

February 15, 2014

Mr. Brad Lightner
GOJO Industries
1 GOJO Plaza-Suite 500
Akron, OH 44311

Dear Mr. Lightner:

Enclosed is the test report for the GOJO Industries Limited Approval Wireless Transmitter Module 1960-501-WHT Rev. 004 and 1960-513-910 Rev. ABC in the host where the host is the Smartlink Ready LTX-7 13XX-##-YYY dispenser 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) Please see attached annex for information on the Limited Approval Wireless Module 1960-501-WHT Rev. 004 and 1930-513-910 Rev. ABC.

As narrated in the report, the product configuration meets the requirements of the FCC per CFR 47 Part 15.249 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.dttlabs.com.

Sincerely,



Michael McElroy
Technical Associate

DIVERSIFIED T.E.S.T. TECHNOLOGIES, INC. TEST REPORT

GOJO Industries Limited Approval Wireless Transmitter Module 1960-501-WHT Rev. 004 and 1930-513-910 Rev. ABC in the host where the host is Smartlink Ready LTX-7 13XX-##-YYY Dispenser	Project Number: 6425
--	-------------------------

Table of Contents

Emissions Testing

Documentation

Table of Contents	1
Test Report	2
Test Regulations	3
Test Conditions	4
Test Operation Mode	5
Test Results	6
Test Setup Photographs	7
Test Datasheets-Harmonics	8
Test Datasheets-Bandwidth	9
Measurement Protocol	10
Annex	11-13

DIVERSIFIED T.E.S.T. TECHNOLOGIES, INC. TEST REPORT

GOJO Industries Limited Approval Wireless Transmitter Module 1960-501-WHT Rev. 004 and 1930-513-910 Rev. ABC in the host where the host is Smartlink Ready LTX-7 13XX-##-YYY Dispenser	Project Number: 6425
--	-------------------------

Test Report

Laboratory

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

Manufacturer

GOJO Industries
1 GOJO Plaza, Suite 500
Akron, OH. 44311

Report Issue Date: **February 15, 2014**
Project Number: **6425**
Report Number: **6425-070913 (Edition 2) FCCC LTX7 with Limited Approval
Wireless Transmitter Module**

Date Received: **June 24, 2013**
Date Tested: **June 24, 2013 – June 26, 2013**
Model Numbers: **Limited Approval Wireless Transmitter Module 1960-501-WHT Rev.
004 and 1930-513-910 Rev. ABC in the host where the host is Smartlink Ready LTX-7
13XX-##-YYY Dispenser**

FCC ID: O76-T4SG0910A

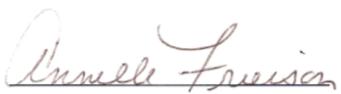
Traceability: *Reference standards of measurement have been calibrated by a competent body using standards traceable to NIST.*

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: _____
Michael McElroy
Technical Associate

Date: February 15, 2014

Reviewed by: 
Signature: _____
Annelle Frierson
Vice- President

Date: February 15, 2014

DIVERSIFIED T.E.S.T. TECHNOLOGIES, INC. TEST REPORT

GOJO Industries

Limited Approval Wireless Transmitter Module 1960-501-WHT
Rev. 004 and 1930-513-910 Rev. ABC in the host where the host is
Smartlink Ready LTX-7 13XX-##-YYY Dispenser

Project Number:
6425

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 15.249

Class A

Class B

Class C

Certification

Verification

Declaration of Conformity

DIVERSIFIED T.E.S.T. TECHNOLOGIES, INC. TEST REPORT

GOJO Industries Limited Approval Wireless Transmitter Module 1960-501-WHT Rev. 004 and 1930-513-910 Rev. ABC in the host where the host is Smartlink Ready LTX-7 13XX-##-YYY Dispenser	Project Number: 6425
--	-------------------------

Emissions Test Conditions: FCC PART 15.249 CLASS C

The Harmonics, Bandwidth, and Spurious Emissions 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
Hewlett Packard	8593EM	Spectrum Analyzer	3536A00139	6/19/13	6/19/14
Electro-Metrics	RGA60	Ridge Horn Antenna	2981	8/25/12	8/25/13
Hewlett Packard	7550A	Plotter	2407A00476	CNR	CNR
Electro-Metrics	LPA-25	Log Periodic Antenna 200-1000 MHz	1242	9/11/12	9/11/13
	MFR-57500	Blue low-loss transmit cable	337	CNR	CNR
		Non-conductive wooden turntable		CNR	CNR
		10-meter open field test range, grounded with ¼" x ¼" hardware cloth		CNR	CNR
Hewlett Packard	8595E	Spectrum Analyzer	3746A03177	7/23/12	7/23/13
EMCO	6520	Active Loop Antenna	9110-2685	7/19/12	7/19/13
Agilent	E7402A	Spectrum Analyzer	MY45103221	3/25/13	3/25/14
Electro-Metrics	BIA-30W	Biconical Antenna	103	9/1/12	9/1/13

DIVERSIFIED T.E.S.T. TECHNOLOGIES, INC. TEST REPORT

GOJO Industries Limited Approval Wireless Transmitter Module 1960-501-WHT Rev. 004 and 1930-513-910 Rev. ABC in the host where the host is Smartlink Ready LTX-7 13XX-##-YYY Dispenser	Project Number: 6425
--	-------------------------

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:

Limited Approval Wireless Transmitter Module 1960-501-WHT Rev. 004 and 1930-513-910 Rev. ABC in the host where the host is Smartlink Ready LTX-7 13XX-##-YYY Dispenser The unit was powered by a 6 VDC Battery during the collection of data.

Rationale for EUT setup / configuration:

After numerous trial runs with a full bottle and an empty bottle it was found an empty bottle was worst case so therefore the dispenser was tested with the empty bottle for the entire test.

Deviations from test method:

Testing performed at 1 meter test distance above 1 GHz to better represent harmonic emissions caused by the equipment under test. Testing using Loop Antenna was performed on 6/26/13.

DIVERSIFIED T.E.S.T. TECHNOLOGIES, INC. TEST REPORT

GOJO Industries

Limited Approval Wireless Transmitter Module 1960-501-WHT
Rev. 004 and 1930-513-910 Rev. ABC in the host where the host is
Smartlink Ready LTX-7 13XX-##-YYY Dispenser

Project Number:
6425

Emissions Test Results:

FCC Part 15.249 Part C 910 MHz – 9100 MHz

The requirements are MET NOT MET

Spurious Emissions Test

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 less than 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.

Radiated Measurements on the EUT were performed from 10 MHz up to the 10th Harmonic and any emission found were more than 20 dB below the limit have not been reported.

The transmitter module transmits an OOK modulated data packet following a 10 second delay after an event trigger coming from the LTX dispenser. The use of the LTX dispenser to dispense soap to a customer constitutes an event and once an event occurs a trigger pulse is sent from the LTX dispenser to a microcontroller in the transmitter module. The microcontroller in the module uses the 10 second delay period to watch for additional events during that period of time. After the 10 second period has expired the total number of events that occurred during that 10 second period are sent in the transmitted data packet along with the transmitter module serial (ID) number and other information like the battery level. A drawing of the transmit packet is shown on last page of this report.

The transmitter packet starts with a 50% duty cycle Preamble for 38.76mSec followed by an off Space of 3.04mSec. After the Space, the payload is sent twice for redundancy. Each payload time is 63.84mSec in length and consists of an equal numbers of 1's and 0's. Where each of the 1's has a 25% duty cycle and each of the 0's has a 75% duty cycle. Together the payload has a combined 50% duty cycle. The total packet length is therefore the addition of the 38.76msec Preamble followed by the 3.04mSec Space followed by the two redundant payloads of 63.86mSec each for total packet length of 169.48mSec. The total packet duty cycle consists of 83.22mSec "on" bits and 86.26mSec "off" bits for a total percentage of "on" bits of 0.491%.

Therefore the duty cycle correction in terms of dB is: $20\log(0.491) = -6\text{dB}$.

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: June 24, 2013

Testing End Date: June 26, 2013

DIVERSIFIED T.E.S.T. TECHNOLOGIES, INC. TEST REPORT

GOJO Industries

Limited Approval Wireless Transmitter Module 1960-501-WHT
Rev. 004 and 1930-513-910 Rev. ABC in the host where the host is
Smartlink Ready LTX-7 13XX-##-YYY Dispenser

Project Number:
6425

Test Setup Photographs:

FCC PART 15.249 CLASS C – 910 MHZ

Photograph 1: FCC Part 15.249 Class C



DIVERSIFIED T.E.S.T. TECHNOLOGIES, INC. TEST REPORT

GOJO Industries

Project Number:
6368

Test Datasheets – 910 MHz- 9100 MHz

21 pages of data sheets to follow.

Limits for transmitters
USA

FCC Part 15.249 Transmitter Test												
						GOJO	6425					
Measured	Res.	DUT	Measured	Azimuth	Cable	Antenna	Measurement	Duty Cycle	FCC	Corrected	Delta	
Field Strength (dBµV)	Bandwidth (Khz)	Frequency (Mhz)	Frequency (Mhz)	degrees	Factor (dB)	Gain (dB)	Distance (Meters)	Correction (dB)	Limit (uV/M)	Field Strength to 3M	Limit (dB)	Polarity
Peak									at 3M	in uV/M peak		
42.92	120	910	910	135	17.2	19.6	3	-6	50000	4,852.89	-20.26	H
47.78	120	910	1820	0.00	2.1	7.6	1	-6	500	124.99	-12.04	H
35.35	1000	910	2730	0	2.2	9.2	1	-6	500	36.34	-22.77	H
29.23	1000	910	3640	0	2.4	8.9	1	-6	500	17.76	-28.99	H
28.67	1000	910	4550	0	2.5	10	1	-6	500	19.12	-28.35	H
27.65	1000	910	5460	0	2.7	10	1	-6	500	17.39	-29.17	H
28.70	1000	910	6370	0	2.8	12	1	-6	500	25.00	-26.02	H
29.40	1000	910	7280	0	2.8	10.5	1	-6	500	22.80	-26.82	H
29.61	1000	910	8190	0	3.0	10.3	1	-6	500	23.35	-26.61	H
28.70	1000	910	9100	0	3.1	11.2	1	-6	500	23.60	-26.52	H
	*Antenna factors are pre-calculated into Measured Field Strength (dBµV)											
Unit Under Tes	GOJO	LTX-7		13XX-##-YYY	6/24/2013		Empty Bottle					

Limits for transmitters
USA

FCC Part 15.249 Transmitter Test												
						GOJO	6425					
Measured	Res.	DUT	Measured	Azimuth	Cable	Antenna	Measurement	Duty Cycle	FCC	Corrected	Delta	
Field Strength (dBµV)	Bandwidth (Khz)	Frequency (Mhz)	Frequency (Mhz)	degrees	Factor (dB)	Gain (dB)	Distance (Meters)	Correction (dB)	Limit (uV/M)	Field Strength to 3M	Limit (dB)	Polarity
Peak									at 3M	in uV/M peak		
51.82	120	910	910	145	17.2	19.6	3	-6	50000	13,520.73	-11.36	V
56.24	120	910	1820	0.00	2.1	7.6	1	-6	500	331.04	-3.58	V
32.43	1000	910	2730	0	2.2	9.2	1	-6	500	25.96	-25.69	V
29.63	1000	910	3640	0	2.4	8.9	1	-6	500	18.59	-28.59	V
29.23	1000	910	4550	0	2.5	10	1	-6	500	20.39	-27.79	V
29.61	1000	910	5460	0	2.7	10	1	-6	500	21.80	-27.21	V
29.07	1000	910	6370	0	2.8	12	1	-6	500	26.08	-25.65	V
29.35	1000	910	7280	0	2.8	10.5	1	-6	500	22.67	-26.87	V
29.54	1000	910	8190	0	3.0	10.3	1	-6	500	23.17	-26.68	V
28.47	1000	910	9100	0	3.1	11.2	1	-6	500	22.98	-26.75	V
	*Antenna factors are pre-calculated into Measured Field Strength (dBµV)											
Unit Under Tes	GOJO	LTX-7		13XX-##-YYY	6/24/2013		Empty Bottle					

* Agilent 08:51:14 Jun 26, 2013

G0J0*6425 LTX-TALL FCCC HARM 1 H 3M

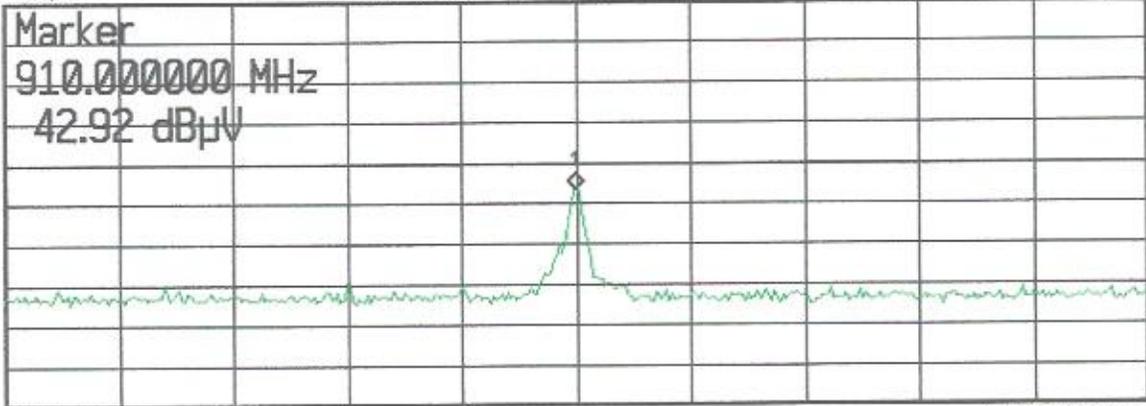
Mkr1 910.000 MHz

Ref 80 dB μ V

Atten 5 dB

42.92 dB μ V

Peak
Log
8
dB/



Center 910 MHz

Span 10 MHz

Res BW 120 kHz

VBW 300 kHz

Sweep 4 ms (401 pts)

Signal (0)	Freq	Peak Ampl dB μ V	Qp Ampl dB μ V	Avg Ampl dB μ V	Peak Δ LL1 dB	Peak Δ LL2 dB
Deleted all signals.						

* Agilent 14:11:11 Jun 25, 2013

GOJ0#6425 LTX-TALL FCCC HARM 2 H

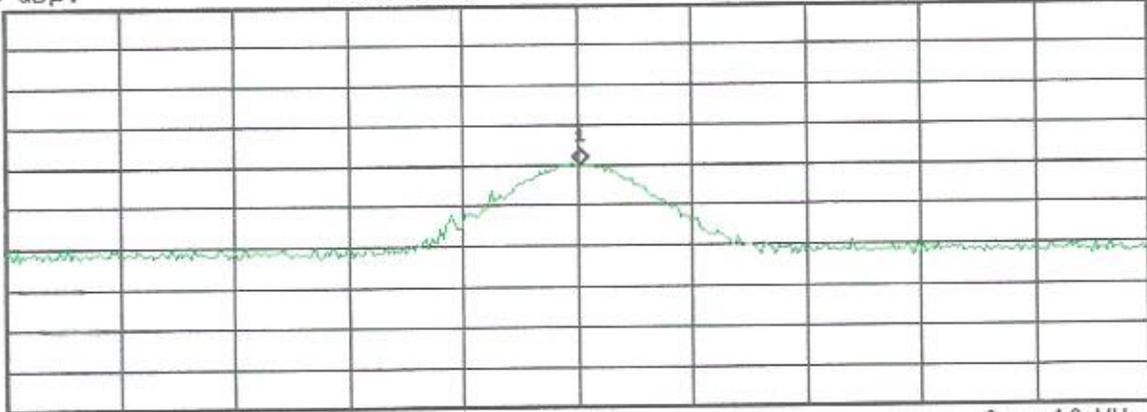
Ref 80 dB μ V

Atten 5 dB

Mkr1 1.820025 GHz

47.78 dB μ V

Peak
Log
8
dB/



Center 1.82 GHz

Res BW 1 MHz

VBW 3 MHz

Span 10 MHz

Sweep 4 ms (401 pts)

Signal (0)	Freq	Peak Ampl dB μ V	Qp Ampl dB μ V	Avg Ampl dB μ V	Peak Δ LL1 dB	Peak Δ LL2 dB
Deleted all signals.						

Deleted all signals.

✱ Agilent 14:12:34 Jun 25, 2013

G0J0#6425 LTX-TALL FCCC HARM 3 H

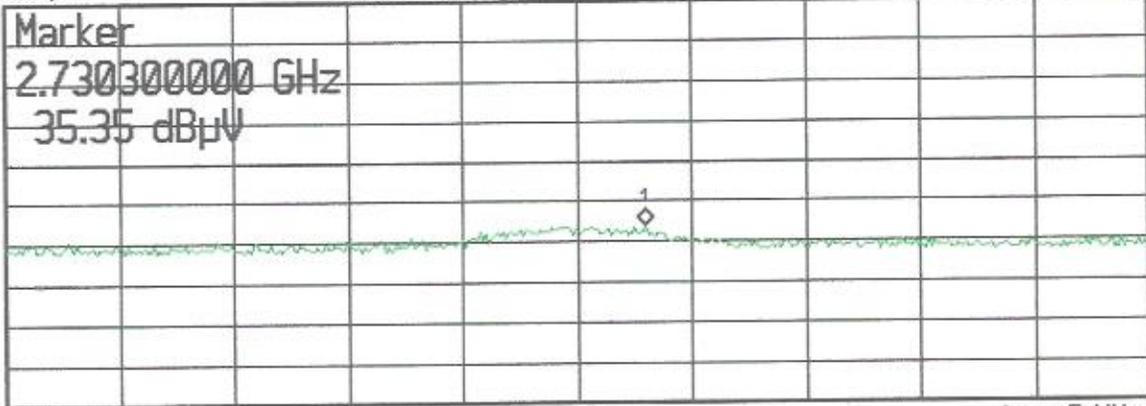
Ref 80 dB μ V

Atten 5 dB

Mkr1 2.7303000 GHz

35.35 dB μ V

Peak
Log
8
dB/



Center 2.73 GHz

Res BW 1 MHz

VBW 3 MHz

Span 5 MHz

Sweep 5 ms (401 pts)

Signal (0)	Freq	Peak Ampl dB μ V	Qp Ampl dB μ V	Avg Ampl dB μ V	Peak Δ LL1 dB	Peak Δ LL2 dB
Deleted all signals.						

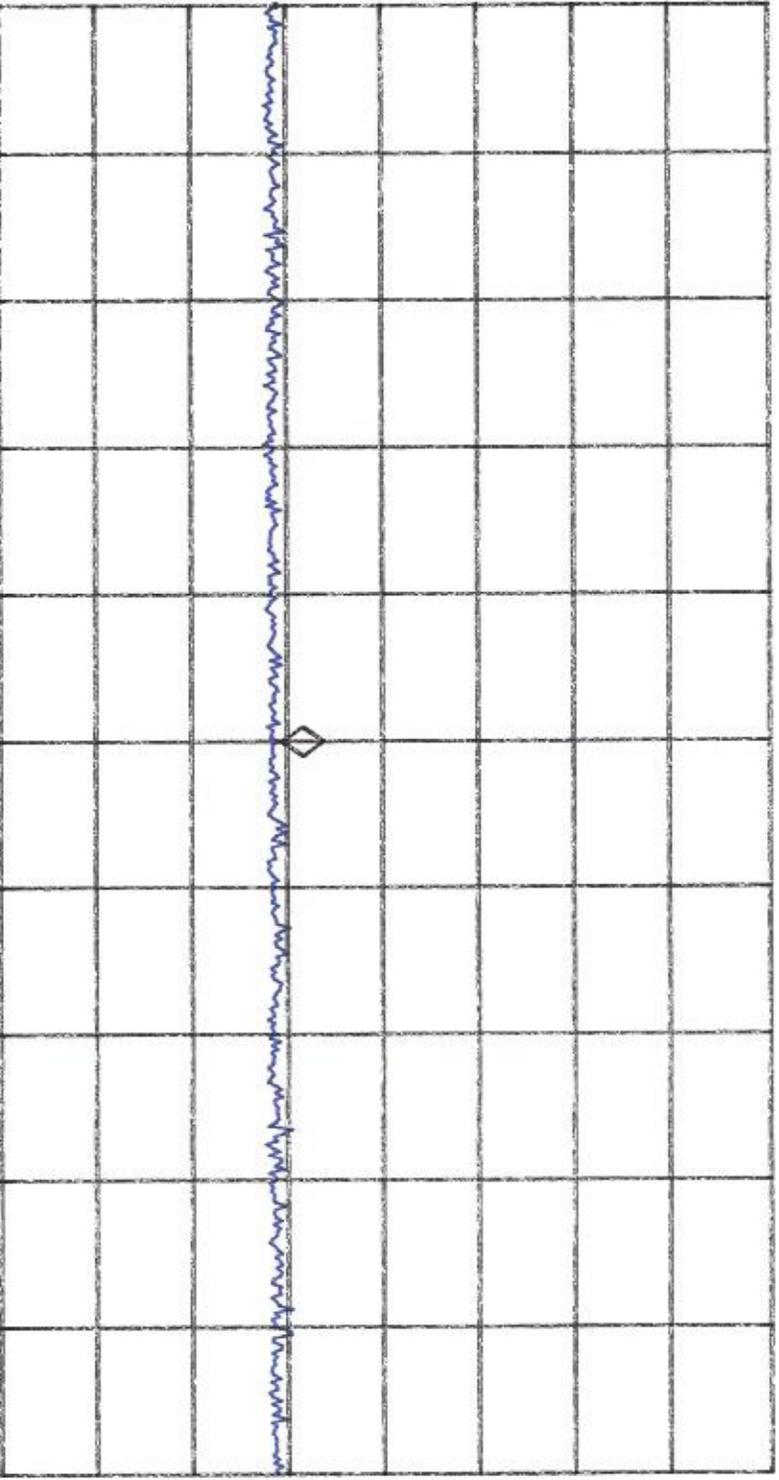
Deleted all signals.

10: 32: 24 JUN 25, 2013
GOUJ0#6425 LTX TALL FCCC HARM 4 H

ACTV DET: PEAK
MEAS DET: PEAK QP AVG
MKR 3.64000 GHZ
29.23 DBμV
PREAMP ON

LOG REF 80.0 DBμV

10
dB/
ATN
10 DB



VA SB
SC FC
CORR

CENTER 3.64000 GHZ
#IF BW 1.0 MHZ
AVG BW 300 KHZ
SPAN 10.00 MHZ
SWP 20.0 msec

10: 39: 57 JUN 25, 2013
60J0#6425 LTX TALL FCCC HARM 5 H

ACTV DET: PEAK
MEAS DET: PEAK QP AVG
MKR 4.54995 GHz
28.67 dB μ V

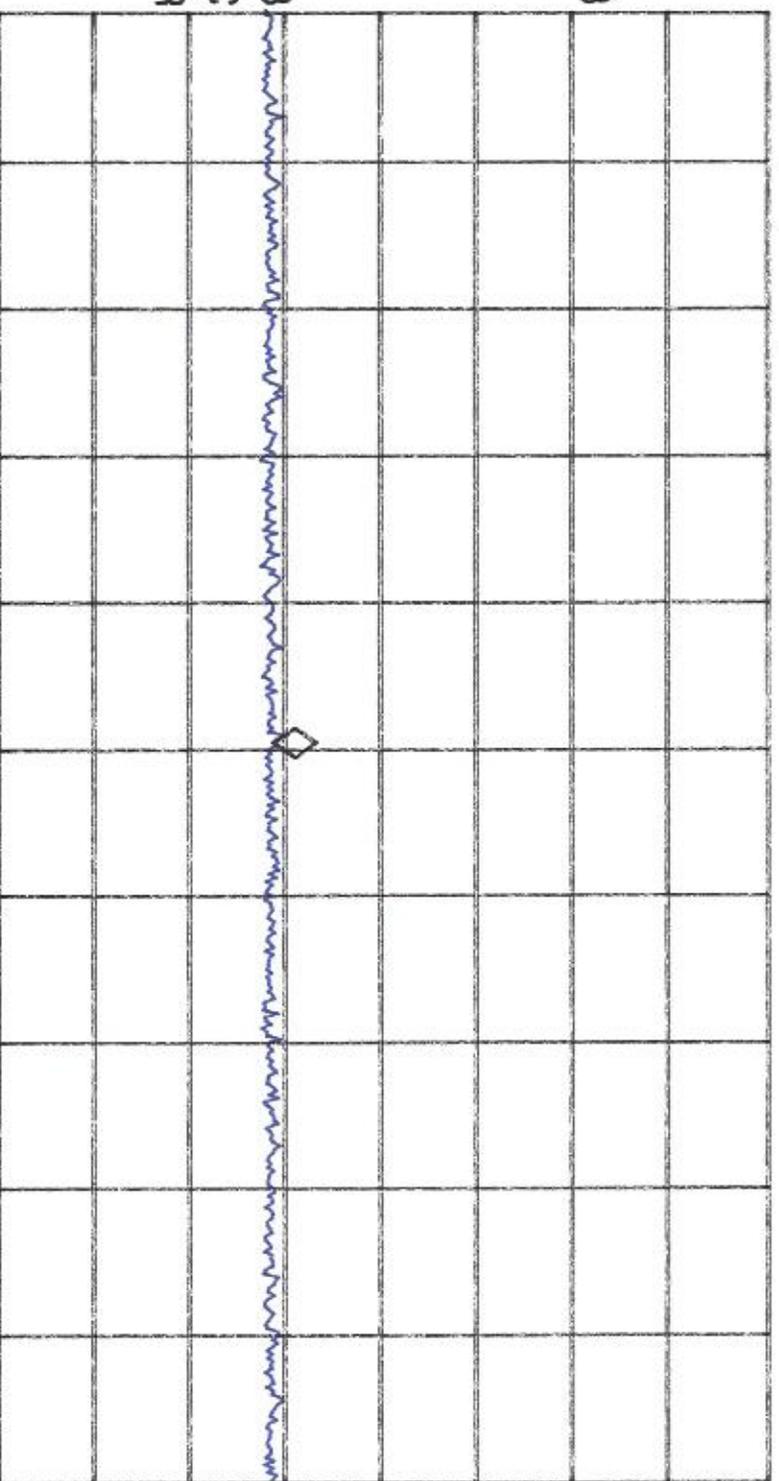
PREAMP ON

LOG REF 80.0 dB μ V

10
dB/

ATN

10 dB



VA SB
SC FC
CORR

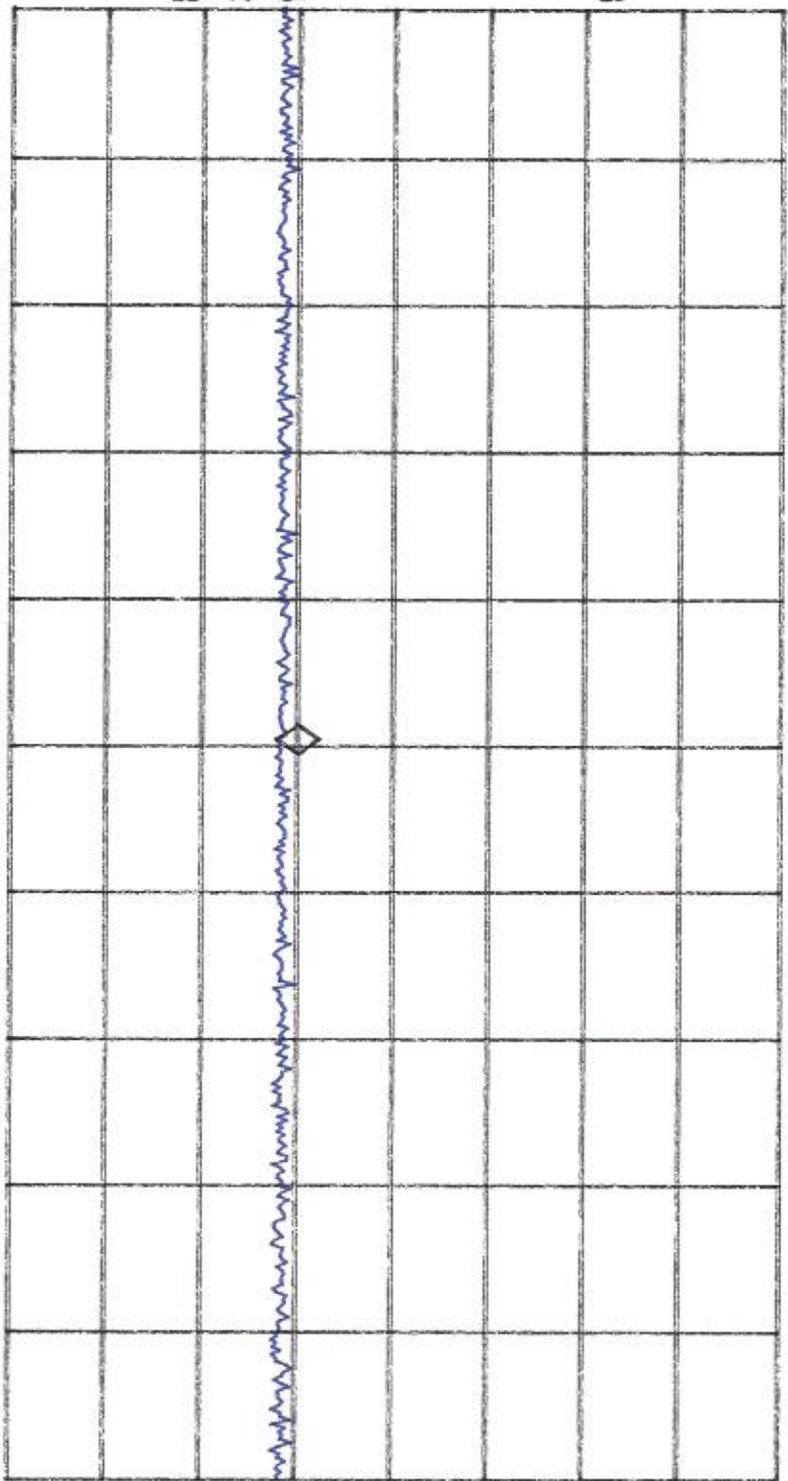
CENTER 4.55000 GHz
#IF BW 1.0 MHz
AVG BW 300 kHz
SPAN 10.00 MHz
SWP 20.0 msec

10:56:28 JUN 25, 2013
60J0#6425 LTX TALL FCCC HARM 6 H

ACTV DET: PEAK
MEAS DET: PEAK QP AVG
MKR 5.45995 GHz
27.65 dBμV
PREAMP ON

LOG REF 80.0 dBμV

10 dB/
ATN
10 dB



CENTER 5.45995 GHz
#IF BW 1.0 MHz
AVG BW 300 kHz
SPAN 10.00 MHz
SWP 20.0 msec

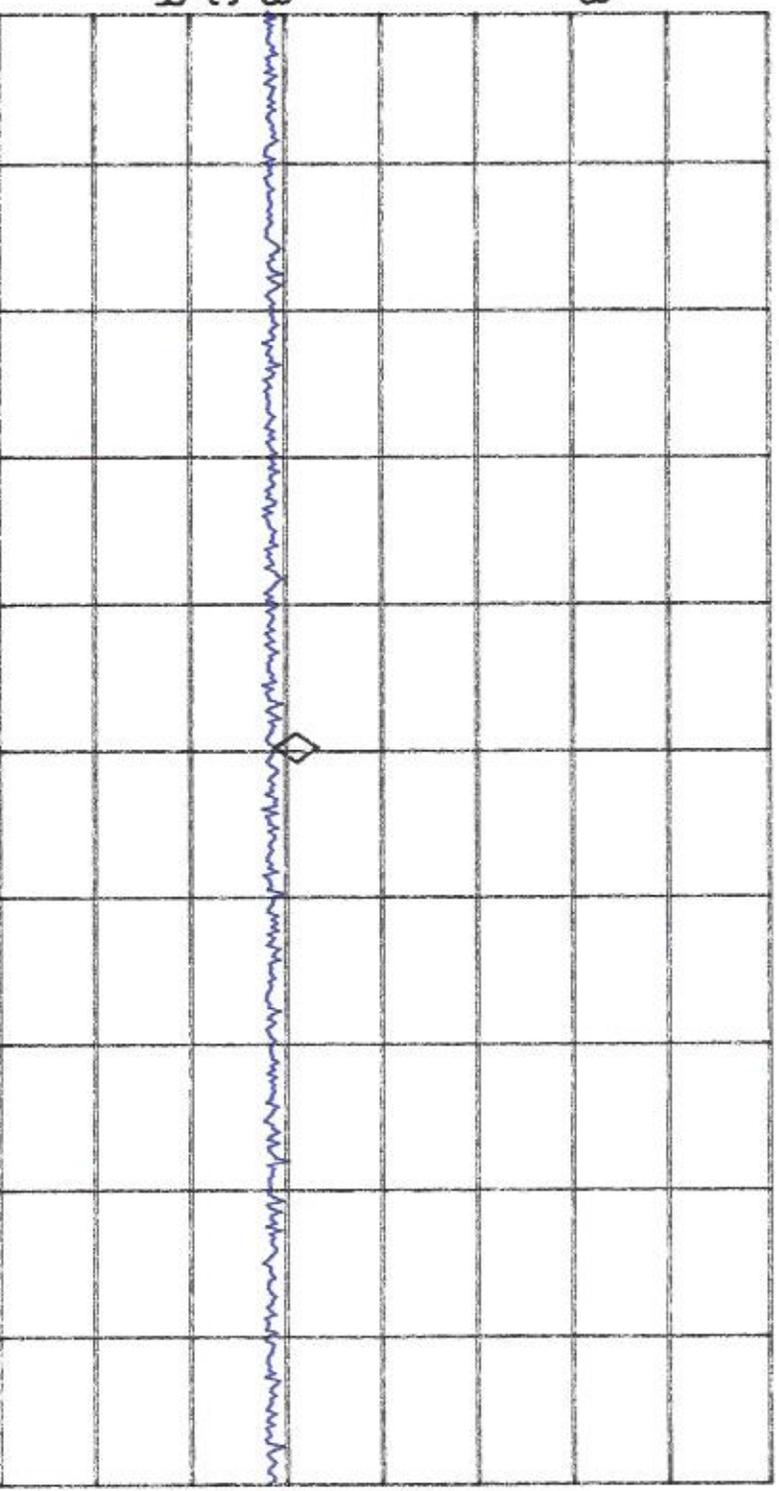
11:05:04 JUN 25, 2013
G0J0#6425 LTX TALL FCCC HARM 7 H

ACTV DET: PEAK
MEAS DET: PEAK QP AVG
MKR 6.36998 GHz
28.70 dBμV
PREAMP ON

LOG REF 80.0 dBμV

10 dB/
ATN
10 dB

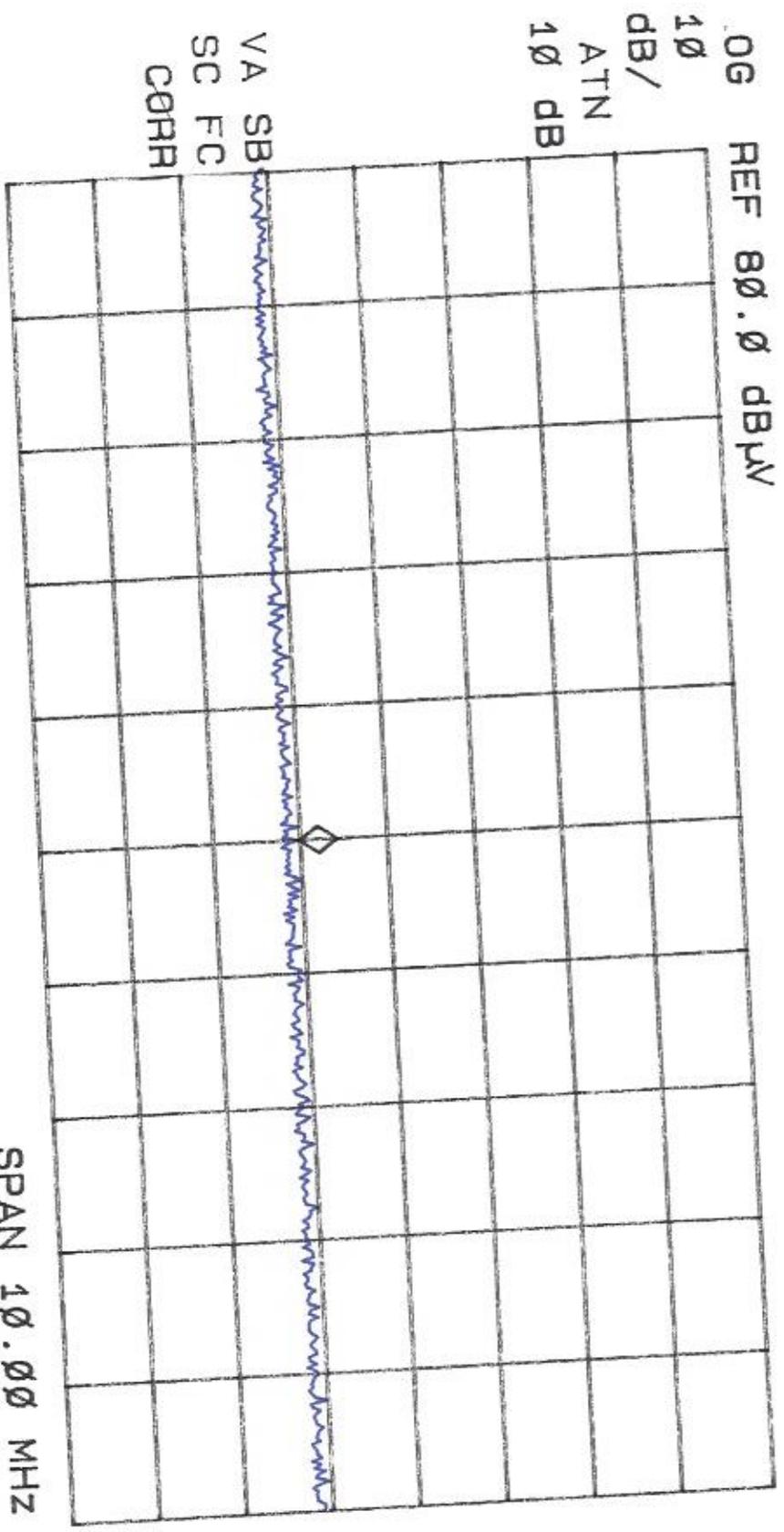
VA SB
SC FC
CORR



CENTER 6.37000 GHz
#IF BW 1.0 MHz
AVG BW 300 kHz
SPAN 10.00 MHz
SWP 20.0 msec

11: 12: 34 JUN 25, 2013
FD GOJ0#6425 LTX TALL FCCC HARM 9 H

ACTV DET: PEAK
MEAS DET: PEAK QP AVG
MKR 8.19000 GHZ
29.61 dBμV
PREAMP ON



0G REF 80.0 dBμV
10
dB/
ATN
10 dB

VA SB
SC FC
CORR

CENTER 8.19000 GHZ
#IF BW 1.0 MHZ

AVG BW 300 KHZ

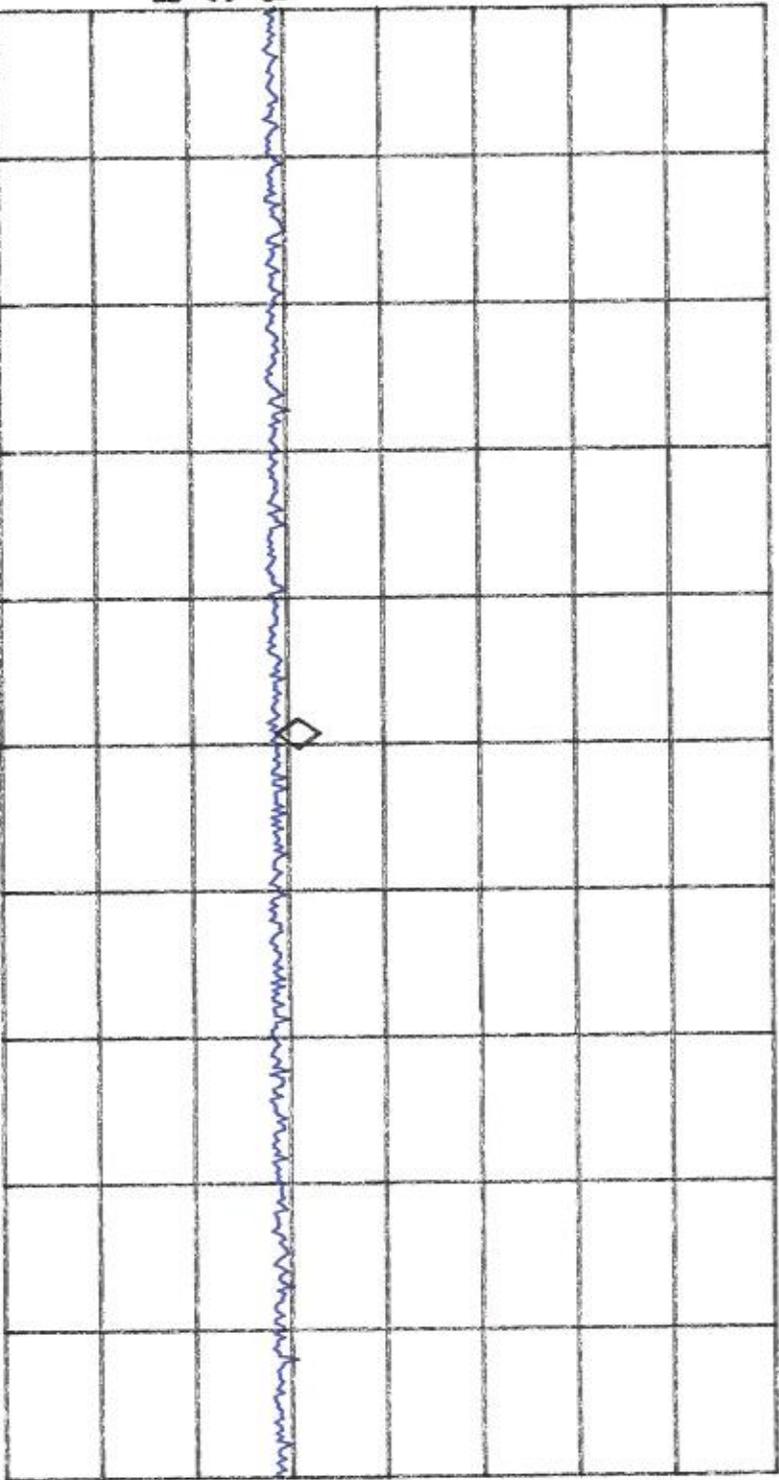
SPAN 10.00 MHZ
SWP 20.0 msec

11:20:12 JUN 25, 2013
GOUJ0#6425 LTX TALL FCCC HARM 10 H

ACTV DET: PEAK
MEAS DET: PEAK QP AVG
MKR 9.09993 GHZ
28.70 DBμV
PREAMP ON

LOG REF 80.0 DBμV

10
dB/
ATN
10 DB



VA SB
SC FC
CORR

CENTER 9.10000 GHZ
#IF BW 1.0 MHZ
AVG BW 300 KHZ
SPAN 10.00 MHZ
SMP 20.0 msec

Agilent 08:42:36 Jun 26, 2013

G0J0#6425 LTX-TALL FCCC HARM 1 V 3M

Mkr1 910.000 MHz

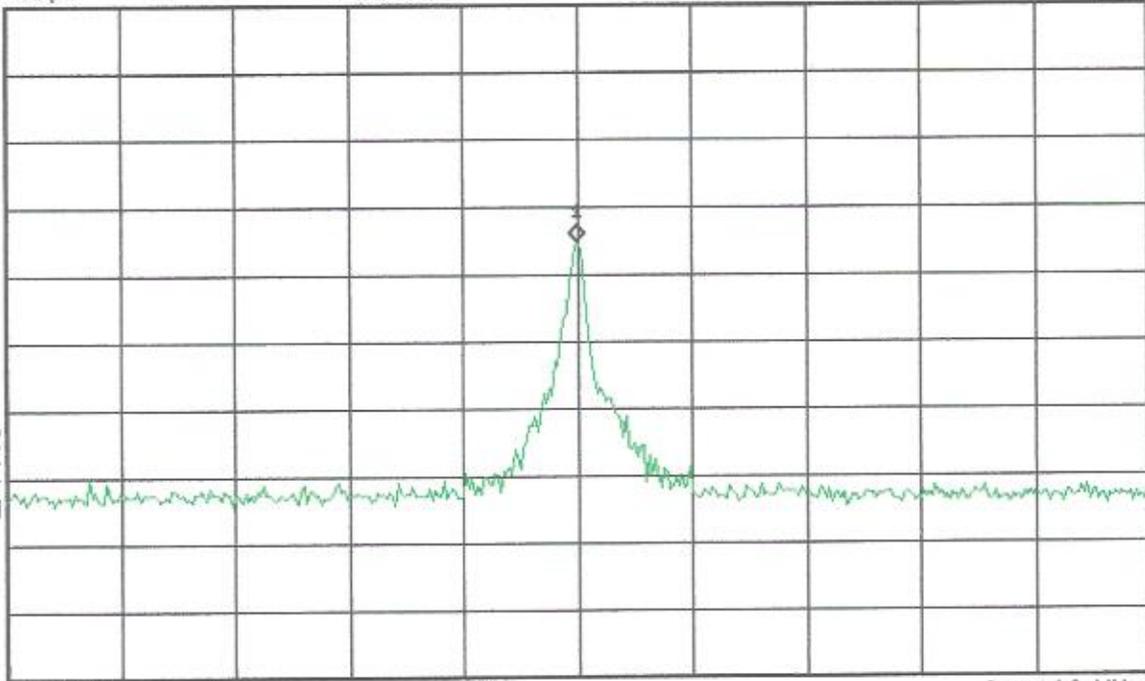
Ref 80 dB μ V

Atten 5 dB

51.82 dB μ V

Peak
Log
8
dB/

V1 S2
S3 FC
RA



Center 910 MHz
Res BW 120 kHz

VBW 300 kHz

Span 10 MHz
Sweep 4 ms (401 pts)

* Agilent 14:09:47 Jun 25, 2013

G0J0#6425 LTX-TALL FCCC HARM 2 V

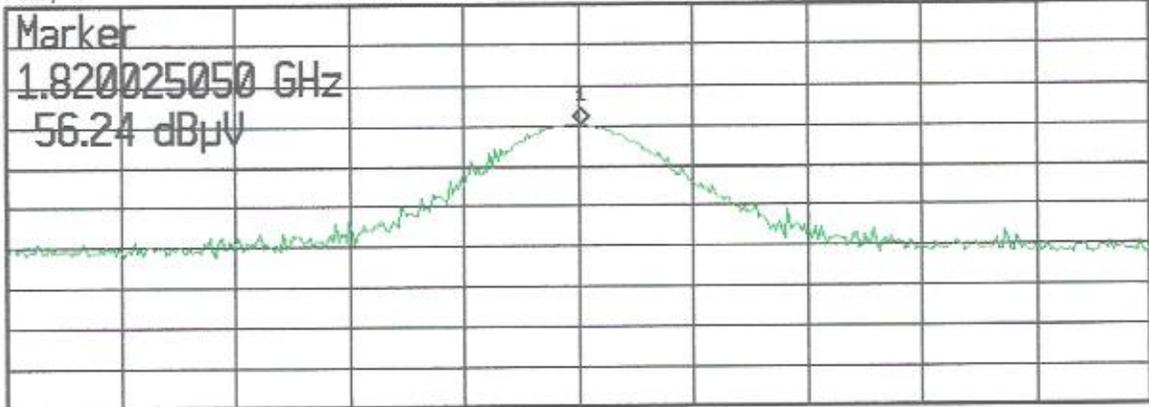
Mkr1 1.820025 GHz

Ref 80 dBμV

Atten 5 dB

56.24 dBμV

Peak
Log
8
dB/



Center 1.82 GHz

Span 10 MHz

Res BW 1 MHz

VBW 3 MHz

Sweep 4 ms (401 pts)

Signal (0)	Freq	Peak Ampl dBμU	Qp Ampl dBμU	Avg Ampl dBμU	Peak Δ LL1 dB	Peak Δ LL2 dB
Deleted all signals.						

Deleted all signals.

Agilent 14:13:38 Jun 25, 2013

G0J0#6425 LTX-TALL FCCC HARM 3 V

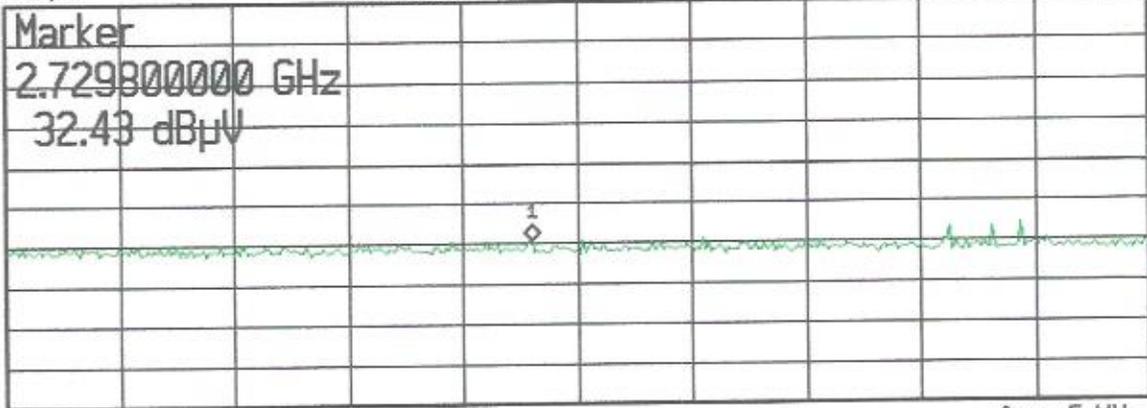
Ref 80 dB μ V

Atten 5 dB

Mkr1 2.7298000 GHz

32.43 dB μ V

Peak
Log
8
dB/



Center 2.73 GHz

Res BW 1 MHz

VBW 3 MHz

Span 5 MHz

Sweep 5 ms (401 pts)

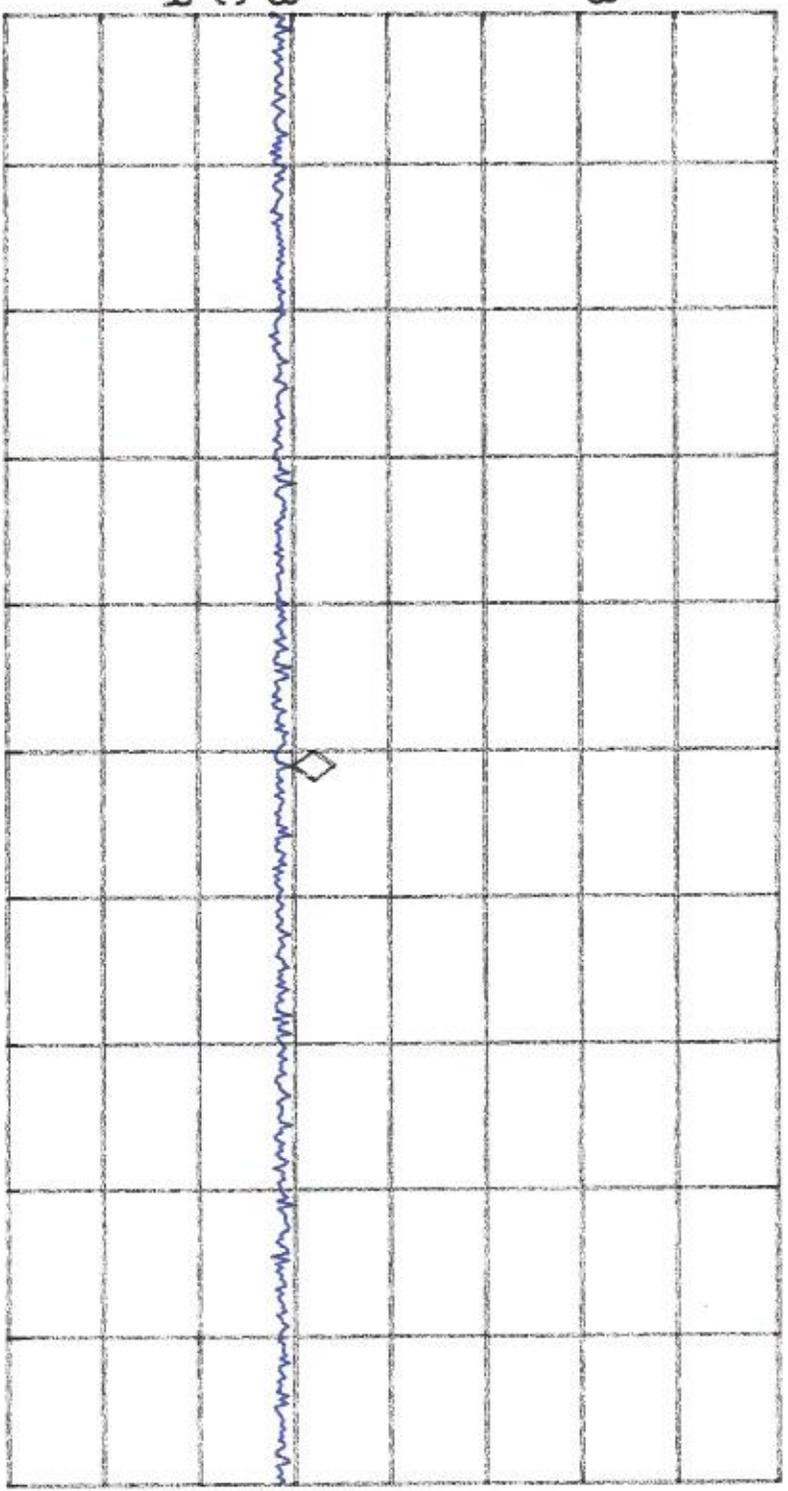
Signal (0)	Freq	Peak Ampl dB μ V	Qp Ampl dB μ V	Avg Ampl dB μ V	Peak Δ LL1 dB	Peak Δ LL2 dB
Deleted all signals.						

Deleted all signals.

10:35:07 JUN 25, 2013
GOUJ0#6425 LTX TALL FCCC HARM 4 V

ACTV DET: PEAK
MEAS DET: PEAK QP AVG
MKR 3.64010 GHZ
29.63 DB μ V
PREAMP ON

LOG REF 80.0 DB μ V
10 dB/
ATN
10 dB

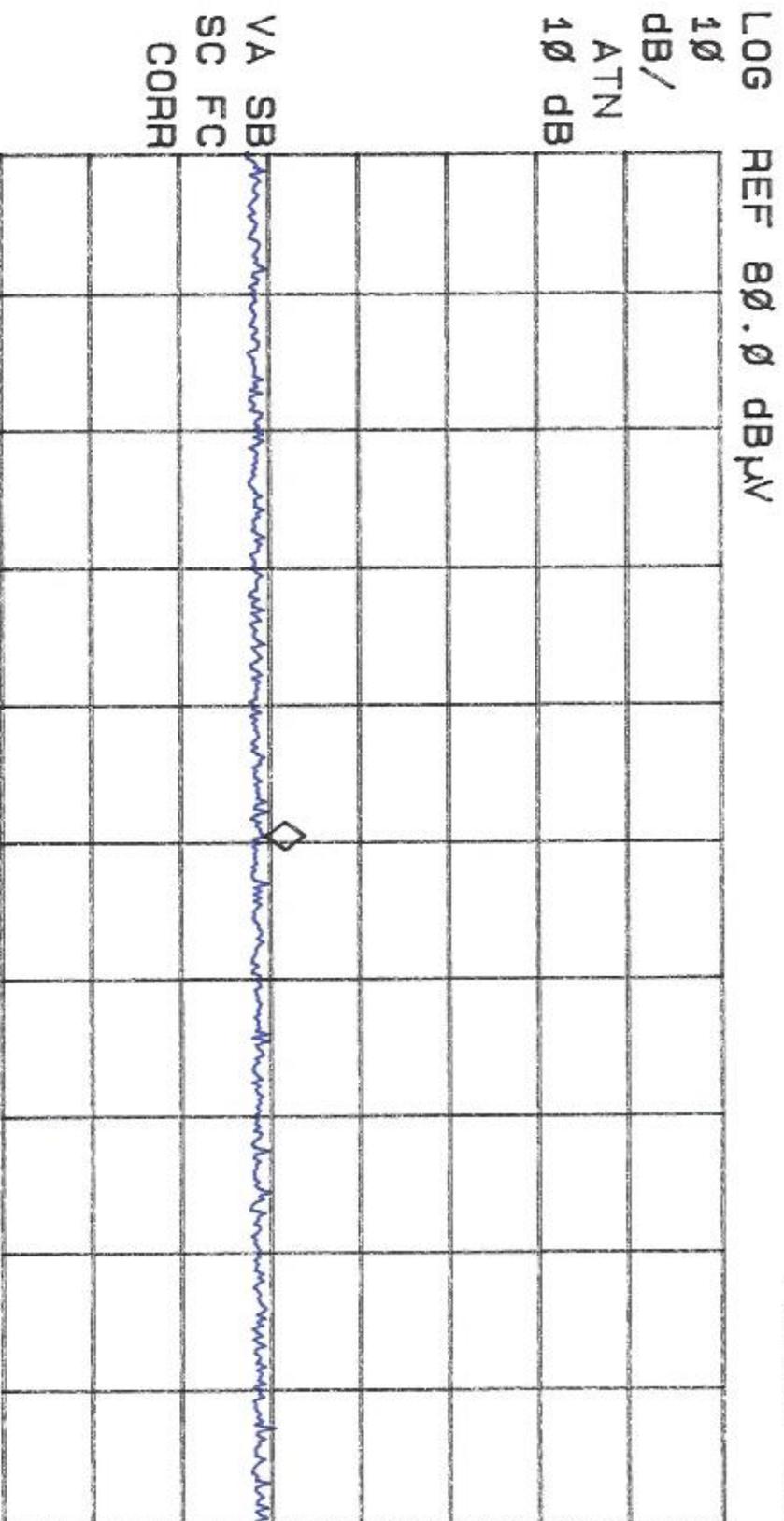


VA SB
SC FC
CORR

CENTER 3.64000 GHZ
#IF BW 1.0 MHZ
AVG BW 300 KHZ
SPAN 10.00 MHZ
SWP 20.0 msec

10:37:38 JUN 25, 2013
G0J0#6425 LTX TALL FCCC HARM 5 V

ACTV DET: PEAK
MEAS DET: PEAK QP AVG
MKR 4.54995 GHz
29.23 dB μ V
PREAMP ON



CENTER 4.55000 GHz

#IF BW 1.0 MHz

AVG BW 300 kHz

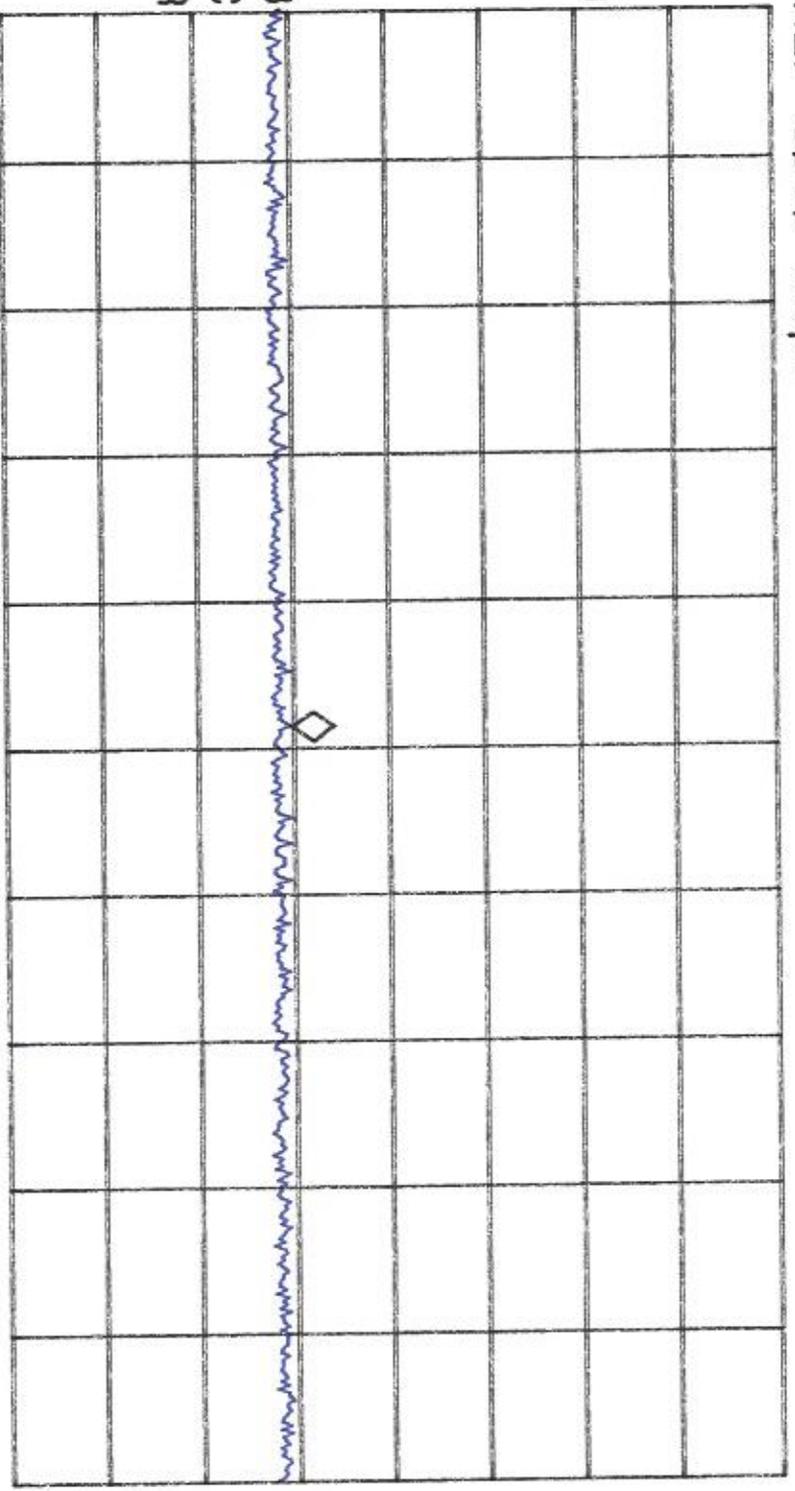
SPAN 10.0 MHz

SWP 20.0 msec

10:58:51 JUN 25, 2013
hp 60J0#6425 LTX TALL FCCC HARM 6 V

ACTV DET: PEAK
MEAS DET: PEAK QP AVG
MKR 5.45985 GHz
29.61 dB μ V
PREAMP ON

LOG REF 0.0 dB μ V
10
dB/
ATN
10 dB

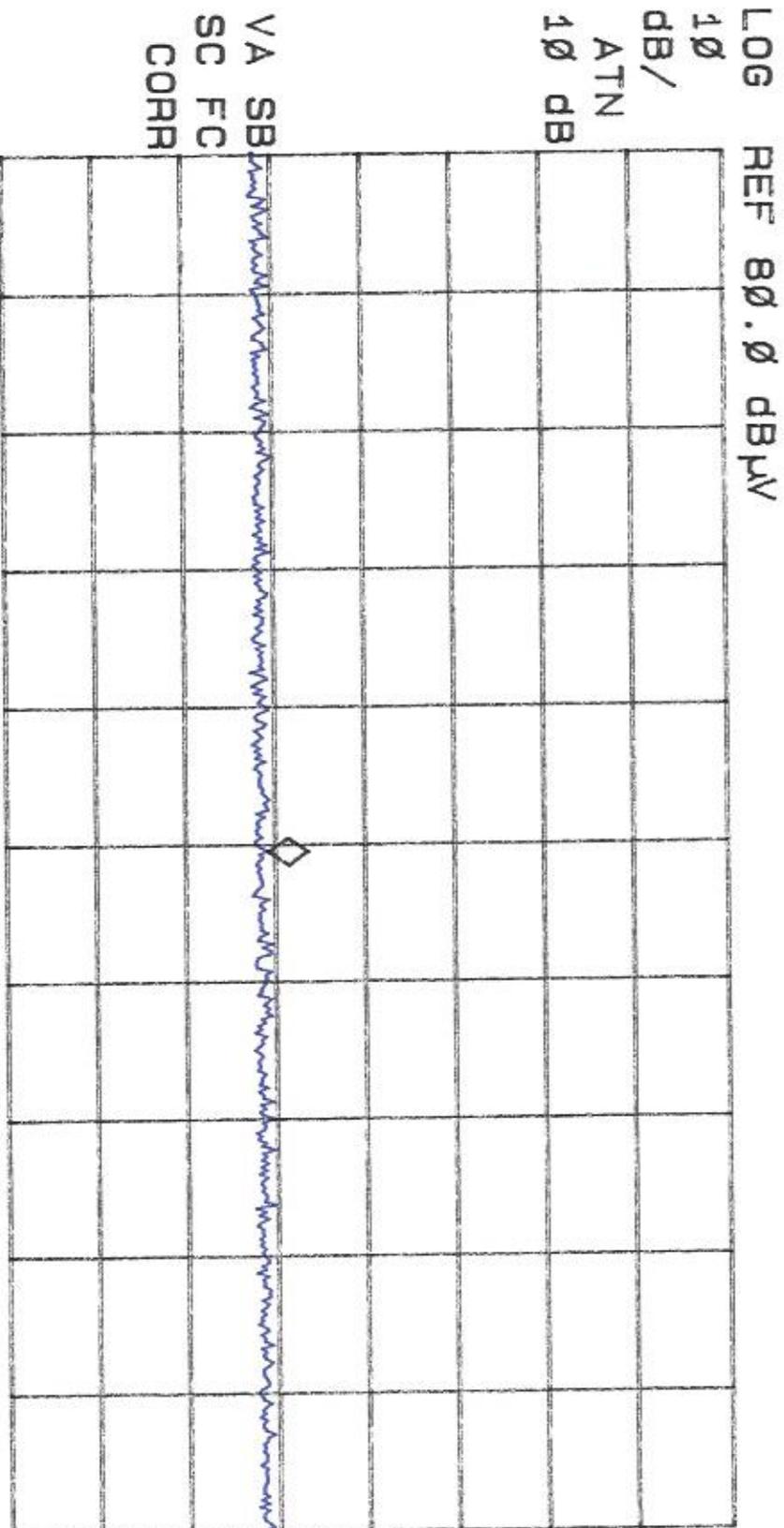


VA SB
SC FC
CORR

CENTER 5.46000 GHz
#IF BW 1.0 MHz
AVG BW 300 kHz
SPAN 10.00 MHz
SWP 20.0 msec

11:02:47 JUN 25, 2013
60J0#6425 LTX TALL FCCC HARM 7 V

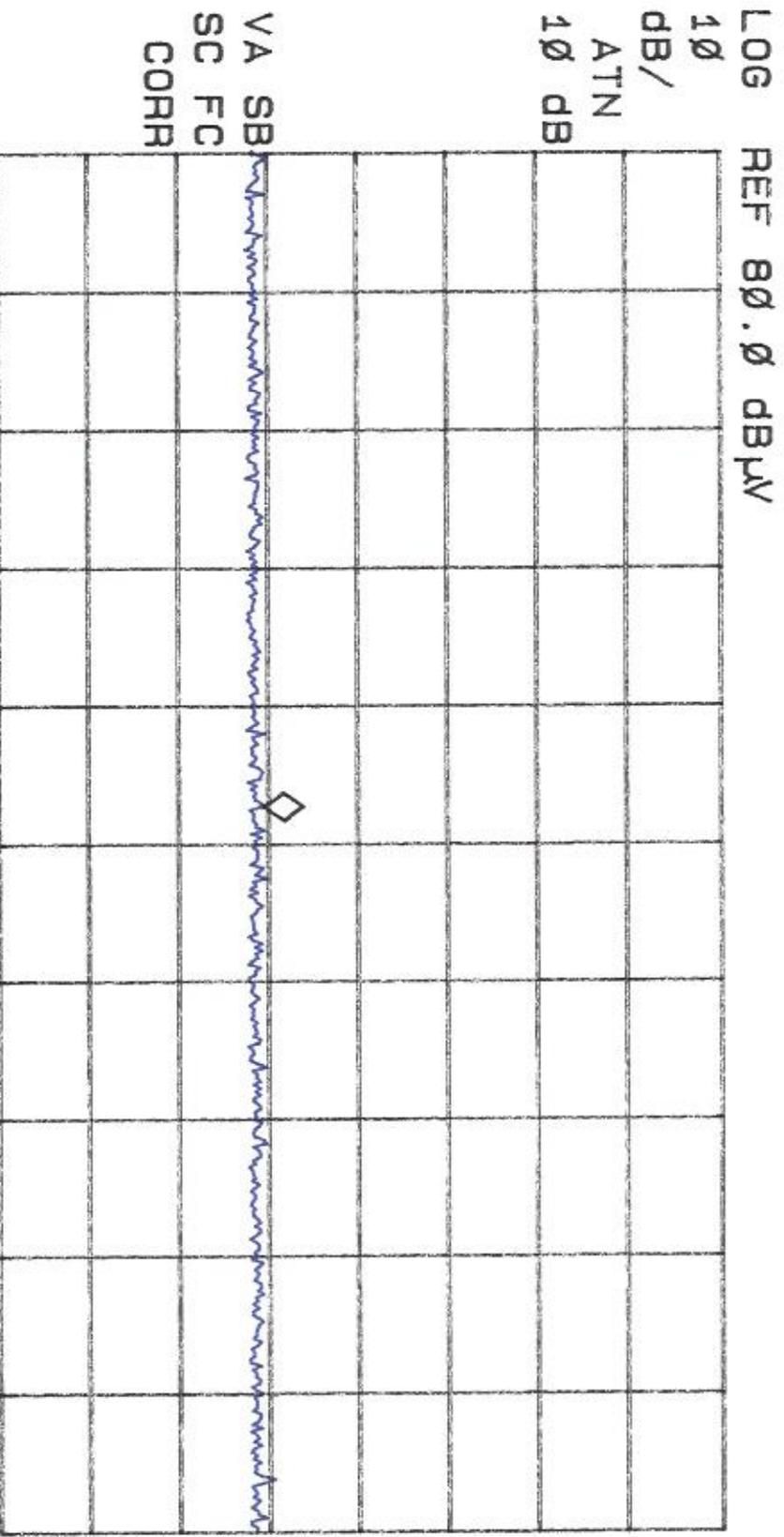
ACTV DET: PEAK
MEAS DET: PEAK QP AVG
MKR 6.37005 GHz
29.07 dBμV
PREAMP ON



CENTER 6.37000 GHz
#IF BW 1.0 MHz
AVG BW 300 kHz
SPAN 10.00 MHz
SWP 20.0 msec

11:09:53 JUN 25, 2013
60J0#6425 LTX TALL FCCC HARM B V

ACTV DET: PEAK
MEAS DET: PEAK QP AVG
MKR 7.27973 GHz
29.35 dBμV
PREAMP ON



CENTER 7.28000 GHz SPAN 10.00 MHz
#IF BW 1.0 MHz AVG BW 300 kHz SWP 20.0 msec

11:15:34 JUN 25, 2013
GOUJ0#6425 LTX TALL FCCC HARM 9 V

ACTV DET: PEAK
MEAS DET: PEAK QP AVG

MKR 8.19048 GHZ
29.54 DB μ V

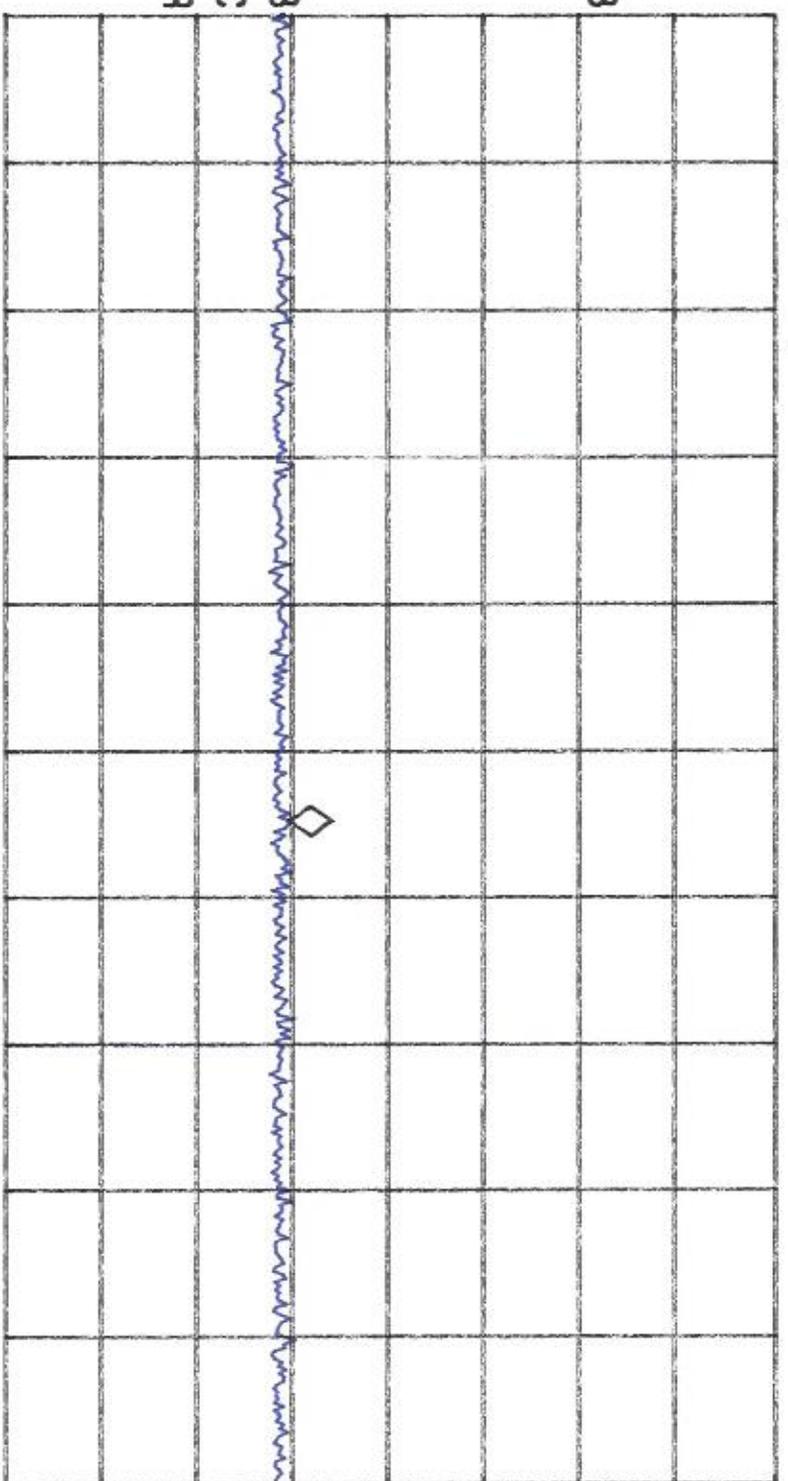
PREAMP ON

LOG REF 80.0 DB μ V

10
dB/

ATN

10 DB



MA SB
SC FC
CORR

CENTER 8.19000 GHZ
#IF BW 1.0 MHZ

AVG BW 300 KHZ

SPAN 10.00 MHZ
SWP 20.0 msec

11:17:49 JUN 25, 2013
GOJ0#6425 LTX TALL FCCC HARM 10 V

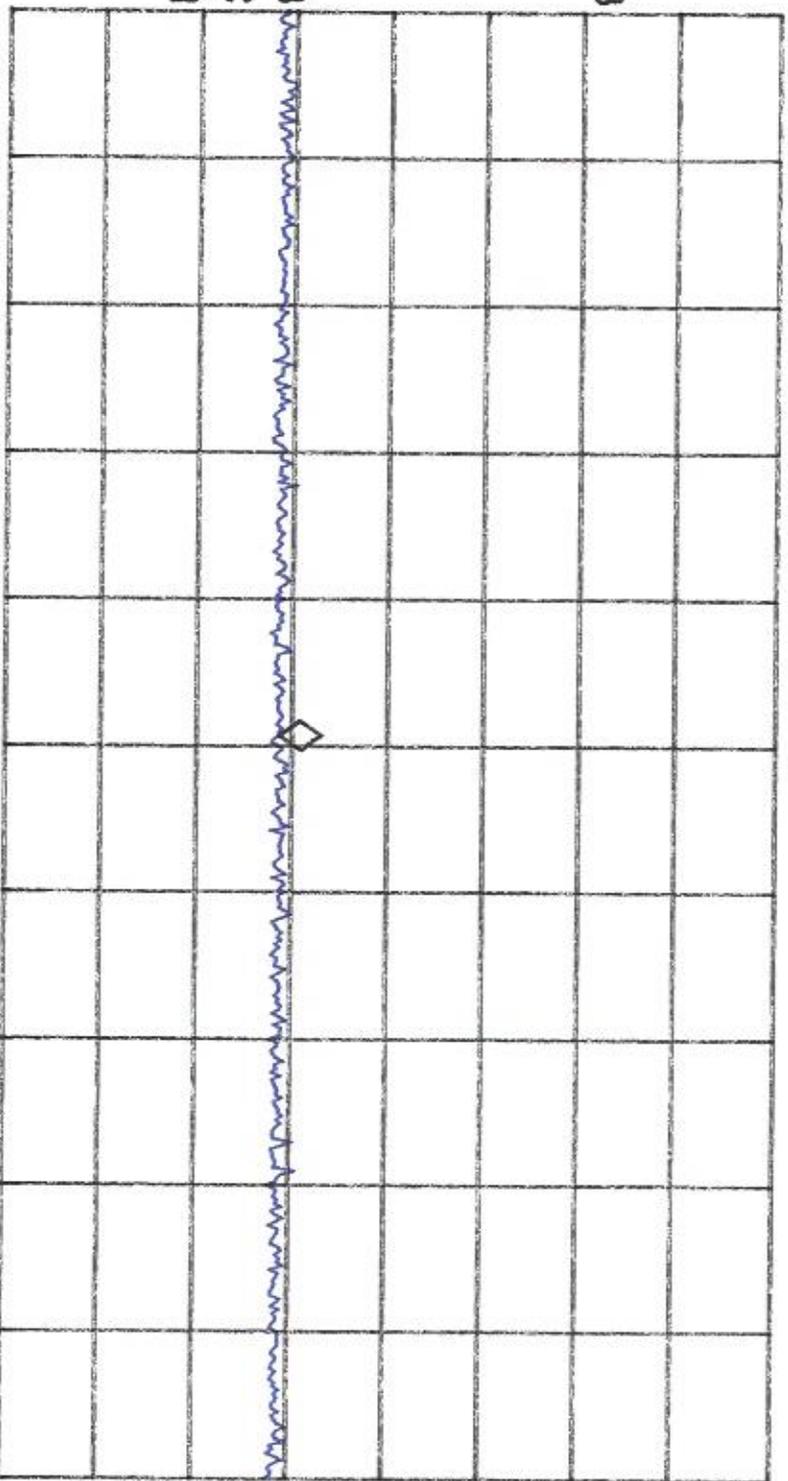
ACTV DET: PEAK
MEAS DET: PEAK QP AVG
MKR 9.09993 GHz
28.47 dBμV

LOG REF 80.0 dBμV

PREAMP ON

10 dB/
ATN
10 dB

VA SB
SC FC
CORR



CENTER 9.10000 GHz
#IF BW 1.0 MHz
AVG BW 300 kHz
SPAN 10.00 MHz
SMP 20.0 msec

DIVERSIFIED T.E.S.T. TECHNOLOGIES, INC. TEST REPORT

GOJO Industries Limited Approval Wireless Transmitter Module 1960-501-WHT Rev. 004 and 1930-513-910 Rev. ABC in the host where the host is Smartlink Ready LTX-7 13XX-##-YYY Dispenser	Project Number: 6425
--	-------------------------

Test Datasheets-Bandwidth Test Minimum 6dB Bandwidth less than 500 KHz

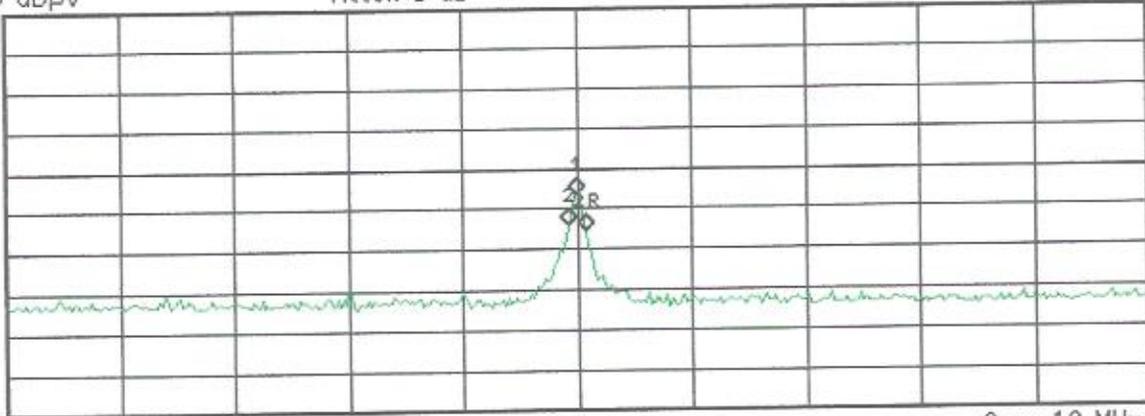
2 Pages of Data to Follow

Agilent 08:54:18 Jun 26, 2013

G0J0#6425 LTX-TALL FCCC BANDWIDTH H 3M
Ref 80 dB μ V Atten 5 dB

Mkr2 Δ -150 kHz
1.363 dB

Peak
Log
8
dB/



Center 910 MHz
Res BW 120 kHz

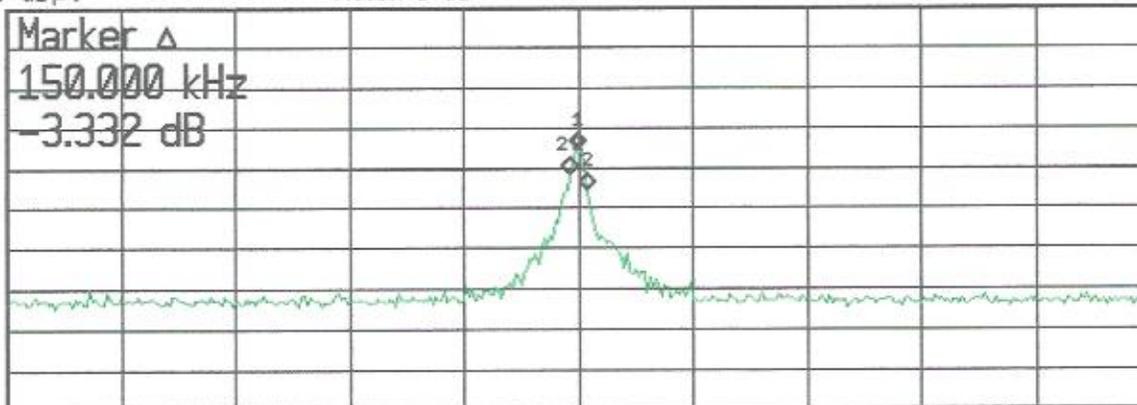
VBW 300 kHz

Span 10 MHz
Sweep 4 ms (401 pts)

Signal	Freq	Peak Ampl	Qp Ampl	Avg Ampl	Peak Δ LL1	Peak Δ LL2
<3>		dB μ V	dB μ V	dB μ V	dB	dB
1	910 MHz	42.92				
2	909.9 MHz	36.92				
3	910.1 MHz	35.55				

Signal Added To List

Peak
Log
8
dB/



Center 910 MHz

VBW 300 kHz

Span 10 MHz

Res BW 120 kHz

Sweep 4 ms (401 pts)

Signal	Peak Ampl	Qp Ampl	Avg Ampl	Peak Δ LL1	Peak Δ LL2
(3)	dBμV	dBμV	dBμV	dB	dB
1	51.82				
2	46.87				
3	43.54				

Signal Added To List

DIVERSIFIED T.E.S.T. TECHNOLOGIES, INC. TEST REPORT

GOJO Industries

Limited Approval Wireless Transmitter Module 1960-501-WHT
Rev. 004 and 1930-513-910 Rev. ABC in the host where the host is
Smartlink Ready LTX-7 13XX-##-YYY Dispenser

Project Number:
6425

Measurement Protocol

The methodology used during the testing performed on the EUT in this report was ANSI C63.4:2009.

The EUT was powered with 6 Volts DC during the collection of data included within this report.

The data is compared to FCC Part 15.249 C limits.

Please have a company official review this report and sign.



Annex

Limited Approval Wireless Transmitter Module P/N: 1960-501-WHT Rev. 004 and 1930-513-910 Rev. ABC February 15, 2014

Limited Approval Wireless Transmitter Module Installed into Smartlink Ready (LTX-7 13XX-##-YYY Dispenser)



1960-0961
DWG. NO.

TYPE TRANSMITTER GOJO Industries, Inc.



P/N: 1960-501-WHT Rev. 004

FCC ID: O76-T4SG0910A

SN: XXXXXXXX

- OR -

Type: LTX AMS S/N:XXXXXXXX



P/N: 1930-513-910 Rev: ABC

FCC ID: O76-T4SG0910A

IC: #####-#####

GOJO Industries, Inc.

REV	ECO ECR	REVISION	APRVD. BY	DATE

APPROVAL SIGNATURES ON FILE

NOTES:

1. MATERIAL:

- FASSON 77113
- COLOR: WHITE
- FACESTOCK: 0.7 MIL CLEAR BOPP
- ADHESIVE: S2001
- LINER: 1.2 MIL PET

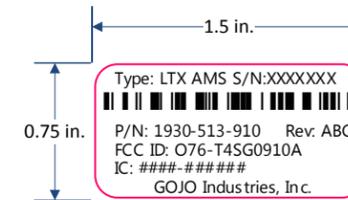
2. OVAL BOXED DIMENSIONS ARE CRITICAL.

3. BARCODE TO BE TYPE 128 TO CONTAIN SERIAL NUMBER

3. PART TO BE FREE OF DIRT, GREASE, OIL OR ANY FOREIGN MATERIAL

4. SHIPPING REQUIREMENTS:

CAREFULLY PACKED TO AVOID DAMAGE IN QUANTITIES, IN UNIFORM SIZED SHIPPING CONTAINERS ON UNIFORM SIZED PALLET (48"LENGTH X 40"WIDTH X 66" TALL) CARTONS TO BE MARKED CLEARLY IN 1" HIGH MINIMUM LETTERS. WITH QUANTITY, GOJO PART, LOT, AND P.O. NUMBER.



SCALE 1:1

INTERPRET DRAWING PER ASME Y14.100 UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	TITLE: FCC LABEL, LTX AMS STATE: Developmental		
	<small>CONFIDENTIAL ©2013 GOJO Industries, Inc. All Rights Reserved.</small> THIS DRAWING IS THE PROPERTY OF GOJO INDUSTRIES, INC. <small>ONE GOJO PLAZA, SUITE 500 AKRON, OH 44311 AND IS LOANED UPON CONDITION THAT IT IS NOT TO BE REPRODUCED OR COPIED IN WHOLE OR PART, OR USED FOR FURNISHING INFORMATION TO OTHERS OR FOR ANY OTHER PURPOSE DETRIMENTAL TO THE INTEREST OF GOJO INDUSTRIES, INC. AND WILL BE RETURNED UPON REQUEST</small>		
THIRD ANGLE PROJECTION 	TOLERANCES: DECIMALS: X.X = 0.1 .X.XX = 0.01 .X.XXX = 0.005 FRACTIONS: X/XX = 1/32 ANGLES: X.X = 0.5 X.XX = 0.50	DRAWN BY: M. BULLOCK DATE: 7/25/13 CHKD BY: DATE:	SCALE 1:1 DO NOT SCALE DWG. NO. 1960-013
	SIZE B	SHEET 1 of 1	REV 1

4

3

2

1

AAA-##-XXE1
DWG. NO.

REV	ECO ECR	REVISION	APRVD. BY	DATE

APPROVAL SIGNATURES ON FILE

13XX-##-YYY

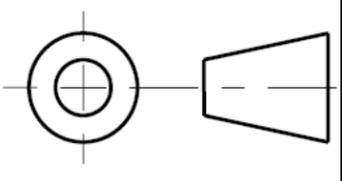
Color option:
 (blank) = Standard color
 BLK = Chrome and black

Package option:
 EA = Individual unit
 ## = Pack-out quantity

Brand:
 30 = PURELL®
 31 = PROVON®

Family Identifier:
 13 = SMARTLINK™ Ready LTX-7™ dispenser family

Example:
 1331-04-BLK = PROVON® SMARTLINK™ Ready LTX-7™ dispenser, chrome and black, 4-pack

INTERPRET DRAWING PER ASME Y14.100 UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		TITLE: SMARTLINK™ Ready LTX-7™ dispenser part numbering STATE: Developmental		
THIRD ANGLE PROJECTION		<small>CONFIDENTIAL ©2013 GOJO Industries, Inc. All Rights Reserved.</small> THIS DRAWING IS THE PROPERTY OF GOJO INDUSTRIES, INC. <small>ONE GOJO PLAZA, SUITE 500 AKRON, OH 44311 AND IS LOANED UPON CONDITION THAT IT IS NOT TO BE REPRODUCED OR COPIED IN WHOLE OR PART, OR USED FOR FURNISHING INFORMATION TO OTHERS OR FOR ANY OTHER PURPOSE DETRIMENTAL TO THE INTEREST OF GOJO INDUSTRIES, INC. AND WILL BE RETURNED UPON REQUEST</small>		
		TOLERANCES: DECIMALS: X.X = 0.1 .X.XX = 0.01 .X.XXX = 0.005 FRACTIONS: X/XX = 1/32 ANGLES: X.X = 0.5 X.XX = 0.50	DRAWN BY: M. BULLOCK DATE: 1/22/14 CHKD BY: DATE:	SCALE 1:1 DO NOT SCALE DWG. NO. 13XX-##-YYY
		SIZE B	SHEET 1 of 1	REV 1

4

3

2

1

D

D

C

C

B

B

A

A

Duty Cycle Chart

