



Typical Characteristics on DTA-100M18G-30-CD-1

PMI MODEL NUMBER DTA-100M18G-30-CD-1 IS A 5 BIT PROGRAMMABLE 30 DB PIN DIODE ATTENUATOR WITH STEP RESOLUTION OF 1 DB OVER THE FREQUENCY RANGE OF 100MHZ TO 18 GHZ.



September 1, 2014

Designed By: PMI Engineering

Tested By: Kevin Mansfield



Typical Characteristics on DTA-100M18G-30-CD-1

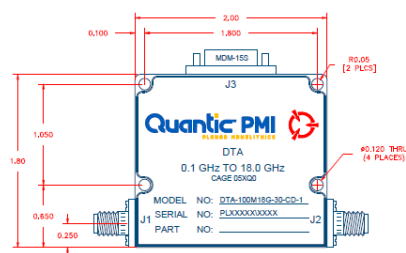
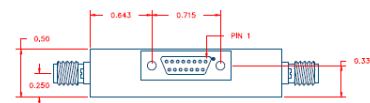
DESCRIPTION:

PMI MODEL NUMBER DTA-100M18G-30-CD-1 IS A 5 BIT PROGRAMMABLE 30 dB PIN DIODE ATTENUATOR WITH STEP RESOLUTION OF 1 dB OVER THE FREQUENCY RANGE OF 100 MHz TO 18 GHz.

SPECIFICATIONS:

- FREQUENCY: 100 MHz TO 18 GHz
- MEAN ATTENUATION RANGE: 30dB
- INSERTION LOSS: 5.0 dB TYP
- VSWR: 2.5:1 TYP
- ACCURACY OF ATTENUATION: ± 2.5 dB TYP
- MINIMUM ATTENUATION STEP: 1.0 dB
- POWER HANDLING CAPABILITY: +24 dBm CW MAX
- INPUT 1dB COMPRESSION: +20dBm TYP
- SWITCHING TIME:
 - ON TIME: 1.0 usec MAX
 - OFF TIME: 0.5 usec MAX
- POWER SUPPLY: +12 to +15V @ 50mA MAX
- CONNECTORS: (2) 2.92mm(F) & 15 Pin Micro-D Female
Shipped with Micro-D mating connector
- WEIGHT: 3.0 oz (85 gm) Approximate
- FINISH: Painted Blue
- LOGIC INPUT
 - LOGIC "0" (BIT OFF) 0 to +0.8V
 - LOGIC "1" (BIT ON) +2.0 to +5.0V

PIN NO.	J3 PIN FUNCTIONS
1	10B
2	N.C.
3	N.C.
4	N.C.
5	GND
6	N.C.
7	N.C.
8	GND
9	N.C.
10	N.C.
11	+12 TO +15VDC
12	16dB
13	8dB
14	4dB
15	2dB



PMI CONFIDENTIAL AND PROPRIETARY

ENVIRONMENTAL RATINGS:

- TEMPERATURE: -50°C TO +85°C (OPERATING)
-65°C TO +125°C (STORAGE)
- HUMIDITY: MIL-STD-202F, METHOD 103B COND. B
- SHOCK: MIL-STD-202F, METHOD 213B COND. B
- VIBRATION: MIL-STD-202F, METHOD 204D COND. B
- ALTITUDE: MIL-STD-202F, METHOD 105C COND. B
- TEMPERATURE CYCLE: MIL-STD-202F, METHOD 107

ALL DIMENSIONS ARE IN INCHES
TOLERANCES:
X.XX .40/0.20
X.XXX .40/0.15

NOTE: THE ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE OR REVISION

REVISIONS			
ZINC	REV.	DESCRIPTION	DATE
	1	ORIGINAL RELEASE	11/22/13
	A2	ECN # 24-0029	02/02/24
	A3	ECN # 24-0186	07/09/24

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ISO 9001 CERTIFIED

Quantic PMI
PLASMA REB

APPROVALS		DATE		TITLE	
DRAWN		11/22/13		PRODUCT FEATURE	
CHECKED				DTA-100M18G-30-CD-1	
ISSUED					
REV	FROM NO.	DWG NO.	REV		
A	05XQ0	27021551	A3		
SCALE		N.S.		SHEET 1 OF 1	



Typical Characteristics on DTA-100M18G-30-CD-1

TEST. ITEM NO	PARAMETERS	SPECIFIED VALUE	PASS/FAIL	QA QC
1	Frequency Range:	0.1 GHz – 18 GHz	0.1 GHz – 18 GHz	
2	Insertion Loss:	5.0 dB Typ.	4.74 dB	
3	VSWR:	2.5:1 TYP	1.66 :1	
4	Flatness @ 15dB:	0.6 dB	0.65 dB	
5	Flatness @ 30dB:	0.7 dB	0.71 dB	
6	Accuracy of Attenuation 0 to 10 dB:	± 2.5 dB	±0.04 dB	
7	Accuracy of Attenuation 10 to 20 dB:	± 2.5 dB	±0.06 dB	
8	Accuracy of Attenuation 20 to 30 dB:	± 2.5 dB	±0.09 dB	
9	Switching Speed:	ON: 1.0 usec Max OFF: 0.5 usec Max	< 240 nsec < 180 nsec	
10	DC Supply:	+15VDC @ 50mA Max	+15VDC @ 38mA Max	

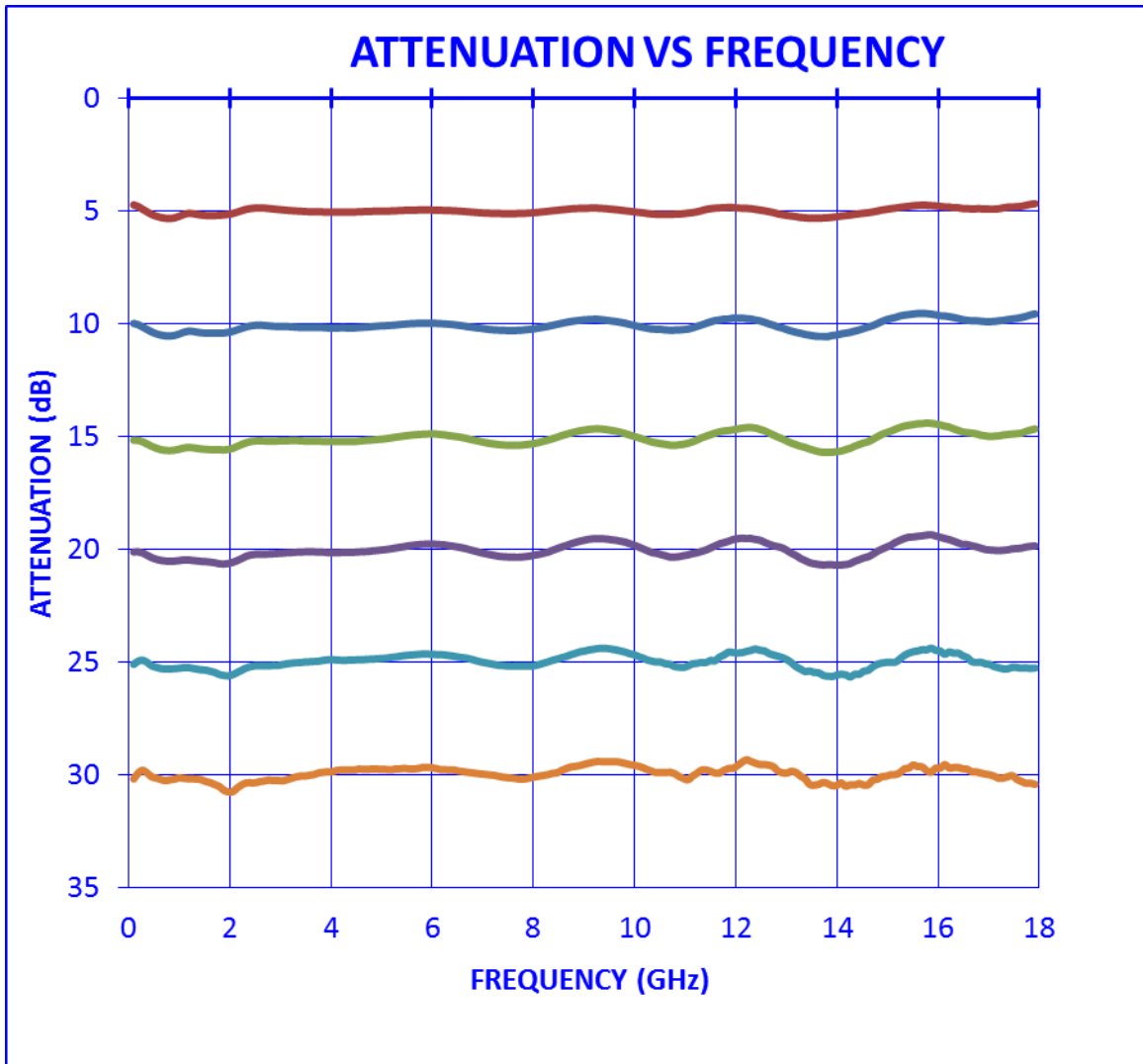
Programed Attenuation dB	Attenuation dB	Accuracy of Attenuation dB	Flatness dB	Programed Attenuation dB	Attenuation dB	Accuracy of Attenuation dB	Flatness dB
1.00	1.00	0.00	0.23	5.00	4.99	0.01	0.33
2.00	2.00	0.00	0.30	10.00	10.04	-0.04	0.52
4.00	3.99	0.01	0.31	15.00	15.04	-0.04	0.65
8.00	8.03	-0.03	0.43	20.00	20.02	-0.02	0.67
16.00	16.01	-0.01	0.67	25.00	25.01	-0.01	0.64
31.00	31.06	-0.06	0.64	30.00	30.03	-0.03	0.71

Attenuation vs. Frequency Plot

7311-F Grove Road Frederick, MD 21704 USA Phone: (301)662-5019 Fax: (301)662-1731
email: sales@pmi-rf.com



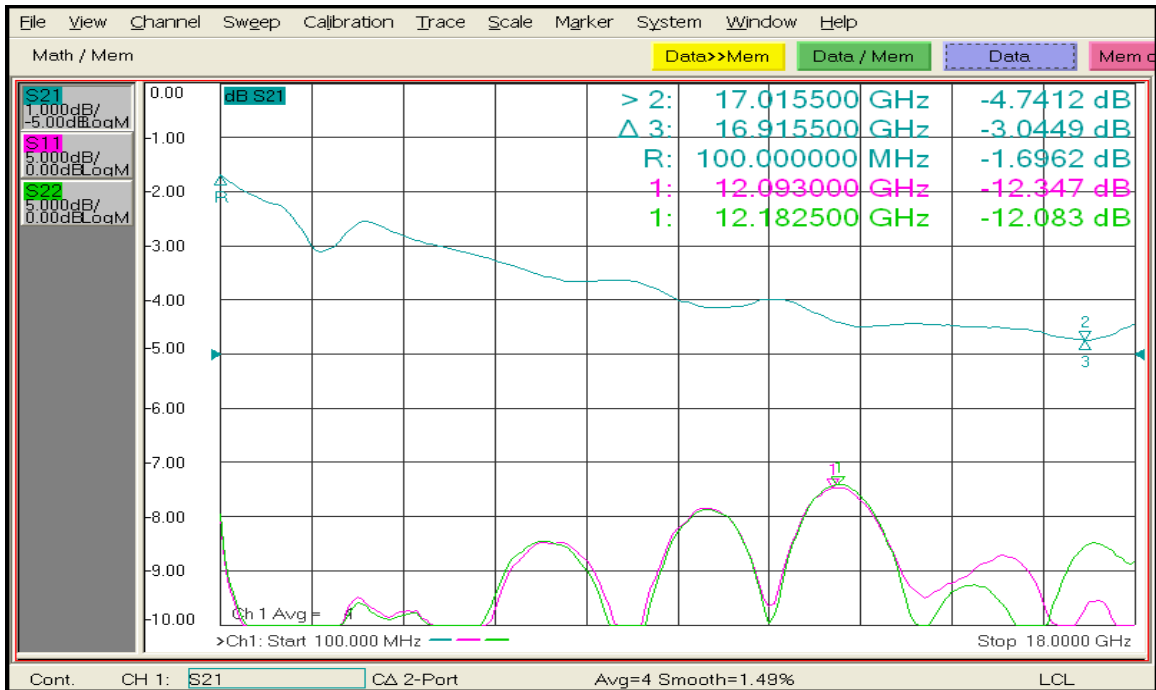
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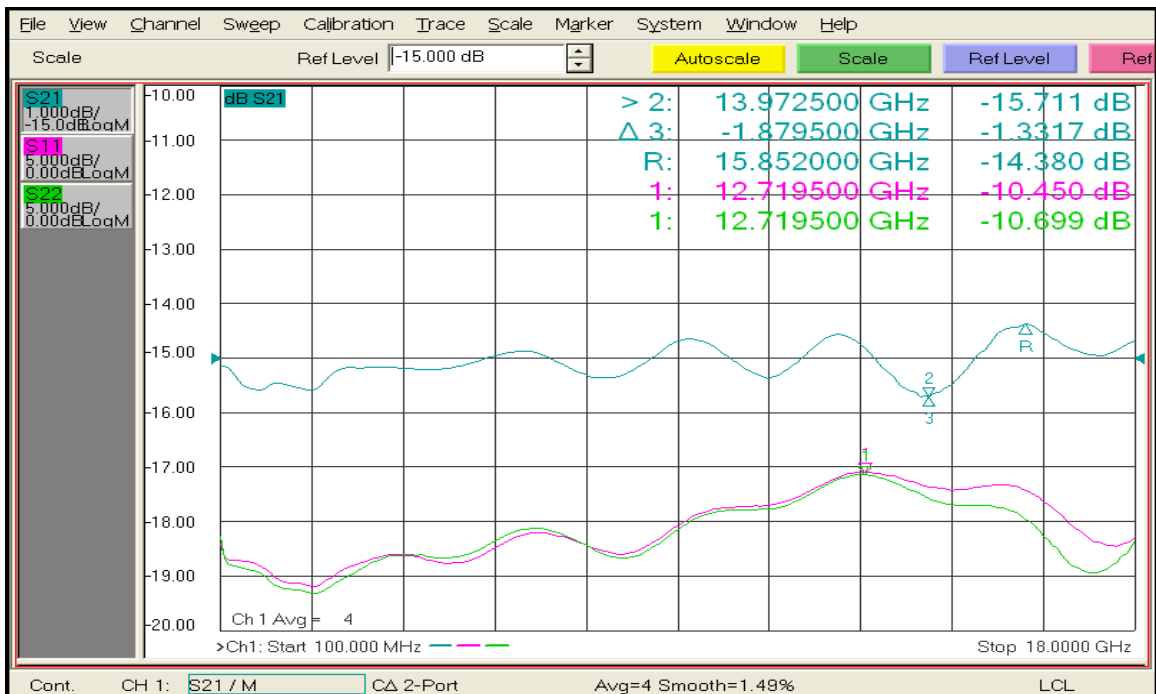
Insertion Loss & Return Loss



Typical Characteristics on DTA-100M18G-30-CD-1



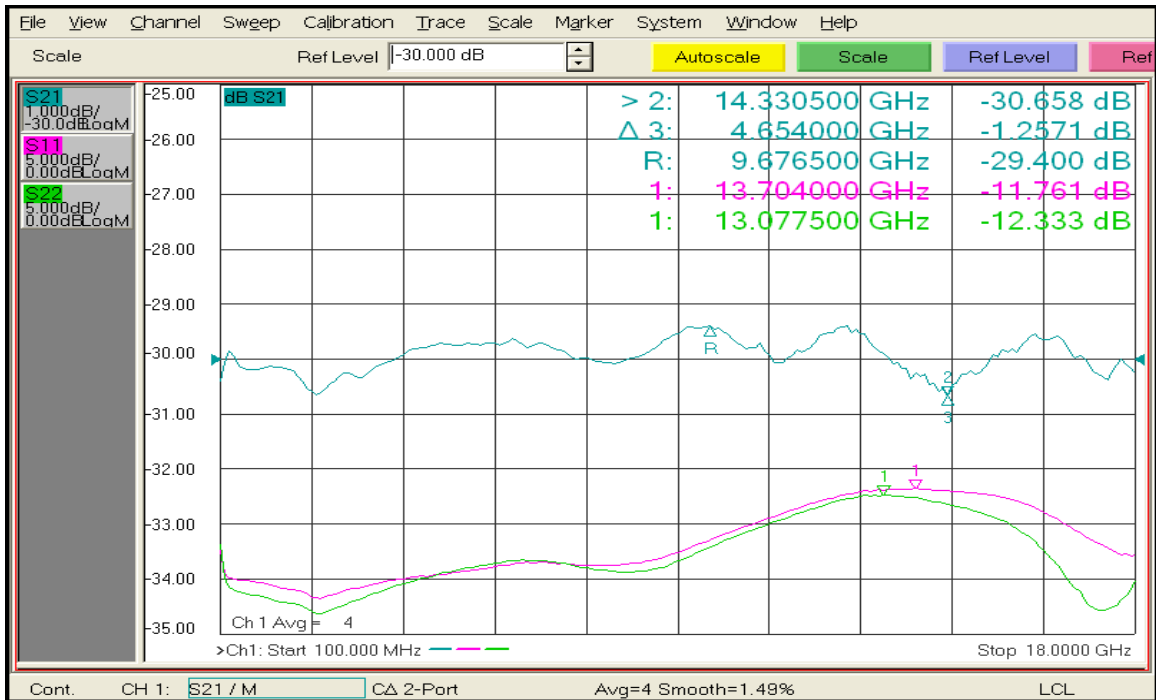
-15dB Attenuation



-30dB Attenuation



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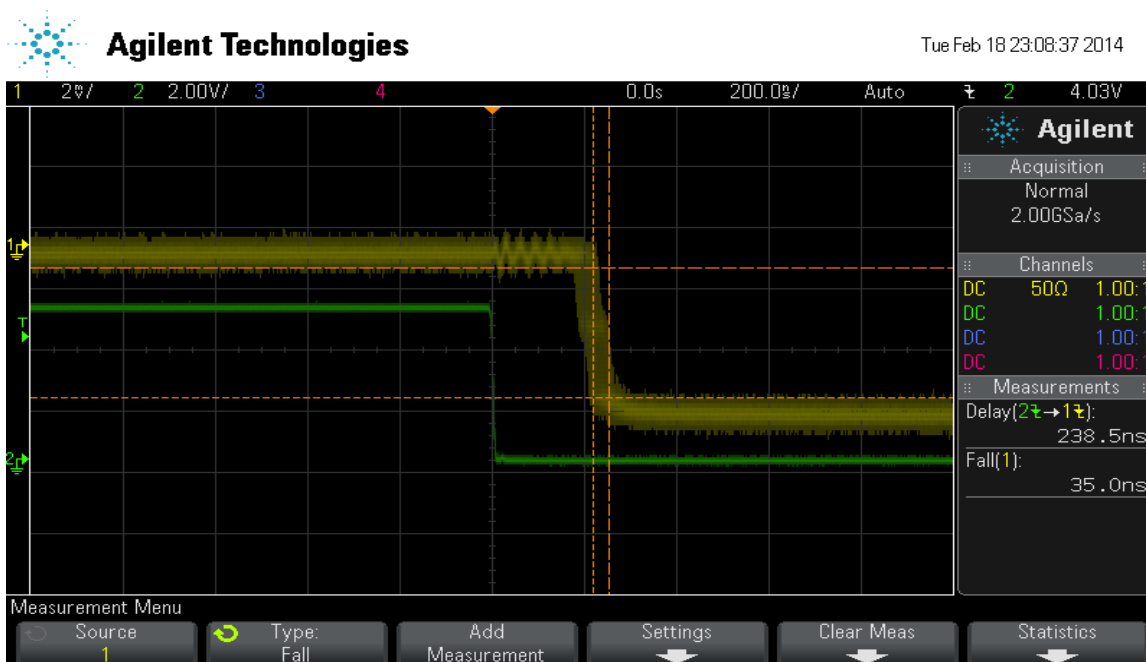


Switching Speed
ON Delay - 200ns per Div.

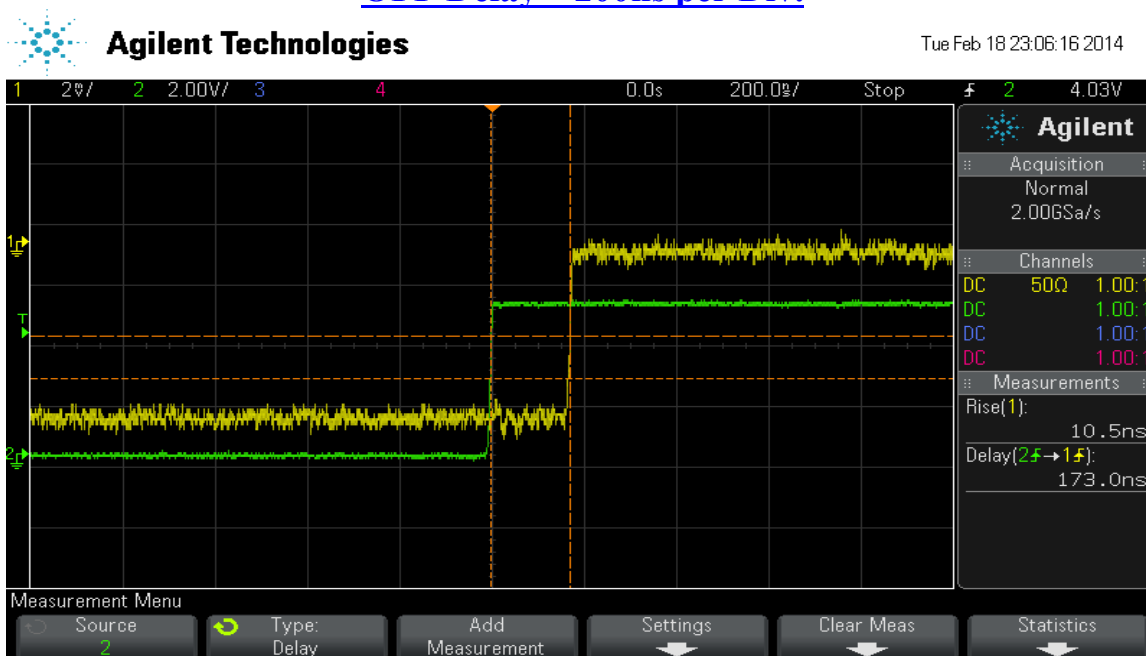
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Typical Characteristics on DTA-100M18G-30-CD-1



OFF Delay – 200ns per Div.



Channel 1 (Yellow): RF Signal (Crystal Detector Negative Output)

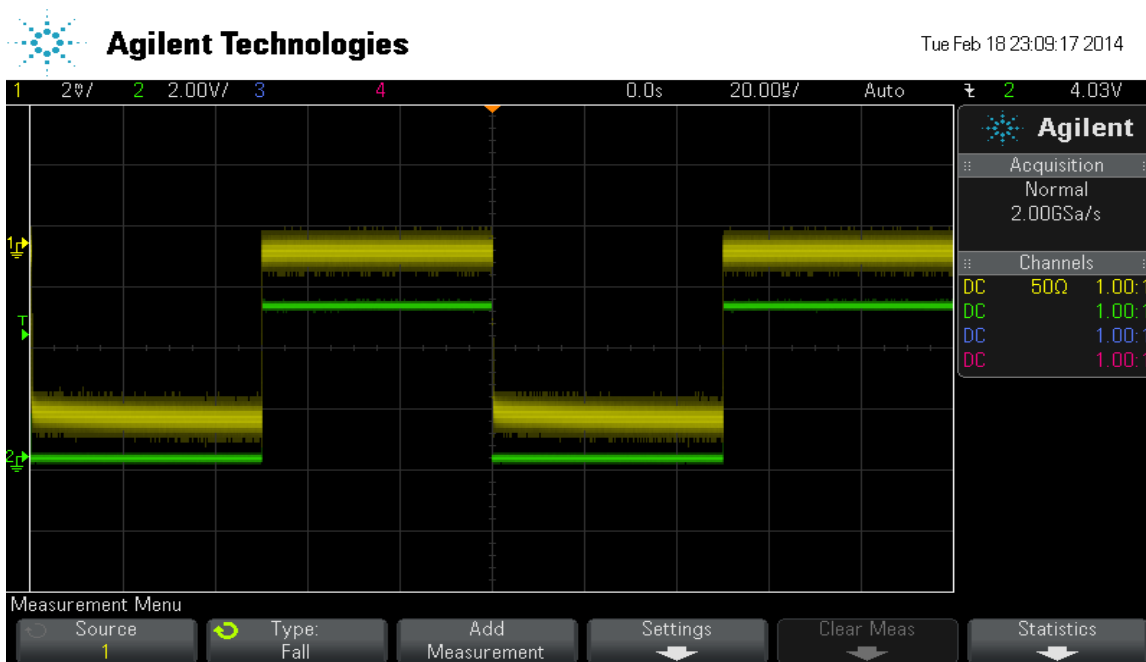
Channel 2 (Green): TTL Input from Signal Generator

Full Pulse – 2us per Div.

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Channel 1 (Yellow): RF Signal (Crystal Detector Negative Output)

Channel 2 (Green): TTL Input from Signal Generator