DIVERSIFIED
T.E.S.T.
TECHNOLOGIES, INC.
4675 Burr Drive ● Liverpool, NY 13088 ● 1-800-724-6452 ● FAX: 315-457-0428 ● 315-457-0245

February 5, 2013

Mr. Steve McMahon
Cortland Research LLC
12 S. Main St. Suite 207, PO Box 307
Homer, NY 13077

Dear Mr. McMahon:

Enclosed is the test report for the Cortland Research LLC Ariel Switch which was tested at our facility located at 4675 Burr Drive in Liverpool, NY. This facility is on file with the Federal Communications Commission (FCC) per 47 CFR 2.948. (Site File Registration Number: 306552)

As narrated in the report, the product configuration meets the requirements of the FCC per CFR 47 Part 15.247 Class C for Intentional Radiators. Additionally, all spurious emissions signals are greater than 20 dB below the limit of FCC Part 15.209 and are not reported. Therefore, the unit under test meets the FCC Part 15.209 requirements. The plots indicated ambient scans.

Thank you for selecting Diversified T.E.S.T. Technologies, Inc. for your testing needs. We look forward to working with you on future projects. Should you have any questions or concerns regarding this report, contact me at 315-457-0245. Please feel free to visit our website at www.dttlab.com.

Sincerely,

Michael McElroy
Technical Associate

Table of Contents

Emissions Testing

Documentation

Test Report

Laboratory
Diversified TEST Technologies, Inc.
4675 Burr Drive
Liverpool, NY 13088
315-457-0245

Manufacturer
Cortland Research LLC
12 S. Main St. Suite 207 PO Box 307
Homer, NY 13077

Report Issue Date: **February 5, 2013**
Project Number: **6401**
Report Number: **6401-020513 FCCC – (Edition 1)**

Date Received: **January 24, 2013**
Date Tested: **January 24, 2013-January 29, 2013**
Product: **Switch**
Model Numbers: Ariel
FCC ID: S2XARI15800103

Traceability: *Reference standards of measurement have been calibrated by a competent body using standards traceable to NIST.*

The testing performed by Diversified TEST Technologies, Inc. has shown that the product referenced above complies with the electromagnetic compatibility requirements according to the standard(s) specified on page 3 of the test report. The results in this test report apply only to the product denoted above. The manufacturer is responsible for ensuring that additional units are manufactured with identical mechanical and electrical characteristics.
The equipment listed above conforms to the specified requirements of the test standards listed on page 3 of this report.

Complied by:
Signature: _____ Date: February 5, 2013
Michael McElroy
Technical Associate

Reviewed by:
Signature: _____ Date: February 5, 2013
Annelle Frierson
Vice- President

Emissions Test Regulations

The emissions tests were performed according to the following regulations:

☐EN 50081-1:1992

☐EN 50081-2:1995

☐EN 55011:1998 / A1:1999 / A2:2001 ☐Group 1 ☐Group 2
☐Class A ☐Class B

☐EN 55013:1990 / A12:1994 / A13:1996 / A14:1999

☐EN 55014:1993 / A1: 1997 ☐Household appliances and similar
☐Portable tools
☐Semiconductor devices

☐EN 55022:1998 ☐Class A ☐Class B

☒**FCC Part 15.247** ☐Class A ☐Class B ☒**Class C**

☒**Certification**
☐Verification
☐Declaration of Conformity

Emissions Test Conditions: FCC PART 15.247

The Harmonics and Bandwidth measurements were tested in a horizontal and vertical polarization at the following test location:

☒ Diversified TEST Technologies, Inc. Open Area Test Site
☐ Diversified TEST Technologies, Inc. Lab

at a test distance of:

☒ 1 meter
☒ 3 meters
☐ 30 meters

Test equipment used:

Manufacturer	Model	Description	Serial #	Cal.	Cal. Due
Agilent	E4440A	Spectrum Analyzer	US40421122	6/12/12	6/12/13
Electro-Metrics	RGA60	Ridge Horn Antenna	2981	8/25/12	8/25/13
	MFR-57500	Blue low-loss transmit cable	337		
		Non-conductive wooden turntable			
		10-meter open field test range, grounded with ¼ ” x ¼ ” hardware cloth			

Equipment under Test (EUT) Test Operation Mode – Emissions Tests:

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

☐ Standby

☒ Normal Operating Mode

☐ Practice Operation

Description / Configuration of the device under test:

Power Management System Switch.

The unit was powered by a 120 VAC 60 Hz during the collection of data.

Modifications:

Nichicon Part # F931C106KAA 10uF Capacitor replaced blank space in C65 on PCB.

Rationale for EUT setup / configuration:

ANSI C63.4:2003

Emissions Test Results:

FCC Part 15.247 Part C for 2405, 2435, and 2475 MHz
The requirements are ☒ MET ☐ NOT MET

General Remarks:

Systems using digital modulation techniques may operate in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

Measurements were taken up to the tenth harmonic.

The EUT was evaluated in 1 orthogonal orientation and the worst case data is reflected in the test report.

Summary:

The requirements according to the technical regulations are

☒ Met.
☐ Not met.

The device under test does

☒ fulfill the general approval requirements mentioned on page 3.
☐ not fulfill the general approval requirements mentioned on page 3.

Testing Start Date: January 24, 2013

Testing End Date: January 29, 2013

Test Setup Photographs:

FCC PART 15.247 CLASS C – 2405/2435/2475 MHZ

Photograph 1: FCC Part 15.247 Class C

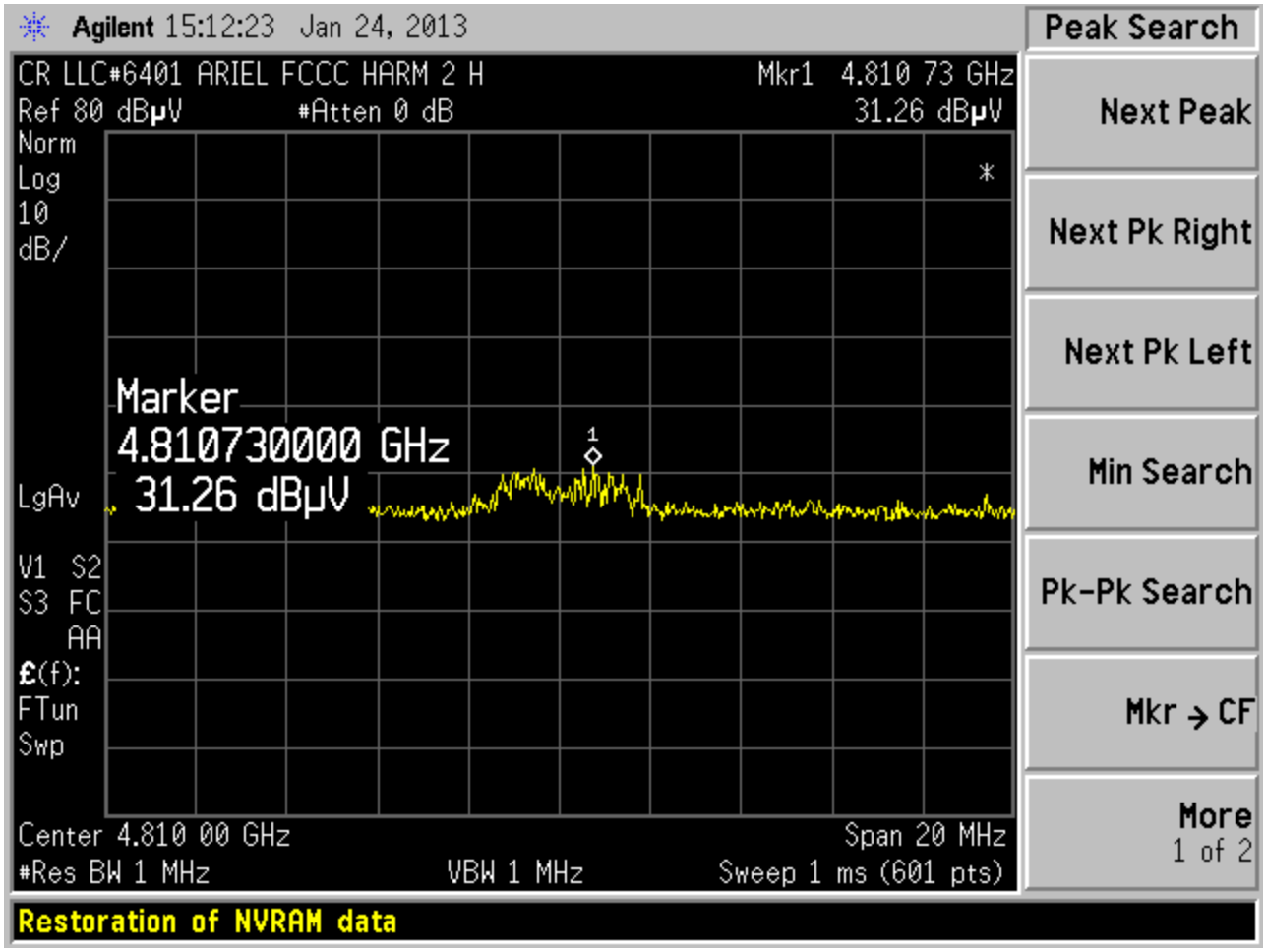
Harmonics Test Datasheets – Channel 11 2405 MHz

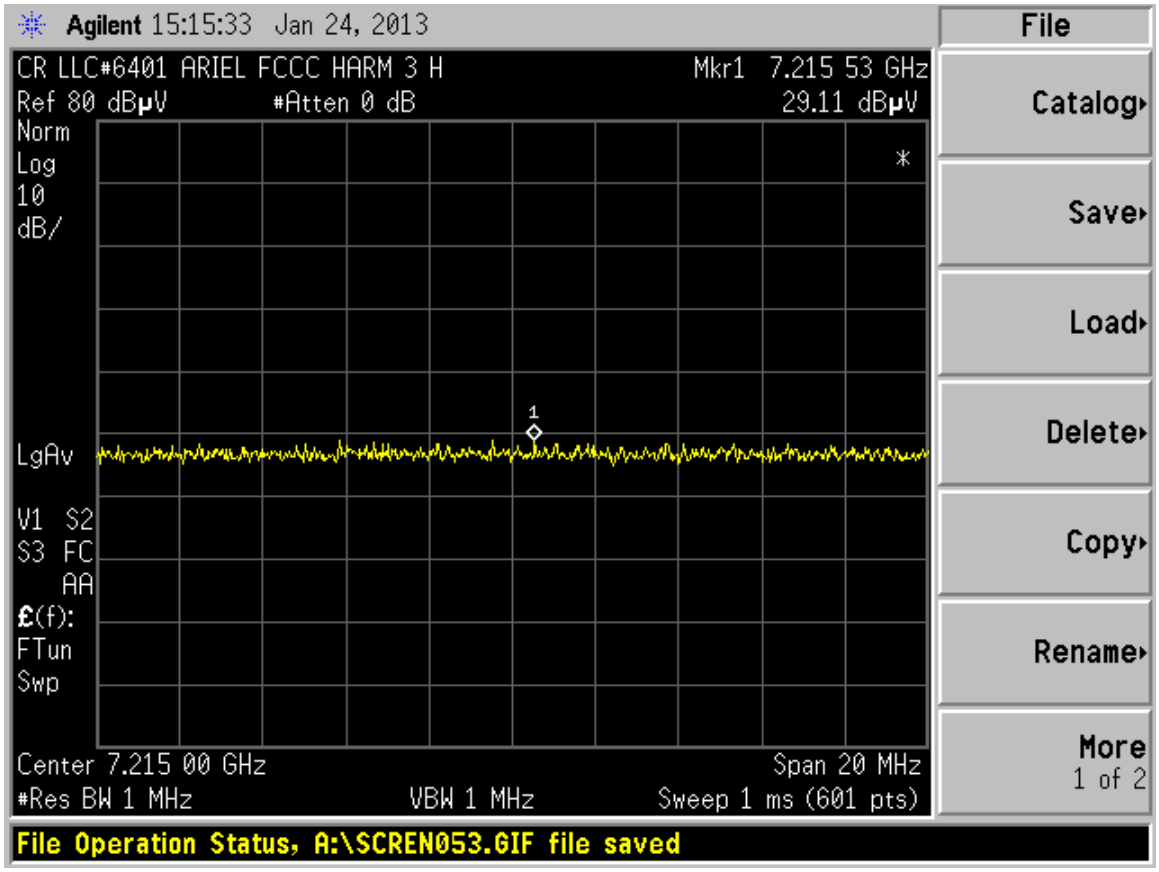
21 pages to follow.

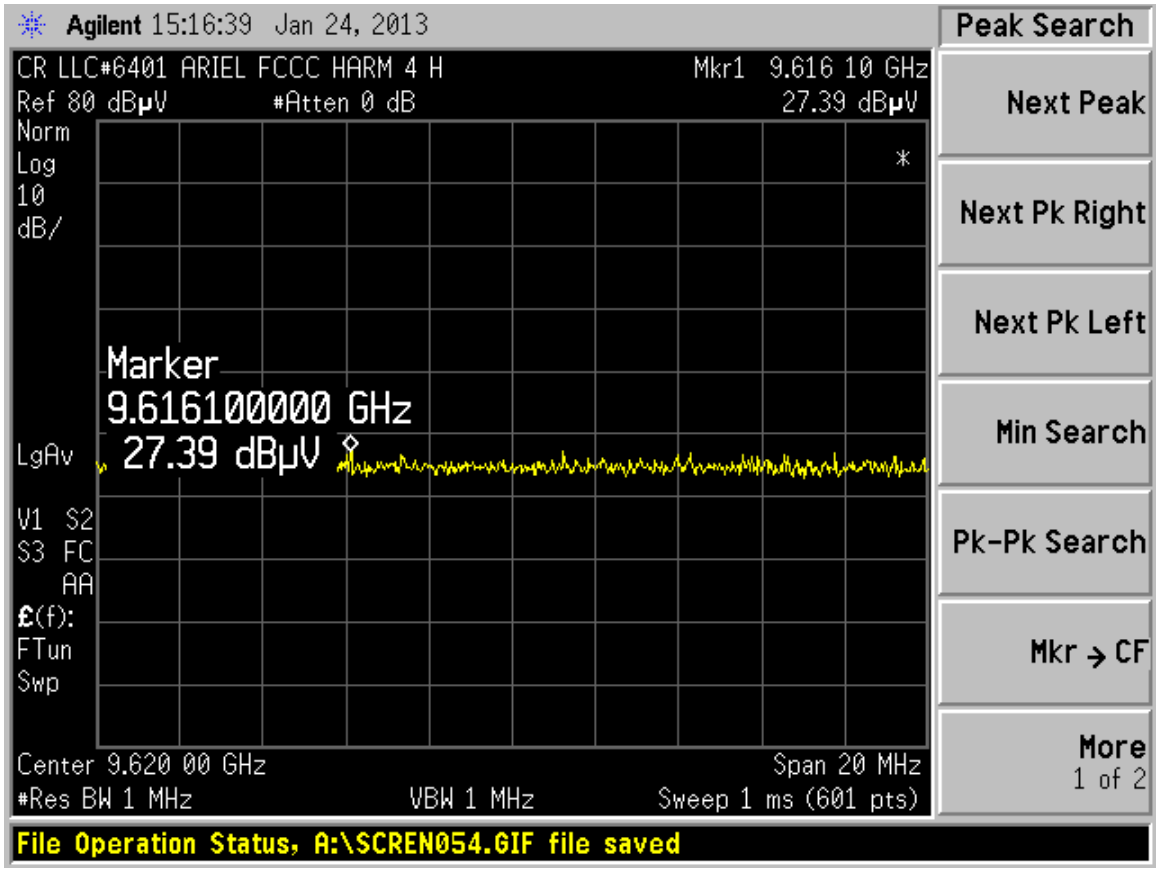
Limits for transmitters
Tested January 24, 2013 -
January 29, 2013

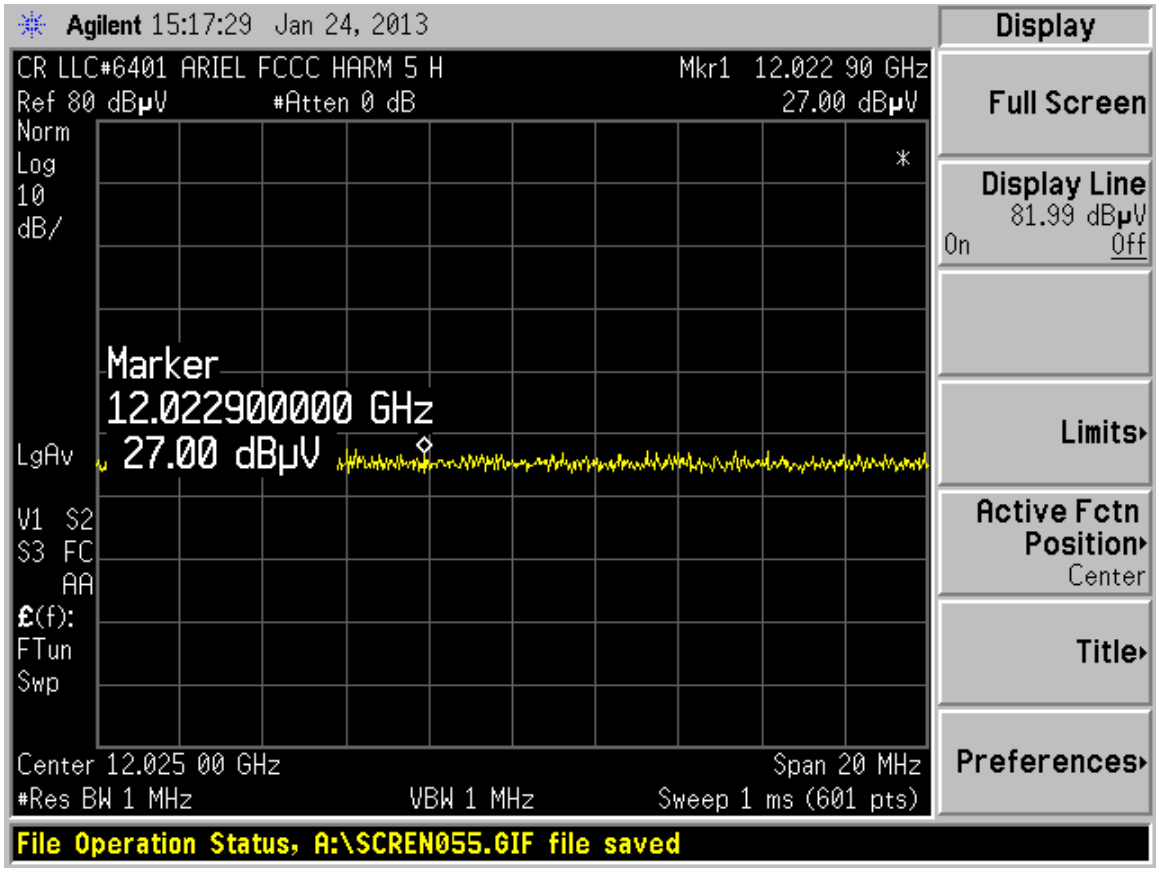
FCC Harmonics Test 2405 MHz										
Measured	Res.	DUT	Measured	Cable	Amplifier	Measurement	FCC	Corrected	Margin	
Field Strength	Bandwidth	Frequency	Frequency	Factor	Gain	Distance	Limit	Field Strength		Polarity
(dBµV)	(Khz)	(Mhz)	(Mhz)	(dBuV)	(dBuV)	(Meters)	(dBuV)	(dBuV/M)	(dBuV/M)	
56.43	1000	2405	2405	2.0	0	3	146.99	58.43	-88.56	Horizontal
31.26	1000	2405	4810	2.2	0	1	54	33.46	-20.54	Horizontal
29.11	1000	2405	7215	2.3	0	1	54	31.41	-22.59	Horizontal
27.39	1000	2405	9620	2.4	0	1	54	29.79	-24.21	Horizontal
27.00	1000	2405	12025	2.4	0	1	54	29.40	-24.60	Horizontal
29.60	1000	2405	14430	2.6	0	1	54	32.20	-21.80	Horizontal
30.12	1000	2405	16835	2.7	0	1	54	32.82	-21.18	Horizontal
28.86	1000	2405	19240	2.8	0	1	54	31.66	-22.34	Horizontal
30.10	1000	2405	21645	2.8	0	1	54	32.90	-21.10	Horizontal
31.70	1000	2405	24050	2.9	0	1	54	34.60	-19.40	Horizontal
63.26	1000	2405	2405	2.0	0	3	146.99	65.26	-81.73	Vertical
34.16	1000	2405	4810	2.2	0	1	54	36.36	-17.64	Vertical
28.85	1000	2405	7215	2.3	0	1	54	31.15	-22.85	Vertical
26.80	1000	2405	9620	2.4	0	1	54	29.20	-24.80	Vertical
25.29	1000	2405	12025	2.4	0	1	54	27.69	-26.31	Vertical
30.10	1000	2405	14430	2.6	0	1	54	32.70	-21.30	Vertical
30.10	1000	2405	16835	2.7	0	1	54	32.80	-21.20	Vertical
29.59	1000	2405	19240	2.8	0	1	54	32.39	-21.61	Vertical
31.06	1000	2405	21645	2.8	0	1	54	33.86	-20.14	Vertical
31.97	1000	2405	24050	2.9	0	1	54	34.87	-19.13	Vertical
*Antenna factors are pre-calculated into Measured Field Strength (dBµV)										
Unit Under Test: Ariel Switch Channel 11										

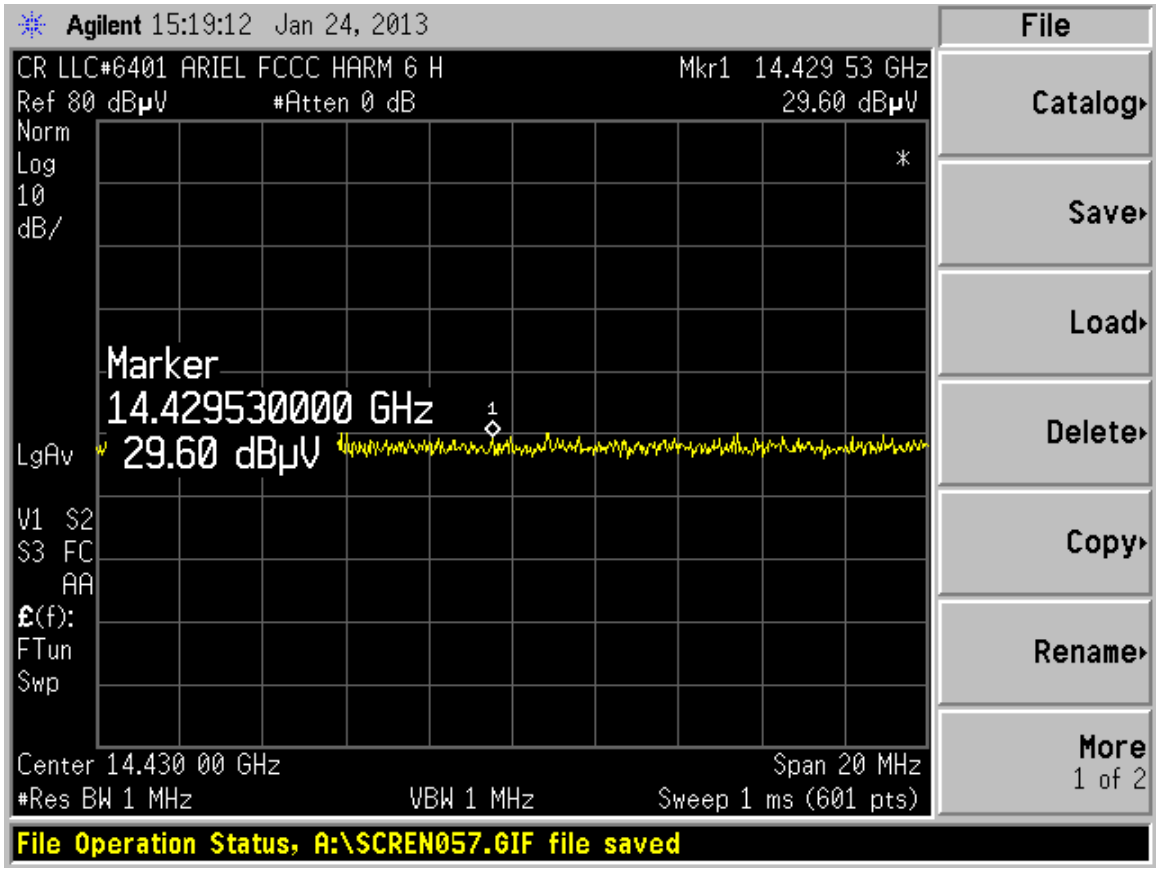

Agilent 11:01:45 7 Mar 2013
CR LLC*6401 ARIEL FCCC FUND 3M CH 11 H
Ref 96.99 dBµV
#Atten 0 dB
Mkr1 2.405625 GHz
56.43 dBµV
Peak
Log
10
dB/
Marker
2.405625000 GHz
56.43 dBµV
Center 2.405 GHz
#Res BW 1 MHz
VBW 3 MHz
Span 10 MHz
Sweep 4 ms (401 pts)
Signal (0)
Freq
Peak Ampl dBµV
Qp Ampl dBµV
Avg Ampl dBµV
Peak a LL1 dB
Peak a LL2 dB
Deleted all signals.

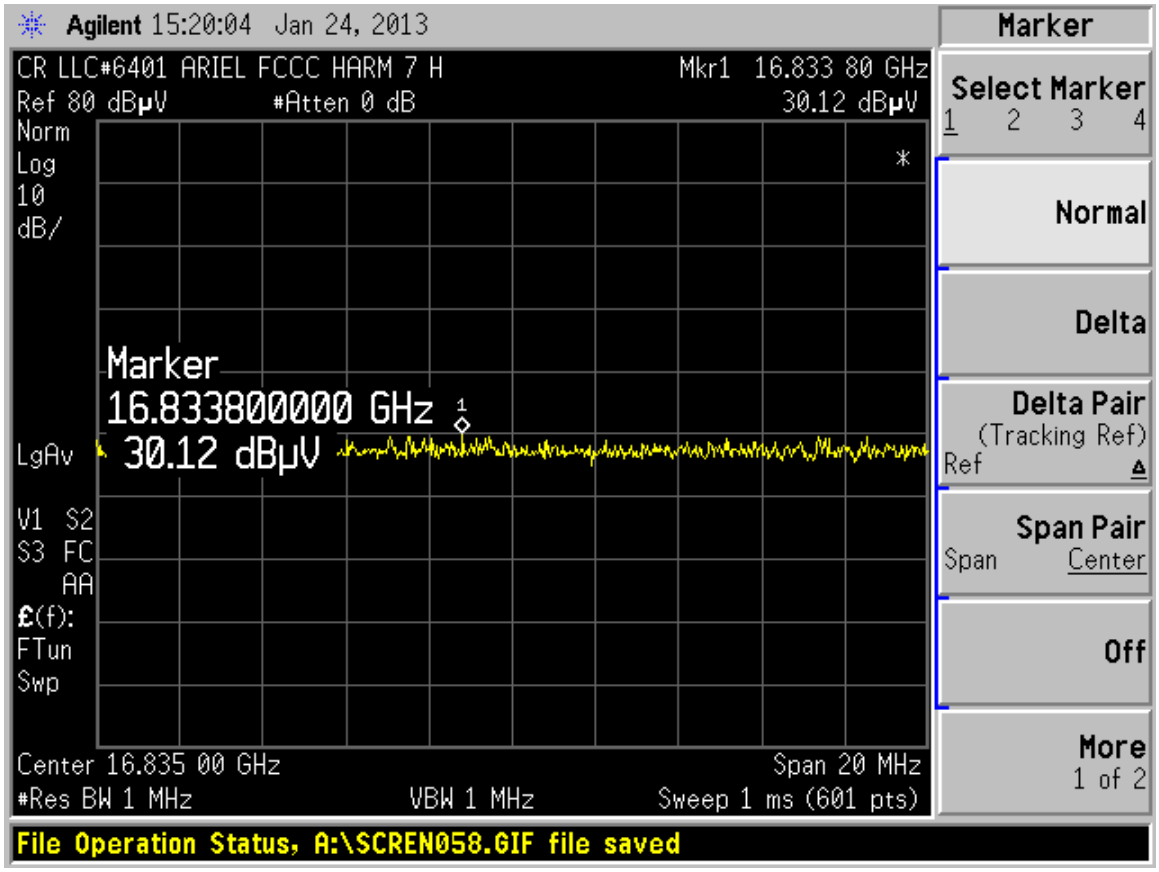

Agilent 15:12:23 Jan 24, 2013
CR LLC#6401 ARIEL FCCC HARM 2 H
Mkr1 4.810 73 GHz
Ref 80 dBµV
#Atten 0 dB
31.26 dBµV
Norm
Log
10
dB/
Marker
4.810730000 GHz
31.26 dBµV
LgAv
V1 S2
S3 FC
AA
£(f):
FTun
Swp
Center 4.810 00 GHz
Span 20 MHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 1 ms (601 pts)
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
Mkr → CF
More
1 of 2
Restoration of NVRAM data

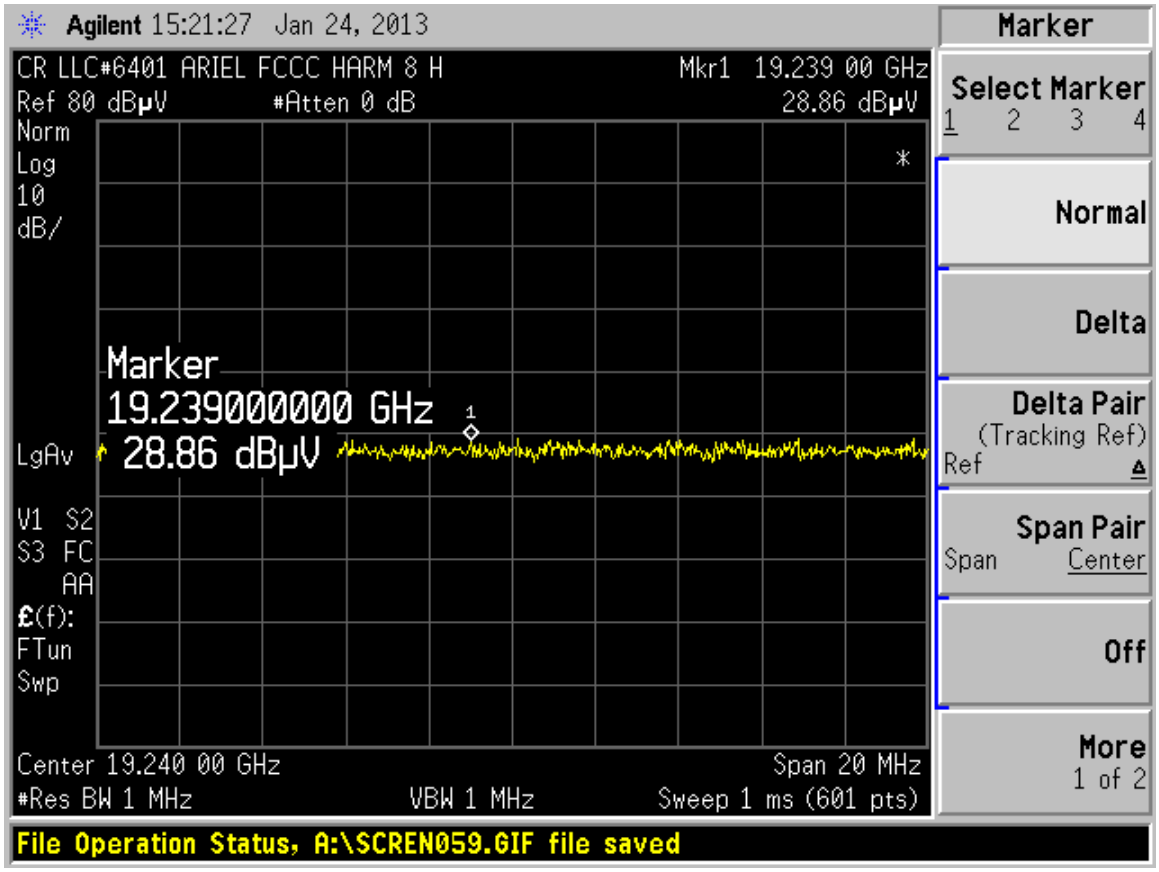

Agilent 15:15:33 Jan 24, 2013
CR LLC#6401 ARIEL FCCC HARM 3 H
Mkr1 7.215 53 GHz
Ref 80 dBµV
#Atten 0 dB
29.11 dBµV
Norm
Log
10
dB/
LgAv
V1 S2
S3 FC
AA
£(f):
FTun
Swp
Center 7.215 00 GHz
Span 20 MHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 1 ms (601 pts)
File
Catalog
Save
Load
Delete
Copy
Rename
More
1 of 2
File Operation Status, A:\SCREN053.GIF file saved

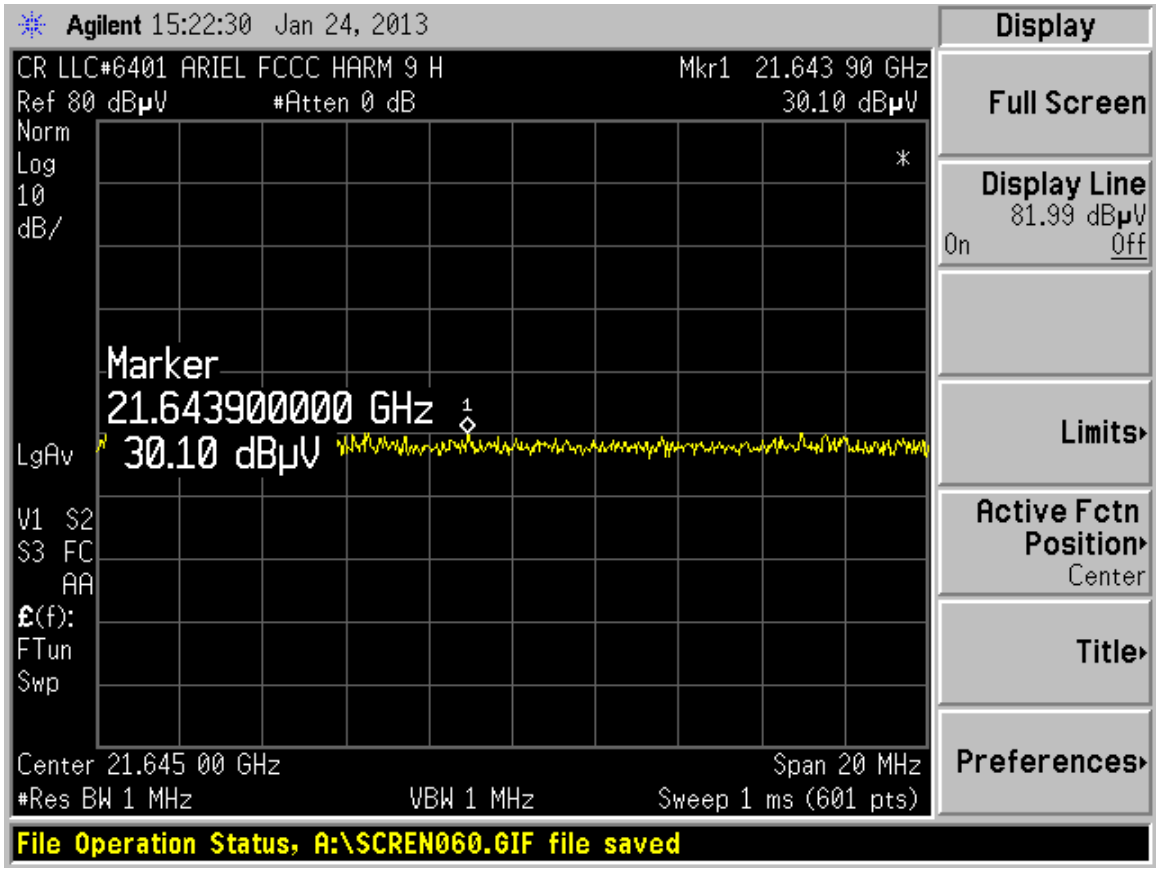

Agilent 15:16:39 Jan 24, 2013
Peak Search
CR LLC#6401 ARIEL FCCC HARM 4 H
Mkr1 9.616 10 GHz
Ref 80 dBµV
#Atten 0 dB
27.39 dBµV
Norm
Log
10
dB/
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
Mkr → CF
More
1 of 2
Marker
9.616100000 GHz
27.39 dBµV
LgAv
V1 S2
S3 FC
AA
£(f):
FTun
Swp
Center 9.620 00 GHz
Span 20 MHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 1 ms (601 pts)
File Operation Status, A:\SCREN054.GIF file saved

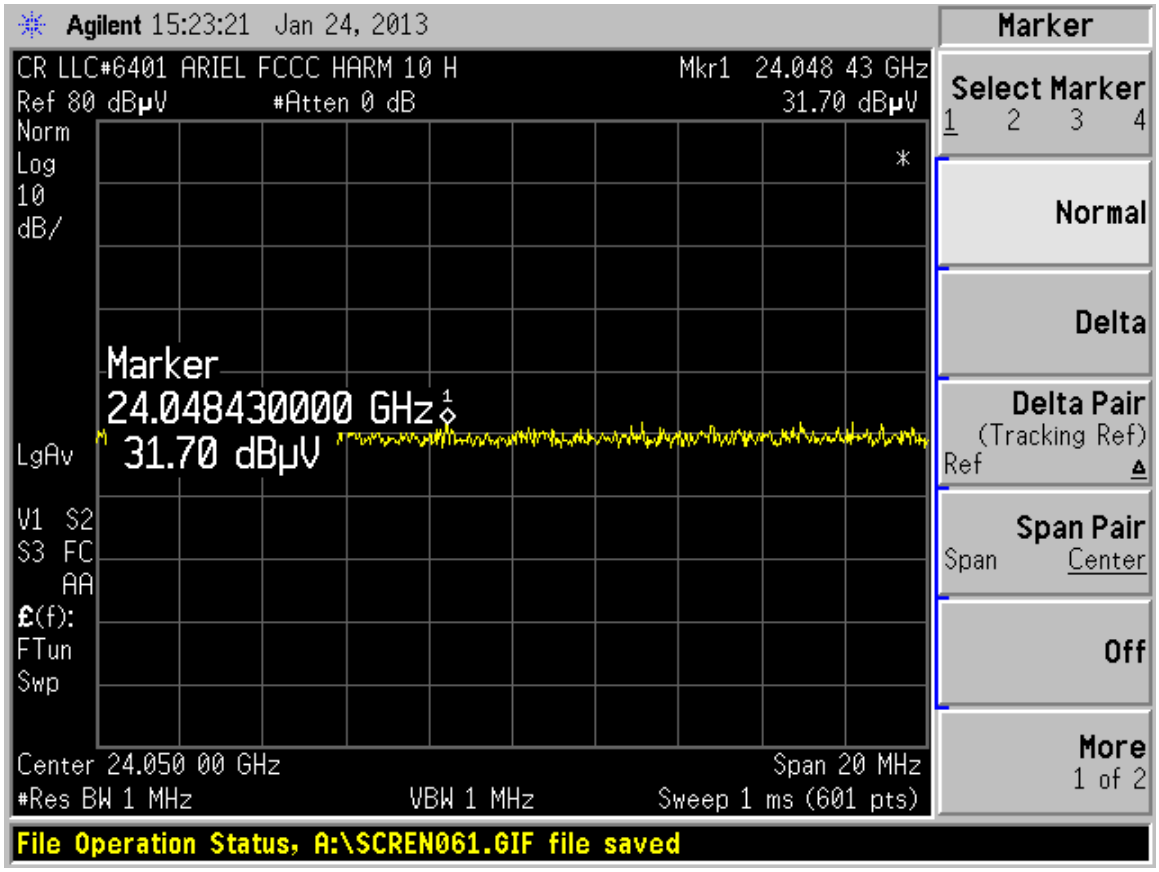

Agilent 15:17:29 Jan 24, 2013
CR LLC#6401 ARIEL FCCC HARM 5 H
Mkr1 12.022 90 GHz
Ref 80 dBµV
#Atten 0 dB
27.00 dBµV
Norm
Log
10
dB/
Marker
12.022900000 GHz
27.00 dBµV
LgAv
V1 S2
S3 FC
AA
£(f):
FTun
Swp
Center 12.025 00 GHz
Span 20 MHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 1 ms (601 pts)
Display
Full Screen
Display Line
81.99 dBµV
On Off
Limits
Active Fctn
Position
Center
Title
Preferences
File Operation Status, A:\SCREN055.GIF file saved


Agilent 15:19:12 Jan 24, 2013
File
CR LLC#6401 ARIEL FCCC HARM 6 H
Mkr1 14.429 53 GHz
Ref 80 dBµV
#Atten 0 dB
29.60 dBµV
Norm
Log
10
dB/
Marker
14.429530000 GHz
29.60 dBµV
LgAv
V1 S2
S3 FC
AA
£(f):
FTun
Swp
Center 14.430 00 GHz
Span 20 MHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 1 ms (601 pts)
Catalog
Save
Load
Delete
Copy
Rename
More
1 of 2
File Operation Status, A:\SCREN057.GIF file saved

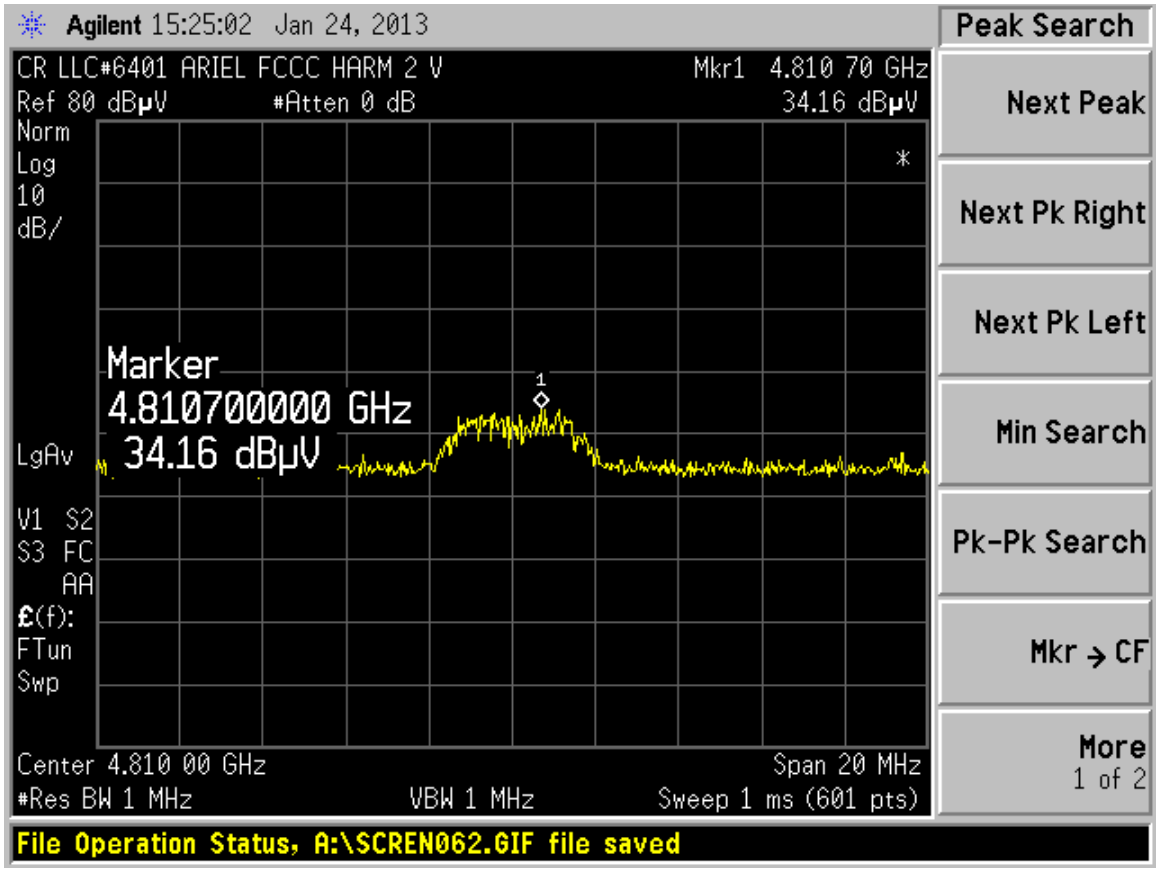

Agilent 15:20:04 Jan 24, 2013
CR LLC#6401 ARIEL FCCC HARM 7 H
Mkr1 16.833 80 GHz
Ref 80 dBµV
#Atten 0 dB
30.12 dBµV
Norm
Log
10
dB/
Marker
16.833800000 GHz
30.12 dBµV
LgAv
V1 S2
S3 FC
AA
£(f):
FTun
Swp
Center 16.835 00 GHz
Span 20 MHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 1 ms (601 pts)
Marker
Select Marker
1 2 3 4
Normal
Delta
Delta Pair
(Tracking Ref)
Ref
Span Pair
Span Center
Off
More
1 of 2
File Operation Status, A:\SCREN058.GIF file saved

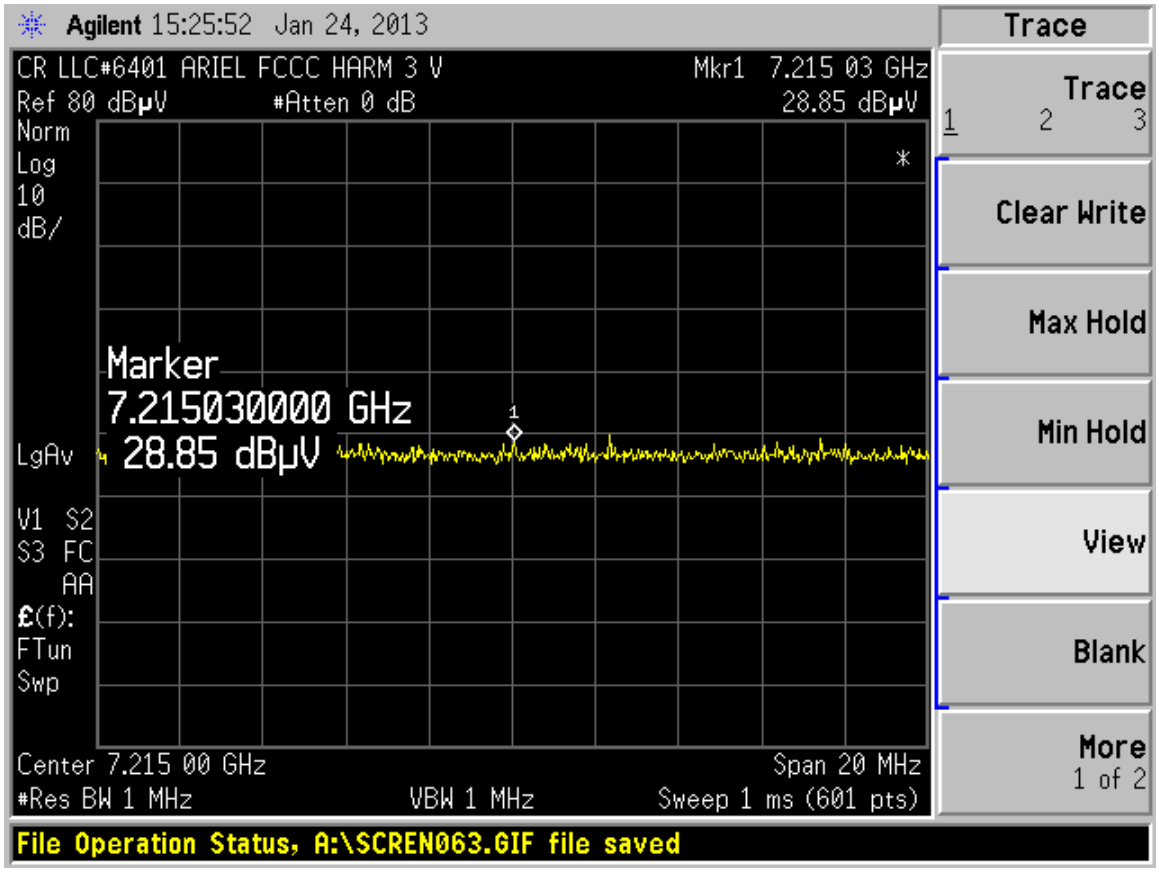

Agilent 15:21:27 Jan 24, 2013
CR LLC#6401 ARIEL FCCC HARM 8 H
Mkr1 19.239 00 GHz
Ref 80 dBµV
#Atten 0 dB
28.86 dBµV
Norm
Log
10
dB/
Marker
19.239000000 GHz
1
28.86 dBµV
LgAv
V1 S2
S3 FC
AA
£(f):
FTun
Swp
Center 19.240 00 GHz
Span 20 MHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 1 ms (601 pts)
Marker
Select Marker
1 2 3 4
Normal
Delta
Delta Pair
(Tracking Ref)
Ref
Span Pair
Span Center
Off
More
1 of 2
File Operation Status, A:\SCREN059.GIF file saved

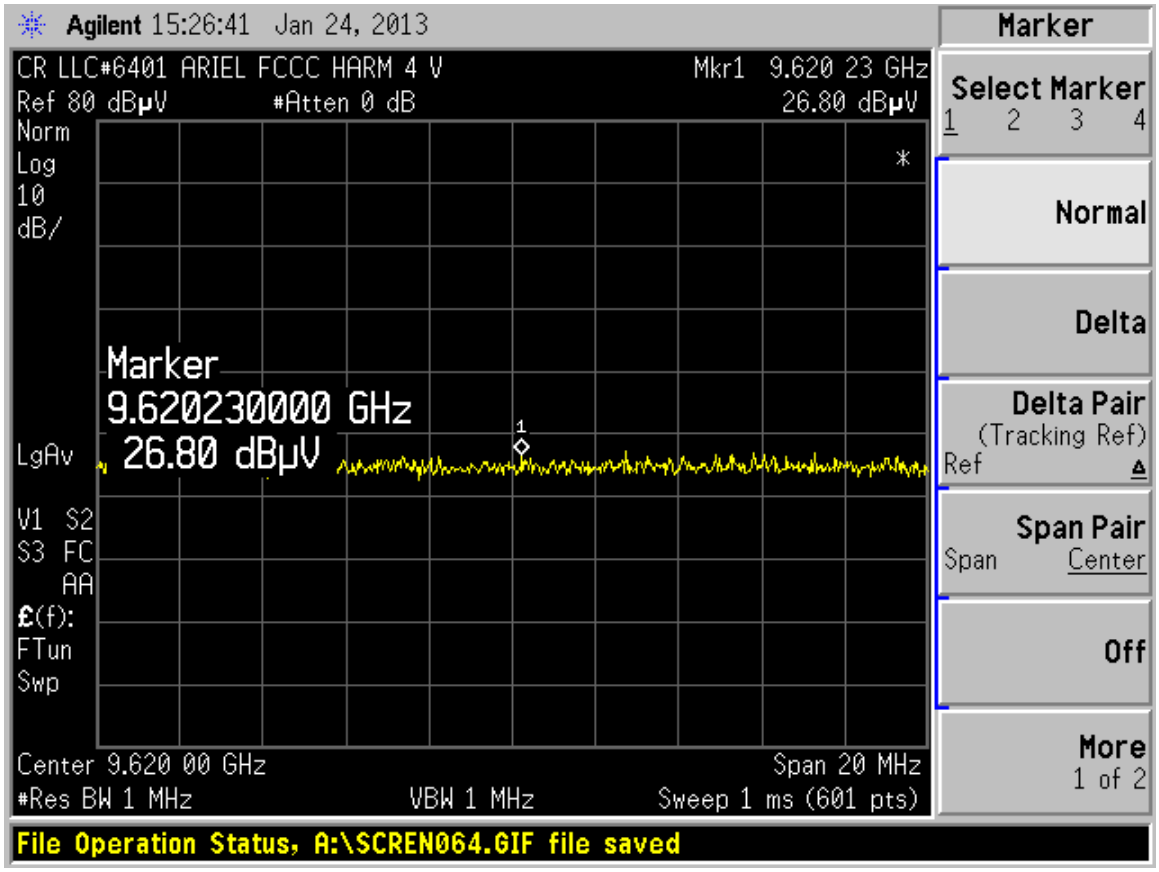

Agilent 15:22:30 Jan 24, 2013
CR LLC#6401 ARIEL FCCC HARM 9 H
Mkr1 21.643 90 GHz
Ref 80 dBµV
#Atten 0 dB
30.10 dBµV
Norm
Log
10
dB/
Marker
21.643900000 GHz
30.10 dBµV
LgAv
V1 S2
S3 FC
AA
£(f):
FTun
Swp
Center 21.645 00 GHz
Span 20 MHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 1 ms (601 pts)
Display
Full Screen
Display Line
81.99 dBµV
On Off
Limits
Active Fctn
Position
Center
Title
Preferences
File Operation Status, A:\SCREN060.GIF file saved

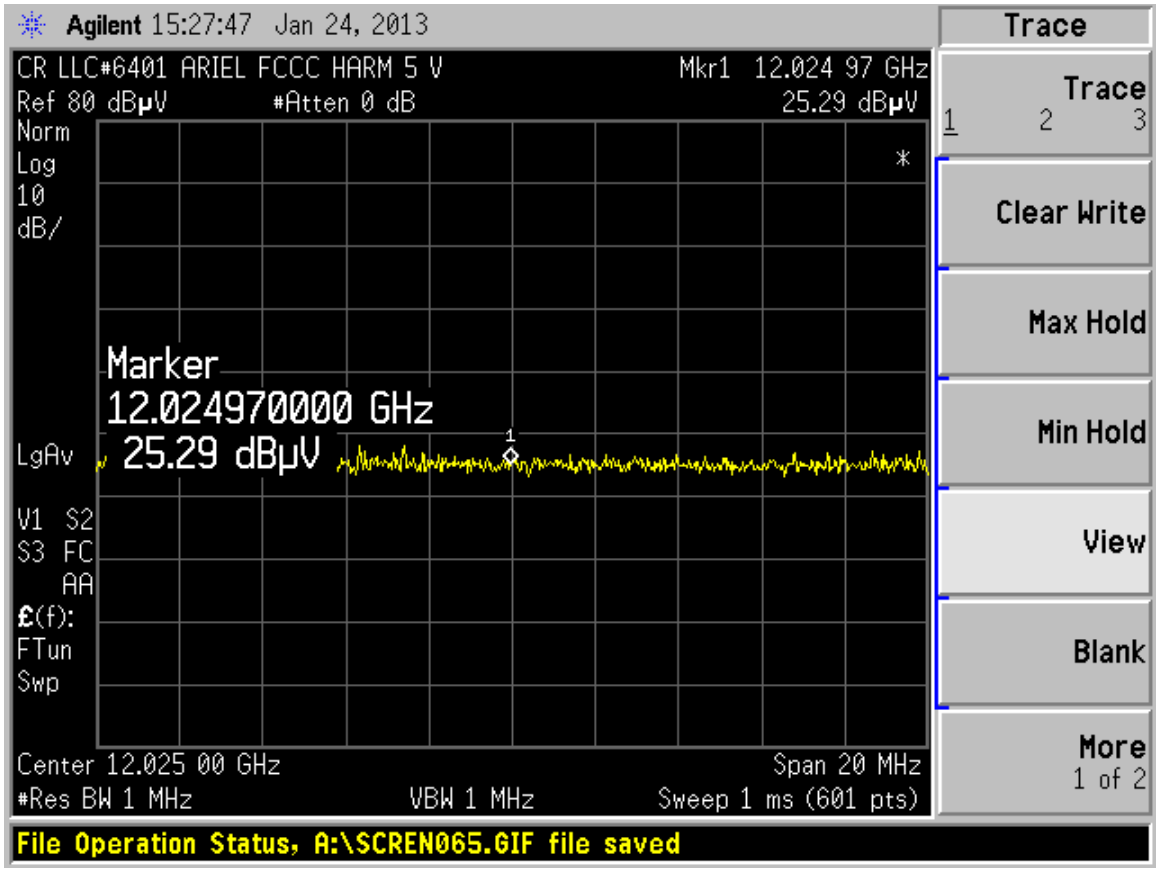

Agilent 15:23:21 Jan 24, 2013
CR LLC#6401 ARIEL FCCC HARM 10 H
Mkr1 24.048 43 GHz
Ref 80 dBµV
#Atten 0 dB
31.70 dBµV
Norm
Log
10
dB/
Marker
24.048430000 GHz
31.70 dBµV
LgAv
V1 S2
S3 FC
AA
£(f):
FTun
Swp
Center 24.050 00 GHz
Span 20 MHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 1 ms (601 pts)
Marker
Select Marker
1 2 3 4
Normal
Delta
Delta Pair
(Tracking Ref)
Ref
Span Pair
Span Center
Off
More
1 of 2
File Operation Status, A:\SCREN061.GIF file saved

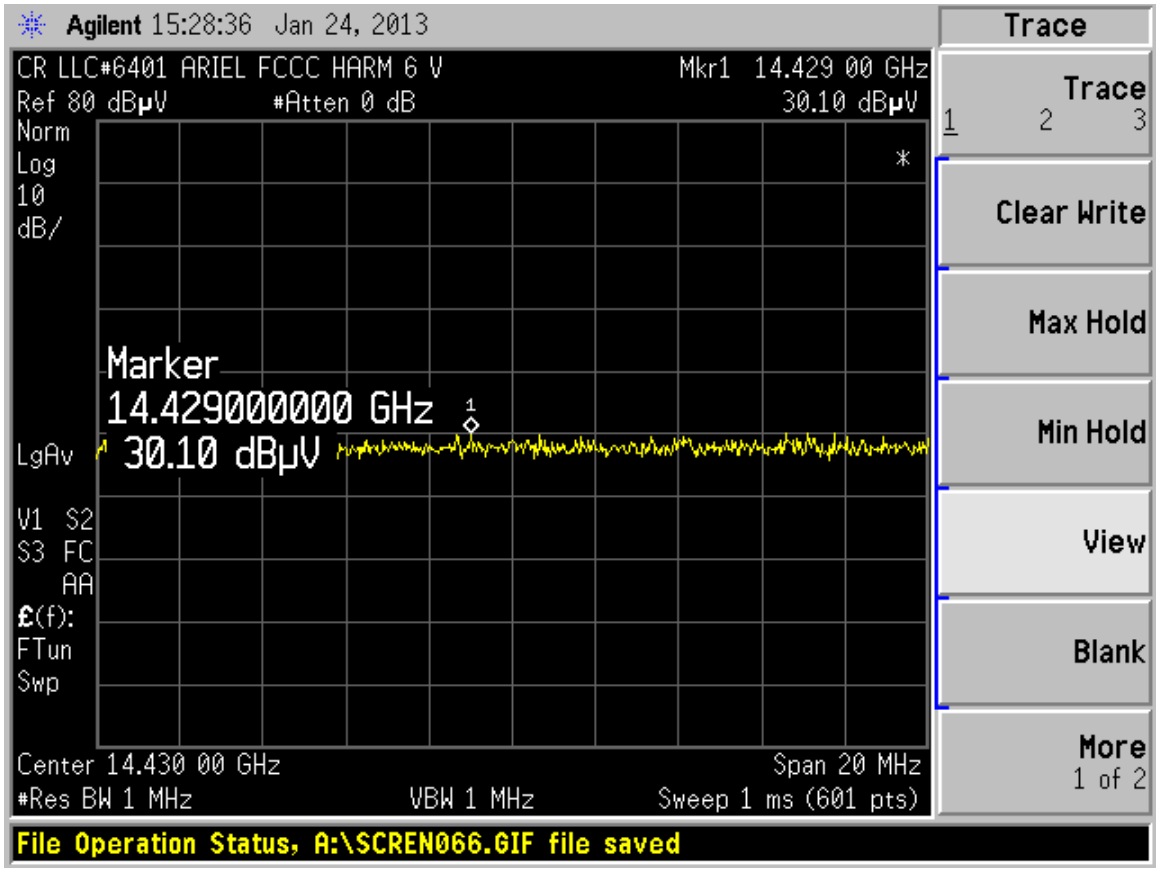

Agilent 10:59:48 7 Mar 2013
CR LLC*6401 ARIEL FCCC FUND 3M CH 11 V
Ref 96.99 dBµV
#Atten 0 dB
Mkr1 2.405625 GHz
63.26 dBµV
Peak
Log
10
dB/
Marker
2.405625000 GHz
63.26 dBµV
Center 2.405 GHz
#Res BW 1 MHz
VBW 3 MHz
Span 10 MHz
Sweep 4 ms (401 pts)
Signal (0)
Freq
Peak Ampl dBµV
Qp Ampl dBµV
Avg Ampl dBµV
Peak Δ LL1 dB
Peak Δ LL2 dB
Deleted all signals.

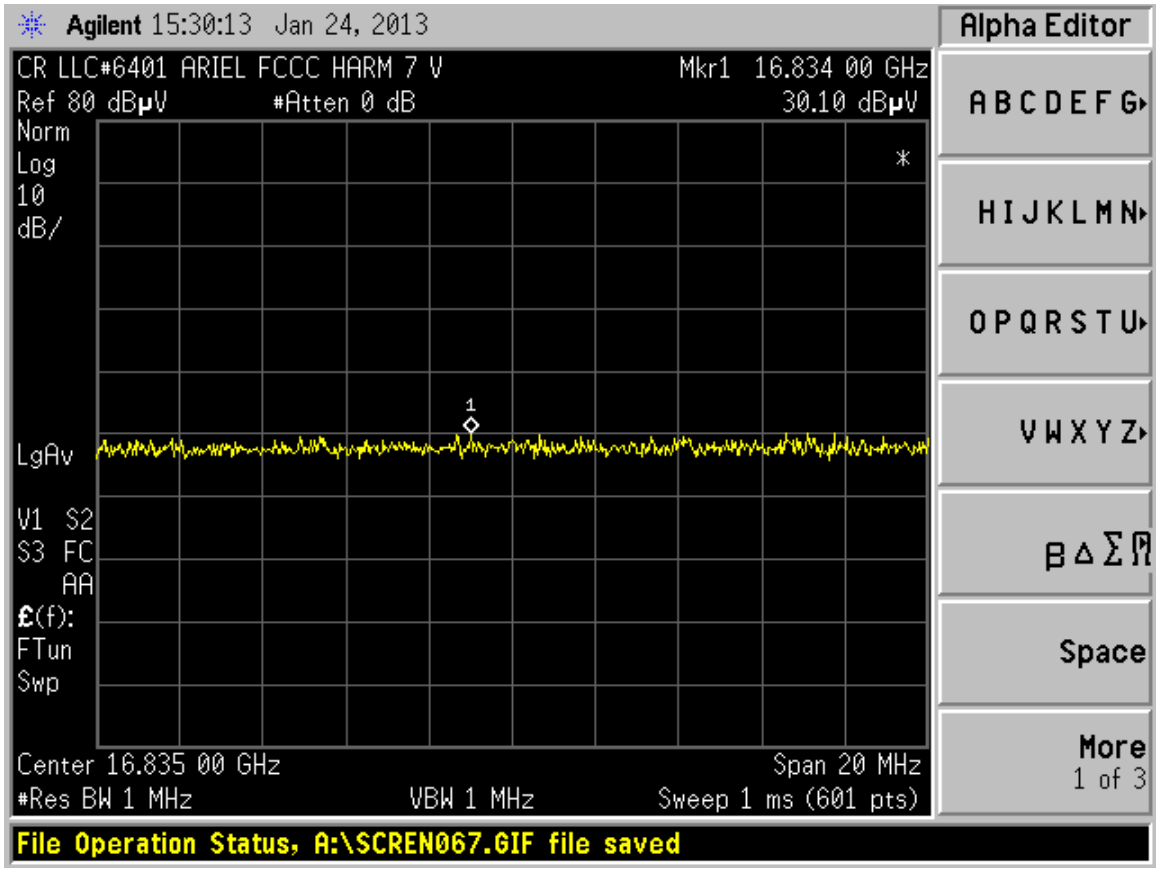

Agilent 15:25:02 Jan 24, 2013
CR LLC#6401 ARIEL FCCC HARM 2 V
Mkr1 4.810 70 GHz
Ref 80 dBµV
#Atten 0 dB
34.16 dBµV
Norm
Log
10
dB/
Marker
4.810700000 GHz
34.16 dBµV
LgAv
V1 S2
S3 FC
AA
£(f):
FTun
Swp
Center 4.810 00 GHz
Span 20 MHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 1 ms (601 pts)
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
Mkr → CF
More
1 of 2
File Operation Status, A:\SCREN062.GIF file saved

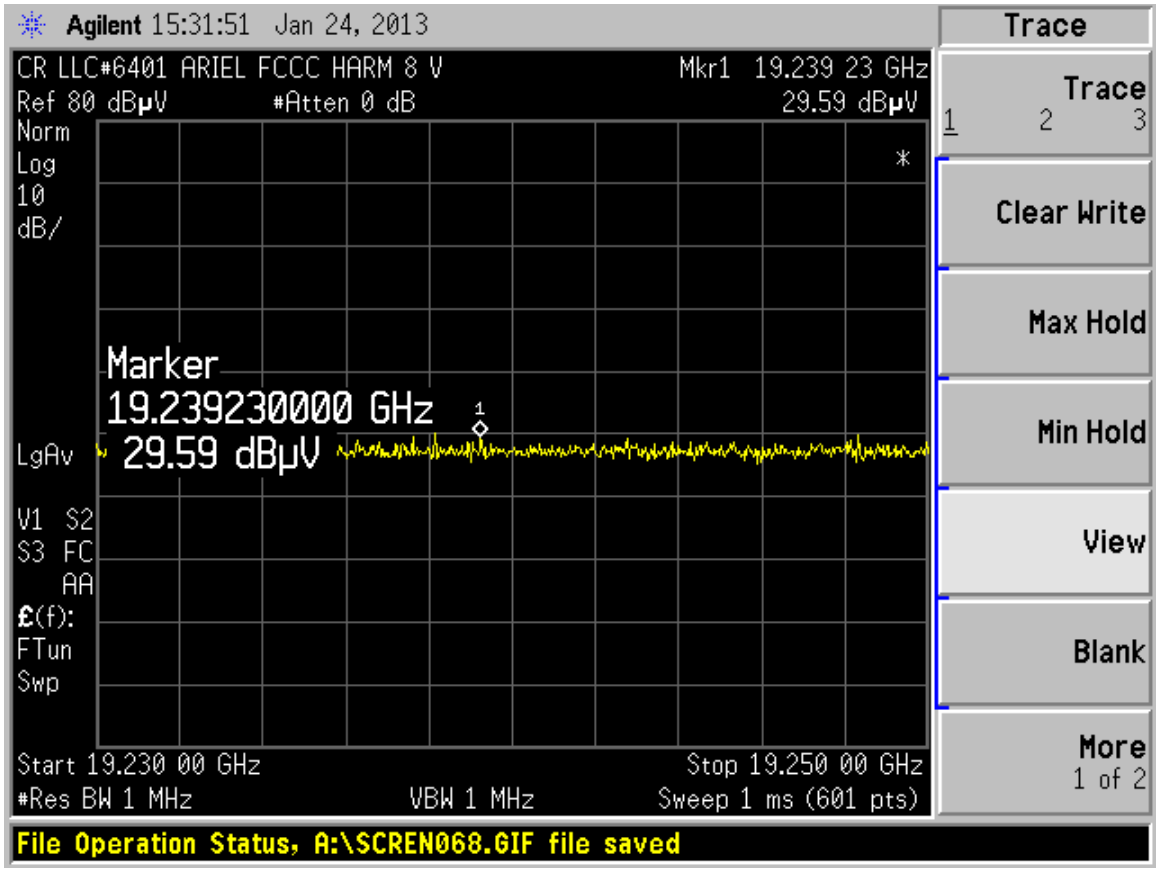

Agilent 15:25:52 Jan 24, 2013
CR LLC#6401 ARIEL FCCC HARM 3 V
Mkr1 7.215 03 GHz
Ref 80 dBµV
#Atten 0 dB
28.85 dBµV
Norm
Log
10
dB/
Marker
7.215030000 GHz
28.85 dBµV
LgAv
V1 S2
S3 FC
AA
£(f):
FTun
Swp
Center 7.215 00 GHz
Span 20 MHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 1 ms (601 pts)
Trace
Trace
1 2 3
Clear Write
Max Hold
Min Hold
View
Blank
More
1 of 2
File Operation Status, A:\SCREN063.GIF file saved

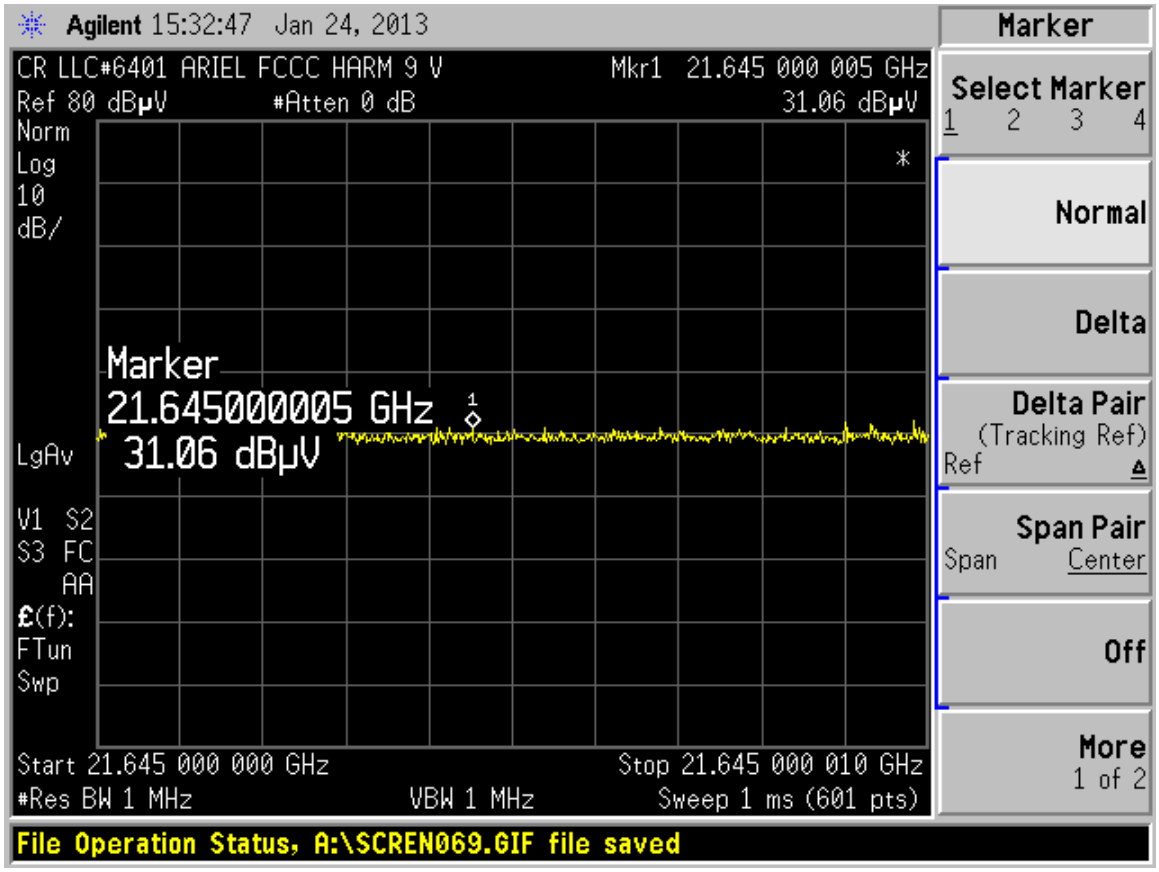

Agilent 15:26:41 Jan 24, 2013
CR LLC#6401 ARIEL FCCC HARM 4 V
Mkr1 9.620 23 GHz
Ref 80 dBµV
#Atten 0 dB
26.80 dBµV
Norm
Log
10
dB/
Marker
9.620230000 GHz
26.80 dBµV
LgAv
V1 S2
S3 FC
AA
£(f):
FTun
Swp
Center 9.620 00 GHz
Span 20 MHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 1 ms (601 pts)
Marker
Select Marker
1 2 3 4
Normal
Delta
Delta Pair
(Tracking Ref)
Ref
Span Pair
Span Center
Off
More
1 of 2
File Operation Status, A:\SCREN064.GIF file saved

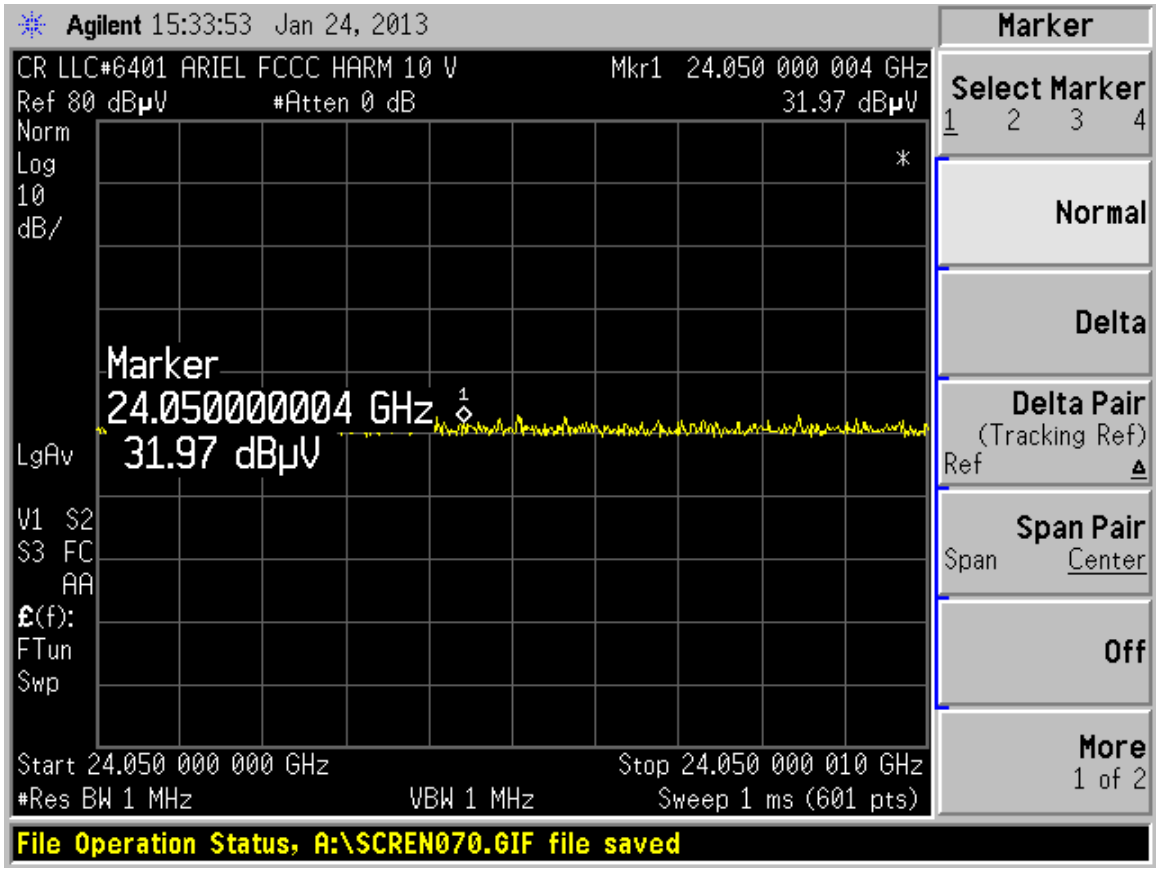

Agilent 15:27:47 Jan 24, 2013
CR LLC#6401 ARIEL FCCC HARM 5 V
Mkr1 12.024 97 GHz
Ref 80 dBµV
#Atten 0 dB
25.29 dBµV
Norm
Log
10
dB/
Marker
12.024970000 GHz
25.29 dBµV
LgAv
V1 S2
S3 FC
AA
£(f):
FTun
Swp
Center 12.025 00 GHz
Span 20 MHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 1 ms (601 pts)
Trace
Trace
1 2 3
Clear Write
Max Hold
Min Hold
View
Blank
More
1 of 2
File Operation Status, A:\SCREN065.GIF file saved


Agilent 15:28:36 Jan 24, 2013
CR LLC#6401 ARIEL FCCC HARM 6 V
Mkr1 14.429 00 GHz
Ref 80 dBµV
#Atten 0 dB
30.10 dBµV
Norm
Log
10
dB/
Marker
14.429000000 GHz
1
30.10 dBµV
LgAv
V1 S2
S3 FC
AA
£(f):
FTun
Swp
Center 14.430 00 GHz
Span 20 MHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 1 ms (601 pts)
Trace
Trace
1 2 3
Clear Write
Max Hold
Min Hold
View
Blank
More
1 of 2
File Operation Status, A:\SCREN066.GIF file saved


Agilent 15:30:13 Jan 24, 2013
Alpha Editor
CR LLC#6401 ARIEL FCCC HARM 7 V
Mkr1 16.834 00 GHz
Ref 80 dBµV
#Atten 0 dB
30.10 dBµV
Norm
Log
10
dB/
LgAv
V1 S2
S3 FC
AA
£(f):
FTun
Swp
A B C D E F G
H I J K L M N
O P Q R S T U
V W X Y Z
Space
More
1 of 3
Center 16.835 00 GHz
Span 20 MHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 1 ms (601 pts)
File Operation Status, A:\SCREN067.GIF file saved


Agilent 15:31:51 Jan 24, 2013
CR LLC#6401 ARIEL FCCC HARM 8 V
Mkr1 19.239 23 GHz
Ref 80 dBµV
#Atten 0 dB
29.59 dBµV
Norm
Log
10
dB/
Marker
19.239230000 GHz
1
29.59 dBµV
LgAv
V1 S2
S3 FC
AA
£(f):
FTun
Swp
Start 19.230 00 GHz
Stop 19.250 00 GHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 1 ms (601 pts)
Trace
Trace
1 2 3
Clear Write
Max Hold
Min Hold
View
Blank
More
1 of 2
File Operation Status, A:\SCREN068.GIF file saved


Agilent 15:32:47 Jan 24, 2013
CR LLC#6401 ARIEL FCCC HARM 9 V
Mkr1 21.645 000 005 GHz
Ref 80 dBµV
#Atten 0 dB
31.06 dBµV
Norm
Log
10
dB/
Marker
21.645000005 GHz
31.06 dBµV
LgAv
V1 S2
S3 FC
AA
£(f):
FTun
Swp
Start 21.645 000 000 GHz
Stop 21.645 000 010 GHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 1 ms (601 pts)
Marker
Select Marker
1 2 3 4
Normal
Delta
Delta Pair
(Tracking Ref)
Ref
Span Pair
Span Center
Off
More
1 of 2
File Operation Status, A:\SCREN069.GIF file saved

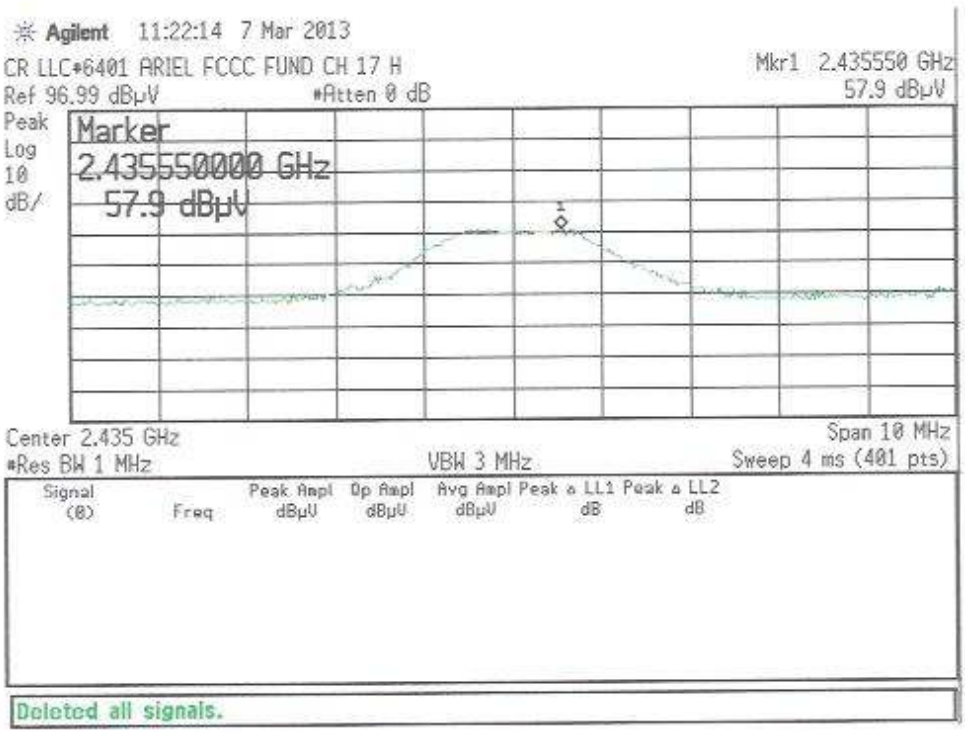

Agilent 15:33:53 Jan 24, 2013
CR LLC#6401 ARIEL FCCC HARM 10 V
Mkr1 24.050 000 004 GHz
Ref 80 dBµV
#Atten 0 dB
31.97 dBµV
Norm
Log
10
dB/
Marker
24.050000004 GHz
31.97 dBµV
LgAv
V1 S2
S3 FC
AA
£(f):
FTun
Swp
Start 24.050 000 000 GHz
Stop 24.050 000 010 GHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 1 ms (601 pts)
Marker
Select Marker
1 2 3 4
Normal
Delta
Delta Pair
(Tracking Ref)
Ref
Span Pair
Span Center
Off
More
1 of 2
File Operation Status, A:\SCREN070.GIF file saved

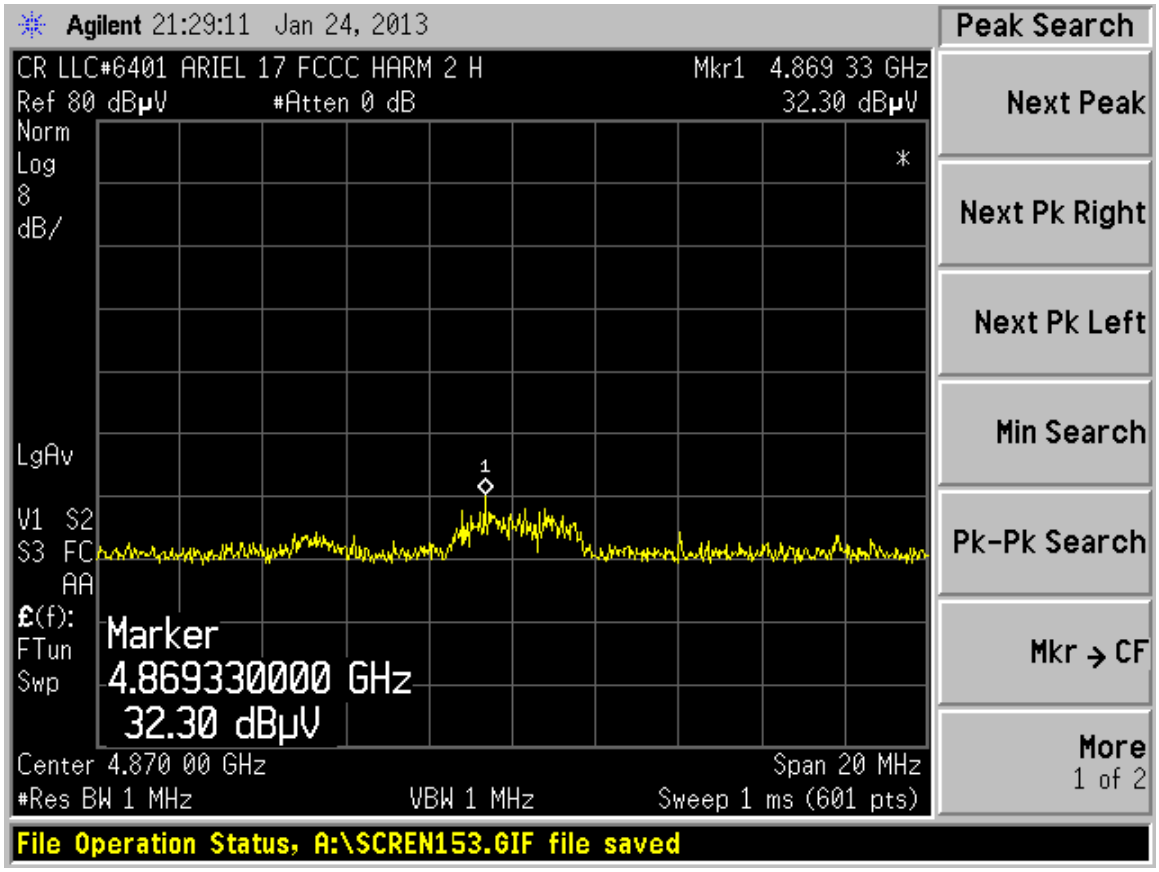
Harmonics Test Datasheets –Channel 17 2435 MHz

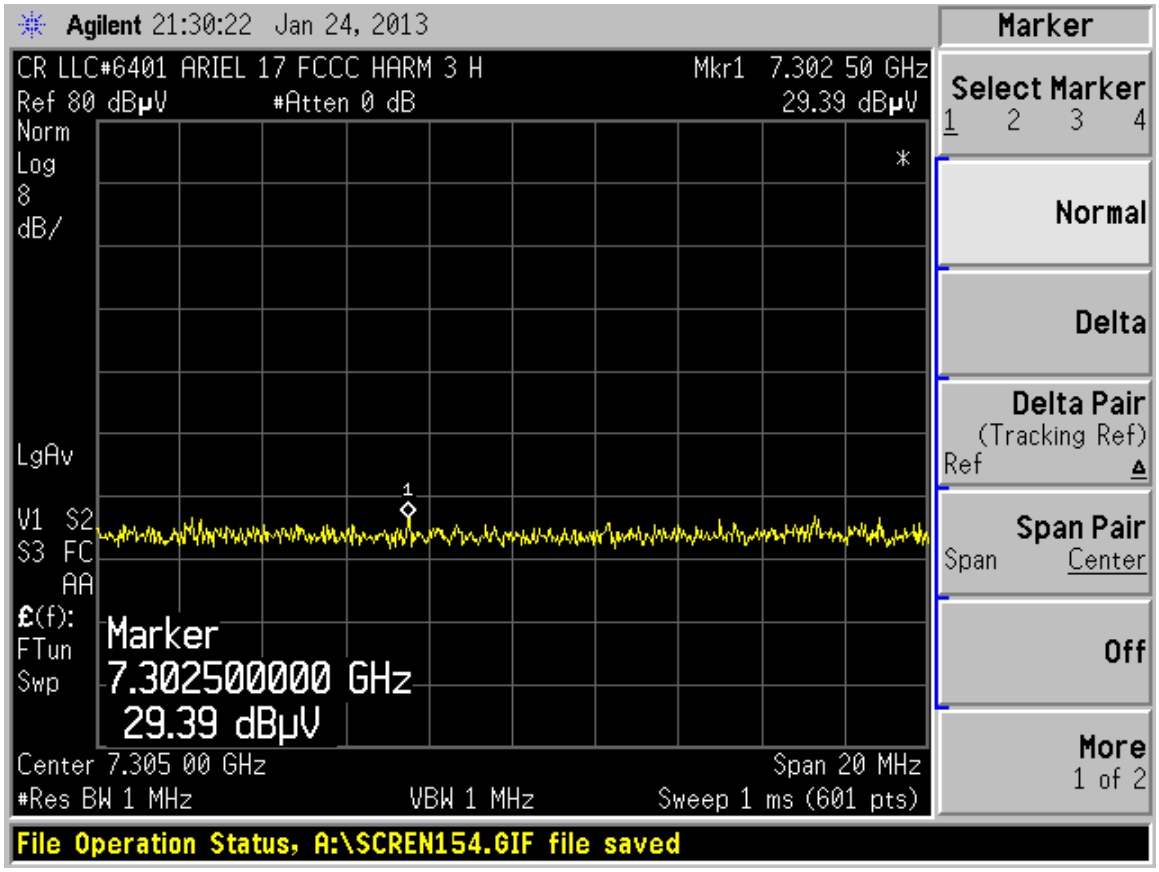
21 pages to follow.

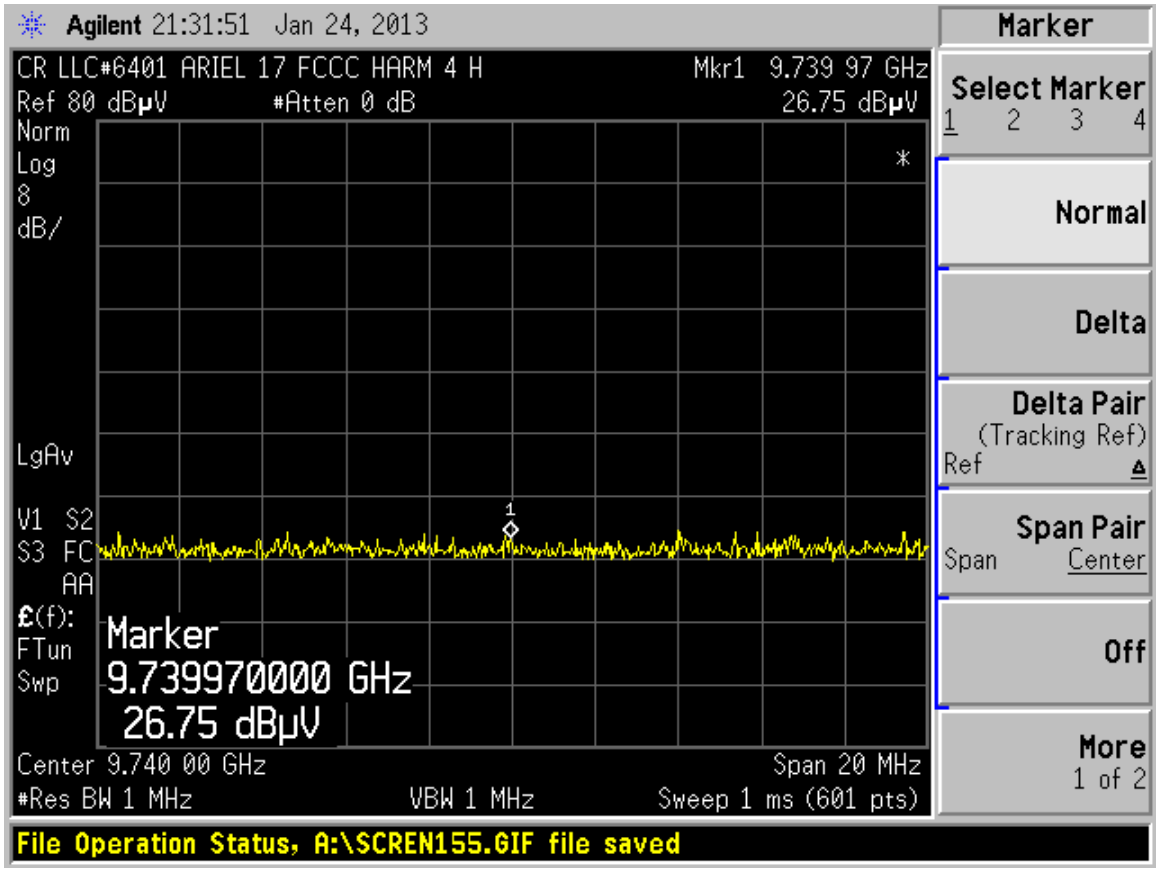
Limits for transmitters
Tested January 24, 2013 -
January 29, 2013

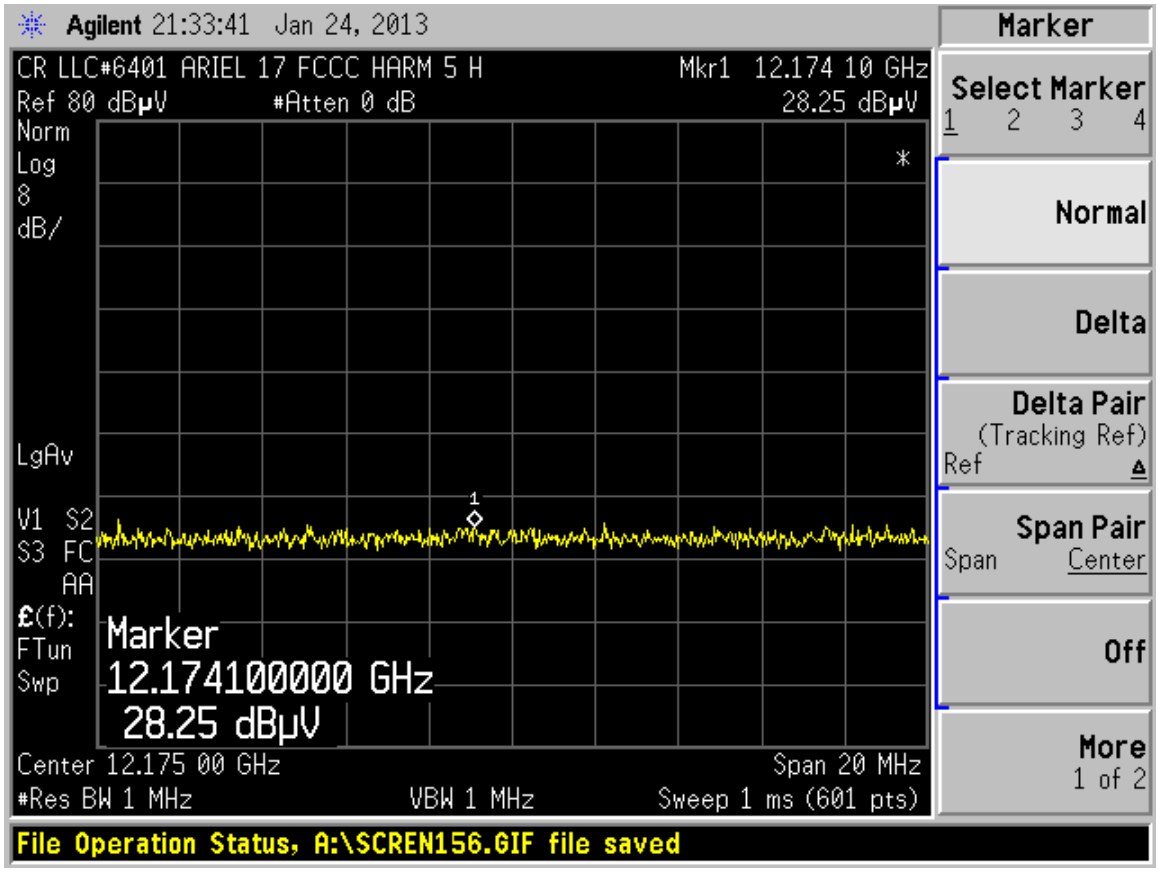
FCC Harmonics Test 2435 MHz										
Measured	Res.	DUT	Measured	Cable	Amplifier	Measurement	FCC	Corrected	Margin	
Field Strength	Bandwidth	Frequency	Frequency	Factor	Gain	Distance	Limit	Field Strength		Polarity
(dBµV)	(Khz)	(Mhz)	(Mhz)	(dBuV)	(dBuV)	(Meters)	(dBuV)	(dBuV/M)	(dBuV/M)	
57.90	1000	2435	2435	2.0	0	3	146.99	59.90	-87.09	Horizontal
32.30	1000	2435	4870	2.2	0	1	54	34.50	-19.50	Horizontal
29.39	1000	2435	7305	2.3	0	1	54	31.69	-22.31	Horizontal
26.75	1000	2435	9740	2.4	0	1	54	29.15	-24.85	Horizontal
28.25	1000	2435	12175	2.4	0	1	54	30.65	-23.35	Horizontal
30.60	1000	2435	14610	2.6	0	1	54	33.20	-20.80	Horizontal
30.16	1000	2435	17045	2.7	0	1	54	32.86	-21.14	Horizontal
29.60	1000	2435	19480	2.8	0	1	54	32.40	-21.60	Horizontal
30.49	1000	2435	21915	2.8	0	1	54	33.29	-20.71	Horizontal
31.40	1000	2435	24350	2.9	0	1	54	34.30	-19.70	Horizontal
63.30	1000	2435	2435	2.0	0	3	146.99	65.30	-81.69	Vertical
30.00	1000	2435	4870	2.2	0	1	54	32.20	-21.80	Vertical
28.60	1000	2435	7305	2.3	0	1	54	30.90	-23.10	Vertical
26.33	1000	2435	9740	2.4	0	1	54	28.73	-25.27	Vertical
29.39	1000	2435	12175	2.4	0	1	54	31.79	-22.21	Vertical
29.90	1000	2435	14610	2.6	0	1	54	32.50	-21.50	Vertical
29.10	1000	2435	17045	2.7	0	1	54	31.80	-22.20	Vertical
29.26	1000	2435	19480	2.8	0	1	54	32.06	-21.94	Vertical
31.08	1000	2435	21915	2.8	0	1	54	33.88	-20.12	Vertical
31.57	1000	2435	24350	2.9	0	1	54	34.47	-19.53	Vertical
*Antenna factors are pre-calculated into Measured Field Strength (dBµV)										
Unit Under Test: Ariel Switch Channel 17										

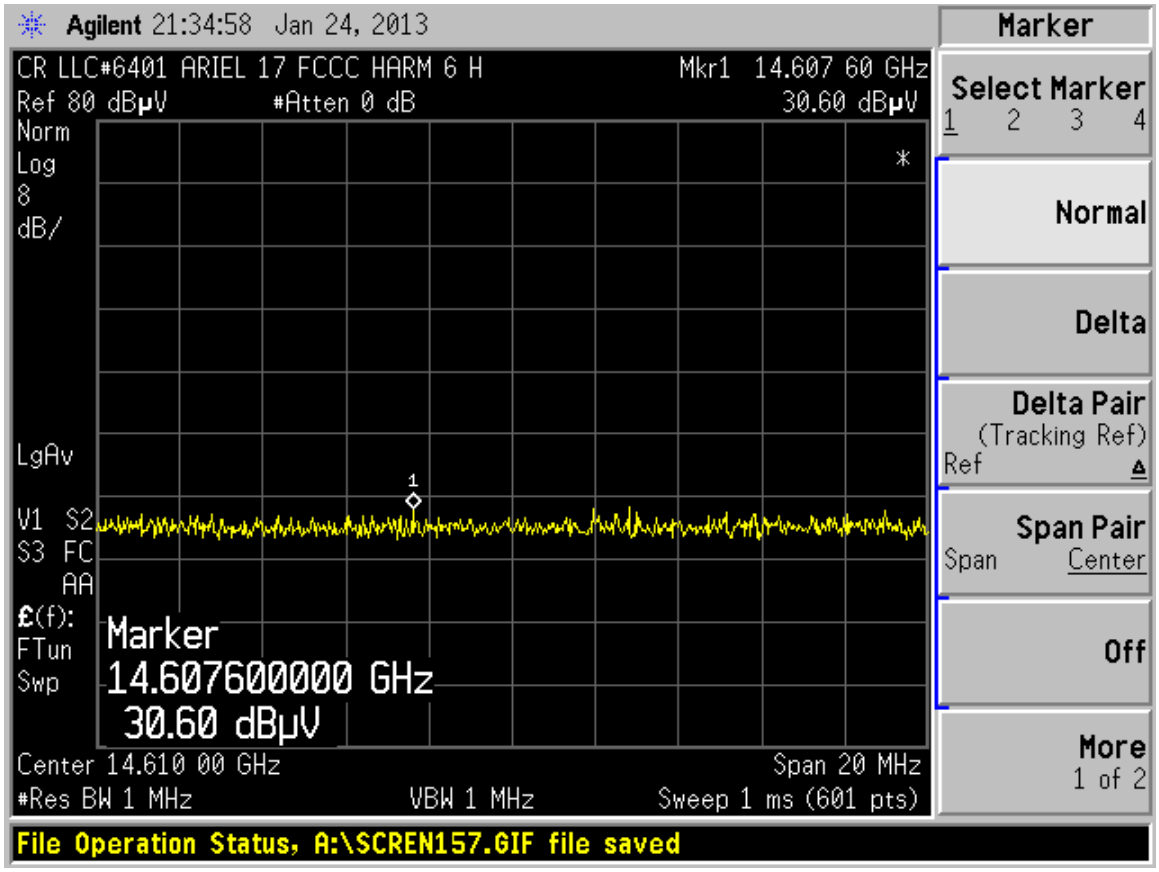

Agilent 11:22:14 7 Mar 2013
CR LLC#6401 ARIEL FCCC FUND CH 17 H
Ref 96.99 dBµV
#Atten 0 dB
Mkr1 2.435550 GHz
57.9 dBµV
Peak
Log
10
dB/
Marker
2.435550000 GHz
57.9 dBµV
Center 2.435 GHz
#Res BW 1 MHz
VBW 3 MHz
Span 10 MHz
Sweep 4 ms (401 pts)
Signal (8)
Freq
Peak Ampl dBµV
Dp Ampl dBµV
Avg Ampl dBµV
Peak a LL1 dB
Peak a LL2 dB
Deleted all signals.

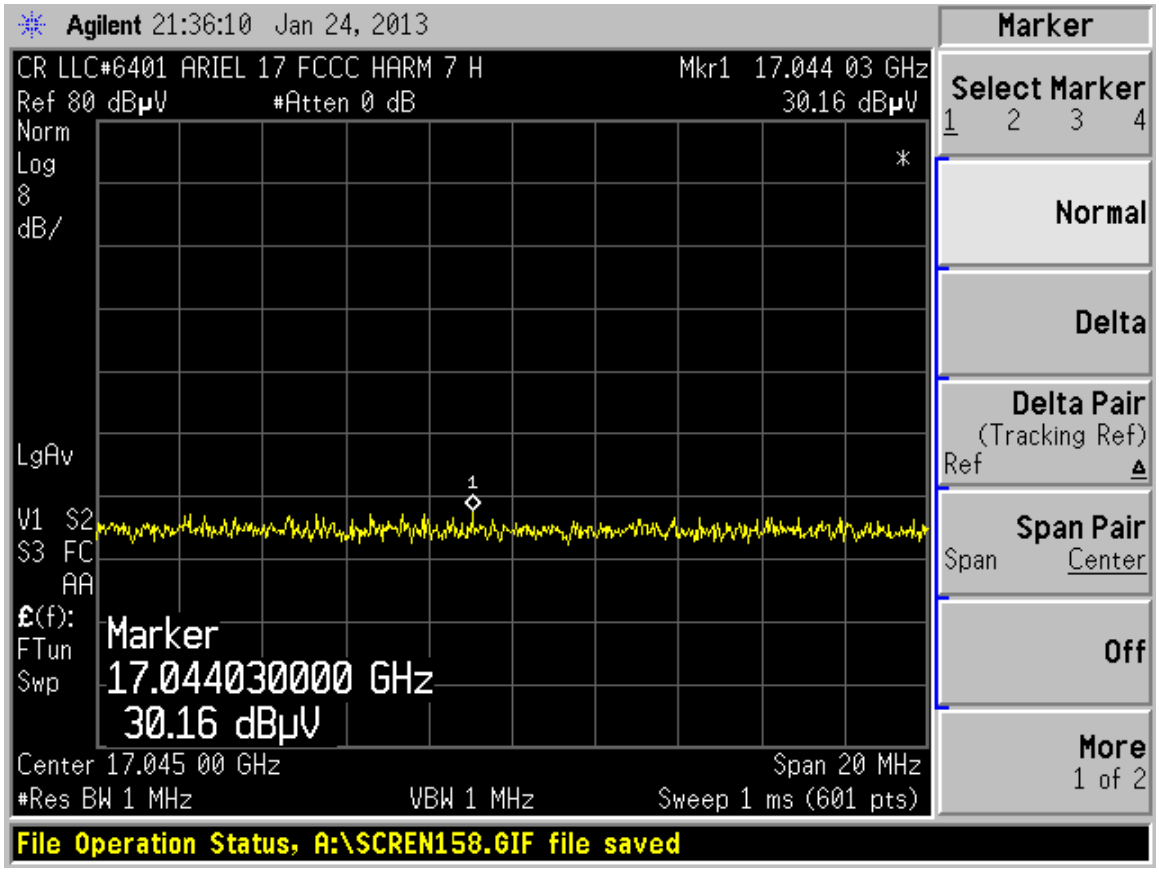

Agilent 21:29:11 Jan 24, 2013
CR LLC#6401 ARIEL 17 FCCC HARM 2 H
Mkr1 4.869 33 GHz
Ref 80 dBµV
#Atten 0 dB
32.30 dBµV
Norm
Log
8
dB/
LgAv
V1 S2
S3 FC
AA
£(f):
FTun
Swp
Marker
4.869330000 GHz
32.30 dBµV
Center 4.870 00 GHz
Span 20 MHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 1 ms (601 pts)
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
Mkr → CF
More
1 of 2
File Operation Status, A:\SCREN153.GIF file saved

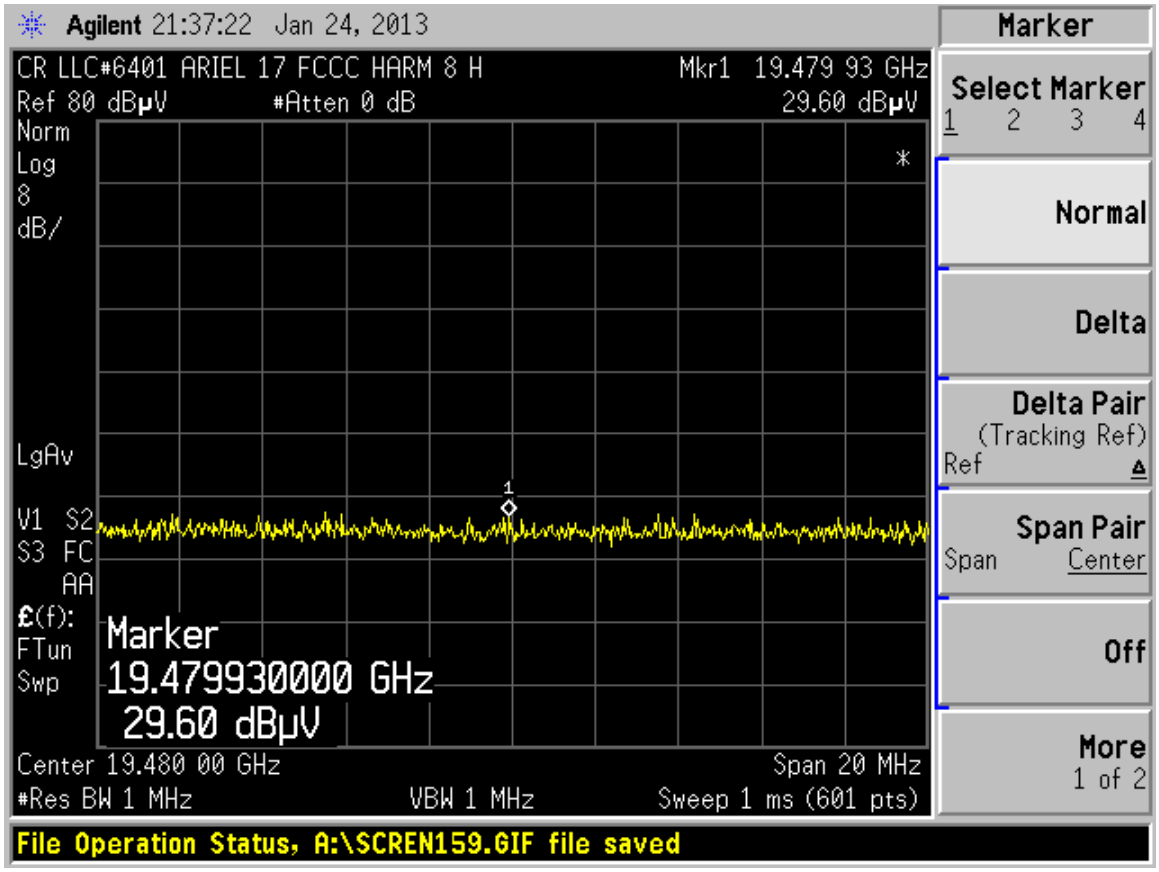

Agilent 21:30:22 Jan 24, 2013
CR LLC#6401 ARIEL 17 FCCC HARM 3 H
Mkr1 7.302 50 GHz
Ref 80 dBµV
#Atten 0 dB
29.39 dBµV
Norm
Log
8
dB/
LgAv
V1 S2
S3 FC
AA
£(f):
FTun
Swp
Marker
7.302500000 GHz
29.39 dBµV
Center 7.305 00 GHz
Span 20 MHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 1 ms (601 pts)
Marker
Select Marker
1 2 3 4
Normal
Delta
Delta Pair
(Tracking Ref)
Ref
Span Pair
Span Center
Off
More
1 of 2
File Operation Status, A:\SCREN154.GIF file saved

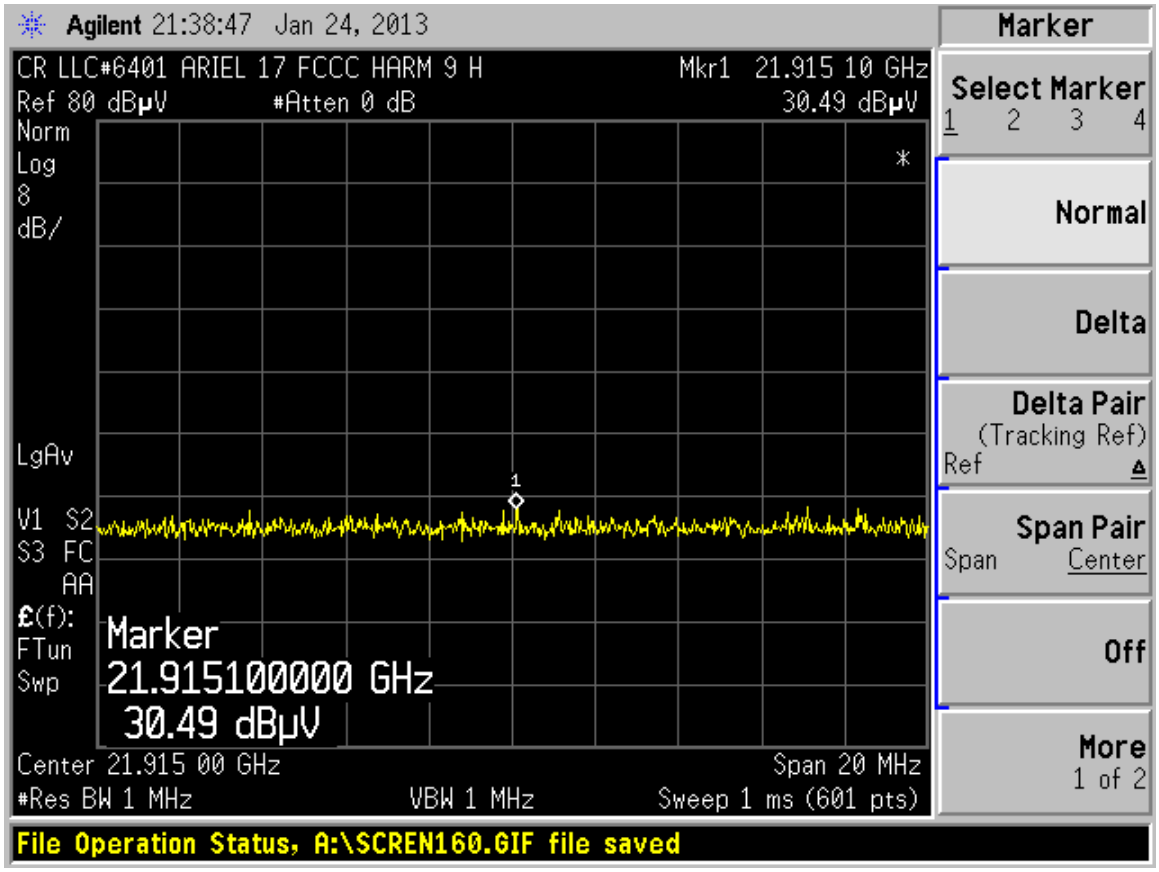

Agilent 21:31:51 Jan 24, 2013
CR LLC#6401 ARIEL 17 FCCC HARM 4 H
Mkr1 9.739 97 GHz
Ref 80 dBµV
#Atten 0 dB
26.75 dBµV
Norm
Log
8
dB/
LgAv
V1 S2
S3 FC
AA
£(f):
FTun
Swp
Marker
9.739970000 GHz
26.75 dBµV
Center 9.740 00 GHz
Span 20 MHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 1 ms (601 pts)
Marker
Select Marker
1 2 3 4
Normal
Delta
Delta Pair
(Tracking Ref)
Ref
Span Pair
Span Center
Off
More
1 of 2
File Operation Status, A:\SCREN155.GIF file saved

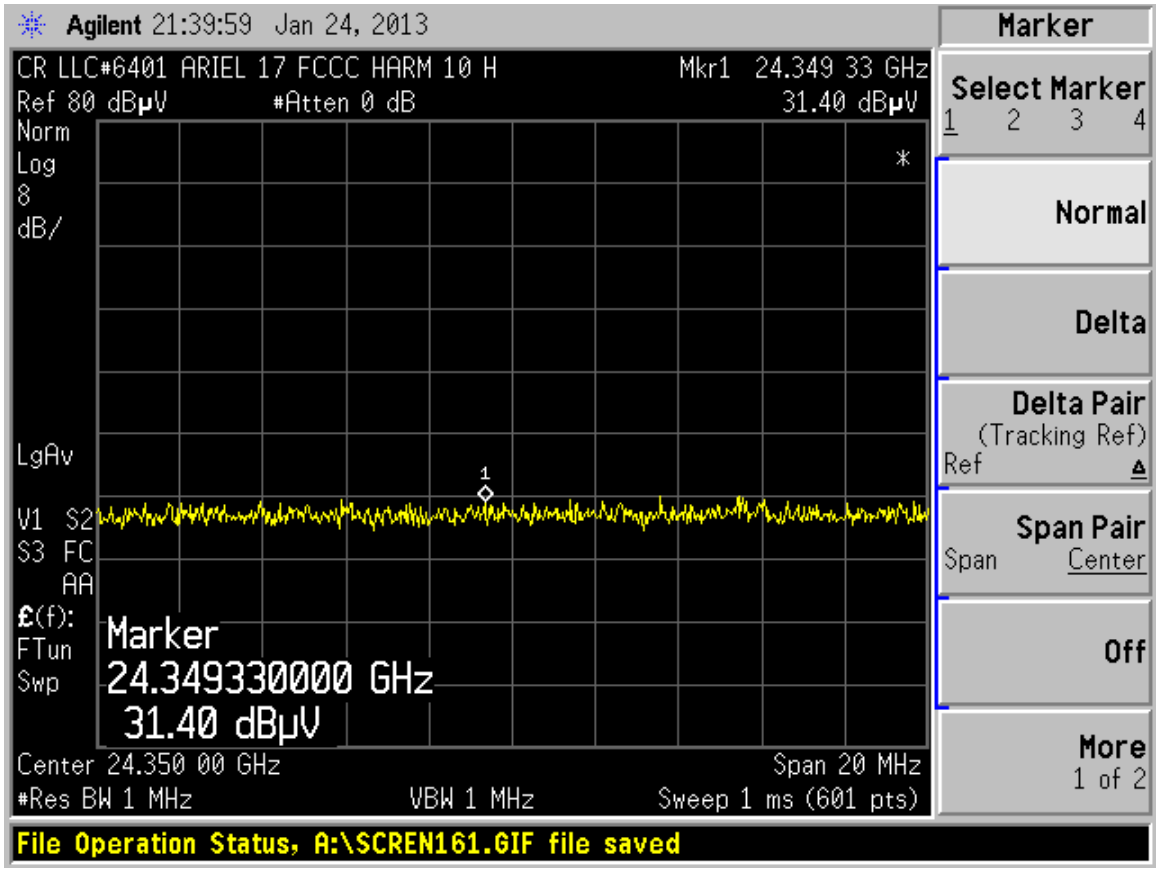

Agilent 21:33:41 Jan 24, 2013
CR LLC#6401 ARIEL 17 FCCC HARM 5 H
Mkr1 12.174 10 GHz
Ref 80 dBµV
#Atten 0 dB
28.25 dBµV
Norm
Log
8
dB/
LgAv
V1 S2
S3 FC
AA
£(f):
FTun
Swp
Marker
12.174100000 GHz
28.25 dBµV
Center 12.175 00 GHz
Span 20 MHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 1 ms (601 pts)
Marker
Select Marker
1 2 3 4
Normal
Delta
Delta Pair
(Tracking Ref)
Ref
Span Pair
Span Center
Off
More
1 of 2
File Operation Status, A:\SCREN156.GIF file saved


Agilent 21:34:58 Jan 24, 2013
CR LLC#6401 ARIEL 17 FCCC HARM 6 H
Mkr1 14.607 60 GHz
Ref 80 dBµV
#Atten 0 dB
30.60 dBµV
Norm
Log
8
dB/
LgAv
V1 S2
S3 FC
AA
£(f):
FTun
Swp
Marker
14.607600000 GHz
30.60 dBµV
Center 14.610 00 GHz
Span 20 MHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 1 ms (601 pts)
Marker
Select Marker
1 2 3 4
Normal
Delta
Delta Pair
(Tracking Ref)
Ref
Span Pair
Span Center
Off
More
1 of 2
File Operation Status, A:\SCREN157.GIF file saved

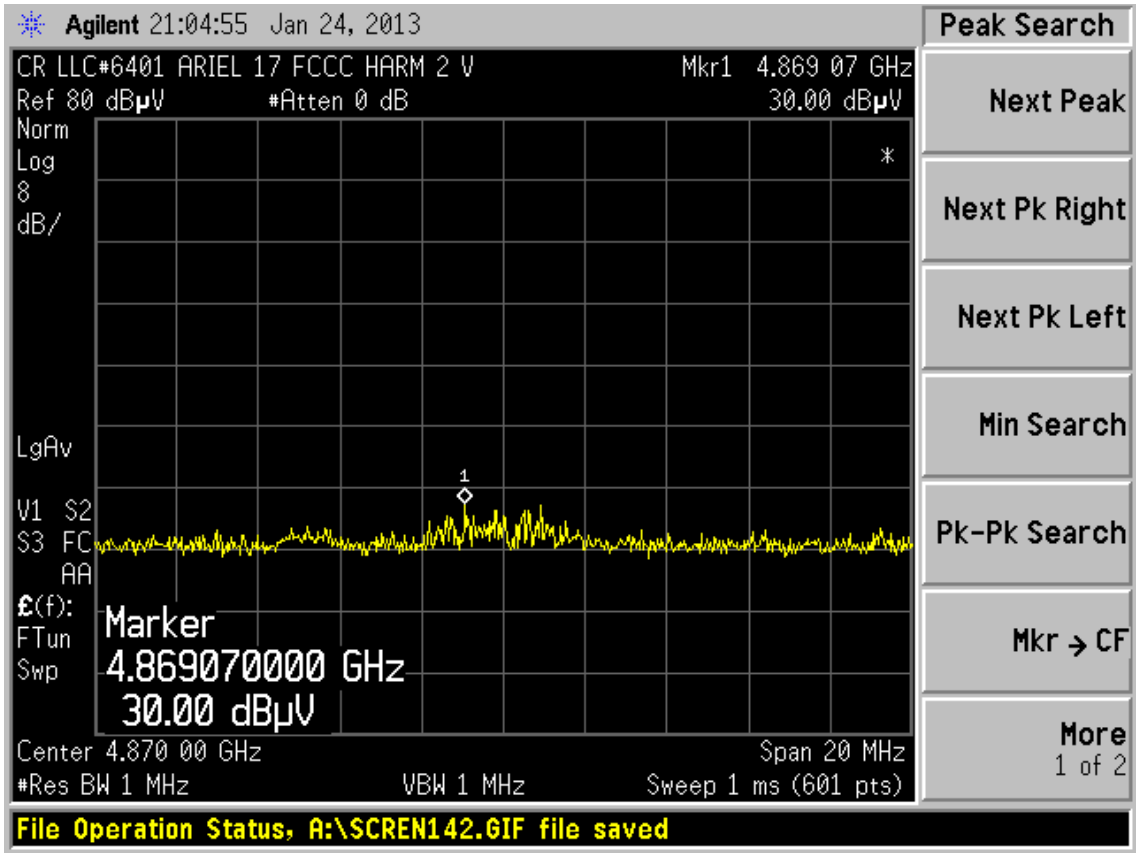

Agilent 21:36:10 Jan 24, 2013
CR LLC#6401 ARIEL 17 FCCC HARM 7 H
Mkr1 17.044 03 GHz
Ref 80 dBµV
#Atten 0 dB
30.16 dBµV
Norm
Log
8
dB/
LgAv
V1 S2
S3 FC
AA
£(f):
FTun
Swp
Marker
17.044030000 GHz
30.16 dBµV
Center 17.045 00 GHz
Span 20 MHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 1 ms (601 pts)
File Operation Status, A:\SCREN158.GIF file saved
Marker
Select Marker
1 2 3 4
Normal
Delta
Delta Pair
(Tracking Ref)
Ref
Span Pair
Span Center
Off
More
1 of 2

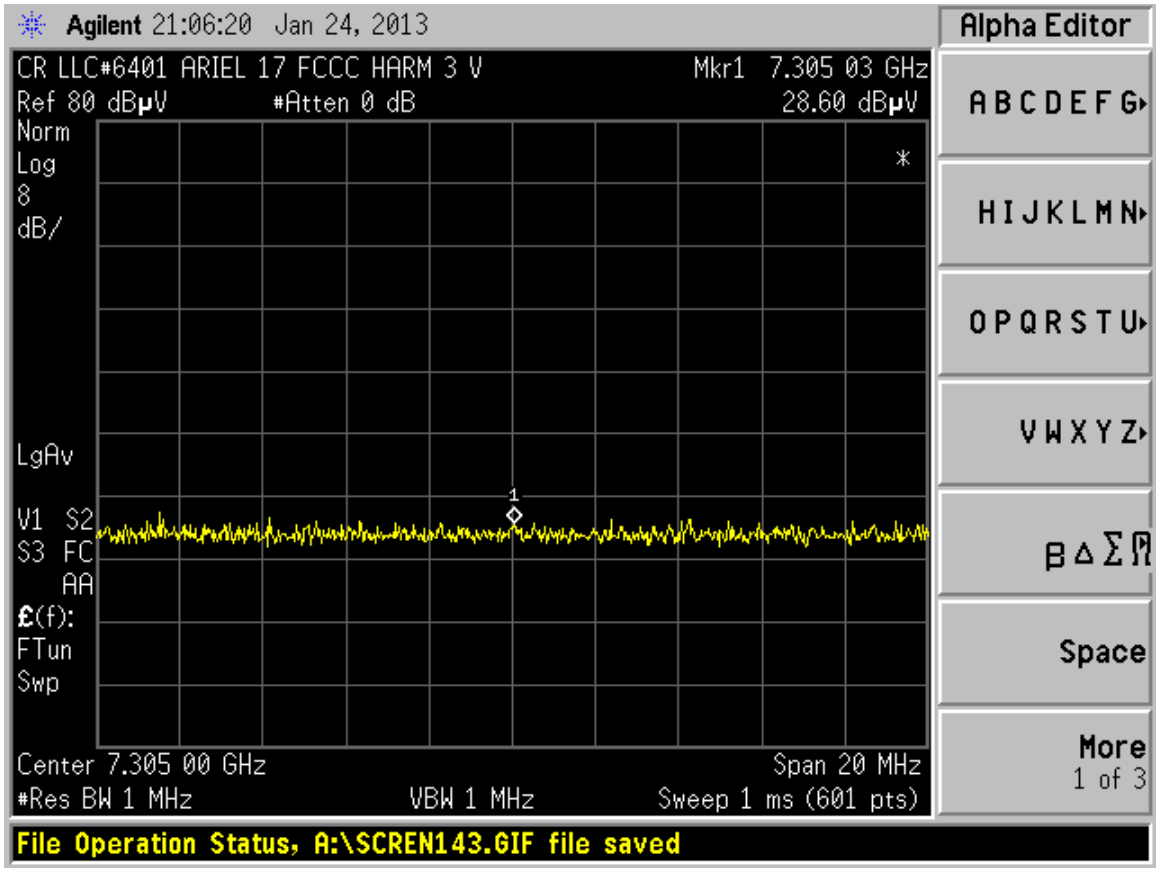

Agilent 21:37:22 Jan 24, 2013
CR LLC#6401 ARIEL 17 FCCC HARM 8 H
Mkr1 19.479 93 GHz
Ref 80 dBµV
#Atten 0 dB
29.60 dBµV
Norm
Log
8
dB/
LgAv
V1 S2
S3 FC
AA
£(f):
FTun
Swp
Marker
19.479930000 GHz
29.60 dBµV
Center 19.480 00 GHz
Span 20 MHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 1 ms (601 pts)
Marker
Select Marker
1 2 3 4
Normal
Delta
Delta Pair
(Tracking Ref)
Ref
Span Pair
Span Center
Off
More
1 of 2
File Operation Status, A:\SCREN159.GIF file saved

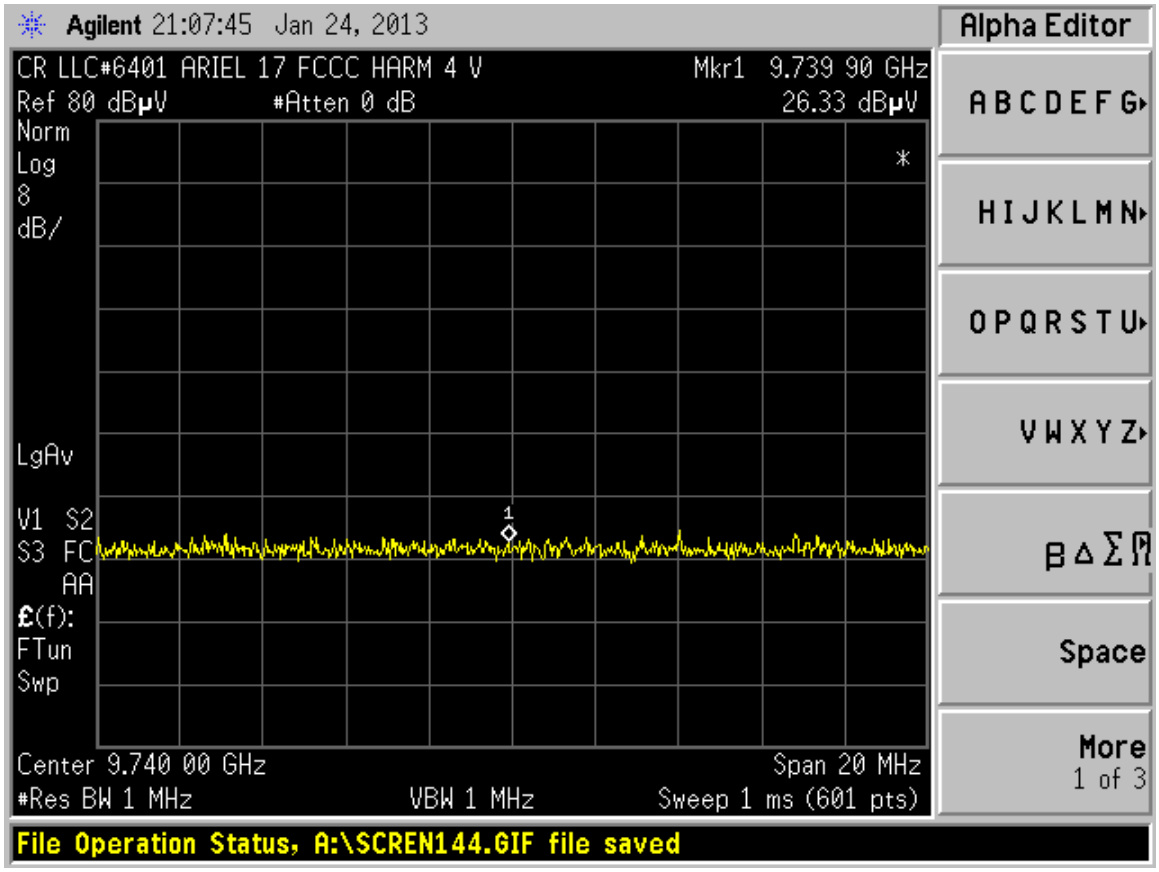

Agilent 21:38:47 Jan 24, 2013
CR LLC#6401 ARIEL 17 FCCC HARM 9 H
Mkr1 21.915 10 GHz
Ref 80 dBµV
#Atten 0 dB
30.49 dBµV
Norm
Log
8
dB/
LgAv
V1 S2
S3 FC
AA
£(f):
FTun
Swp
Marker
21.915100000 GHz
30.49 dBµV
Center 21.915 00 GHz
Span 20 MHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 1 ms (601 pts)
Marker
Select Marker
1 2 3 4
Normal
Delta
Delta Pair
(Tracking Ref)
Ref
Span Pair
Span Center
Off
More
1 of 2
File Operation Status, A:\SCREN160.GIF file saved

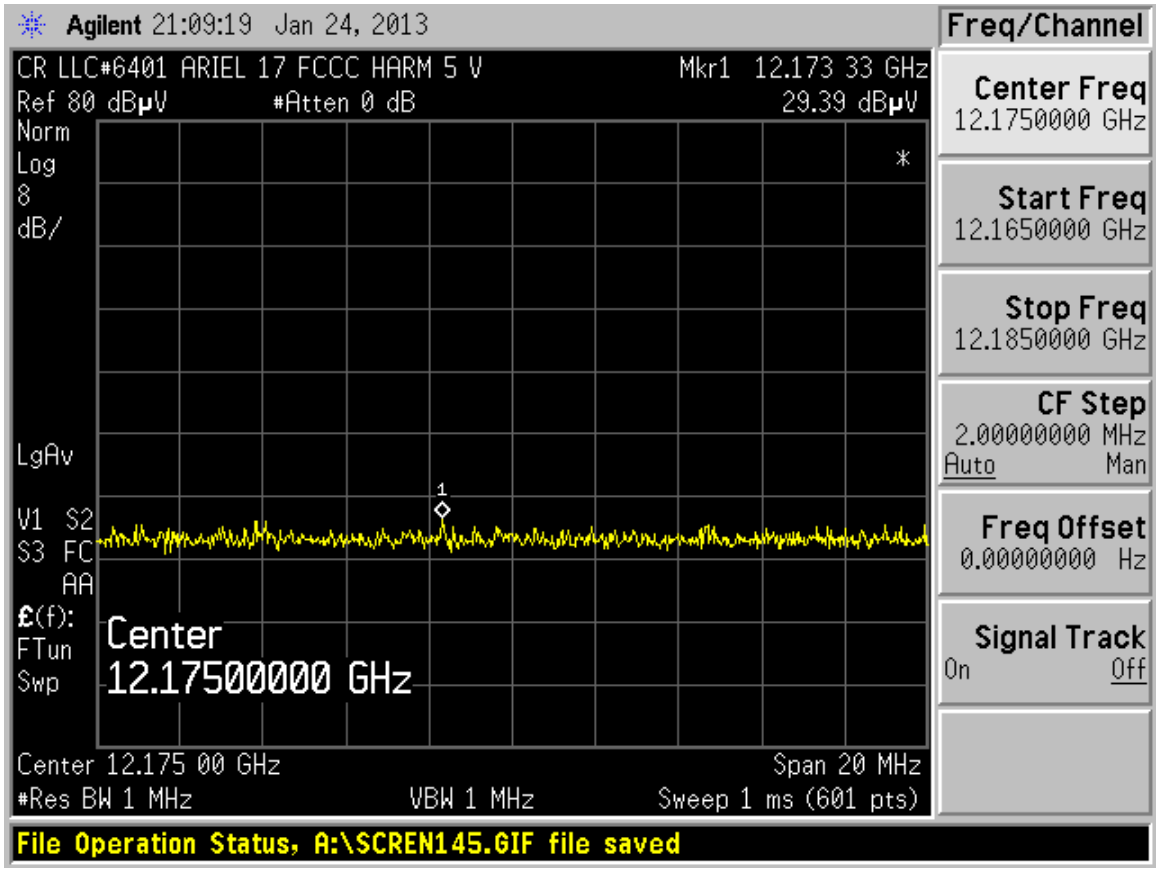

Agilent 21:39:59 Jan 24, 2013
CR LLC#6401 ARIEL 17 FCCC HARM 10 H
Mkr1 24.349 33 GHz
Ref 80 dBµV
#Atten 0 dB
31.40 dBµV
Norm
Log
8
dB/
LgAv
V1 S2
S3 FC
AA
£(f):
FTun
Swp
Marker
24.349330000 GHz
31.40 dBµV
Center 24.350 00 GHz
Span 20 MHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 1 ms (601 pts)
Marker
Select Marker
1 2 3 4
Normal
Delta
Delta Pair
(Tracking Ref)
Ref
Span Pair
Span Center
Off
More
1 of 2
File Operation Status, A:\SCREN161.GIF file saved

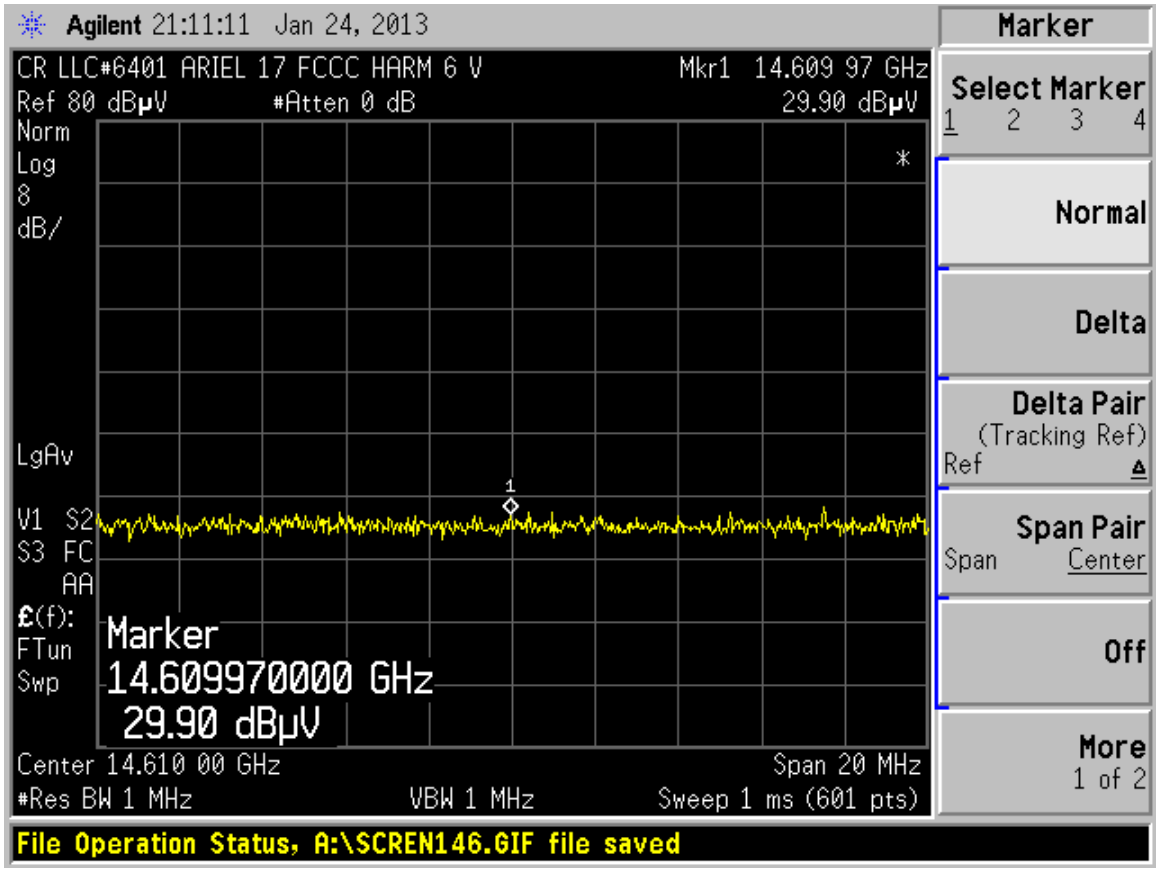

Agilent 11:21:03 7 Mar 2013
CR LLC*6401 ARIEL FCCC FUND CH 17 V
Ref 96.99 dBµV
*Atten 0 dB
Mkr1 2.434625 GHz
63.3 dBµV
Peak
Log
10
dB/
Marker
2.434625000 GHz
63.3 dBµV
Center 2.435 GHz
*Res BW 1 MHz
VBW 3 MHz
Span 10 MHz
Sweep 4 ms (401 pts)
Signal (8)
Freq
Peak Ampl dBµV
Qp Ampl dBµV
Avg Ampl dBµV
Peak a LL1 dB
Peak a LL2 dB
Deleted all signals.

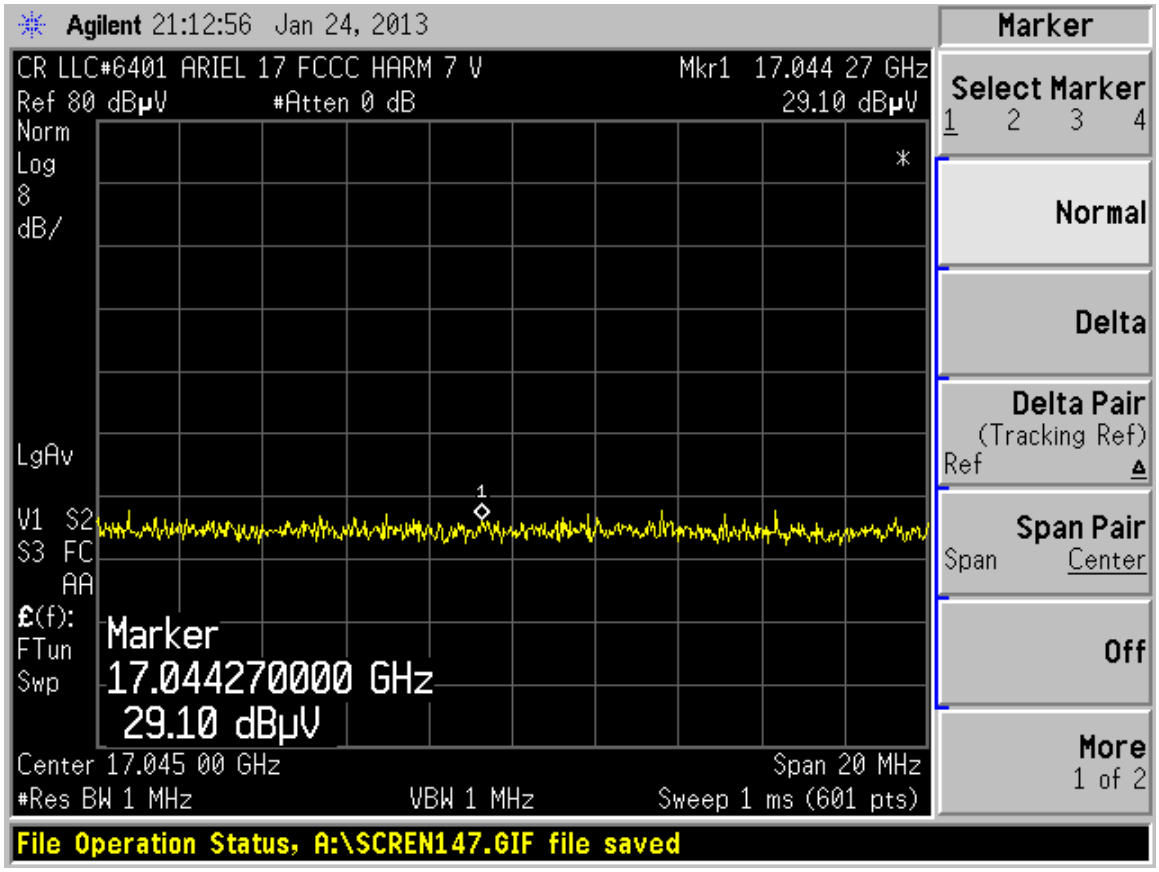

Agilent 21:04:55 Jan 24, 2013
Peak Search
CR LLC#6401 ARIEL 17 FCCC HARM 2 V
Mkr1 4.869 07 GHz
Ref 80 dBµV
#Atten 0 dB
30.00 dBµV
Norm
Log
8
dB/
LgAv
V1 S2
S3 FC
AA
£(f):
FTun
Swp
Marker
4.869070000 GHz
30.00 dBµV
Center 4.870 00 GHz
Span 20 MHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 1 ms (601 pts)
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
Mkr → CF
More
1 of 2
File Operation Status, A:\SCREN142.GIF file saved

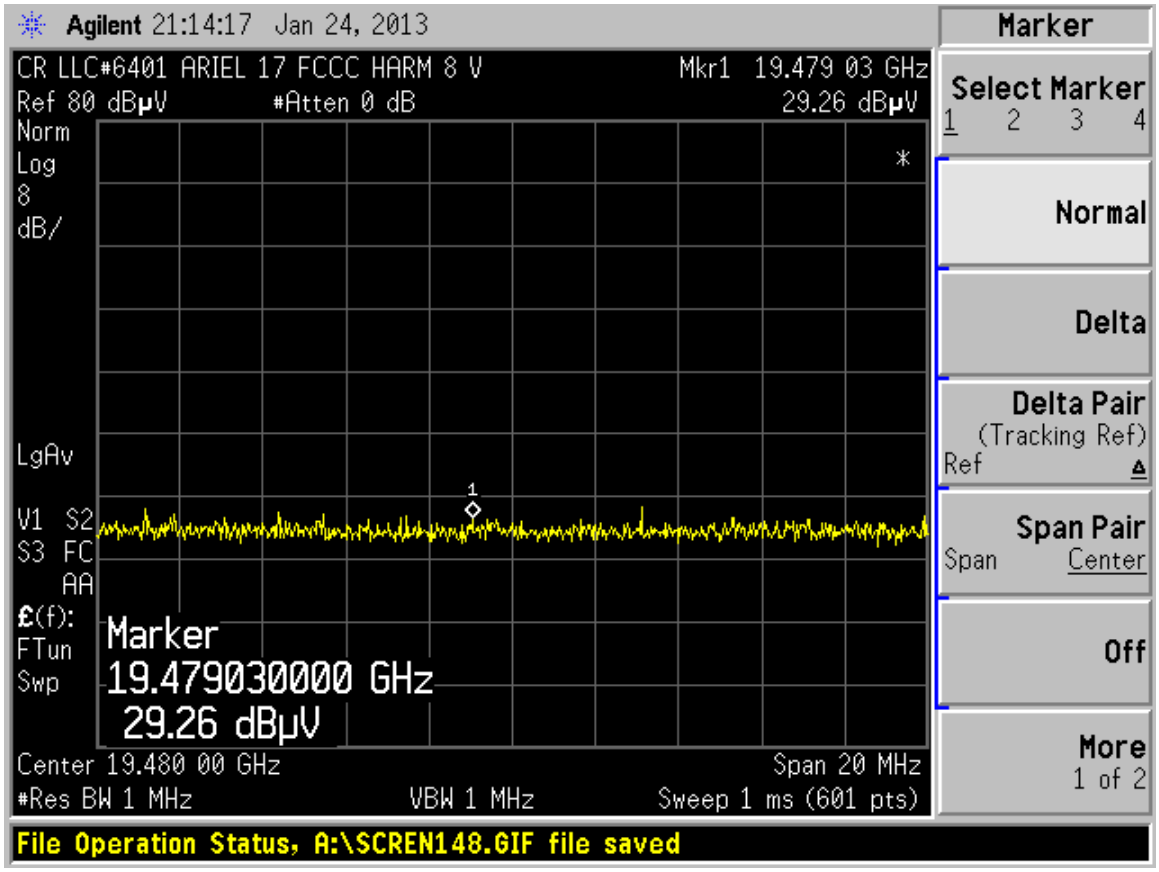

Agilent 21:06:20 Jan 24, 2013
Alpha Editor
CR LLC#6401 ARIEL 17 FCCC HARM 3 V
Mkr1 7.305 03 GHz
Ref 80 dBµV
#Atten 0 dB
28.60 dBµV
Norm
Log
8
dB/
LgAv
V1 S2
S3 FC
AA
£(f):
FTun
Swp
Center 7.305 00 GHz
Span 20 MHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 1 ms (601 pts)
A B C D E F G
H I J K L M N
O P Q R S T U
V W X Y Z
Space
More
1 of 3
File Operation Status, A:\SCREN143.GIF file saved

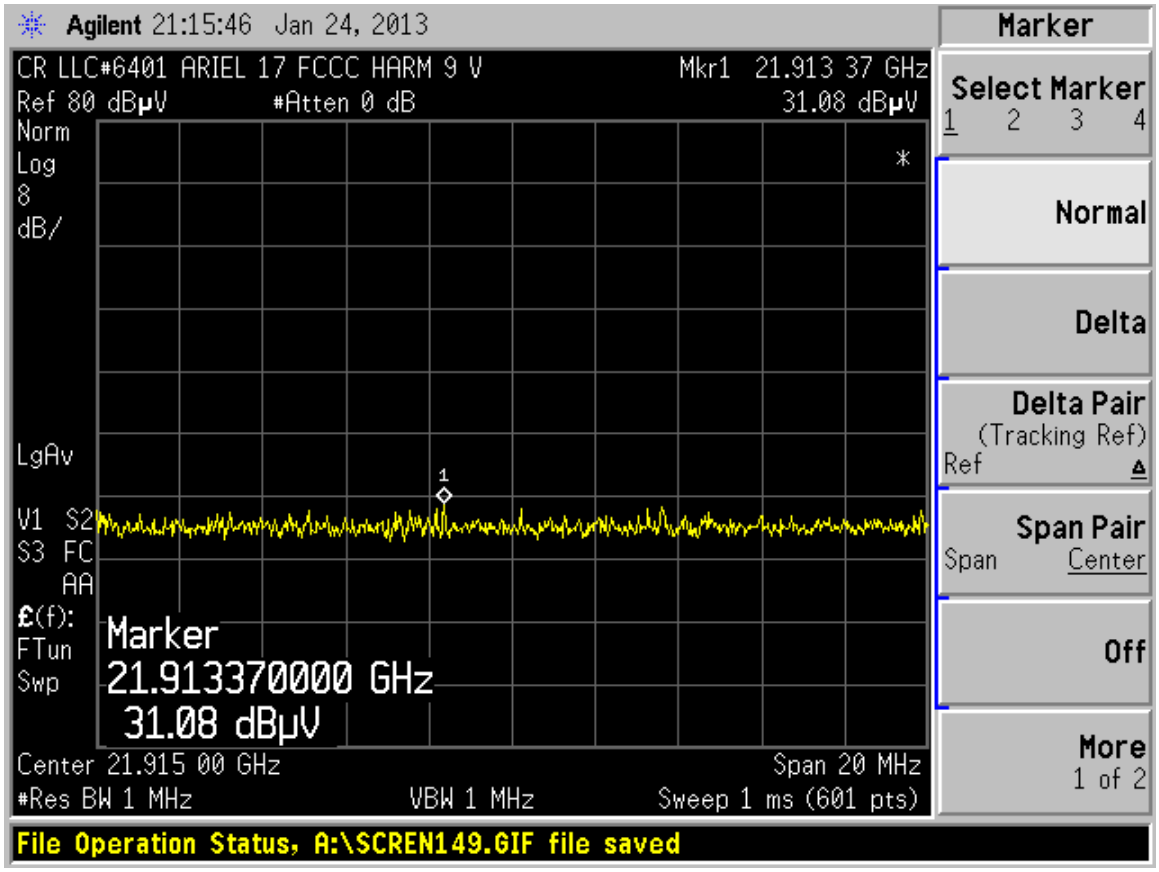

Agilent 21:07:45 Jan 24, 2013
CR LLC#6401 ARIEL 17 FCCC HARM 4 V
Mkr1 9.739 90 GHz
Ref 80 dBµV
#Atten 0 dB
26.33 dBµV
Norm
Log
8
dB/
LgAv
V1 S2
S3 FC
AA
£(f):
FTun
Swp
Center 9.740 00 GHz
Span 20 MHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 1 ms (601 pts)
Alpha Editor
A B C D E F G
H I J K L M N
O P Q R S T U
V W X Y Z
Space
More
1 of 3
File Operation Status, A:\SCREN144.GIF file saved

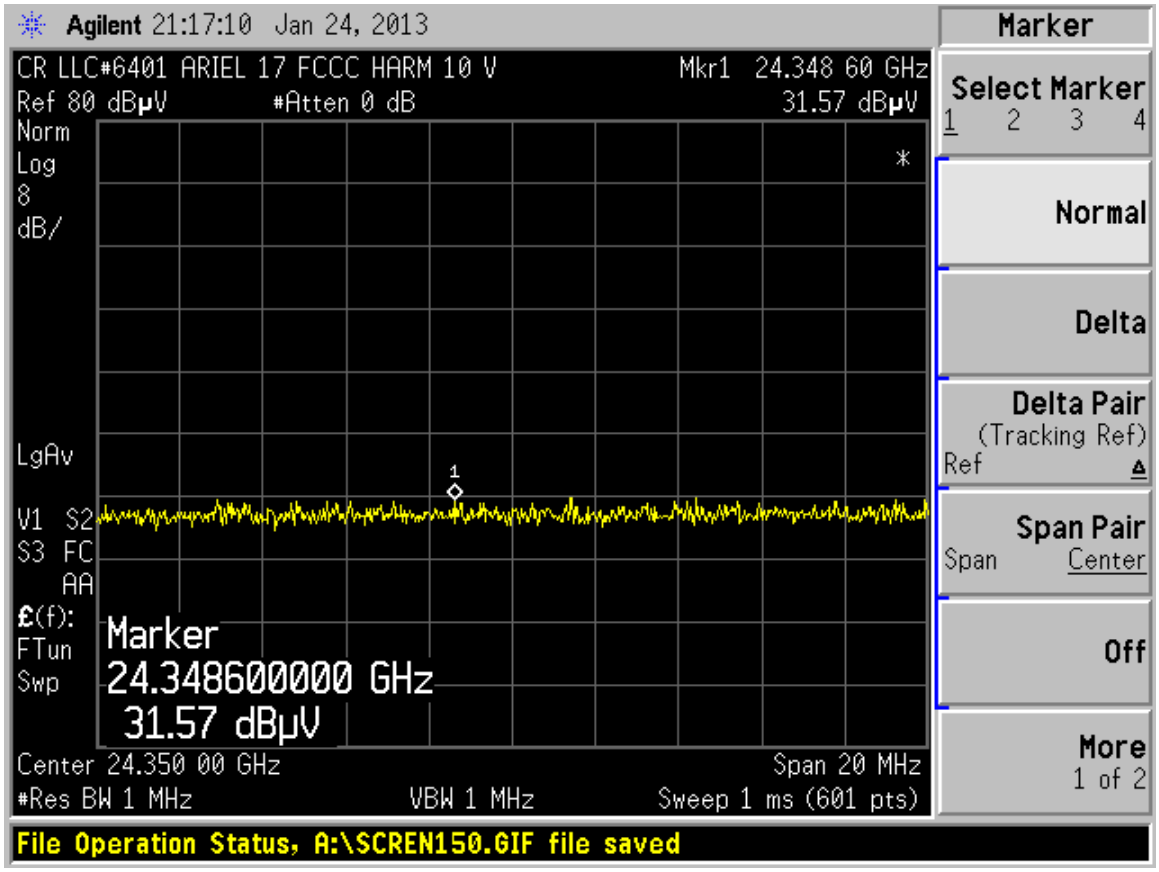

Agilent 21:09:19 Jan 24, 2013
CR LLC#6401 ARIEL 17 FCCC HARM 5 V
Mkr1 12.173 33 GHz
Ref 80 dBµV
#Atten 0 dB
29.39 dBµV
Norm
Log
8
dB/
LgAv
V1 S2
S3 FC
AA
£(f):
FTun
Swp
Center
12.17500000 GHz
Center 12.175 00 GHz
Span 20 MHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 1 ms (601 pts)
Freq/Channel
Center Freq
12.1750000 GHz
Start Freq
12.1650000 GHz
Stop Freq
12.1850000 GHz
CF Step
2.00000000 MHz
Auto Man
Freq Offset
0.00000000 Hz
Signal Track
On Off
File Operation Status, A:\SCREN145.GIF file saved


Agilent 21:11:11 Jan 24, 2013
CR LLC#6401 ARIEL 17 FCCC HARM 6 V
Mkr1 14.609 97 GHz
Ref 80 dBµV
#Atten 0 dB
29.90 dBµV
Norm
Log
8
dB/
LgAv
V1 S2
S3 FC
AA
£(f):
FTun
Swp
Marker
14.609970000 GHz
29.90 dBµV
Center 14.610 00 GHz
Span 20 MHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 1 ms (601 pts)
Marker
Select Marker
1 2 3 4
Normal
Delta
Delta Pair
(Tracking Ref)
Ref
Span Pair
Span Center
Off
More
1 of 2
File Operation Status, A:\SCREN146.GIF file saved


Agilent 21:12:56 Jan 24, 2013
CR LLC#6401 ARIEL 17 FCCC HARM 7 V
Mkr1 17.044 27 GHz
Ref 80 dBµV
#Atten 0 dB
29.10 dBµV
Norm
Log
8
dB/
LgAv
V1 S2
S3 FC
AA
£(f):
FTun
Swp
Marker
17.044270000 GHz
29.10 dBµV
Center 17.045 00 GHz
Span 20 MHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 1 ms (601 pts)
Marker
Select Marker
1 2 3 4
Normal
Delta
Delta Pair
(Tracking Ref)
Ref
Span Pair
Span Center
Off
More
1 of 2
File Operation Status, A:\SCREN147.GIF file saved


Agilent 21:14:17 Jan 24, 2013
CR LLC#6401 ARIEL 17 FCCC HARM 8 V
Mkr1 19.479 03 GHz
Ref 80 dBµV
#Atten 0 dB
29.26 dBµV
Norm
Log
8
dB/
LgAv
V1 S2
S3 FC
AA
£(f):
FTun
Swp
Marker
19.479030000 GHz
29.26 dBµV
Center 19.480 00 GHz
Span 20 MHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 1 ms (601 pts)
Marker
Select Marker
1 2 3 4
Normal
Delta
Delta Pair
(Tracking Ref)
Ref
Span Pair
Span Center
Off
More
1 of 2
File Operation Status, A:\SCREN148.GIF file saved


Agilent 21:15:46 Jan 24, 2013
CR LLC#6401 ARIEL 17 FCCC HARM 9 V
Mkr1 21.913 37 GHz
Ref 80 dBµV
#Atten 0 dB
31.08 dBµV
Norm
Log
8
dB/
LgAv
V1 S2
S3 FC
AA
£(f):
FTun
Swp
Marker
21.913370000 GHz
31.08 dBµV
Center 21.915 00 GHz
Span 20 MHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 1 ms (601 pts)
Marker
Select Marker
1 2 3 4
Normal
Delta
Delta Pair
(Tracking Ref)
Ref
Span Pair
Span Center
Off
More
1 of 2
File Operation Status, A:\SCREN149.GIF file saved


Agilent 21:17:10 Jan 24, 2013
CR LLC#6401 ARIEL 17 FCCC HARM 10 V
Mkr1 24.348 60 GHz
Ref 80 dBµV
#Atten 0 dB
31.57 dBµV
Norm
Log
8
dB/
LgAv
V1 S2
S3 FC
AA
£(f):
FTun
Swp
Marker
24.348600000 GHz
31.57 dBµV
Center 24.350 00 GHz
Span 20 MHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 1 ms (601 pts)
Marker
Select Marker
1 2 3 4
Normal
Delta
Delta Pair
(Tracking Ref)
Ref
Span Pair
Span Center
Off
More
1 of 2
File Operation Status, A:\SCREN150.GIF file saved

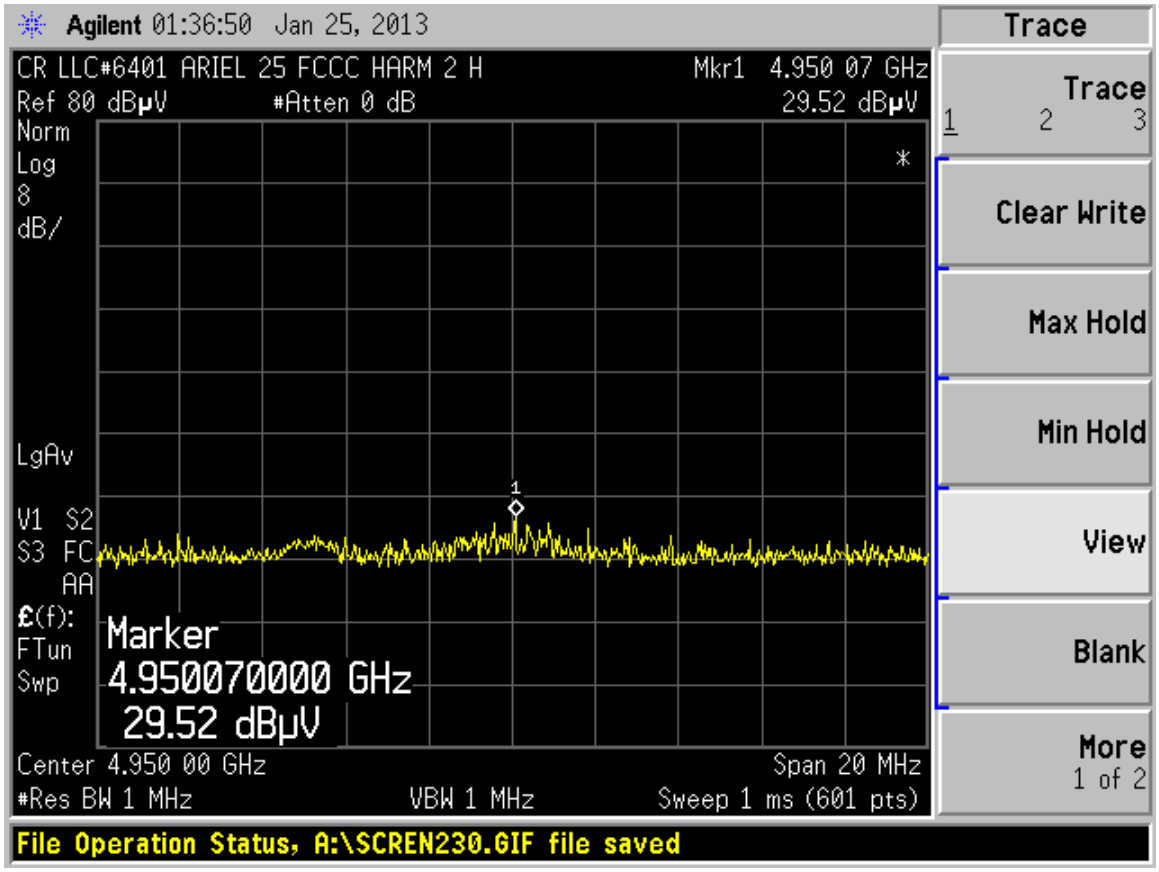
Harmonics Test Datasheets – Channel 25 2475 MHz

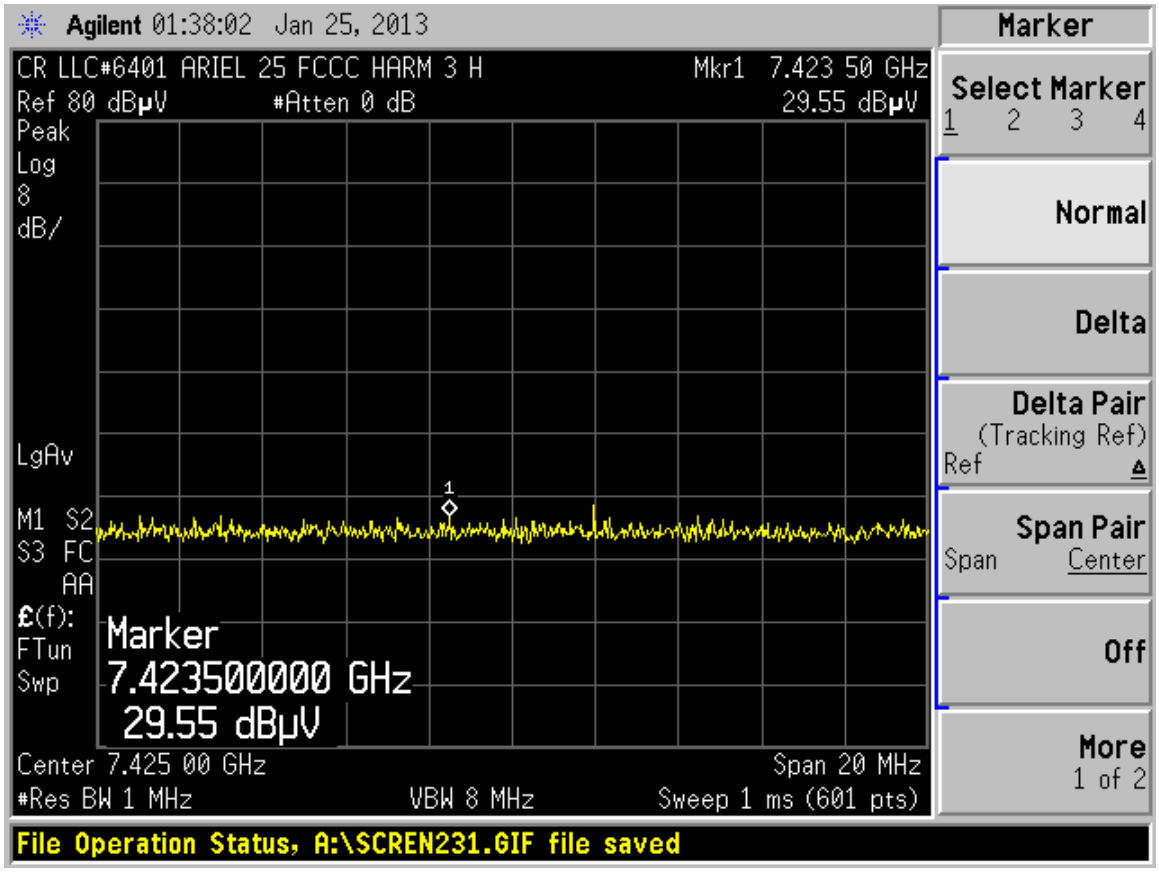
21 pages to follow.

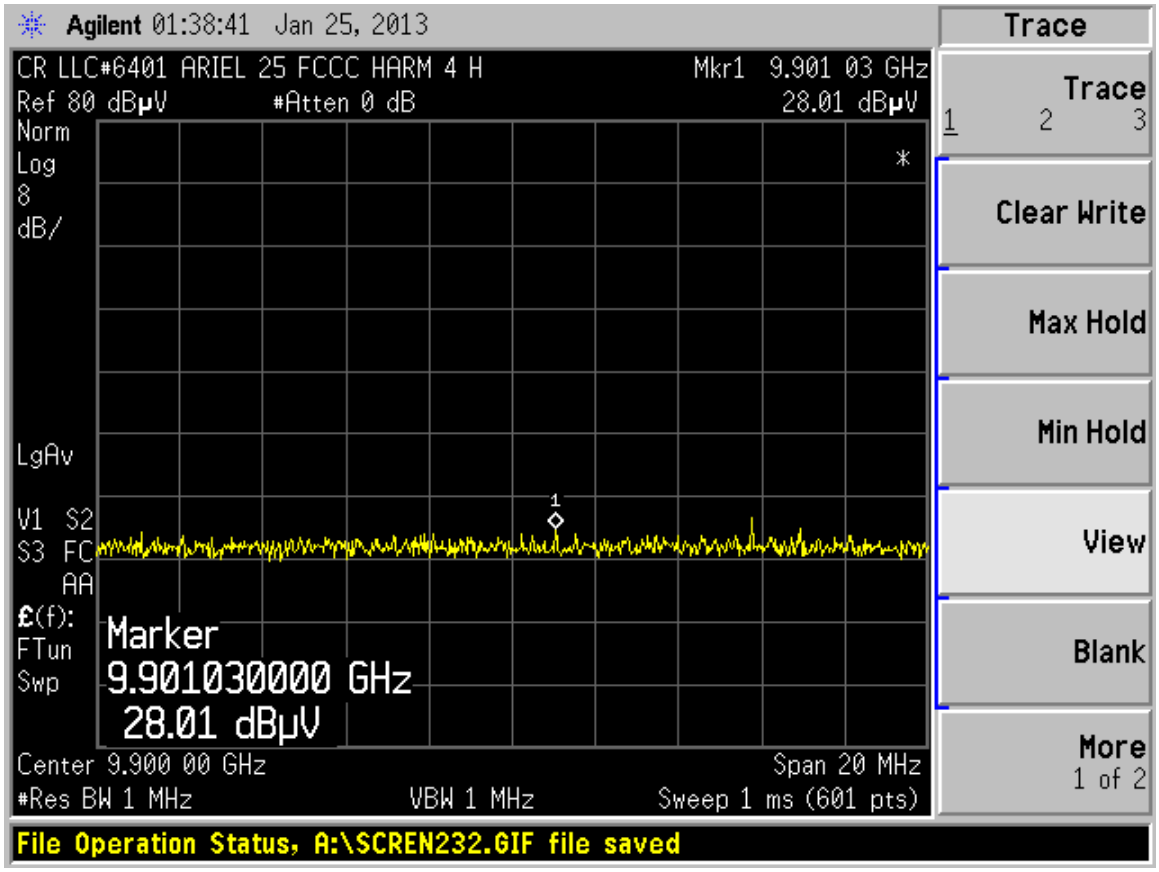
Limits for transmitters
Tested January 24, 2013 -
January 29, 2013

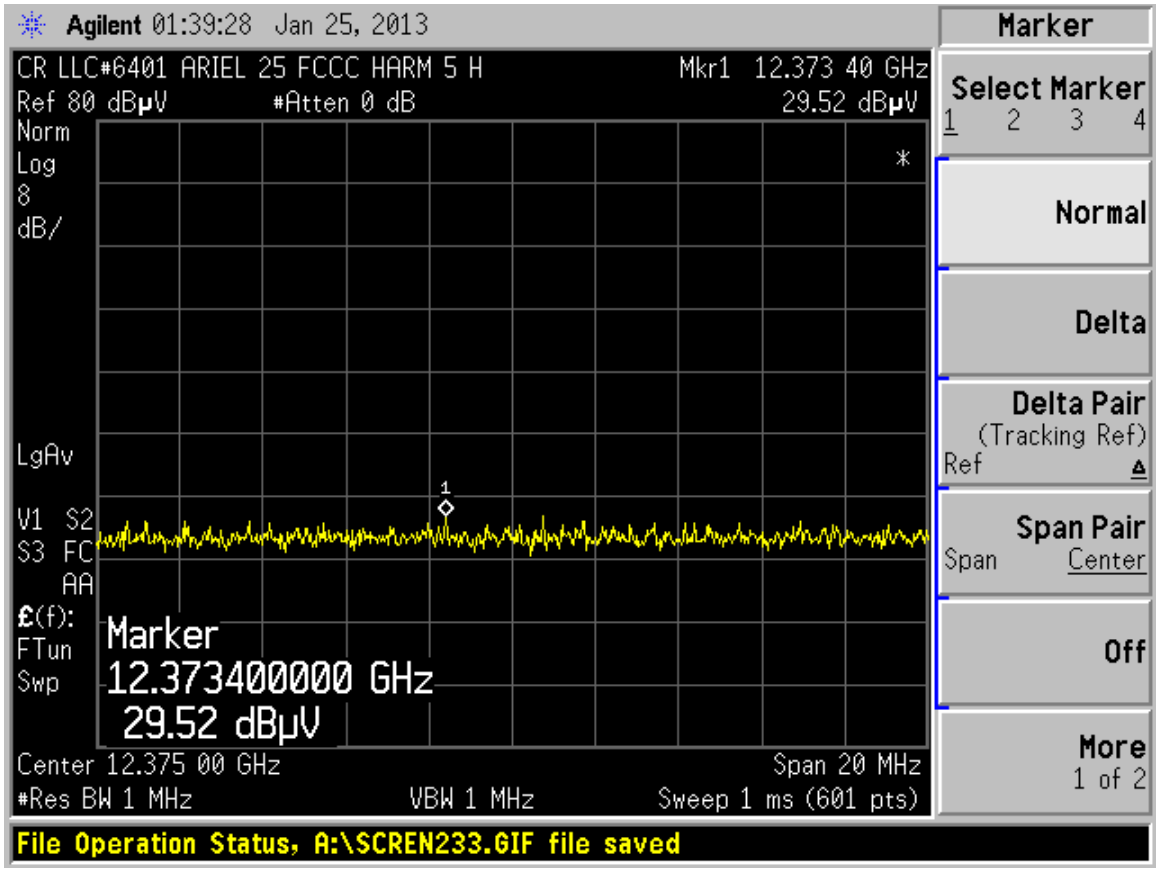
FCC Harmonics Test 2475 MHz										
Measured	Res.	DUT	Measured	Cable	Amplifier	Measurement	FCC	Corrected	Margin	
Field Strength	Bandwidth	Frequency	Frequency	Factor	Gain	Distance	Limit	Field Strength		Polarity
(dBµV)	(Khz)	(Mhz)	(Mhz)	(dBuV)	(dBuV)	(Meters)	(dBuV)	(dBuV/M)	(dBuV/M)	
55.97	1000	2475	2475	2.1	0	3	146.99	58.07	-88.92	Horizontal
29.52	1000	2475	4950	2.2	0	1	54	31.72	-22.28	Horizontal
29.55	1000	2475	7425	2.3	0	1	54	31.85	-22.15	Horizontal
28.01	1000	2475	9900	2.4	0	1	54	30.41	-23.59	Horizontal
29.52	1000	2475	12375	2.5	0	1	54	32.02	-21.98	Horizontal
29.65	1000	2475	14850	2.6	0	1	54	32.25	-21.75	Horizontal
27.92	1000	2475	17325	2.7	0	1	54	30.62	-23.38	Horizontal
29.58	1000	2475	19800	2.8	0	1	54	32.38	-21.62	Horizontal
29.96	1000	2475	22275	2.9	0	1	54	32.86	-21.14	Horizontal
33.15	1000	2475	24750	3.0	0	1	54	36.15	-17.85	Horizontal
62.78	1000	2475	2475	2.1	0	3	146.99	64.88	-82.11	Vertical
25.92	1000	2475	4950	2.2	0	1	54	28.12	-25.88	Vertical
29.10	1000	2475	7425	2.3	0	1	54	31.40	-22.60	Vertical
27.44	1000	2475	9900	2.4	0	1	54	29.84	-24.16	Vertical
29.00	1000	2475	12375	2.5	0	1	54	31.50	-22.50	Vertical
30.38	1000	2475	14850	2.6	0	1	54	32.98	-21.02	Vertical
28.88	1000	2475	17325	2.7	0	1	54	31.58	-22.42	Vertical
30.61	1000	2475	19800	2.8	0	1	54	33.41	-20.59	Vertical
31.43	1000	2475	22275	2.9	0	1	54	34.33	-19.67	Vertical
32.72	1000	2435	24750	3.0	0	1	54	35.72	-18.28	Vertical
*Antenna factors are pre-calculated into Measured Field Strength (dBµV)										
Unit Under Test: Ariel Switch Channel 25										

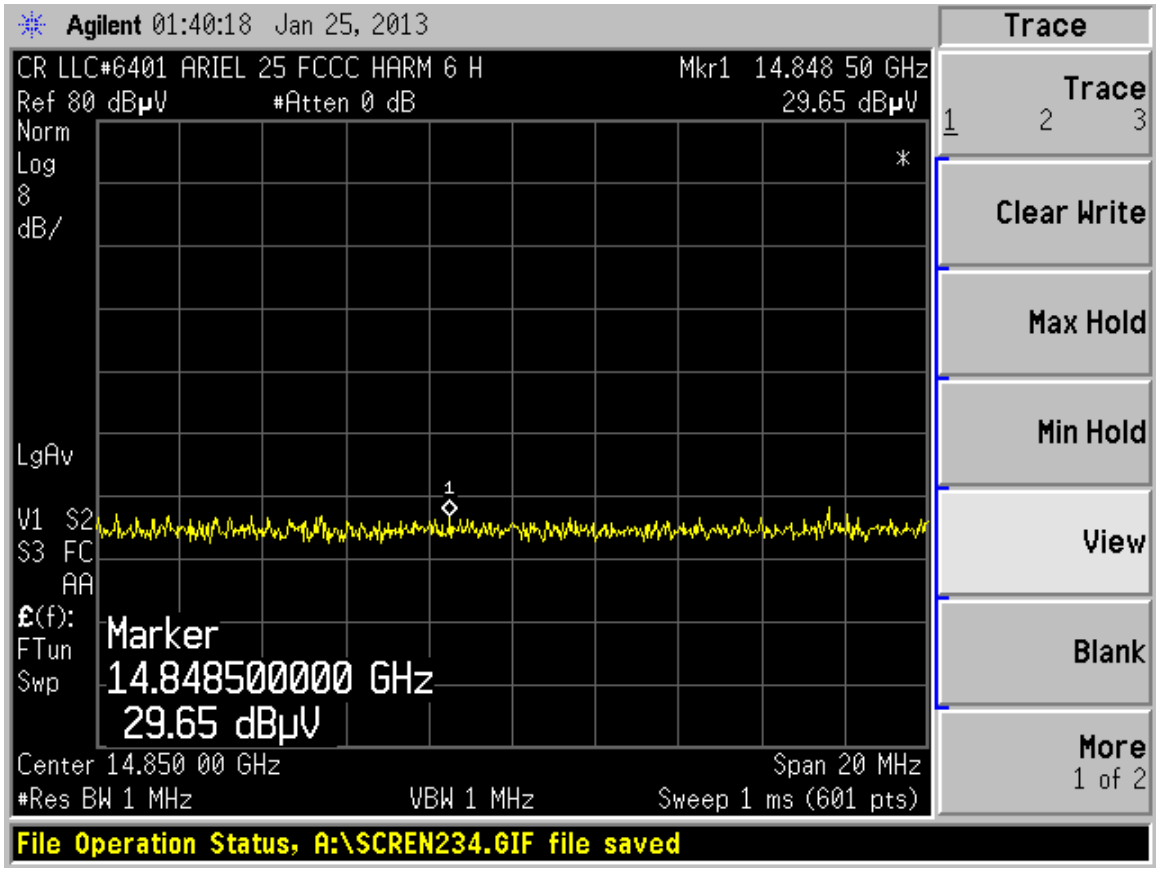

Agilent 11:35:49 7 Mar 2013
CR LLC*6401 ARIEL FCCC FUND 3M CH 25 H
Ref 96.99 dBµV
#Atten 0 dB
Mkr1 2.475650 GHz
55.97 dBµV
Peak
Log
10
dB/
Marker
2.475650000 GHz
55.97 dBµV
Center 2.475 GHz
#Res BW 1 MHz
VBW 3 MHz
Span 10 MHz
Sweep 4 ms (401 pts)
Signal (0)
Freq
Peak Ampl dBµV
Qp Ampl dBµV
Avg Ampl dBµV
Peak a LL1 dB
Peak a LL2 dB
Deleted all signals.

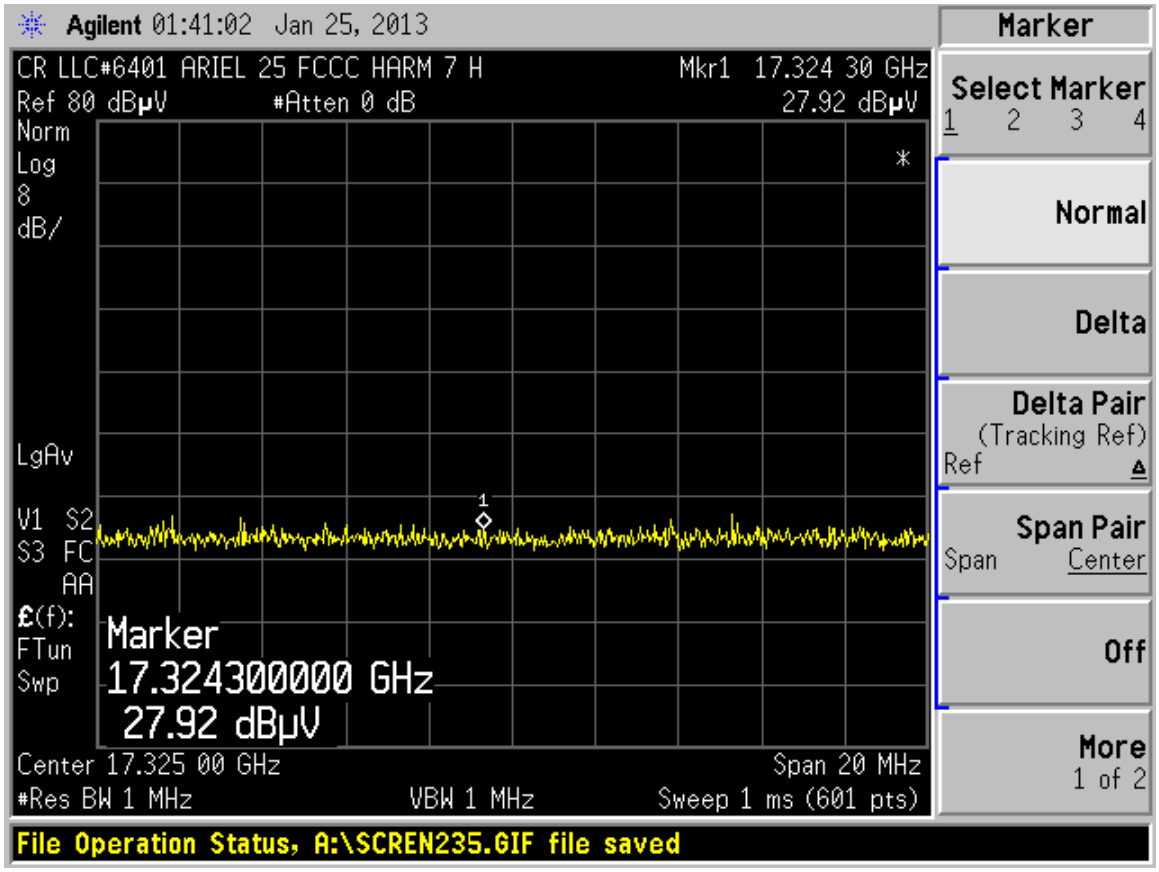

Agilent 01:36:50 Jan 25, 2013
CR LLC#6401 ARIEL 25 FCCC HARM 2 H
Mkr1 4.950 07 GHz
Ref 80 dBµV
#Atten 0 dB
29.52 dBµV
Norm
Log
8
dB/
LgAv
V1 S2
S3 FC
AA
£(f):
FTun
Swp
Marker
4.950070000 GHz
29.52 dBµV
Center 4.950 00 GHz
Span 20 MHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 1 ms (601 pts)
Trace
Trace
1 2 3
Clear Write
Max Hold
Min Hold
View
Blank
More
1 of 2
File Operation Status, A:\SCREN230.GIF file saved

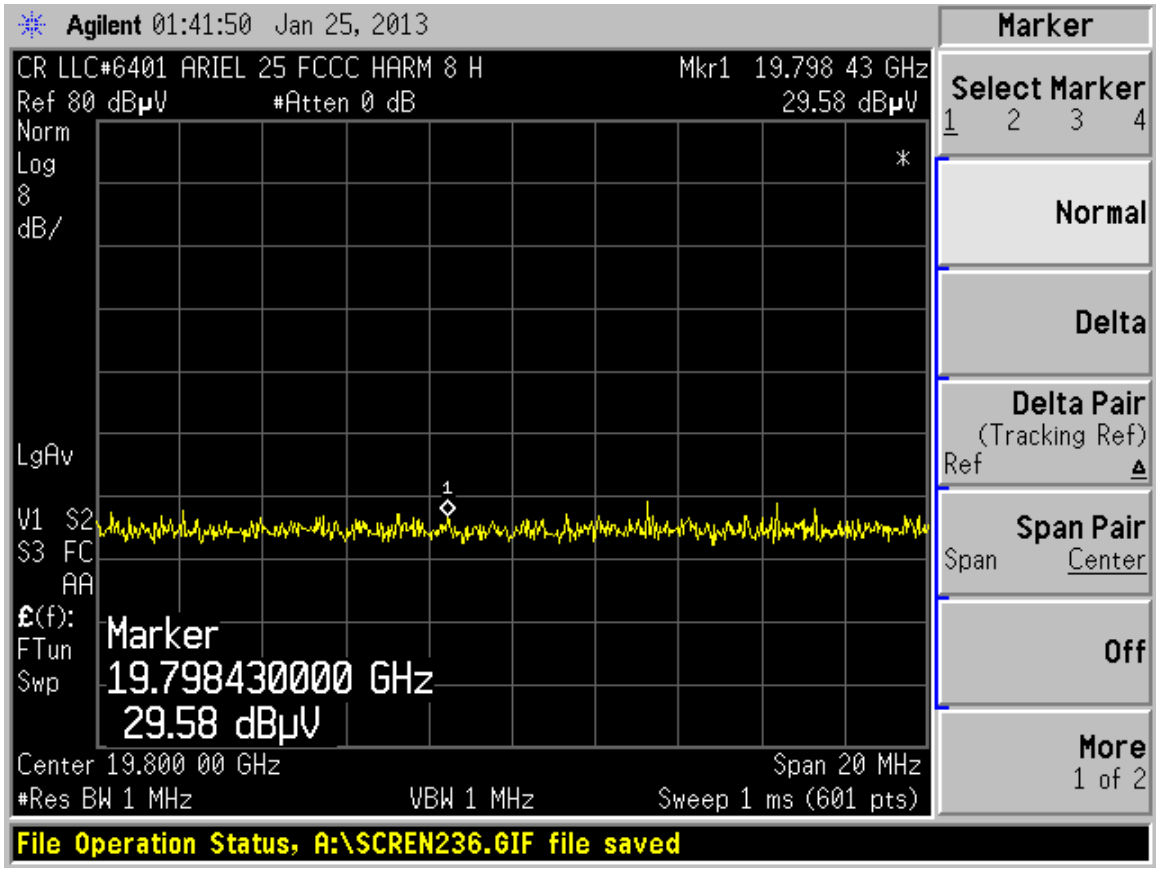

Agilent 01:38:02 Jan 25, 2013
CR LLC#6401 ARIEL 25 FCCC HARM 3 H
Mkr1 7.423 50 GHz
Ref 80 dBµV
#Atten 0 dB
29.55 dBµV
Peak
Log
8
dB/
LgAv
M1 S2
S3 FC
AA
£(f):
FTun
Swp
Marker
7.423500000 GHz
29.55 dBµV
Center 7.425 00 GHz
Span 20 MHz
#Res BW 1 MHz
VBW 8 MHz
Sweep 1 ms (601 pts)
Marker
Select Marker
1 2 3 4
Normal
Delta
Delta Pair
(Tracking Ref)
Ref
Span Pair
Span Center
Off
More
1 of 2
File Operation Status, A:\SCREN231.GIF file saved

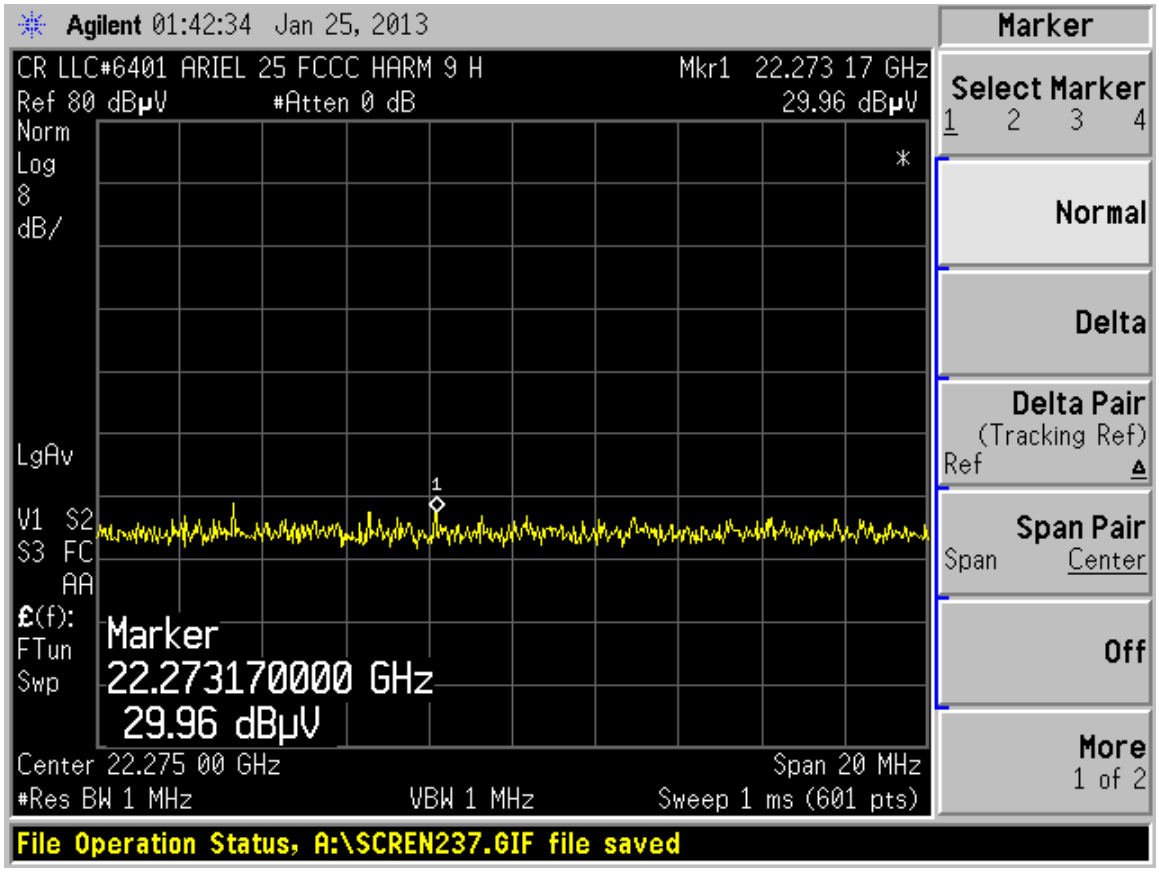

Agilent 01:38:41 Jan 25, 2013
CR LLC#6401 ARIEL 25 FCCC HARM 4 H
Mkr1 9.901 03 GHz
Ref 80 dBµV
#Atten 0 dB
28.01 dBµV
Norm
Log
8
dB/
LgAv
V1 S2
S3 FC
AA
£(f):
FTun
Swp
Marker
9.901030000 GHz
28.01 dBµV
Center 9.900 00 GHz
Span 20 MHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 1 ms (601 pts)
Trace
Trace
1 2 3
Clear Write
Max Hold
Min Hold
View
Blank
More
1 of 2
File Operation Status, A:\SCREN232.GIF file saved

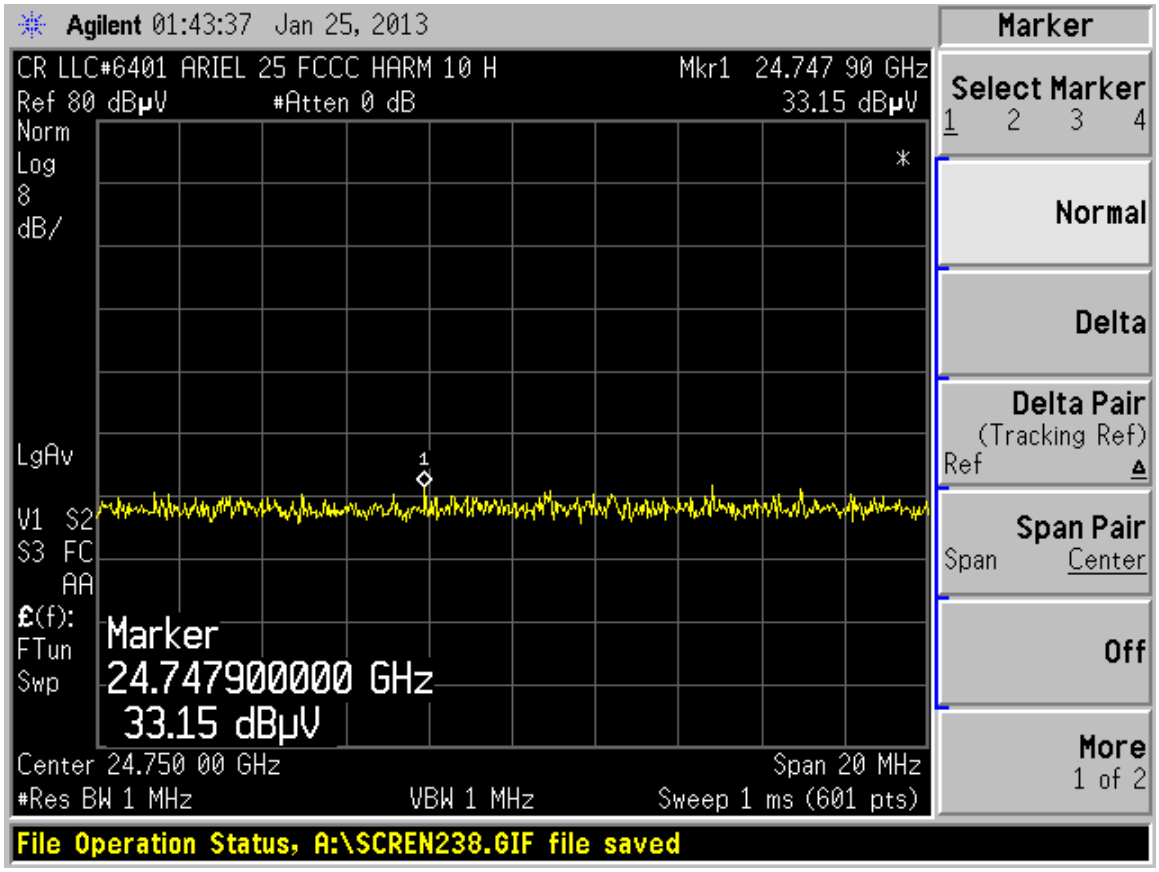

Agilent 01:39:28 Jan 25, 2013
CR LLC#6401 ARIEL 25 FCCC HARM 5 H
Mkr1 12.373 40 GHz
Ref 80 dBµV
#Atten 0 dB
29.52 dBµV
Norm
Log
8
dB/
LgAv
V1 S2
S3 FC
AA
£(f):
FTun
Swp
Marker
12.373400000 GHz
29.52 dBµV
Center 12.375 00 GHz
Span 20 MHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 1 ms (601 pts)
Marker
Select Marker
1 2 3 4
Normal
Delta
Delta Pair
(Tracking Ref)
Ref
Span Pair
Span Center
Off
More
1 of 2
File Operation Status, A:\SCREN233.GIF file saved


Agilent 01:40:18 Jan 25, 2013
CR LLC#6401 ARIEL 25 FCCC HARM 6 H
Mkr1 14.848 50 GHz
Ref 80 dBµV
#Atten 0 dB
29.65 dBµV
Norm
Log
8
dB/
LgAv
V1 S2
S3 FC
AA
£(f):
FTun
Swp
Marker
14.848500000 GHz
29.65 dBµV
Center 14.850 00 GHz
Span 20 MHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 1 ms (601 pts)
Trace
Trace
1 2 3
Clear Write
Max Hold
Min Hold
View
Blank
More
1 of 2
File Operation Status, A:\SCREN234.GIF file saved

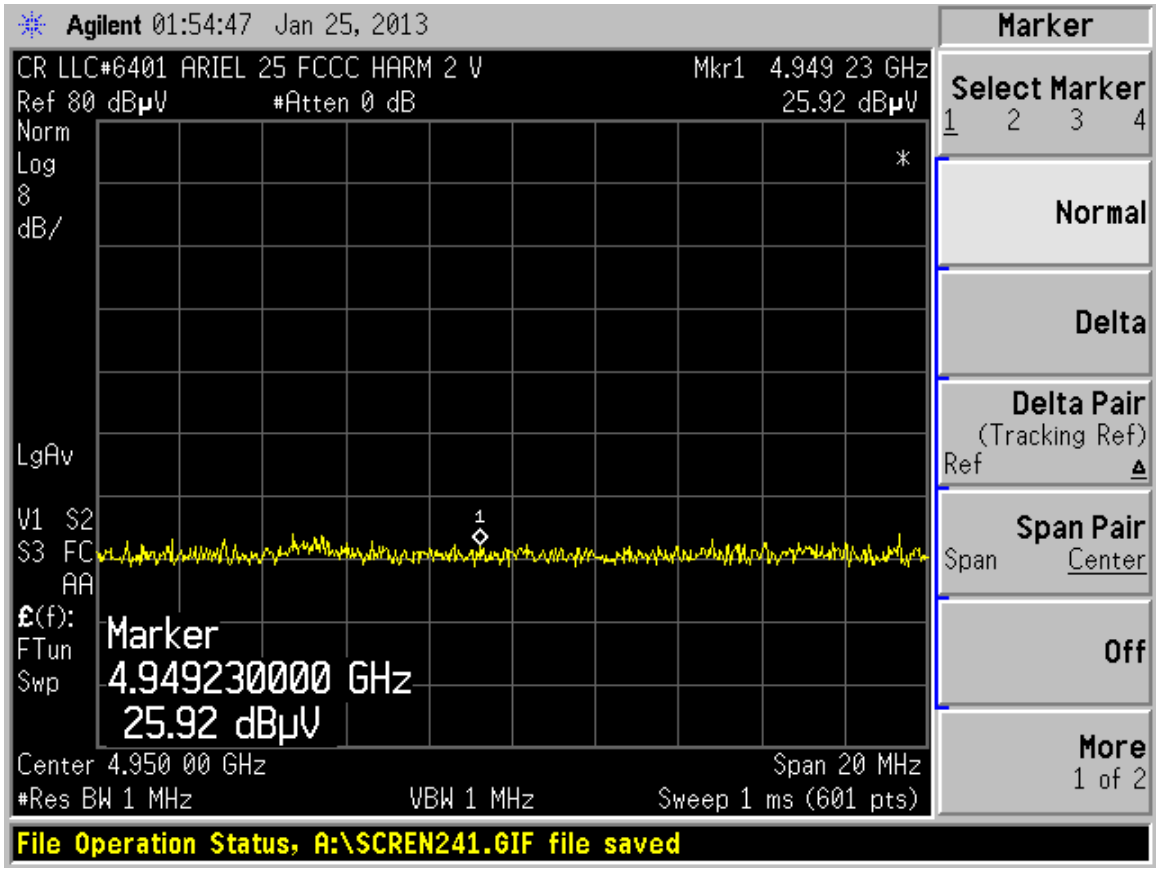

Agilent 01:41:02 Jan 25, 2013
CR LLC#6401 ARIEL 25 FCCC HARM 7 H
Mkr1 17.324 30 GHz
Ref 80 dBµV
#Atten 0 dB
27.92 dBµV
Norm
Log
8
dB/
LgAv
V1 S2
S3 FC
AA
£(f):
FTun
Swp
Marker
17.324300000 GHz
27.92 dBµV
Center 17.325 00 GHz
Span 20 MHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 1 ms (601 pts)
Marker
Select Marker
1 2 3 4
Normal
Delta
Delta Pair
(Tracking Ref)
Ref
Span Pair
Span Center
Off
More
1 of 2
File Operation Status, A:\SCREN235.GIF file saved

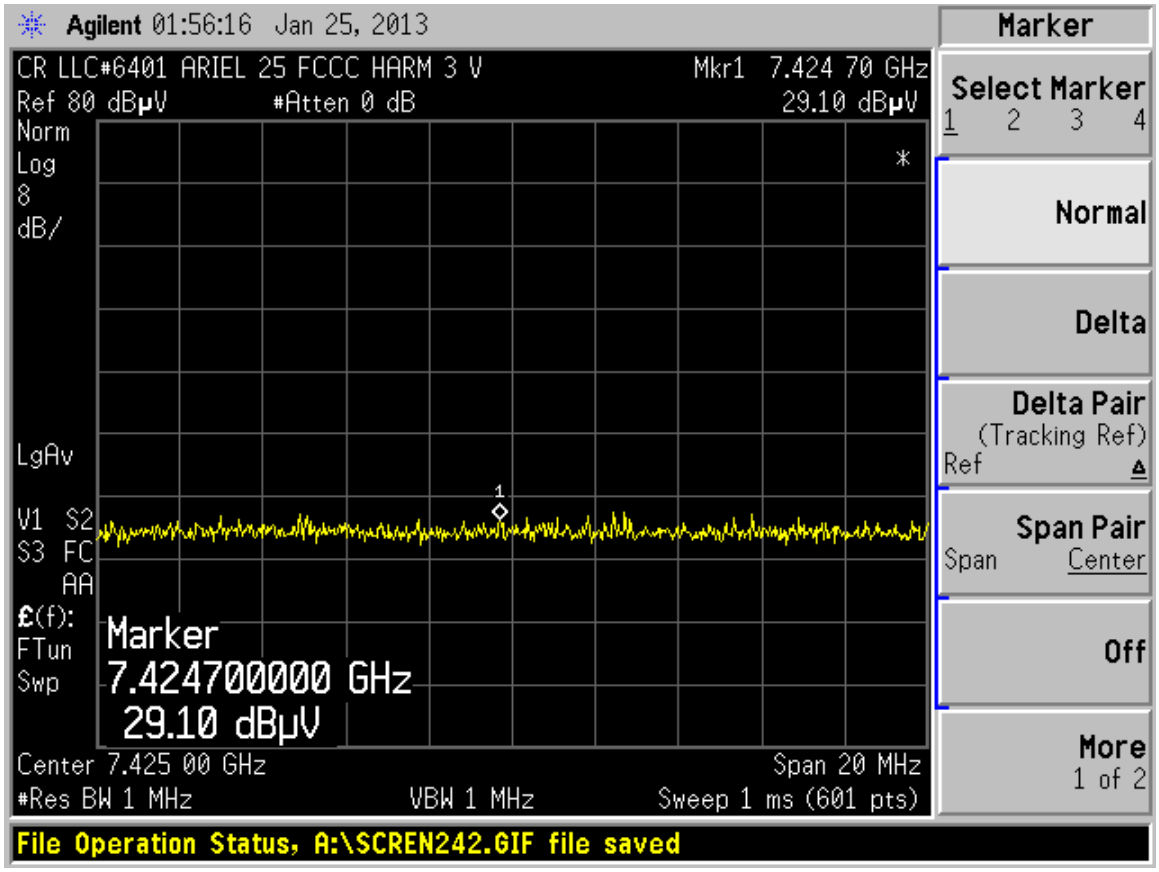

Agilent 01:41:50 Jan 25, 2013
CR LLC#6401 ARIEL 25 FCCC HARM 8 H
Mkr1 19.798 43 GHz
Ref 80 dBµV
#Atten 0 dB
29.58 dBµV
Norm
Log
8
dB/
LgAv
V1 S2
S3 FC
AA
£(f):
FTun
Swp
Marker
19.798430000 GHz
29.58 dBµV
Center 19.800 00 GHz
Span 20 MHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 1 ms (601 pts)
Marker
Select Marker
1 2 3 4
Normal
Delta
Delta Pair
(Tracking Ref)
Ref
Span Pair
Span Center
Off
More
1 of 2
File Operation Status, A:\SCREN236.GIF file saved

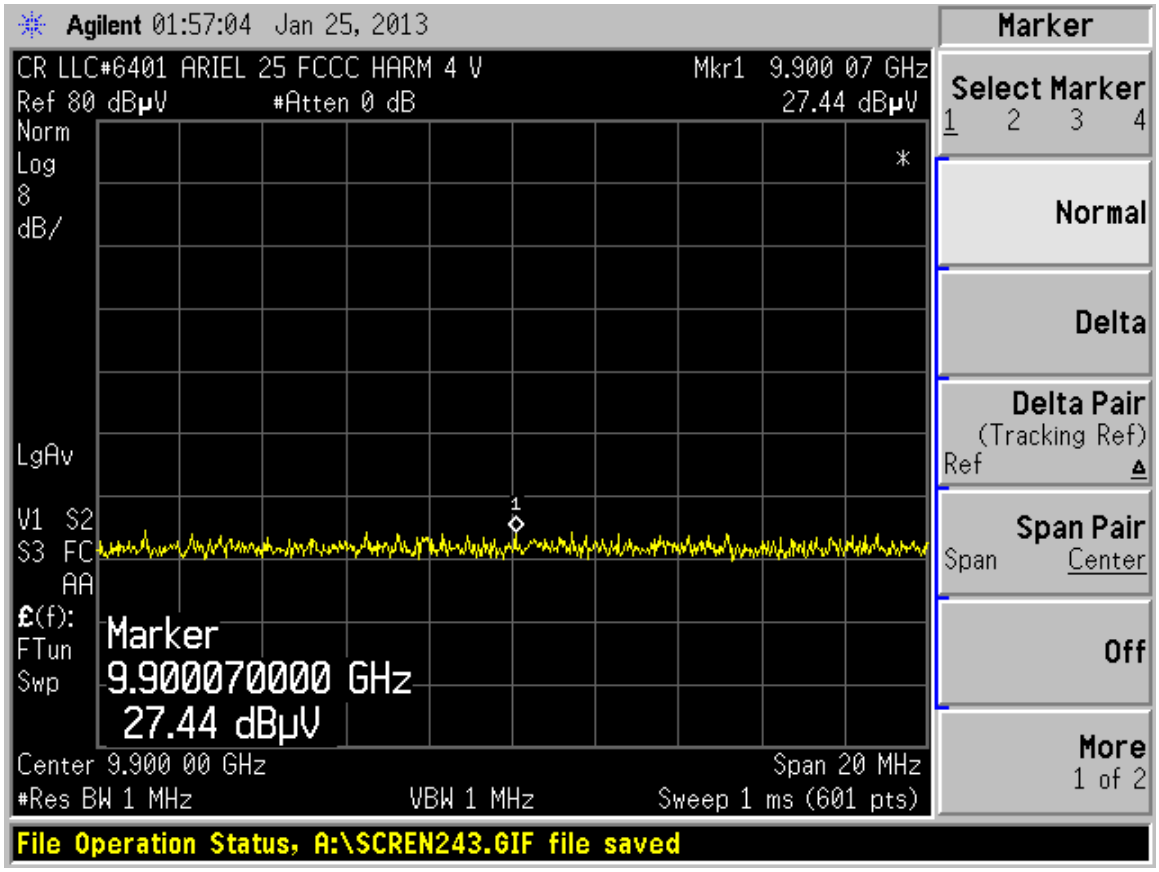

Agilent 01:42:34 Jan 25, 2013
CR LLC#6401 ARIEL 25 FCCC HARM 9 H
Mkr1 22.273 17 GHz
Ref 80 dBµV
#Atten 0 dB
29.96 dBµV
Norm
Log
8
dB/
LgAv
V1 S2
S3 FC
AA
£(f):
FTun
Swp
Marker
22.273170000 GHz
29.96 dBµV
Center 22.275 00 GHz
Span 20 MHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 1 ms (601 pts)
Marker
Select Marker
1 2 3 4
Normal
Delta
Delta Pair
(Tracking Ref)
Ref
Span Pair
Span Center
Off
More
1 of 2
File Operation Status, A:\SCREN237.GIF file saved

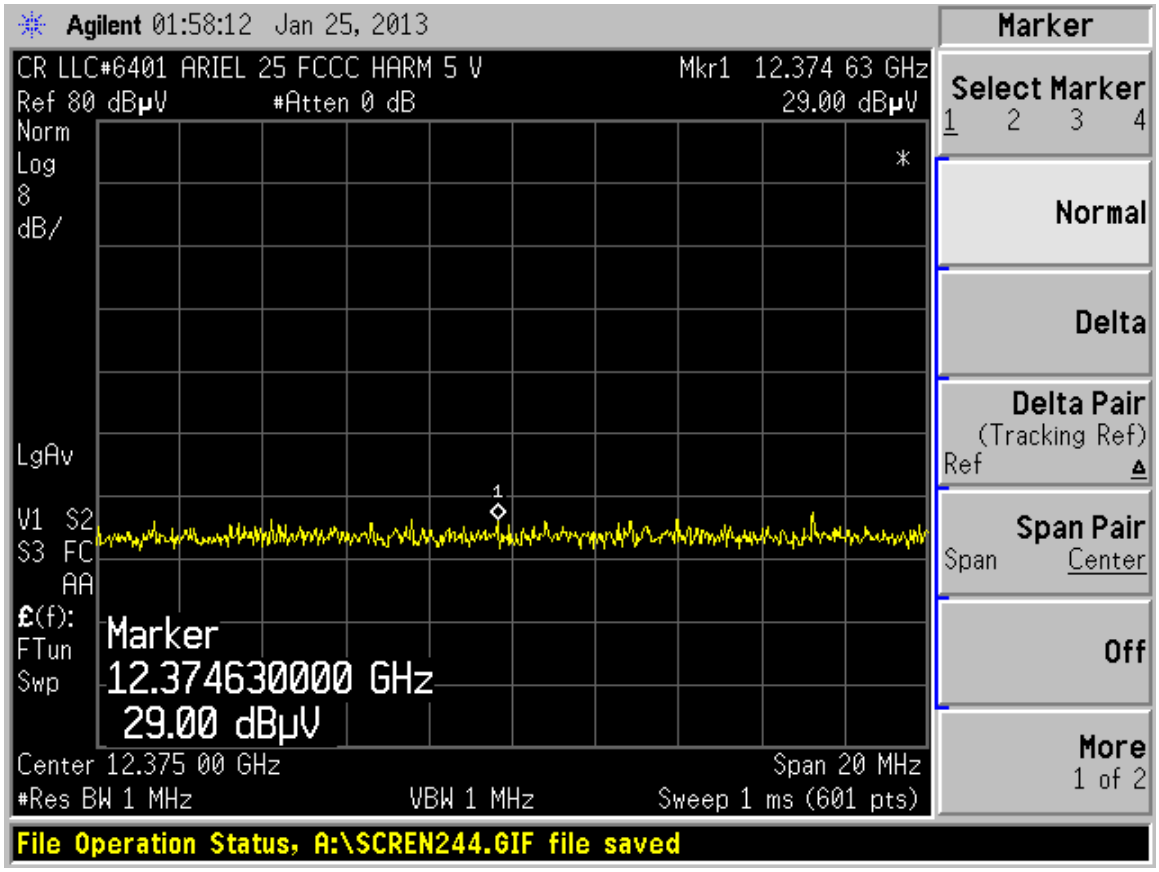

Agilent 01:43:37 Jan 25, 2013
CR LLC#6401 ARIEL 25 FCCC HARM 10 H
Mkr1 24.747 90 GHz
Ref 80 dBµV
#Atten 0 dB
33.15 dBµV
Norm
Log
8
dB/
LgAv
V1 S2
S3 FC
AA
£(f):
FTun
Swp
Marker
24.747900000 GHz
33.15 dBµV
Center 24.750 00 GHz
Span 20 MHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 1 ms (601 pts)
Marker
Select Marker
1 2 3 4
Normal
Delta
Delta Pair
(Tracking Ref)
Ref
Span Pair
Span Center
Off
More
1 of 2
File Operation Status, A:\SCREN238.GIF file saved

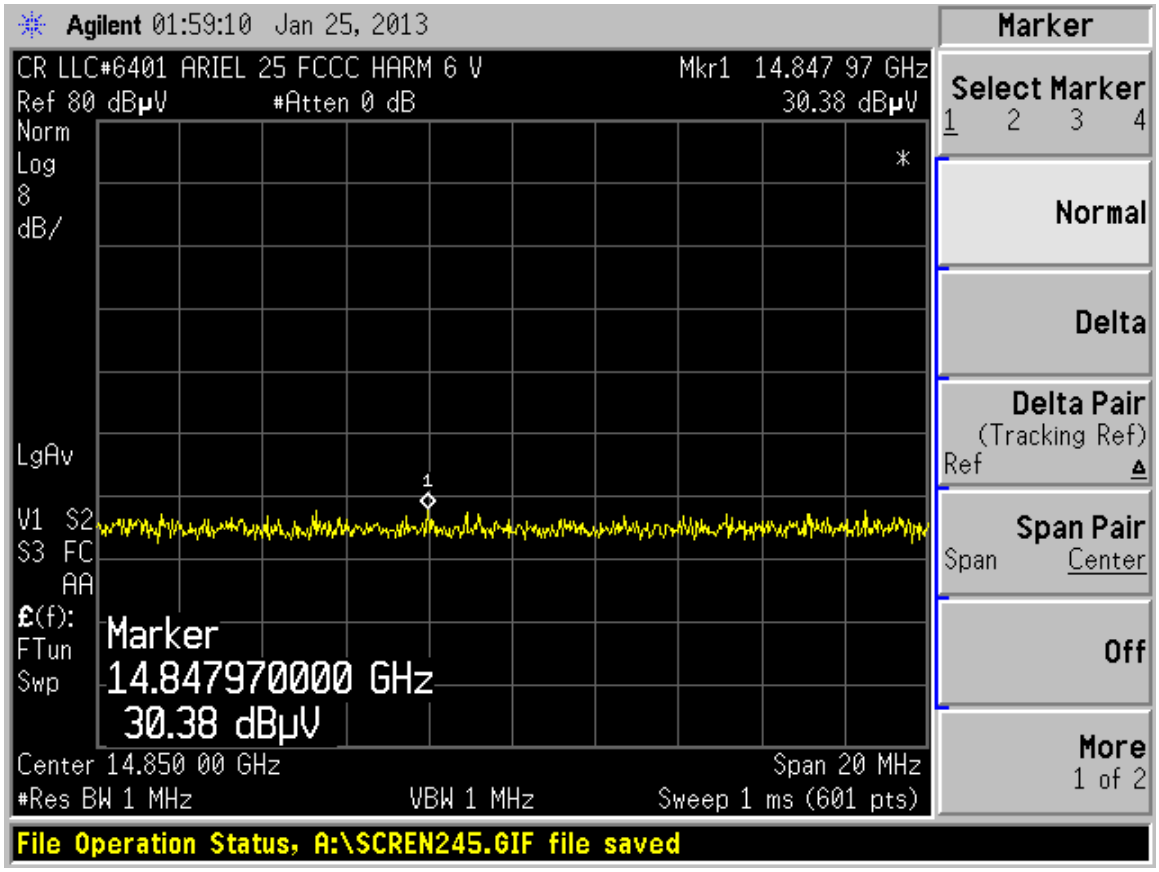

Agilent 11:34:40 7 Mar 2013
CR LLC*6401 ARIEL FCCC FUND 3M CH 25 V
Ref 96.99 dBµV
*Atten 0 dB
Mkr1 2.475575 GHz
62.78 dBµV
Peak
Log
10
dB/
Marker
2.475575000 GHz
62.78 dBµV
Center 2.475 GHz
*Res BW 1 MHz
VBW 3 MHz
Span 10 MHz
Sweep 4 ms (401 pts)
Signal (0)
Freq
Peak Ampl dBµV
Dp Ampl dBµV
Avg Ampl dBµV
Peak Δ LL1 dB
Peak Δ LL2 dB
Deleted all signals.

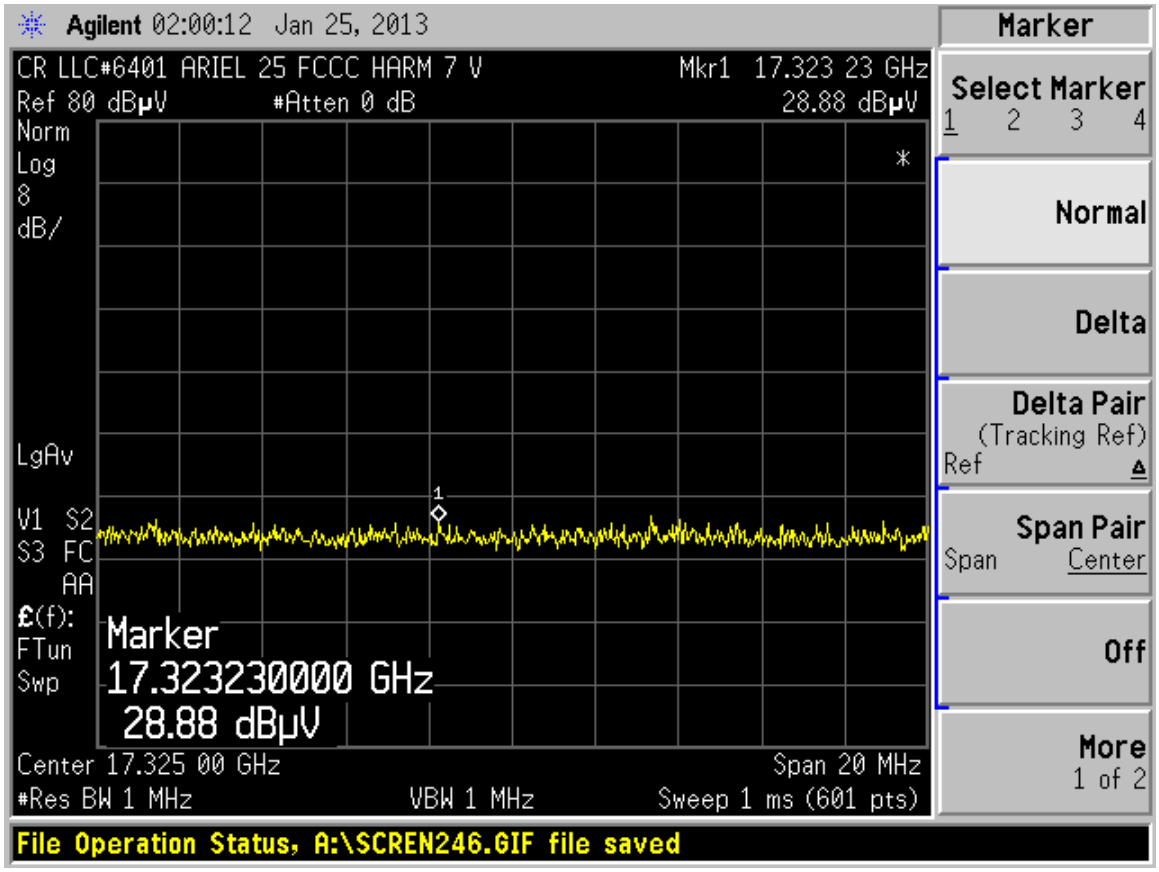

Agilent 01:54:47 Jan 25, 2013
CR LLC#6401 ARIEL 25 FCCC HARM 2 V
Mkr1 4.949 23 GHz
Ref 80 dBµV
#Atten 0 dB
25.92 dBµV
Norm
Log
8
dB/
LgAv
V1 S2
S3 FC
AA
£(f):
FTun
Swp
Marker
4.949230000 GHz
25.92 dBµV
Center 4.950 00 GHz
Span 20 MHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 1 ms (601 pts)
Marker
Select Marker
1 2 3 4
Normal
Delta
Delta Pair
(Tracking Ref)
Ref
Span Pair
Span Center
Off
More
1 of 2
File Operation Status, A:\SCREN241.GIF file saved

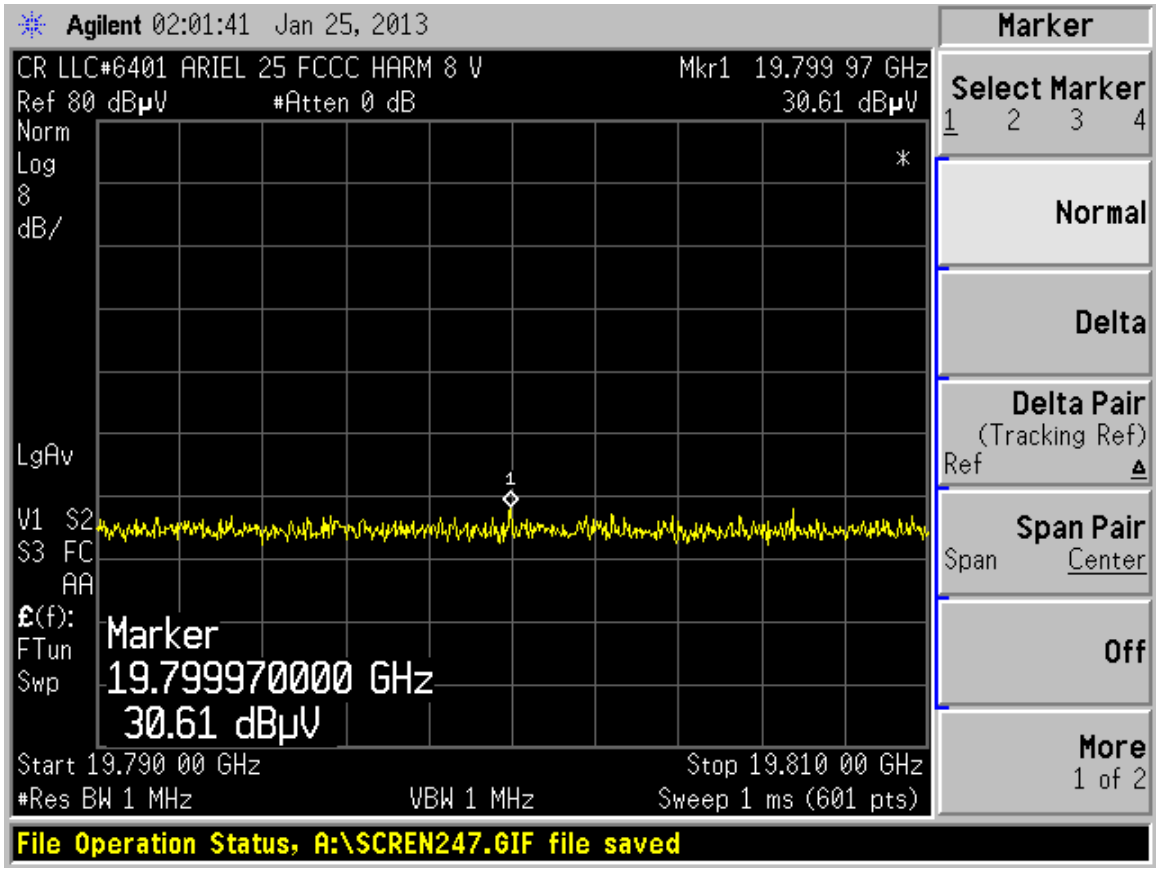

Agilent 01:56:16 Jan 25, 2013
CR LLC#6401 ARIEL 25 FCCC HARM 3 V
Mkr1 7.424 70 GHz
Ref 80 dBµV
#Atten 0 dB
29.10 dBµV
Norm
Log
8
dB/
LgAv
V1 S2
S3 FC
AA
£(f):
FTun
Swp
Marker
7.424700000 GHz
29.10 dBµV
Center 7.425 00 GHz
Span 20 MHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 1 ms (601 pts)
Marker
Select Marker
1 2 3 4
Normal
Delta
Delta Pair
(Tracking Ref)
Ref
Span Pair
Span Center
Off
More
1 of 2
File Operation Status, A:\SCREN242.GIF file saved

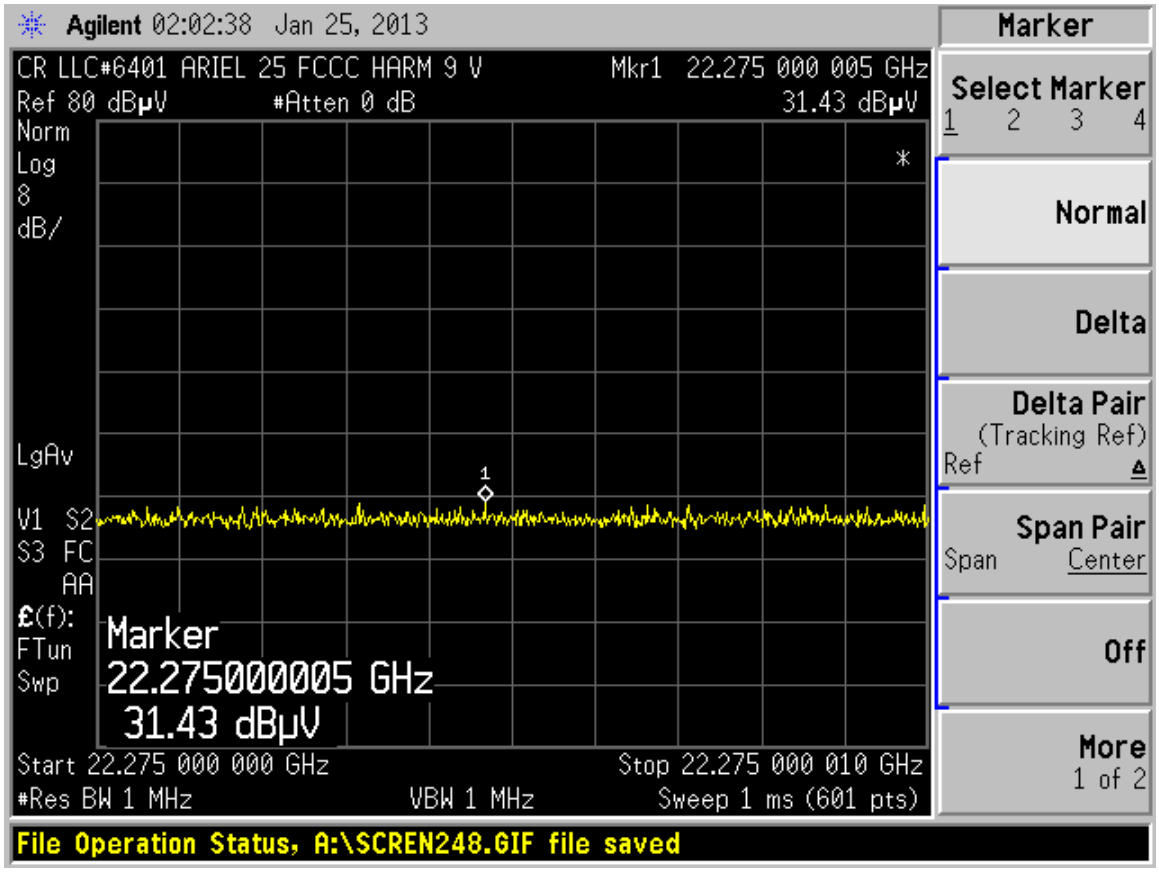

Agilent 01:57:04 Jan 25, 2013
CR LLC#6401 ARIEL 25 FCCC HARM 4 V
Mkr1 9.900 07 GHz
Ref 80 dBµV
#Atten 0 dB
27.44 dBµV
Norm
Log
8
dB/
LgAv
V1 S2
S3 FC
AA
£(f):
FTun
Swp
Marker
9.900070000 GHz
27.44 dBµV
Center 9.900 00 GHz
Span 20 MHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 1 ms (601 pts)
Marker
Select Marker
1 2 3 4
Normal
Delta
Delta Pair
(Tracking Ref)
Ref
Span Pair
Span Center
Off
More
1 of 2
File Operation Status, A:\SCREN243.GIF file saved

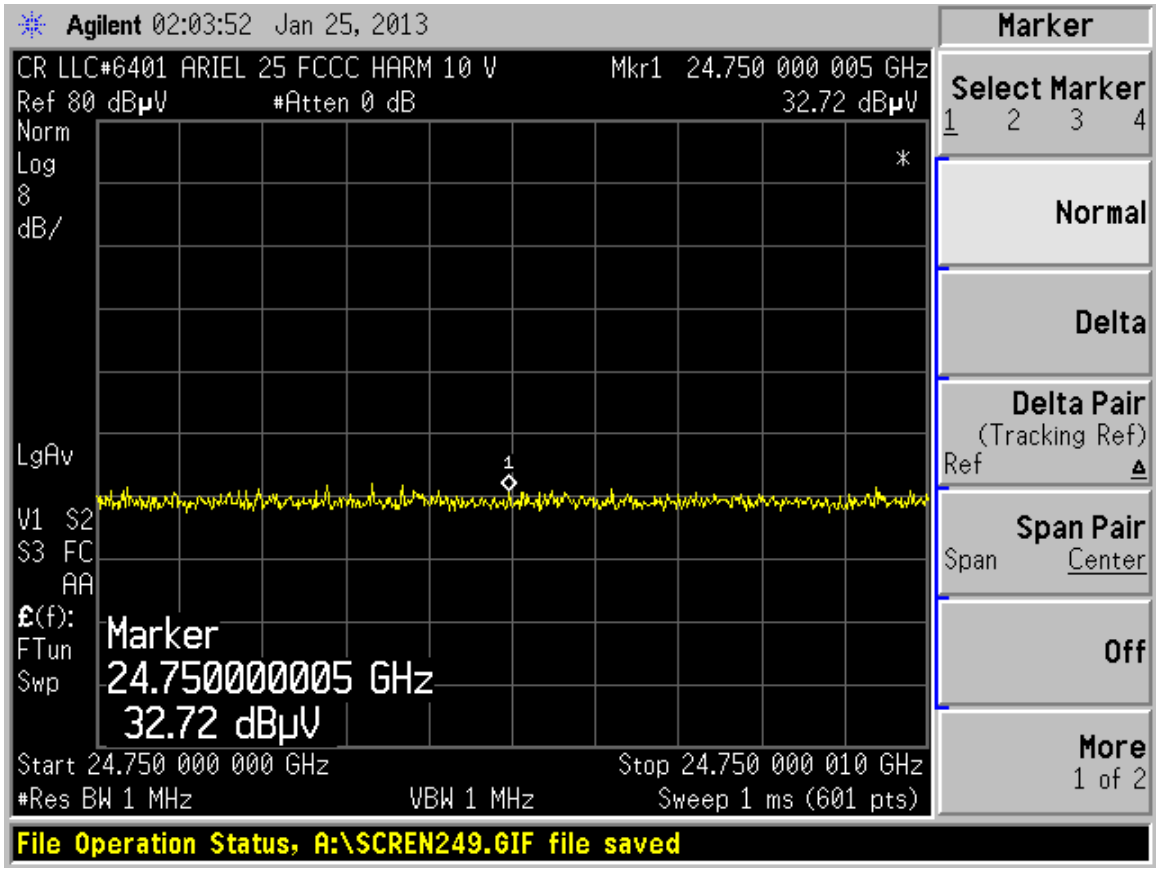

Agilent 01:58:12 Jan 25, 2013
CR LLC#6401 ARIEL 25 FCCC HARM 5 V
Mkr1 12.374 63 GHz
Ref 80 dBµV
#Atten 0 dB
29.00 dBµV
Norm
Log
8
dB/
LgAv
V1 S2
S3 FC
AA
£(f):
FTun
Swp
Marker
12.374630000 GHz
29.00 dBµV
Center 12.375 00 GHz
Span 20 MHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 1 ms (601 pts)
Marker
Select Marker
1 2 3 4
Normal
Delta
Delta Pair
(Tracking Ref)
Ref
Span Pair
Span Center
Off
More
1 of 2
File Operation Status, A:\SCREN244.GIF file saved


Agilent 01:59:10 Jan 25, 2013
CR LLC#6401 ARIEL 25 FCCC HARM 6 V
Mkr1 14.847 97 GHz
Ref 80 dBµV
#Atten 0 dB
30.38 dBµV
Norm
Log
8
dB/
LgAv
V1 S2
S3 FC
AA
£(f):
FTun
Swp
Marker
14.847970000 GHz
30.38 dBµV
Center 14.850 00 GHz
Span 20 MHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 1 ms (601 pts)
Marker
Select Marker
1 2 3 4
Normal
Delta
Delta Pair
(Tracking Ref)
Ref
Span Pair
Span Center
Off
More
1 of 2
File Operation Status, A:\SCREN245.GIF file saved


Agilent 02:00:12 Jan 25, 2013
CR LLC#6401 ARIEL 25 FCCC HARM 7 V
Mkr1 17.323 23 GHz
Ref 80 dBµV
#Atten 0 dB
28.88 dBµV
Norm
Log
8
dB/
LgAv
V1 S2
S3 FC
AA
£(f):
FTun
Swp
Marker
17.323230000 GHz
28.88 dBµV
Center 17.325 00 GHz
Span 20 MHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 1 ms (601 pts)
Marker
Select Marker
1 2 3 4
Normal
Delta
Delta Pair
(Tracking Ref)
Ref
Span Pair
Span Center
Off
More
1 of 2
File Operation Status, A:\SCREN246.GIF file saved

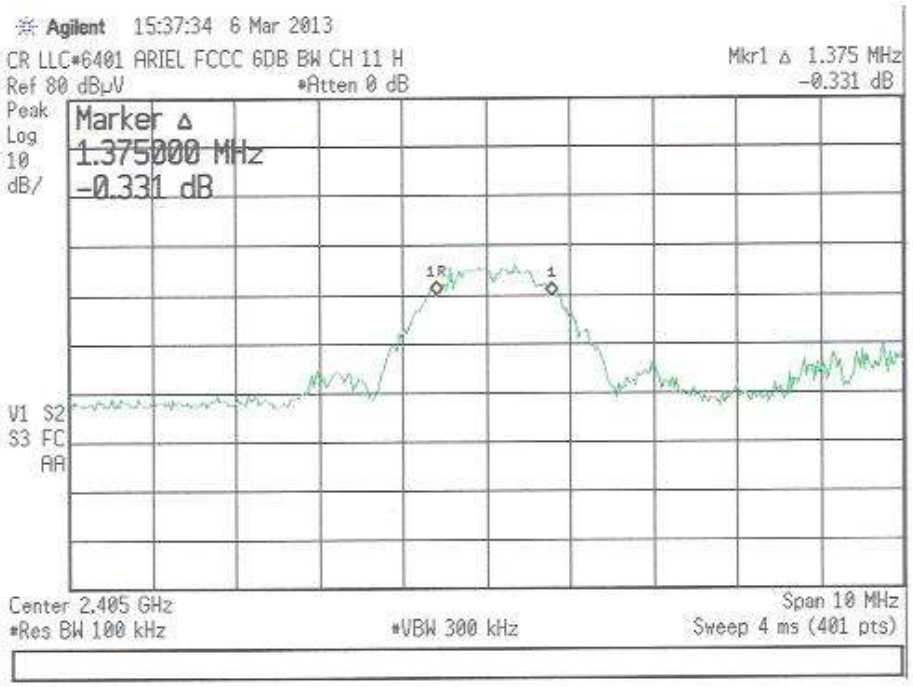

Agilent 02:01:41 Jan 25, 2013
CR LLC#6401 ARIEL 25 FCCC HARM 8 V
Mkr1 19.799 97 GHz
Ref 80 dBµV
#Atten 0 dB
30.61 dBµV
Norm
Log
8
dB/
LgAv
V1 S2
S3 FC
AA
£(f):
FTun
Swp
Marker
19.799970000 GHz
30.61 dBµV
Start 19.790 00 GHz
Stop 19.810 00 GHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 1 ms (601 pts)
Marker
Select Marker
1 2 3 4
Normal
Delta
Delta Pair
(Tracking Ref)
Ref
Span Pair
Span Center
Off
More
1 of 2
File Operation Status, A:\SCREN247.GIF file saved

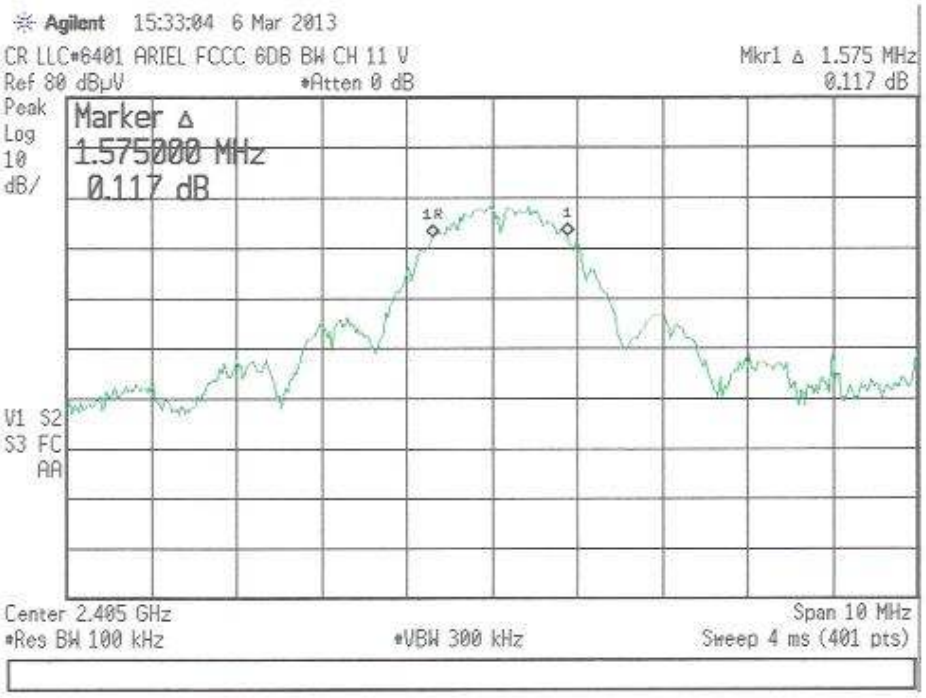

Agilent 02:02:38 Jan 25, 2013
CR LLC#6401 ARIEL 25 FCCC HARM 9 V
Mkr1 22.275 000 005 GHz
Ref 80 dBµV
#Atten 0 dB
31.43 dBµV
Norm
Log
8
dB/
LgAv
V1 S2
S3 FC
AA
£(f):
FTun
Swp
Marker
22.275000005 GHz
31.43 dBµV
Start 22.275 000 000 GHz
Stop 22.275 000 010 GHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 1 ms (601 pts)
Marker
Select Marker
1 2 3 4
Normal
Delta
Delta Pair
(Tracking Ref)
Ref
Span Pair
Span Center
Off
More
1 of 2
File Operation Status, A:\SCREN248.GIF file saved


Agilent 02:03:52 Jan 25, 2013
CR LLC#6401 ARIEL 25 FCCC HARM 10 V
Mkr1 24.750 000 005 GHz
Ref 80 dBµV
#Atten 0 dB
32.72 dBµV
Norm
Log
8
dB/
LgAv
V1 S2
S3 FC
AA
£(f):
FTun
Swp
Marker
24.750000005 GHz
32.72 dBµV
Start 24.750 000 000 GHz
Stop 24.750 000 010 GHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 1 ms (601 pts)
Marker
Select Marker
1 2 3 4
Normal
Delta
Delta Pair
(Tracking Ref)
Ref
Span Pair
Span Center
Off
More
1 of 2
File Operation Status, A:\SCREN249.GIF file saved

Test Datasheet-Bandwidth Test Minimum 6dB Bandwidth more than 500 KHz- Channel 11 2405 MHz

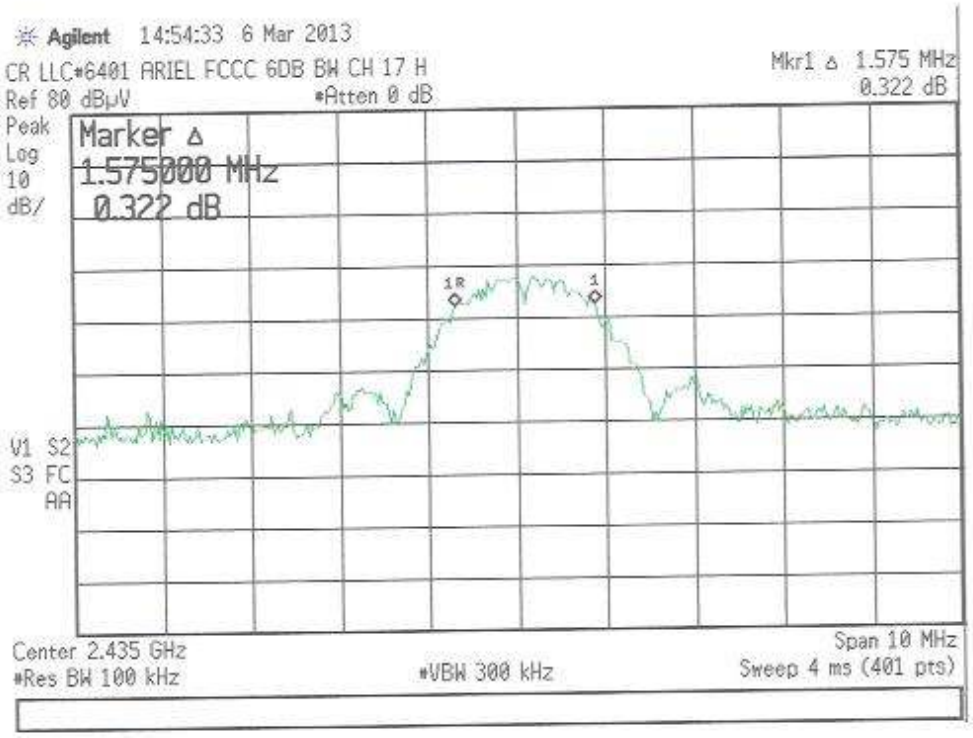
2 Pages of Data to Follow

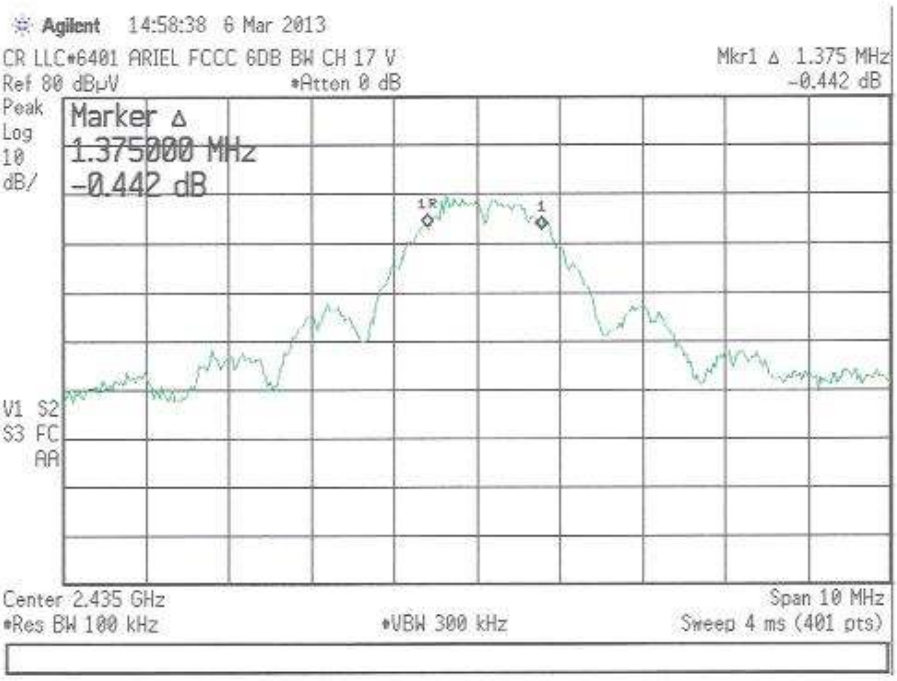



Agilent 15:33:04 6 Mar 2013
CR LLC#6401 ARIEL FCCC 6DB BW CH 11 V
Ref 80 dBµV
#Atten 0 dB
Mkr1 Δ 1.575 MHz
0.117 dB
Peak
Log
10
dB/
Marker Δ
1.575000 MHz
0.117 dB
1R
1
V1 S2
S3 FC
AA
Center 2.405 GHz
#Res BW 100 kHz
#VBW 300 kHz
Span 10 MHz
Sweep 4 ms (401 pts)

Test Datasheet-Bandwidth Test Minimum 6dB Bandwidth more than 500 KHz- Channel 17 2435 MHz

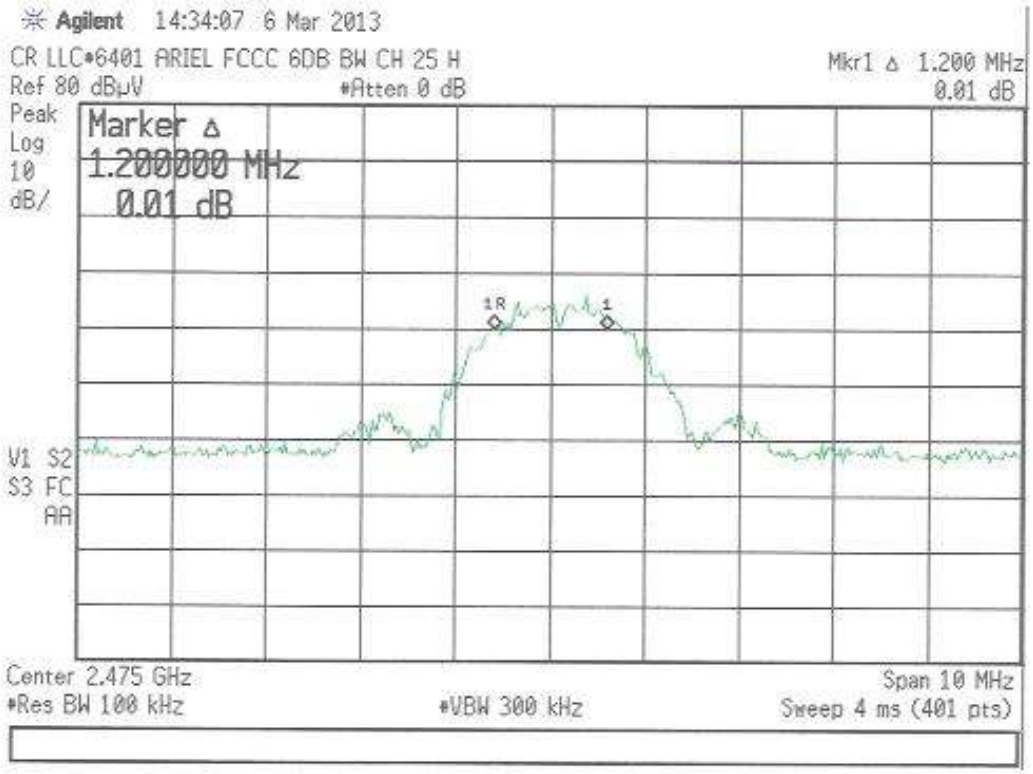
2 Pages of Data to Follow

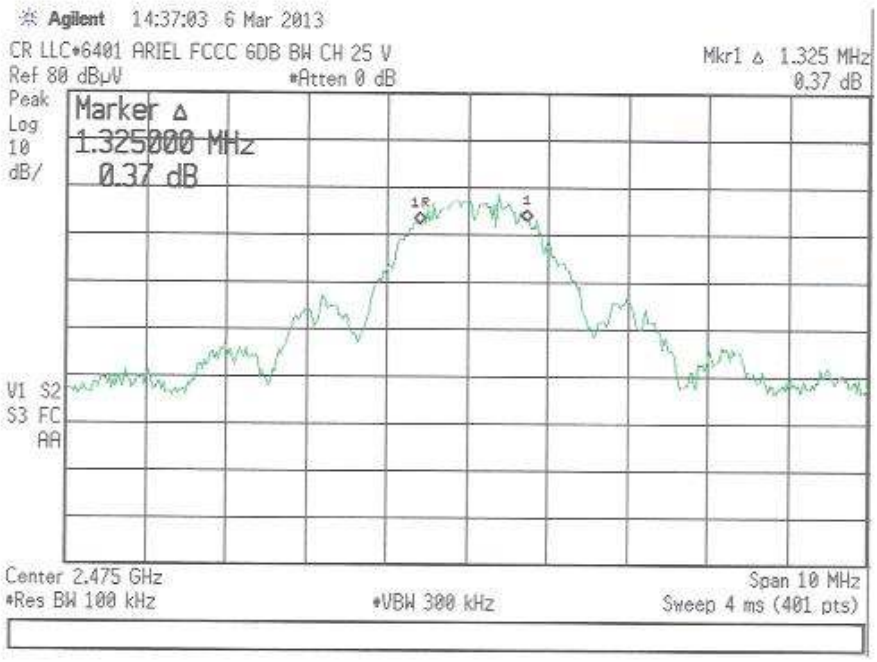



Agilent 14:58:38 6 Mar 2013
CR LLC*6401 ARIEL FCCC 6DB BW CH 17 V
Ref 80 dBµV
*Atten 0 dB
Mkr1 Δ 1.375 MHz
-0.442 dB
Peak
Log
10
dB/
Marker Δ
1.375000 MHz
-0.442 dB
V1 S2
S3 FC
AA
Center 2.435 GHz
*Res BW 100 kHz
*VBW 300 kHz
Span 10 MHz
Sweep 4 ms (401 pts)

Test Datasheet-Bandwidth Test Minimum 6dB Bandwidth more than 500 KHz-Channel 25 2475 MHz

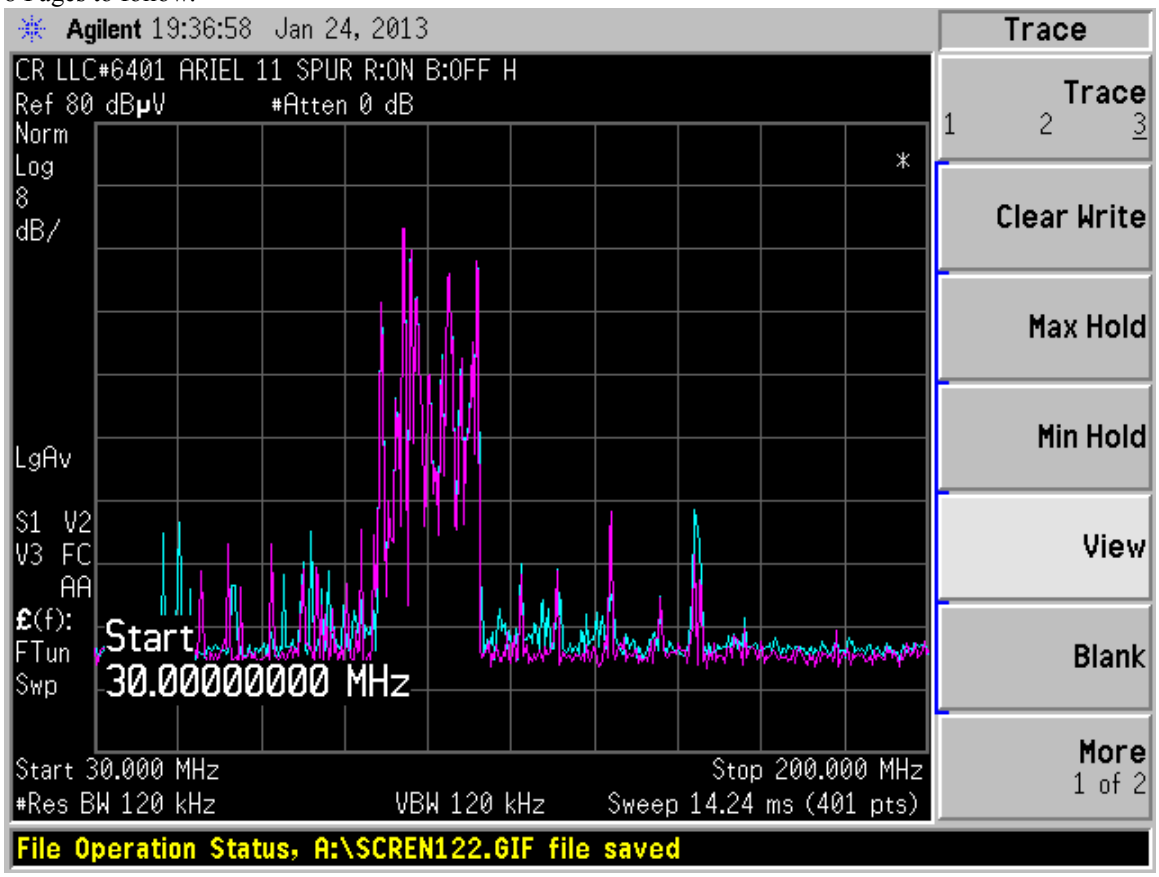
2 Pages of Data to Follow

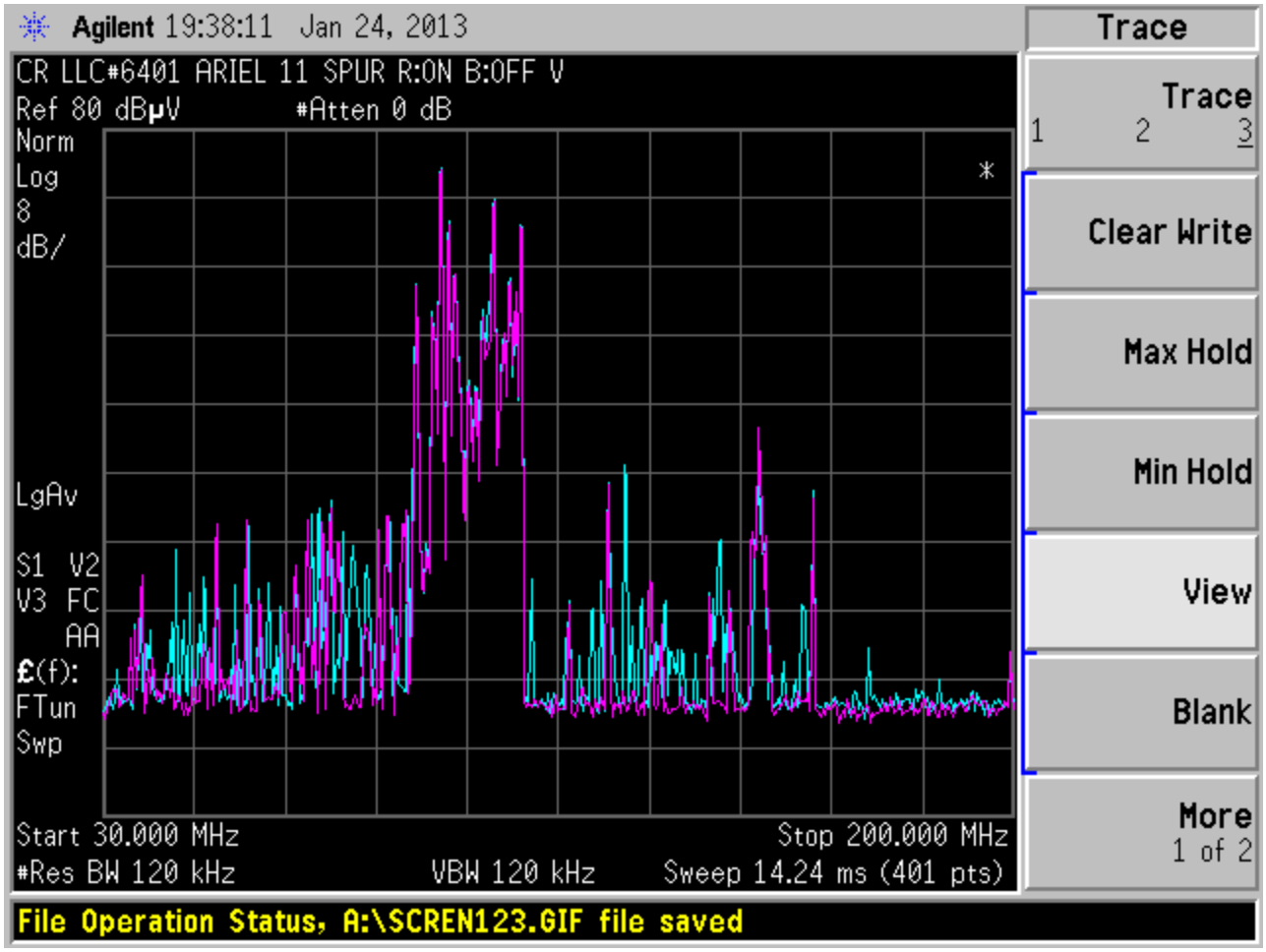


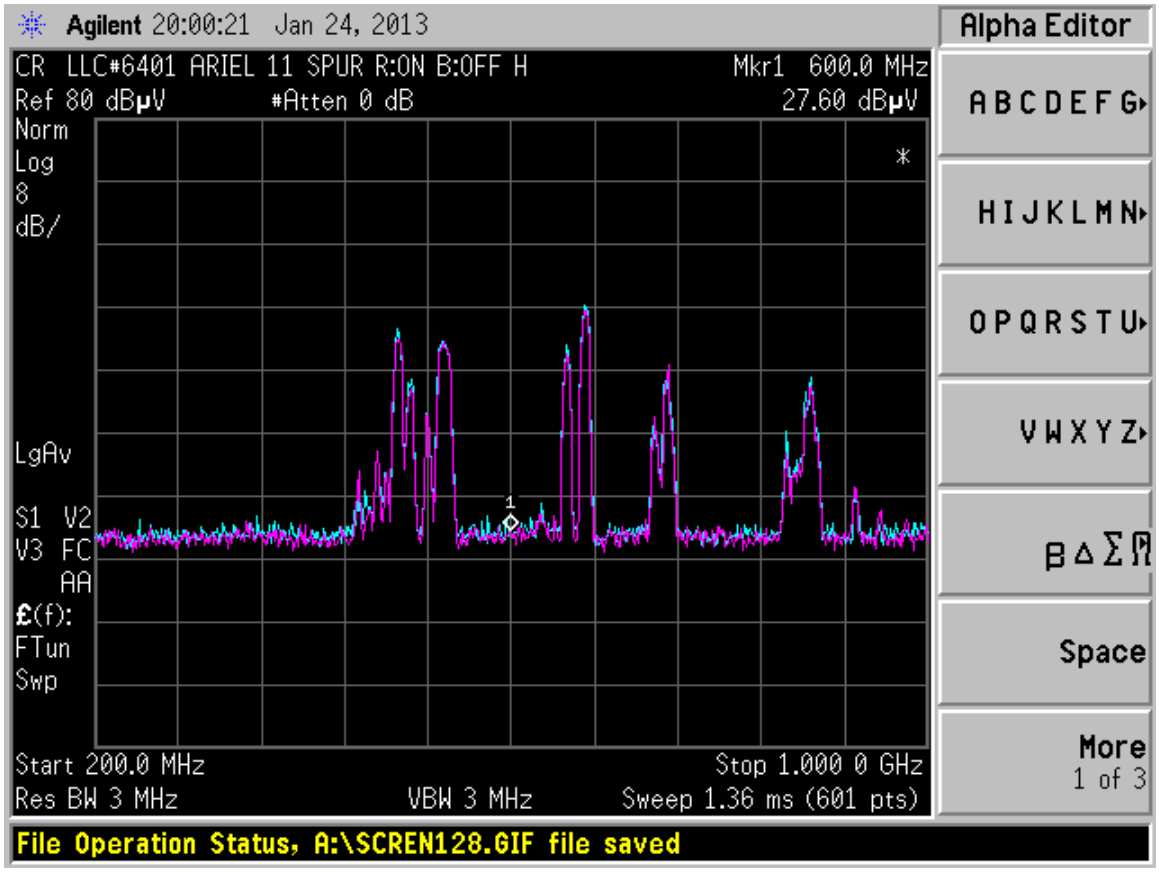

Agilent 14:37:03 6 Mar 2013
CR LLC*6401 ARIEL FCCC 6DB BW CH 25 V
Ref 80 dBµV
*Atten 0 dB
Mkr1 Δ 1.325 MHz
0.37 dB
Peak
Log
10
dB/
Marker Δ
1.325000 MHz
0.37 dB
1R
1
V1 S2
S3 FC
AA
Center 2.475 GHz
*Res BW 100 kHz
*VBW 300 kHz
Span 10 MHz
Sweep 4 ms (401 pts)

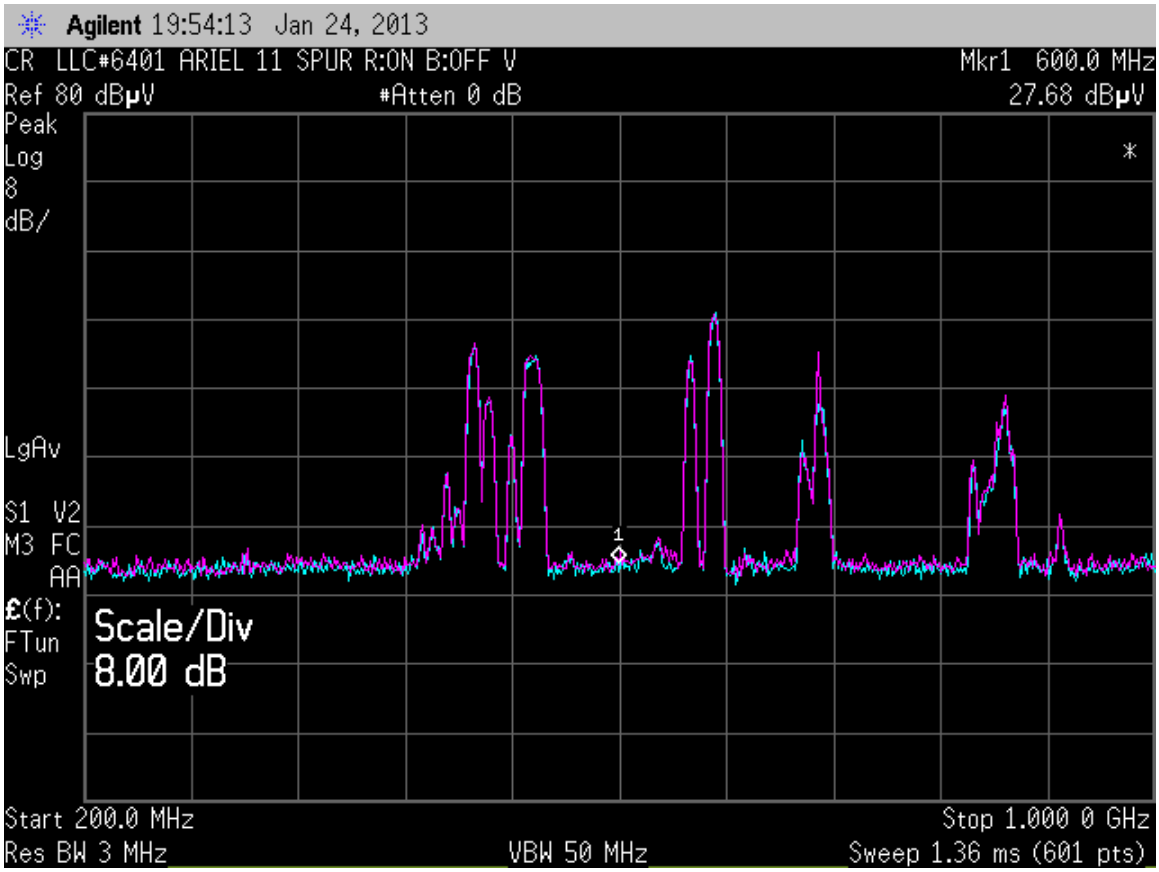
Spurious Emissions Test Data- Channel 11 2405 MHz

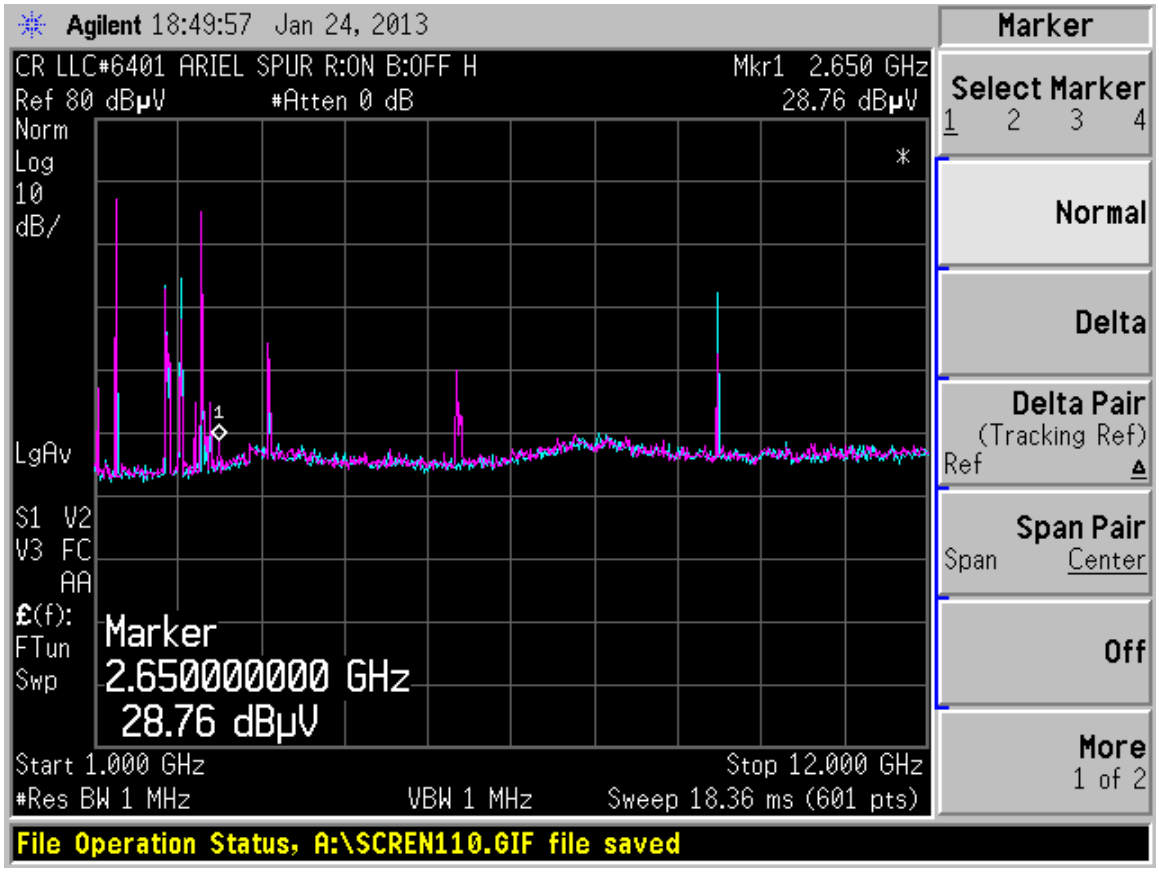
8 Pages to follow.

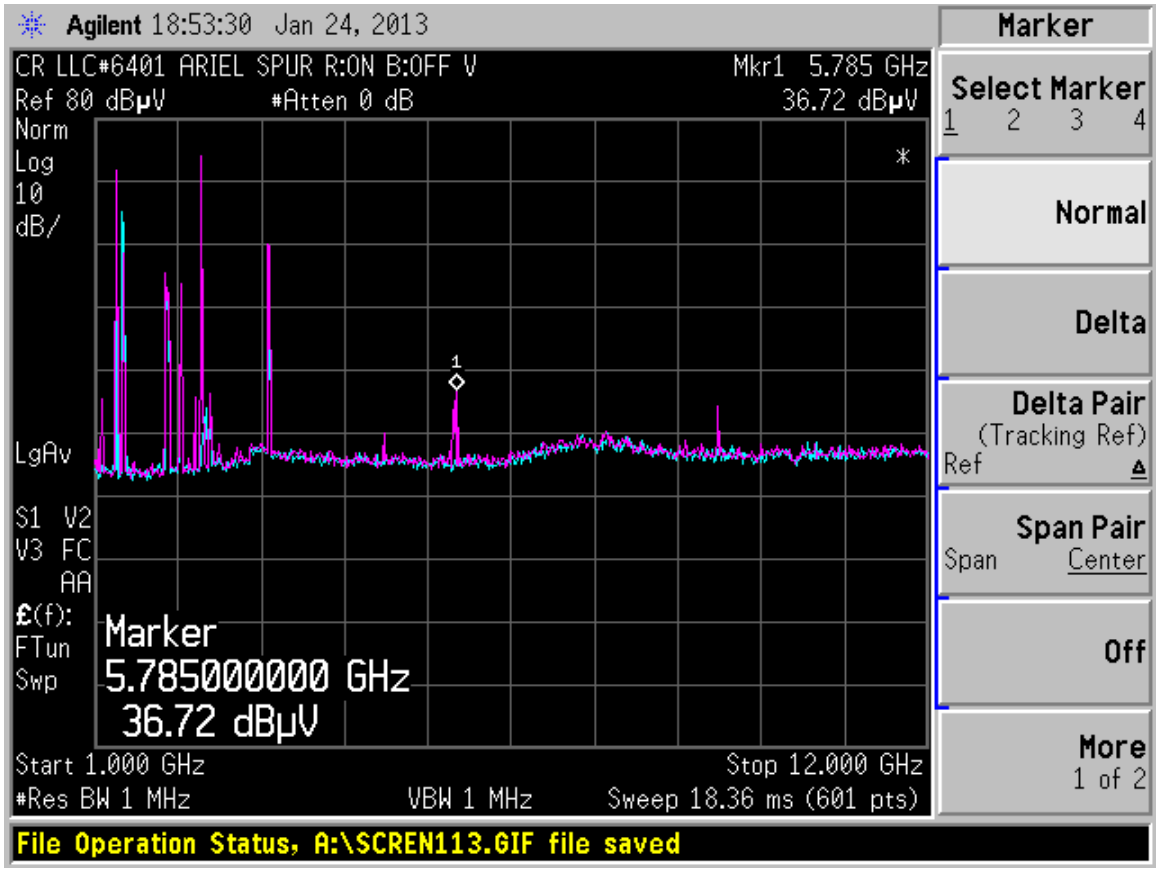


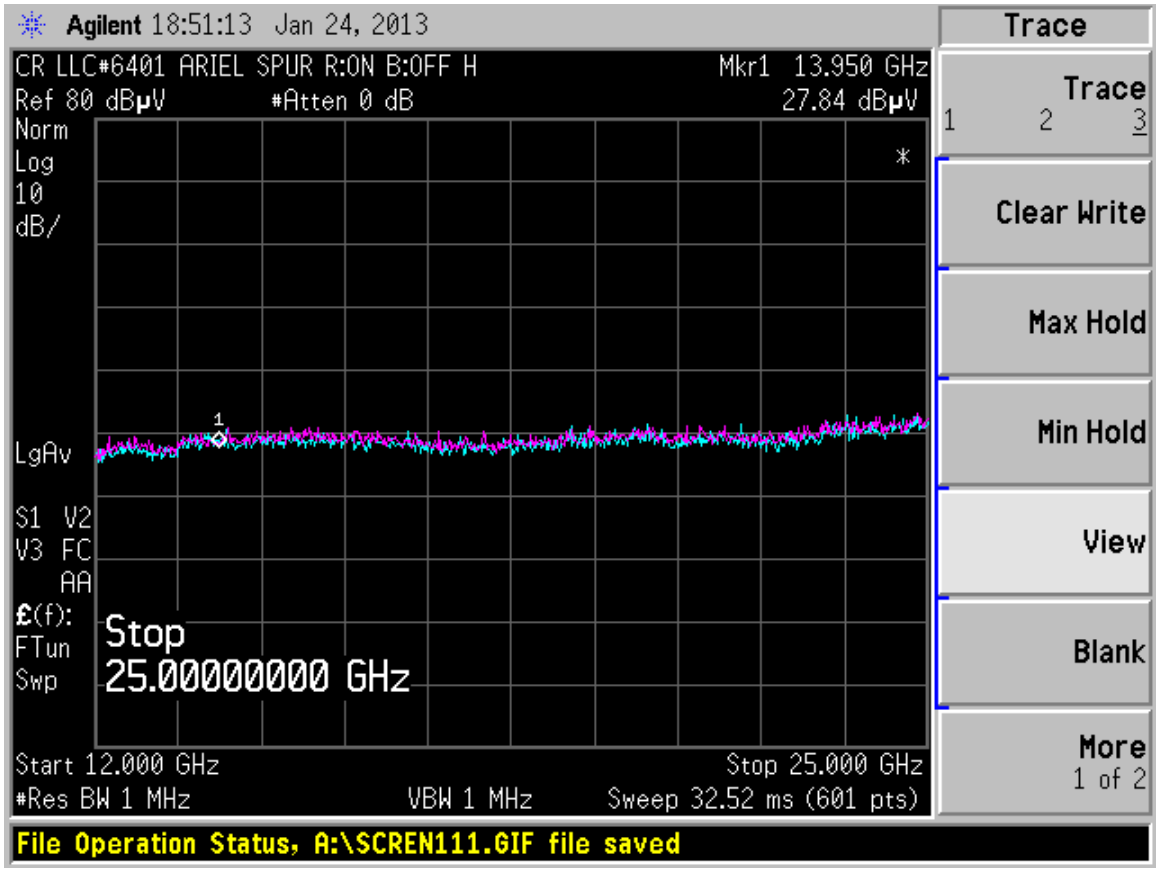

Agilent 19:38:11 Jan 24, 2013
CR LLC#6401 ARIEL 11 SPUR R:ON B:OFF V
Ref 80 dBµV
#Atten 0 dB
Norm
Log
8
dB/
LgAv
S1 V2
V3 FC
AA
£(f):
FTun
Swp
Start 30.000 MHz
#Res BW 120 kHz
VBW 120 kHz
Stop 200.000 MHz
Sweep 14.24 ms (401 pts)
Trace
Trace
1 2 3
Clear Write
Max Hold
Min Hold
View
Blank
More
1 of 2
File Operation Status, A:\SCREN123.GIF file saved

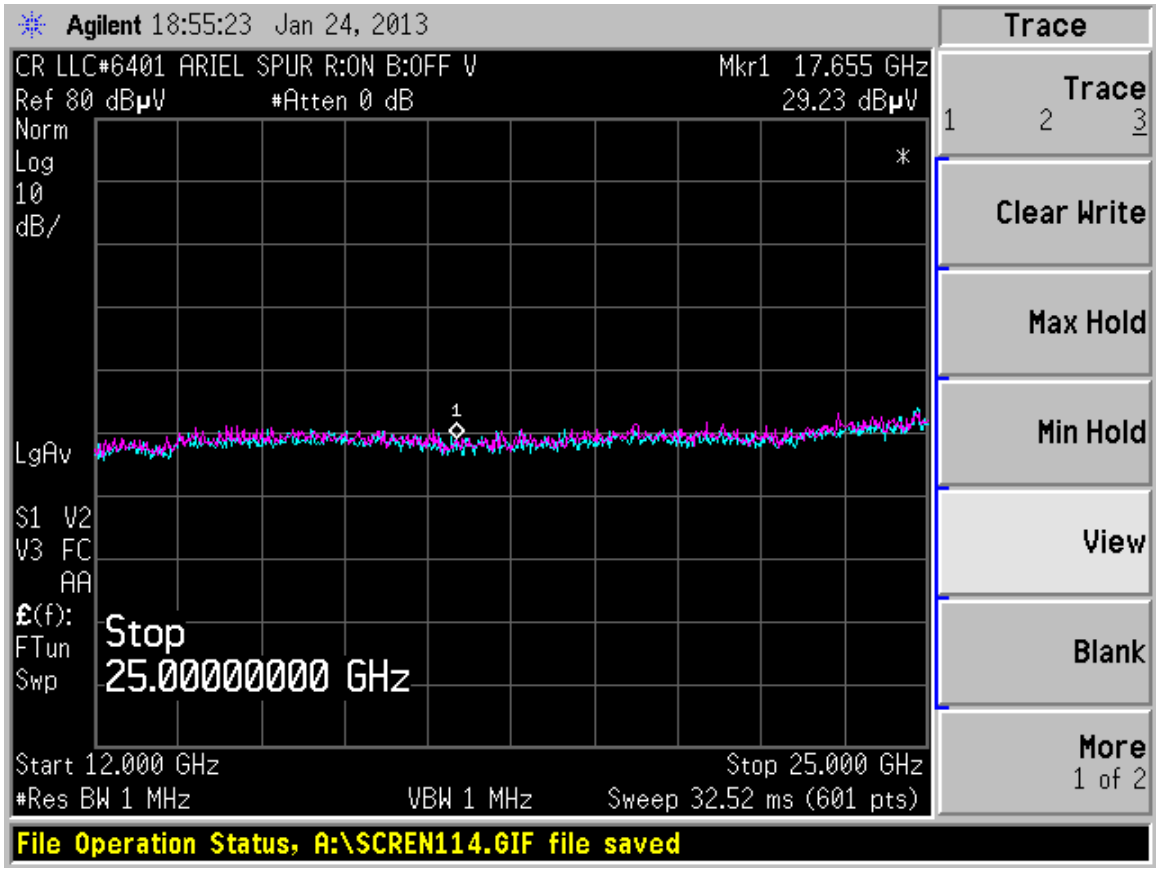

Agilent 20:00:21 Jan 24, 2013
CR LLC#6401 ARIEL 11 SPUR R:ON B:OFF H
Mkr1 600.0 MHz
Ref 80 dBµV
#Atten 0 dB
27.60 dBµV
Norm
Log
8
dB/
LgAv
S1 V2
V3 FC
AA
£(f):
FTun
Swp
Start 200.0 MHz
Stop 1.000 0 GHz
Res BW 3 MHz
VBW 3 MHz
Sweep 1.36 ms (601 pts)
Alpha Editor
A B C D E F G
H I J K L M N
O P Q R S T U
V W X Y Z
Space
More
1 of 3
File Operation Status, A:\SCREN128.GIF file saved


Agilent 19:54:13 Jan 24, 2013
CR LLC#6401 ARIEL 11 SPUR R:ON B:OFF V
Mkr1 600.0 MHz
Ref 80 dBµV
#Atten 0 dB
27.68 dBµV
Peak
Log
8
dB/
LgAv
S1 V2
M3 FC
AA
£(f):
FTun
Swp
Scale/Div
8.00 dB
Start 200.0 MHz
Stop 1.000 0 GHz
Res BW 3 MHz
VBW 50 MHz
Sweep 1.36 ms (601 pts)


Agilent 18:49:57 Jan 24, 2013
CR LLC#6401 ARIEL SPUR R:ON B:OFF H
Mkr1 2.650 GHz
Ref 80 dBµV
#Atten 0 dB
28.76 dBµV
Norm
Log
10
dB/
LgAv
S1 V2
V3 FC
AA
£(f):
FTun
Swp
Marker
2.650000000 GHz
28.76 dBµV
Start 1.000 GHz
Stop 12.000 GHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 18.36 ms (601 pts)
Marker
Select Marker
1 2 3 4
Normal
Delta
Delta Pair
(Tracking Ref)
Ref
Span Pair
Span Center
Off
More
1 of 2
File Operation Status, A:\SCREN110.GIF file saved

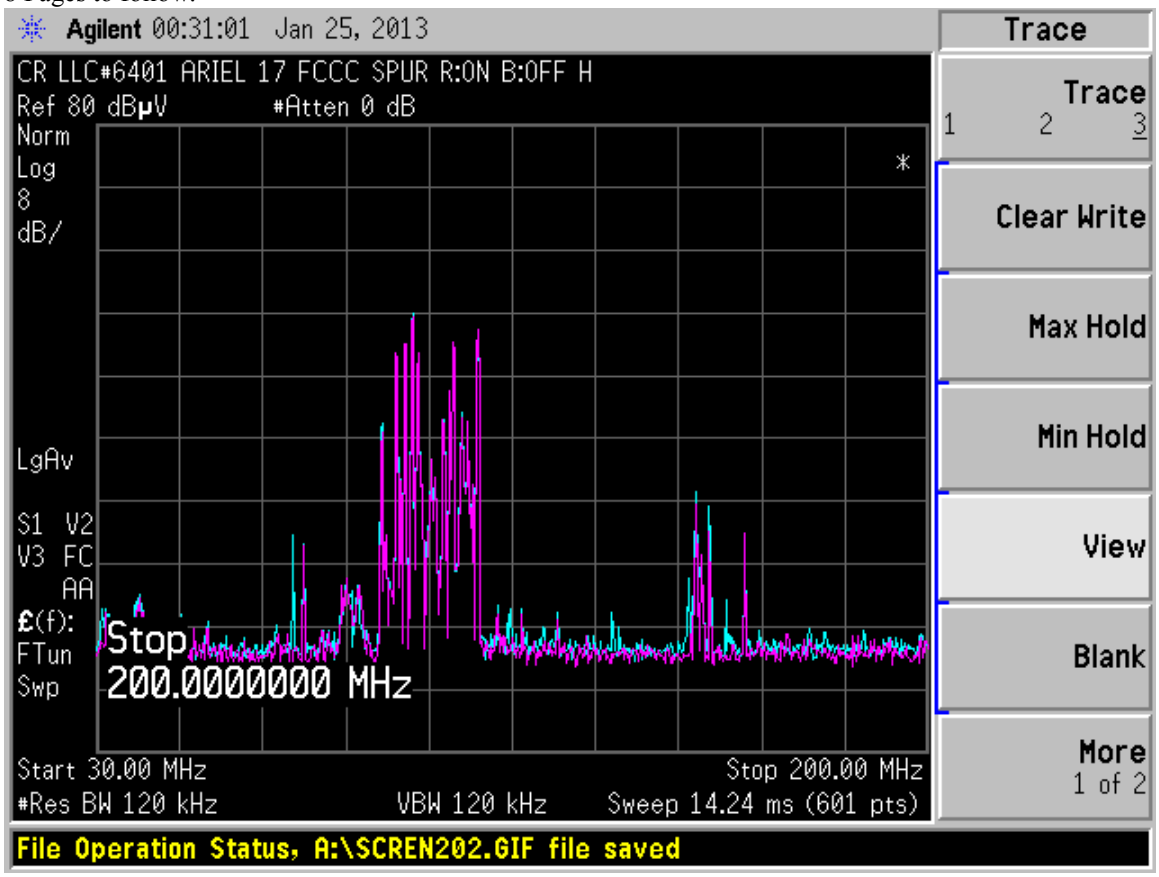

Agilent 18:53:30 Jan 24, 2013
CR LLC#6401 ARIEL SPUR R:ON B:OFF V
Ref 80 dBµV
#Atten 0 dB
Mkr1 5.785 GHz
36.72 dBµV
Norm
Log
10
dB/
LgAv
S1 V2
V3 FC
AA
£(f):
FTun
Swp
Marker
5.785000000 GHz
36.72 dBµV
Start 1.000 GHz
#Res BW 1 MHz
VBW 1 MHz
Stop 12.000 GHz
Sweep 18.36 ms (601 pts)
Marker
Select Marker
1 2 3 4
Normal
Delta
Delta Pair
(Tracking Ref)
Ref
Span Pair
Span Center
Off
More
1 of 2
File Operation Status, A:\SCREN113.GIF file saved

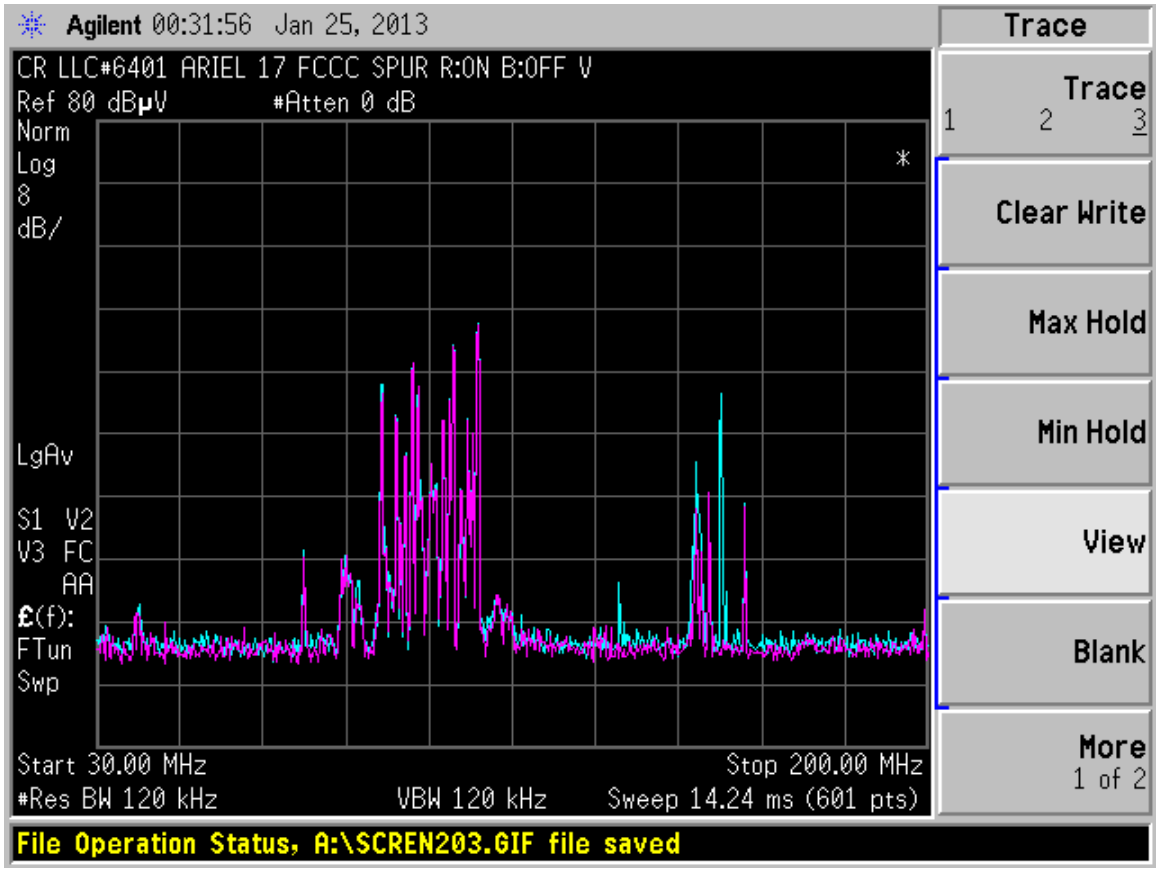

Agilent 18:51:13 Jan 24, 2013
CR LLC#6401 ARIEL SPUR R:ON B:OFF H
Mkr1 13.950 GHz
Ref 80 dBµV
#Atten 0 dB
27.84 dBµV
Norm
Log
10
dB/
LgAv
S1 V2
V3 FC
AA
£(f):
FTun
Swp
Stop
25.00000000 GHz
Start 12.000 GHz
Stop 25.000 GHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 32.52 ms (601 pts)
Trace
Trace
1 2 3
Clear Write
Max Hold
Min Hold
View
Blank
More
1 of 2
File Operation Status, A:\SCREN111.GIF file saved

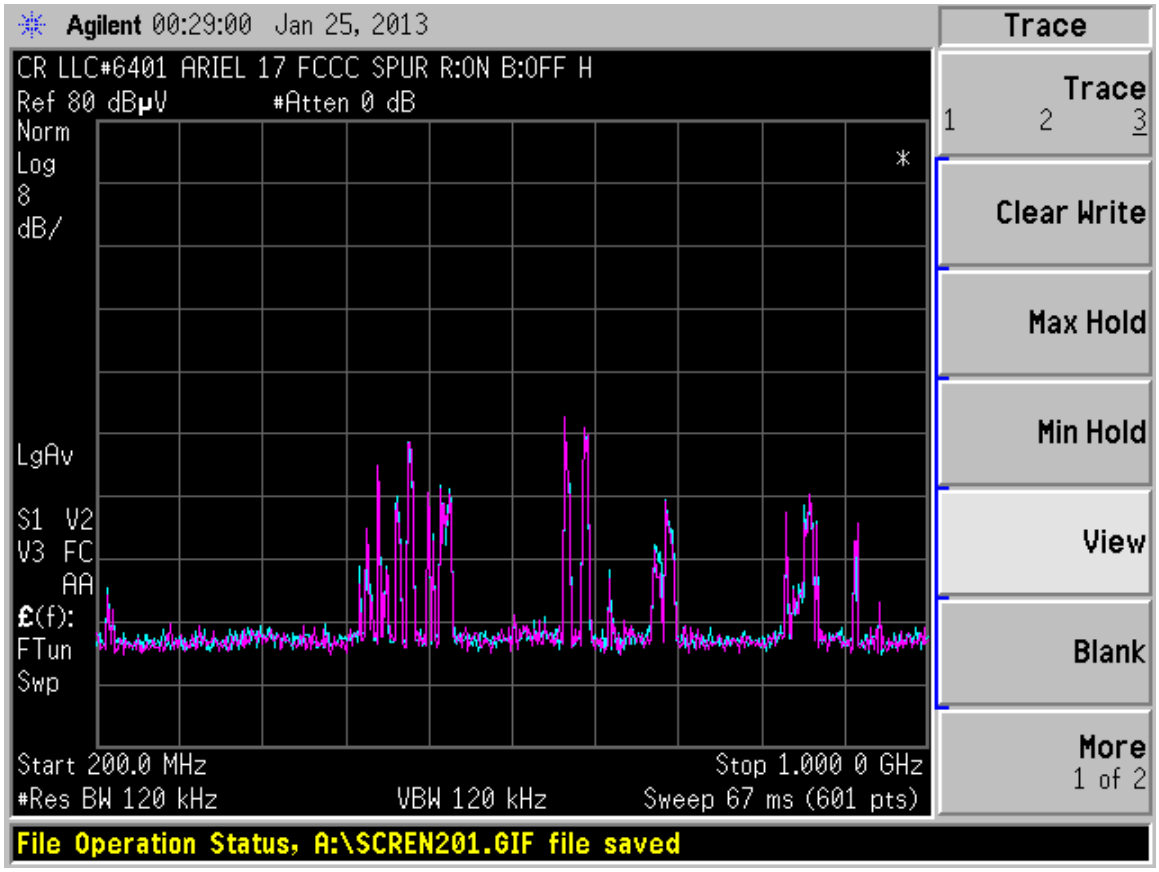

Agilent 18:55:23 Jan 24, 2013
CR LLC#6401 ARIEL SPUR R:ON B:OFF V
Ref 80 dBµV
#Atten 0 dB
Mkr1 17.655 GHz
29.23 dBµV
Norm
Log
10
dB/
LgAv
S1 V2
V3 FC
AA
£(f):
FTun
Swp
Stop
25.00000000 GHz
Start 12.000 GHz
#Res BW 1 MHz
VBW 1 MHz
Stop 25.000 GHz
Sweep 32.52 ms (601 pts)
Trace
Trace
1 2 3
Clear Write
Max Hold
Min Hold
View
Blank
More
1 of 2
File Operation Status, A:\SCREN114.GIF file saved

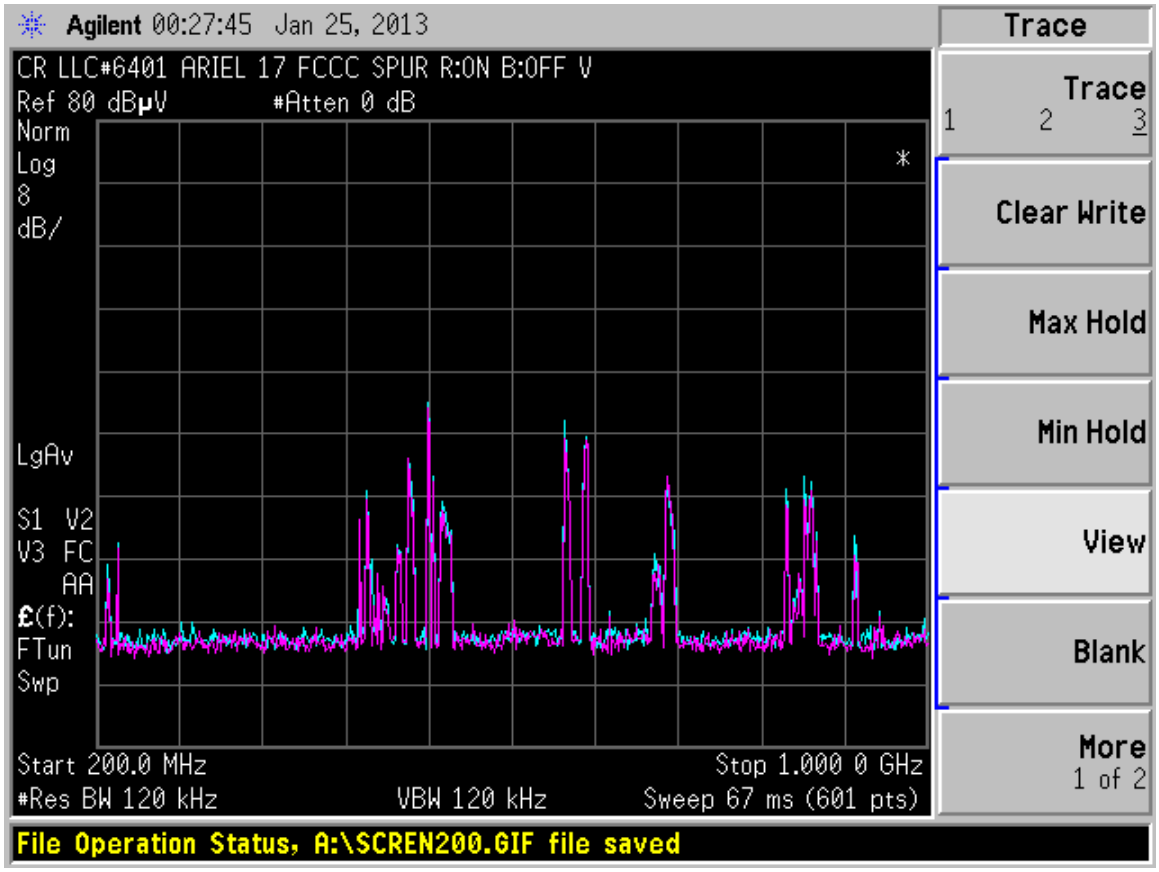
Spurious Emissions Test Data- Channel 17 2435 MHz

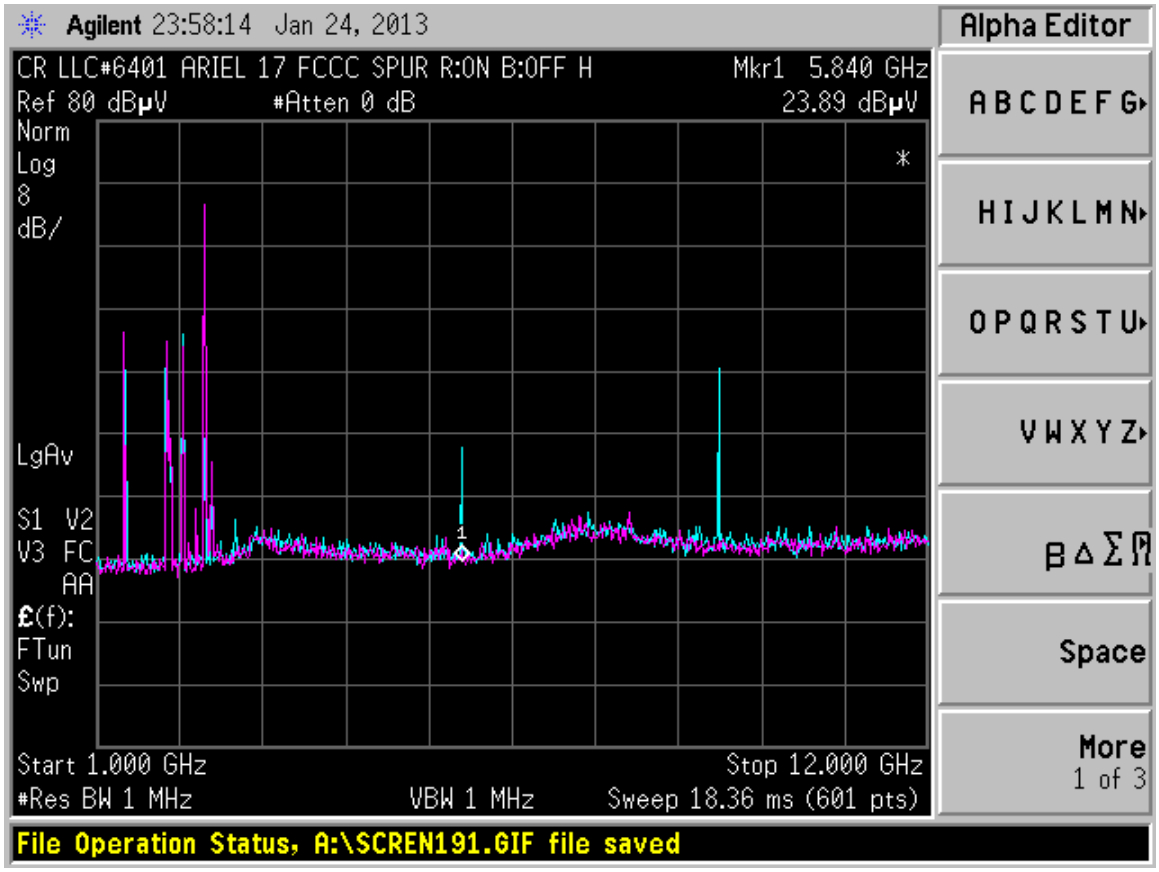
8 Pages to follow.

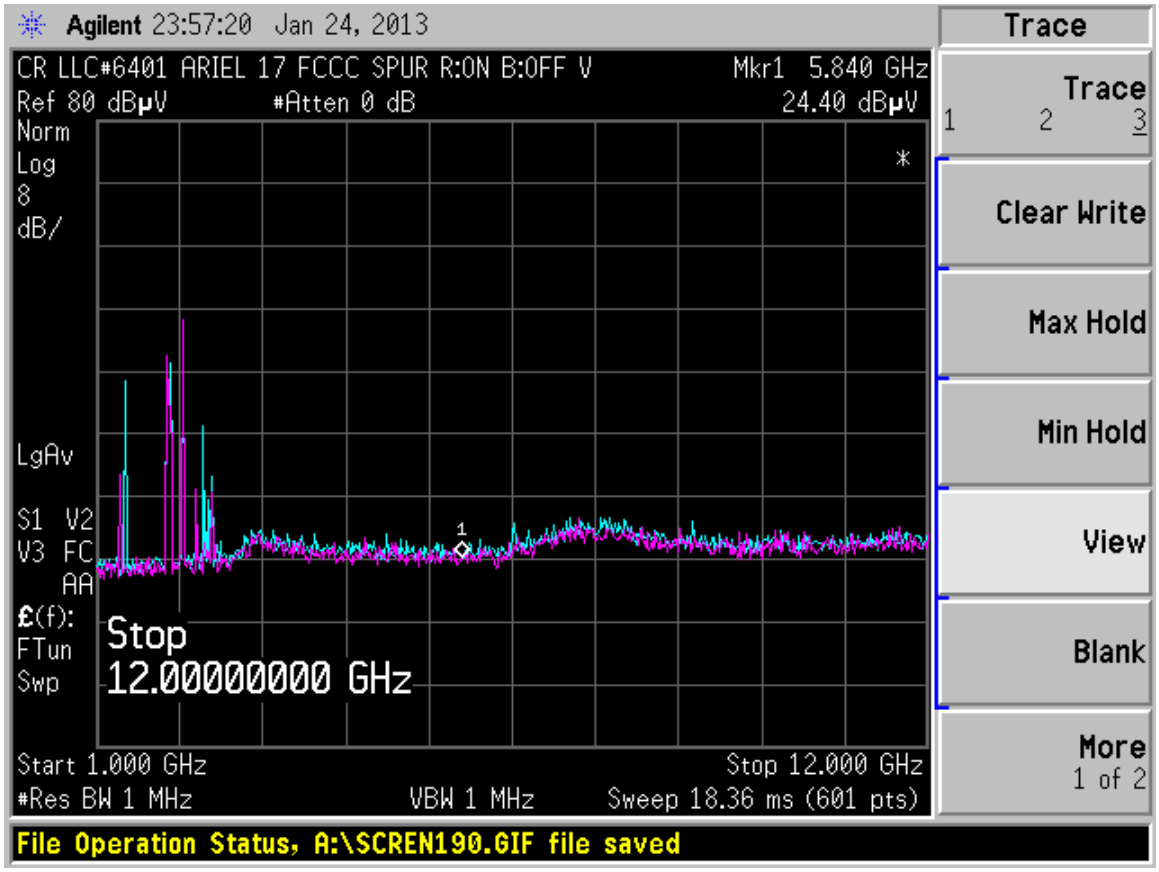


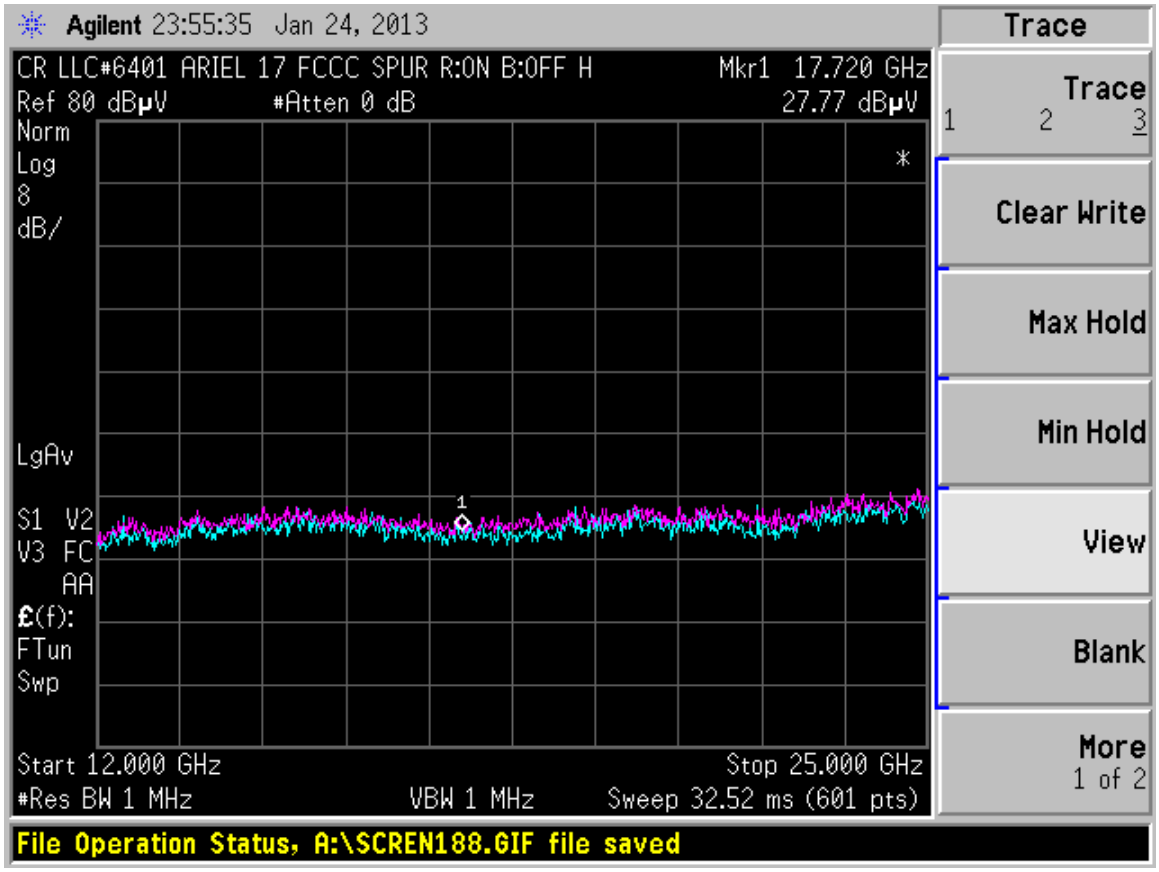

Agilent 00:31:56 Jan 25, 2013
CR LLC#6401 ARIEL 17 FCCC SPUR R:ON B:OFF V
Ref 80 dBµV
#Atten 0 dB
Norm
Log
8
dB/
LgAv
S1 V2
V3 FC
AA
£(f):
FTun
Swp
Start 30.00 MHz
#Res BW 120 kHz
VBW 120 kHz
Stop 200.00 MHz
Sweep 14.24 ms (601 pts)
Trace
Trace
1 2 3
Clear Write
Max Hold
Min Hold
View
Blank
More
1 of 2
File Operation Status, A:\SCREN203.GIF file saved

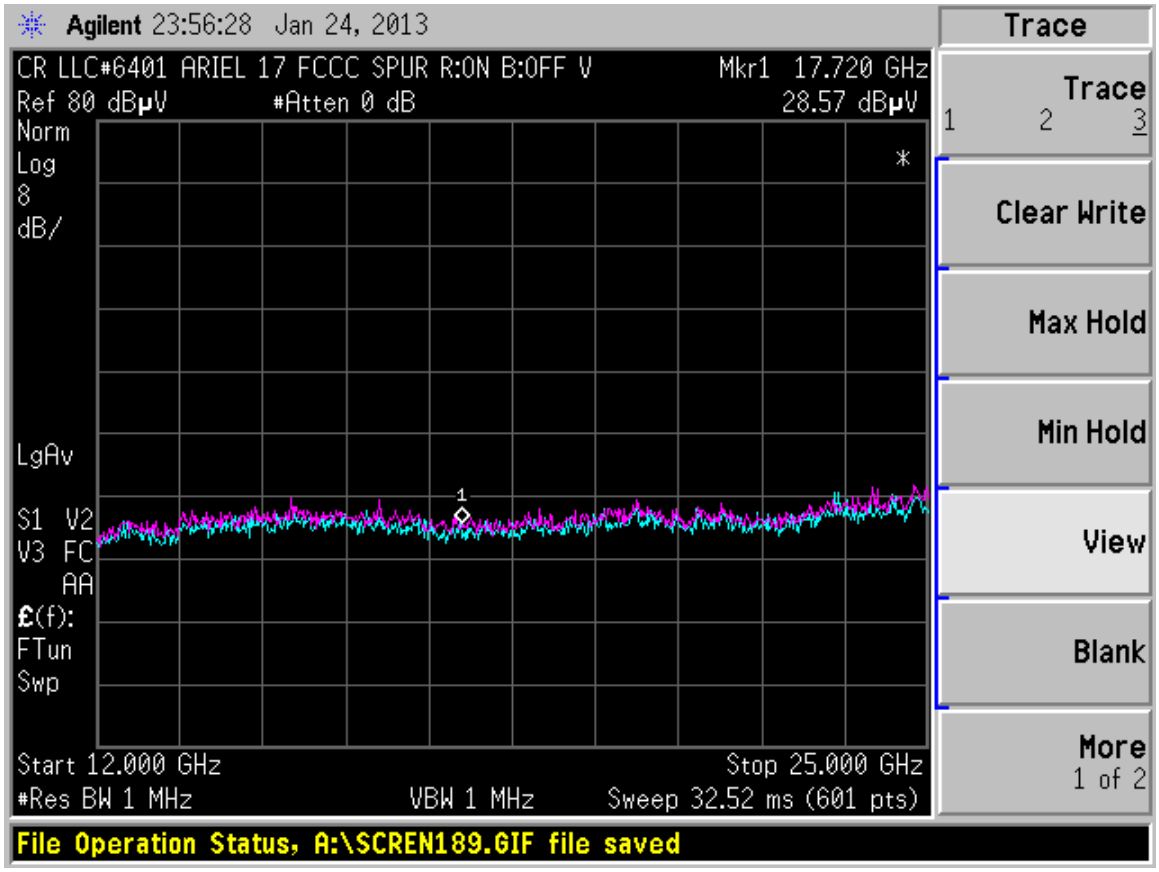

Agilent 00:29:00 Jan 25, 2013
CR LLC#6401 ARIEL 17 FCCC SPUR R:ON B:OFF H
Ref 80 dBµV
#Atten 0 dB
Norm
Log
8
dB/
LgAv
S1 V2
V3 FC
AA
£(f):
FTun
Swp
Start 200.0 MHz
#Res BW 120 kHz
VBW 120 kHz
Stop 1.000 0 GHz
Sweep 67 ms (601 pts)
Trace
Trace
1 2 3
Clear Write
Max Hold
Min Hold
View
Blank
More
1 of 2
File Operation Status, A:\SCREN201.GIF file saved


Agilent 00:27:45 Jan 25, 2013
CR LLC#6401 ARIEL 17 FCCC SPUR R:ON B:OFF V
Ref 80 dBµV
#Atten 0 dB
Norm
Log
8
dB/
LgAv
S1 V2
V3 FC
AA
£(f):
FTun
Swp
Start 200.0 MHz
#Res BW 120 kHz
VBW 120 kHz
Stop 1.000 0 GHz
Sweep 67 ms (601 pts)
Trace
Trace
1 2 3
Clear Write
Max Hold
Min Hold
View
Blank
More
1 of 2
File Operation Status, A:\SCREN200.GIF file saved


Agilent 23:58:14 Jan 24, 2013
CR LLC#6401 ARIEL 17 FCCC SPUR R:ON B:OFF H
Mkr1 5.840 GHz
Ref 80 dBµV
#Atten 0 dB
23.89 dBµV
Norm
Log
8
dB/
LgAv
S1 V2
V3 FC
AA
£(f):
FTun
Swp
Start 1.000 GHz
Stop 12.000 GHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 18.36 ms (601 pts)
Alpha Editor
A B C D E F G
H I J K L M N
O P Q R S T U
V W X Y Z
Space
More
1 of 3
File Operation Status, A:\SCREN191.GIF file saved

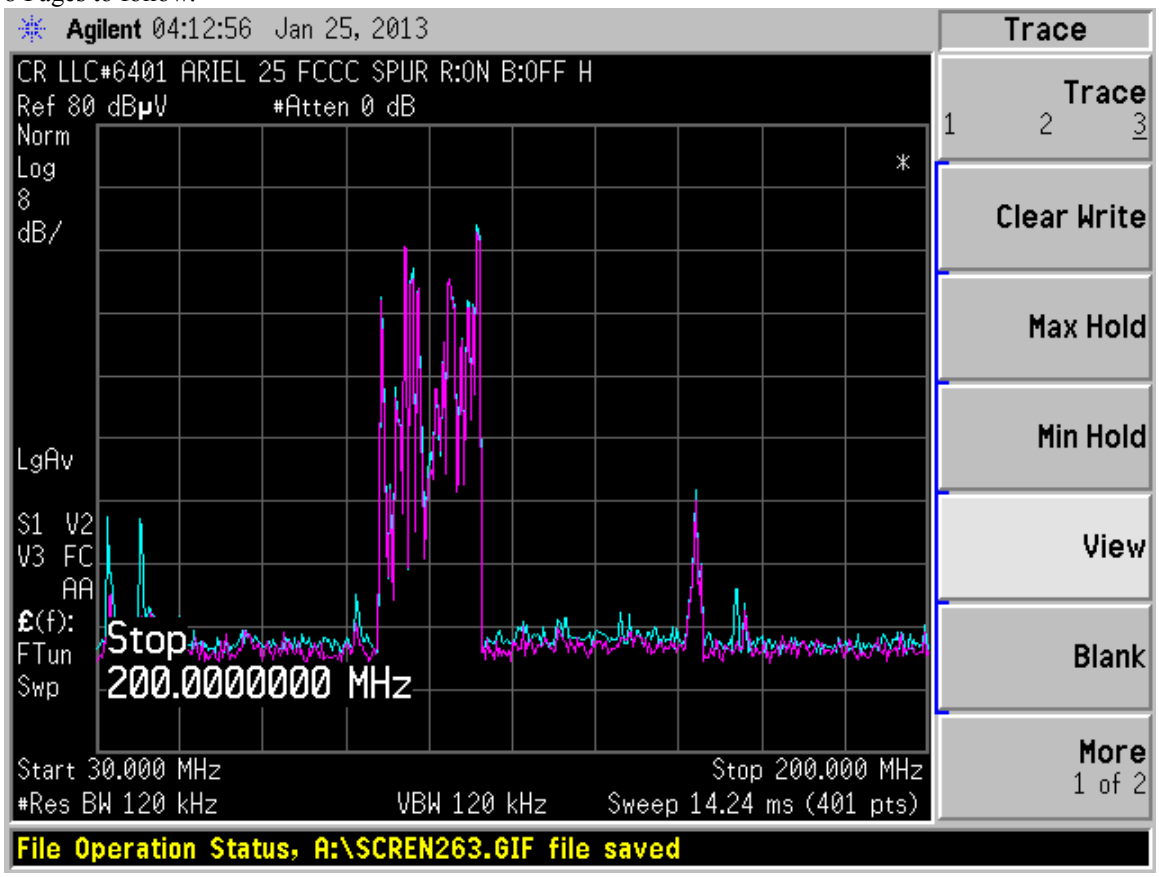

Agilent 23:57:20 Jan 24, 2013
CR LLC#6401 ARIEL 17 FCCC SPUR R:ON B:OFF V
Mkr1 5.840 GHz
Ref 80 dBµV
#Atten 0 dB
24.40 dBµV
Norm
Log
8
dB/
LgAv
S1 V2
V3 FC
AA
£(f):
FTun
Swp
Stop
12.00000000 GHz
Start 1.000 GHz
Stop 12.000 GHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 18.36 ms (601 pts)
Trace
Trace
1 2 3
Clear Write
Max Hold
Min Hold
View
Blank
More
1 of 2
File Operation Status, A:\SCREN190.GIF file saved

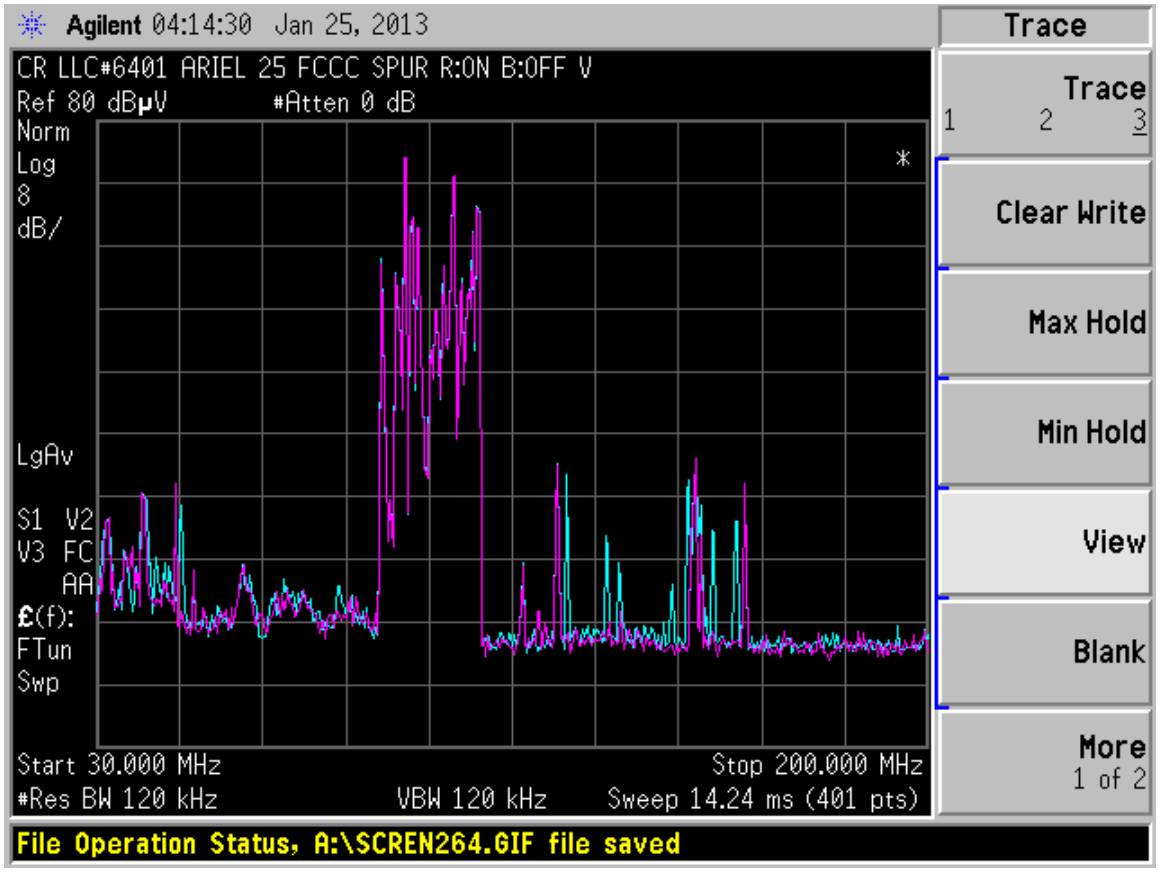

Agilent 23:55:35 Jan 24, 2013
CR LLC#6401 ARIEL 17 FCCC SPUR R:ON B:OFF H
Mkr1 17.720 GHz
Ref 80 dBµV
#Atten 0 dB
27.77 dBµV
Norm
Log
8
dB/
LgAv
S1 V2
V3 FC
AA
£(f):
FTun
Swp
Start 12.000 GHz
Stop 25.000 GHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 32.52 ms (601 pts)
Trace
Trace
1 2 3
Clear Write
Max Hold
Min Hold
View
Blank
More
1 of 2
File Operation Status, A:\SCREN188.GIF file saved

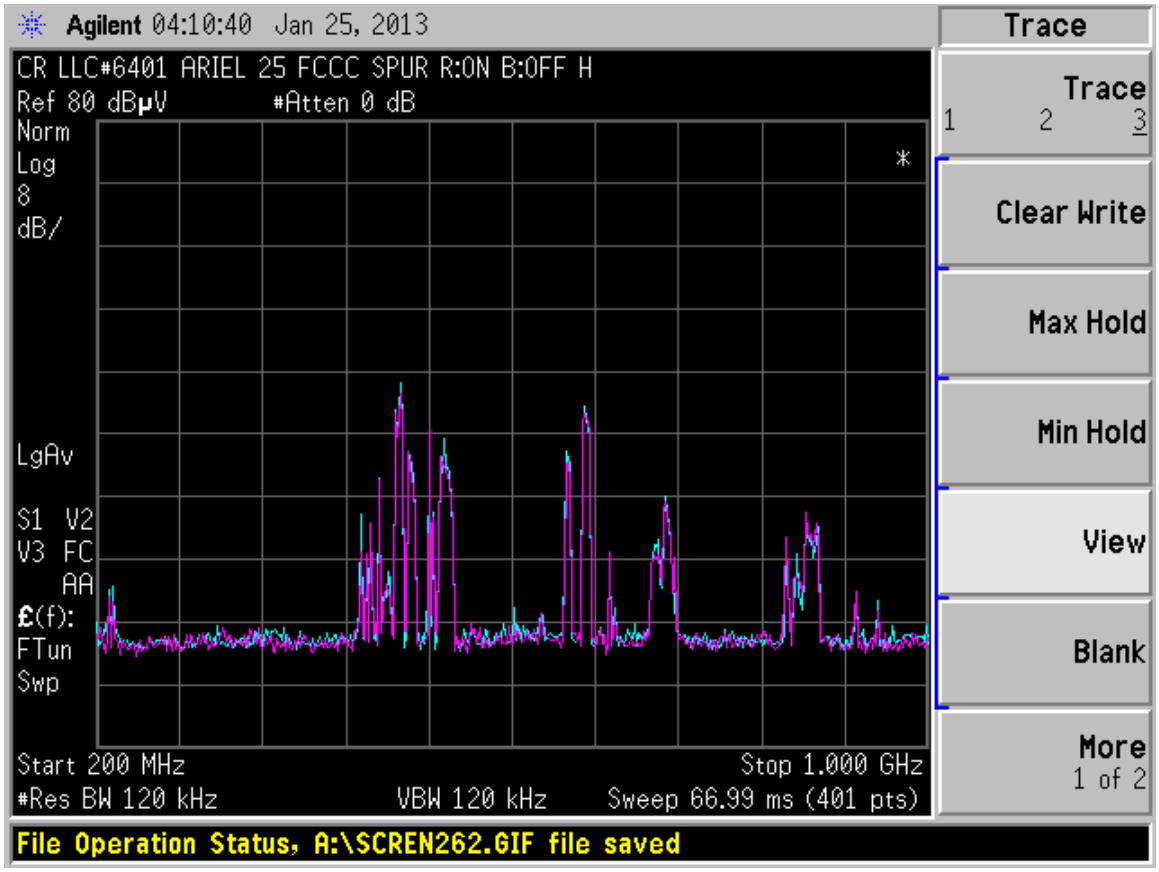

Agilent 23:56:28 Jan 24, 2013
CR LLC#6401 ARIEL 17 FCCC SPUR R:ON B:OFF V
Mkr1 17.720 GHz
Ref 80 dBµV
#Atten 0 dB
28.57 dBµV
Norm
Log
8
dB/
LgAv
S1 V2
V3 FC
AA
£(f):
FTun
Swp
Start 12.000 GHz
Stop 25.000 GHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 32.52 ms (601 pts)
Trace
Trace
1 2 3
Clear Write
Max Hold
Min Hold
View
Blank
More
1 of 2
File Operation Status, A:\SCREN189.GIF file saved

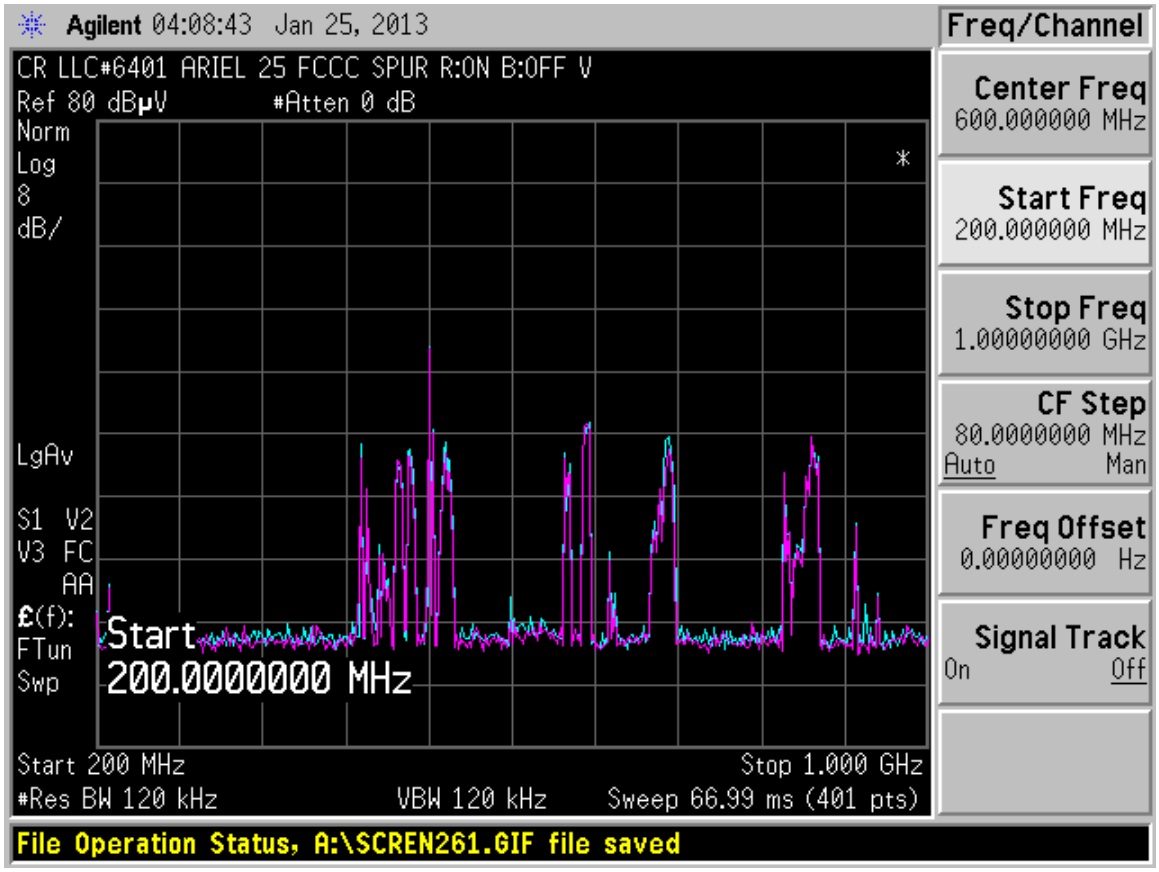
Spurious Emissions Test Data- Channel 25 2475 MHz

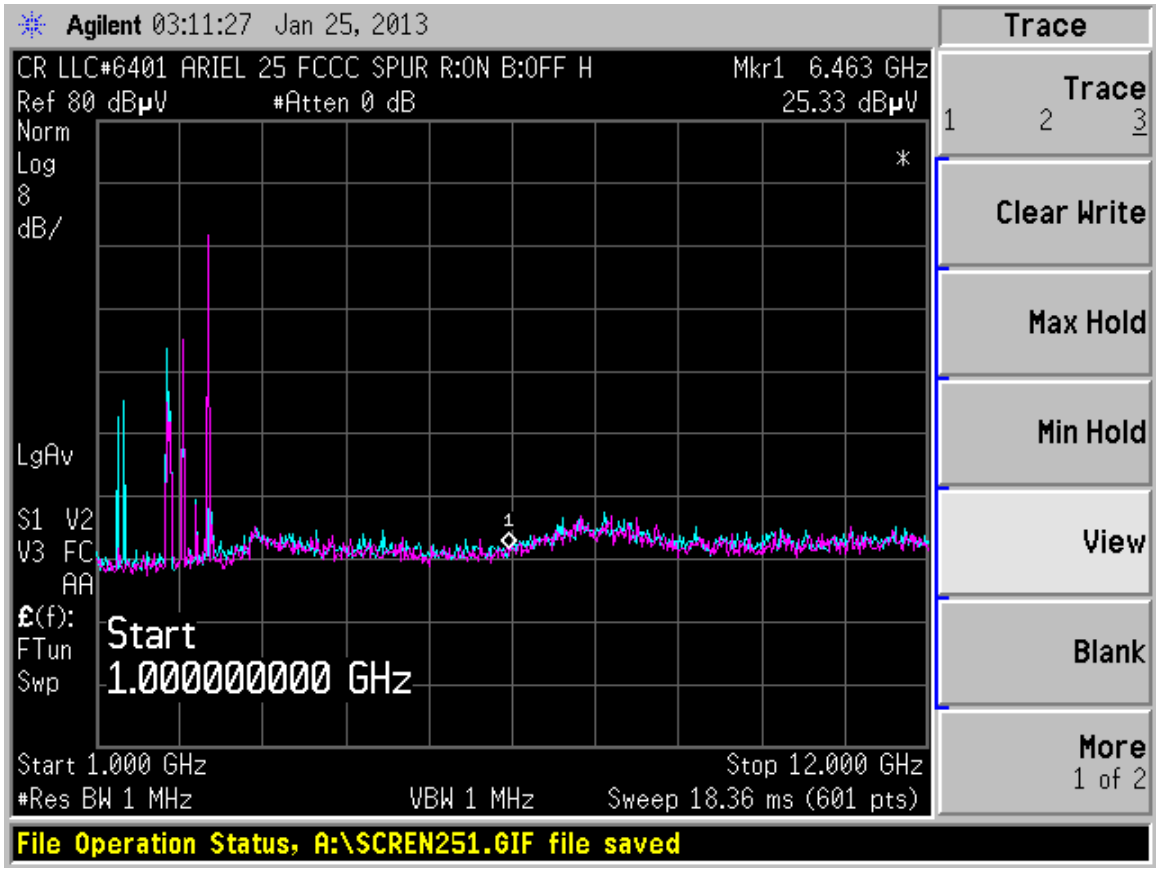
8 Pages to follow.

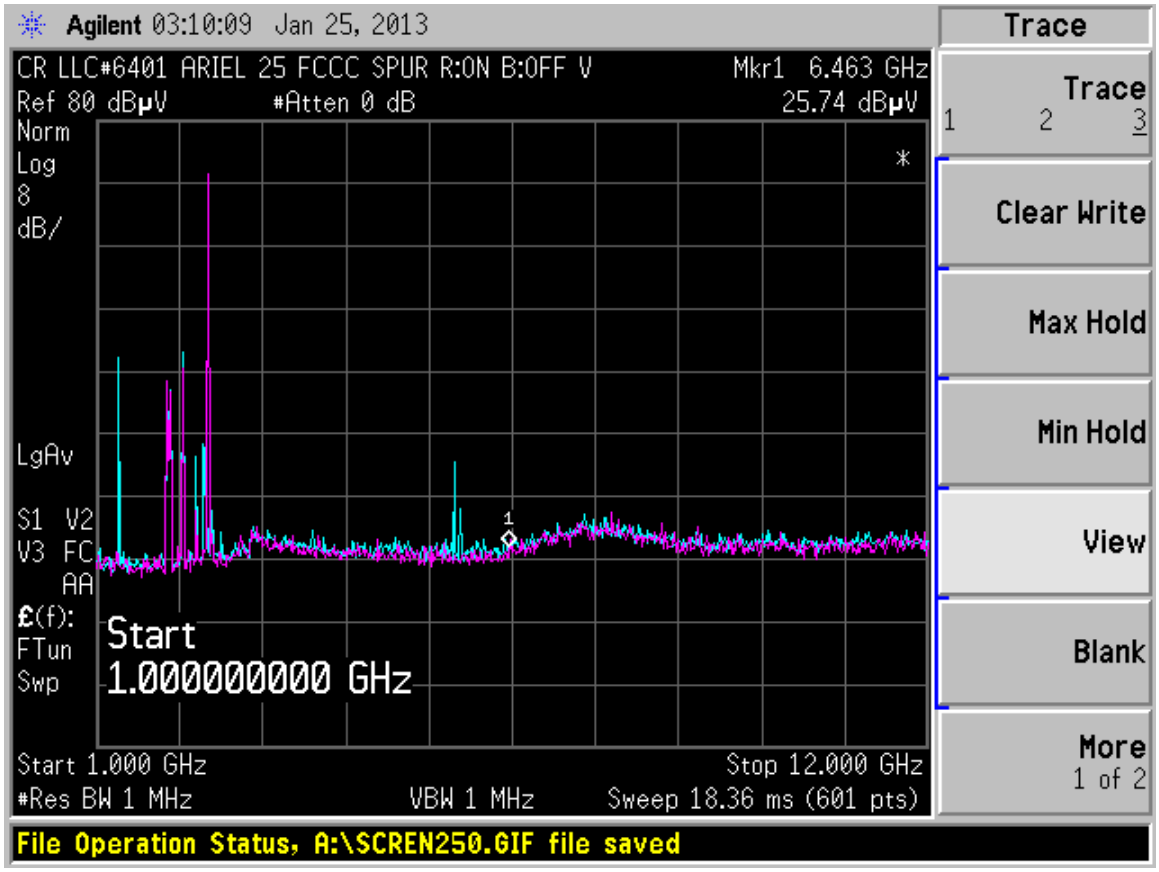


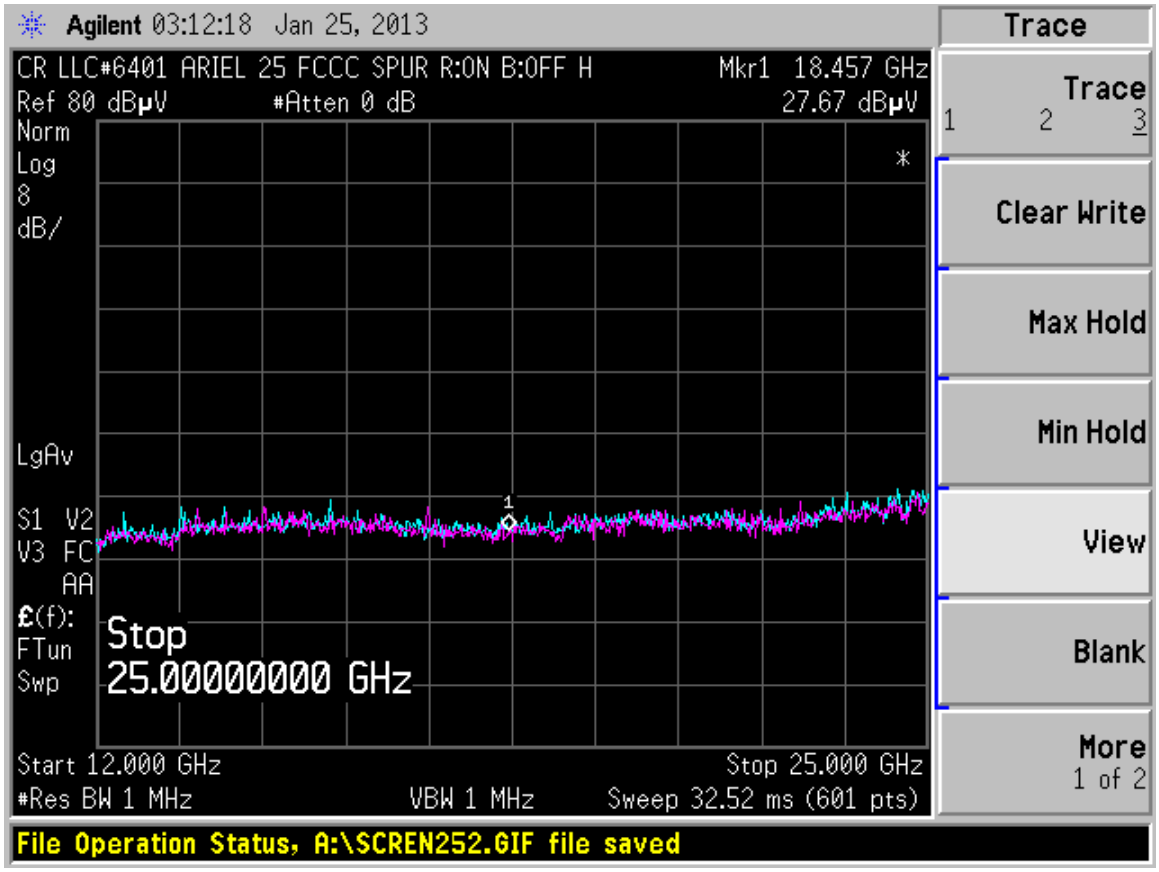

Agilent 04:14:30 Jan 25, 2013
CR LLC#6401 ARIEL 25 FCCC SPUR R:ON B:OFF V
Ref 80 dBµV
#Atten 0 dB
Norm
Log
8
dB/
LgAv
S1 V2
V3 FC
AA
£(f):
FTun
Swp
Start 30.000 MHz
#Res BW 120 kHz
VBW 120 kHz
Stop 200.000 MHz
Sweep 14.24 ms (401 pts)
Trace
Trace
1 2 3
Clear Write
Max Hold
Min Hold
View
Blank
More
1 of 2
File Operation Status, A:\SCREN264.GIF file saved

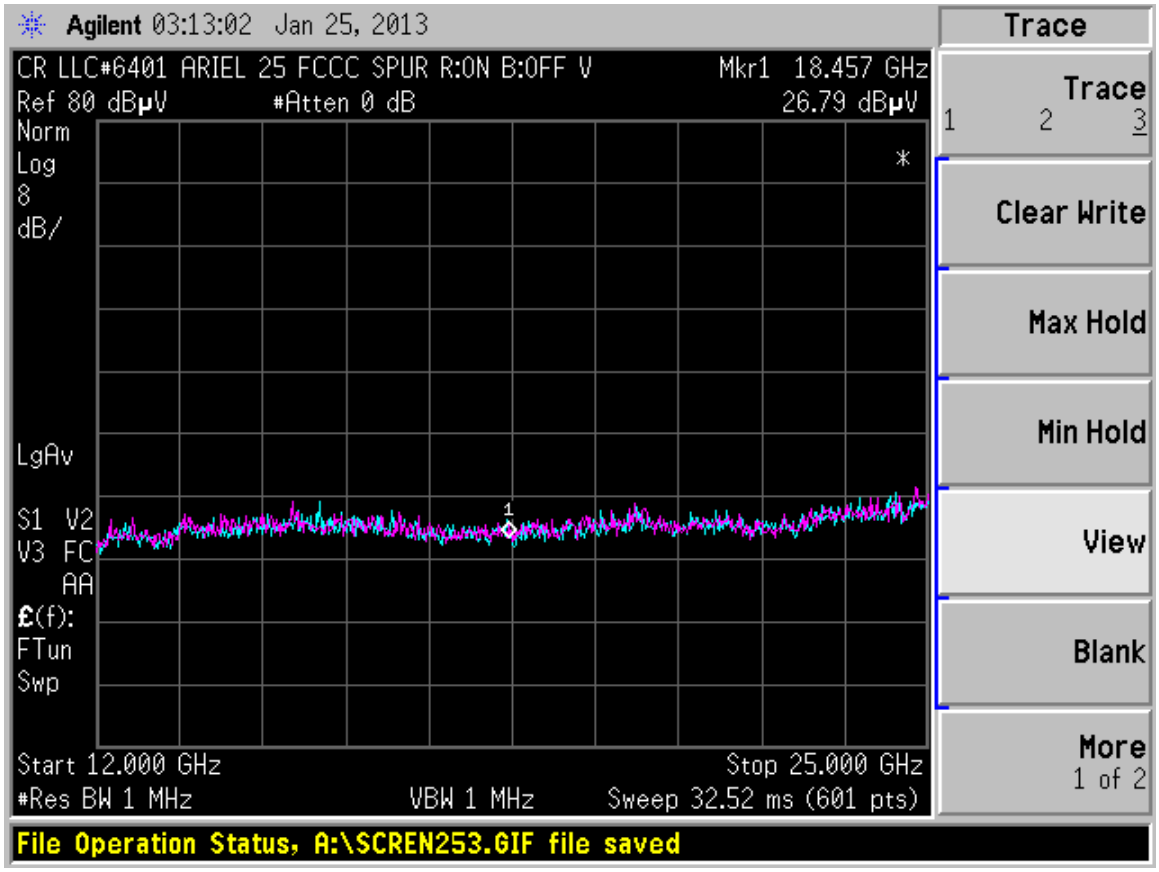

Agilent 04:10:40 Jan 25, 2013
CR LLC#6401 ARIEL 25 FCCC SPUR R:ON B:OFF H
Ref 80 dBµV
#Atten 0 dB
Norm
Log
8
dB/
LgAv
S1 V2
V3 FC
AA
£(f):
FTun
Swp
Start 200 MHz
#Res BW 120 kHz
VBW 120 kHz
Stop 1.000 GHz
Sweep 66.99 ms (401 pts)
Trace
Trace
1 2 3
Clear Write
Max Hold
Min Hold
View
Blank
More
1 of 2
File Operation Status, A:\SCREN262.GIF file saved


Agilent 04:08:43 Jan 25, 2013
CR LLC#6401 ARIEL 25 FCCC SPUR R:ON B:OFF V
Ref 80 dBµV
#Atten 0 dB
Norm
Log
8
dB/
LgAv
S1 V2
V3 FC
AA
£(f):
FTun
Swp
Start
200.0000000 MHz
Start 200 MHz
Stop 1.000 GHz
#Res BW 120 kHz
VBW 120 kHz
Sweep 66.99 ms (401 pts)
Freq/Channel
Center Freq
600.000000 MHz
Start Freq
200.000000 MHz
Stop Freq
1.00000000 GHz
CF Step
80.0000000 MHz
Auto
Man
Freq Offset
0.00000000 Hz
Signal Track
On
Off
File Operation Status, A:\SCREN261.GIF file saved


Agilent 03:11:27 Jan 25, 2013
CR LLC#6401 ARIEL 25 FCCC SPUR R:ON B:OFF H
Mkr1 6.463 GHz
Ref 80 dBµV
#Atten 0 dB
25.33 dBµV
Norm
Log
8
dB/
LgAv
S1 V2
V3 FC
AA
£(f):
FTun
Swp
Start
1.000000000 GHz
Start 1.000 GHz
#Res BW 1 MHz
VBW 1 MHz
Stop 12.000 GHz
Sweep 18.36 ms (601 pts)
Trace
Trace
1 2 3
Clear Write
Max Hold
Min Hold
View
Blank
More
1 of 2
File Operation Status, A:\SCREN251.GIF file saved

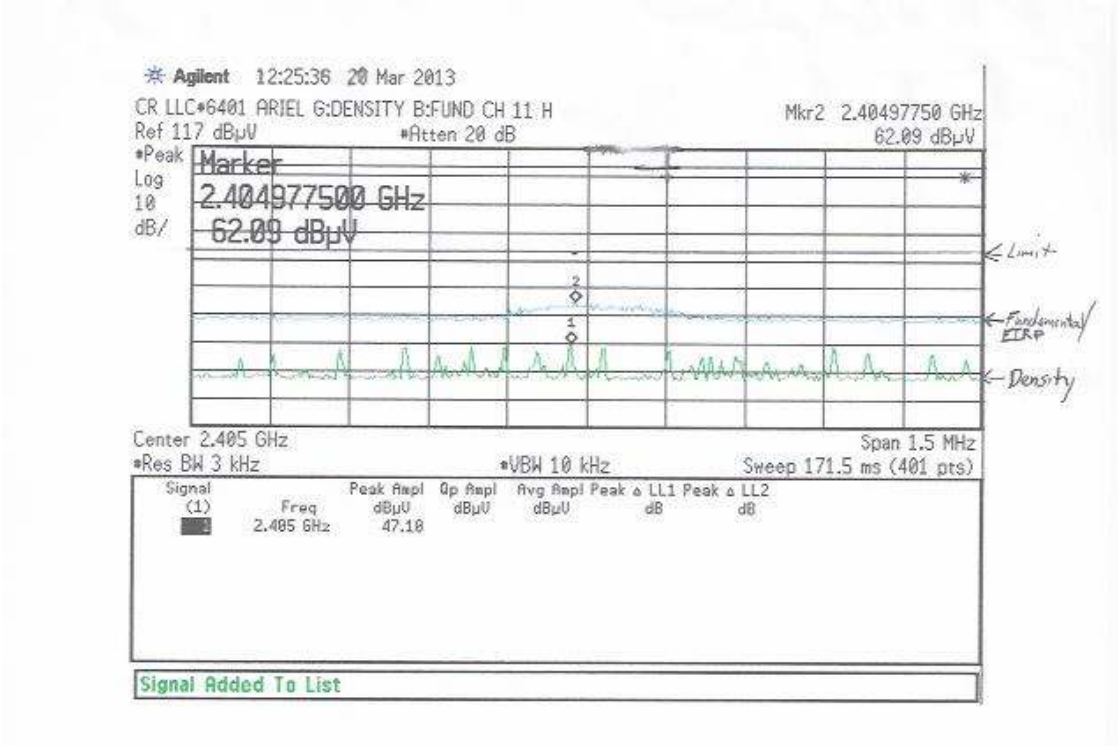

Agilent 03:10:09 Jan 25, 2013
CR LLC#6401 ARIEL 25 FCCC SPUR R:ON B:OFF V
Mkr1 6.463 GHz
Ref 80 dBµV
#Atten 0 dB
25.74 dBµV
Norm
Log
8
dB/
LgAv
S1 V2
V3 FC
AA
£(f):
FTun
Swp
Start
1.000000000 GHz
Start 1.000 GHz
Stop 12.000 GHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 18.36 ms (601 pts)
Trace
Trace
1 2 3
Clear Write
Max Hold
Min Hold
View
Blank
More
1 of 2
File Operation Status, A:\SCREN250.GIF file saved

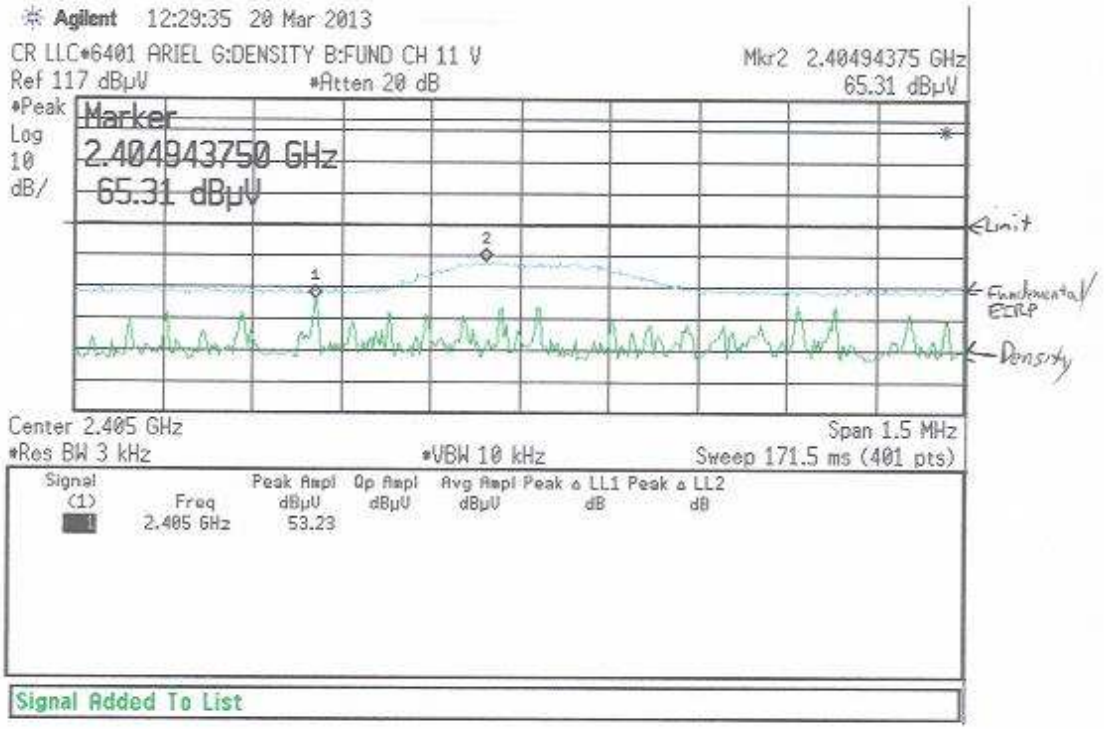

Agilent 03:12:18 Jan 25, 2013
CR LLC#6401 ARIEL 25 FCCC SPUR R:ON B:OFF H
Mkr1 18.457 GHz
Ref 80 dBµV
#Atten 0 dB
27.67 dBµV
Norm
Log
8
dB/
LgAv
S1 V2
V3 FC
AA
£(f):
FTun
Swp
Stop
25.00000000 GHz
Start 12.000 GHz
Stop 25.000 GHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 32.52 ms (601 pts)
Trace
Trace
1 2 3
Clear Write
Max Hold
Min Hold
View
Blank
More
1 of 2
File Operation Status, A:\SCREN252.GIF file saved


Agilent 03:13:02 Jan 25, 2013
CR LLC#6401 ARIEL 25 FCCC SPUR R:ON B:OFF V
Mkr1 18.457 GHz
Ref 80 dBµV
#Atten 0 dB
26.79 dBµV
Norm
Log
8
dB/
LgAv
S1 V2
V3 FC
AA
£(f):
FTun
Swp
Start 12.000 GHz
Stop 25.000 GHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 32.52 ms (601 pts)
Trace
Trace
1 2 3
Clear Write
Max Hold
Min Hold
View
Blank
More
1 of 2
File Operation Status, A:\SCREN253.GIF file saved

Power Spectral Density Test Data- Channel 11 2405 MHz

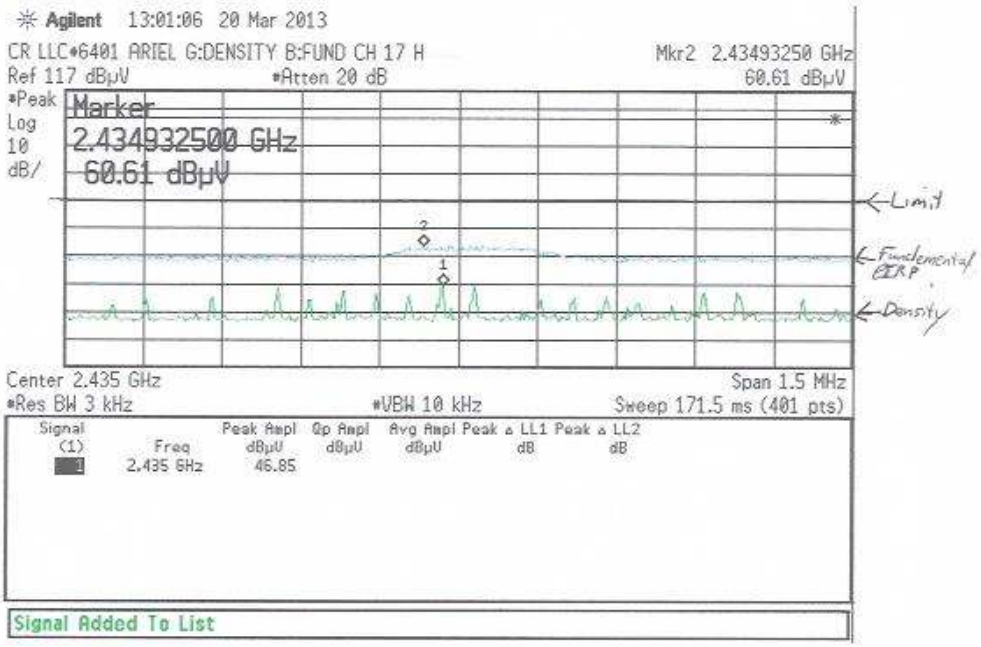
2 pages of data to follow.

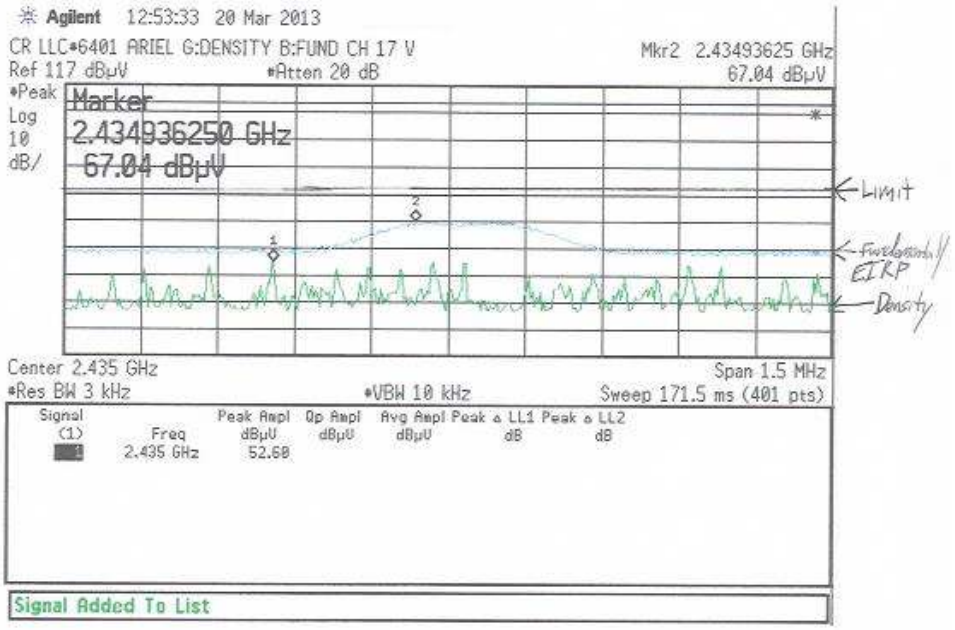



Agilent 12:29:35 20 Mar 2013
CR LLC*6401 ARIEL G:DENSITY B:FUND CH 11 V
Ref 117 dBµV
#Atten 20 dB
Mkr2 2.40494375 GHz
65.31 dBµV
#Peak
Log
10
dB/
Marker
2.404943750 GHz
65.31 dBµV
Limit
Fundamental EIRP
Density
Center 2.405 GHz
#Res BW 3 kHz
#VBW 10 kHz
Span 1.5 MHz
Sweep 171.5 ms (401 pts)
Signal (1)
Freq
Peak Ampl dBµV
Qp Ampl dBµV
Avg Ampl dBµV
Peak Δ LL1 dB
Peak Δ LL2 dB
1
2.405 GHz
53.23
Signal Added To List

Power Spectral Density Test Data- Channel 17 2435 MHz

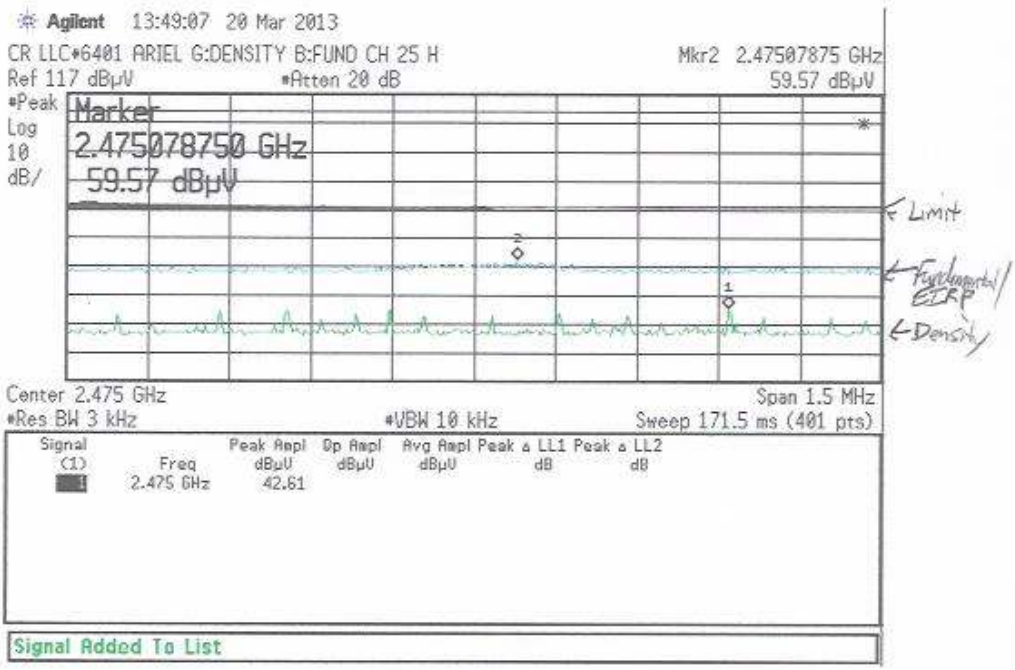
2 pages of data to follow.

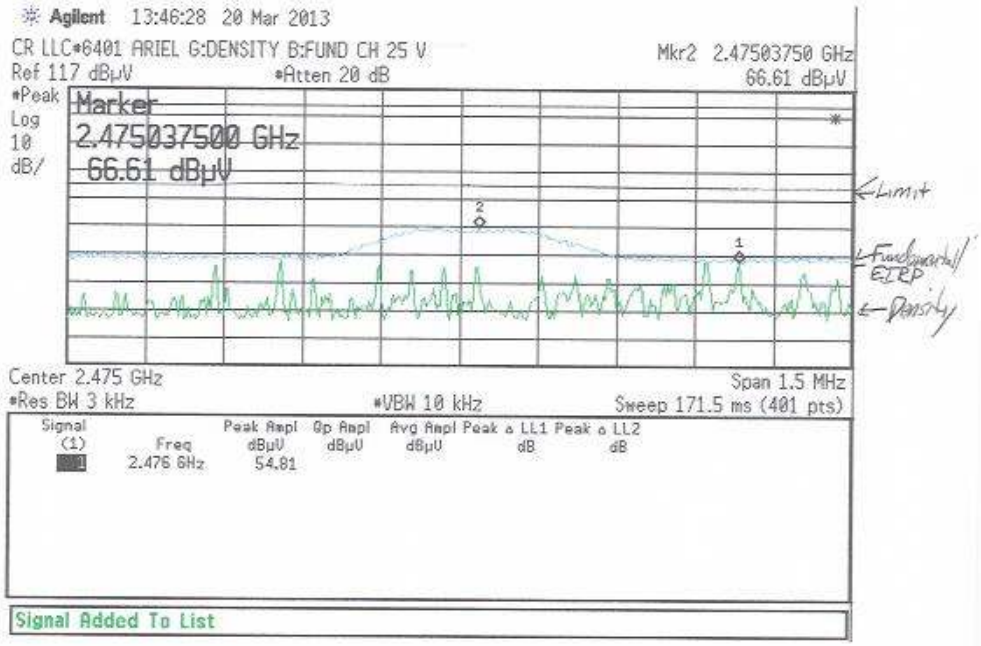



Agilent 12:53:33 20 Mar 2013
CR LLC*6401 ARIEL G:DENSITY B:FUND CH 17 V
Ref 117 dBµV
#Atten 20 dB
Mkr2 2.43493625 GHz
67.04 dBµV
#Peak
Log
10
dB/
Marker
2.434936250 GHz
67.04 dBµV
Limit
Fundamental EIRP Density
Center 2.435 GHz
#Res BW 3 kHz
#VBW 10 kHz
Span 1.5 MHz
Sweep 171.5 ms (401 pts)
Signal (1)
Freq
Peak Ampl dBµV
Qp Ampl dBµV
Avg Ampl dBµV
Peak Δ LL1 dB
Peak Δ LL2 dB
2.435 GHz
52.60
Signal Added To List

Power Spectral Density Test Data- Channel 25 2475 MHz

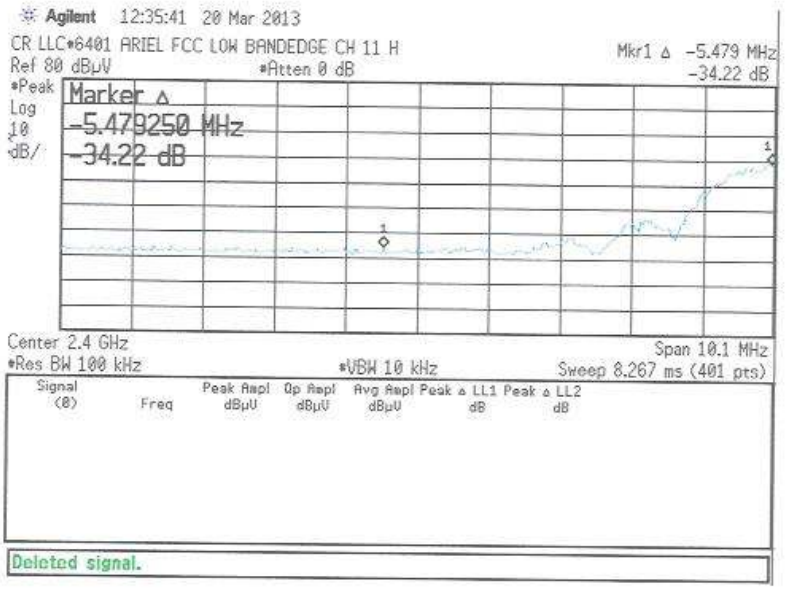
2 pages of data to follow.




Agilent 13:46:28 20 Mar 2013
CR LLC*6401 ARIEL G:DENSITY B:FUND CH 25 V
Ref 117 dBµV
*Atten 20 dB
Mkr2 2.47503750 GHz
66.61 dBµV
*Peak
Log
10
dB/
Marker
2.475037500 GHz
66.61 dBµV
Limit
Fundamental/ ERP
Density
Center 2.475 GHz
*Res BW 3 kHz
*VBW 10 kHz
Span 1.5 MHz
Sweep 171.5 ms (401 pts)
Signal (1)
Freq
Peak Ampl dBµV
Qp Ampl dBµV
Avg Ampl dBµV
Peak ∆ LL1 dB
Peak ∆ LL2 dB
2.476 GHz
54.81
Signal Added To List

Lower Band Edge Test Data

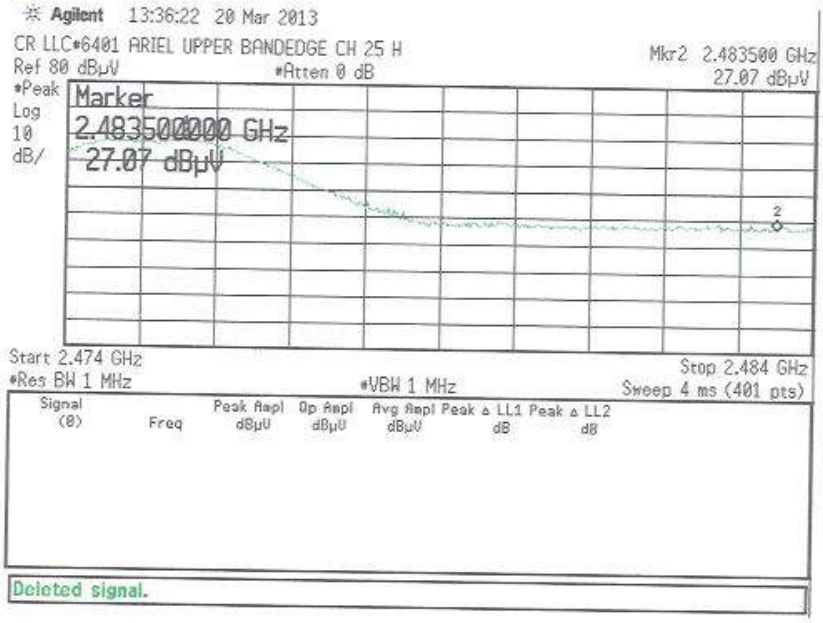
2 pages of data to follow.




Agilent 12:14:04 20 Mar 2013
CR LLC*6401 ARIEL FCC LOW BANDEDGE CH 11 V
Ref 80 dBµV
*Atten 0 dB
Mkr1 Δ -5.404 MHz
-44.91 dB
*Peak
Log
10
dB/
Marker Δ
-5.403633 MHz
-44.91 dB
Center 2.4 GHz
*Res BW 100 kHz
*VBW 10 kHz
Span 10.1 MHz
Sweep 8.267 ms (401 pts)
Signal (0)
Freq
Peak Ampl dBµV
Op Ampl dBµV
Avg Ampl dBµV
Peak Δ LL1 dB
Peak Δ LL2 dB
Deleted signal.

Lower Band Edge Test Data

2 pages of data to follow.




Agilent 13:39:06 20 Mar 2013
CR LLC*6401 ARIEL UPPER BANDEDGE CH 25 V
Ref 80 dBµV
*Atten 0 dB
Mkr2 2.483500 GHz
27.09 dBµV
*Peak
Log
10
dB/
Marker 1
2.483500000 GHz
27.09 dBµV
2
Start 2.474 GHz
*Res BW 1 MHz
*VBW 1 MHz
Stop 2.484 GHz
Sweep 4 ms (401 pts)
Signal (1)
Freq
Peak Ampl dBµV
Qp Ampl dBµV
Avg Ampl dBµV
Peak a LL1 dB
Peak a LL2 dB
2.475 GHz
65.49
Signal Added To List

Antenna Substitution (EIRP) Test Data

Polarization (H or V)	Channel # (MHz)	Signal Generator Output (dBm)	Cable Loss (dB)	Antenna Gain (dB)	EIRP (dBm)
H	11-(2405)	-20	2	9	-13
V	11-(2405)	-12	2	9	-5
H	17-(2435)	-18	2	9	-11
V	17-(2435)	-12	2	9	-5
H	25-(2475)	-20	2.1	9	-13.1
V	25-(2475)	-13	2.1	9	-6.1

EIRP = Signal Generator Output + Antenna Gain – Cable Loss

Antenna Substitution Method Equipment Used

Manufacturer	**Model**	**Description**	**Serial #**	**Cal.**	**Cal. Due**
Agilent	E7402A	Spectrum Analyzer	MY45103221	03/27/12	03/27/13
Electro-Metrics	RGA60	Ridge Horn Antenna	2981	8/25/12	8/25/13
EMCO	3115	Horn Antenna	9602-1101	9/1/12	9/1/13
	MFR-57500	Blue low-loss transmit cable		CNR	CNR
	MFR-57500	Blue low-loss transmit cable		CNR	CNR
Hewlett Packard	8673D	Signal Generator	2747A00663	07/17/12	07/17/13

FCC Part 15.207 Conducted Emissions Limits Test Data and Test Conditions

4 pages of data to follow.

The Conducted Emissions measurements, in the frequency range of 0.45 MHz – 30 MHz, were tested in the Average and Quasi-Peak Modes with a Bandwidth of 9 kHz at the following test location:

☐ Diversified TEST Technologies, Inc. Open Area Test Site
☒ Diversified TEST Technologies, Inc. Lab

Conducted Emissions testing was performed indoors on a dedicated Conducted Emissions test table. The equipment under test (EUT) was powered by 120 VAC, 60 Hz AC receptacle of a 50-ohm Line Impedance Stabilizing Network (LISN) for measurement of the RF on the AC line and neutral. Each line was tested separately and the line not being tested was terminated by a 50-ohm terminator.

Test equipment used:

Manufacturer	**Model**	**Description**	**Serial #**	**Cal.**	**Cal. Due**
Agilent	E7402A	Spectrum Analyzer	MY45103221	03/27/12	03/27/13
Hewlett Packard	1320	Printer		CNR	CNR
Electro-Metrics	FCC/VDE-25/2	50 ohm LISN	1017	06/12/12	06/12/13
		Co-ax Cable (LISN to receiver) 20-foot RG 223/U		CNR	CNR
		Non-conductive (wood) table, 0.8 meters off ground		CNR	CNR

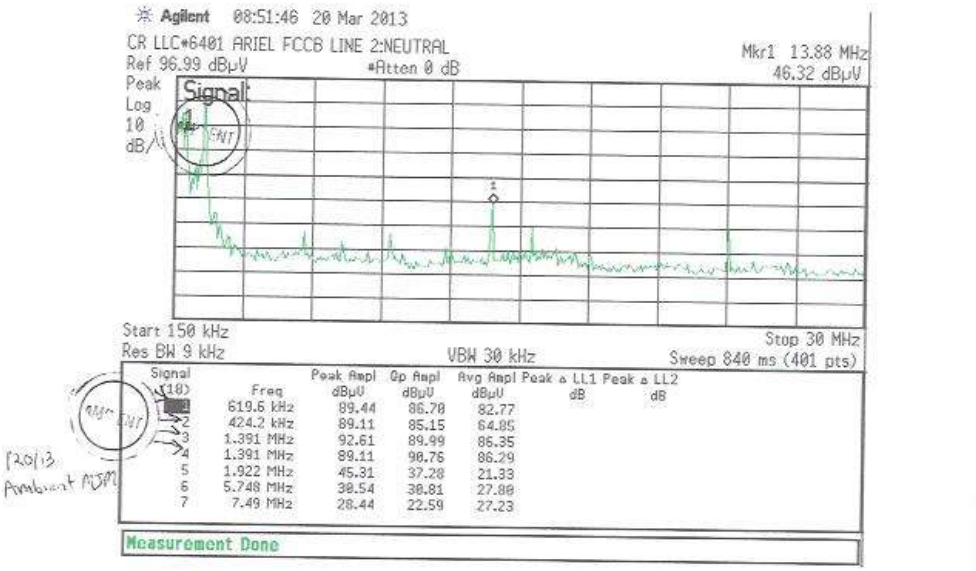
Conducted Emissions Test Data

Sig. #	Freq. (MHz)	Peak (dBuV)	QP (dBuV)	Avg (dBuV)	Comm.
1	0.619925	90.15	87.09	82.68	
2	0.376772	88.28	83.74	63.09	
3	1.048397	71.69	66.87	60.22	
4	1.390542	91.17	90.87	86.85	
5	2.007393	54.37	47.30	24.28	
6	1.972236	48.13	38.79	22.57	
7	2.609671	30.53	24.02	11.89	
8	5.744739	28.70	26.08	16.34	
9	7.405862	29.25	26.19	26.82	
10	9.478897	40.10	37.03	27.12	
11	12.106307	33.71	29.56	26.42	
12	12.104596	27.31	24.01	24.19	
13	12.553102	29.47	24.20	11.72	
14	13.844951	39.61	39.59	31.11	
15	14.727655	29.57	25.73	15.49	
16	15.609847	38.38	35.55	34.76	
17	16.141964	27.41	22.13	12.77	
18	24.076321	36.90	36.08	34.58	

3/20/13 Ambient MSM (AMBIENT)

CURRENT SETTINGS

Current Ampcor Settings	
Ampcor is	OFF
Antenna Corrections are	OFF
Antenna Freq Corrections are	LIN
Cable Corrections are	OFF
Other Corrections are	OFF
User Corrections are	OFF
Current Limit Settings	
Limit Line 1 Display is	OFF
Limit Line 1 Margin is	OFF
Limit Line 1 Margin Value is	0.00 dB
Limit Line 1 Limit Testing is	OFF
Limit Line 2 Display is	OFF
Limit Line 2 Margin is	OFF
Limit Line 2 Margin Value is	0.00 dB
Limit Line 2 Limit Testing is	OFF
Current Frequency Settings	
Center Frequency is	15.07 MHz
Frequency Span is	29.85 MHz
Start Frequency is	150 kHz
Stop Frequency is	30 MHz
CF Step Size is	2.985 MHz
Frequency Offset	0 Hz
The Frequency Scale is	LIN
Current Sweep Settings	
Sweeptime is	840 ms
Current Bandwidth Settings	
The RBW is	9 kHz
The Video Bandwidth is	30 kHz
The VBW/RBW ratio is	3.33
Averaging is	OFF


Agilent 08:51:46 20 Mar 2013
CR LLC*6401 ARIEL FCCB LINE 2:NEUTRAL
Ref 96.99 dBµV
#Atten 0 dB
Mkr1 13.88 MHz
46.32 dBµV
Peak
Log
10
dB/
Signal
Start 150 kHz
Res BW 9 kHz
VBW 30 kHz
Stop 30 MHz
Sweep 840 ms (401 pts)
Signal (10)
Freq
Peak Ampl dBµV
Qp Ampl dBµV
Avg Ampl dBµV
Peak a LL1 dB
Peak a LL2 dB
1 619.6 kHz 89.44 86.70 82.77
2 424.2 kHz 89.11 85.15 64.85
3 1.391 MHz 92.61 89.99 85.35
4 1.391 MHz 89.11 90.76 86.29
5 1.922 MHz 45.31 37.28 21.33
6 5.748 MHz 30.54 30.81 27.80
7 7.49 MHz 28.44 22.59 27.23
Measurement Done
12/13
Ambient MSM

Sig. #	Freq. (MHz)	Peak (dBuV)	QP (dBuV)	Avg (dBuV)	Comm.
1	0.619594	89.44	86.70	82.77	
2	0.424199	89.11	85.15	64.85	
3	1.390946	92.61	89.99	86.35	
4	1.391020	89.11	90.76	86.29	
5	1.922345	45.31	37.28	21.33	
6	5.748170	30.54	30.81	27.80	
7	7.489962	28.44	22.59	27.23	
8	9.478704	33.01	32.99	32.98	
9	9.977836	27.20	24.31	22.36	
10	11.859299	30.95	26.81	31.16	
11	13.844243	48.63	46.57	44.69	
12	14.287752	28.77	23.89	15.76	
13	15.610656	35.35	30.96	28.15	
14	15.608753	36.18	28.80	26.76	
15	16.332402	27.91	24.95	16.09	
16	17.905995	24.76	19.17	8.25	
17	24.074132	36.58	35.41	32.75	
18	25.173767	25.99	23.34	21.83	

CURRENT SETTINGS

Current Ampcor Settings	
Ampcor is	OFF
Antenna Corrections are	OFF
Antenna Freq Corrections are	LIN
Cable Corrections are	OFF
Other Corrections are	OFF
User Corrections are	OFF
Current Limit Settings	
Limit Line 1 Display is	OFF
Limit Line 1 Margin is	OFF
Limit Line 1 Margin Value is	0.00 dB
Limit Line 1 Limit Testing is	OFF
Limit Line 2 Display is	OFF
Limit Line 2 Margin is	OFF
Limit Line 2 Margin Value is	0.00 dB
Limit Line 2 Limit Testing is	OFF
Current Frequency Settings	
Center Frequency is	15.07 MHz
Frequency Span is	29.85 MHz
Start Frequency is	150 kHz
Stop Frequency is	30 MHz
CF Step Size is	2.985 MHz
Frequency Offset	0 Hz
The Frequency Scale is	LIN
Current Sweep Settings	
Sweeptime is	840 ms
Current Bandwidth Settings	
The RBW is	9 kHz
The Video Bandwidth is	30 kHz
The VBW/RBW ratio is	3.33
Averaging is	OFF

Measurement Protocol

The method to calculate field strength was Field Strength (dBuV/m) = Signal Level (dBuV) +Antenna Factor (dB) + Cable Loss (dB)

The measurement detector used during the testing of the EUT was a peak detector.

The methodology used during the testing performed on the EUT in this report was ANSI C63.4:2003.

The EUT was powered with 120 VAC 60 Hz during the collection of data included within this report.

The data is compared to FCC Part 15.247 Class C limits.

Please have a company official review this report and sign.