	Ave		+0.0								
8	17362.450	29.2	+2.1	+6.6	+42.6	-33.3	+0.0	47.2	54.0	-6.8	Vert
	Ave		+0.0								
9	4960.700	31.2	+1.0	+3.3	+33.7	-32.6	+0.0	36.6	54.0	-17.4	Horiz
	Ave		+0.0								
10	7441.050	30.2	+1.2	+4.1	+35.9	-32.5	+0.0	38.9	54.0	-15.1	Horiz
	Ave		+0.0								
11	12401.750	30.3	+1.8	+5.5	+40.1	-34.5	+0.0	43.2	54.0	-10.8	Horiz
	Ave		+0.0								
12	14882.100	38.7	+1.5	+5.8	+40.7	-32.1	+0.0	54.6	74.0	-19.4	Horiz
	Peak		+0.0								
13	14882.100	29.8	+1.5	+5.8	+40.7	-32.1	+0.0	45.7	54.0	-8.3	Horiz
	Ave		+0.0								
14	17362.450	29.3	+2.1	+6.6	+42.6	-33.3	+0.0	47.3	54.0	-6.7	Horiz
	Ave		+0.0								
15	2483.500	60.7	+0.8	+2.3	+29.0	-0.0	+0.0	39.7	74.0	-34.3	Horiz
	Peak		-53.1								
16	2483.500	50.2	+0.8	+2.3	+29.0	-0.0	+0.0	29.2	54.0	-24.8	Horiz
	Ave		-53.1								

Note: The transmitter was tested with 20.5 dBi antenna. 5 dB of attenuation was inserted at the input to antenna to satisfy 15.247(c)(1)(i).

Radiated Photographs



Section 8. Peak Power Spectral Density

NAME OF TEST: Peak Power Spectral Density	PARA. NO.: 15.247(e)
TESTED BY: David Light	DATE: 26 July 2006

Test Results: Complies.

Measurement Data: See attached data..

Equipment Used: 1082-1659-1604-1471

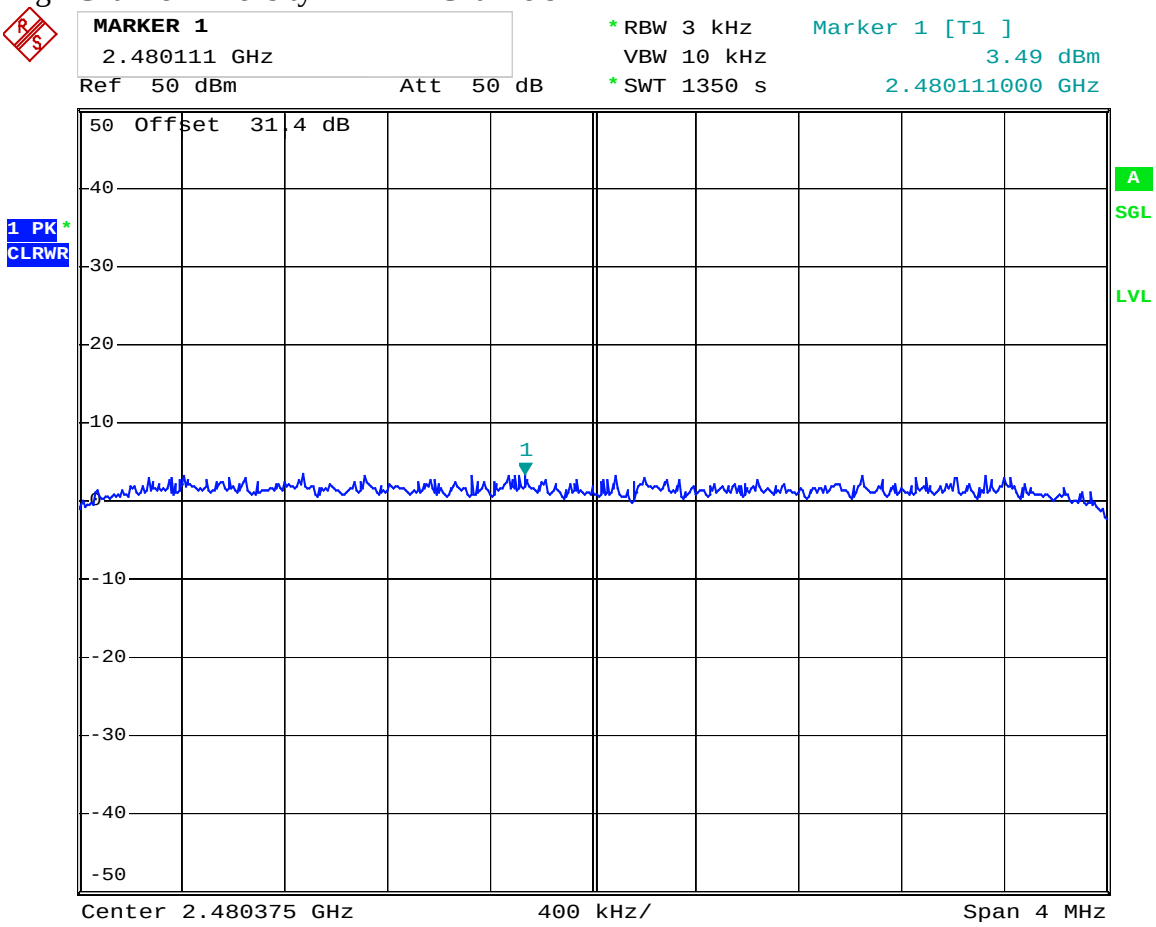
Measurement Uncertainty: 1.7db

Temperature: 23 °C

Relative Humidity: 35 %

Peak Power Spectral Density

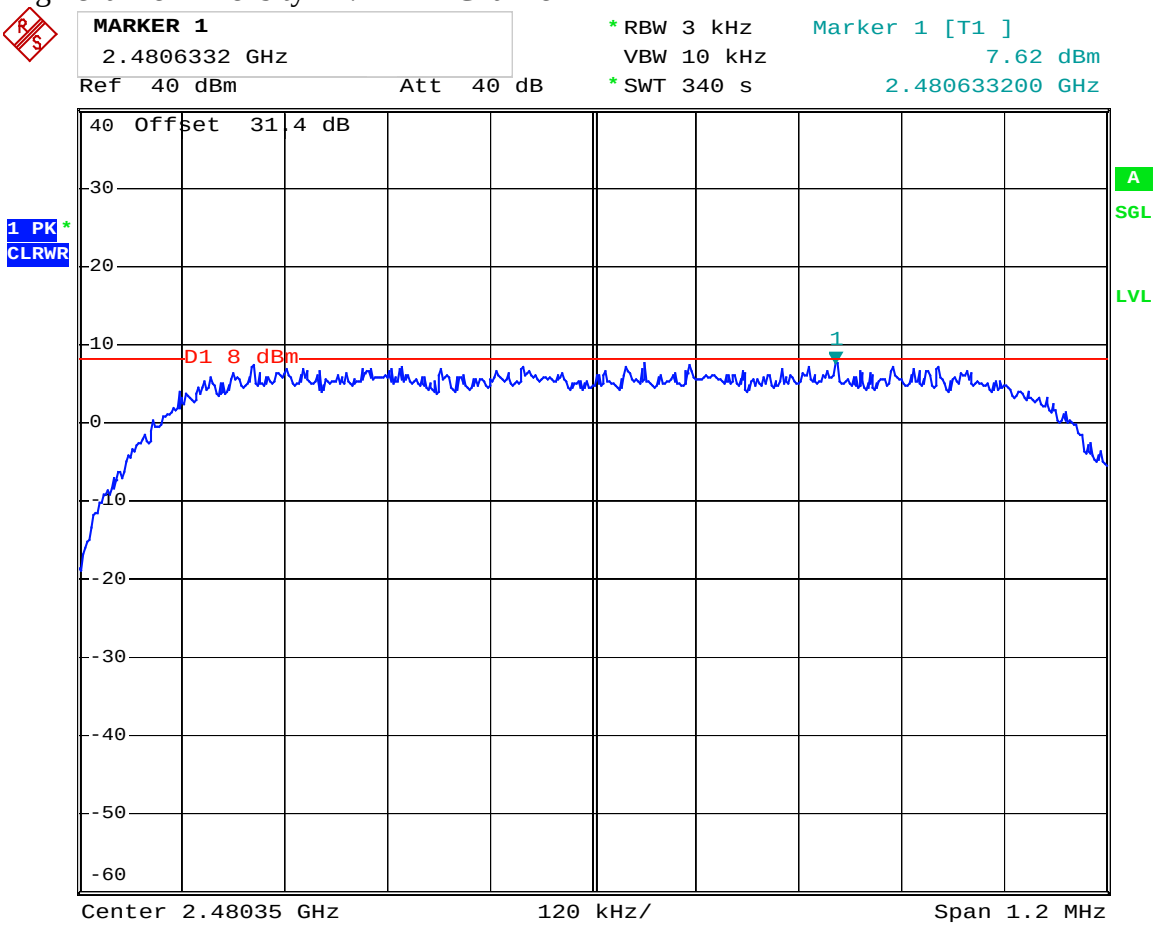
High Channel – Density - 4 MHz Channels



Date: 26.JUL.2006 10:53:39

Peak Power Spectral Density

High channel – Density - 1.1 MHz Channel



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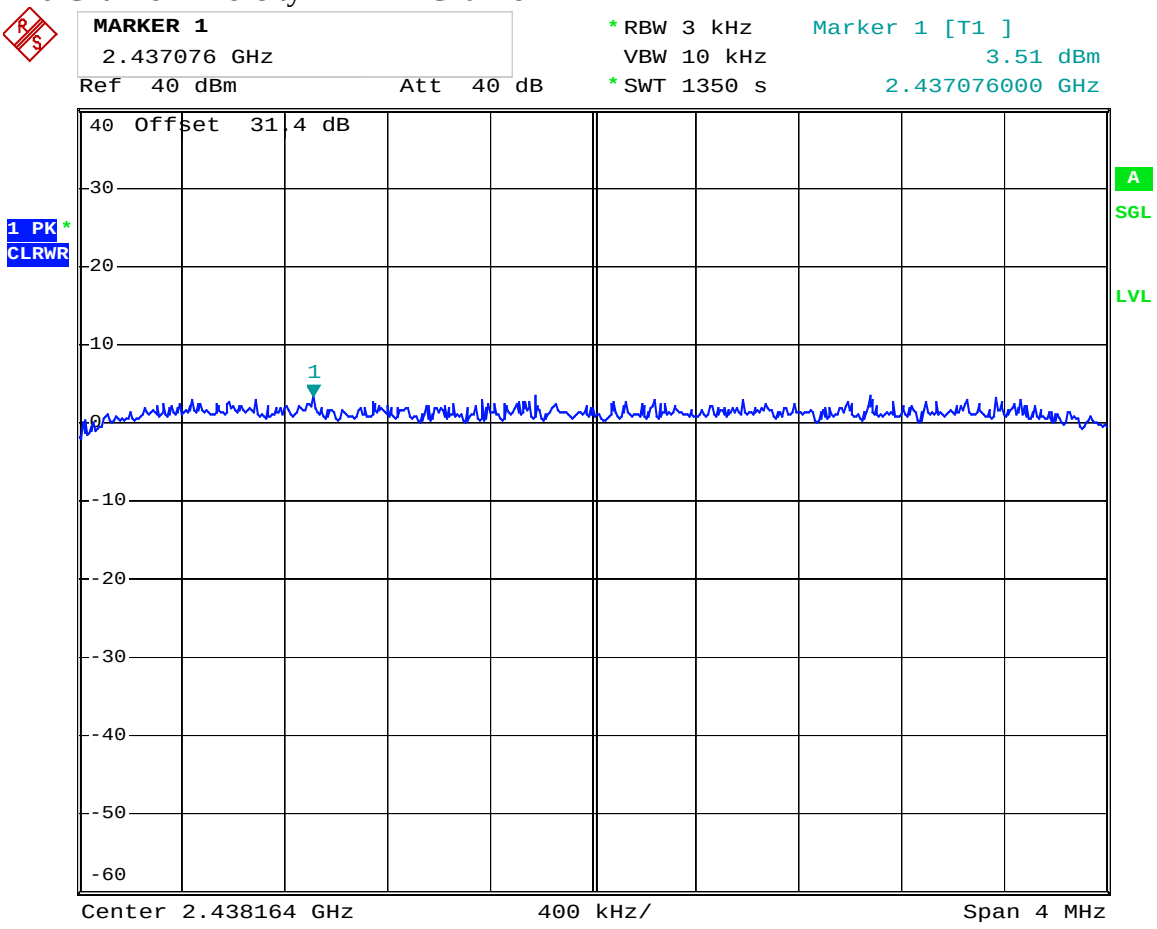
Peak Power Spectral Density

Mid Channel – Density - 4 MHz Channel



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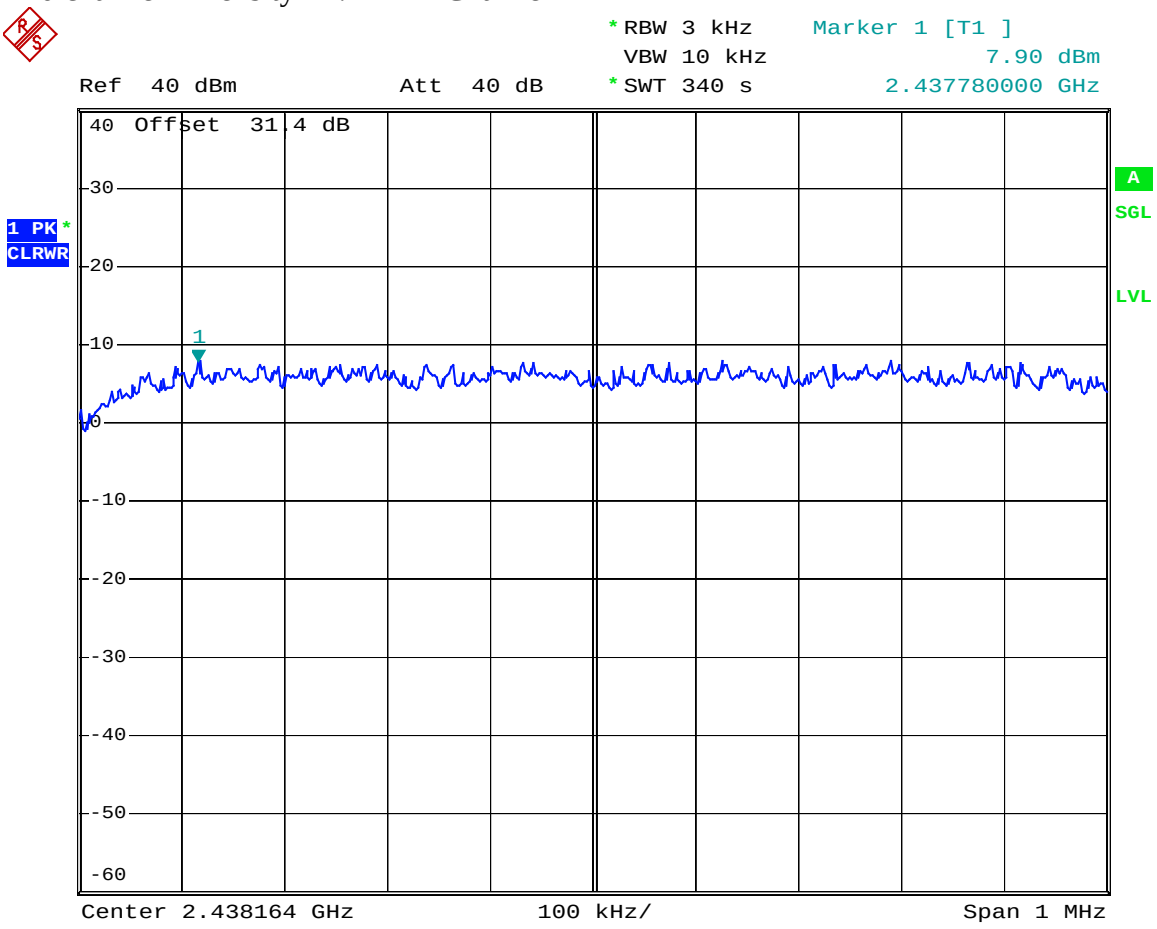
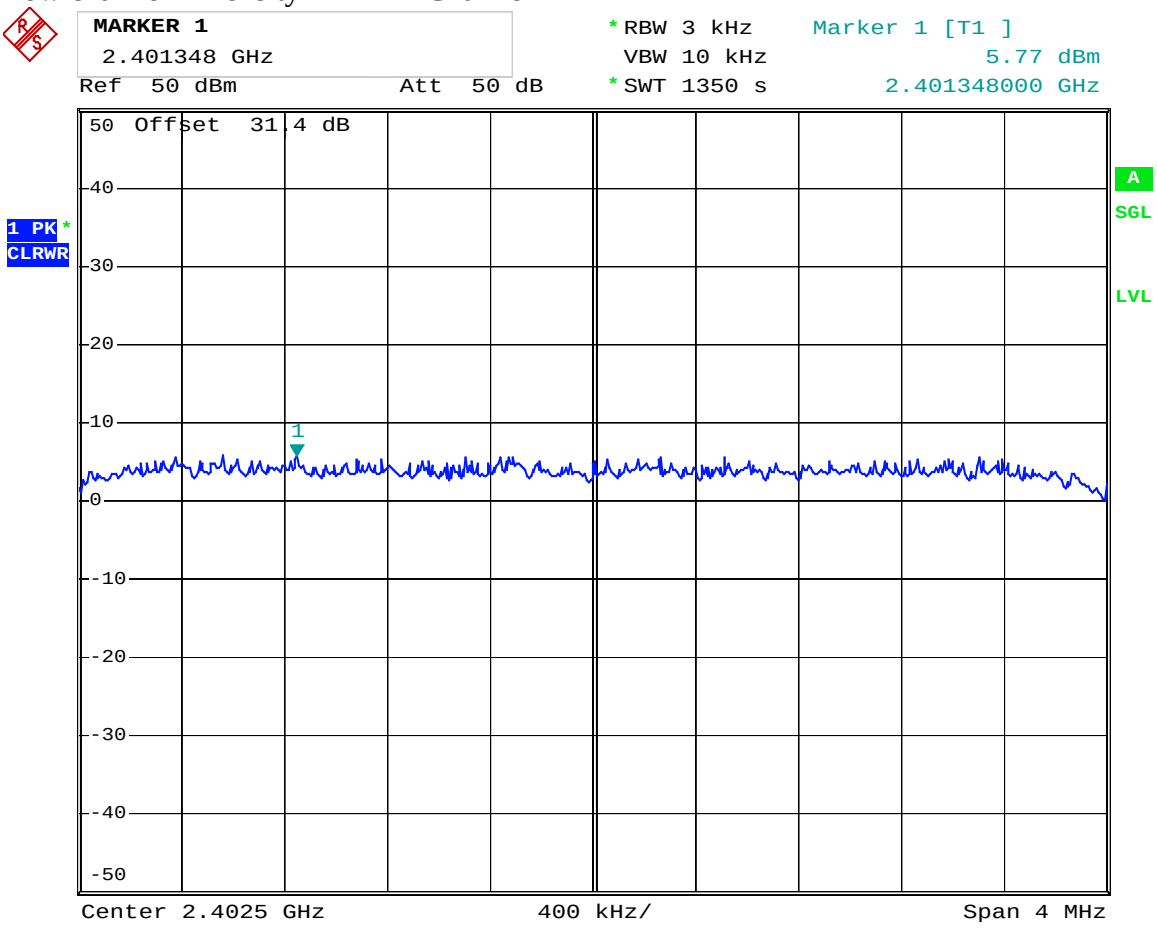
Peak Power Spectral Density

Mid channel – Density - 1.1 MHz Channel



Peak Power Spectral Density

Low channel – Density - 4 MHz Channel



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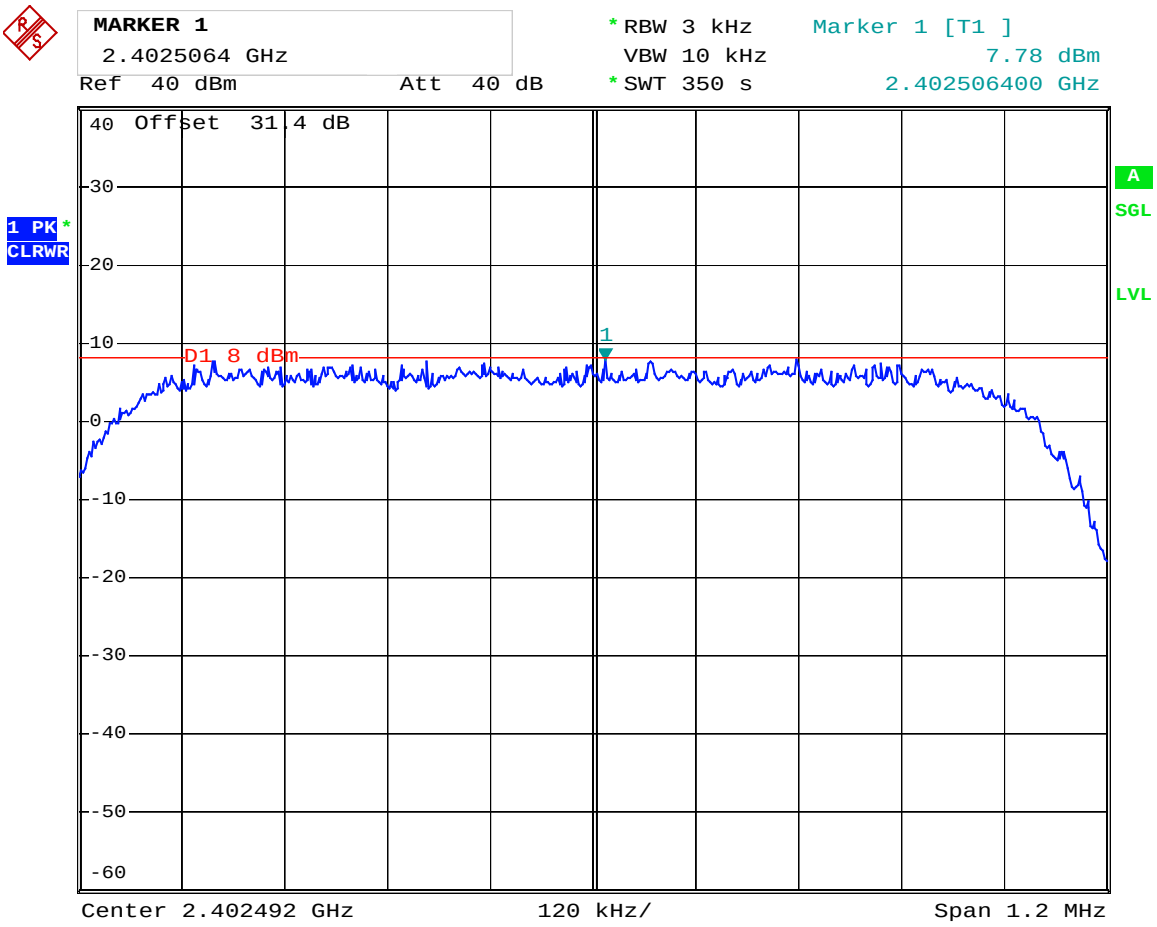
Peak Power Spectral Density

Low channel – Density – 1.1 MHz Channel



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Section 9. Test Equipment List

Nemko ID	Description	Manufacturer Model Number	Serial Number	Calibration Date	Calibration Due
1659	Spectrum Analyzer	Rhode & Schwarz FSP	973353	01/10/06	01/10/07
1464	Spectrum analyzer	Hewlett Packard 8563E	3551A04428	01/14/05	01/15/07
1082	CABLE 2m	Astrolab 32027-2-29094-72TC	N/A	CBU	N/A
1604	ATTENUATOR	NARDA 776B-20	NONE	N/A	N/A
1471	10 db Attenuator DC 18 Ghz	MCL Inc. BW-S10W2 10db-2WDC	NONE	CBU	N/A
759	ANTENNA, LOG PERIODIC	A.H. SYSTEMS SAS-200/510	556	02/13/06	02/13/07
760	Antenna biconical	Electro Metrics MFC-25	477	08/04/05	08/04/06
993	Horn antenna	A.H. Systems SAS-200/571	XXX	08/01/05	08/02/07
1484	Cable	Storm PR90-010-072	N/A	08/26/05	08/26/06
1485	Cable	Storm PR90-010-216	N/A	08/26/05	08/26/06
791	PREAMP, 25dB	Nemko USA, Inc. LNA25	398	04/20/06	04/20/07
1016	Pre-Amp	HEWLETT PACKARD 8449A	2749A00159	04/20/06	04/20/07
983	PRE-AMP, 18-40 GHz	Nemko USA, Inc. BB1	1	11/11/05	11/11/06
991	Horn antenna	EMCO 3160-10	9704-1049	CBU	N/A
1188	LISN	EMCO 3825/2	1214	04/19/06	04/19/07
704	FILTER, HIGH PASS, 5 KHz	SOLAR 7930-5.0	933126	04/20/06	04/20/07
1977	CABLE, .8m	Nemko USA, Inc. RG223	N/A	03/09/06	03/09/07
2076	Cable	Nemko USA, Inc. None	None	08/10/05	08/10/06
966	Receiver	Rohde & Schwartz ESH2	880370/029	02/15/06	02/15/07
1284	Spectrum analyzer display	Hewlett Packard 8566B	1811A00223	02/16/06	02/16/07
674	LIMITER	HP 11947A	3107A02200	04/19/06	04/19/07

ANNEX A - TEST DETAILS

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

Minimum Standard: §15.207 Conducted limits.

(a) Except as shown in paragraphs (b) and (c) of this section, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50 mH/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the boundary between the frequency ranges.

Frequency of Conducted Emission (MHz)	Limit (dBmV) Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

* Decreases with the logarithm of the frequency.

(b) The limit shown in paragraph (a) of this section shall not apply to carrier current systems operating as intentional radiators on frequencies below 30 MHz. In lieu thereof, these carrier current systems shall be subject to the following standards:

(1) For carrier current systems containing their fundamental emission within the frequency band 535-1705 kHz and intended to be received using a standard AM broadcast receiver: no limit on conducted emissions.

(2) For all other carrier current systems: 1000 mV within the frequency band 535-1705 kHz, as measured using a 50 mH/50 ohms LISN.

(3) Carrier current systems operating below 30 MHz are also subject to the radiated emission limits as provided in §15.205 and §§15.209, 15.221, 15.223, 15.225 or 15.227, as appropriate.

(c) Measurements to demonstrate compliance with the conducted limits are not required for devices which only employ battery power for operation and which do not operate from the AC power lines or contain provisions for operation while connected to the AC power lines. Devices that include, or make provision for, the use of battery chargers which permit operating while charging, AC adaptors or battery eliminators or that connect to the AC power lines indirectly, obtaining their power through another device which is connected to the AC power lines, shall be tested to demonstrate compliance with the conducted limits.

NAME OF TEST: Occupied Bandwidth	PARA. NO.: 15.247(a)(2)

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

Method Of Measurement:

The spectrum analyzer is set as follows:

RBW: At least 100 kHz
VBW: >RBW
Span: Sufficient to display 6 dB bandwidth
LOG dB/div.: 10 dB
Sweep: Auto

NAME OF TEST: Maximum Peak Output Power	PARA. NO.: 15.247(b)(3)

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 or spectrum analyzer with sufficient bandwidth 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.

Substitution Antenna Method for Integral Antennas:
The peak field strength of the carrier is measured in a worst-case configuration with a RBW > 5 times the occupied bandwidth of the transmitted waveform. For cases where the RBW of the test instrument is not sufficient, the power is measured using a peak power meter instead of the spectrum analyzer.

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: Spurious Emissions(conducted) PARA. NO.: 15.247(d)

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(d)

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(e)

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:

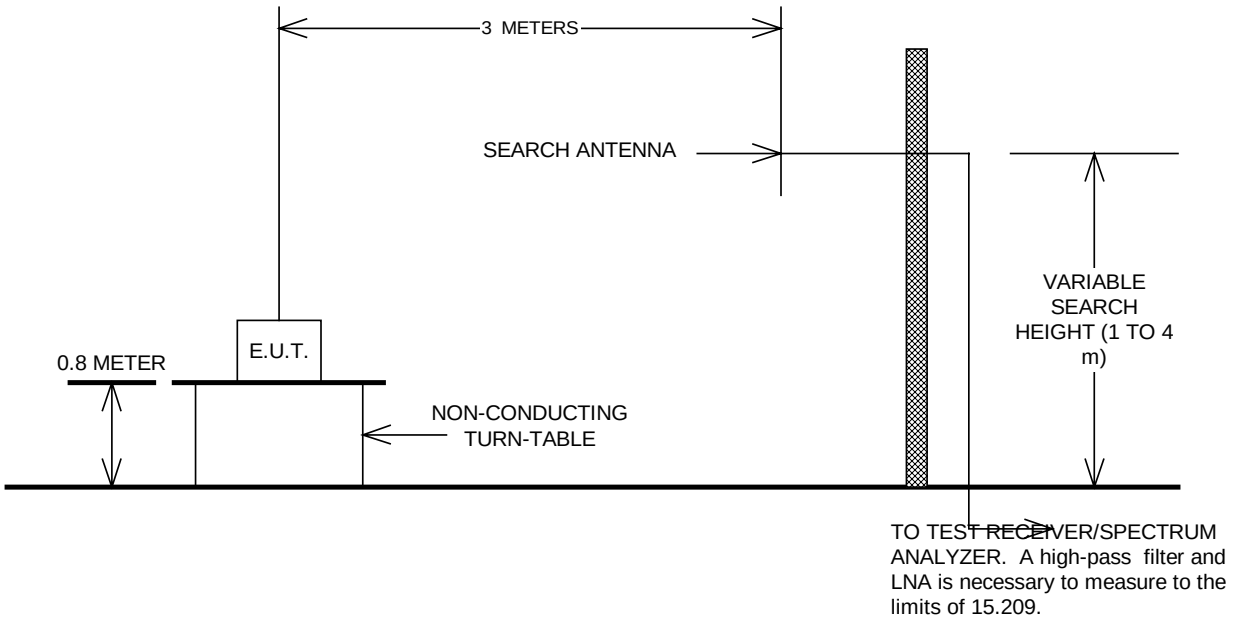
For devices with non-detachable antennas, the received field strength is peaked and the spectrum analyzer is set as above. The peak emission level is then measured and converted to a field strength by adding the appropriate antenna factor and cable loss. This field strength is then converted to an equivalent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

Number of channels tested:

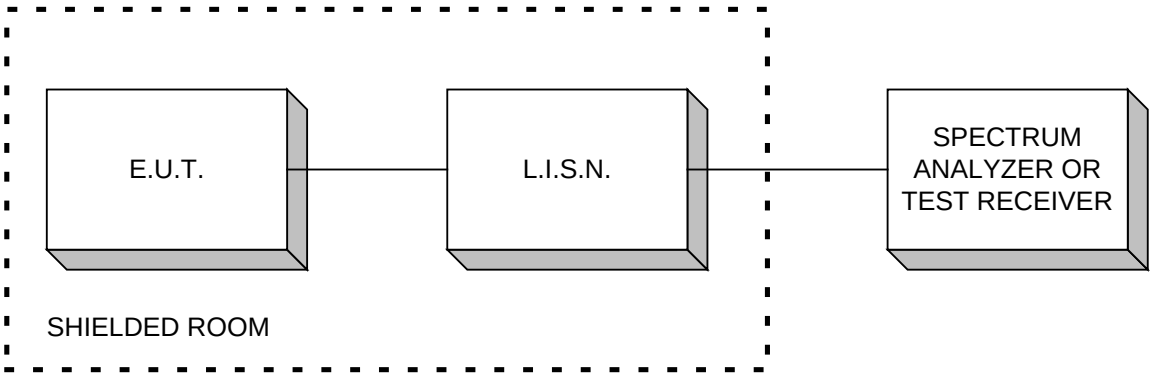
Tuning Range	Number Of Channels Tested	Channel Location In Band
1 MHz or Less	1	Middle
1 to 10 MHz	2	Top And Bottom
More Than 10 MHz	3	Top, Middle, Bottom

ANNEX B - TEST DIAGRAMS

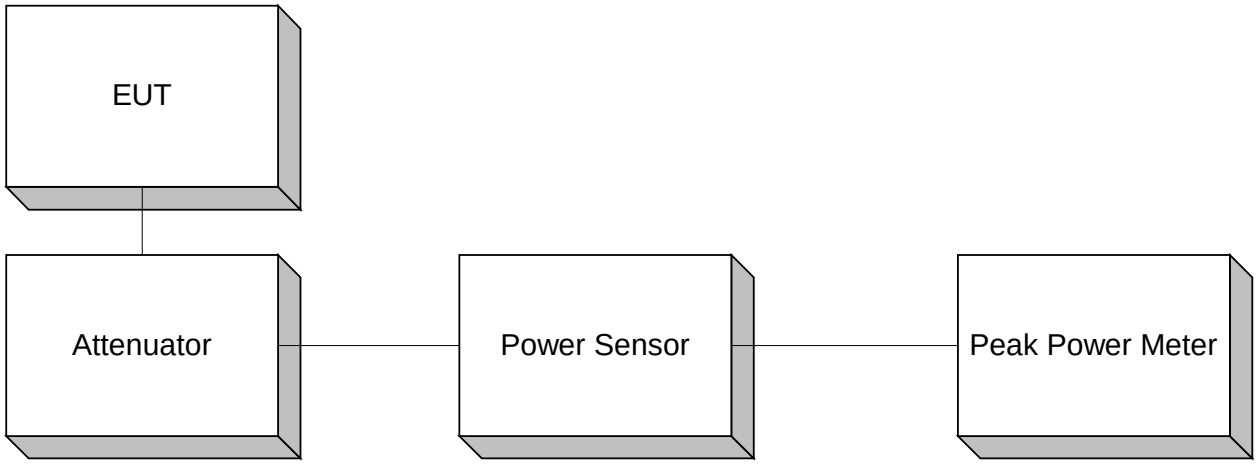
Test Site For Radiated Emissions



Conducted Emissions



Peak Power At Antenna Terminals



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