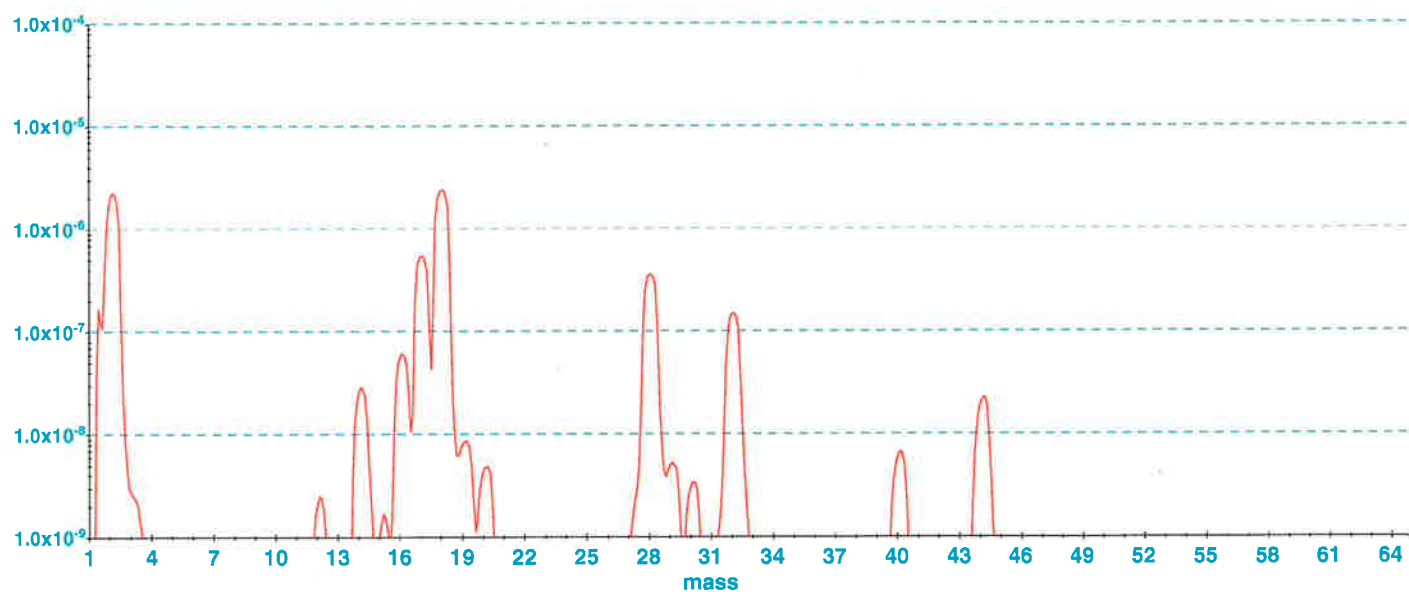
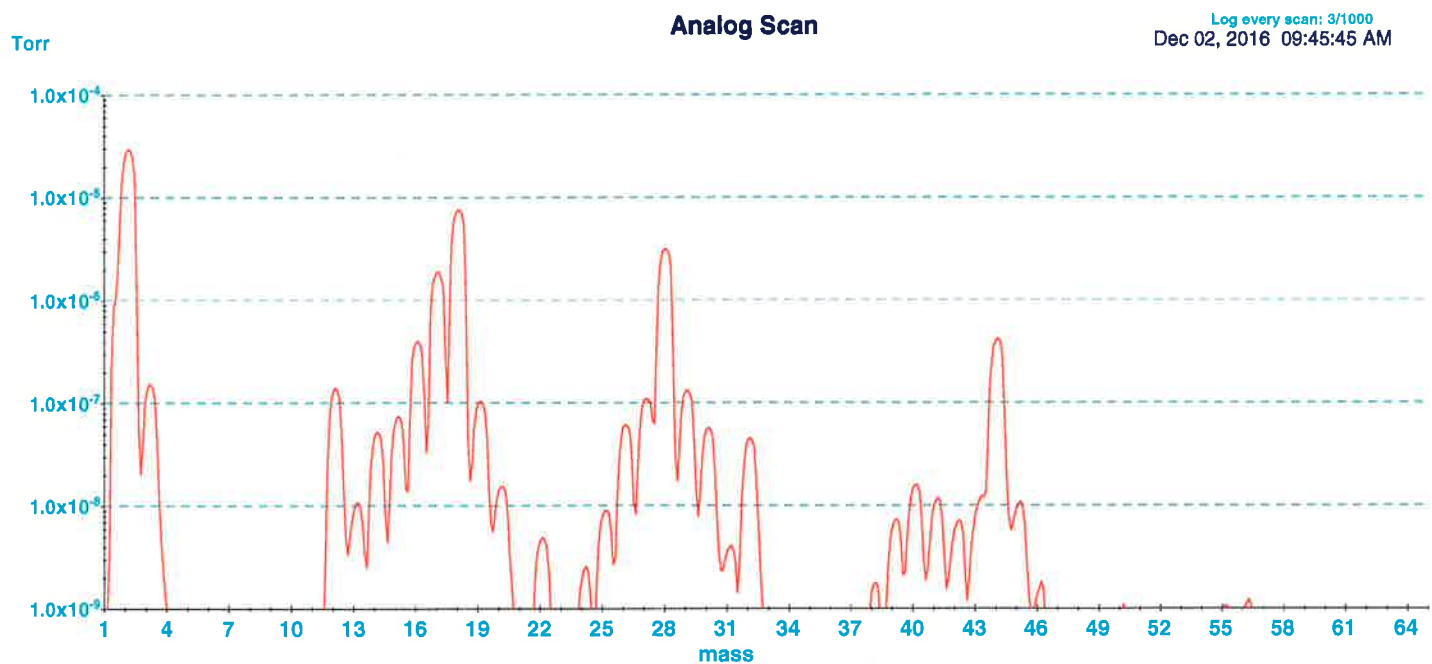


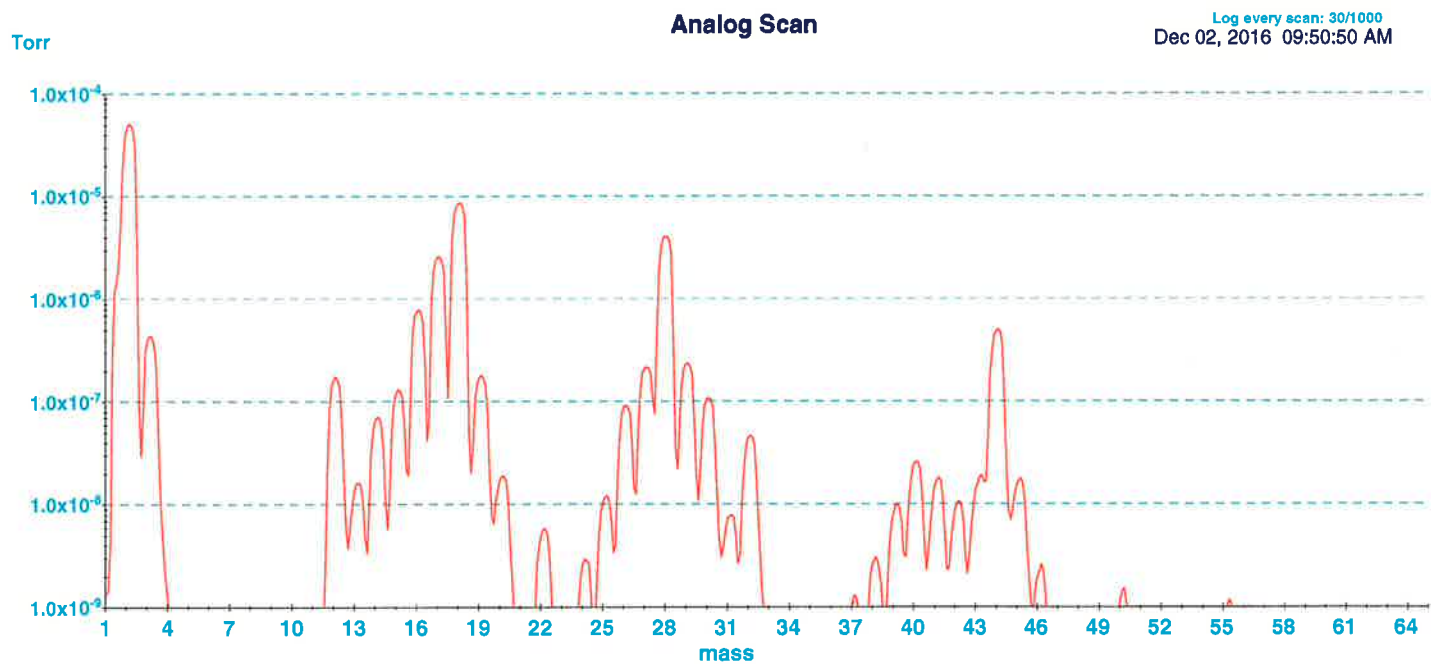
# Analog Scan

Log every scan: 4/1000  
Dec 02, 2016 09:42:26 AM

Torr



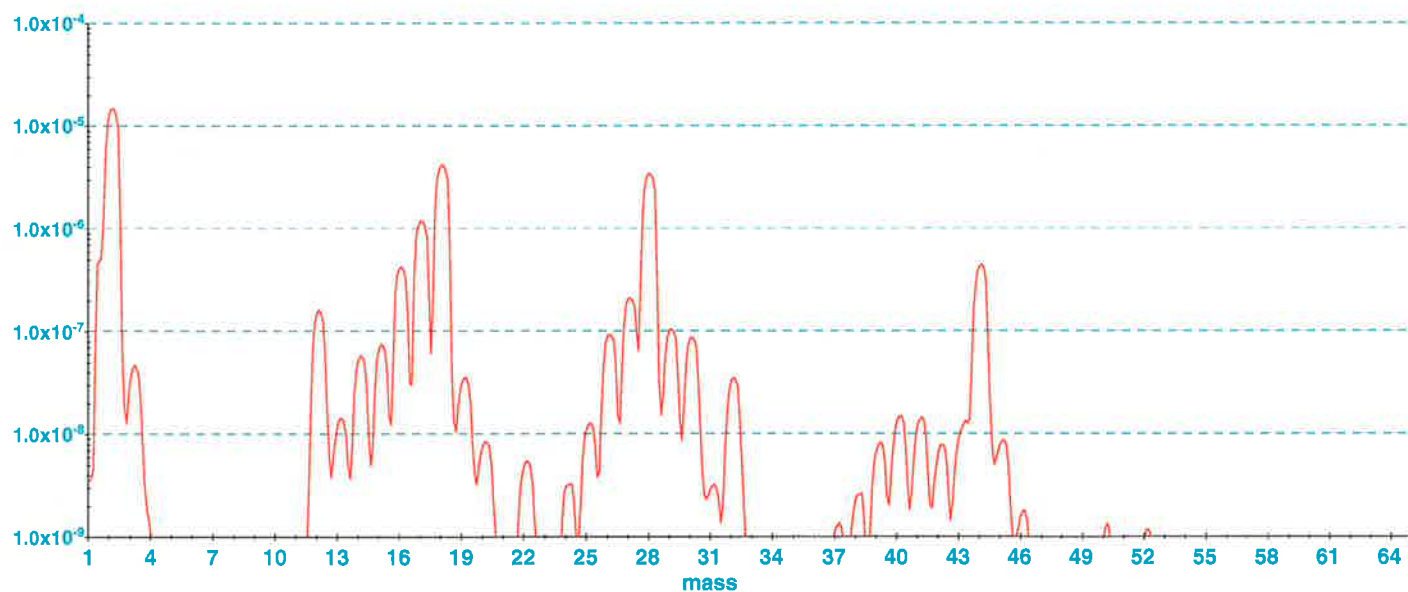


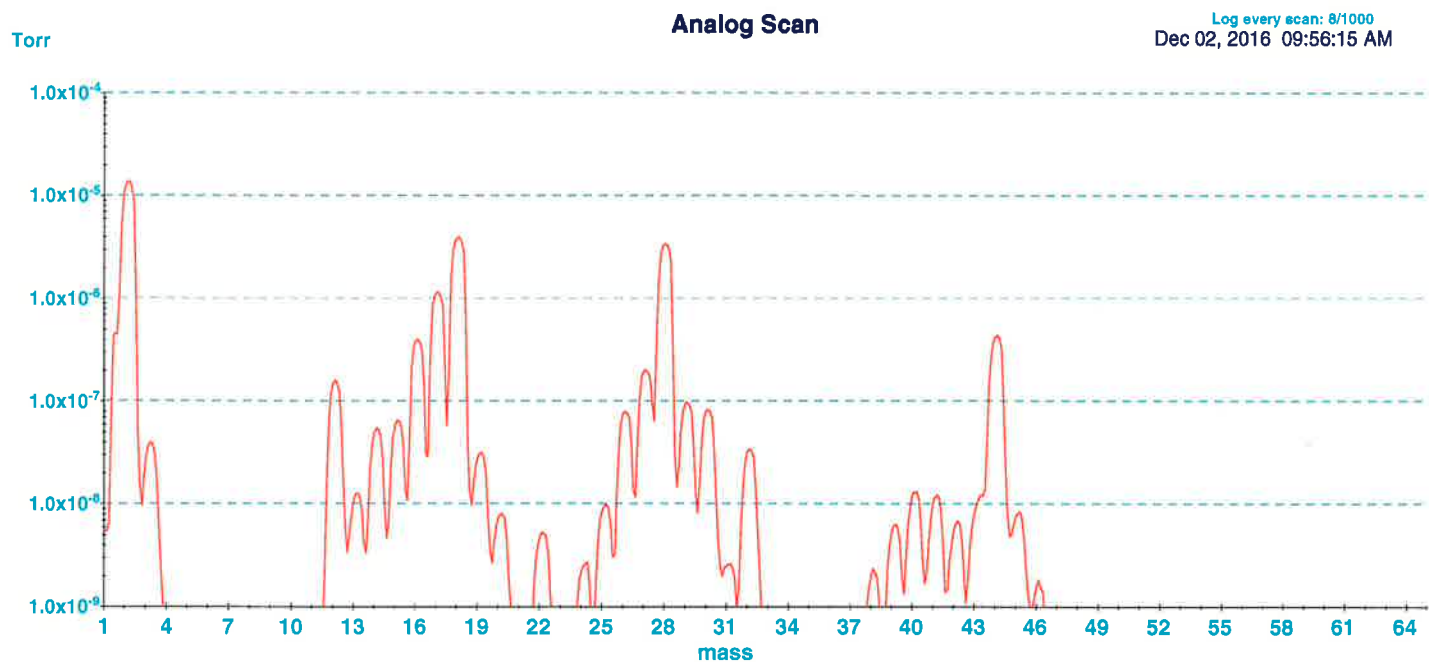


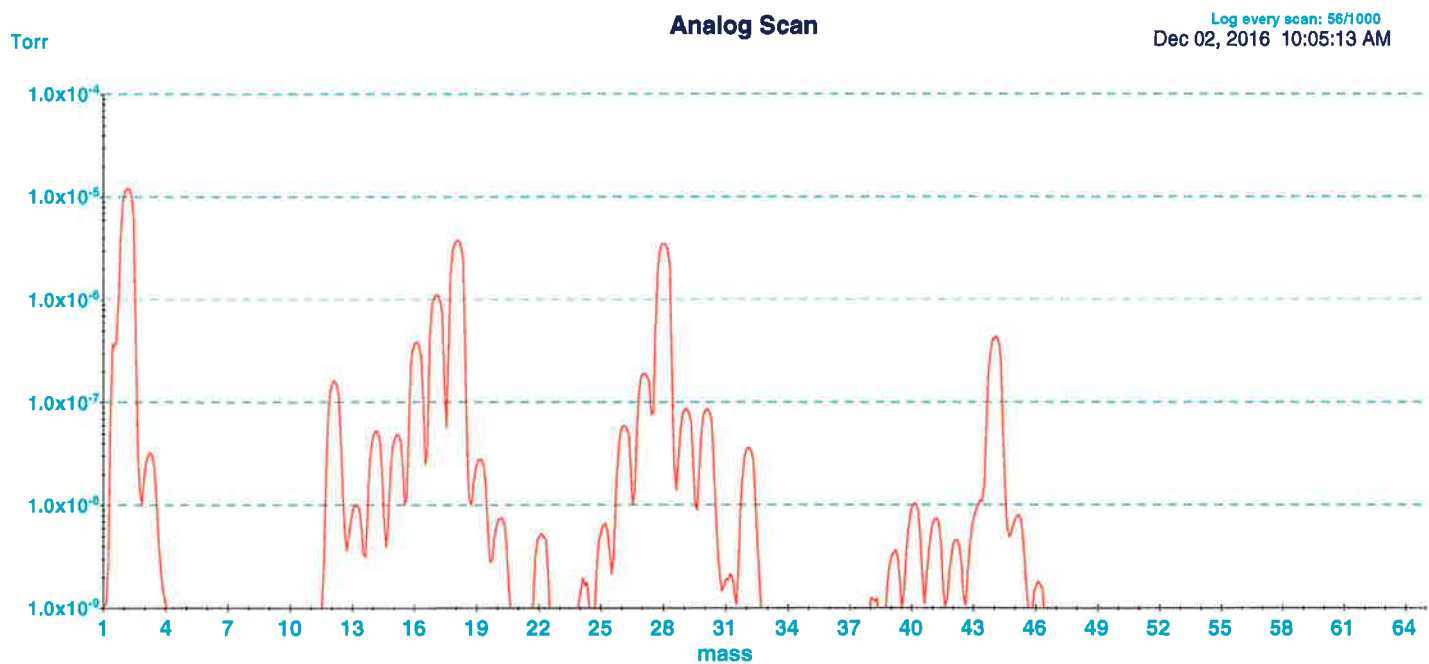
Torr

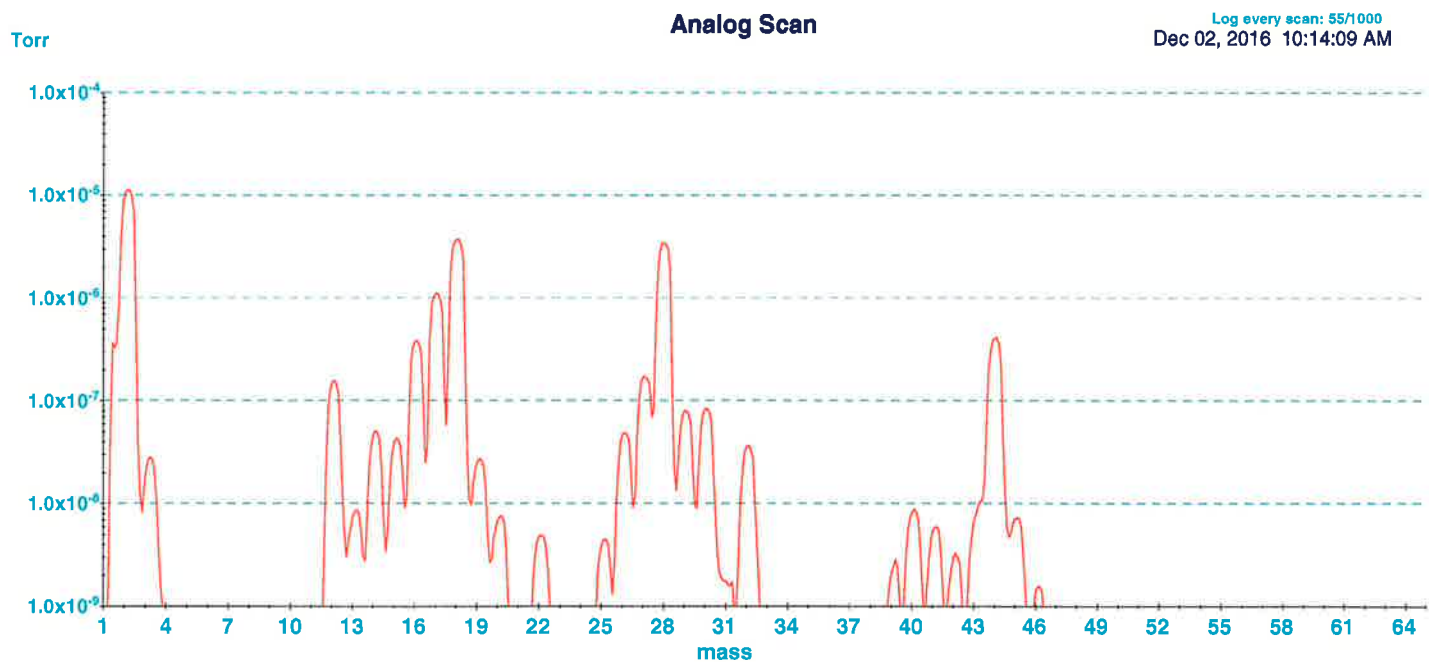
# Analog Scan

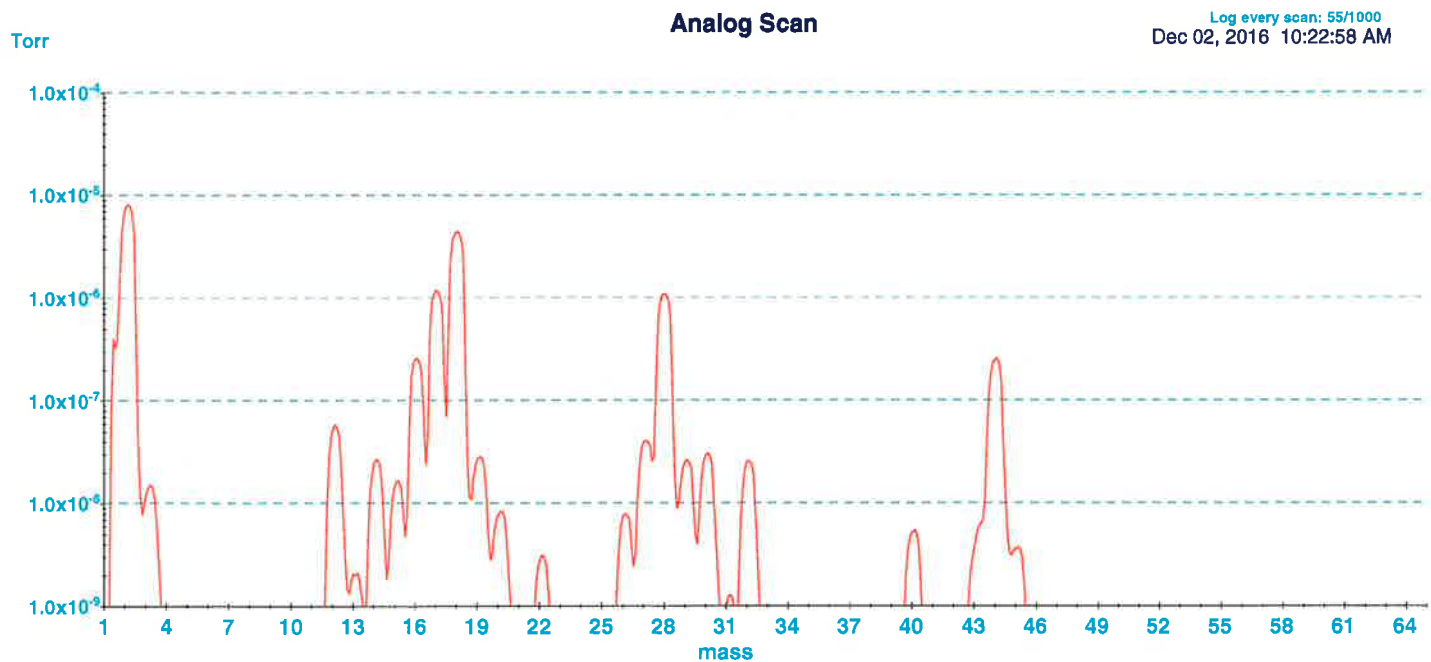
Log every scan: 25/1000  
Dec 02, 2016 09:54:52 AM





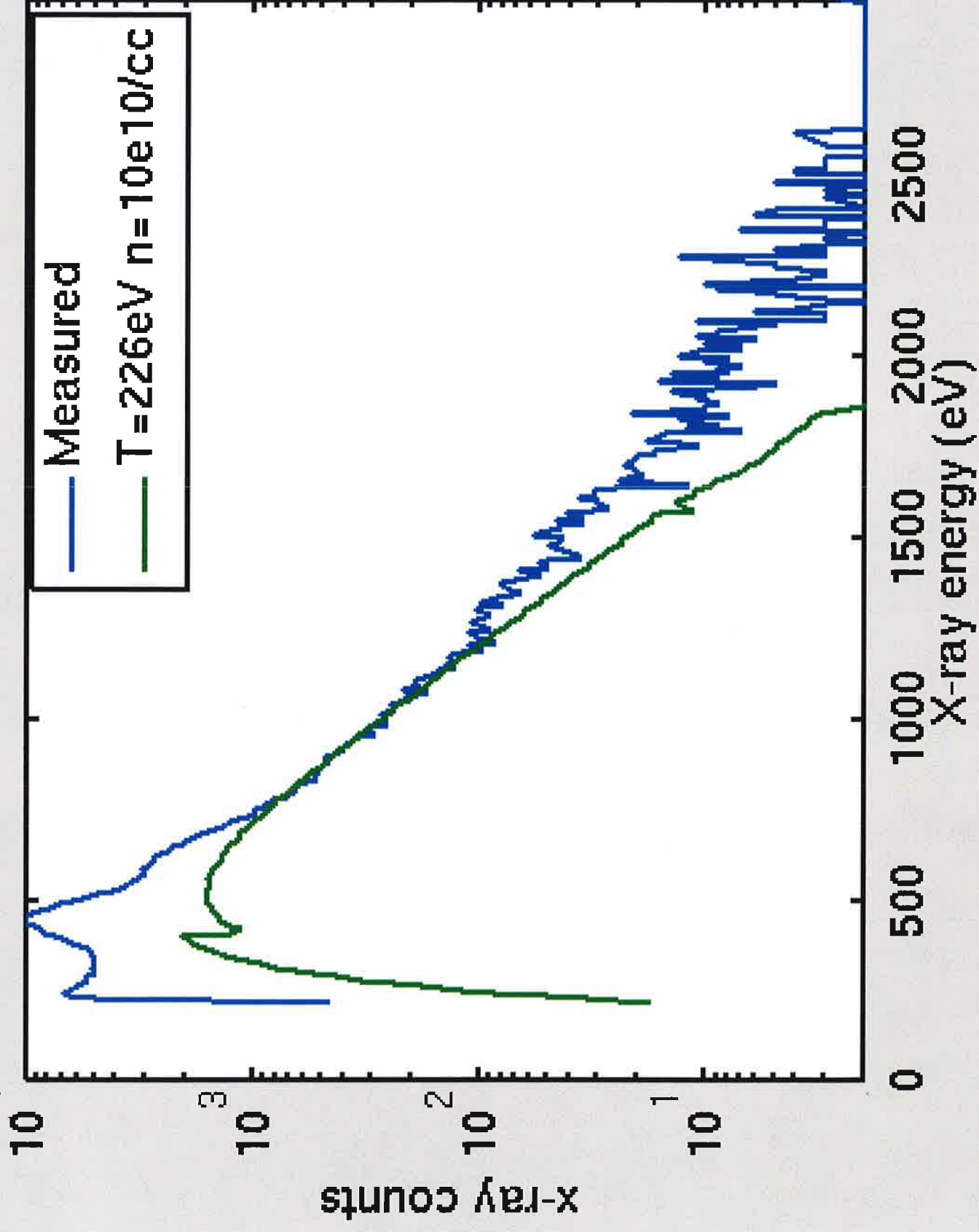








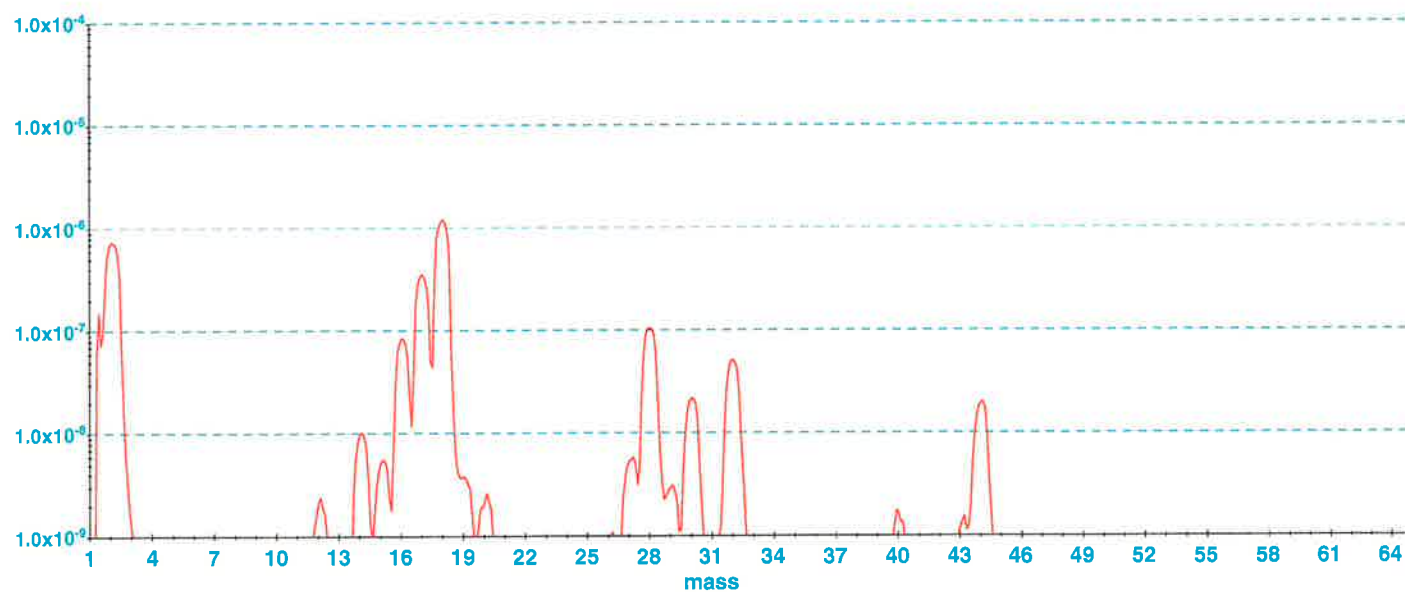
data/20161202/21-SDD-100ns-high-RMF-aperture-1.mca

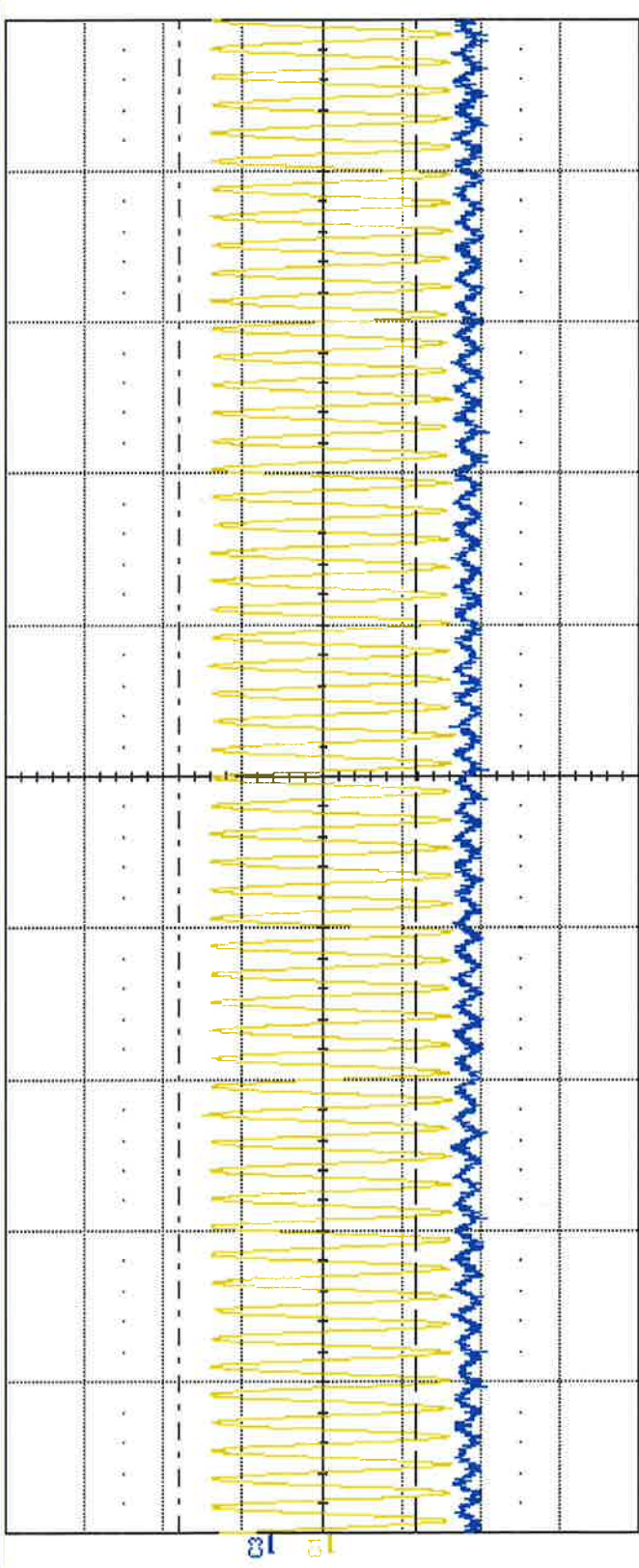


# Analog Scan

Log every scan: 5/1000  
Dec 02, 2016 02:07:22 PM

Torr





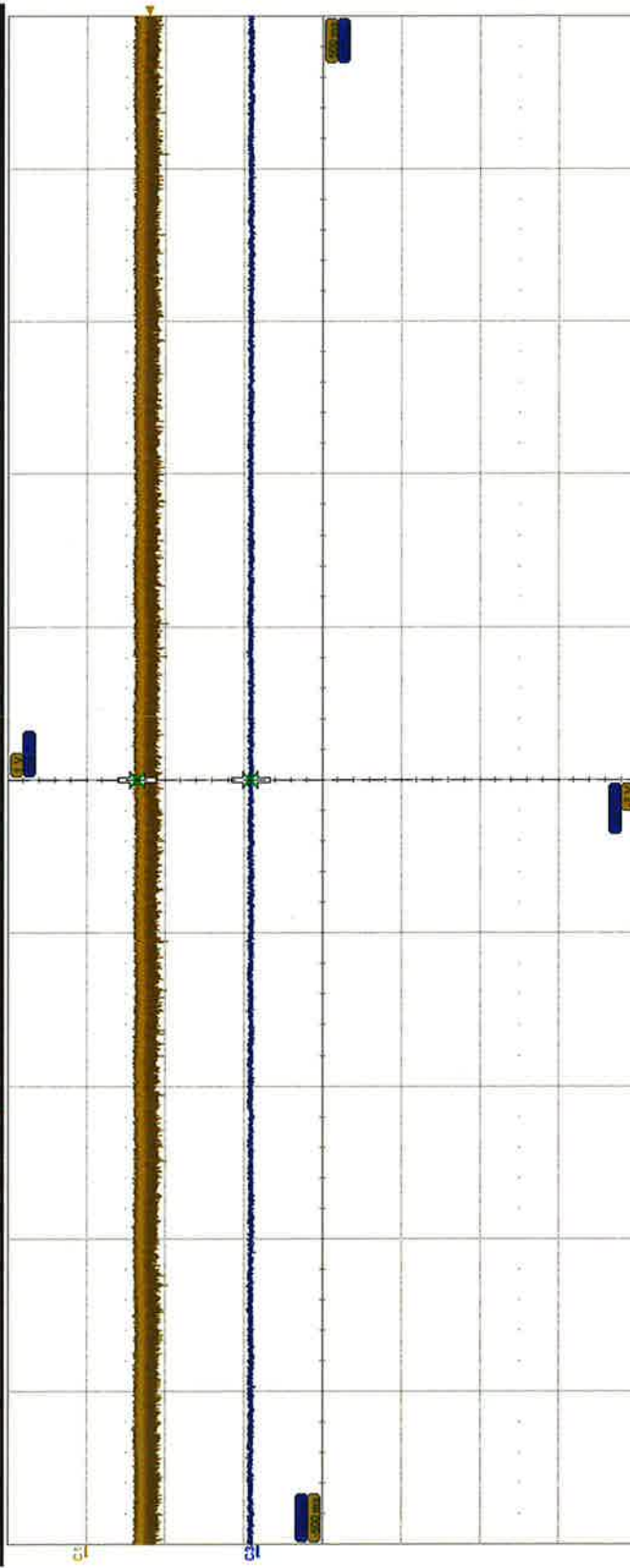
Measure		P1:pkpk(C1)	P2:ampl(C1)	P3:ampl(C3)	P4:pkpk(C3)	P5:mean(C3)	P6:---
value		3.13 V	2.769 V	219 V	219 V	-1.236 kV	
mean		3.1116 V	2.8520 V	224.7 V	224.7 V	-1.20661 kV	
min		2.88 V	2.38 V	172 V	172 V	-1.282 kV	
max		3.44 V	3.28 V	297 V	297 V	-1.150 kV	
sdev		82.0 mV	101.1 mV	17.4 V	17.4 V	22.38 V	
num		1.387e+3	1.387e+3	1.387e+3	1.387e+3	1.387e+3	
status		✓	✓	✓	✓	✓	

C1
DCIM
1.00 V/div  
-110 mV ofst  
1.92 V  
-1.06 V  
ΔV -2.98 V

C3
DCIM
500 V/div  
320 V ofst  
585 V  
-305 V  
ΔV -1.490 kV

Tbase -1.540000 ms  
4.00 kS  
200 ns/div  
2.0 GS/s

Trigger C4 DC  
Auto  
Edge  
Positive



Measure	P1.mean(C1)	P2.mean(C1)	P3.mean(F3)	P4.ampl(C3)	P5.mean(C3)	P6.mean(C2)	P7.mean(C2)	P8.mean(C3)
value	-714.8 mV	-714.8 mV	-55.3631 mA	5.3 V	5.03 V	5.03 V	5.03 V	5.03 V
mean	-712.290 mV	-712.290 mV	-55.3631 mA	5.5043 V	5.08197 V	5.08197 V	5.08197 V	5.08197 V
min	-715.1 mV	-715.1 mV	-55.3631 mA	5.0 V	5.00 V	5.00 V	5.00 V	5.00 V
max	-707.0 mV	-707.0 mV	-55.3631 mA	6.2 V	5.15 V	5.15 V	5.15 V	5.15 V
stdev	2.043 mV	2.043 mV	—	273.4 mV	37.06 mV	37.06 mV	37.06 mV	37.06 mV
num	46	46	1	46	46	46	46	46
status	✓	✓	✓	✗	✓	✓	✓	✓

C1

50.0 mV/div

1.00 V/div

3.0000 V

-853.6 mV

-653.6 mV

0.0 mV

500 ns

100 ms

100 ms

100 ms

Timebase

0 ms

100 ms

100 ms

100 ms

Trigger

CT DC

Auto

500 ns

100 ms

100 ms

X1=

142 µs

ΔX=

0 µs

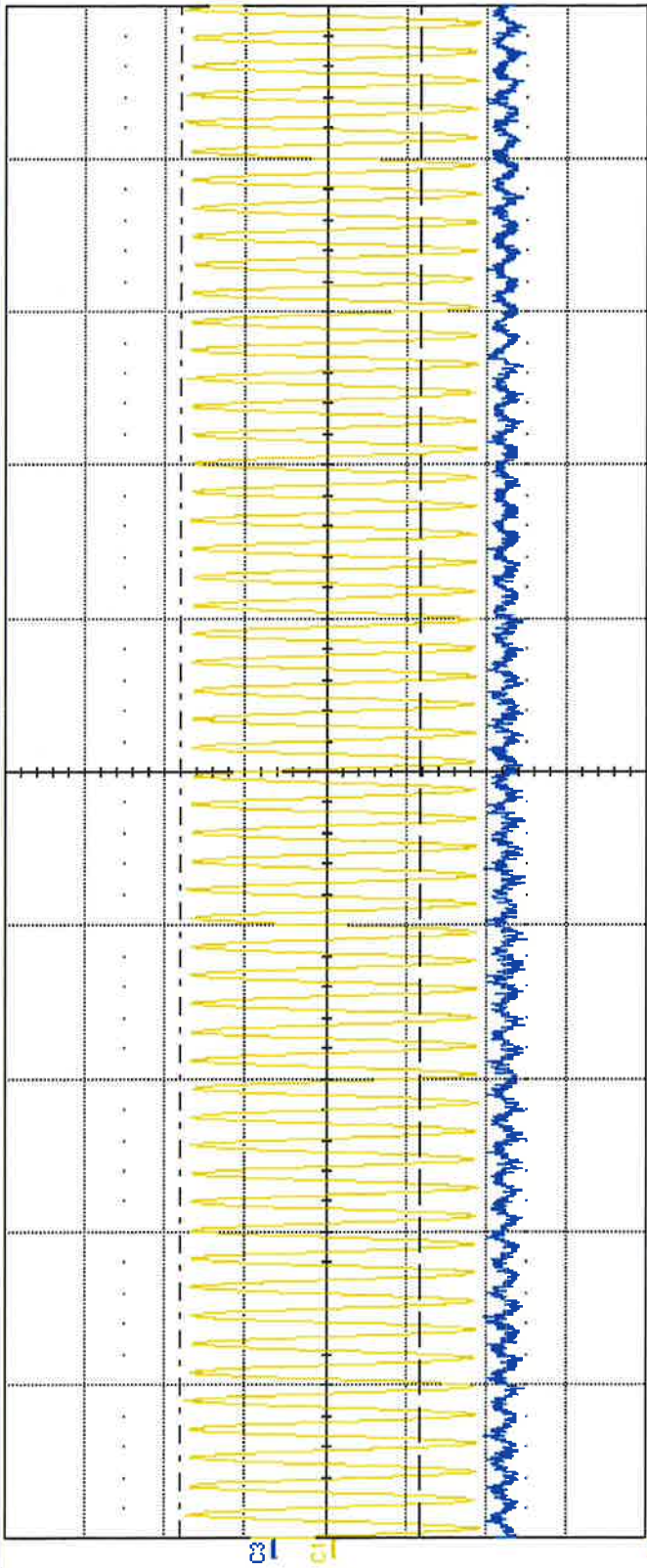
X2=

142 µs

1/ΔX=

—





Measure		P1:pkpk(C1)	P2:ampl(C1)	P3:ampl(C3)	P4:pkpk(C3)	P5:mean(C3)	P6:---
value		3.69 V	3.391 V	250 V	250 V	-1.475 kV	
mean		3.6703 V	3.3472 V	254.0 V	254.0 V	-1.44256 kV	
min		3.38 V	3.07 V	203 V	203 V	-1.511 kV	
max		4.06 V	3.69 V	313 V	313 V	-1.404 kV	
sdev		128.6 mV	123.1 mV	19.7 V	19.7 V	18.50 V	
num		102	102	102	102	102	
status		✓	✓	✓	✓	✓	

C1DCIM1.00 V/div-110 mV orst1.92 V-1.06 V-2.98 V

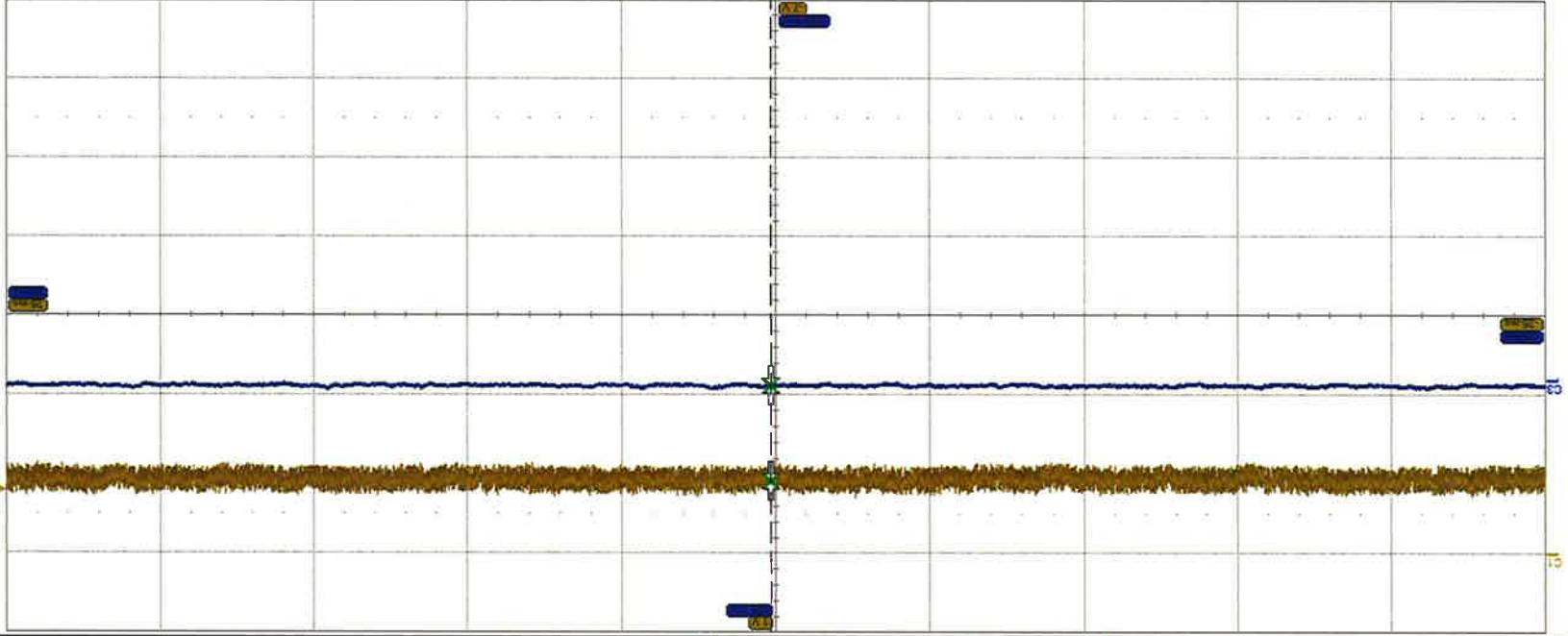
C3SCIM3500 V/div320 V offset585 V-305 V-1.490 kV

ΔV

Tbase-1.540000 ms4.00 kS

TriggerC4:02AutoEdgePositive

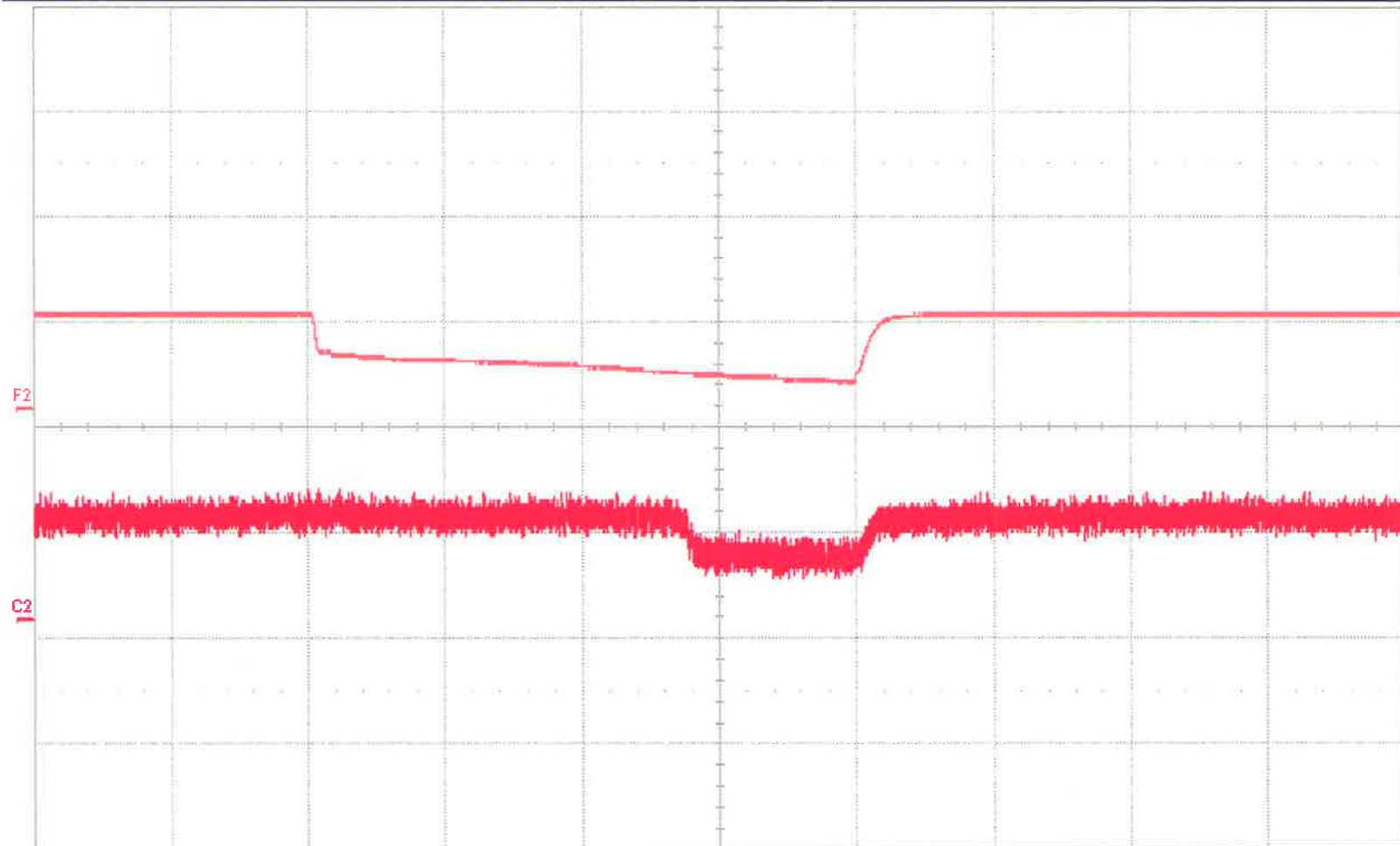
200 ns/div2.0 GS/s



Measure	Value	Mean	Min	Max	Sdev	Num	Status
P1:mean(C1)	-927.0 mV	-927.324 mV	-933.4 mV	-921.8 mV	2.185 mV	121	
P2:mean(C1)	-927.0 mV	-927.324 mV	-933.4 mV	-921.8 mV	2.185 mV	121	
P3:mean(C3)	-52.7753 mV	-52.7753 mV	-52.7753 mV	-52.7753 mV	1		
P4:amp(C3)	5.1 V	5.3959 V	4.7 V	6.4 V	390.7 mV	121	
P5:mean(C3)	3.79 V	3.78500 V	3.62 V	3.95 V	70.53 mV	121	
P6:mean(C2)							
P7:mean(C2)							
P8:mean(C3)	3.79 V	3.78500 V	3.62 V	3.95 V	70.53 mV	121	

Timebase 0.0 ms  
Trigger C1 DC  
X1= 142  $\mu$ s  $\Delta$ X= 0  $\mu$ s  
X2= 142  $\mu$ s  $\Delta$ X= 0  $\mu$ s

File Vertical Timebase Trigger Display Cursors Measure Math Analysis Utilities Help



C2 **DCIM** F2 <C2>  
50.0 mV/div 50.0 mV/div  
-91.5 mV 1.00 ms/div  
247 #

Tbase -3.04 ms Trigger **C4 DC**  
1.00 ms/div Normal 2.42 V  
100 kS 10 MS/s Edge Negative

LeCroy

12/2/2016 10:30:36 AM

2-Dec-16  
10:30:40

1  
1 ms  
1.00 V

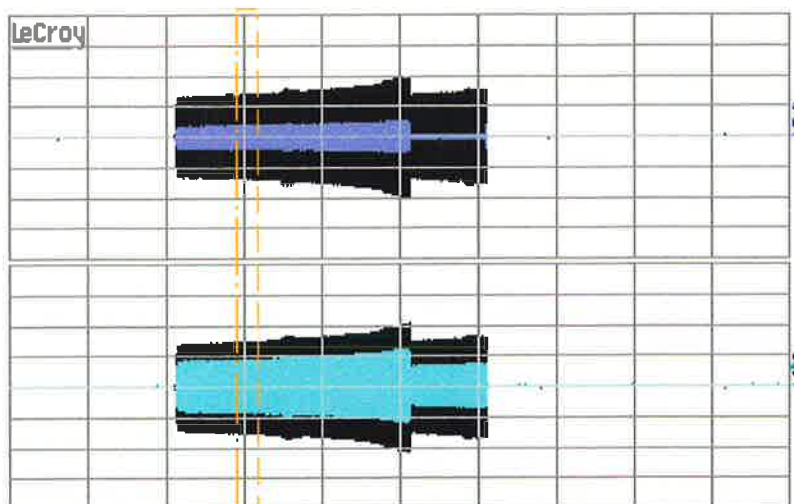
2  
1 ms  
1.00 V

3  
1 ms  
1.00 V

4  
1 ms  
1.00 V

1 ms

1 1 V AC  
2 1 V AC  
3 1 V AC  
4 1 V AC



266 sweeps:

	average	low	high	sigma
rms(1)	1.227 V	0.778	1.948	0.306
rms(2)	144mV	39	318	88
rms(3)	1.276 V	0.840	1.973	0.297
rms(4)	401mV	219	727	149
phase(1,3)	-89 °	-96	-83	2



Ext10 DC 0.05 V 1MΩ

10 MS/s

☐ NORMAL



2-Dec-16

10:44:12

1  
1 ms  
1.00 V

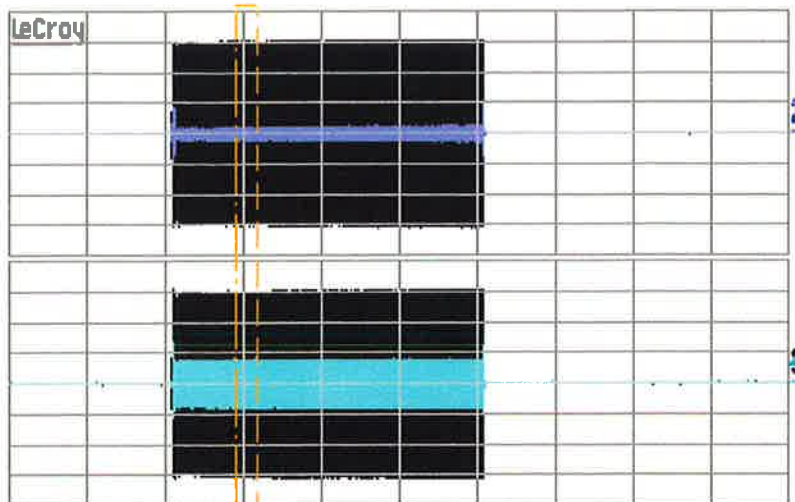
2  
1 ms  
1.00 V

3  
1 ms  
1.00 V

4  
1 ms  
1.00 V

1 ms

1 1 V AC  
2 1 V AC  
3 1 V AC  
4 1 V AC



217 sweeps:

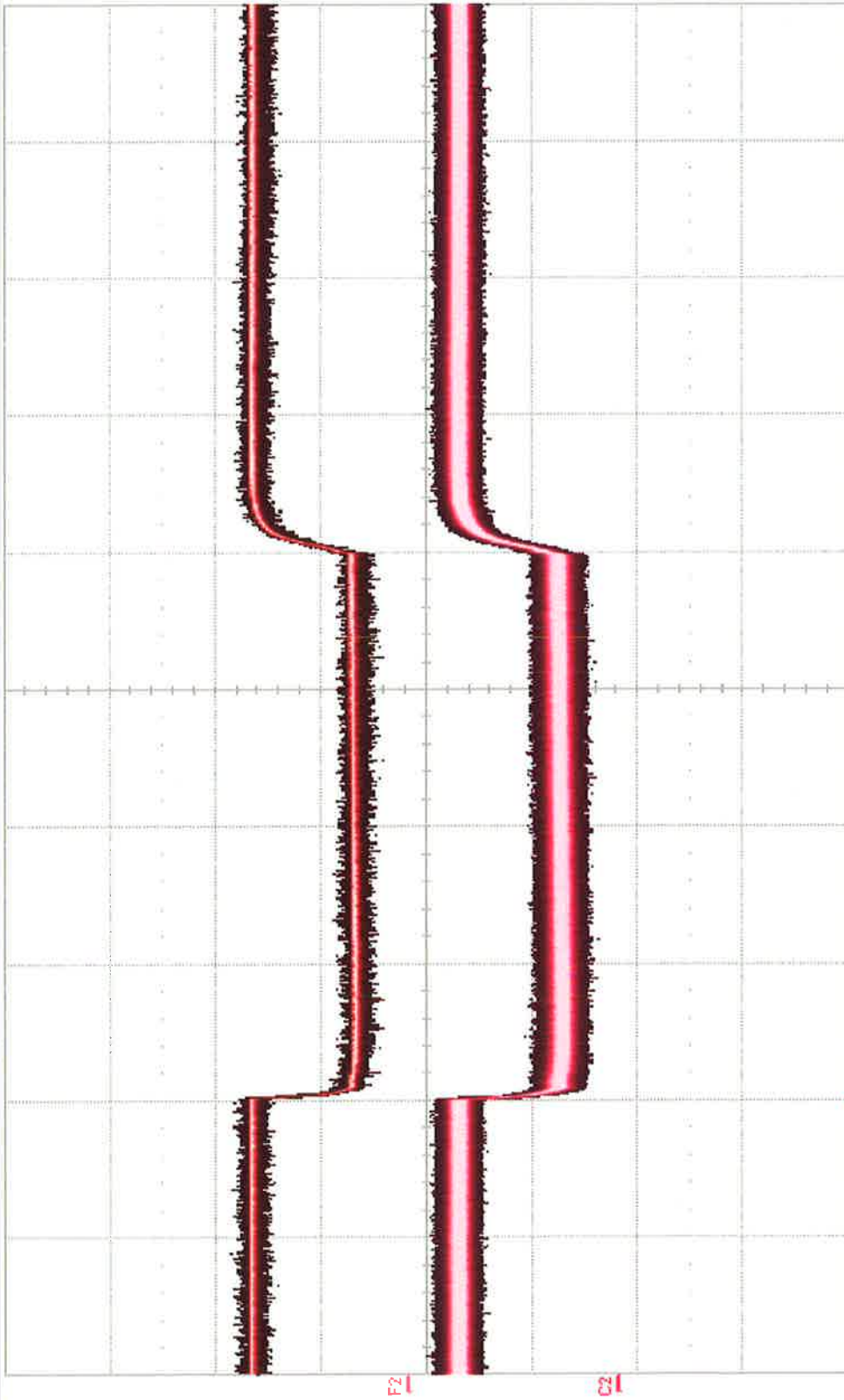
	average	low	high	sigma
rms(1)	2.141 V	2.055	2.189	0.027
rms(2)	142mV	128	154	5
rms(3)	2.155 V	2.074	2.201	0.025
rms(4)	564mV	541	579	8
phase(1,3)	-89 °	-94	-86	2



Ext10 DC 0.05 V 1MΩ

10 MS/s

☐ NORMAL



C2 **DETM** 50.0 mV/div -91.5 mV  
F2 50.0 mV/div 1.00 ms/div 85 #  
<C2>

Tbase -3.04 ms  
1.00 ms/div  
100 kS  
Trigger **C4 DC**  
Normal 2.42 V  
Edge Negative

2-Dec-16

10:48:28

1  
1 ms  
1.00 V

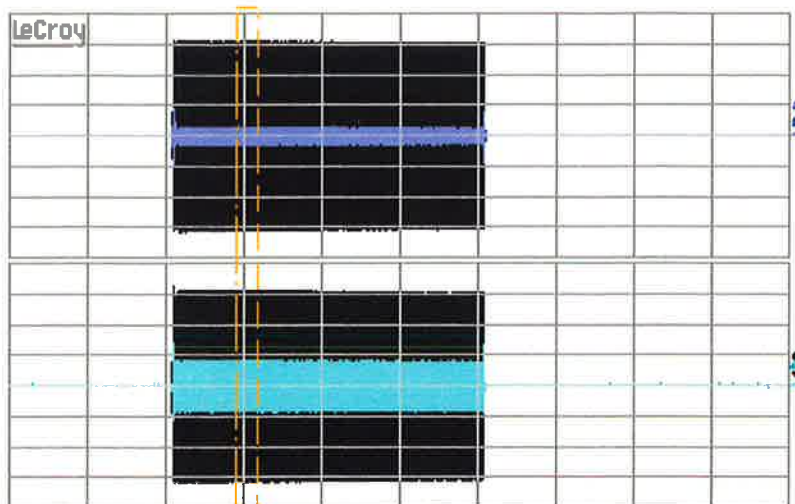
2  
1 ms  
1.00 V

3  
1 ms  
1.00 V

4  
1 ms  
1.00 V

1 ms

1 1 V AC  
2 1 V AC  
3 1 V AC  
4 1 V AC



87 sweeps:

	average	low	high	sigma
rms(1)	2.187 V	2.177	2.194	0.004
rms(2)	167mV	164	170	1
rms(3)	2.196 V	2.186	2.202	0.004
rms(4)	583mV	578	587	2
phase(1,3)	-89 °	-95	-86	2



Ext10 DC 0.05 V 1MΩ

10 MS/s

☐ NORMAL

*much better  
can find  
power  
87 sweeps!*

2-Dec-16  
10:59:29

1  
1 ms  
1.00 V

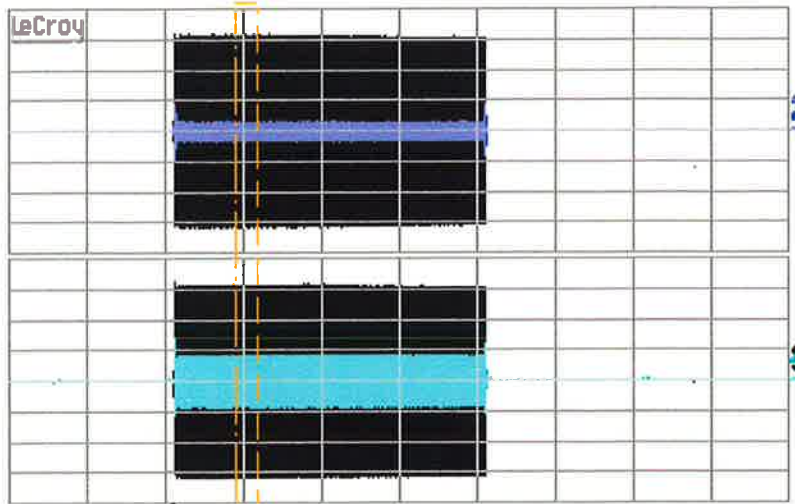
2  
1 ms  
1.00 V

3  
1 ms  
1.00 V

4  
1 ms  
1.00 V

1 ms

1 1 V AC  
2 1 V AC  
3 1 V AC  
4 1 V AC



749 sweeps:

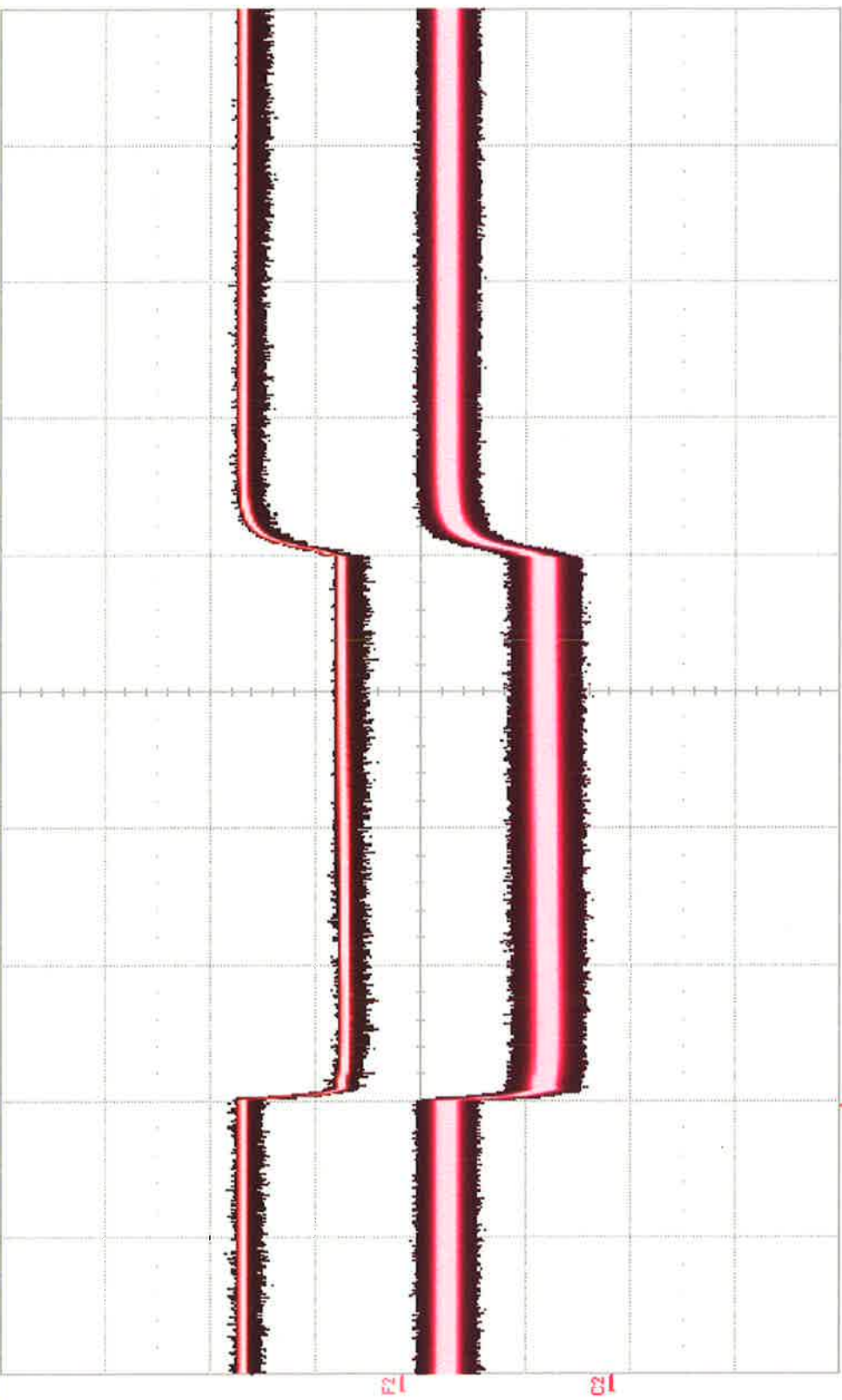
	average	low	high	sigma
rms(1)	2.164 V	2.115	2.200	0.025
rms(2)	166mV	149	182	7
rms(3)	2.173 V	2.126	2.208	0.023
rms(4)	583mV	565	600	7
phase(1,3)	-89 °	-95	-85	2



Ext10 DC 0.05 V 1MΩ

10 MS/s

☐ NORMAL

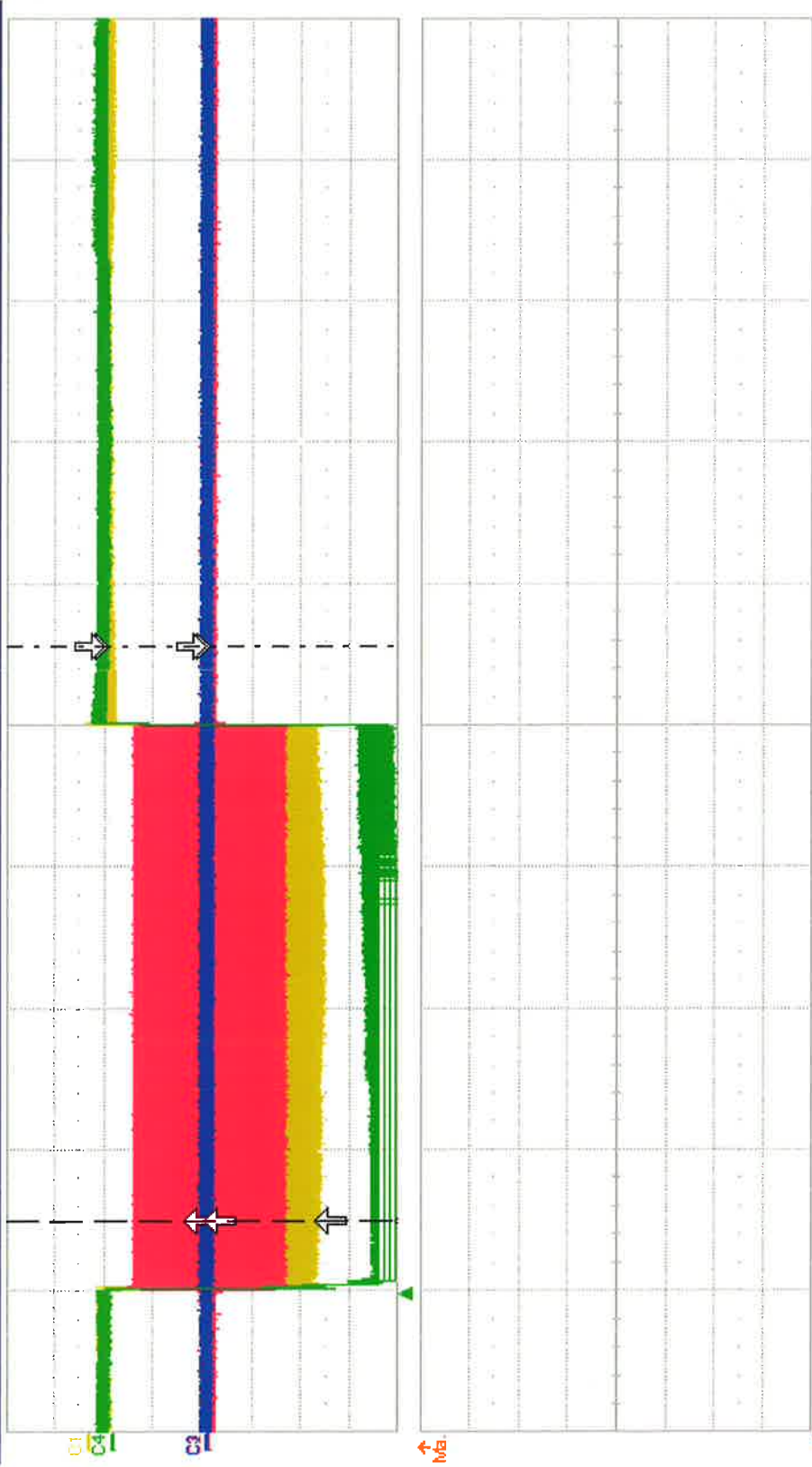


C2 **DATA** 50.0 mV/div -91.5 mV  
F2 50.0 mV/div 1.00 ms/div 1.072 k#

Tbase -3.04 ms 1.00 ms/div 100 kS  
Trigger Normal 2.42 V  
Edge Negative

LeCroy

12/2/2016 11:02:14 AM



Channel	Scale	Offset	Math	Math Scale	Math Offset
C1	10.0 mV/div	23.00 mV ofst			
C2	200 mV/div	-30.0 mV ofst			
C3	50.0 V/div	-5.0 V ofst			
C4	10.0 mV/div	18.00 mV ofst			
Math	700 mV/div		<FFT(C4)>	52 kHz/div	1.879 kHz

Parameter	Value
Timebase	-4.02 ms
Trigger	Normal
Edge	Negative
Level	0.00 V
X1	4.58000 ms
X2	520.00 $\mu$ s
$\Delta X$	-4.06000 ms
$1/\Delta X$	-246.3054 Hz

2-Dec-16

11:29:02

1  
1 ms  
1.00 V

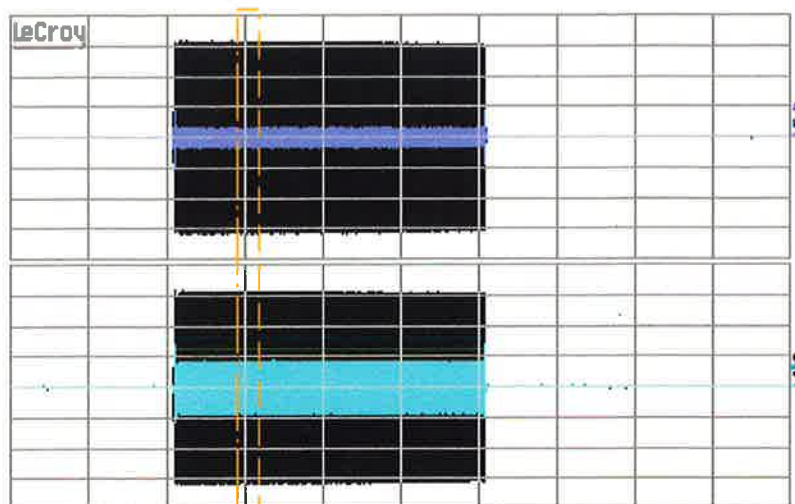
2  
1 ms  
1.00 V

3  
1 ms  
1.00 V

4  
1 ms  
1.00 V

1 ms

1 1 V AC  
2 1 V AC  
3 1 V AC  
4 1 V AC



2522 sweeps:

	average	low	high	sigma
rms(1)	2.170 V	2.115	2.206	0.022
rms(2)	178mV	149	199	11
rms(3)	2.175 V	2.126	2.208	0.020
rms(4)	587mV	565	603	7
phase(1,3)	-89 °	-95	-85	2



Ext10 DC 0.05 V 1MΩ

10 MS/s

☐ NORMAL



2-Dec-16  
11:29:30

1  
1 ms  
1.00 V

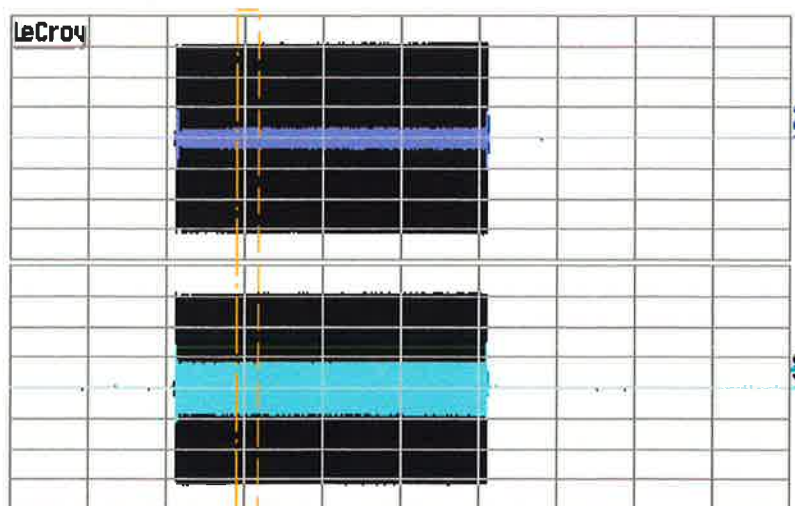
2  
1 ms  
1.00 V

3  
1 ms  
1.00 V

4  
1 ms  
1.00 V

1 ms

1 1 V AC  
2 1 V AC  
3 1 V AC  
4 1 V AC



2550 sweeps:

	average	low	high	sigma
rms(1)	2.170 V	2.115	2.206	0.022
rms(2)	178mV	149	199	11
rms(3)	2.174 V	2.126	2.208	0.020
rms(4)	587mV	565	603	7
phase(1,3)	-89 °	-95	-85	2

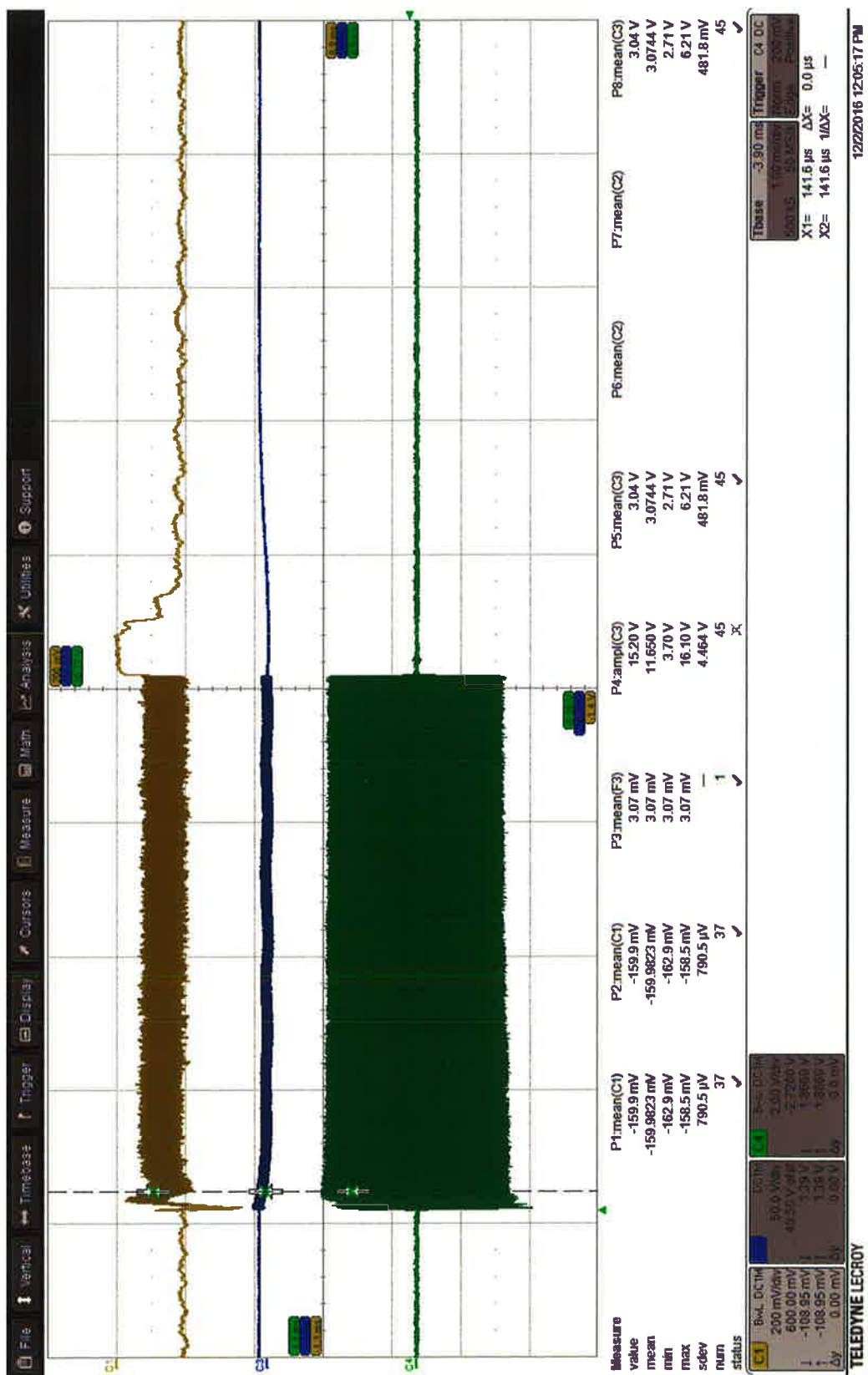


Ext10 DC 0.05 V 1MΩ

10 MS/s

☐ NORMAL





2-Dec-16  
12:29:12

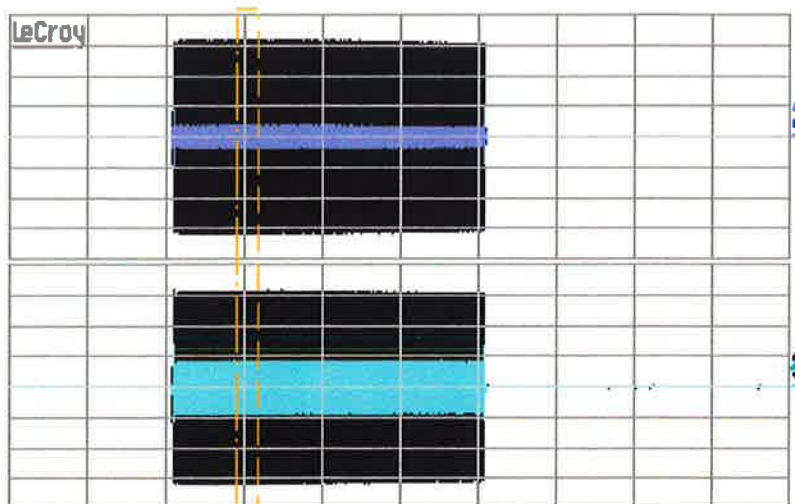
1  
1 ms  
1.00 V

2  
1 ms  
1.00 V

3  
1 ms  
1.00 V

4  
1 ms  
1.00 V

1 ms  
1 1 V AC  
2 1 V AC  
3 1 V AC  
4 1 V AC



6132 sweeps:

	average	low	high	sigma
rms(1)	2.174 V	2.115	2.209	0.021
rms(2)	187mV	149	209	12
rms(3)	2.172 V	2.126	2.208	0.019
rms(4)	590mV	565	609	7
phase(1,3)	-89 °	-95	-85	2

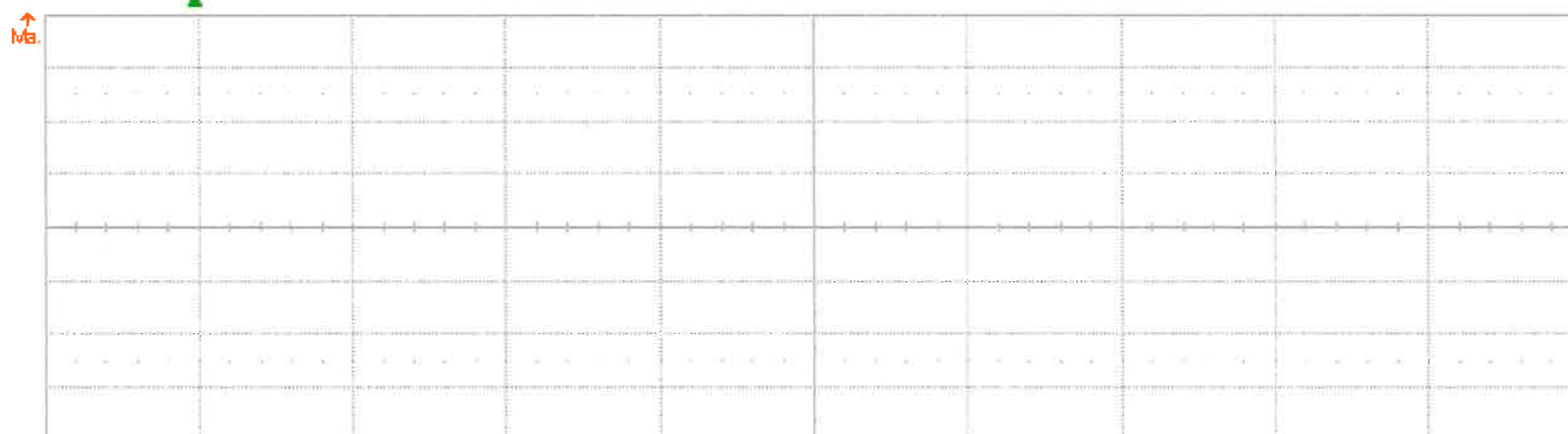
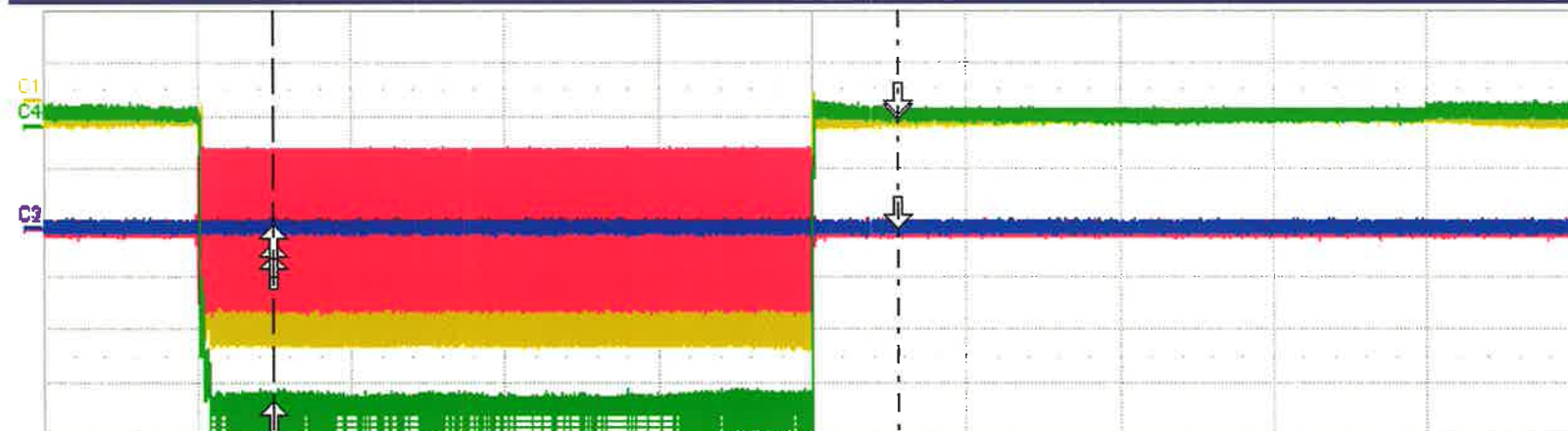


Ext10 DC 0.05 V 1MΩ

10 MS/s

☐ NORMAL

File Vertical Timebase Trigger Display Cursors Measure Math Analysis Utilities Help



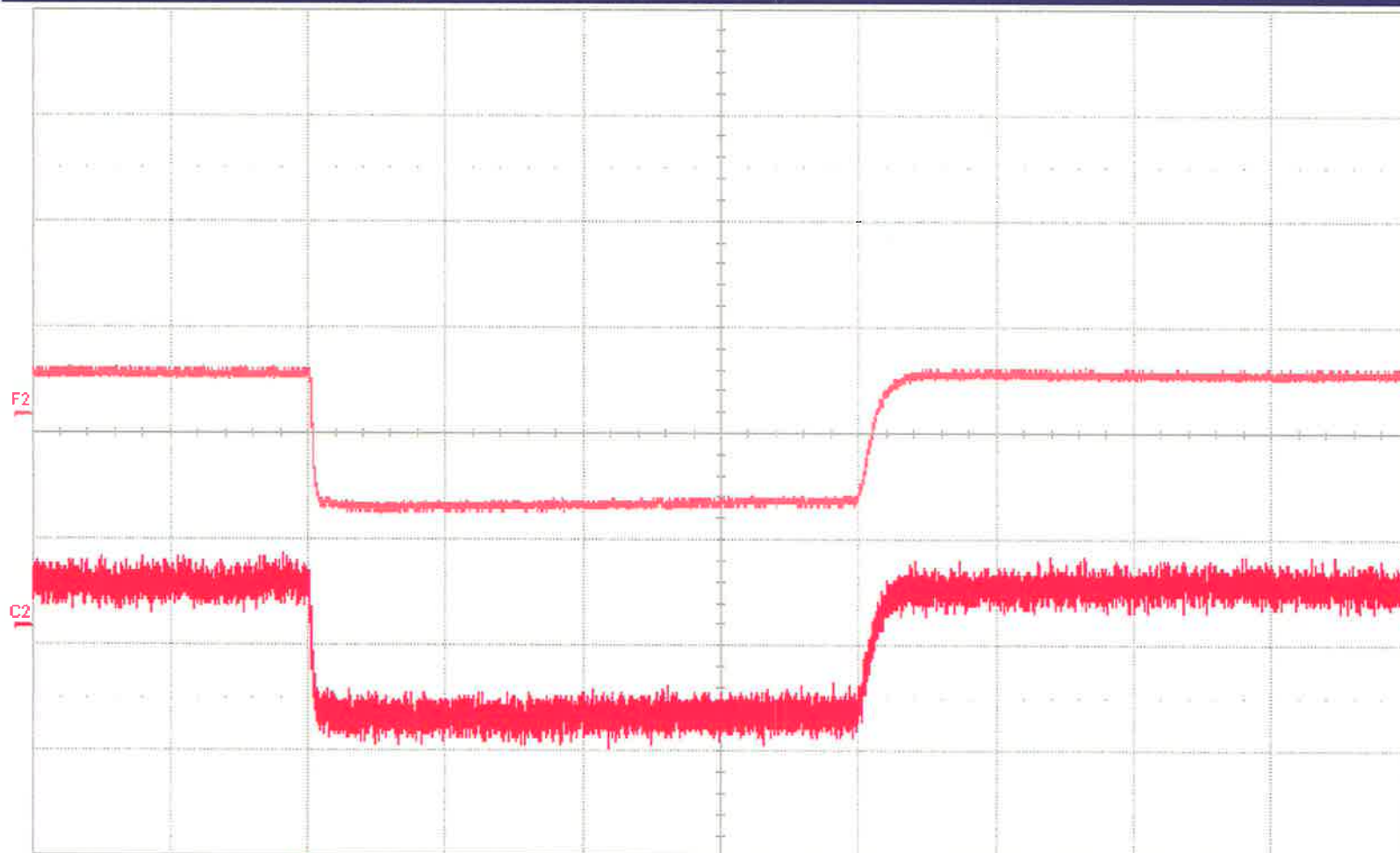
C1	C2	C3	C4	Math
DCIM	DCIM	DCIM	DCIM	<FFT(C4)>
10.0 mV/div	200 mV/div	50.0 V/div	10.0 mV/div	700 mdB/div
23.00 mV ofst	-30.0 mV ofst	-5.0 V offset	18.00 mV ofst	52 kHz/div
				7.486 k#
↓ -3.94 mV	↓ 5.0 mV	↓ -600 mV	↓ 2.10 mV	↓ ---
↑ -29.36 mV	↑ -192.0 mV	↑ -800 mV	↑ -52.45 mV	↑ ---
Δy -25.43 mV	Δy -197.0 mV	Δy 0.0 V	Δy -54.55 mV	Δy ---

Timebase	-4.02 ms	Trigger	Ext/10 DC
1.00 ms/div	1.00 ms/div	Normal	0.00 V
1.00 MS	100 MS/s	Edge	Negative
X1= 4.58000 ms	ΔX= -4.06000 ms		
X2= 520.00 μs	1/ΔX= -246.3054 Hz		

LeCroy

12/2/2016 12:48:17 PM

File Vertical Timebase Trigger Display Cursors Measure Math Analysis Utilities Help



C2	DC1M	F2	<C2>
50.0 mV/div		50.0 mV/div	
-91.5 mV		1.00 ms/div	
		22 #	

Tbase	-3.04 ms	Trigger	C4 DC
100 kS	1.00 ms/div	Normal	2.42 V
	10 MS/s	Edge	Negative

LeCroy

12/2/2016 12:51:21 PM

1 ms

<b>1</b>	20	mV	DC
<b>2</b>	2	V	DC
<b>3</b>	.5	V	50Ω
<b>4</b>	.1	V	DC

pkpk( <b>B</b> )	0.0	μVs	0.0	0.0	-	-	-
mean( <b>B</b> )	-0.75	μVs	-0.75	-0.75	-	-	-
sdev( <b>B</b> )	0.00	μVs	0.00	0.00	-	-	-
rms( <b>B</b> )	0.75	μVs	0.75	0.75	-	-	-
ampl( <b>B</b> )	0.0	μVs	0.0	0.0	-	-	-

6 digits

plus

1	2	3	4	C	D
M1	M2	M3	M4		

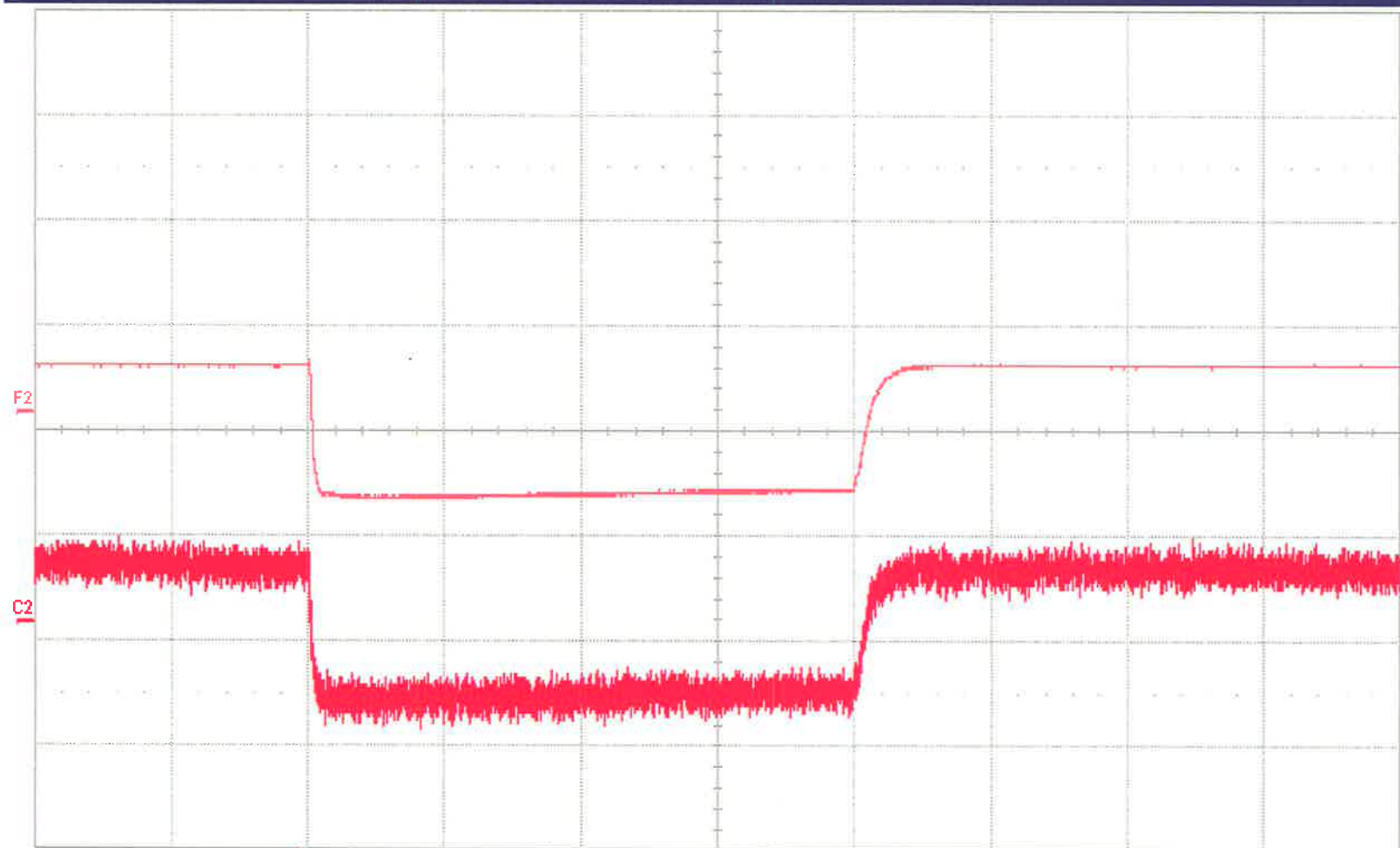
**B**:  $\int (\text{A} + 40.0000 \mu) dt$

100000 -> 100000 pts

10 MS/s

☐ NORMAL

File Vertical Timebase Trigger Display Cursors Measure Math Analysis Utilities Help



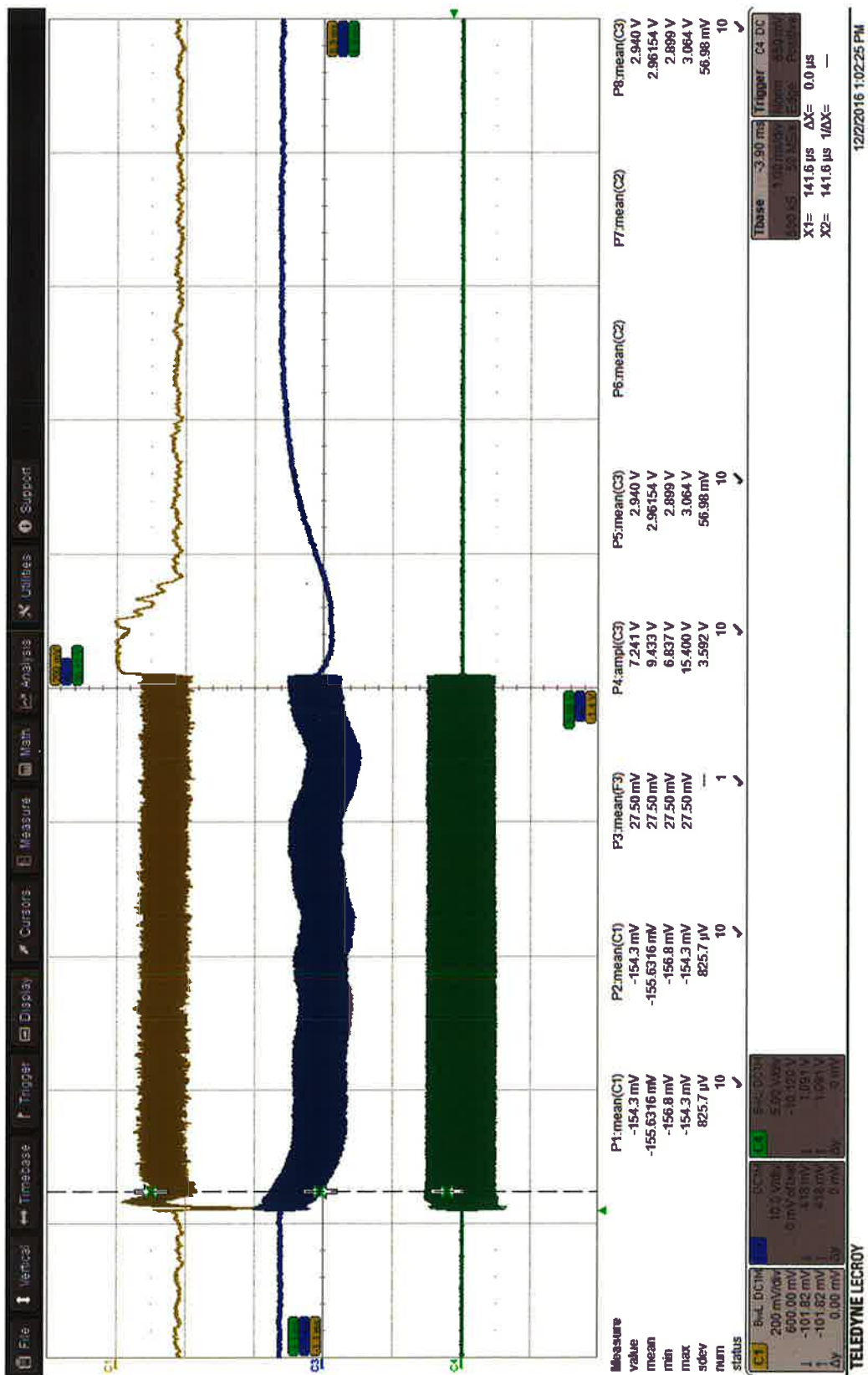
<b>C2</b>	<b>F2</b>
DC 1M	<C2>
50.0 mV/div	50.0 mV/div
-91.5 mV	1.00 ms/div
	465 #

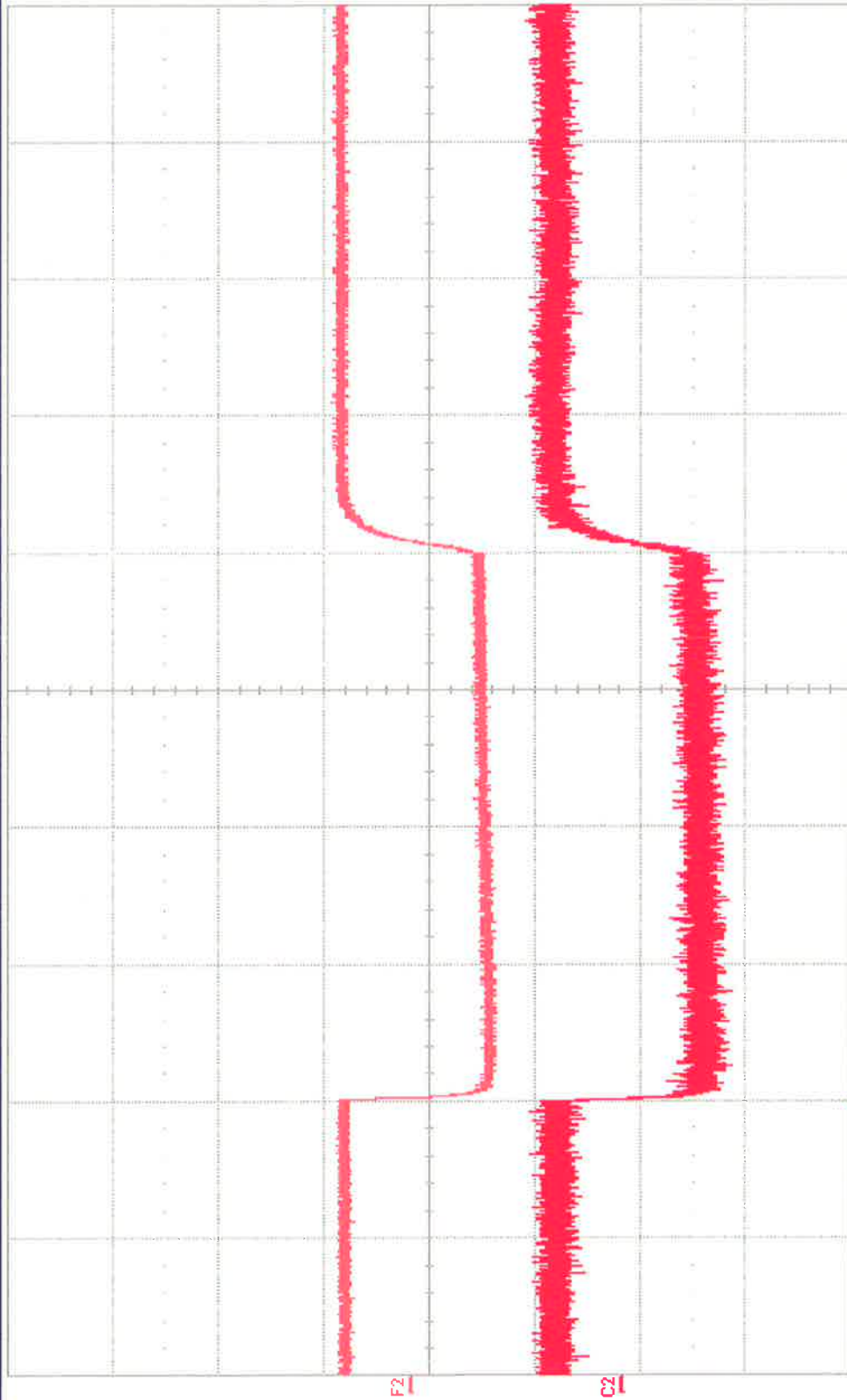
<b>Tbase</b>	-3.04 ms	<b>Trigger</b>	C4 DC
1.00 ms/div		Normal	2.42 V
100 kS	10 MS/s	Edge	Negative

LeCroy

12/2/2016 12:58:44 PM







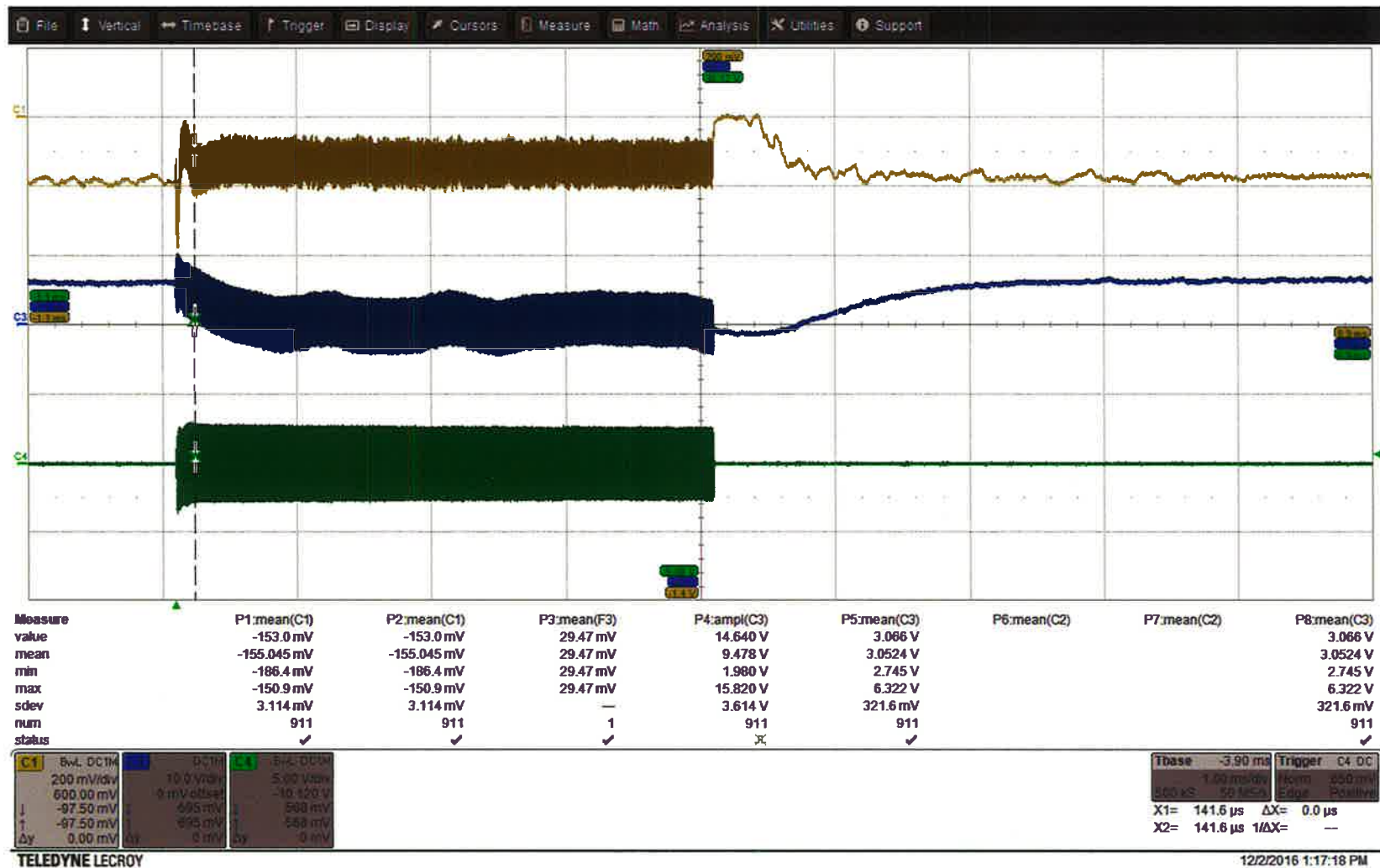
C2 **DCM** 50.0 mV/div  
-91.5 mV

F2 **<C2>** 50.0 mV/div  
1.00 ms/div  
11 #

Tbase -3.04 ms  
1.00 ms/div  
100 kS

Trigger **C4 DC**  
Normal 2.42 V  
Edge Negative





2-Dec-16  
13:37:06

1  
1 ms  
1.00 V

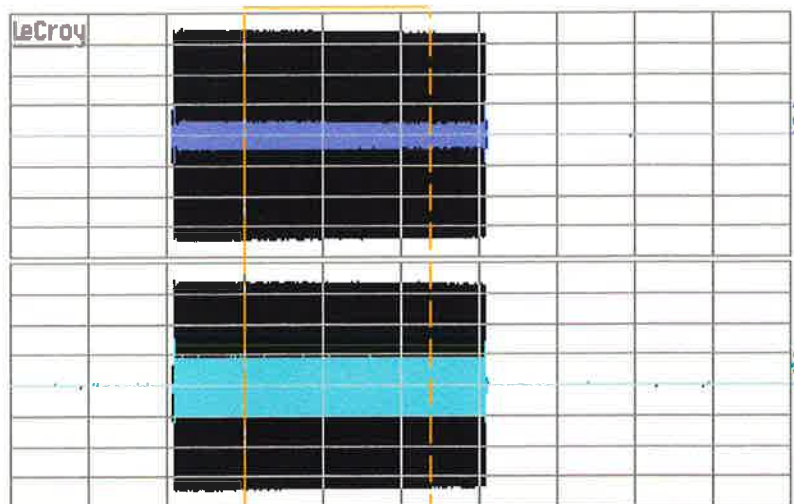
2  
1 ms  
1.00 V

3  
1 ms  
1.00 V

4  
1 ms  
1.00 V

1 ms

1 1 V AC  
2 1 V AC  
3 1 V AC  
4 1 V AC



1842 sweeps:

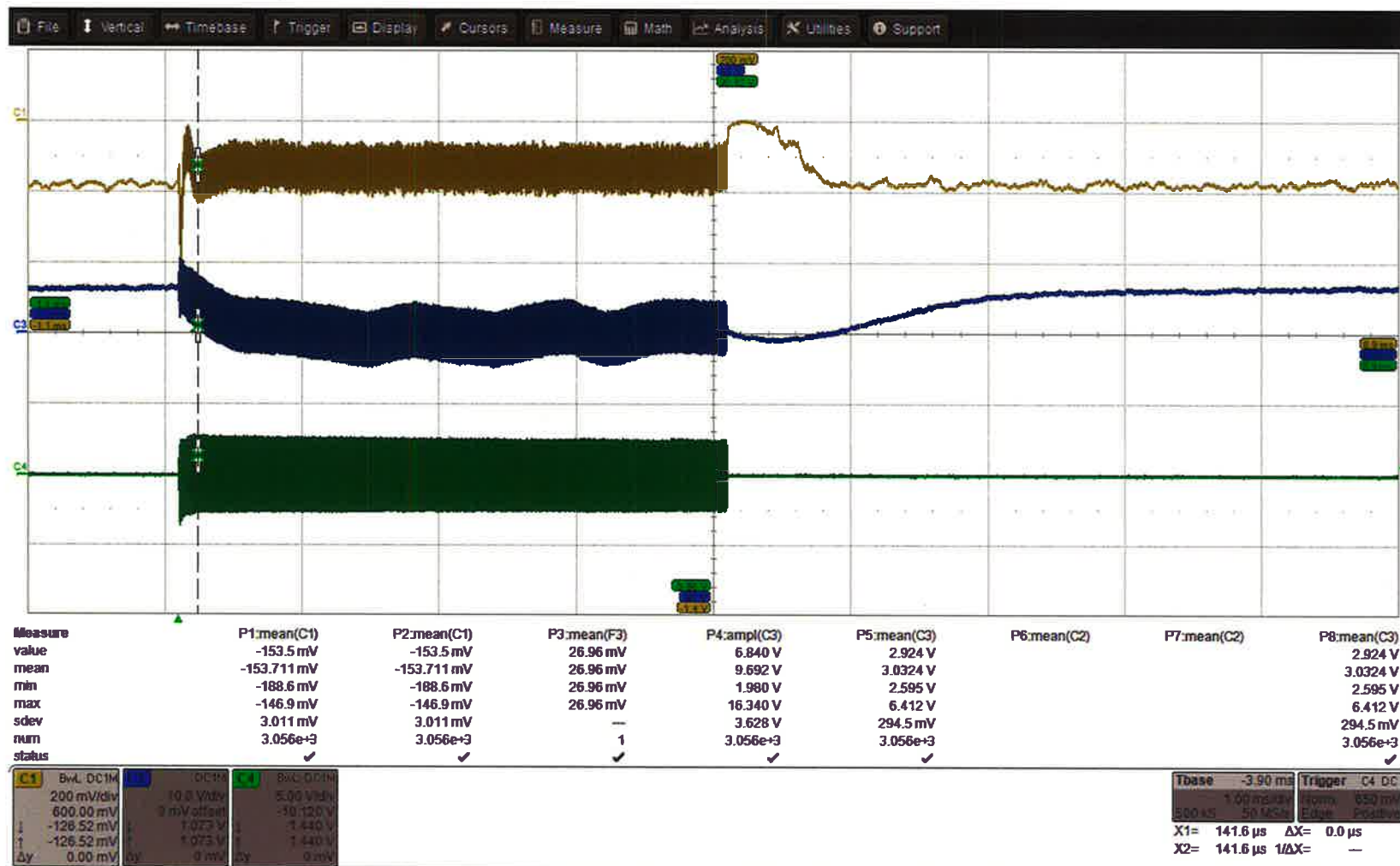
	average	low	high	sigma
rms(1)	2.361 V	2.335	2.380	0.013
rms(2)	243mV	234	252	4
rms(3)	2.334 V	2.309	2.354	0.012
rms(4)	649mV	640	662	4
phase(1,3)	-89 °	-95	-85	2

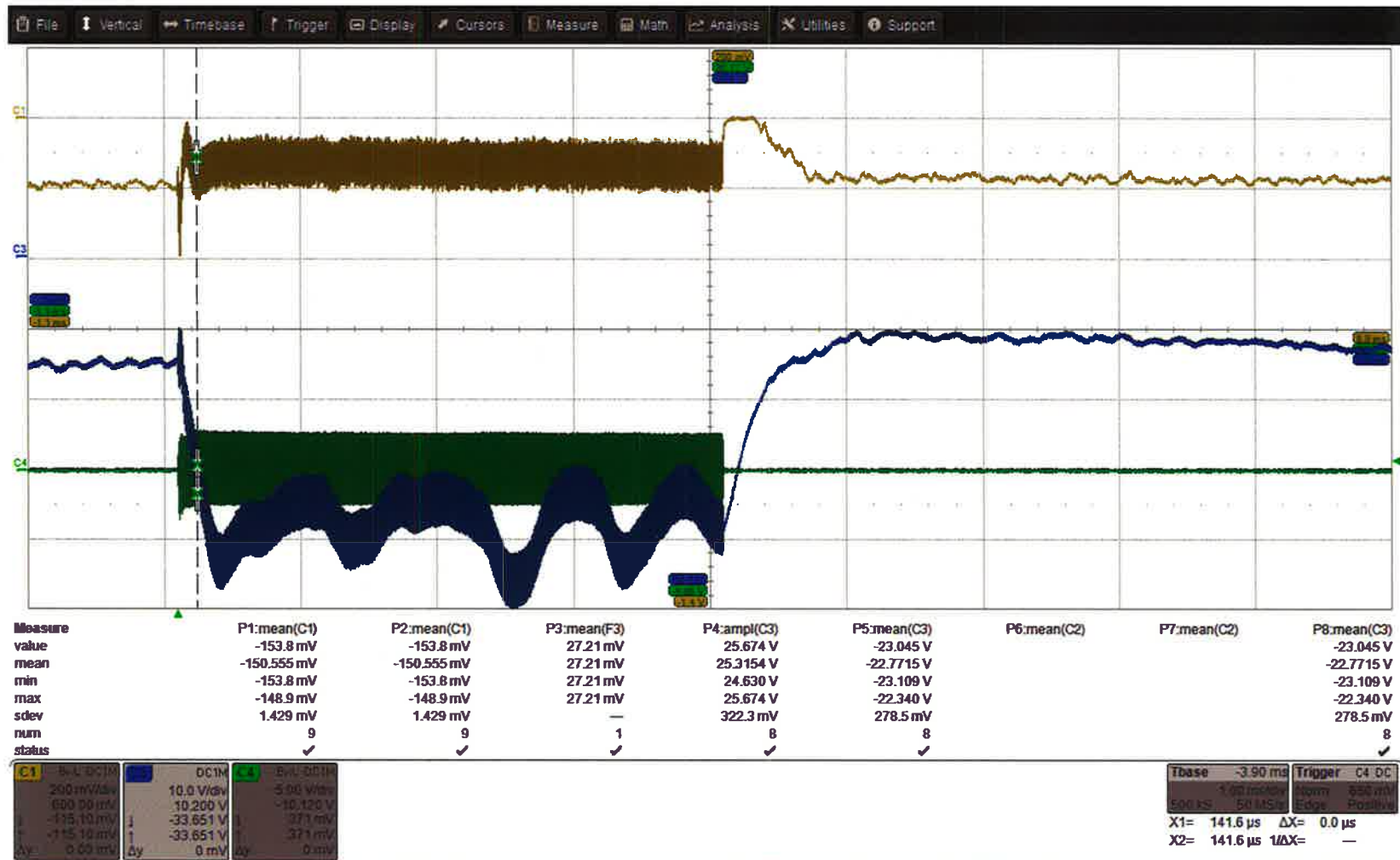


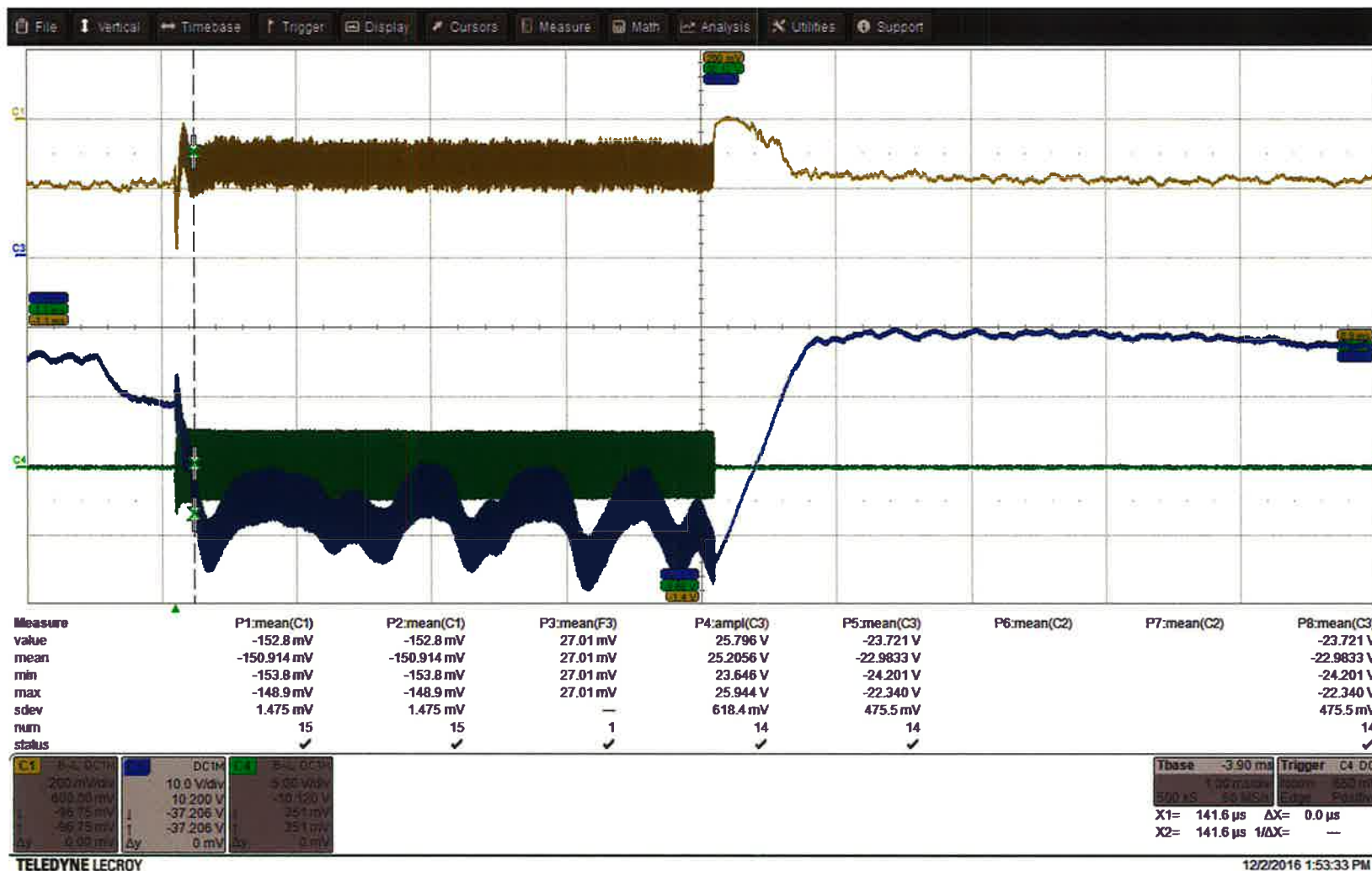
Ext10 DC 0.05 V 1MΩ

10 MS/s

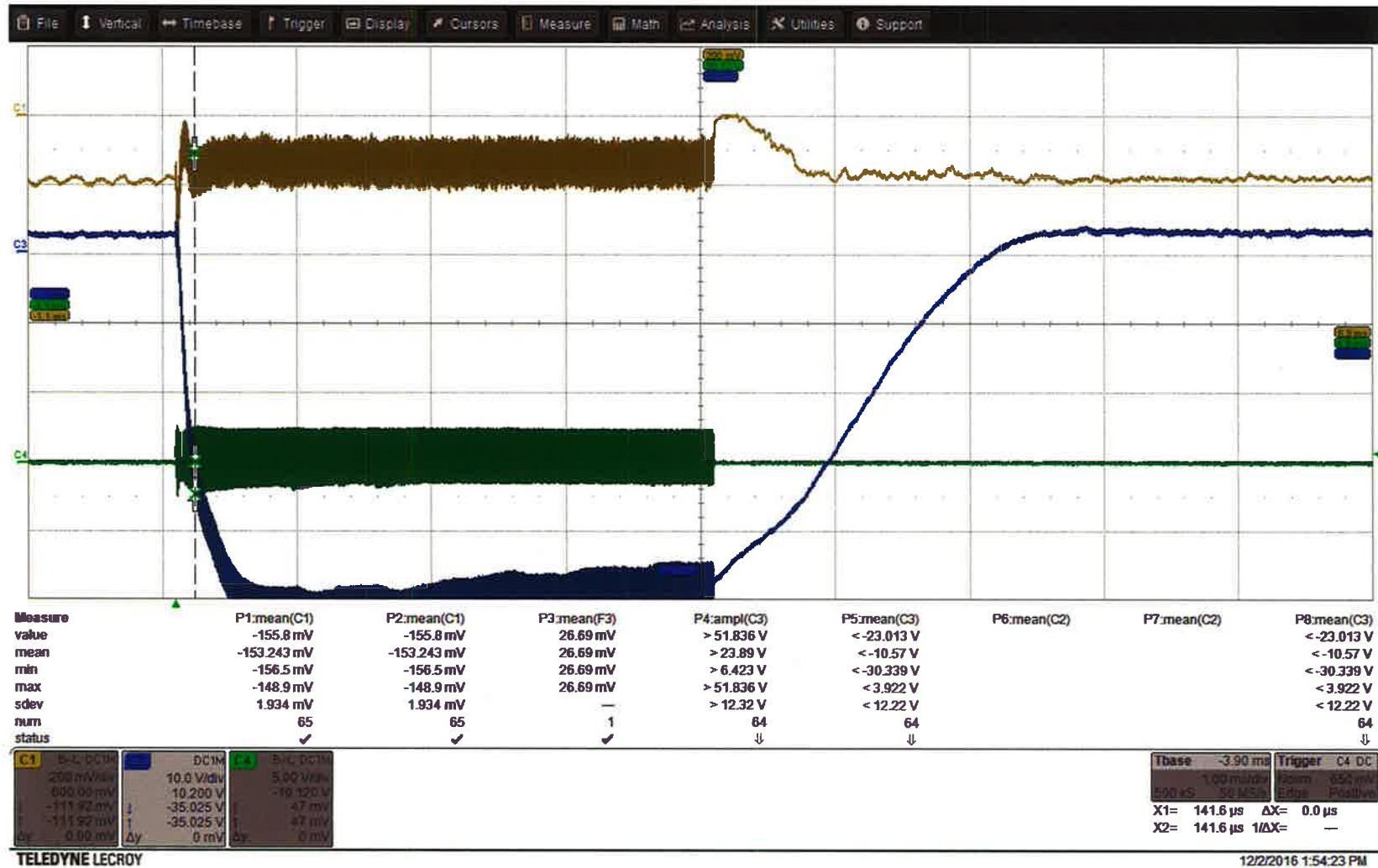
☐ NORMAL



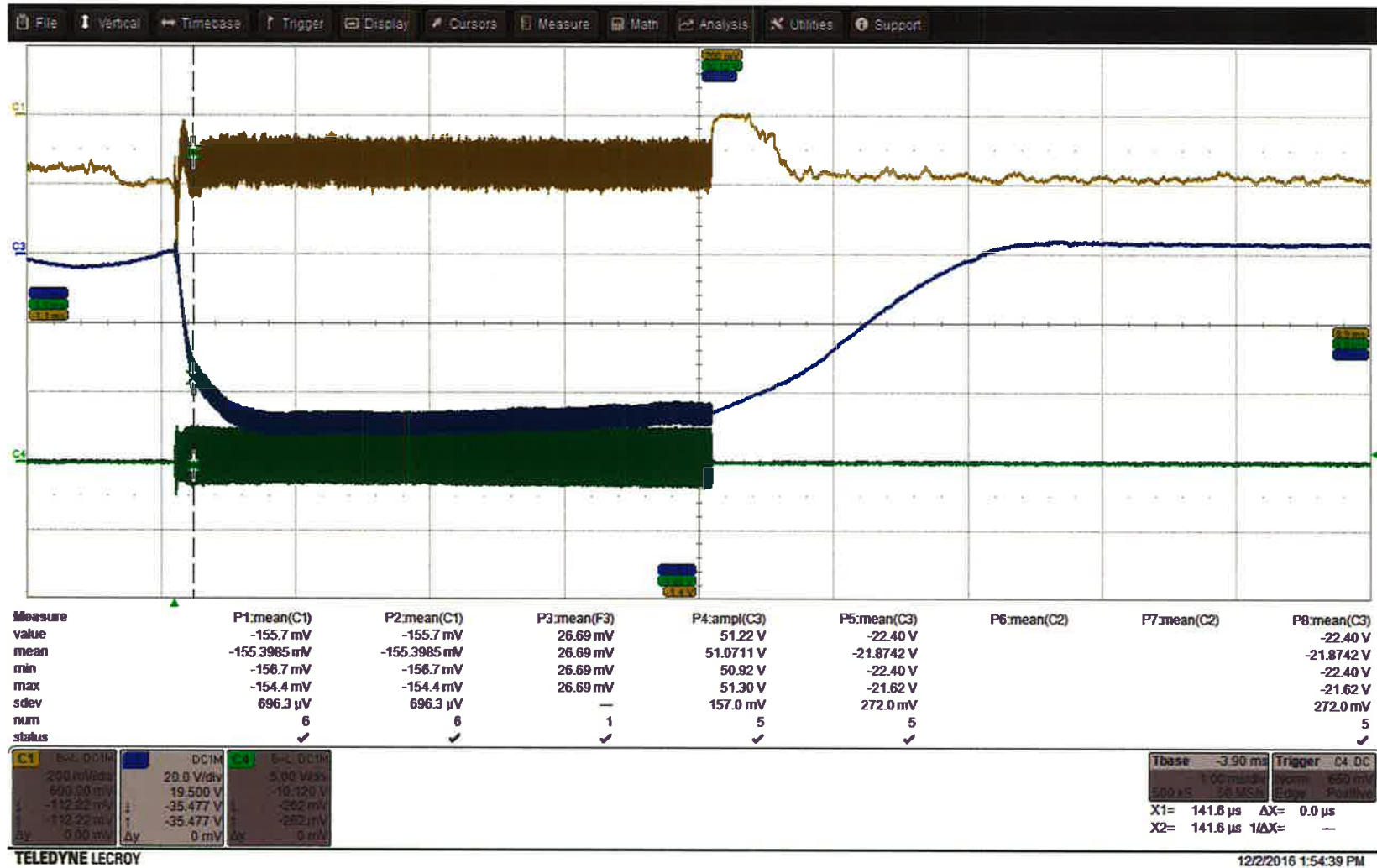


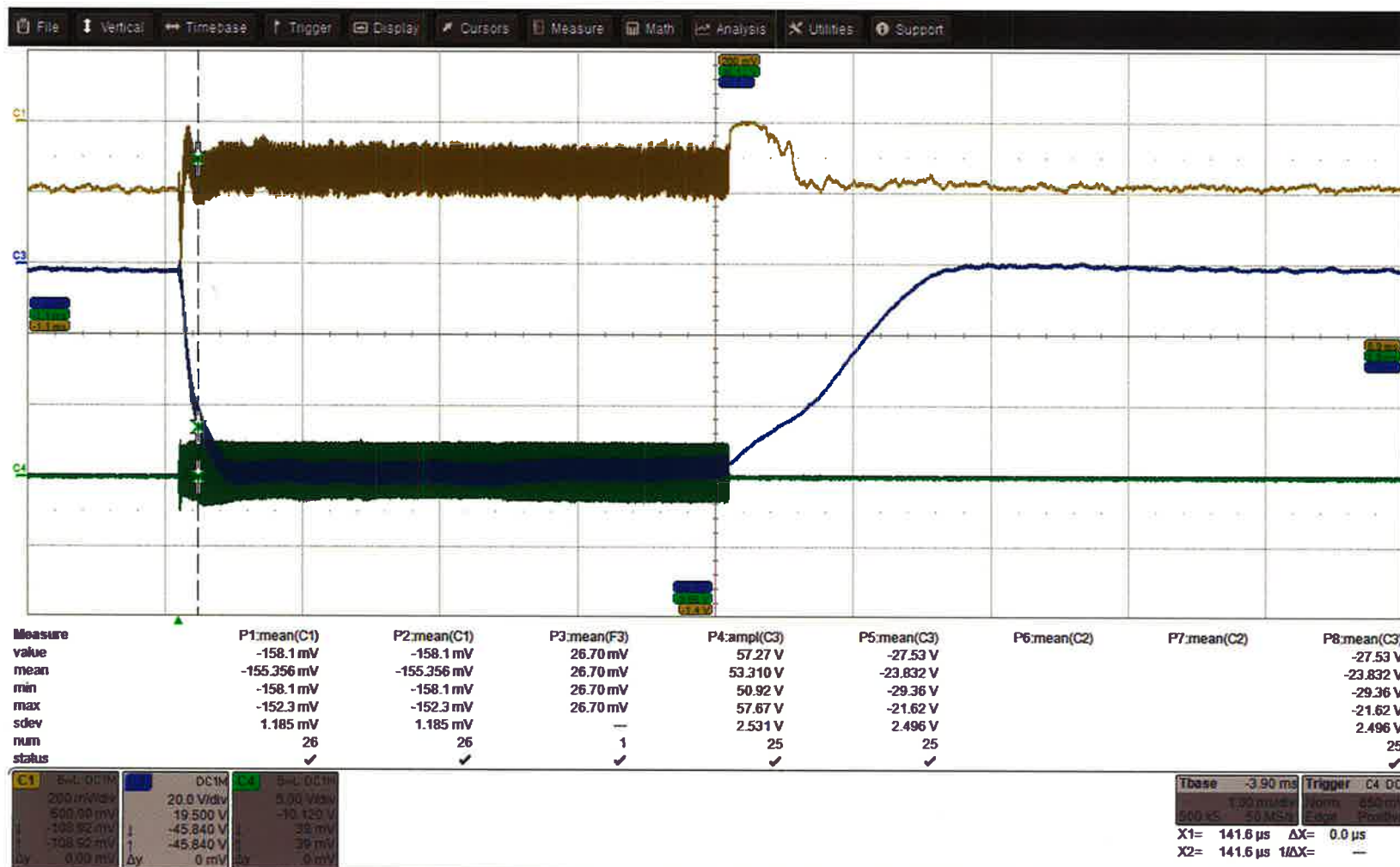


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