

TEST RESULT SUMMARY

FCC Part 15 Subpart C Section 15.247 Industry Canada RSS-210 Issue 6 and RSS-Gen Issue 1

MANUFACTURER'S NAME	Digi International
MANUFACTURER'S ADDRESS	11001 Bren Rd E. Minnetonka, Mn 55343
NAME OF EQUIPMENT	Digi ConnectCore Wi 9C
MODEL NUMBER(S) TESTED	50001355-xx
TEST REPORT NUMBER	WC70108
TEST DATE(S)	15 - 18 January, 2007

According to testing performed at TÜV America Inc, the above mentioned unit is in compliance with the applicable electromagnetic compatibility (EMC) portions of the requirements defined in FCC Part 15 Subpart C Section 15.247 and Industry Canada RSS-210 Issue 6.

It is the manufacturer's responsibility to assure that additional production units of this model are manufactured with identical electrical and mechanical characteristics. Any modifications necessary for compliance made during testing on the above mentioned date(s) must be implemented in all production units for compliance to be maintained.

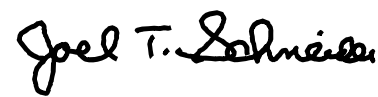
TÜV America Inc, as an independent testing laboratory, declares that the equipment tested as specified above conforms to the applicable EMC requirements of FCC Part 15 Subpart C Section 15.247 "Operation within the bands 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz; General requirements." and IC RSS-210 Issue 6 "Low-power Licence-exempt Radiocommunication Devices (All Frequency Bands): Category I Equipment" and IC RSS-Gen Issue 1 "General Requirements and Information for the Certification of Radiocommunication Equipment".

Date: 29 January, 2007

Location: Taylors Falls MN
USA



Greg Jakubowski
Sr EMC Technician



Joel Schneider
Sr EMC Engineer

Not Transferable



America

EMC TEST REPORT

Test Report File No. : **WC700108** Date of issue: 29 January, 2007

Model / Serial No(s) Tested : 50001355-xx / 0001

Product Type : Digi ConnectCore Wi 9C - 2.4 GHz DSSS

Applicant : Digi International

Manufacturer : Digi International

License holder : Digi International

Address : 11001 Bren Rd E.
Minnetonka, Mn 55343

Test Result	:	<input checked="" type="checkbox"/> Positive	<input type="checkbox"/> Negative
Test Project Number	:	WC700108	
References	:		
Total pages including Appendices	:	77	

TÜV AMERICA Inc reports apply only to the specific samples tested under stated test conditions. It is the manufacturer's responsibility to assure that additional production units of this model are manufactured with identical electrical and mechanical components. TÜV America Inc shall have no liability for any deductions, inferences or generalizations drawn by the client or others from TÜV America Inc issued reports.

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Sign Explanations:

- not applicable
- applicable

EMC TEST REGULATIONS:

The tests were performed according to the following regulations :

- EN 50081-1 / 1991
- EN 55014-2: 1997 + Amendment A1: 2001 - Category ___
- EN 55024: 1998 + Amendments A1: 2001 + A2: 2003
- EN 60601-1-2: 2001
- EN 61000-6-1: 2001
- EN 61000-6-2: 2001
- EN 61326: 1997 + Amendments A1: 1998 + A2: 2001 + A3: 2003
- EN 61800-3: 1996 + Amendment A11: 2000
- ETS 300 683: 1997
- ETS 300 683: 1997
- ETSI EN 301 489-3 V1.4.1: 2002
- EN 300 220-3 V1.1.1
- EN 300 330-2 V1.1.1
- FCC Part 15 Subpart C Section 15.207
- FCC Part 15 Subpart C Section 15.209
- FCC Part 15 Subpart C Section 15.247
- FCC Part 15 Subpart C Section 15.249
- IC RSS-210 Issue 6
- IC RSS-Gen Issue 1
- IC RSS-Gen Issue 1

ENVIRONMENTAL CONDITIONS IN THE LAB

	<u>Actual</u>
Temperature:	: 20 °C
Atmospheric pressure	: 100 kPa
Relative Humidity	: 35 %

POWER SUPPLY UTILIZED

Power supply system : 3.3 VDC

6 dB Bandwidth

FCC 15.247(a)(2), IC RSS-210 A8.2(1)

Test summary

The requirements are: - MET - NOT MET

The minimum 6 dB bandwidth = 10.65 MHz

Test location

- Wild River Lab Large Test Site (Open Area Test Site)

- Wild River Lab Large Test Site - Tech area

- Wild River Lab Small Test Site (Open Area Test Site)

Test equipment

TUV ID	Model Number	Manufacturer	Description	Serial Number	Cal Due
3367	E4440A	Agilent	Spectrum Analyzer	MY42510439	14 Sep 07
3844	61697		HF cable		Code B

Cal Code B = Calibration verification performed internally.

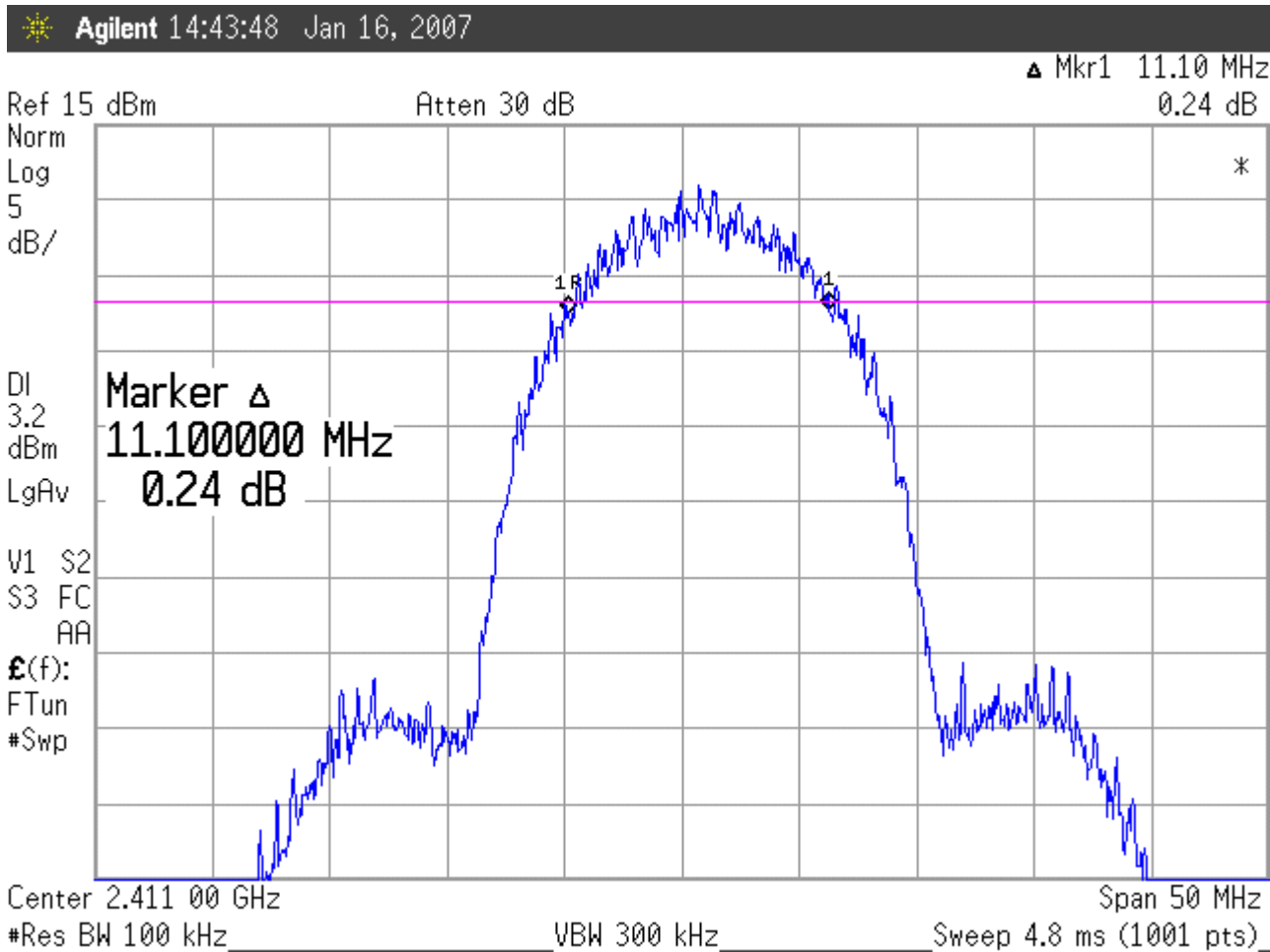
Test limit

Minimum 500 kHz

Test data

See following pages.

6 dB Bandwidth
channel 1, 11 MB rate



6 dB Bandwidth
channel 1, 54 MB rate

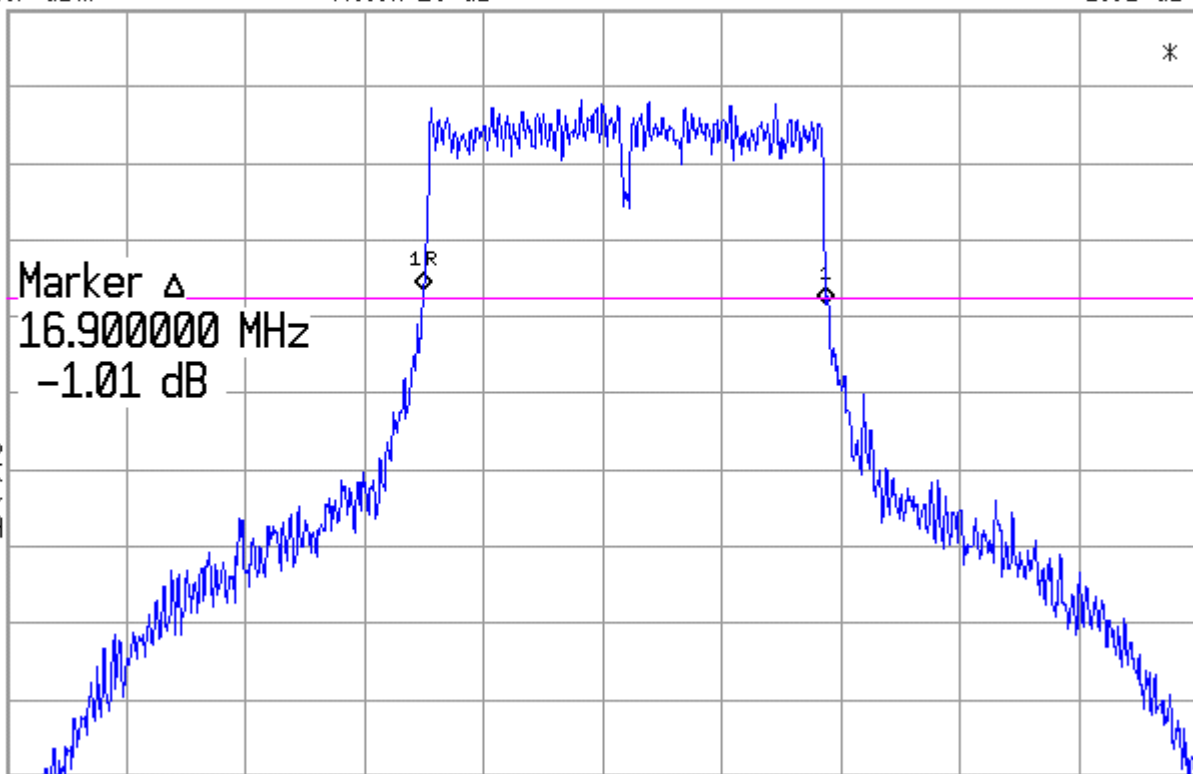
Agilent 15:25:33 Jan 16, 2007

▲ Mkr1 16.90 MHz
-1.01 dB

Ref 10.7 dBm

Atten 20 dB

Norm
Log
5
dB/
Offst
0.7
dB
DI
-8.1
dBm
LgAv



Center 2.411 00 GHz

Span 50 MHz

#Res BW 100 kHz

VBW 300 kHz

Sweep 4.8 ms (1001 pts)

6 dB Bandwidth
channel 6, 11 MB rate

Agilent 09:42:31 Jan 18, 2007

▲ Mkr1 10.70 MHz
-0.50 dB

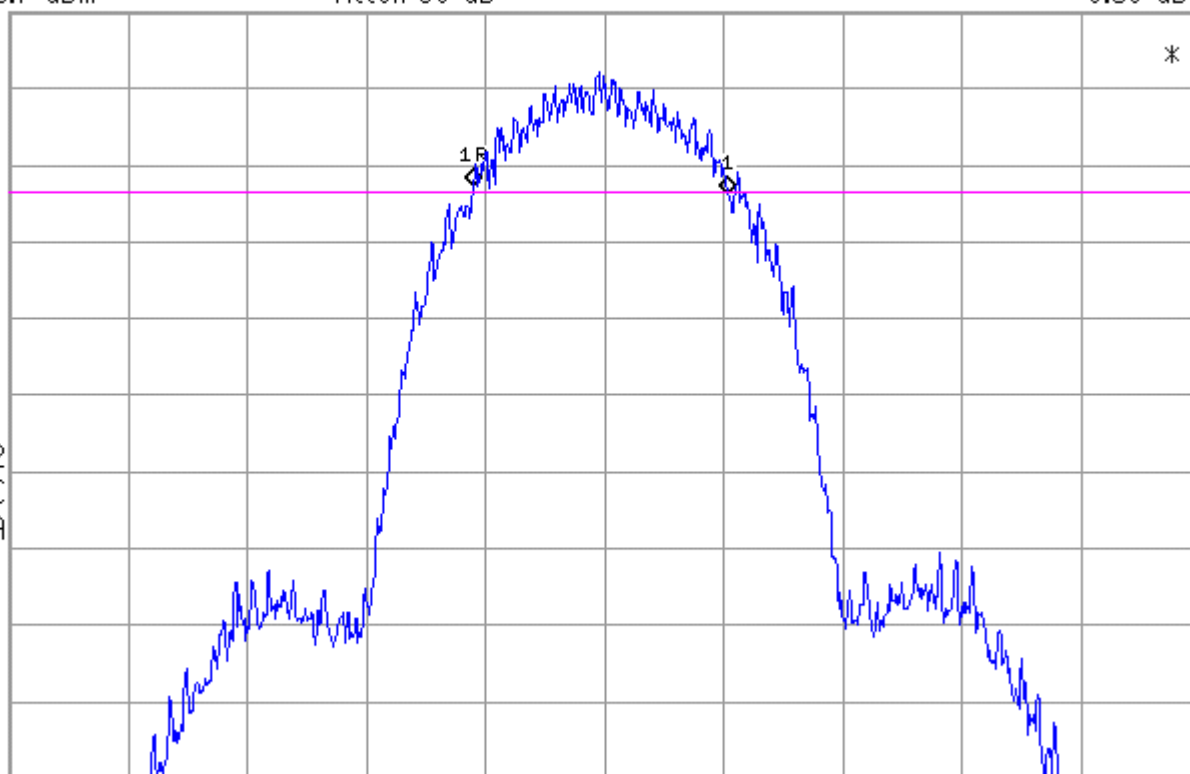
Ref 15.7 dBm

Atten 30 dB

Norm
Log
5
dB/
Offst
0.7
dB
DI
4.0
dBm
LgAv

V1 S2
S3 FC
AA

£(f):
FTun
#Swp



Center 2.437 00 GHz

Span 50 MHz

#Res BW 100 kHz

VBW 300 kHz

Sweep 4.8 ms (1001 pts)

6 dB Bandwidth
channel 6, 54 MB rate

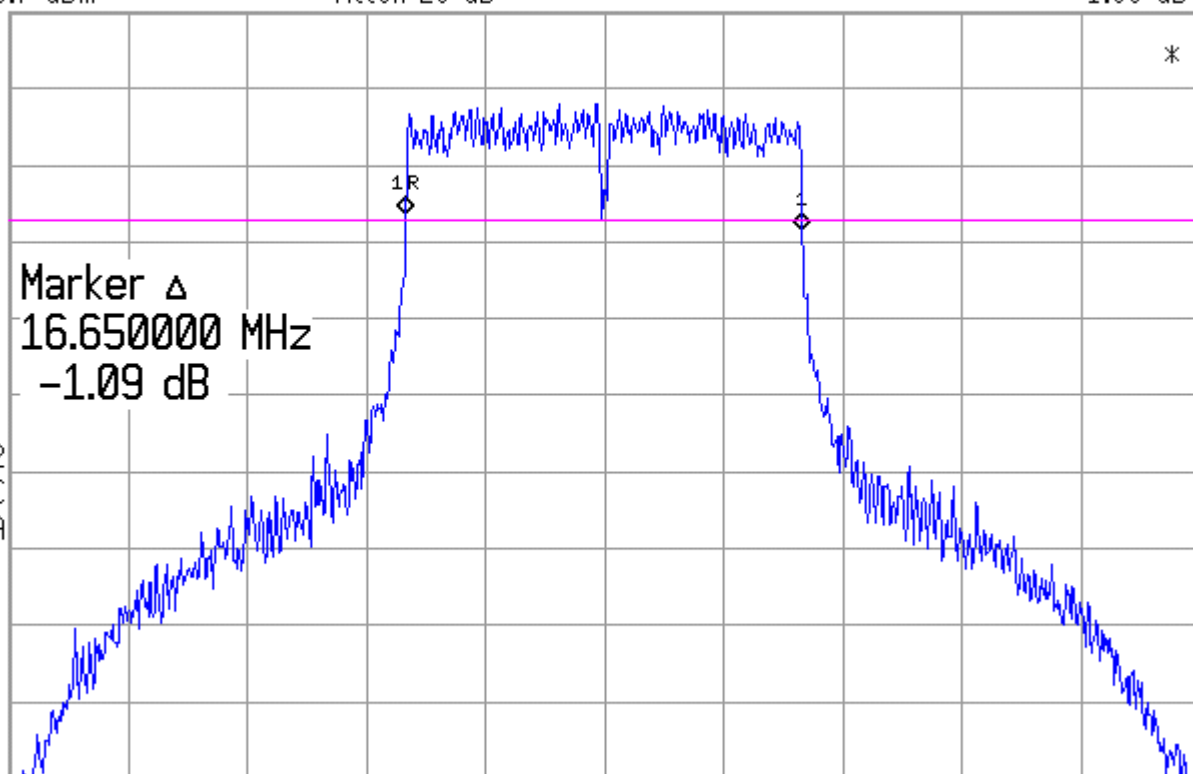
Agilent 10:49:10 Jan 18, 2007

▲ Mkr1 16.65 MHz
-1.09 dB

Ref 10.7 dBm

Atten 20 dB

Norm
Log
5
dB/
Offst
0.7
dB
DI
-2.9
dBm
LgAv



Center 2.437 00 GHz

Span 50 MHz

#Res BW 100 kHz

VBW 300 kHz

Sweep 4.8 ms (1001 pts)

6 dB Bandwidth
channel 11, 11 MB rate

Agilent 11:54:01 Jan 18, 2007

▲ Mkr1 10.65 MHz
0.66 dB

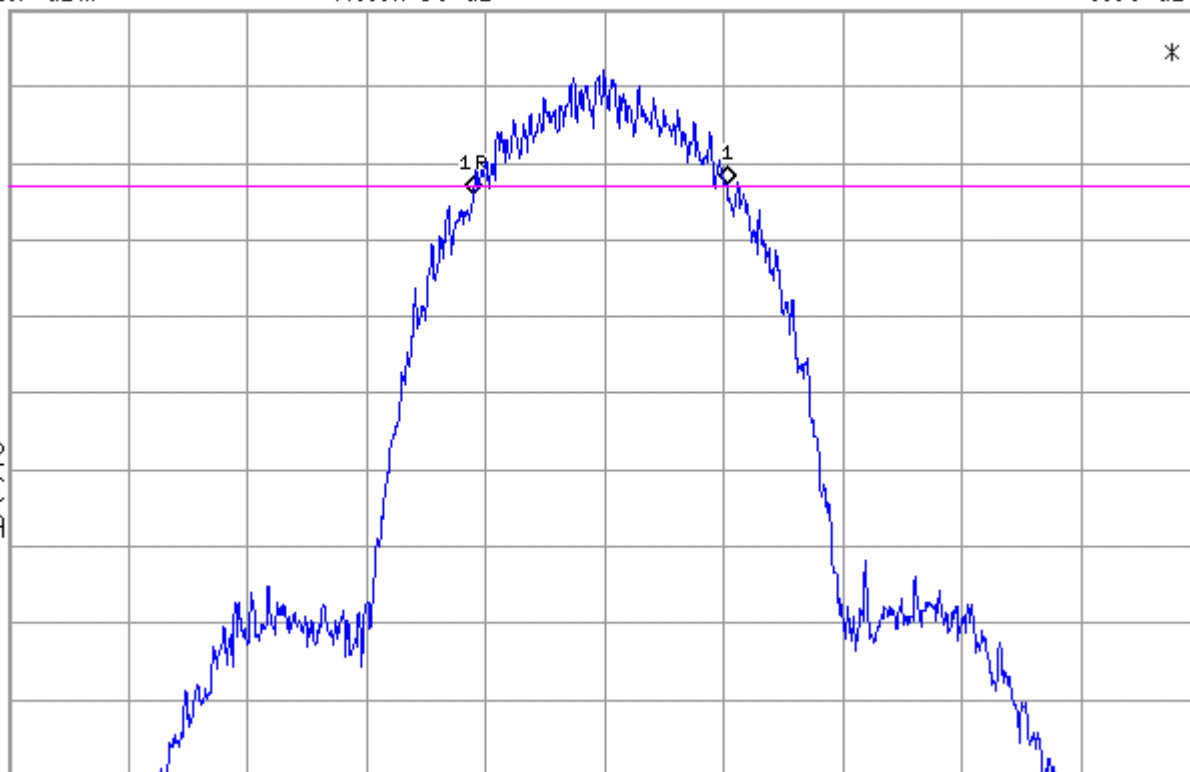
Ref 15.7 dBm

Atten 30 dB

Norm
Log
5
dB/
Offst
0.7
dB
DI
4.2
dBm
LgAv

V1 S2
S3 FC
AA

£(f):
FTun
#Swp



Center 2.462 00 GHz

Span 50 MHz

#Res BW 100 kHz

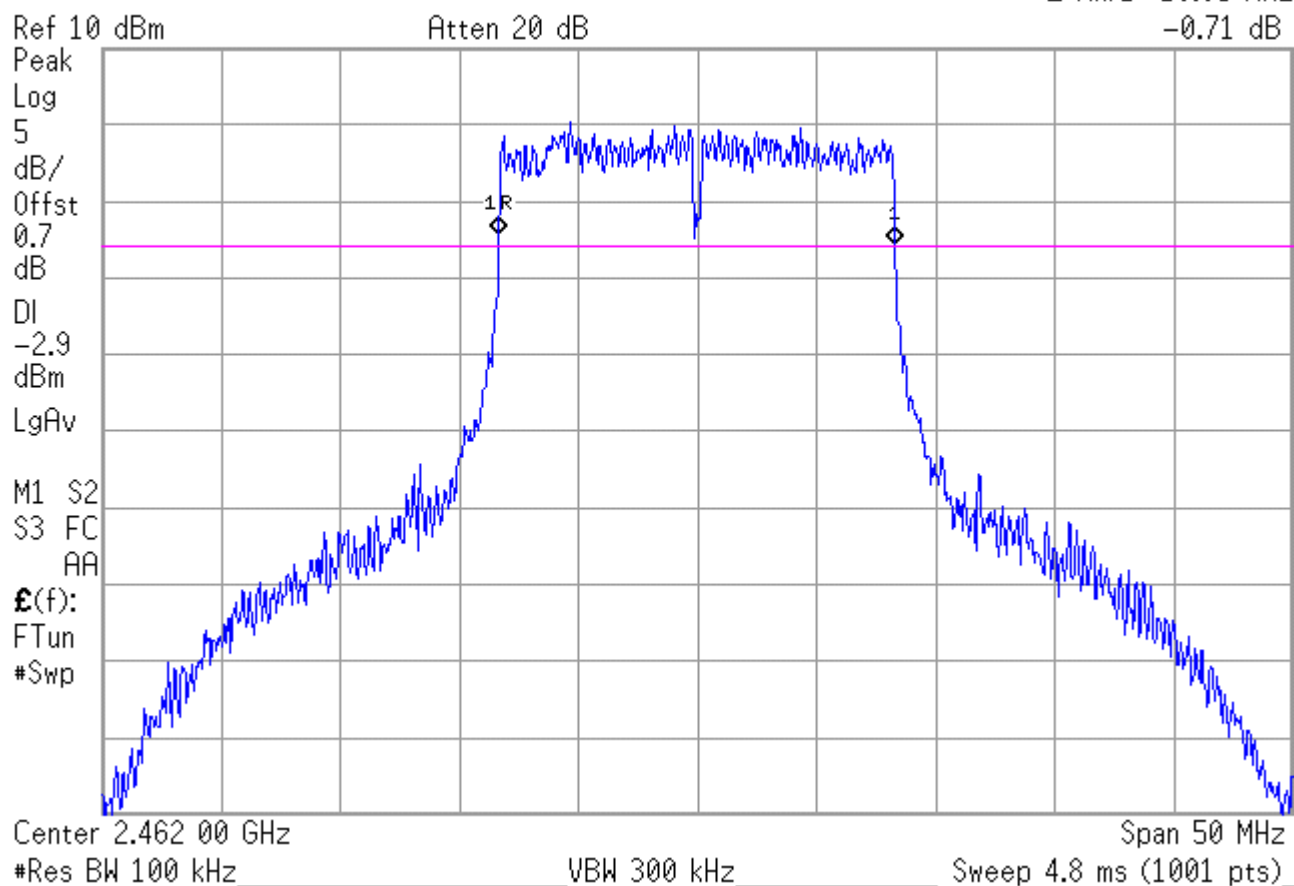
VBW 300 kHz

Sweep 4.8 ms (1001 pts)

6 dB Bandwidth
channel 11, 54 MB rate

Agilent 14:16:36 Jan 18, 2007

▲ Mkr1 16.65 MHz
-0.71 dB



Maximum peak output power
FCC 15.247(b)(3), IC RSS-210 A8.4(4)

Test summary

The requirements are: - MET - NOT MET
 Maximum conducted peak output power is 24.52 dBm, or 284 milliwatts.
 Antenna gain < 6 dBi

Test location

- Wild River Lab Large Test Site (Open Area Test Site)
- Wild River Lab Large Test Site - Tech area
- Wild River Lab Small Test Site (Open Area Test Site)

Test equipment

TUV ID	Model Number	Manufacturer	Description	Serial Number	Cal Due
3367	E4440A	Agilent	Spectrum Analyzer	MY42510439	14 Sep 07
3844	61697		HF cable		Code B

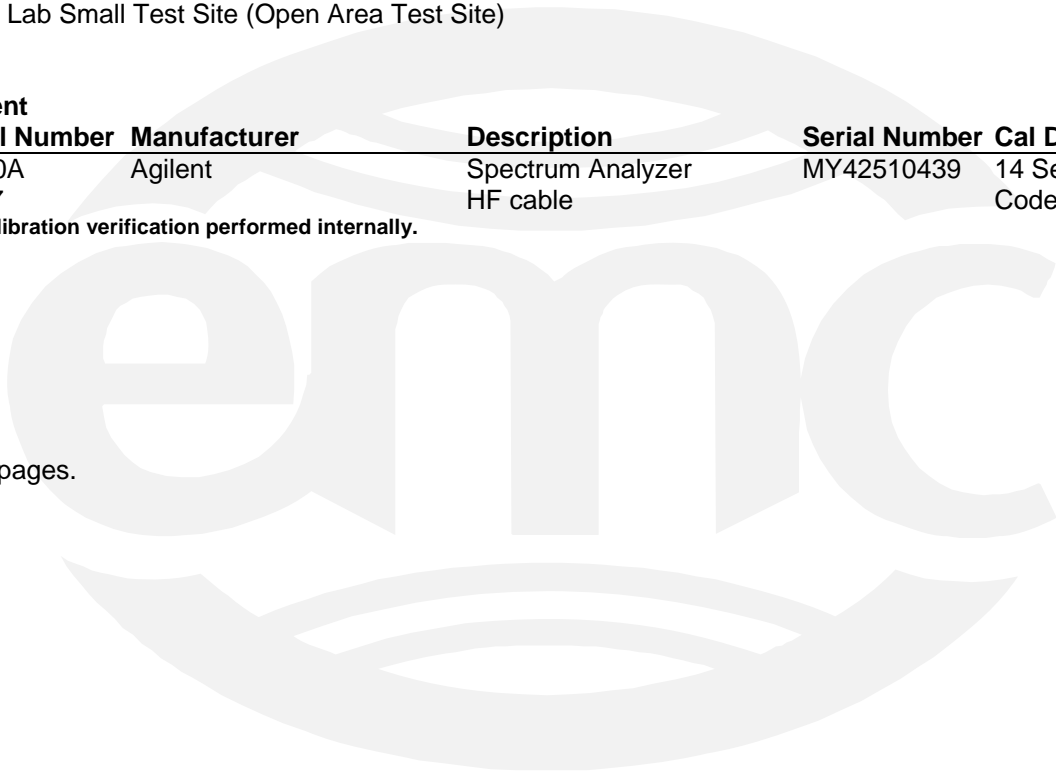
Cal Code B = Calibration verification performed internally.

Test limits

1 watt

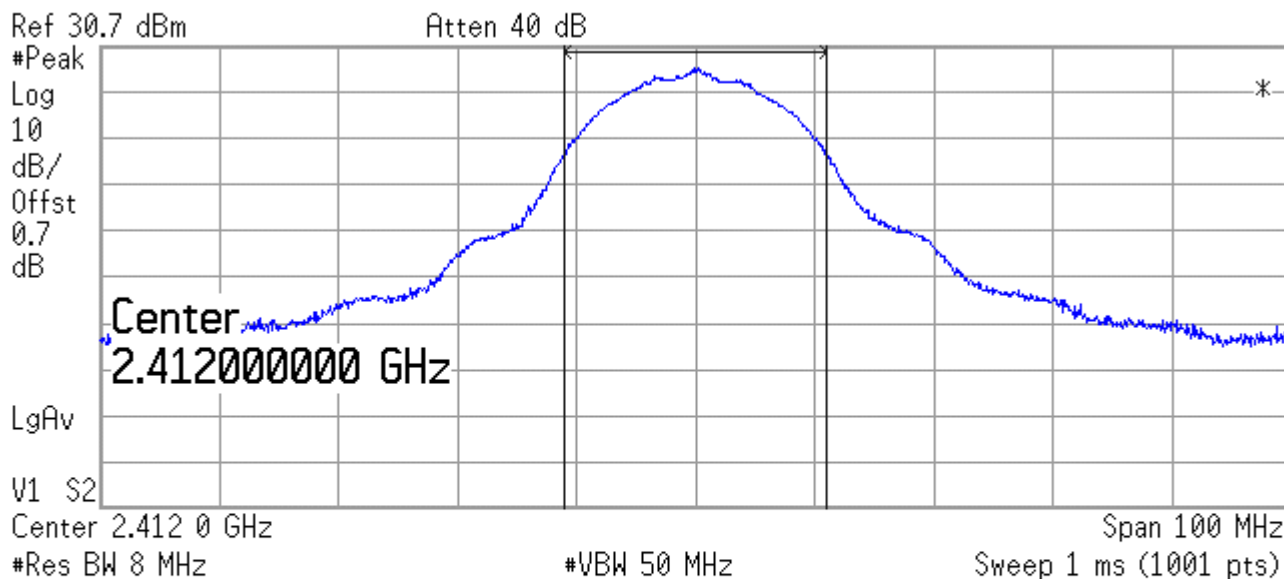
Test data

See following pages.



Maximum peak output power
channel 1, 11 MB rate

Agilent 15:01:51 Jan 16, 2007



Channel Power

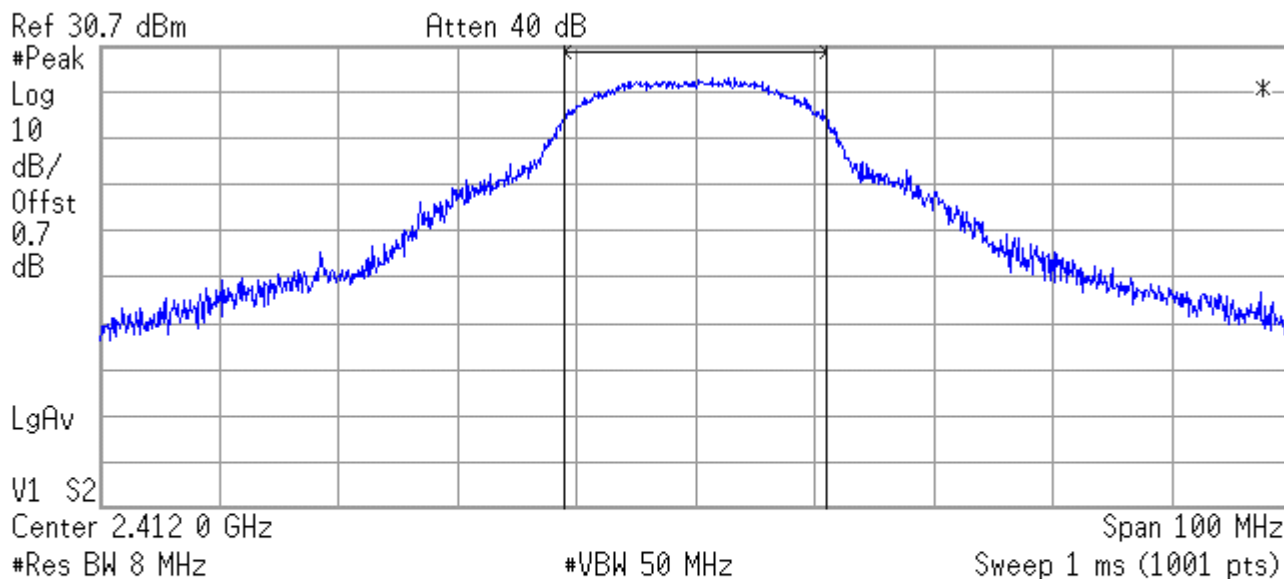
24.52 dBm /22.0000 MHz

Power Spectral Density

-48.90 dBm/Hz

Maximum peak output power
channel 1, 54 MB rate

Agilent 15:21:20 Jan 16, 2007



Channel Power

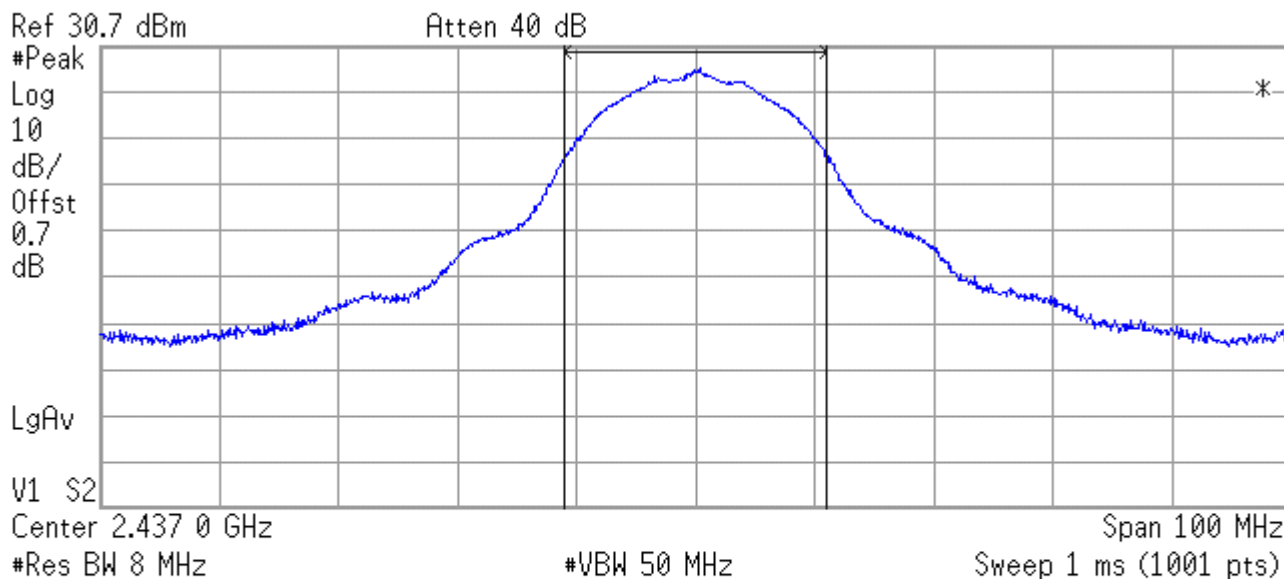
22.44 dBm /22.0000 MHz

Power Spectral Density

-50.99 dBm/Hz

Maximum peak output power
channel 6, 11 MB rate

Agilent 09:46:18 Jan 18, 2007



Channel Power

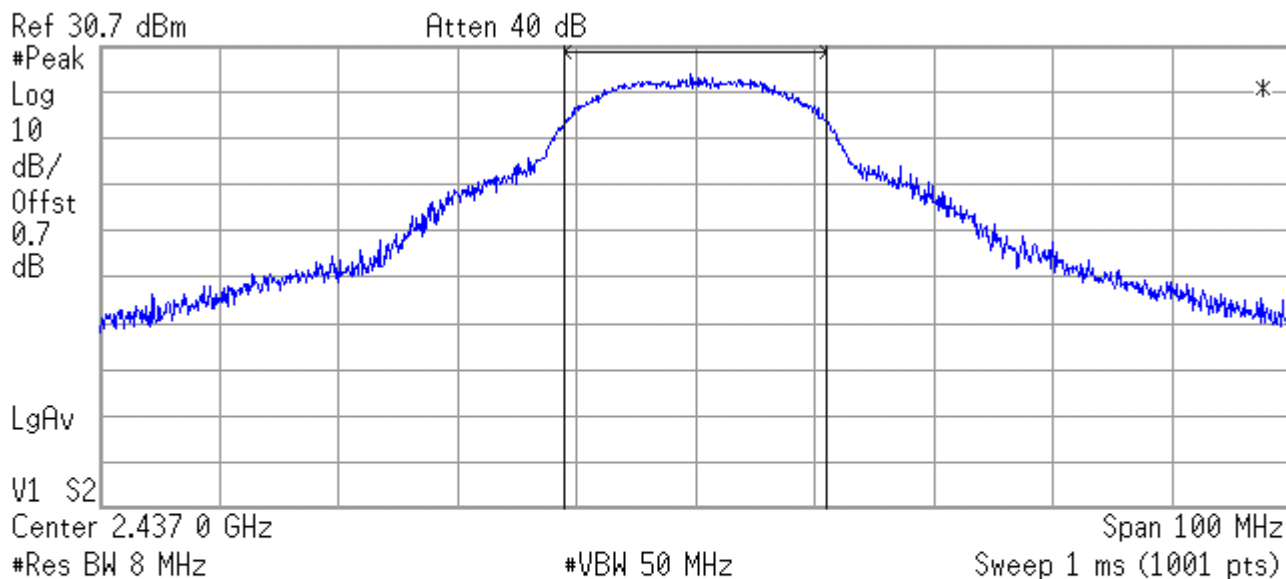
24.41 dBm /22.0000 MHz

Power Spectral Density

-49.01 dBm/Hz

Maximum peak output power
channel 6, 54 MB rate

Agilent 10:56:19 Jan 18, 2007



Channel Power

22.29 dBm /22.0000 MHz

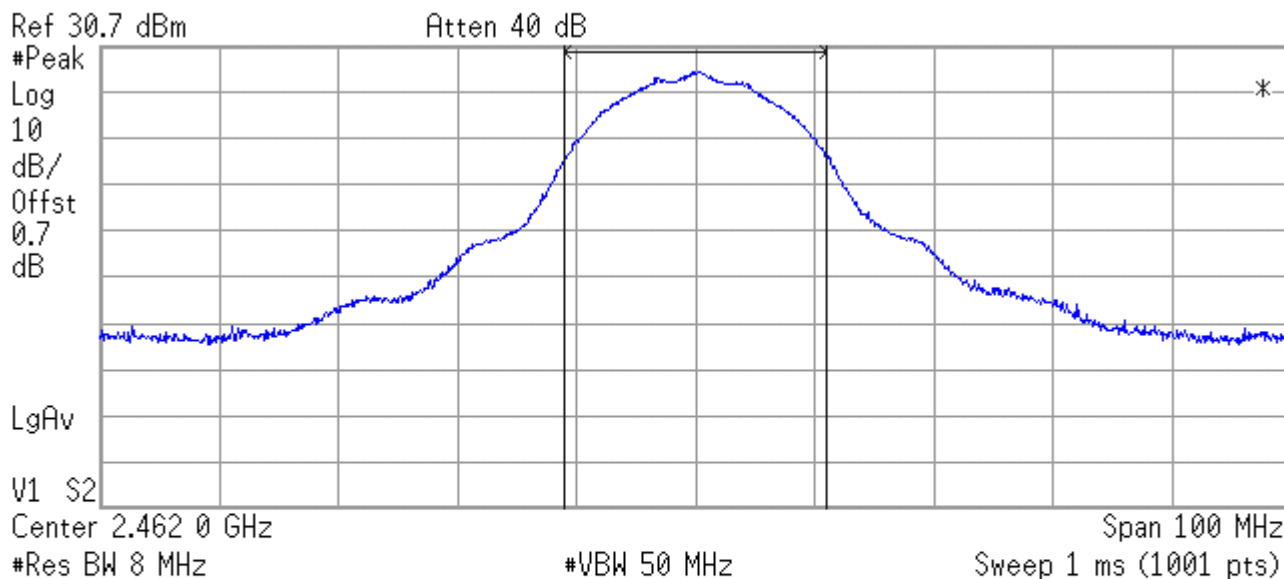
Power Spectral Density

-51.14 dBm/Hz



Maximum peak output power
channel 11, 11 MB rate

Agilent 12:53:12 Jan 18, 2007



Channel Power

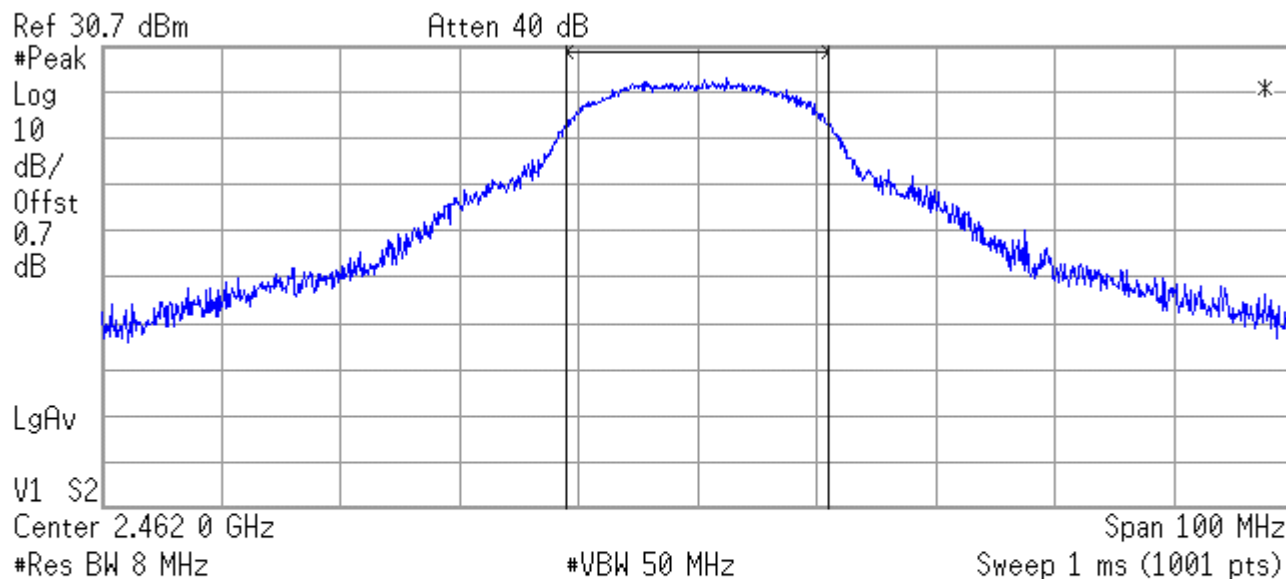
23.86 dBm /22.0000 MHz

Power Spectral Density

-49.57 dBm/Hz

Maximum peak output power
channel 11, 54 MB rate

Agilent 14:19:11 Jan 18, 2007



Channel Power

22.14 dBm /22.0000 MHz

Power Spectral Density

-51.28 dBm/Hz



America

Spurious emissions - Conducted

FCC 15.247(d), IC RSS-210 A8.5

Test summary

The requirements are: - MET - NOT MET

Minimum margin of compliance is 12 dB at the lower band edge.

Test location

- Wild River Lab Large Test Site (Open Area Test Site)

- Wild River Lab Large Test Site - Tech area

- Wild River Lab Small Test Site (Open Area Test Site)

Test equipment

TUV ID	Model Number	Manufacturer	Description	Serial Number	Cal Due
3367	E4440A	Agilent	Spectrum Analyzer	MY42510439	14 Sep 07
3844	61697		HF cable		Code B

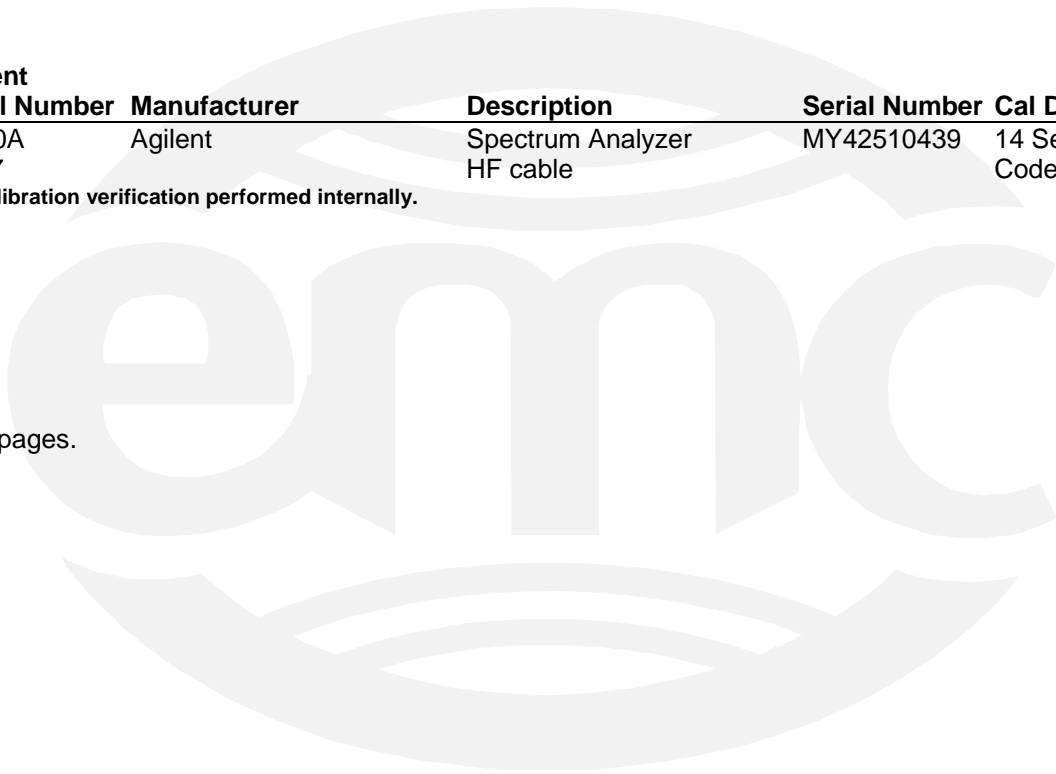
Cal Code B = Calibration verification performed internally.

Test limit

-20 dBc

Test data

See following pages.



Spurious emissions
channel 1, 11 MB rate

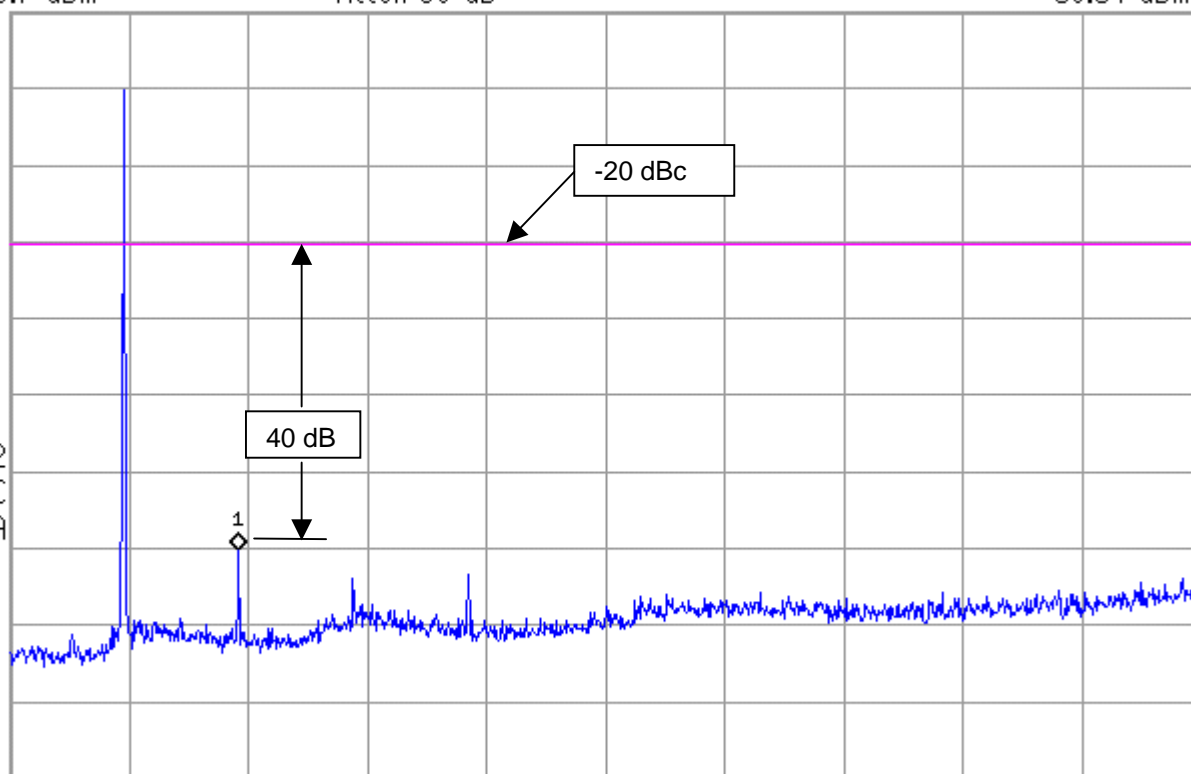
Agilent 14:59:34 Jan 16, 2007

Mkr1 4.83 GHz
-50.54 dBm

Ref 19.7 dBm

Atten 30 dB

#Peak
Log
10
dB/
Offst
0.7
dB
DI
-10.5
dBm
LgAv
V1 S2
S3 FC
AA
E(f):
FTun
#Swp



Start 30 MHz

Stop 25.03 GHz

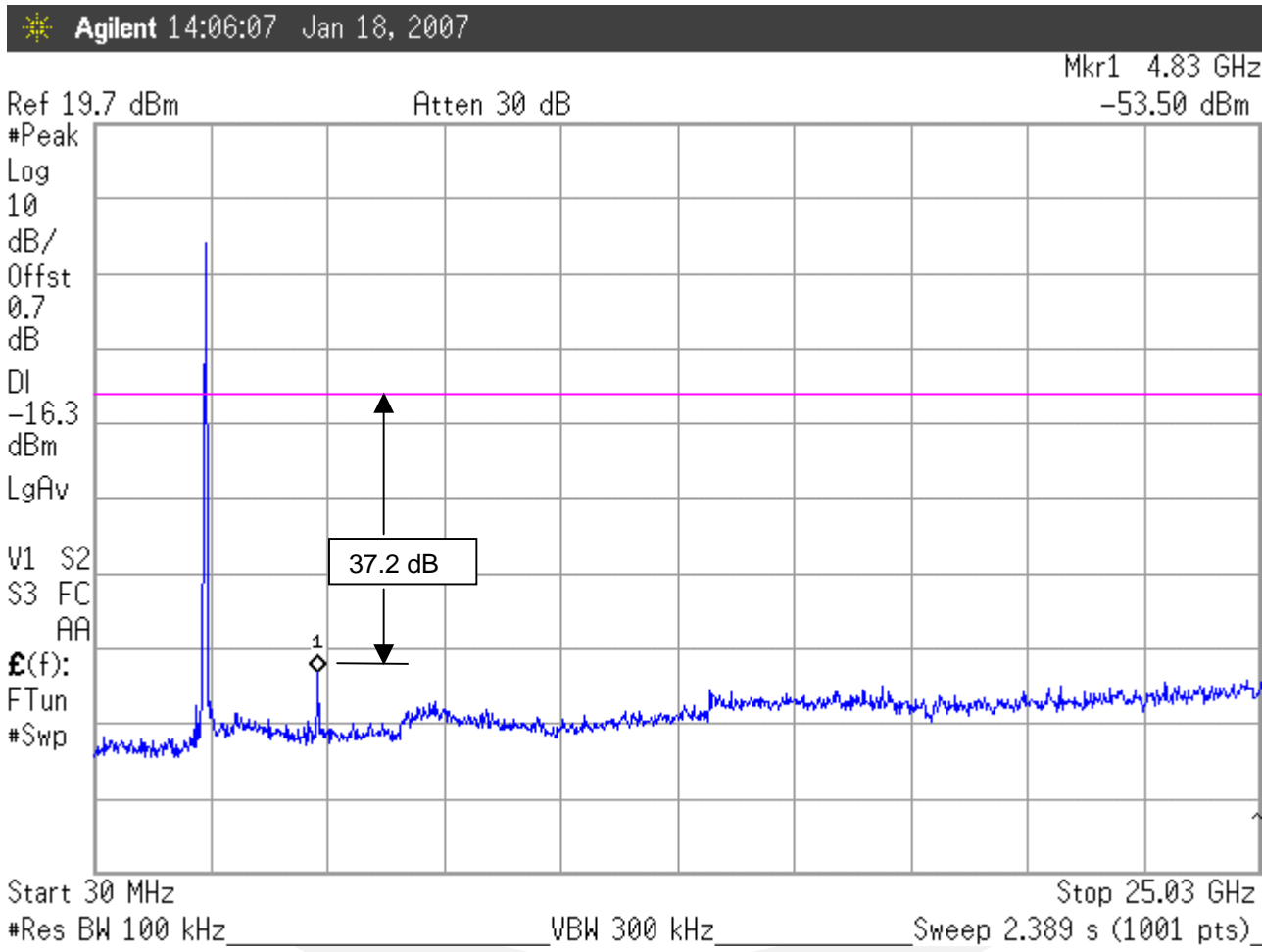
#Res BW 100 kHz

VBW 300 kHz

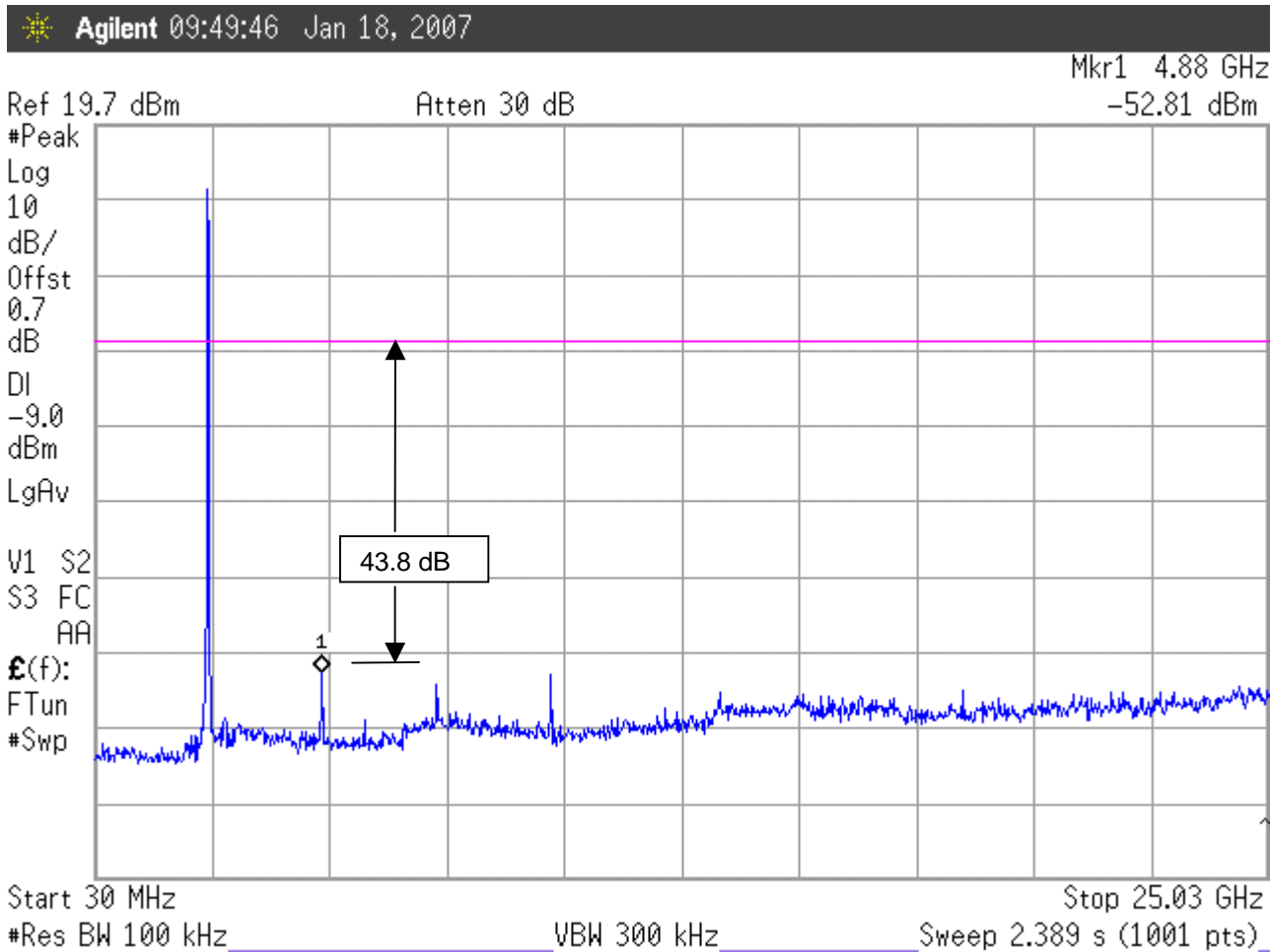
Sweep 2.389 s (1001 pts)

Spurious emissions

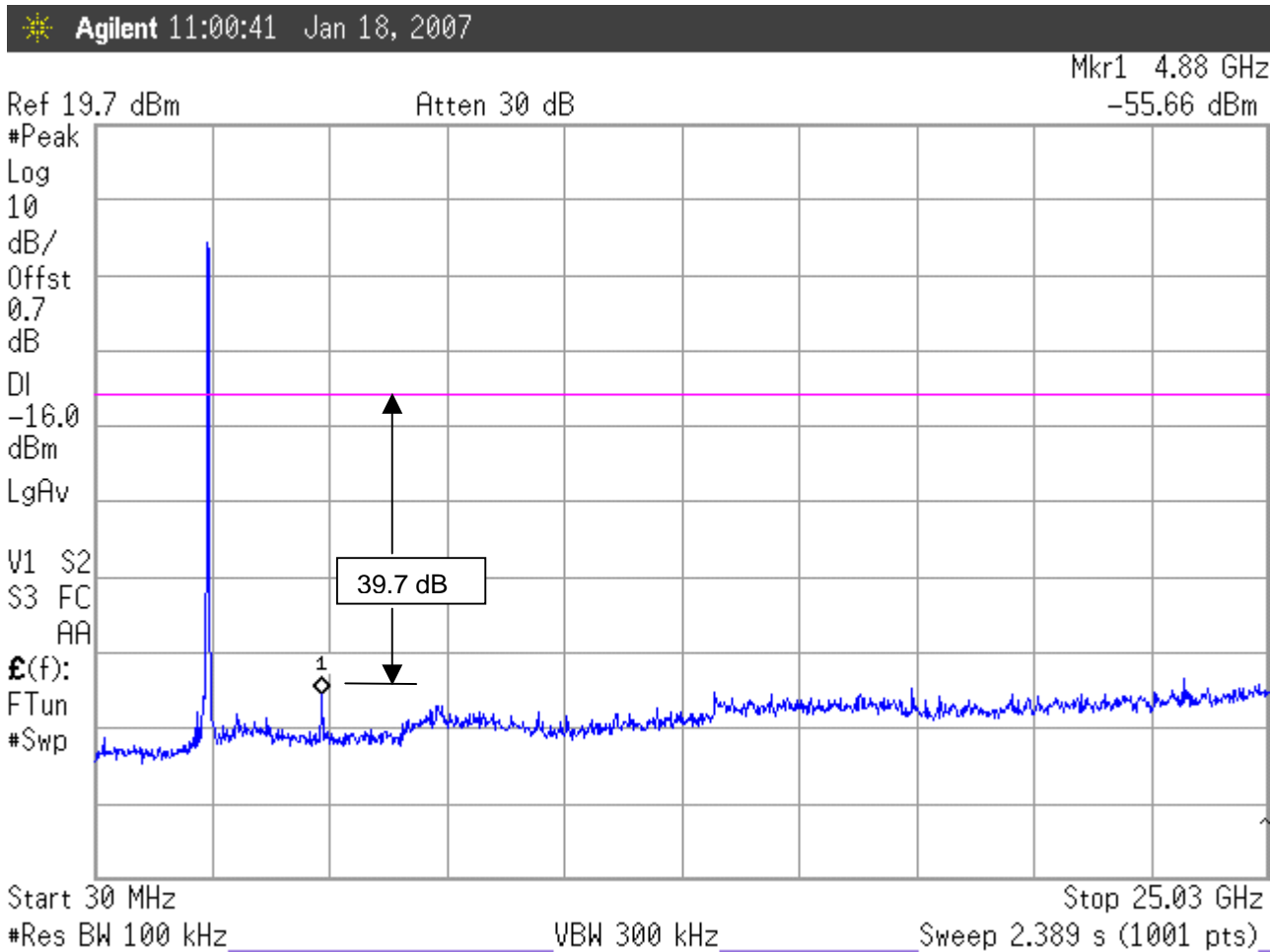
channel 1, 54 MB rate



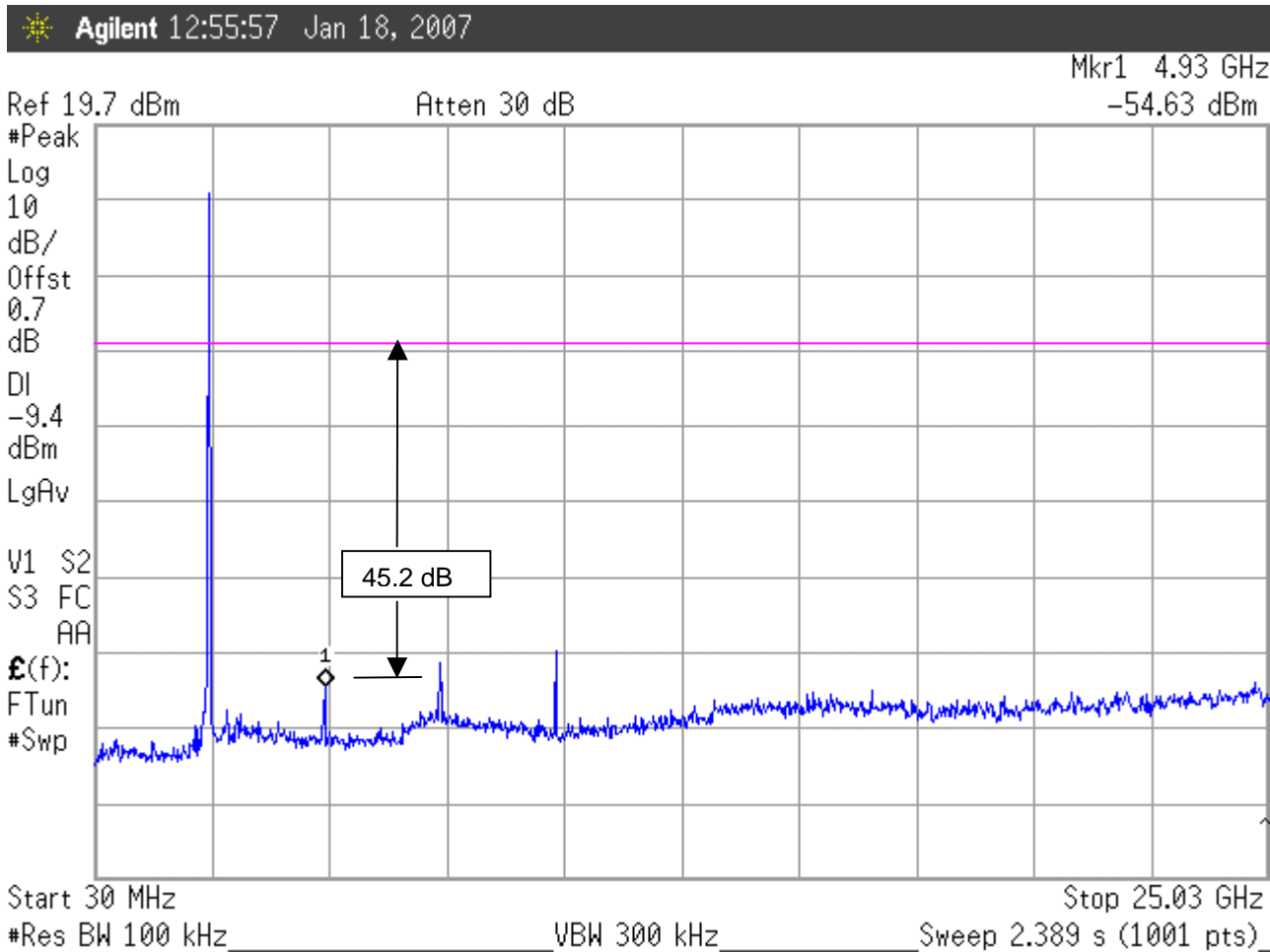
Spurious emissions
channel 6, 11 MB rate



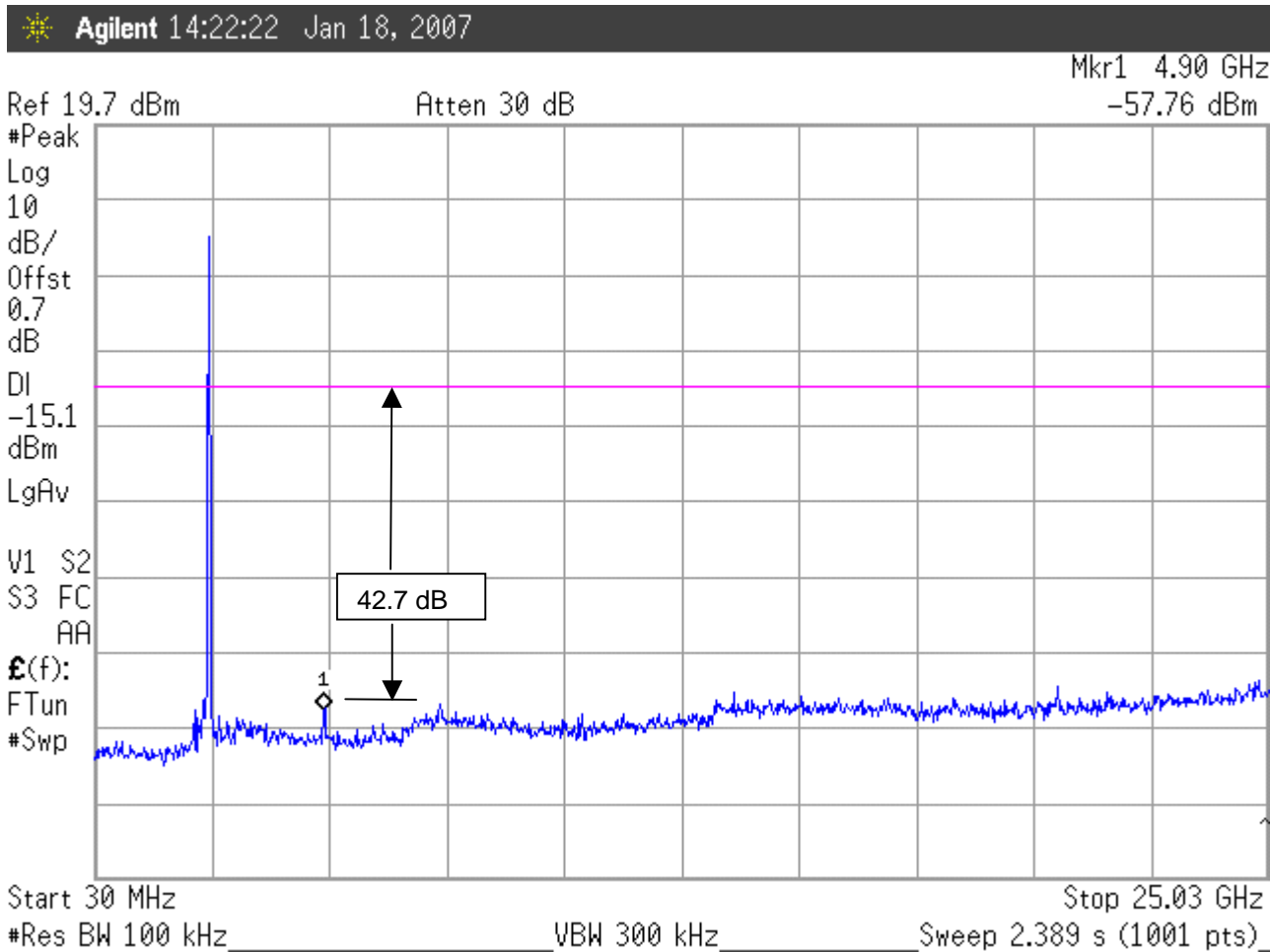
Spurious emissions
channel 6, 54 MB rate



Spurious emissions
channel 11, 11 MB rate

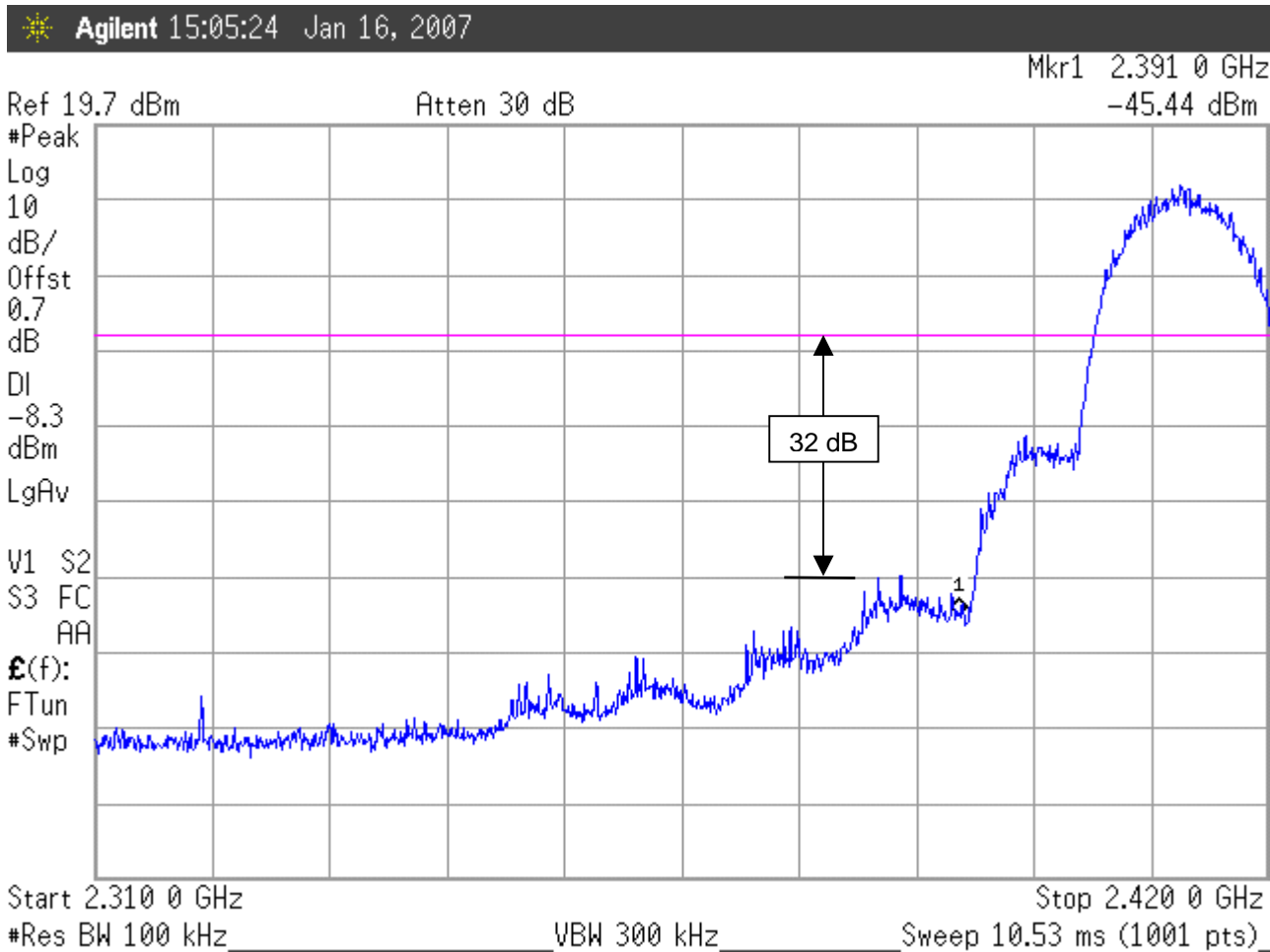


Spurious emissions
channel 11, 54 MB rate



Spurious emissions - band edge

channel 1, 11 MB rate



Spurious emissions - band edge

channel 1, 54 MB rate

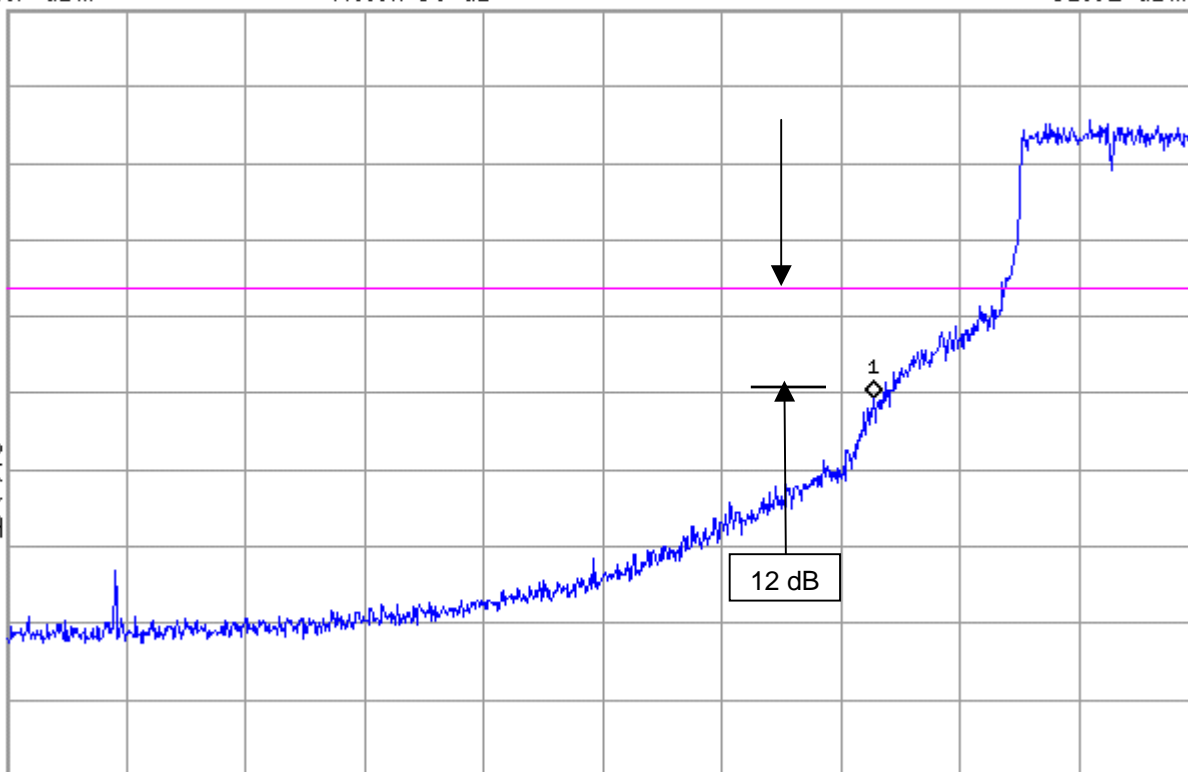
Agilent 15:48:29 Jan 16, 2007

Mkr1 2.390 0 GHz
-31.02 dBm

Ref 19.7 dBm

Atten 30 dB

#Peak
Log
10
dB/
Offst
0.7
dB
DI
-16.6
dBm
LgAv
V1 S2
S3 FC
AA
E(f):
FTun
#Swp



Start 2.310 0 GHz

Stop 2.420 0 GHz

#Res BW 100 kHz

VBW 300 kHz

Sweep 10.53 ms (1001 pts)

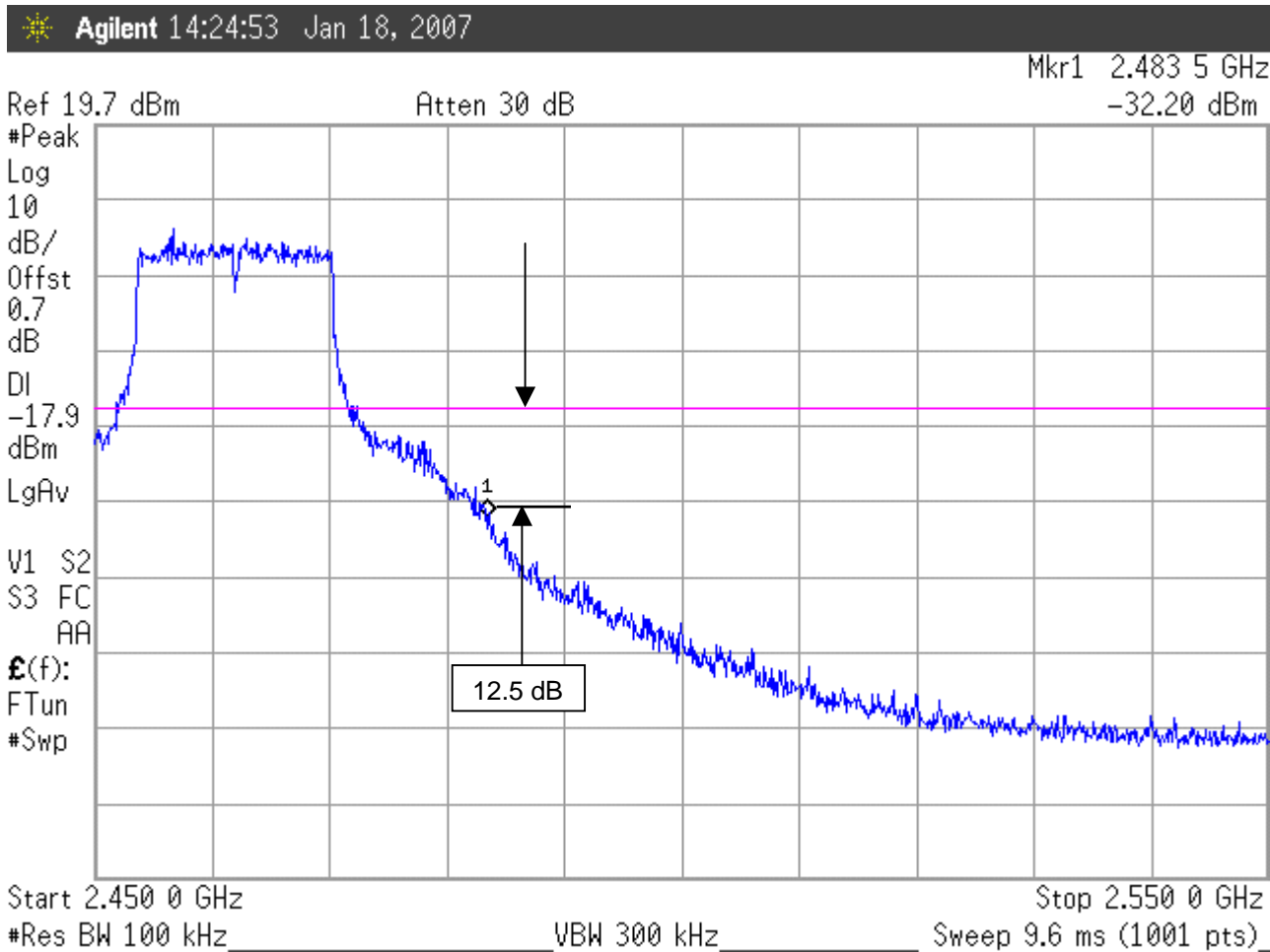
Spurious emissions - band edge

channel 11, 11 MB rate



Spurious emissions - band edge

channel 11, 54 MB rate



Spurious emissions - Radiated in restricted bands

FCC 15.247(d), IC RSS-210 A8.5

Test summary

The requirements are: - MET - NOT MET

Minimum margin of compliance for spurious emissions is 11.5 dB at 156.525 MHz

Minimum margin of compliance at the band edges is 4.3 dB, channel 1, 5 dBi antennas

Test location

- Wild River Lab Large Test Site (Open Area Test Site)

- Wild River Lab Large Test Site - Tech area

- Wild River Lab Small Test Site (Open Area Test Site)

Test distance

- 3 meters

- 10 meters

Test equipment

TUV ID	Model Number	Manufacturer	Description	Serial Number	Cal Due
3203	EM-6917B	Electro-Metrics	Biconicalog Periodic	106	02-May-07
2690	8566B	Hewlett-Packard	Spectrum Analyzer	2430A00930	12 May 07
2673	85662A	Hewlett-Packard	Analyzer Display	2152A03687	12 May 07
2684	85650A	Hewlett-Packard	Quasi-Peak Adapter	2521A01006	15 Mar 07
3229	3115	Electro-Mechanics (EMCO)	Ridge Guide Antenna	2483	17-May-07
3958	SL18B4020	Phase One Microwave	Preamplifier 1 – 18 GHz	0002	Code B
3847	ZHL-1042J	Mini-Circuits	Preamplifier 10 - 3000 MHz	0607	Code B
3371	E4440A	Agilent	Spectrum Analyzer	MY43362222	29 Nov 07
6717	3116	EMCO	RidgeGuideAnt 18-40 GHz	2005	05 Oct 07

Cal Code B = Calibration verification performed internally.

Test limit (in restricted bands)

Frequency (MHz)	Field strength (μ V/meter)	Field strength (dB μ V/meter)
30 - 88	100 – QP	40.0
88 - 216	150 – QP	43.5
216 - 960	200 – QP	46.0
Above 960	500 – QP	54.0
> 1000	500 – AV	54.0
	5000 – PK	74.0

Test data

See following pages.

RADIATED EMISSIONS



Test Report #: WC700108 Run 1 Test Area: LTS
 EUT Model #: 50001355-xx Date: 1/12/2007
 EUT Serial #: 0001 EUT Power: 3.3 VDC Temperature: 20.0 °C
 Test Method: FCC 15.247 & EN 55022 - B Air Pressure: 100.0 kPa
 Customer: Digi International Rel. Humidity: 35.0 %

EUT Description: Ethernet, Serial, 802.11b/g, dual USB module

Notes: 30 - 1000 MHz, 2 dBi antennas & 5 dBi antennas

Data File Name: 0108b.dat Page: 3 of 10

List of measurements for run #: 1

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC-B <1GHz 3m	DELTA2
231.874 MHz	40.95 Qp	1.44 / 11.43 / 29.62 / 0.0	24.21	H / 1.00 / 270	-21.79	n/a
250.012 MHz	40.75 Qp	1.48 / 11.95 / 29.64 / 0.0	24.54	H / 1.00 / 270	-21.46	n/a
64.16 MHz	47.72 Qp	0.76 / 10.82 / 29.65 / 0.0	29.65	V / 1.00 / 0	-10.35	n/a
110.804 MHz	47.6 Qp	0.97 / 9.55 / 29.56 / 0.0	28.56	V / 1.00 / 0	-14.94	n/a
120.0 MHz	42.8 Qp	1.0 / 8.95 / 29.57 / 0.0	23.18	V / 1.00 / 0	-20.32	n/a
125.0 MHz	39.45 Qp	1.01 / 8.63 / 29.58 / 0.0	19.51	V / 1.00 / 0	-23.99	n/a
993.768 MHz	34.15 Qp	3.07 / 22.91 / 29.65 / 0.0	30.47	V / 1.00 / 0	-23.53	n/a
1.008 GHz	42.86 Av	3.08 / 22.81 / 29.64 / 0.0	39.11	V / 1.00 / 0	n/a	n/a
1.008 GHz	52.6 Pk	3.08 / 22.81 / 29.64 / 0.0	48.85	V / 1.00 / 0	n/a	n/a
64.123 MHz	39.2 Pk	0.76 / 10.82 / 29.65 / 0.0	21.13	V / 1.00 / 90	-18.87*	n/a
112.34 MHz	42.05 Qp	0.98 / 9.45 / 29.56 / 0.0	22.91	V / 1.00 / 90	-20.59	n/a
154.722 MHz	57.25 Qp	1.15 / 9.19 / 29.53 / 0.0	38.06	V / 1.00 / 90	-5.44	n/a
154.968 MHz	56.4 Qp	1.15 / 9.17 / 29.52 / 0.0	37.2	V / 1.00 / 90	-6.3	n/a
480.0 MHz	44.7 Qp	2.09 / 17.48 / 30.01 / 0.0	34.26	V / 1.00 / 180	-11.74	n/a
560.0 MHz	42.5 Qp	2.31 / 18.56 / 30.14 / 0.0	33.24	V / 1.00 / 180	-12.76	n/a
125.0 MHz	41.25 Qp	1.01 / 8.63 / 29.58 / 0.0	21.31	V / 1.00 / 270	-22.19	n/a
153.12 MHz	62.0 Qp	1.14 / 9.3 / 29.53 / 0.0	42.91	V / 1.00 / 270	-0.59	n/a
154.722 MHz	58.75 Qp	1.15 / 9.19 / 29.53 / 0.0	39.56	V / 1.00 / 270	-3.94	n/a
154.968 MHz	57.7 Qp	1.15 / 9.17 / 29.52 / 0.0	38.5	V / 1.00 / 270	-5.0	n/a
Maximized						
153.126 MHz	67.13 Qp	1.14 / 9.3 / 29.53 / 0.0	48.04	V / 1.00 / 250	4.54	n/a
156.525 MHz	64.43 Qp	1.17 / 9.05 / 29.52 / 0.0	45.14	V / 1.00 / 132	1.64	n/a

Tested by: Greg Jakubowski

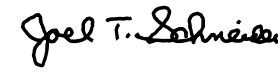
 Printed



 Signature

Reviewed by: Joel Schneider

 Printed



 Signature

RADIATED EMISSIONS



America

Test Report #: WC700108 Run 1 Test Area: LTS

EUT Model #: 50001355-xx Date: 1/12/2007

EUT Serial #: 0001 EUT Power: 3.3 VDC Temperature: 20.0 °C

Test Method: FCC 15.247 & EN 55022 - B Air Pressure: 100.0 kPa

Customer: Digi International Rel. Humidity: 35.0 %

EUT Description: Ethernet, Serial, 802.11b/g, dual USB module

Notes: 30 - 1000 MHz, 2 dBi antennas & 5 dBi antennas

Data File Name: 0108b.dat Page: 4 of 10

List of measurements for run #: 1

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC-B <1GHz 3m	DELTA2
156.525 MHz emission is unrelated to the transmitter, doesn't change when the transmitter is off.						
5 dBi antennas						
No higher emissions detected						
End scan 30 - 1000 MHz						
Digital device passes EN 55022 class A						
Transmitter passes 15.209 (B) limit in the restricted bands						
15 Jan 07, circuit mods to reduce emissions between 150 & 160 MHz						
Max'd						
152.814 MHz	60.26 Qp	1.13 / 9.33 / 29.53 / 0.0	41.19	V / 1.00 / 134	-2.31	n/a
Shorted ground plane cut						
152.814 MHz	48.56 Qp	1.13 / 9.33 / 29.53 / 0.0	29.49	V / 1.00 / 134	-14.01	n/a
110.804 MHz	41.85 Qp	0.97 / 9.55 / 29.56 / 0.0	22.81	V / 1.00 / 0	-20.69	n/a
112.238 MHz	42.15 Qp	0.97 / 9.45 / 29.56 / 0.0	23.02	V / 1.00 / 0	-20.48	n/a
120.0 MHz	49.55 Qp	1.0 / 8.95 / 29.57 / 0.0	29.93	V / 1.00 / 0	-13.57	n/a
125.0 MHz	45.25 Qp	1.01 / 8.63 / 29.58 / 0.0	25.31	V / 1.00 / 0	-18.19	n/a
152.814 MHz	41.1 Qp	1.13 / 9.33 / 29.53 / 0.0	22.03	V / 1.00 / 0	-21.47	n/a
153.126 MHz	41.7 Qp	1.14 / 9.3 / 29.53 / 0.0	22.61	V / 1.00 / 0	-20.89	n/a
154.722 MHz	38.1 Qp	1.15 / 9.19 / 29.53 / 0.0	18.91	V / 1.00 / 0	-24.59	n/a
156.525 MHz	39.75 Qp	1.17 / 9.05 / 29.52 / 0.0	20.46	V / 1.00 / 0	-23.04	n/a
156.89 MHz	39.25 Qp	1.17 / 9.03 / 29.51 / 0.0	19.94	V / 1.00 / 0	-23.56	n/a

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Test Report #: WC700108 Run 1 Test Area: LTS
 EUT Model #: 50001355-xx Date: 1/12/2007
 EUT Serial #: 0001 EUT Power: 3.3 VDC Temperature: 20.0 °C
 Test Method: FCC 15.247 & EN 55022 - B Air Pressure: 100.0 kPa
 Customer: Digi International Rel. Humidity: 35.0 %

EUT Description: Ethernet, Serial, 802.11b/g, dual USB module

Notes: 30 - 1000 MHz, 2 dBi antennas & 5 dBi antennas

Data File Name: 0108b.dat Page: 5 of 10

List of measurements for run #: 1

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC-B <1GHz 3m	DELTA2
160.0 MHz	44.15 Qp	1.2 / 8.8 / 29.5 / 0.0	24.65	V / 1.00 / 0	-18.85	n/a
229.504 MHz	39.25 Qp	1.44 / 11.36 / 29.61 / 0.0	22.44	V / 1.00 / 0	-23.56	n/a
231.874 MHz	34.55 Qp	1.44 / 11.43 / 29.62 / 0.0	17.81	V / 1.00 / 0	-28.19	n/a
235.426 MHz	36.0 Qp	1.45 / 11.53 / 29.62 / 0.0	19.36	V / 1.00 / 0	-26.64	n/a
240.0 MHz	37.65 Qp	1.46 / 11.66 / 29.63 / 0.0	21.15	V / 1.00 / 0	-24.85	n/a
250.012 MHz	34.65 Qp	1.48 / 11.95 / 29.64 / 0.0	18.44	V / 1.00 / 0	-27.56	n/a
288.0 MHz	34.75 Qp	1.65 / 13.05 / 29.71 / 0.0	19.74	V / 1.00 / 0	-26.26	n/a
336.0 MHz	36.1 Qp	1.87 / 14.43 / 29.78 / 0.0	22.62	V / 1.00 / 0	-23.38	n/a
360.0 MHz	37.4 Qp	1.93 / 15.12 / 29.82 / 0.0	24.64	V / 1.00 / 0	-21.36	n/a
382.194 MHz	40.75 Qp	1.98 / 15.68 / 29.86 / 0.0	28.55	V / 1.00 / 0	-17.45	n/a
387.294 MHz	35.65 Qp	1.99 / 15.63 / 29.86 / 0.0	23.4	V / 1.00 / 0	-22.6	n/a
392.562 MHz	40.65 Qp	2.0 / 15.65 / 29.87 / 0.0	28.43	V / 1.00 / 0	-17.57	n/a
400.0 MHz	37.55 Qp	2.01 / 15.81 / 29.88 / 0.0	25.48	V / 1.00 / 0	-20.52	n/a
432.0 MHz	31.3 Qp	2.04 / 16.48 / 29.94 / 0.0	19.88	V / 1.00 / 0	-26.12	n/a
480.0 MHz	39.1 Qp	2.09 / 17.48 / 30.01 / 0.0	28.66	V / 1.00 / 0	-17.34	n/a
560.0 MHz	38.05 Qp	2.31 / 18.56 / 30.14 / 0.0	28.79	V / 1.00 / 0	-17.21	n/a
599.48 MHz	37.85 Qp	2.5 / 19.32 / 30.2 / 0.0	29.48	V / 1.00 / 0	-16.52	n/a
680.0 MHz	29.8 Qp	2.59 / 20.25 / 30.09 / 0.0	22.56	V / 1.00 / 0	-23.44	n/a
720.0 MHz	34.65 Qp	2.67 / 21.15 / 30.03 / 0.0	28.44	V / 1.00 / 0	-17.56	n/a
863.082 MHz	36.15 Qp	2.86 / 22.09 / 29.83 / 0.0	31.27	V / 1.00 / 0	-14.73	n/a
912.0 MHz	34.8 Qp	3.01 / 22.54 / 29.77 / 0.0	30.58	V / 1.00 / 0	-15.42	n/a
960.0 MHz	37.8 Qp	3.04 / 22.6 / 29.7 / 0.0	33.74	V / 1.00 / 0	-12.26	n/a
993.768 MHz	35.0 Qp	3.07 / 22.91 / 29.65 / 0.0	31.32	V / 1.00 / 0	-22.68	n/a
64.123 MHz	30.8 Qp	0.76 / 10.82 / 29.65 / 0.0	12.73	H / 1.00 / 0	-27.27	n/a
110.804 MHz	35.2 Qp	0.97 / 9.55 / 29.56 / 0.0	16.16	H / 1.00 / 0	-27.34	n/a
112.238 MHz	33.7 Qp	0.97 / 9.45 / 29.56 / 0.0	14.57	H / 1.00 / 0	-28.93	n/a

Tested by: Greg Jakubowski

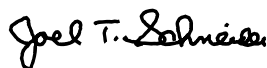
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Reviewed by: Joel Schneider

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RADIATED EMISSIONS



Test Report #: WC700108 Run 1 Test Area: LTS
 EUT Model #: 50001355-xx Date: 1/12/2007
 EUT Serial #: 0001 EUT Power: 3.3 VDC Temperature: 20.0 °C
 Test Method: FCC 15.247 & EN 55022 - B Air Pressure: 100.0 kPa
 Customer: Digi International Rel. Humidity: 35.0 %

EUT Description: Ethernet, Serial, 802.11b/g, dual USB module

Notes: 30 - 1000 MHz, 2 dBi antennas & 5 dBi antennas

Data File Name: 0108b.dat Page: 6 of 10

List of measurements for run #: 1

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC-B <1GHz 3m	DELTA2
120.0 MHz	34.4 Qp	1.0 / 8.95 / 29.57 / 0.0	14.78	H / 1.00 / 0	-28.72	n/a
125.0 MHz	29.35 Qp	1.01 / 8.63 / 29.58 / 0.0	9.41	H / 1.00 / 0	-34.09	n/a
152.814 MHz	35.9 Qp	1.13 / 9.33 / 29.53 / 0.0	16.83	H / 1.00 / 0	-26.67	n/a
153.126 MHz	36.3 Qp	1.14 / 9.3 / 29.53 / 0.0	17.21	H / 1.00 / 0	-26.29	n/a
154.722 MHz	34.25 Qp	1.15 / 9.19 / 29.53 / 0.0	15.06	H / 1.00 / 0	-28.44	n/a
154.968 MHz	34.35 Qp	1.15 / 9.17 / 29.52 / 0.0	15.15	H / 1.00 / 0	-28.35	n/a
156.525 MHz	39.4 Qp	1.17 / 9.05 / 29.52 / 0.0	20.11	H / 1.00 / 0	-23.39	n/a
156.89 MHz	39.25 Qp	1.17 / 9.03 / 29.51 / 0.0	19.94	H / 1.00 / 0	-23.56	n/a
160.0 MHz	36.5 Qp	1.2 / 8.8 / 29.5 / 0.0	17.0	H / 1.00 / 0	-26.5	n/a
229.504 MHz	43.25 Qp	1.44 / 11.36 / 29.61 / 0.0	26.44	H / 1.00 / 0	-19.56	n/a
231.874 MHz	37.5 Qp	1.44 / 11.43 / 29.62 / 0.0	20.76	H / 1.00 / 0	-25.24	n/a
235.426 MHz	42.5 Qp	1.45 / 11.53 / 29.62 / 0.0	25.86	H / 1.00 / 0	-20.14	n/a
240.0 MHz	38.95 Qp	1.46 / 11.66 / 29.63 / 0.0	22.45	H / 1.00 / 0	-23.55	n/a
250.012 MHz	34.85 Qp	1.48 / 11.95 / 29.64 / 0.0	18.64	H / 1.00 / 0	-27.36	n/a
262.5 MHz	35.15 Qp	1.51 / 12.31 / 29.66 / 0.0	19.31	H / 1.00 / 0	-26.69	n/a
288.0 MHz	40.15 Qp	1.65 / 13.05 / 29.71 / 0.0	25.14	H / 1.00 / 0	-20.86	n/a
336.0 MHz	38.3 Qp	1.87 / 14.43 / 29.78 / 0.0	24.82	H / 1.00 / 0	-21.18	n/a
360.0 MHz	42.7 Qp	1.93 / 15.12 / 29.82 / 0.0	29.94	H / 1.00 / 0	-16.06	n/a
382.194 MHz	45.9 Qp	1.98 / 15.68 / 29.86 / 0.0	33.7	H / 1.00 / 0	-12.3	n/a
387.294 MHz	40.9 Qp	1.99 / 15.63 / 29.86 / 0.0	28.65	H / 1.00 / 0	-17.35	n/a
392.562 MHz	46.1 Qp	2.0 / 15.65 / 29.87 / 0.0	33.88	H / 1.00 / 0	-12.12	n/a
400.0 MHz	38.0 Qp	2.01 / 15.81 / 29.88 / 0.0	25.93	H / 1.00 / 0	-20.07	n/a
432.0 MHz	31.95 Qp	2.04 / 16.48 / 29.94 / 0.0	20.53	H / 1.00 / 0	-25.47	n/a
480.0 MHz	34.85 Qp	2.09 / 17.48 / 30.01 / 0.0	24.41	H / 1.00 / 0	-21.59	n/a
560.0 MHz	29.2 Qp	2.31 / 18.56 / 30.14 / 0.0	19.94	H / 1.00 / 0	-26.06	n/a
680.0 MHz	30.85 Qp	2.59 / 20.25 / 30.09 / 0.0	23.61	H / 1.00 / 0	-22.39	n/a
720.0 MHz	39.4 Qp	2.67 / 21.15 / 30.03 / 0.0	33.19	H / 1.00 / 0	-12.81	n/a

Tested by: Greg Jakubowski

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RADIATED EMISSIONS



America

Test Report #: WC700108 Run 1 Test Area: LTS

EUT Model #: 50001355-xx Date: 1/12/2007

EUT Serial #: 0001 EUT Power: 3.3 VDC Temperature: 20.0 °C

Test Method: FCC 15.247 & EN 55022 - B Air Pressure: 100.0 kPa

Customer: Digi International Rel. Humidity: 35.0 %

EUT Description: Ethernet, Serial, 802.11b/g, dual USB module

Notes: 30 - 1000 MHz, 2 dBi antennas & 5 dBi antennas

Data File Name: 0108b.dat Page: 7 of 10

List of measurements for run #: 1

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC-B <1GHz 3m	DELTA2
863.082 MHz	39.65 Qp	2.86 / 22.09 / 29.83 / 0.0	34.77	H / 1.00 / 0	-11.23	n/a
912.0 MHz	39.5 Qp	3.01 / 22.54 / 29.77 / 0.0	35.28	H / 1.00 / 0	-10.72	n/a
960.0 MHz	37.9 Qp	3.04 / 22.6 / 29.7 / 0.0	33.84	H / 1.00 / 0	-12.16	n/a
993.768 MHz	32.5 Qp	3.07 / 22.91 / 29.65 / 0.0	28.82	H / 1.00 / 0	-25.18	n/a
Removed short, removed U42						
Maximized						
152.724 MHz	50.77 Qp	1.13 / 9.33 / 29.53 / 0.0	31.7	V / 1.76 / 250	-11.8	n/a
Emission reduction at 152.724 MHz is representative of all emissions measured from 150 - 160 MHz						
Digital device now passes EN 55022 class B						

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Test Report #: WC700108 Run 1 Test Area: LTS
 EUT Model #: 50001355-xx Date: 1/12/2007
 EUT Serial #: 0001 EUT Power: 3.3 VDC Temperature: 20.0 °C
 Test Method: FCC 15.247 & EN 55022 - B Air Pressure: 100.0 kPa
 Customer: Digi International Rel. Humidity: 35.0 %

EUT Description: Ethernet, Serial, 802.11b/g, dual USB module

Notes: 30 - 1000 MHz, 2 dBi antennas & 5 dBi antennas

Data File Name: 0108b.dat Page: 9 of 10

Measurement summary for limit1: FCC-B <1GHz 3m (Qp)

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC-B <1GHz 3m
250.012 MHz	40.75 Qp	1.48 / 11.95 / 29.64 / 0.0	24.54	H / 1.00 / 270	-21.46
231.874 MHz	40.95 Qp	1.44 / 11.43 / 29.62 / 0.0	24.21	H / 1.00 / 270	-21.79
993.768 MHz	35.0 Qp	3.07 / 22.91 / 29.65 / 0.0	31.32	V / 1.00 / 0	-22.68
240.0 MHz	39.35 Qp	1.46 / 11.66 / 29.63 / 0.0	22.85	H / 1.00 / 0	-23.15
262.5 MHz	35.15 Qp	1.51 / 12.31 / 29.66 / 0.0	19.31	H / 1.00 / 0	-26.69
64.123 MHz	39.2 Pk	0.76 / 10.82 / 29.65 / 0.0	21.13	V / 1.00 / 90	-18.87*

Tested by: Greg Jakubowski

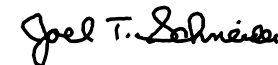
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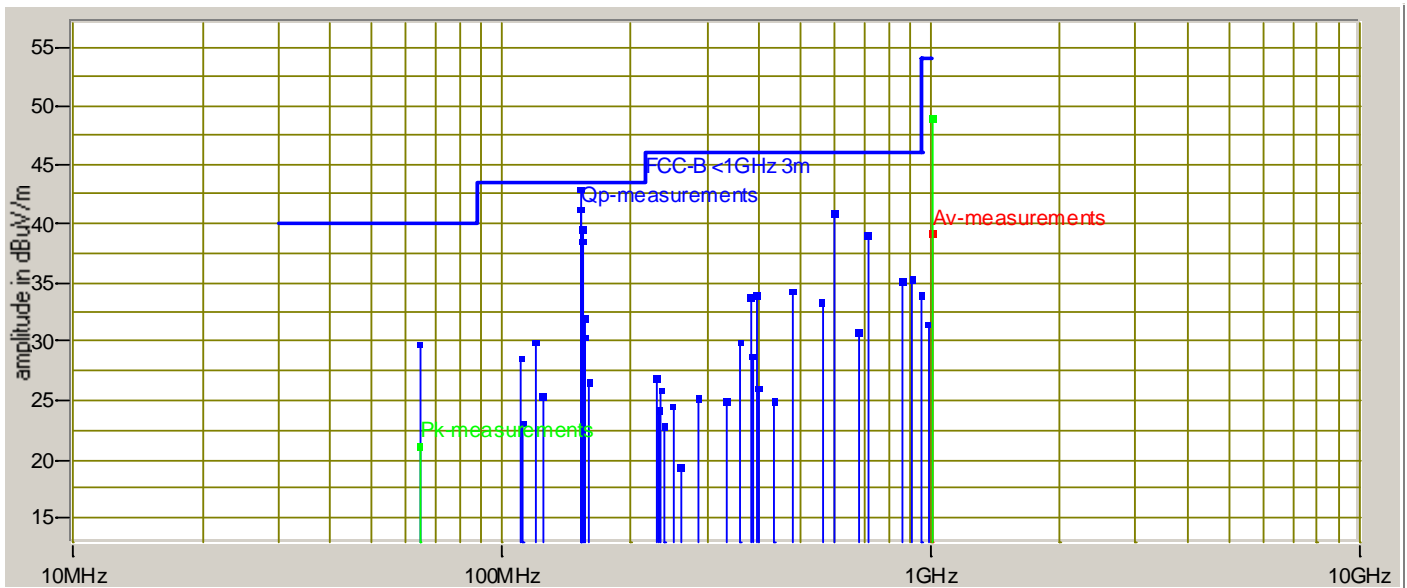
Test Report #: <u>WC700108 Run 1</u>	Test Area: <u>LTS</u>	
EUT Model #: <u>50001355-xx</u>	Date: <u>1/12/2007</u>	
EUT Serial #: <u>0001</u>	EUT Power: <u>3.3 VDC</u>	Temperature: <u>20.0</u> °C
Test Method: <u>FCC 15.247 & EN 55022 - B</u>		Air Pressure: <u>100.0</u> kPa
Customer: <u>Digi International</u>		Rel. Humidity: <u>35.0</u> %

EUT Description: Ethernet, Serial, 802.11b/g, dual USB module

Notes: 30 - 1000 MHz, 2 dBi antennas & 5 dBi antennas

Data File Name: <u>0108b.dat</u>	Page: <u>10 of 10</u>
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Graph:



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Test Report #: WC700108 Run 2 Test Area: LTS
 EUT Model #: 50001355-xx Date: 1/12/2007
 EUT Serial #: 0001 EUT Power: 3.3 VDC Temperature: 20.0 °C
 Test Method: FCC 15.247 & EN 55022 - A Air Pressure: 100.0 kPa
 Customer: Digi International Rel. Humidity: 35.0 %

EUT Description: Ethernet, Serial, 802.11b/g, dual USB module

Notes: 2 dBi antennas & 5 dBi antennas

Data File Name: 0108.dat Page: 1 of 5

List of measurements for run #: 2

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC B >1GHz 3m	DELTA2 EN55022- A >1GHz 3m ave
Begin scan 1 - 25 GHz						
Channel 6						
5 dBi antennas						
1.021 GHz	50.1 Av	3.09 / 24.75 / 49.99 / 0.0	27.95	V / 1.00 / 0	-26.05	-28.05
1.021 GHz	70.2 Pk	3.09 / 24.75 / 49.99 / 0.0	48.05	V / 1.00 / 0	-5.95*	-7.95*
1.1 GHz	48.97 Av	3.26 / 24.96 / 50.33 / 0.0	26.86	V / 1.00 / 0	-27.14	-29.14
1.1 GHz	64.95 Pk	3.26 / 24.96 / 50.33 / 0.0	42.84	V / 1.00 / 0	-11.16*	-13.16*
1.144 GHz	49.58 Av	3.38 / 25.07 / 50.52 / 0.0	27.51	V / 1.00 / 0	-26.49	-28.49
1.144 GHz	65.3 Pk	3.38 / 25.07 / 50.52 / 0.0	43.23	V / 1.00 / 0	-10.77*	-12.77*
1.166 GHz	49.38 Av	3.43 / 25.13 / 50.62 / 0.0	27.32	V / 1.00 / 0	-26.68	-28.68
1.166 GHz	65.1 Pk	3.43 / 25.13 / 50.62 / 0.0	43.04	V / 1.00 / 0	-10.96*	-12.96*
2.333 GHz	57.62 Av	4.93 / 29.13 / 50.1 / 0.0	41.59	V / 1.00 / 0	-12.41	-14.41
2.333 GHz	61.65 Pk	4.93 / 29.13 / 50.1 / 0.0	45.62	V / 1.00 / 0	-8.38*	-10.38*
2.344 GHz	57.22 Av	4.94 / 29.16 / 50.09 / 0.0	41.24	V / 1.00 / 0	-12.76	-14.76
2.344 GHz	61.75 Pk	4.94 / 29.16 / 50.09 / 0.0	45.77	V / 1.00 / 0	-8.23*	-10.23*
Maximized						
1.021 GHz	52.18 Av	3.09 / 24.76 / 49.99 / 0.0	30.03	V / 1.30 / 82	-23.97	-25.97
2.333 GHz	58.95 Av	4.93 / 29.13 / 50.1 / 0.0	42.92	V / 1.18 / 35	-11.08	-13.08
Rotated EUT 360 degrees, Rx antenna 1 - 4 meters high, vertical & horizontal						
No higher emissions detected						
Compared all combinations of channels 1, 6, & 11 with both 2 dBi & 5 dBi antennas						
No difference detected in original emissions measurements						
End scan 1 - 18 GHz						

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RADIATED EMISSIONS



Test Report #: WC700108 Run 2 Test Area: LTS
 EUT Model #: 50001355-xx Date: 1/12/2007
 EUT Serial #: 0001 EUT Power: 3.3 VDC Temperature: 20.0 °C
 Test Method: FCC 15.247 & EN 55022 - A Air Pressure: 100.0 kPa
 Customer: Digi International Rel. Humidity: 35.0 %

EUT Description: Ethernet, Serial, 802.11b/g, dual USB module

Notes: 2 dBi antennas & 5 dBi antennas

Data File Name: 0108.dat Page: 2 of 5

List of measurements for run #: 2

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC B >1GHz 3m	DELTA2 EN55022- A >1GHz 3m ave
Begin scan 18 - 25 GHz						
Compared all combinations of channels 1, 6, & 11 with both 2 dbi & 5 dBi antennas						
Rotated EUT 360 degrees, Rx antenna 1 - 4 meters high, vertical & horizontal						
No emissions detected						
End scan 1 - 25 GHz						

Tested by: Greg Jakubowski

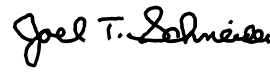
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Reviewed by: Joel Schneider

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RADIATED EMISSIONS



America

Test Report #: WC700108 Run 2 Test Area: LTS
 EUT Model #: 50001355-xx Date: 1/12/2007
 EUT Serial #: 0001 EUT Power: 3.3 VDC Temperature: 20.0 °C
 Test Method: FCC 15.247 & EN 55022 - A Air Pressure: 100.0 kPa
 Customer: Digi International Rel. Humidity: 35.0 %

EUT Description: Ethernet, Serial, 802.11b/g, dual USB module

Notes: 2 dBi antennas & 5 dBi antennas

Data File Name: 0108.dat Page: 3 of 5

Measurement summary for limit1: FCC B >1GHz 3m (Av)

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC B >1GHz 3m
2.333 GHz	58.95 Av	4.93 / 29.13 / 50.1 / 0.0	42.92	V / 1.18 / 35	-11.08
2.344 GHz	57.22 Av	4.94 / 29.16 / 50.09 / 0.0	41.24	V / 1.00 / 0	-12.76
1.021 GHz	52.18 Av	3.09 / 24.76 / 49.99 / 0.0	30.03	V / 1.30 / 82	-23.97
1.021 GHz	50.1 Av	3.09 / 24.75 / 49.99 / 0.0	27.95	V / 1.00 / 0	-26.05
1.144 GHz	49.58 Av	3.38 / 25.07 / 50.52 / 0.0	27.51	V / 1.00 / 0	-26.49
1.166 GHz	49.38 Av	3.43 / 25.13 / 50.62 / 0.0	27.32	V / 1.00 / 0	-26.68
1.1 GHz	48.97 Av	3.26 / 24.96 / 50.33 / 0.0	26.86	V / 1.00 / 0	-27.14
1.021 GHz	70.2 Pk	3.09 / 24.75 / 49.99 / 0.0	48.05	V / 1.00 / 0	-5.95*
1.1 GHz	64.95 Pk	3.26 / 24.96 / 50.33 / 0.0	42.84	V / 1.00 / 0	-11.16*
1.144 GHz	65.3 Pk	3.38 / 25.07 / 50.52 / 0.0	43.23	V / 1.00 / 0	-10.77*
1.166 GHz	65.1 Pk	3.43 / 25.13 / 50.62 / 0.0	43.04	V / 1.00 / 0	-10.96*
2.333 GHz	61.65 Pk	4.93 / 29.13 / 50.1 / 0.0	45.62	V / 1.00 / 0	-8.38*
2.344 GHz	61.75 Pk	4.94 / 29.16 / 50.09 / 0.0	45.77	V / 1.00 / 0	-8.23*

Tested by: Greg Jakubowski

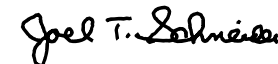
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RADIATED EMISSIONS



Test Report #: WC700108 Run 2 Test Area: LTS
 EUT Model #: 50001355-xx Date: 1/12/2007
 EUT Serial #: 0001 EUT Power: 3.3 VDC Temperature: 20.0 °C
 Test Method: FCC 15.247 & EN 55022 - A Air Pressure: 100.0 kPa
 Customer: Digi International Rel. Humidity: 35.0 %

EUT Description: Ethernet, Serial, 802.11b/g, dual USB module

Notes: 2 dBi antennas & 5 dBi antennas

Data File Name: 0108.dat Page: 4 of 5

Measurement summary for limit2: EN55022- A >1GHz 3m ave (Av)					
FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA2 EN55022- A >1GHz 3m ave
2.333 GHz	58.95 Av	4.93 / 29.13 / 50.1 / 0.0	42.92	V / 1.18 / 35	-13.08
2.344 GHz	57.22 Av	4.94 / 29.16 / 50.09 / 0.0	41.24	V / 1.00 / 0	-14.76
1.021 GHz	52.18 Av	3.09 / 24.76 / 49.99 / 0.0	30.03	V / 1.30 / 82	-25.97
1.021 GHz	50.1 Av	3.09 / 24.75 / 49.99 / 0.0	27.95	V / 1.00 / 0	-28.05
1.144 GHz	49.58 Av	3.38 / 25.07 / 50.52 / 0.0	27.51	V / 1.00 / 0	-28.49
1.166 GHz	49.38 Av	3.43 / 25.13 / 50.62 / 0.0	27.32	V / 1.00 / 0	-28.68
1.1 GHz	48.97 Av	3.26 / 24.96 / 50.33 / 0.0	26.86	V / 1.00 / 0	-29.14
1.021 GHz	70.2 Pk	3.09 / 24.75 / 49.99 / 0.0	48.05	V / 1.00 / 0	-7.95*
1.1 GHz	64.95 Pk	3.26 / 24.96 / 50.33 / 0.0	42.84	V / 1.00 / 0	-13.16*
1.144 GHz	65.3 Pk	3.38 / 25.07 / 50.52 / 0.0	43.23	V / 1.00 / 0	-12.77*
1.166 GHz	65.1 Pk	3.43 / 25.13 / 50.62 / 0.0	43.04	V / 1.00 / 0	-12.96*
2.333 GHz	61.65 Pk	4.93 / 29.13 / 50.1 / 0.0	45.62	V / 1.00 / 0	-10.38*
2.344 GHz	61.75 Pk	4.94 / 29.16 / 50.09 / 0.0	45.77	V / 1.00 / 0	-10.23*

Tested by: Greg Jakubowski

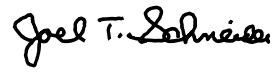
 Printed



 Signature

Reviewed by: Joel Schneider

 Printed



 Signature

RADIATED EMISSIONS



America

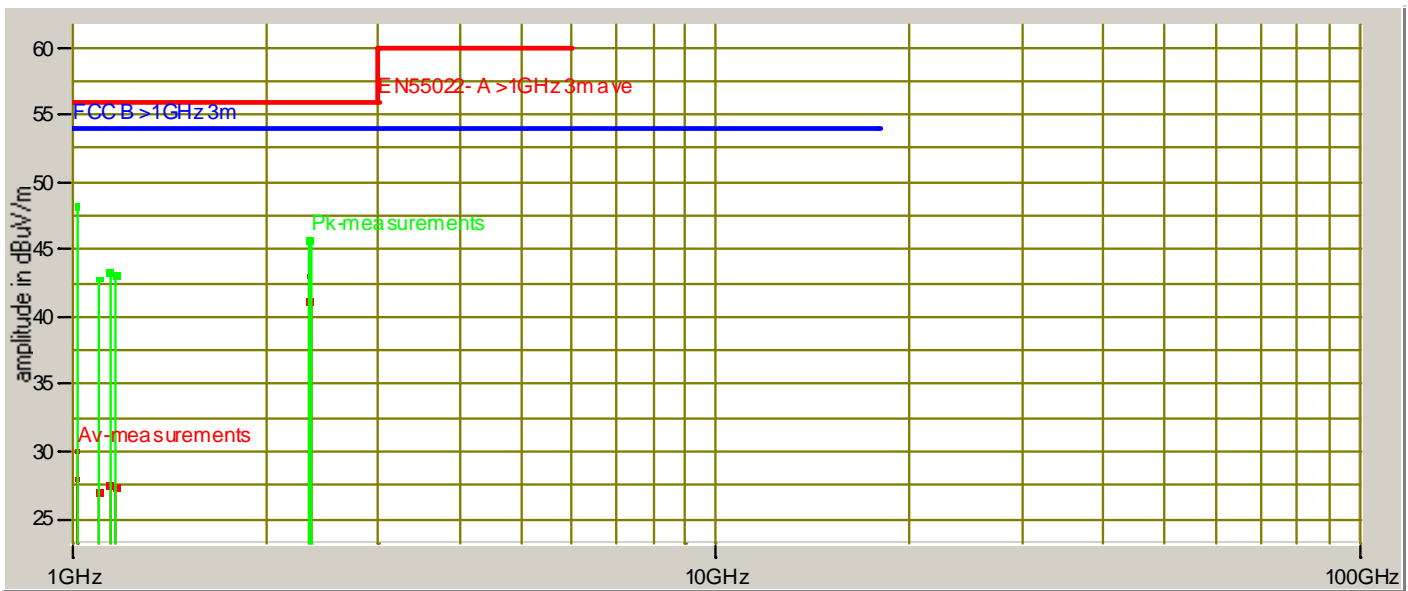
Test Report #: <u>WC700108 Run 2</u>	Test Area: <u>LTS</u>
EUT Model #: <u>50001355-xx</u>	Date: <u>1/12/2007</u>
EUT Serial #: <u>0001</u>	EUT Power: <u>3.3 VDC</u>
	Temperature: <u>20.0 °C</u>
Test Method: <u>FCC 15.247 & EN 55022 - A</u>	Air Pressure: <u>100.0 kPa</u>
Customer: <u>Digi International</u>	Rel. Humidity: <u>35.0 %</u>

EUT Description: Ethernet, Serial, 802.11b/g, dual USB module

Notes: 2 dBi antennas & 5 dBi antennas

Data File Name: <u>0108.dat</u>	Page: <u>5 of 5</u>
---------------------------------	---------------------

Graph:



Tested by: Greg Jakubowski

 Printed

Greg Jakubowski

 Signature

Reviewed by: Joel Schneider

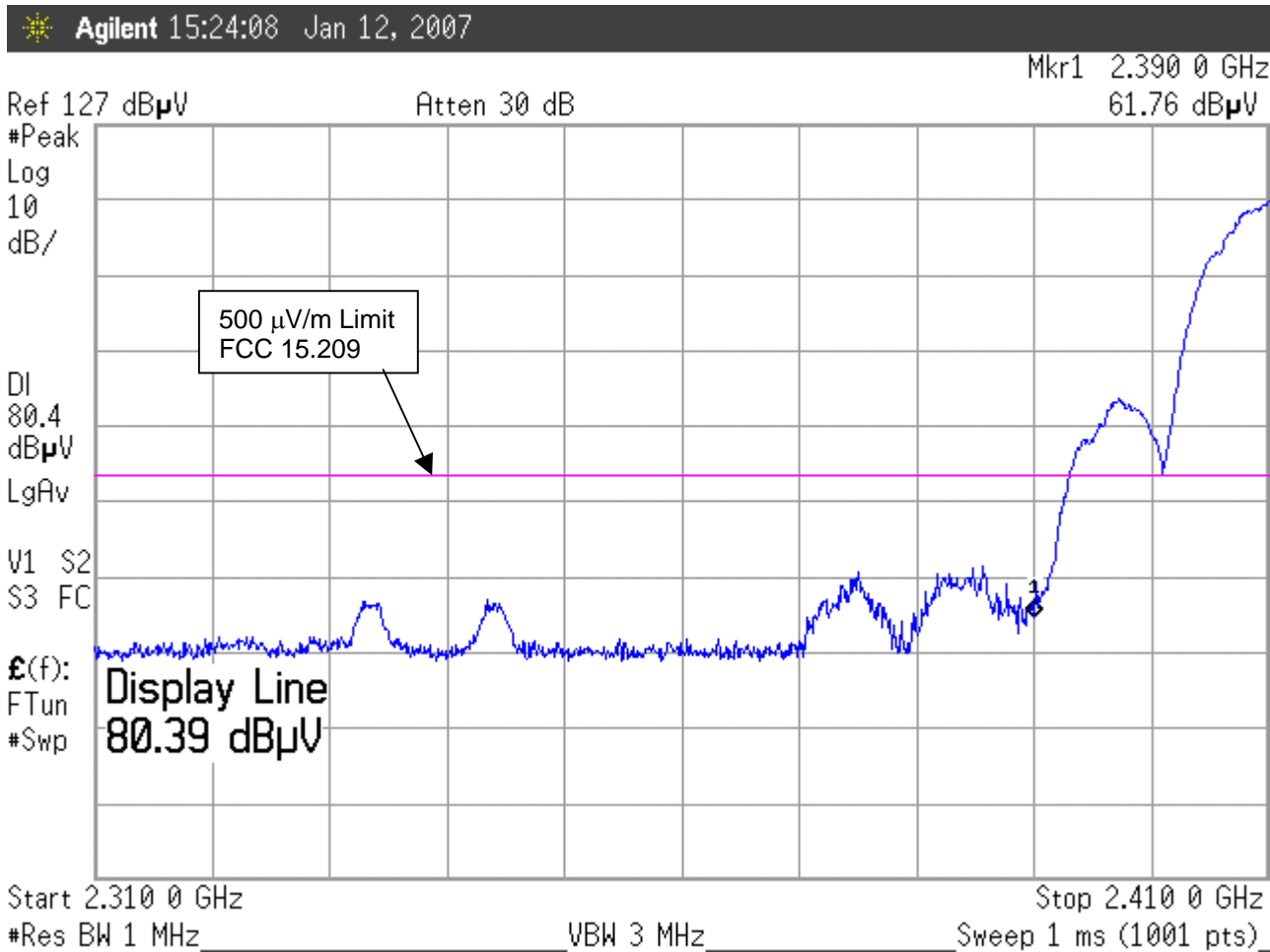
 Printed

Joel T. Schneider

 Signature

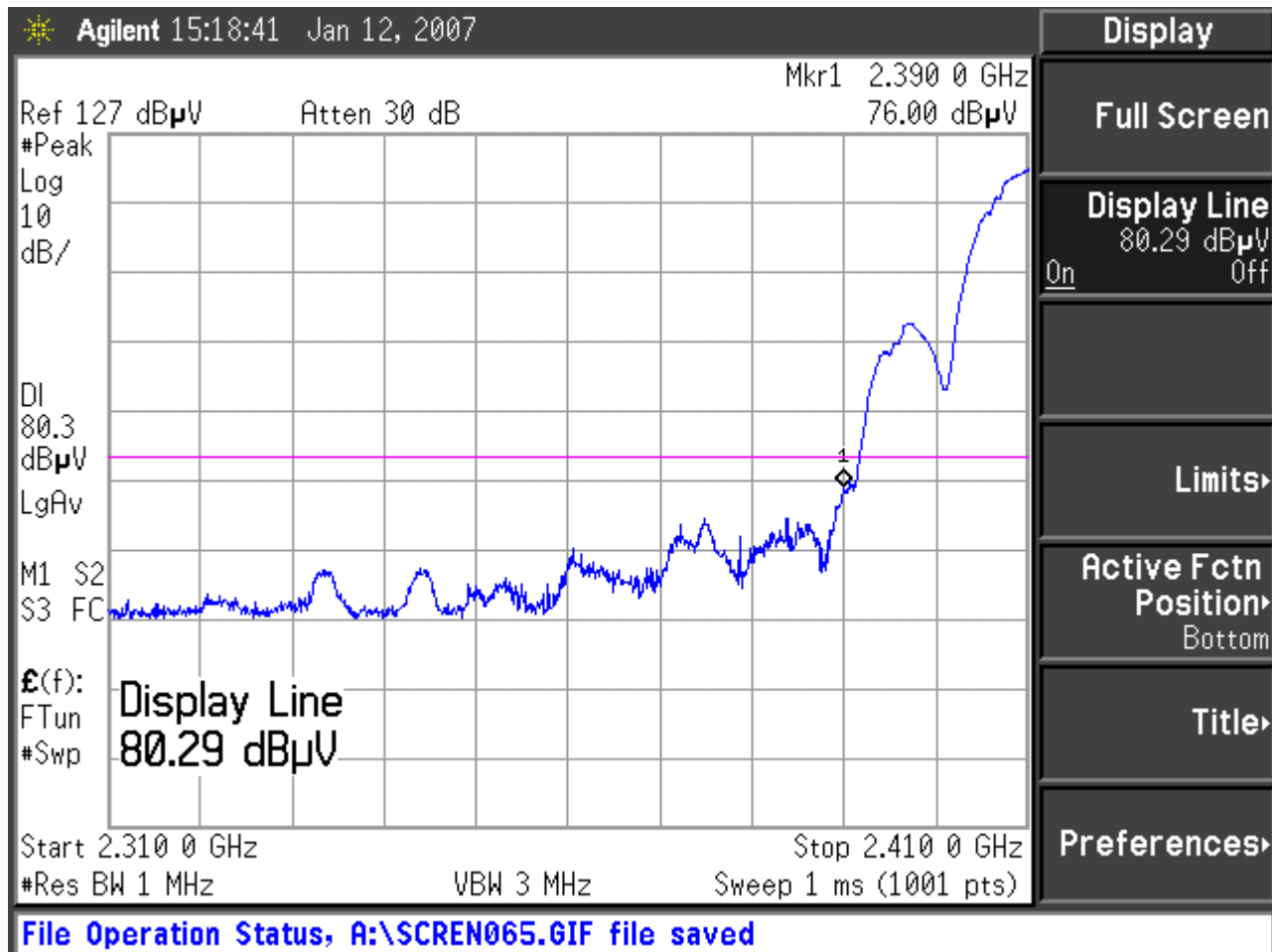
Radiated emissions - band edge

channel 1, 2 dBi antennas



Radiated emissions - band edge

channel 1, 5 dBi antennas



Radiated emissions - band edge

channel 11, 2 dBi antennas



Radiated emissions - band edge

channel 11, 5 dBi antennas



Power spectral density

FCC 15.247(e), IC RSS-210 A8.2(2)

Test summary

The requirements are: - MET - NOT MET
Maximum power spectral density is -0.17 dBm / 3 kHz.

Test location

- Wild River Lab Large Test Site (Open Area Test Site)
- Wild River Lab Large Test Site - Tech area
- Wild River Lab Small Test Site (Open Area Test Site)

Test equipment

TUV ID	Model Number	Manufacturer	Description	Serial Number	Cal Due
3367	E4440A	Agilent	Spectrum Analyzer	MY42510439	14 Sep 07
3844	61697		HF cable		Code B

Cal Code B = Calibration verification performed internally.

Test limit

No greater than 8 dBm in any 3 kHz band

Test data

See following pages.

Power spectral Density

channel 1, 11 MB rate

Agilent 14:40:35 Jan 16, 2007

Mkr1 2.411 98 GHz
-0.17 dBm

Ref 10 dBm

Atten 20 dB

#Peak

Log

10

dB/

Offst

0.7

dB

DI

8.0

dBm

LgAv

V1 S2

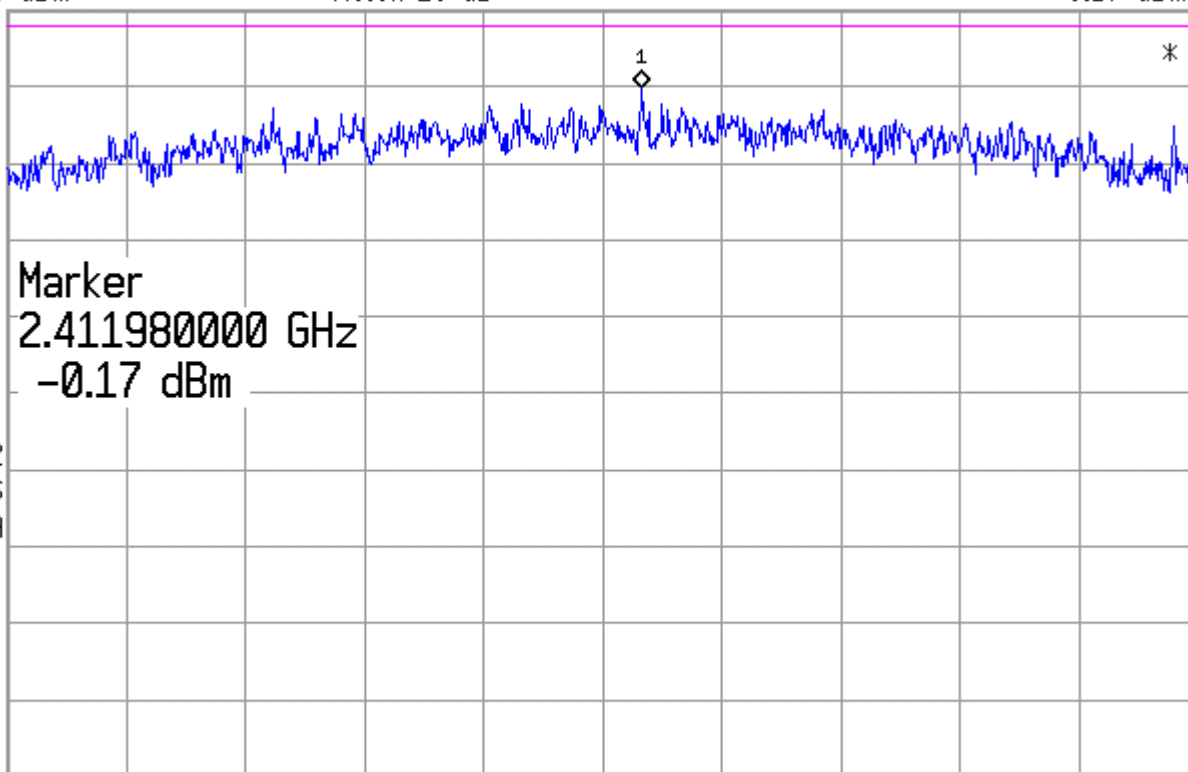
S3 FS

AA

£(f):

f>50k

#Swp



Marker
2.411980000 GHz
-0.17 dBm

Center 2.411 65 GHz

Span 10 MHz

#Res BW 3 kHz

#VBW 10 kHz

#Sweep 2 ks (1001 pts)

Power spectral Density

channel 1, 54 MB rate

Agilent 16:33:53 Jan 16, 2007

Mkr1 2.411 976 GHz

Ref 10 dBm

Atten 20 dB

-6.86 dBm

#Peak

Log

10

dB/

Offst

0.7

dB

DI

8.0

dBm

LgAv

V1 S2

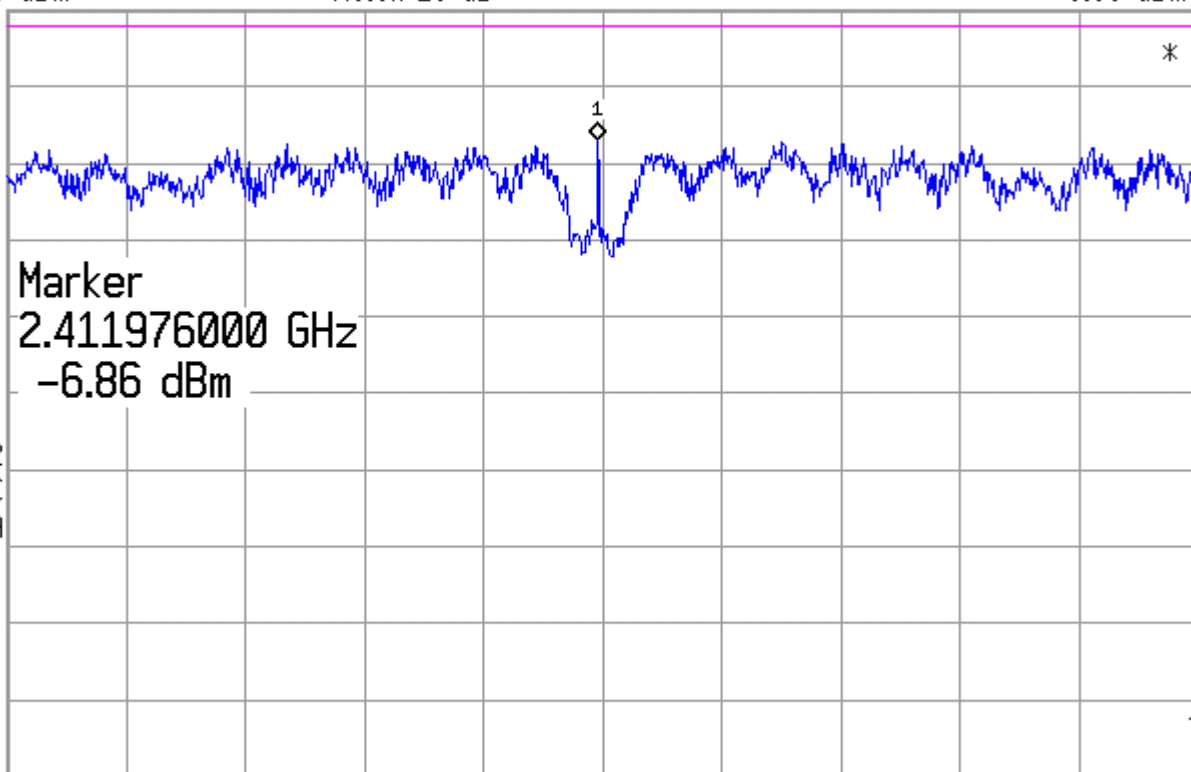
S3 FC

AA

$\mathcal{E}(f)$:

f>50k

#Swp



Marker
2.411976000 GHz
-6.86 dBm

Center 2.412 000 GHz

Span 6 MHz

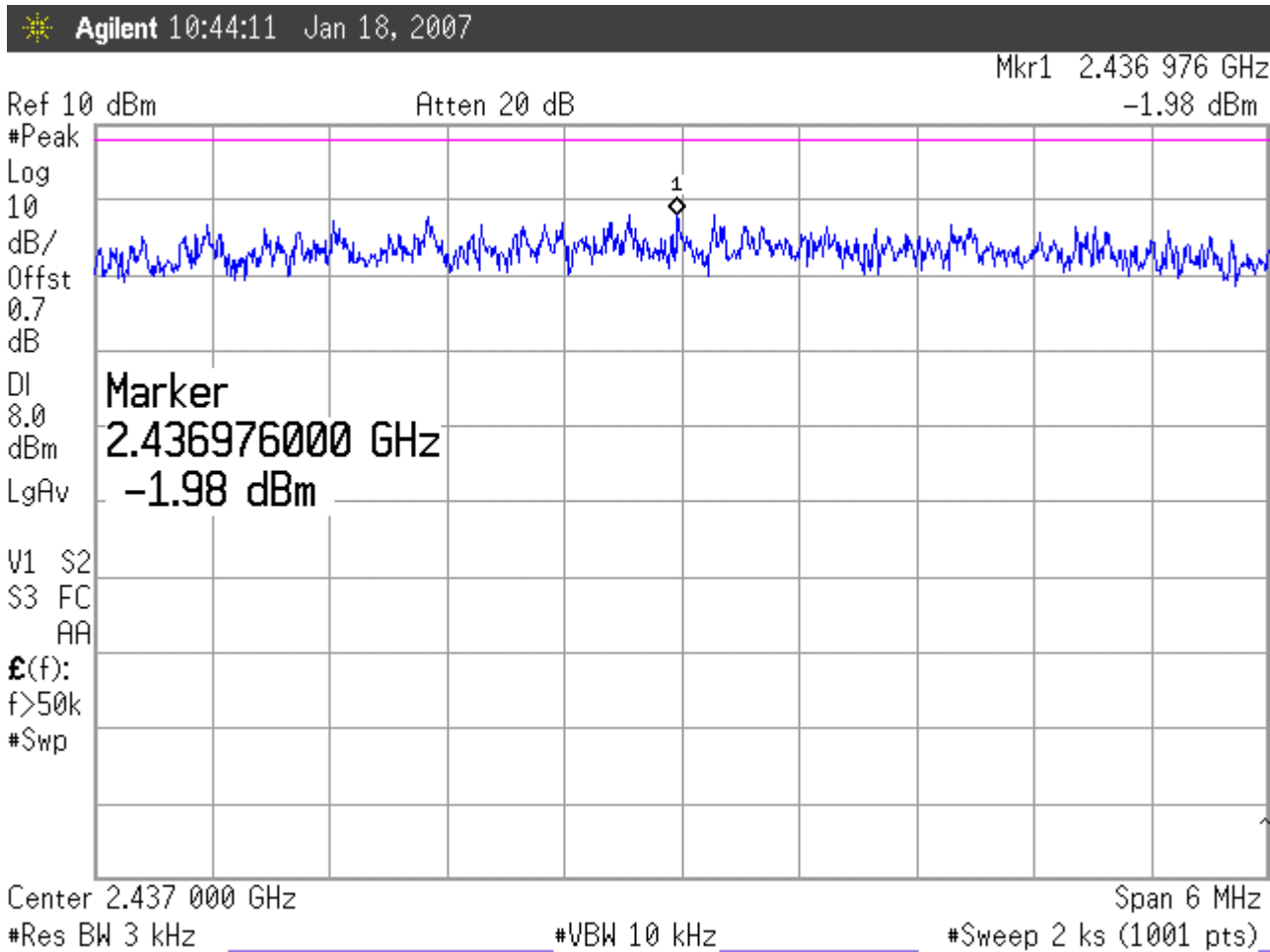
#Res BW 3 kHz

#VBW 10 kHz

#Sweep 2 ks (1001 pts)

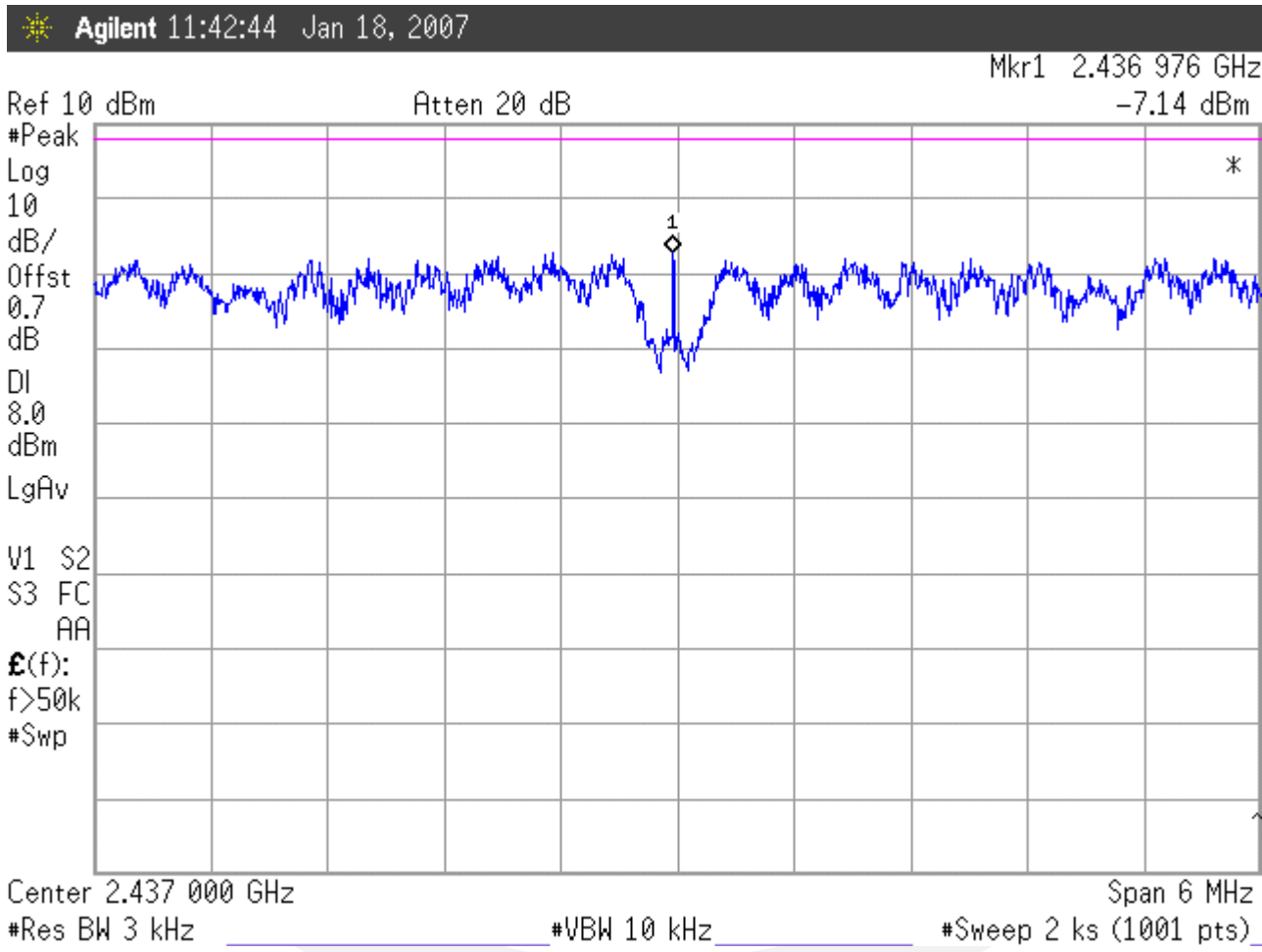
Power spectral Density

channel 6, 11 MB rate



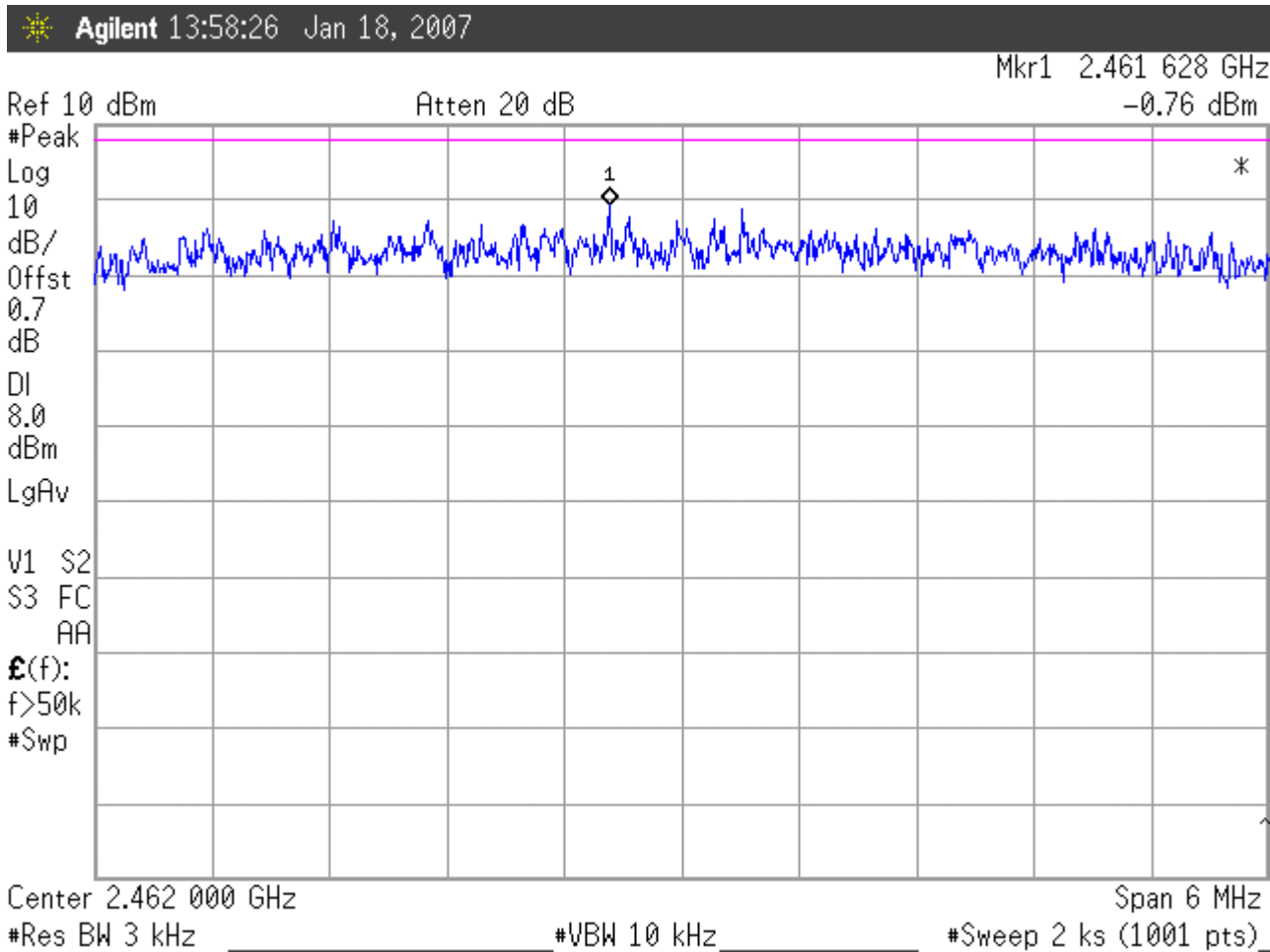
Power spectral Density

channel 6, 54 MB rate



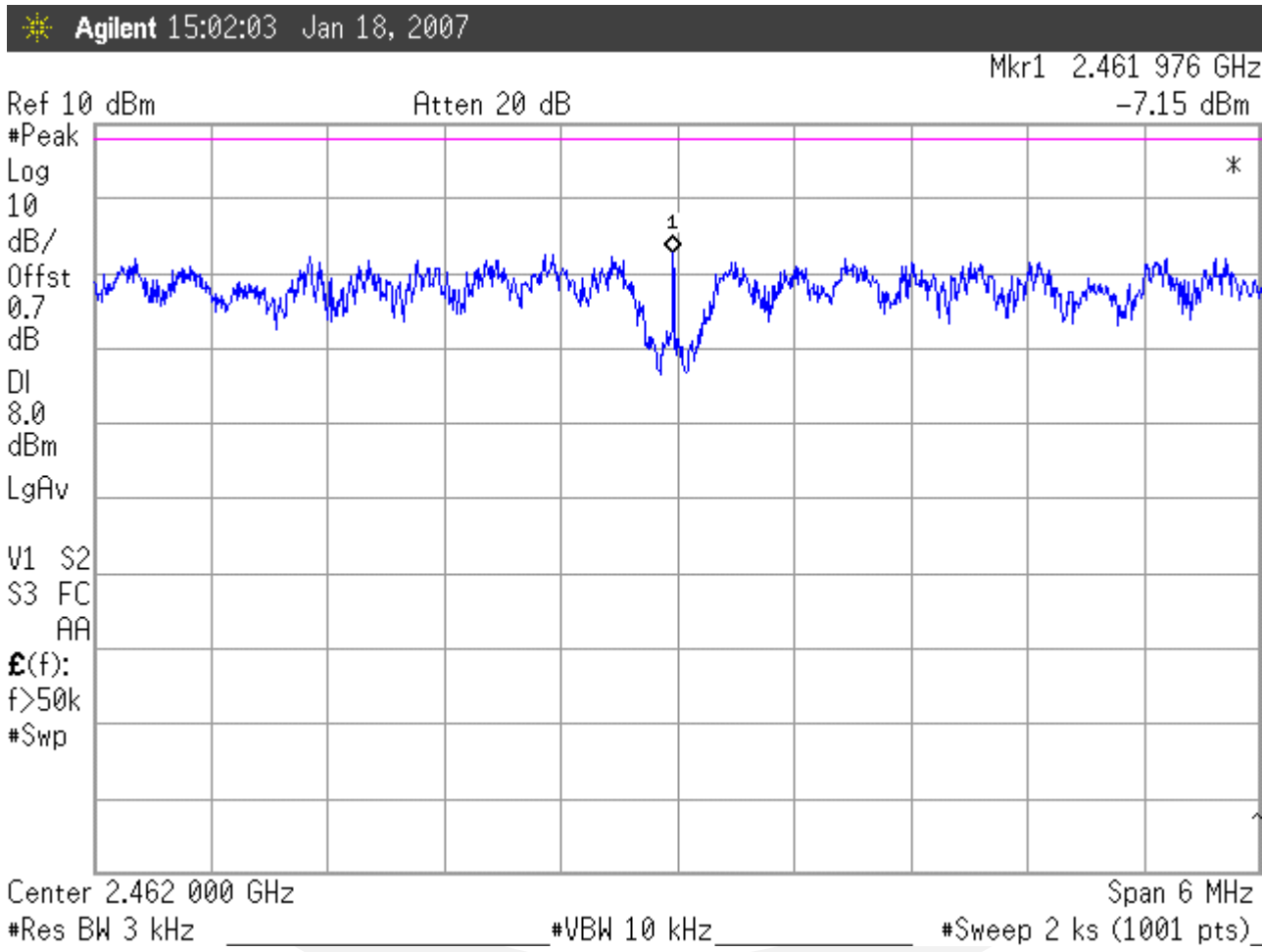
Power spectral Density

channel 11, 11 MB rate



Power spectral Density

channel 11, 54 MB rate



Conducted Limits - AC Power lines

FCC 15.207(a), IC RSS-Gen 7.2.2

Test summary

The requirements are: - MET - NOT MET

Minimum margin of compliance = 16.3 dB at 27.161 MHz

Test location

- Wild River Lab Large Test Site (Open Area Test Site)

- Wild River Lab Large Test Site (Tech area)

- Wild River Lab Small Test Site (Open Area Test Site)

Test equipment

TUV ID	Model Number	Manufacturer	Description	Serial Number	Cal Due
2534	ESHS-20	Rhode & Schwarz	EMI Receiver	837055/003	27-Feb-07
2417	3825/2	Electro-Mechanics (EMCO)	50 Ω LISN (yellow tape*)	8812-1439	Code B

Cal Code B = Calibration verification performed internally. Cal Code Y = Calibration not required when used with other calibrated equipment.

Test limit

Frequency (MHz)	Quasi Peak (dBμV)	Average (dBμV)
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

Test data

See data on following pages

CONDUCTED EMISSIONS



America

Test Report #: WC700108 Run 7 Test Area: LTS
 EUT Model #: 50001355-xx Date: 1/16/2007
 EUT Serial #: 0001 EUT Power: 110 VAC - DC adptr Temperature: 18.0 °C
 Test Method: EN 55022 B Air Pressure: 100.0 kPa
 Customer: Digi International Rel. Humidity: 17.0 %

EUT Description: Ethernet, Serial, 802.11b/g, dual USB module

Notes: _____

Data File Name: 0108.dat

Page: 1 of 4

List of measurements for run #: 7

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	EUT Lead	DELTA1 EN55022 B Qp	DELTA2 EN55022 B Avg
175.0 kHz	45.66 Qp	0.12 / 0.1 / 0.0 / 0.0	45.88	N	-18.84	n/a
280.0 kHz	44.01 Qp	0.14 / 0.03 / 0.0 / 0.0	44.18	N	-16.64	n/a
355.0 kHz	41.27 Qp	0.15 / 0.07 / 0.0 / 0.0	41.5	N	-17.35	n/a
430.0 kHz	35.15 Qp	0.17 / 0.17 / 0.0 / 0.0	35.49	N	-21.76	n/a
845.0 kHz	33.56 Qp	0.23 / 0.08 / 0.0 / 0.0	33.87	N	-22.13	n/a
27.161 MHz	36.43 Qp	1.25 / 0.31 / 0.0 / 0.0	38.0	N	-22.0	n/a
175.0 kHz	15.11 Av	0.12 / 0.1 / 0.0 / 0.0	15.33	N	n/a	-39.39
280.0 kHz	12.64 Av	0.14 / 0.03 / 0.0 / 0.0	12.81	N	n/a	-38.01
355.0 kHz	10.24 Av	0.15 / 0.07 / 0.0 / 0.0	10.47	N	n/a	-38.38
430.0 kHz	4.88 Av	0.17 / 0.17 / 0.0 / 0.0	5.22	N	n/a	-42.03
845.0 kHz	13.37 Av	0.23 / 0.08 / 0.0 / 0.0	13.68	N	n/a	-32.32
27.161 MHz	32.07 Av	1.25 / 0.31 / 0.0 / 0.0	33.64	N	n/a	-16.36
175.0 kHz	45.52 Qp	0.12 / 0.1 / 0.0 / 0.0	45.74	L1	-18.98	n/a
280.0 kHz	43.88 Qp	0.14 / 0.03 / 0.0 / 0.0	44.05	L1	-16.77	n/a
355.0 kHz	41.95 Qp	0.15 / 0.07 / 0.0 / 0.0	42.18	L1	-16.67	n/a
430.0 kHz	37.91 Qp	0.17 / 0.17 / 0.0 / 0.0	38.25	L1	-19.0	n/a
845.0 kHz	27.31 Qp	0.23 / 0.08 / 0.0 / 0.0	27.62	L1	-28.38	n/a
27.161 MHz	32.68 Qp	1.25 / 0.31 / 0.0 / 0.0	34.25	L1	-25.75	n/a
175.0 kHz	15.49 Av	0.12 / 0.1 / 0.0 / 0.0	15.71	L1	n/a	-39.01
280.0 kHz	12.89 Av	0.14 / 0.03 / 0.0 / 0.0	13.06	L1	n/a	-37.76
355.0 kHz	10.67 Av	0.15 / 0.07 / 0.0 / 0.0	10.9	L1	n/a	-37.95
430.0 kHz	6.29 Av	0.17 / 0.17 / 0.0 / 0.0	6.63	L1	n/a	-40.62
845.0 kHz	10.02 Av	0.23 / 0.08 / 0.0 / 0.0	10.33	L1	n/a	-35.67
27.161 MHz	30.41 Av	1.25 / 0.31 / 0.0 / 0.0	31.98	L1	n/a	-18.02

Tested by: Greg Jakubowski

Printed

Printed

Reviewed by: Joel Schneider

Printed

Signature

CONDUCTED EMISSIONS



America

Test Report #: WC700108 Run 7 Test Area: LTS
 EUT Model #: 50001355-xx Date: 1/16/2007
 EUT Serial #: 0001 EUT Power: 110 VAC - DC adptr Temperature: 18.0 °C
 Test Method: EN 55022 B Air Pressure: 100.0 kPa
 Customer: Digi International Rel. Humidity: 17.0 %

EUT Description: Ethernet, Serial, 802.11b/g, dual USB module

Notes: _____

Data File Name: 0108.dat Page: 2 of 4

Measurement summary for limit1: EN55022 B Qp (Qp)

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	EUT Lead	DELTA1 EN55022 B Qp
280.0 kHz	44.01 Qp	0.14 / 0.03 / 0.0 / 0.0	44.18	N	-16.64
355.0 kHz	41.95 Qp	0.15 / 0.07 / 0.0 / 0.0	42.18	L1	-16.67
175.0 kHz	45.66 Qp	0.12 / 0.1 / 0.0 / 0.0	45.88	N	-18.84
430.0 kHz	37.91 Qp	0.17 / 0.17 / 0.0 / 0.0	38.25	L1	-19.0
27.161 MHz	36.43 Qp	1.25 / 0.31 / 0.0 / 0.0	38.0	N	-22.0
845.0 kHz	33.56 Qp	0.23 / 0.08 / 0.0 / 0.0	33.87	N	-22.13

Tested by: Greg Jakubowski

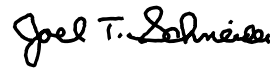
 Printed



 Printed

Reviewed by: Joel Schneider

 Printed



 Signature

CONDUCTED EMISSIONS



America

Test Report #: WC700108 Run 7 Test Area: LTS
 EUT Model #: 50001355-xx Date: 1/16/2007
 EUT Serial #: 0001 EUT Power: 110 VAC - DC adptr Temperature: 18.0 °C
 Test Method: EN 55022 B Air Pressure: 100.0 kPa
 Customer: Digi International Rel. Humidity: 17.0 %

EUT Description: Ethernet, Serial, 802.11b/g, dual USB module

Notes: _____

Data File Name: 0108.dat Page: 3 of 4

Measurement summary for limit2: EN55022 B Avg (Av)

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	EUT Lead	DELTA2 EN55022 B Avg
27.161 MHz	32.07 Av	1.25 / 0.31 / 0.0 / 0.0	33.64	N	-16.36
845.0 kHz	13.37 Av	0.23 / 0.08 / 0.0 / 0.0	13.68	N	-32.32
280.0 kHz	12.89 Av	0.14 / 0.03 / 0.0 / 0.0	13.06	L1	-37.76
355.0 kHz	10.67 Av	0.15 / 0.07 / 0.0 / 0.0	10.9	L1	-37.95
175.0 kHz	15.49 Av	0.12 / 0.1 / 0.0 / 0.0	15.71	L1	-39.01
430.0 kHz	6.29 Av	0.17 / 0.17 / 0.0 / 0.0	6.63	L1	-40.62

Tested by: Greg Jakubowski

 Printed

Greg Jakubowski

 Printed

Reviewed by: Joel Schneider

 Printed

Joel T. Schneider

 Signature

CONDUCTED EMISSIONS



America

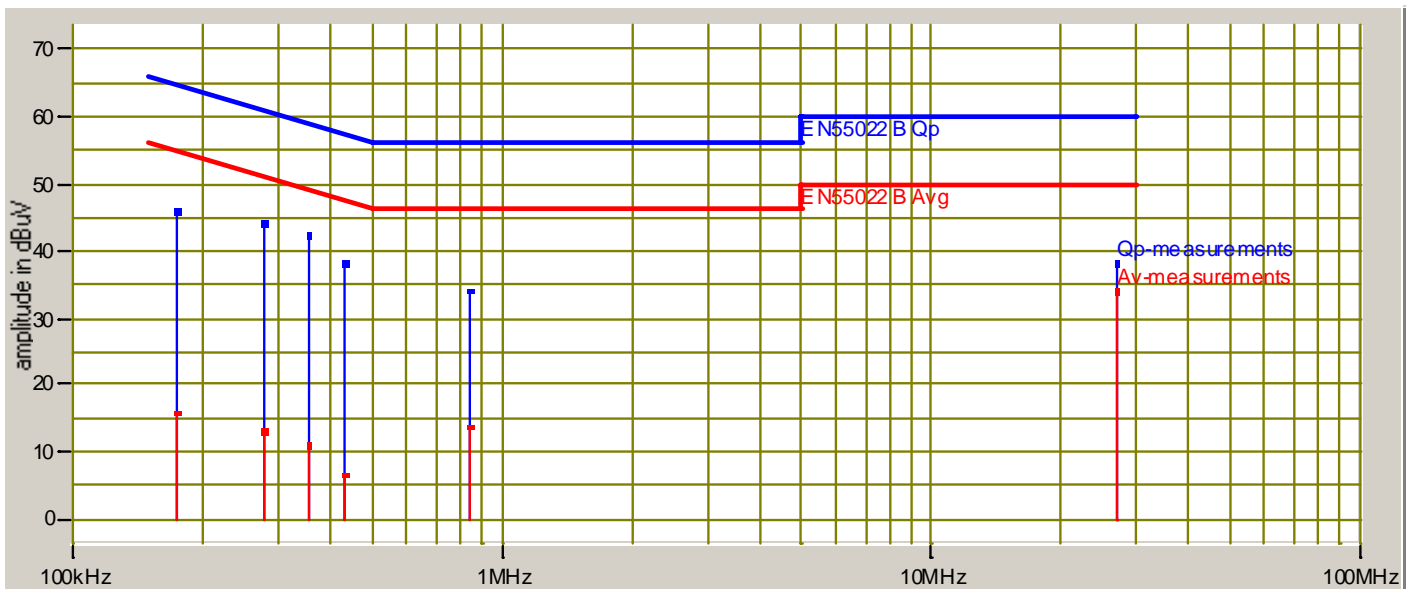
Test Report #: WC700108 Run 7 Test Area: LTS
 EUT Model #: 50001355-xx Date: 1/16/2007
 EUT Serial #: 0001 EUT Power: 110 VAC - DC adptr Temperature: 18.0 °C
 Test Method: EN 55022 B Air Pressure: 100.0 kPa
 Customer: Digi International Rel. Humidity: 17.0 %

EUT Description: Ethernet, Serial, 802.11b/g, dual USB module

Notes: _____

Data File Name: 0108.dat Page: 4 of 4

Graph:



Tested by: Greg Jakubowski

 Printed

Greg Jakubowski

 Printed

Reviewed by: Joel Schneider

 Printed

Joel T. Schneider

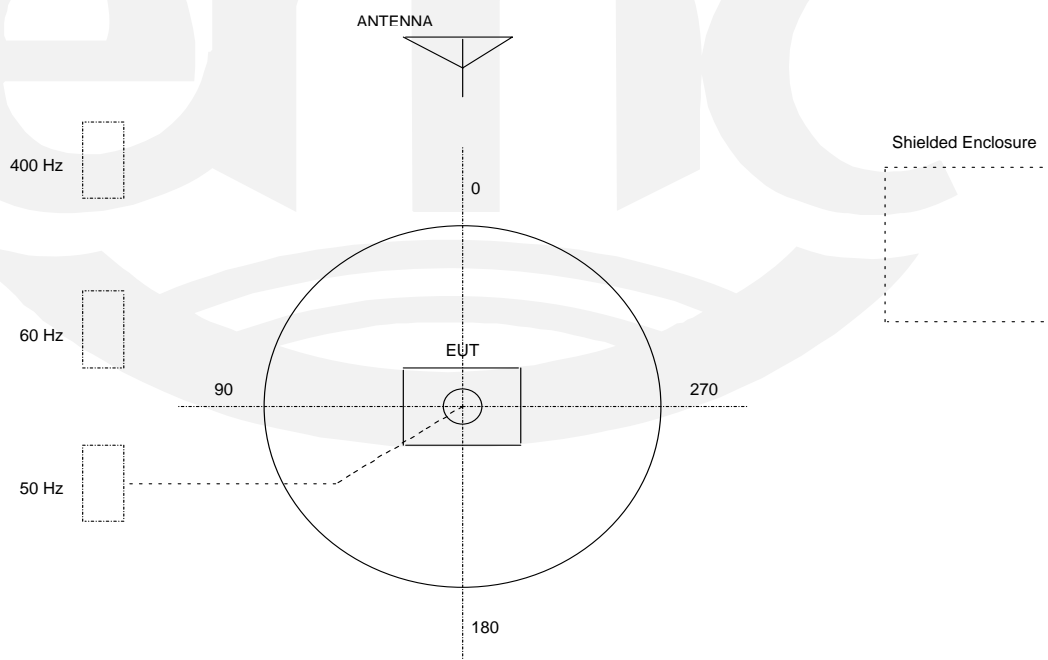
 Signature

TEST SETUP FOR EMISSIONS TESTING

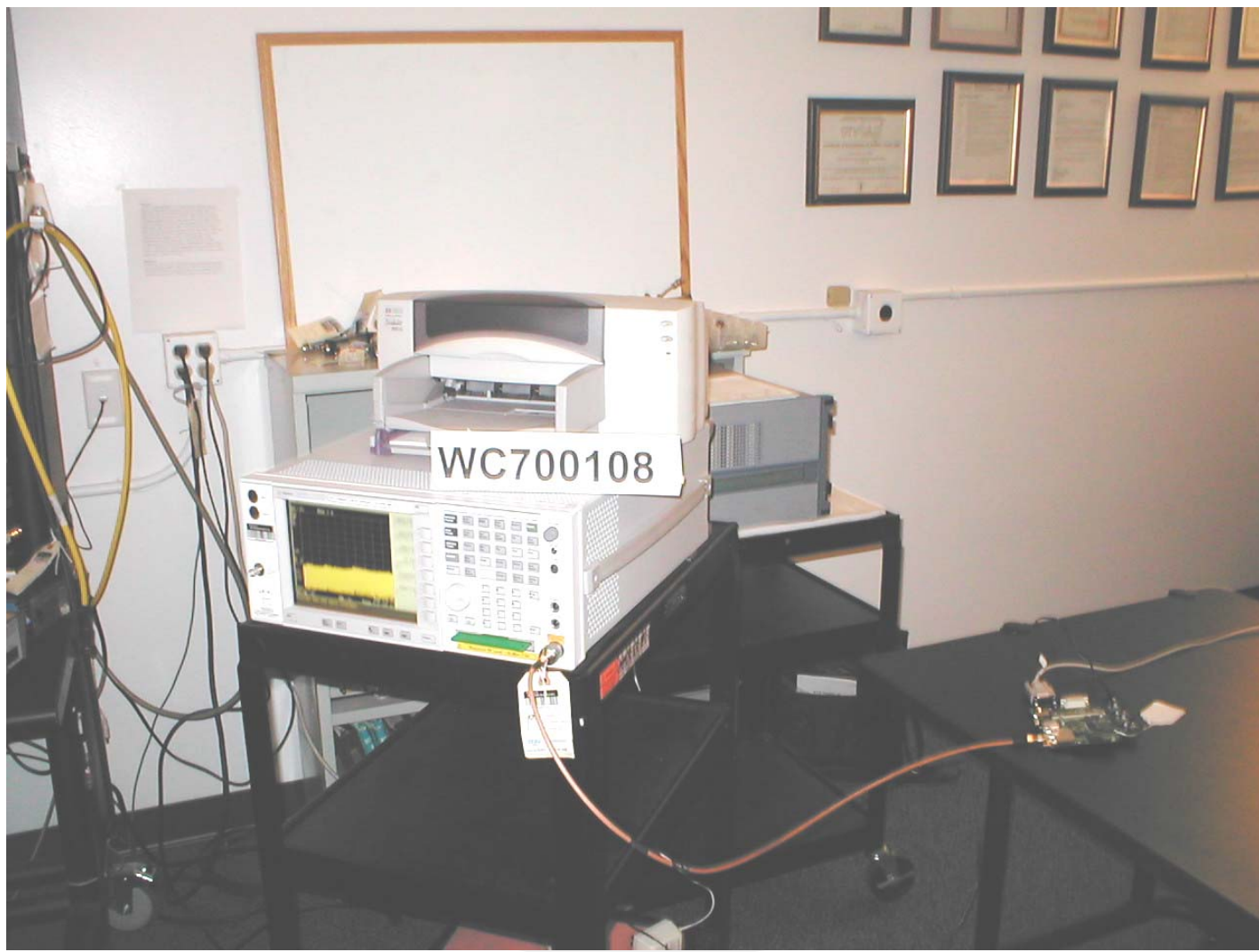
WILD RIVER LAB Large Test Site

Notes:

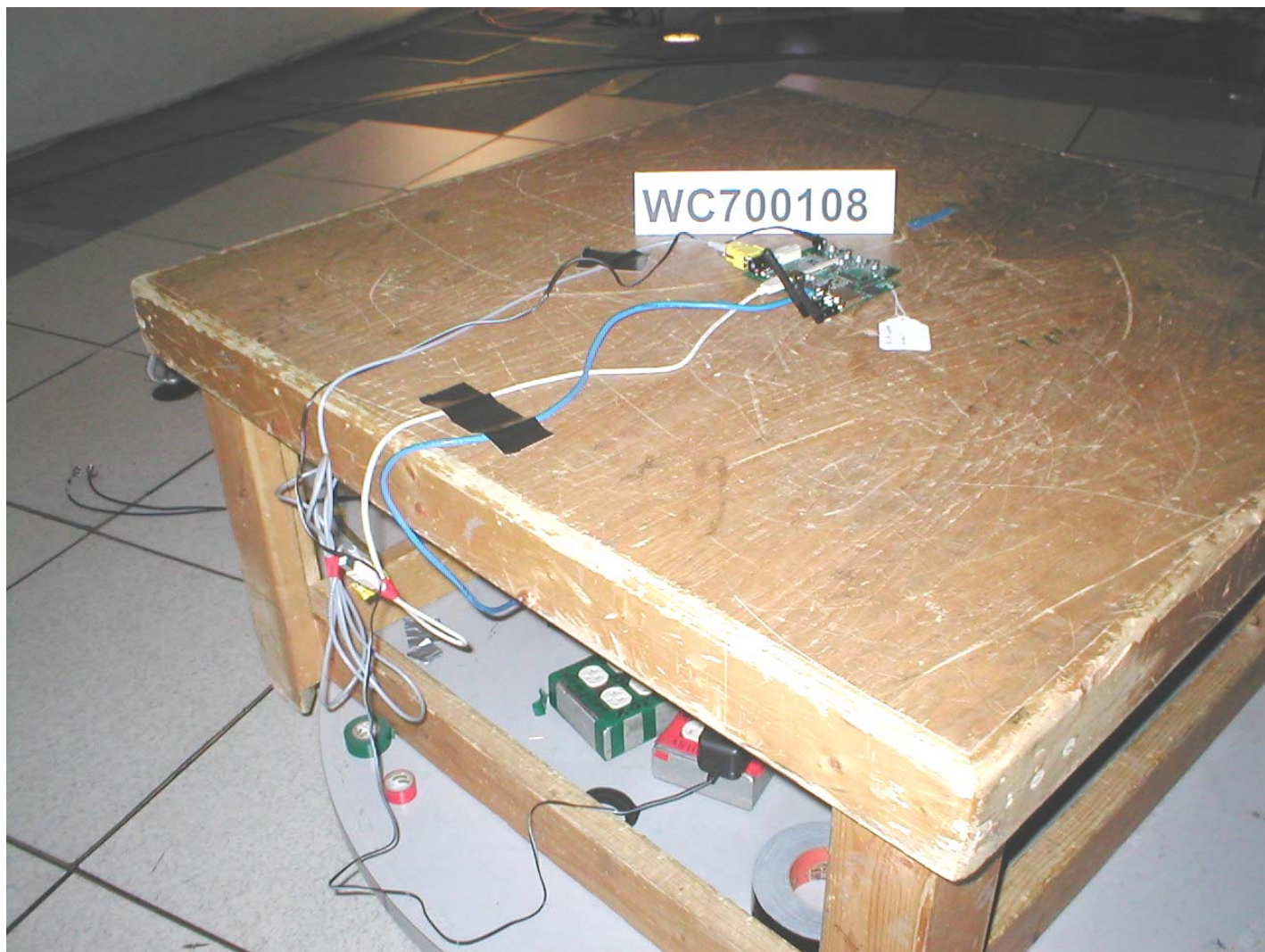
1. Items shown in dotted lines are located on the floor below the test area. It is 5 meters vertically from the ground floor to the test area.
2. 50 Hz, 60 Hz, and 400 Hz are power panels for alternating current.
3. The antenna may be positioned horizontally 3, 10 or 30 meters from the center of the turntable.
4. The circle is a 6.7 meter diameter turntable.
5. A ground plane is in the plane of this sheet.
6. The test sample is shown in the azimuthal position representing zero degrees.



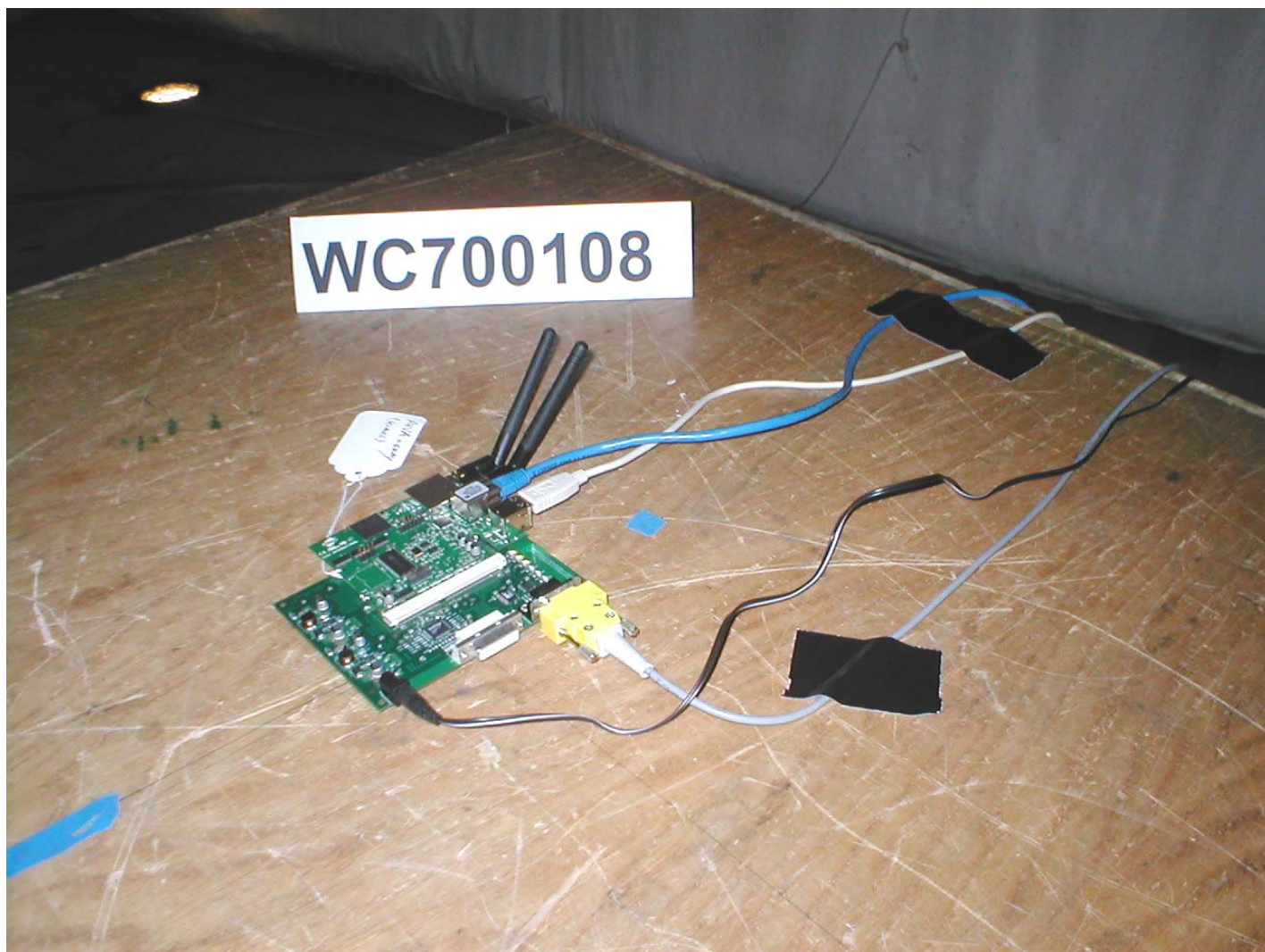
Test-setup photo(s):
RF conducted emissions



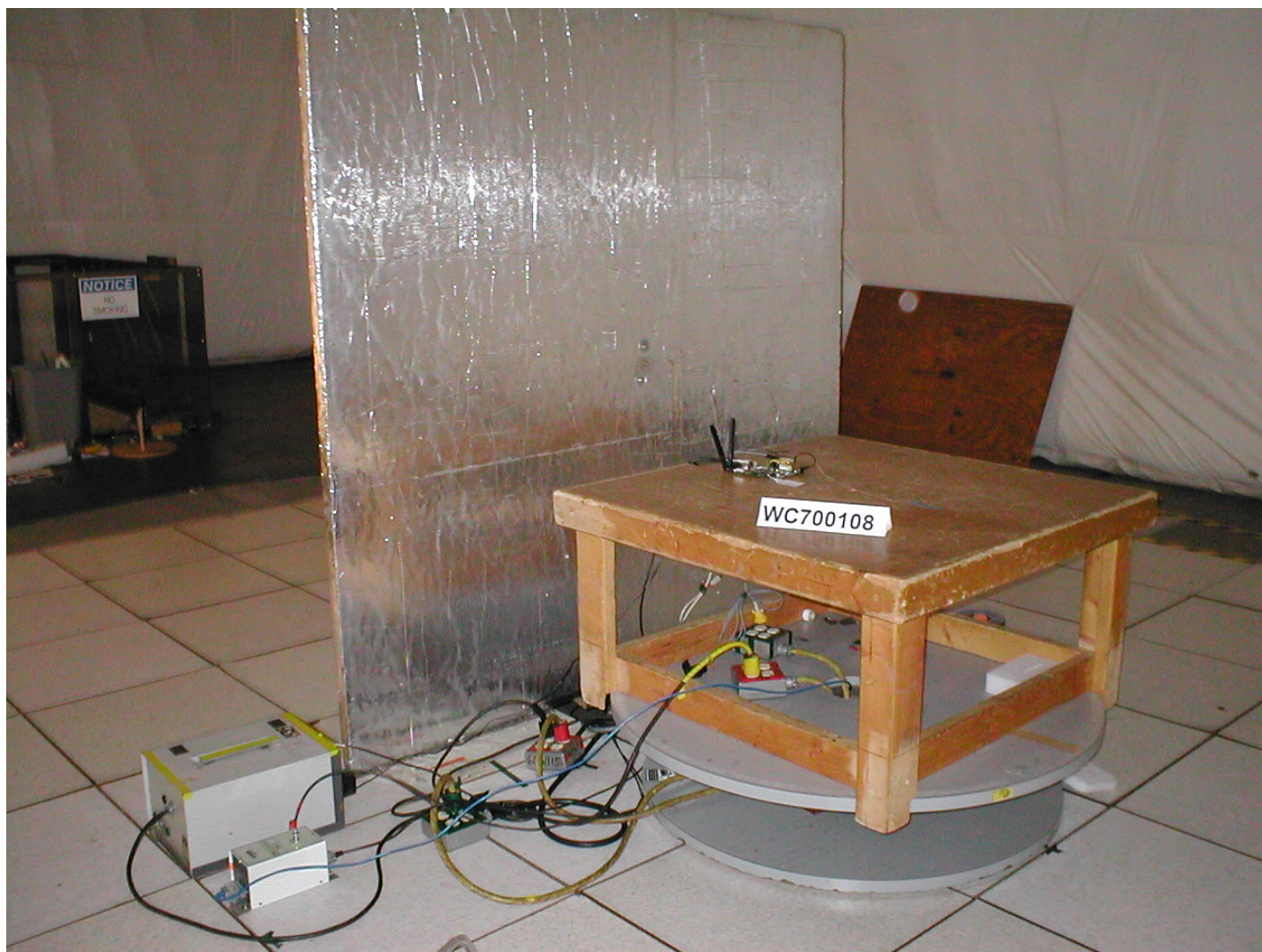
Test-setup photo(s):
Radiated emissions



Test-setup photo(s):
Radiated emissions



Test-setup photo(s):
Conducted emissions - AC Power lines



Equipment Under Test (EUT) Test Operation Mode:

The device under test was operated under the following conditions during immunity testing :

- Standby
- Test program (H - Pattern)
- Test program (color bar)
- Test program (customer specific)
- Practice operation
- Normal operating mode
- Standard digi EOS with fcc application running. The eut will use digi's standard cc9 operation system and a special fcc driver that passes data on all ports, ethernet, and 802.11b/g radio
- Transmit frequency locked at low, mid or high channel as needed
- Both unmodulated & modulated as needed

Configuration of the device under test:

- See Appendix B and test setup photo(s)
- See Product Information Form(s) in Appendix B

DEVIATIONS FROM STANDARD:

None.

GENERAL REMARKS:

None

Modifications required to pass:

- None
- As indicated on the data sheet(s)

Test Specification Deviations: Additions to or Exclusions from:

- None
- As indicated in the Test Plan

SUMMARY:

The requirements according to the technical regulations are

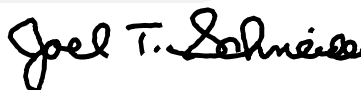
- met and the device under test does fulfill the general approval requirements.
- **not** met and the device under test does **not** fulfill the general approval requirements..

EUT Received Date: 15 January 2007Condition of EUT: NormalTesting Start Date: 15 January 2007Testing End Date: 18 January 2007

TÜV AMERICA INC



Greg Jakubowski
Sr EMC Technician



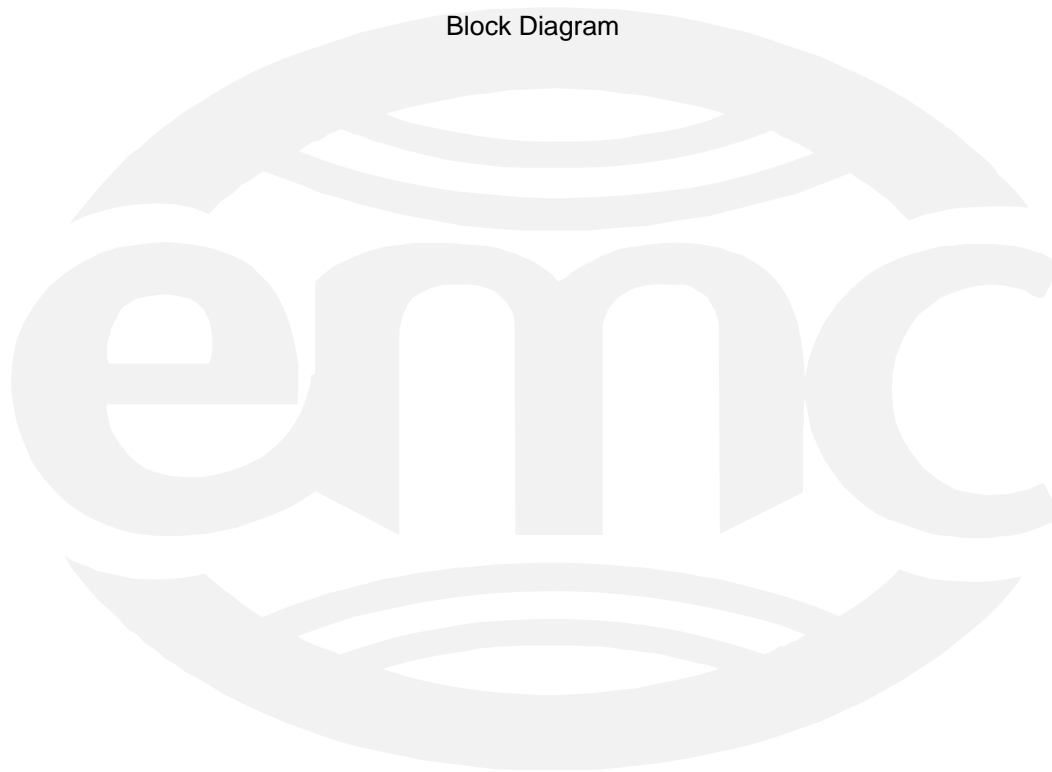
Joel Schneider
Sr EMC Engineer

Appendix A

Constructional Data Form

and

Block Diagram





EMC Test Plan and Constructional Data Form

America

PLEASE COMPLETE THIS DOCUMENT IN FULL, ENTERING N/A IF THE FIELD IS NOT APPLICABLE. IF TESTING RESULTS IN MODIFICATIONS TO THE EQUIPMENT, PLEASE SUBMIT A REVISED TP/CDF INDICATING THOSE MODIFICATIONS.
NOTE: This information will be input into your test report as shown below. Press the F1 key at any time to get HELP for the current field selected.

Company: Digi International
 Address: 11001 Bren Rd E.
Minnetonka, Mn 55343
 Contact: Bill Kumpf Position: Eng
 Phone: 952-912-3183 Fax: _____
 E-mail Address: _____

General Equipment Description -- NOTE: This information will be input into your test report as shown below.

EUT Description Ethernet, Serial, 802.11b/g, dual USB module
 EUT Name Digi ConnectCore Wi 9C
 Model No.: 50001355-xx Serial No.: 0001
 Product Options: _____
 Configurations to be tested: _____

Equipment Modification (If applicable, indicate modifications since EUT was last tested. If modifications are made during this testing, submit revised TP/CDF after testing is complete.)

Modifications since last test: _____
 Modifications made during test: _____

Test Objective(s): Please indicate the tests to be performed, entering the applicable standard(s) where noted.

- | | |
|---|--|
| <input checked="" type="checkbox"/> EMC Directive 89/336/EEC (EMC)
Std: <u>listed on quote SD10121291414</u> | <input checked="" type="checkbox"/> FCC: Class <input type="checkbox"/> A <input checked="" type="checkbox"/> B Part <u>15</u> |
| <input type="checkbox"/> Machinery Directive 89/392/EEC (EMC)
Std: _____ | <input checked="" type="checkbox"/> VCCI: Class <input type="checkbox"/> A <input checked="" type="checkbox"/> B |
| <input type="checkbox"/> Medical Device Directive 93/42/EEC (EMC)
Std: _____ | <input type="checkbox"/> BSMI: Class <input type="checkbox"/> A <input type="checkbox"/> B |
| <input type="checkbox"/> Vehicle Directive 72/245/EEC (EMC)
Std: _____ | <input checked="" type="checkbox"/> Canada: Class <input type="checkbox"/> A <input type="checkbox"/> B |
| <input type="checkbox"/> FDA Reviewers Guidance for Premarket Notification Submissions (EMC) | <input checked="" type="checkbox"/> Australia: Class <input type="checkbox"/> A <input type="checkbox"/> B |
| | <input type="checkbox"/> Other: <u>EN55022,EN55024</u> |

Third Party Certification, if applicable (*Signature on Page 6 Required)

- | | |
|--|---|
| <input type="checkbox"/> Attestation of Conformity (AoC)* | <input type="checkbox"/> EMC Certification (used with Octagon Mark)* |
| <input type="checkbox"/> Certificate of Conformity (CoC)* | <input type="checkbox"/> Compliance Document* |
| Protection Class (N/A for vehicles) | <input type="checkbox"/> Class I <input type="checkbox"/> Class II <input type="checkbox"/> Class III |
| <small>(Press F1 when field is selected to show additional information on Protection Class.)</small> | |
| <input checked="" type="checkbox"/> FCC / TCB Certification | <input checked="" type="checkbox"/> Industry Canada / FCB Certification |
| <input type="checkbox"/> E-Mark Certification | <input type="checkbox"/> Taiwan Certification |



EMC Test Plan and Constructional Data Form

Attendance

Test will be: Attended by the customer Unattended by the customer

Failure - Complete this section if testing will not be attended by the customer.

If a failure occurs, TÜV America should:

- Call contact listed above, if not available then stop testing. (After hrs phone): _____
- Continue testing to complete test series.
- Continue testing to define corrective action.
- Stop testing.

EUT Specifications and Requirements

Length: 3.12" Width: 3.6" Height: .75" Weight: 5oz

Power Requirements

Regulations require testing to be performed at typical power ratings in the countries of intended use. (i.e., European power is typically 230 VAC 50 Hz or 400 VAC 50 Hz, single and three phase, respectively)

Voltage: 3.3v DC (If battery powered, make sure battery life is sufficient to complete testing.)

of Phases: _____

Current (Amps/phase(max)): .8A Current (Amps/phase(nominal)): .4A

Other _____

Other Special Requirements

Typical Installation and/or Operating Environment

(ie. Hospital, Small Business, Industrial/Factory, etc.)

EUT Power Cable

- Permanent OR Removable Length (in meters): _____
- Shielded OR Unshielded
- Not Applicable



EMC Test Plan and Constructional Data Form

America

EUT Interface Ports and Cables														
Type	Analog	Digital	During Test		Qty	Shielding		Termination	Connector Type	Port Termination	Length tested (in meters)	Removable	Permanent	
			Active	Passive		Yes	No							Type
EXAMPLE:														
RS232	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Foil over braid	Coaxial	Metallized 9-pin D-Sub	Characteristic Impedance	6	<input checked="" type="checkbox"/>	<input type="checkbox"/>
rs232	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1	<input type="checkbox"/>	<input checked="" type="checkbox"/>			db9	na	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>
USB	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	foil/braid		USB	100	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Ethernet	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1	<input type="checkbox"/>	<input checked="" type="checkbox"/>			RJ45	100	10	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>						<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>						<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>						<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>						<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>						<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>						<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>						<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>						<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>						<input type="checkbox"/>	<input type="checkbox"/>



EMC Test Plan and Constructional Data Form

America

EUT Software.

Revision Level:

Description: standard digi EOS with fcc application running

Equipment Under Test (EUT) Operating Modes to be Tested -- list the operating modes to be used during test. It is recommended the equipment be tested while operating in a typical operation mode. FCC testing of personal computers and/or peripherals requires that a simple program generate a complete line of upper case H's. Provide a general description of all software, firmware, and PLD algorithms used in the equipment. List all code modules as described above, with the revision level used during testing. Consult with your TÜV Product Service Representative if additional assistance is required.

1. the eut will be use digi's standard cc9 operation system and a special fcc driver that passes data on all ports, ethernet, and 802.11b/g radio
- 2.
- 3.

Equipment Under Test (EUT) System Components -- List and describe all components which are part of the EUT. For FCC & Taiwan testing a minimum configuration is required. (ie. Mouse, Printer, Monitor, External Disk Drive, Motherboard, etc)

Description	Model #	Serial #	FCC ID #
special digi supplied carrier board that supplies the eut's power and rs232 interface	55001166-01	na	none



EMC Test Plan and Constructional Data Form

America

Support Equipment -- List and describe all support equipment which is not part of the EUT. (i.e. peripherals, simulators, etc)
This information is required for FCC & Taiwan testing.

<i>Description</i>	<i>Model #</i>	<i>Serial #</i>	<i>FCC ID #</i>
laptop computer -Micron	transport gx+	2966486	NBK001627-04
access point/hub - D-Link	Di-524	B296153006075	KA2DI524C1

Oscillator Frequencies

<i>Frequency</i>	<i>Derived Frequency</i>	<i>Component # / Location</i>	<i>Description of Use</i>
29.4912 MHz		xtal -- X1	system clock
48MHz		U17	USB clock
25MHz		X2	Ethernet clock
154.82MHz	29.4912MHz	pll in u29	cpu system timing

Power Supply

<i>Manufacturer</i>	<i>Model #</i>	<i>Serial #</i>	<i>Type</i>
			<input type="checkbox"/> Switched-mode: (Frequency) _____ <input type="checkbox"/> Linear <input type="checkbox"/> Other: _____
			<input type="checkbox"/> Switched-mode: (Frequency) _____ <input type="checkbox"/> Linear <input type="checkbox"/> Other: _____

Power Line Filters

<i>Manufacturer</i>	<i>Model #</i>	<i>Location in EUT</i>



EMC Test Plan and Constructional Data Form

Critical EMI Components (Capacitors, ferrites, etc.)				
<i>Description</i>	<i>Manufacturer</i>	<i>Part # or Value</i>	<i>Qty</i>	<i>Component # / Location</i>

EMC Critical Detail -- Describe other EMC Design details used to reduce high frequency noise.

EUT is an unenclosed module that does not use any special EMC shielding except for a shield that surrounds the radio's rf section.

(PLEASE INSERT "ELECTRONIC SIGNATURE" BELOW IF POSSIBLE)

Authorization Signatures (Signature Required for Certifications checked on pg 1)

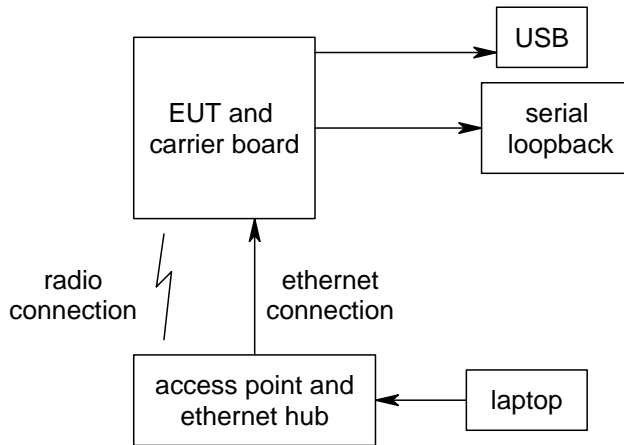
_____ Date _____
 Customer authorization to perform tests according to this test plan.

_____ Date _____
 Test Plan/CDF Prepared By (please print)



EMC Block Diagram Form

System Configuration Block Diagram -- Provide a line drawing identifying the EUT, simulators, support equipment, I/O cables, power cables, and any other pertinent components to be used during testing. Use a dashed line to separate the equipment in the testing field versus equipment outside testing field.



Authorization Signatures

Customer authorization to perform tests according to this test plan.

Date

Test Plan/CDF Prepared By (please print)

Date

Appendix B

Measurement Protocol



MEASUREMENT PROTOCOL

GENERAL INFORMATION

Test Methodology

Emissions testing is performed according to the procedures in ANSI C63.4-2003.

Measurement Uncertainty

The test system for conducted emissions is defined as the LISN, tuned receiver or spectrum analyzer, and coaxial cable. The test system has a measurement uncertainty of ± 1.8 dB. The test system for radiated emissions is defined as the antenna, the pre-amplifier, the spectrum analyzer and the coaxial cable. The test system has a measurement uncertainty of ± 4.8 dB. The equipment comprising the test systems is calibrated on an annual basis.

Justification

The Equipment Under Test (EUT) is configured in a typical user arrangement in accordance with the manufacturer's instructions. A cable is connected to each available port and either terminated with a peripheral into its characteristic impedance or left unterminated. When appropriate, the cables are manually manipulated with respect to each other to obtain maximum emissions from the unit.

Conducted Emissions

The final level, in $\text{dB}\mu\text{V}$, equals the EMI receiver level plus the cable loss and LISN factor.

Radiated Emissions

The final level, in $\text{dB}\mu\text{V}/\text{m}$, equals the reading from the spectrum analyzer (Level $\text{dB}\mu\text{V}$), adding the antenna correction factor and cable loss factor (Factor dB) to it, and subtracting the preamp gain (and duty cycle correction factor, if applicable). This result then has the limit subtracted from it to provide the Delta, which gives the tabular data as shown in the data sheets in Attachment A. Intentional radiators are rotated through 3 orthogonal axes to determine the test position yielding the maximum emission levels.

Example:

FREQ (MHz)	LEVEL ($\text{dB}\mu\text{V}$)	CABLE/ANT/PREAMP (dB)	FINAL ($\text{dB}\mu\text{V}/\text{m}$)	POL/HGT/AZ (m) (deg)	DELTA1
60.80	42.5Qp +	1.2 + 10.9 - 25.5 =	29.1	V 1.0 0.0	-10.9

Test Equipment

All measurement instrumentation is traceable to the National Institute of Standards and Technology and is calibrated according to internal procedure.