

21-Feb-23
10:24:51

1
1 ms
100mV

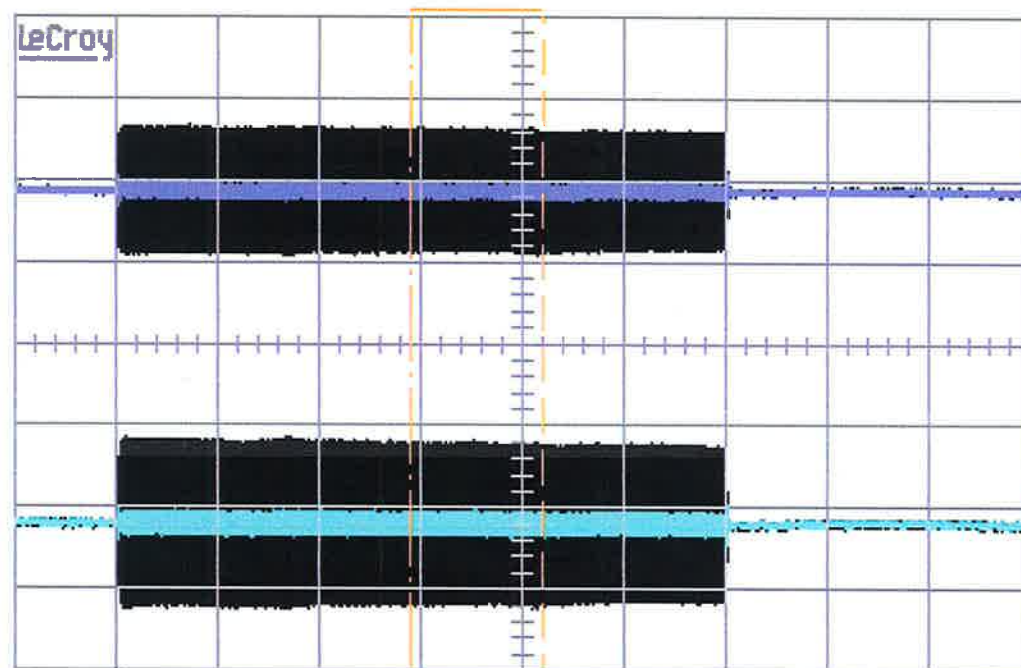
3
1 ms
100mV

4
1 ms
200mV

2
1 ms
200mV

1 ms

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



2 sweeps: average low high sigma
rms(1) 51.6mV 51.5 51.8 0.2
rms(2) 10.8mV 10.7 10.8 0.1
rms(3) 68.1mV 67.9 68.4 0.3
rms(4) 17.6mV 17.4 17.7 0.2
phase(1,3) 92 ° 88 98 2



Ext10 DC 0.50 V 50Ω

CHANNEL 3

Trace
OFF ☒ On

Coupling

ZOOM

FIND

Gain
Fixed ☒ variable

Offsets in
Volts
Divisions ☒

Grids
Single ☒ Dual
Quad Octal

10 MS/s

☒ NORMAL

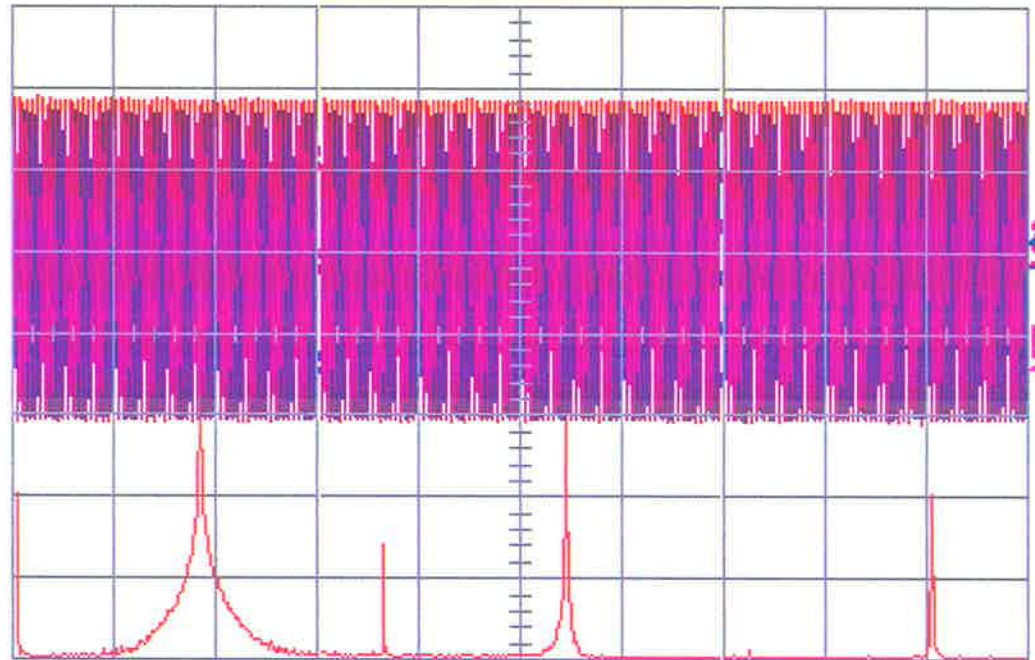
21-Feb-23

10:29:32

3
10 μ s
1.00 V

4
10 μ s
1.00 V

3: Average(A)
1 MHz
=15.0 dBm==



← 1.900 ms

	10 sweeps:	average	low	high	sigma
phase(4,3)		94.79 °	92.29	97.83	0.91
pkpk(3)		3.98 V	3.97	4.00	0.01
rms(2)		44.3mV	44.1	44.4	0.1
rms(4)		1.241 V	1.240	1.243	0.001
rms(3)		1.313 V	1.311	1.317	0.002

10 μ s

1 1 V DC
2 .1 V DC
3 1 V DC
4 1 V DC



Ext10 DC 0.15 V 50 Ω

1 GS/s

☐ NORMAL

21-Feb-23
10:29:37

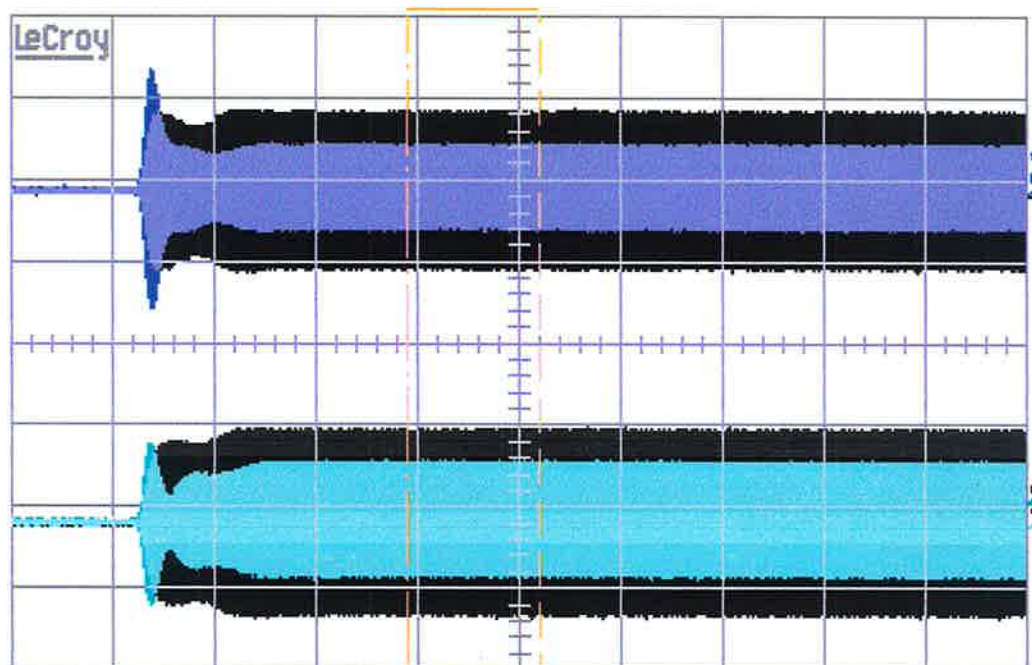
1
.1 ms
0.50 V

3
.1 ms
0.50 V

4
.1 ms
200mV

2
.1 ms
200mV

.1 ms
1 .5 V AC
2 .2 V AC
3 .5 V AC
4 .2 V AC



68 sweeps: average low high sigma

rms(1)	327.2mV	308.1	334.6	9.7
rms(2)	66.6mV	62.0	68.5	2.3
rms(3)	384.9mV	366.7	392.3	9.3
rms(4)	93.6mV	89.5	95.2	2.0
phase(1,3)	89.8 °	85.1	94.9	1.2



Ext10 DC 0.50 V 50Ω

CHANNEL 1

Trace
OFF **On**

Coupling

ZOOM

FIND

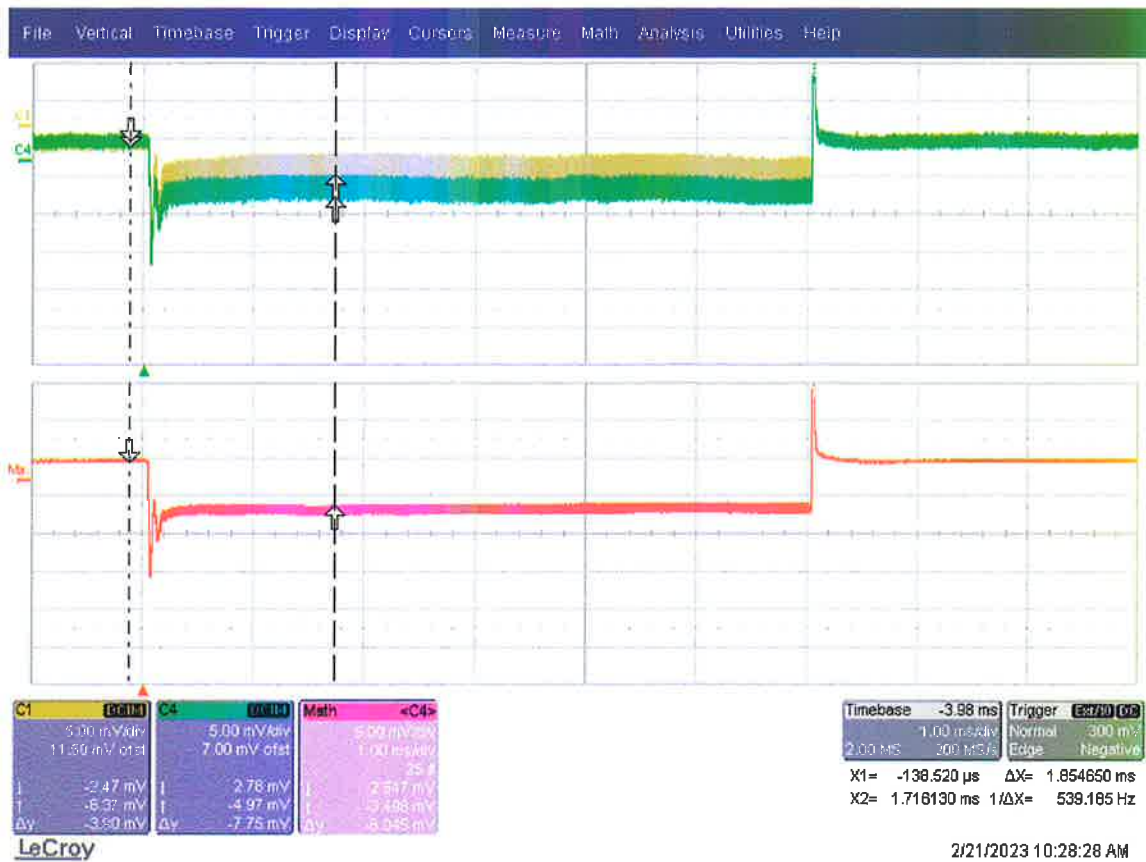
Gain
Fixed
variable

Offsets in
Volts
Divisions

Grids
Single Dual
Quad Octal

100 MS/s

NORMAL



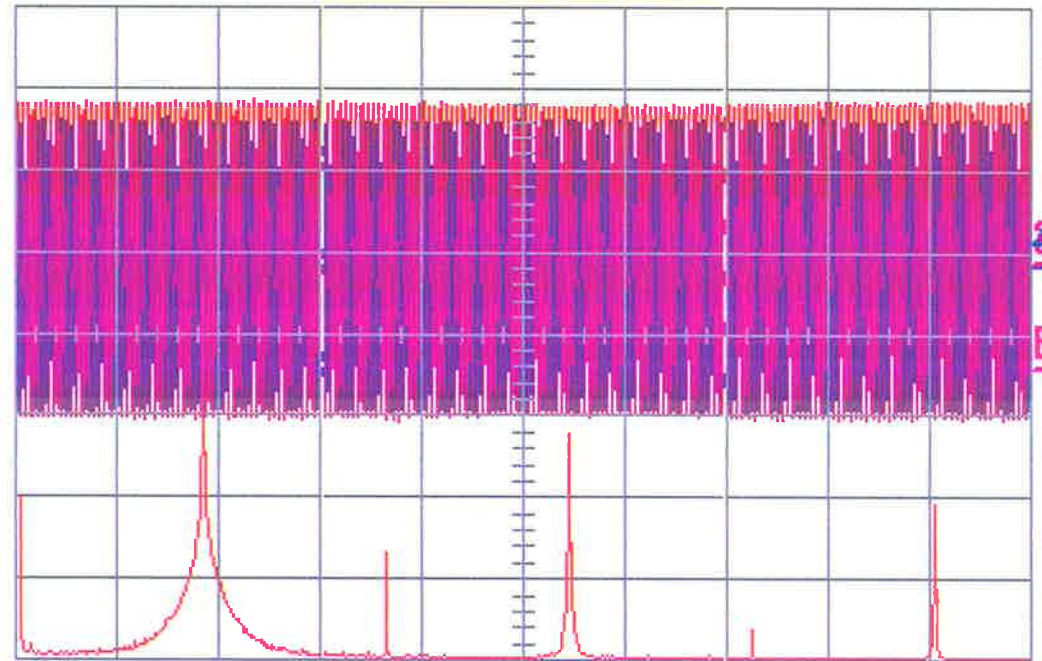
2/21/2023 10:28:28 AM

21-Feb-23
10:34:38

3
10 μ s
1.00 V

4
10 μ s
1.00 V

B: Average(A)
1 MHz
=15.0 dBm==



← 1.900 ms

	18 sweeps:	average	low	high	sigma
phase(4,3)		97.83 °	94.36	101.32	1.20
pkpk(3)		3.94 V	3.91	4.00	0.03
rms(2)		45.1mV	44.5	46.2	0.6
rms(4)		1.197 V	1.185	1.211	0.007
rms(3)		1.296 V	1.280	1.316	0.010

10 μ s

1	1	V	DC
2	.1	V	DC
3	1	V	DC
4	1	V	DC



Ext10 DC 0.15 V 50 Ω

TRIGGER SETUP

Edge SMART

trigger on
1 2 3 4 Ext
Ext10 Line

cplg Ext10
DC AC LFREJ
HFREJ HF

slope Ext10
Pos Neg
Window

External
Atten x1
DC50 Ω DC1M Ω

holdoff

OFF Time Evts

1 GS/s

DISPLAY ☐ NORMAL

21-Feb-23
10:34:43

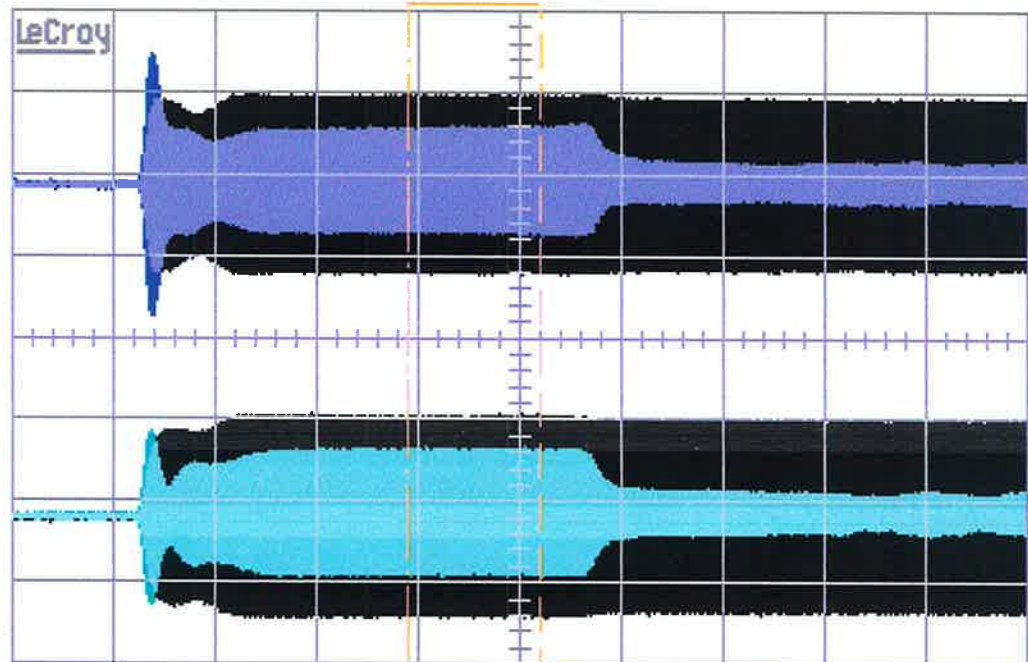
1
.1 ms
0.50 V

3
.1 ms
0.50 V

4
.1 ms
200mV

2
.1 ms
200mV

.1 ms
1 .5 V AC
2 .2 V AC
3 .5 V AC
4 .2 V AC



26 sweeps: average low high sigma
rms(1) 375.6mV 373.7 377.0 1.0
rms(2) 85.7mV 84.8 86.8 0.5
rms(3) 423.3mV 421.9 424.3 0.8
rms(4) 103.6mV 103.1 103.8 0.2
phase(1,3) 88.4 ° 84.8 92.1 1.0

CHANNEL 1

Trace
OFF **On**

Coupling

ZOOM

FIND

Gain
Fixed
variable

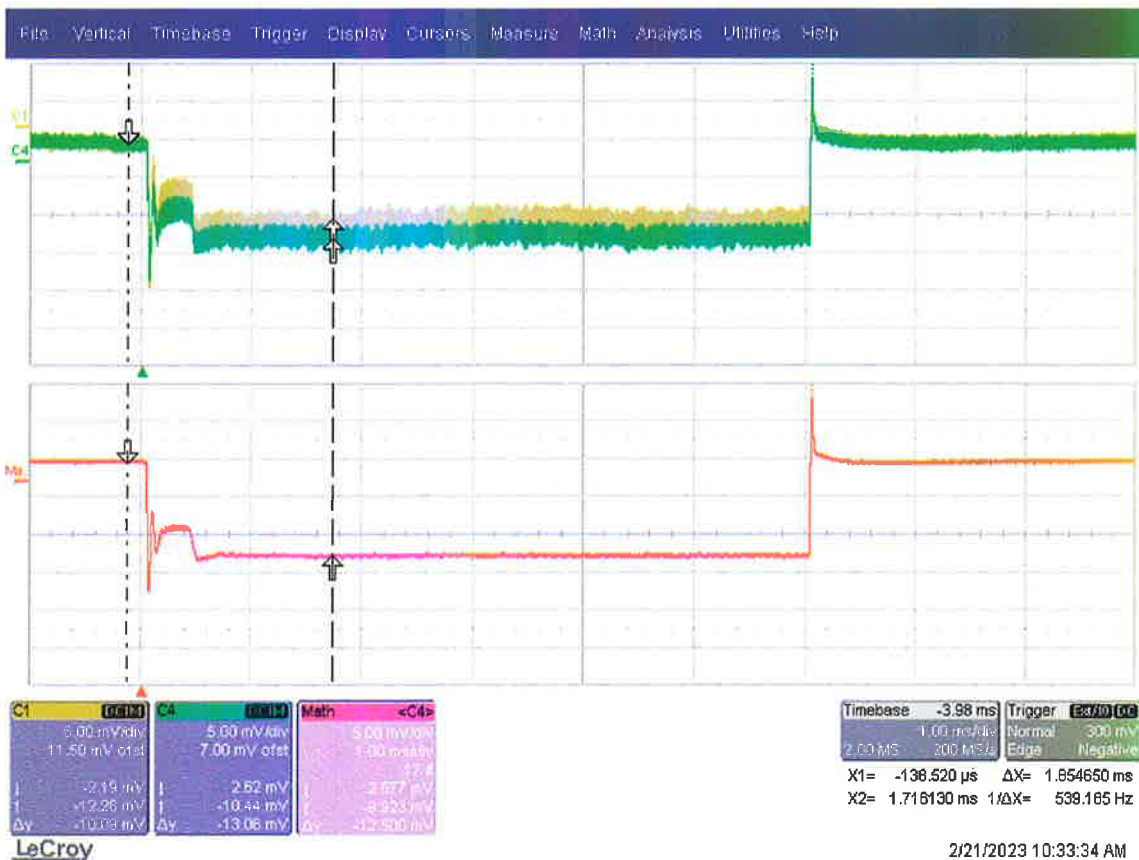
Offsets in
Volts
Divisions

Grids
Single Dual
Quad Octal

100 MS/s

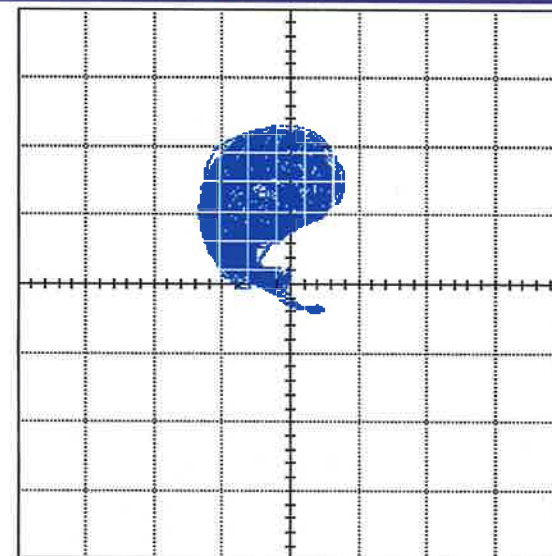
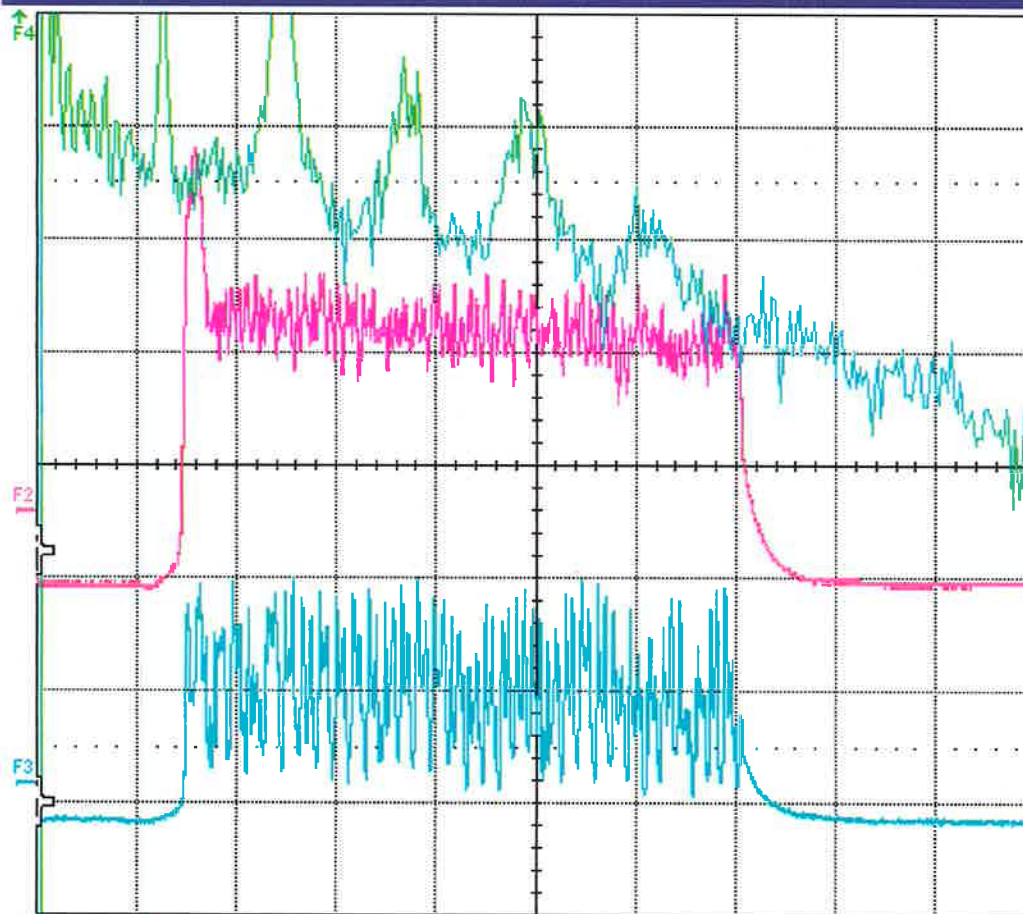
Ext10 DC 0.50 V 50Ω

NORMAL



2/21/2023 10:33:34 AM

File Vertical Timebase Trigger Display Cursors Measure Math Analysis Utilities Help



$\Delta Y/\Delta X = 0$ $\Delta Y \cdot \Delta X = 0 \text{ V}^2$
 0 dB Angle = 0°
 Radius = 0 V

F2	<F3>	F3 script(C3,C2)	F4 <FFT(C2)>	XY X=C2 Y=C3
1.00/div	2.00/div	5.00 dB/div	500 mV/div	500 mV/div
1.00 ms/div	1.00 ms/div	5.00 kHz/div	500 mV/div	500 mV/div
17 #		17 #		

Tbase -4.00 ms Trigger Ext10 DC
 1.00 ms/div Normal 130 mV
 50.0 kS 5.0 MS/s Edge Negative
 X1= -1.0000 ms

LeCroy

Processing ...

21-Feb-23
10:36:18

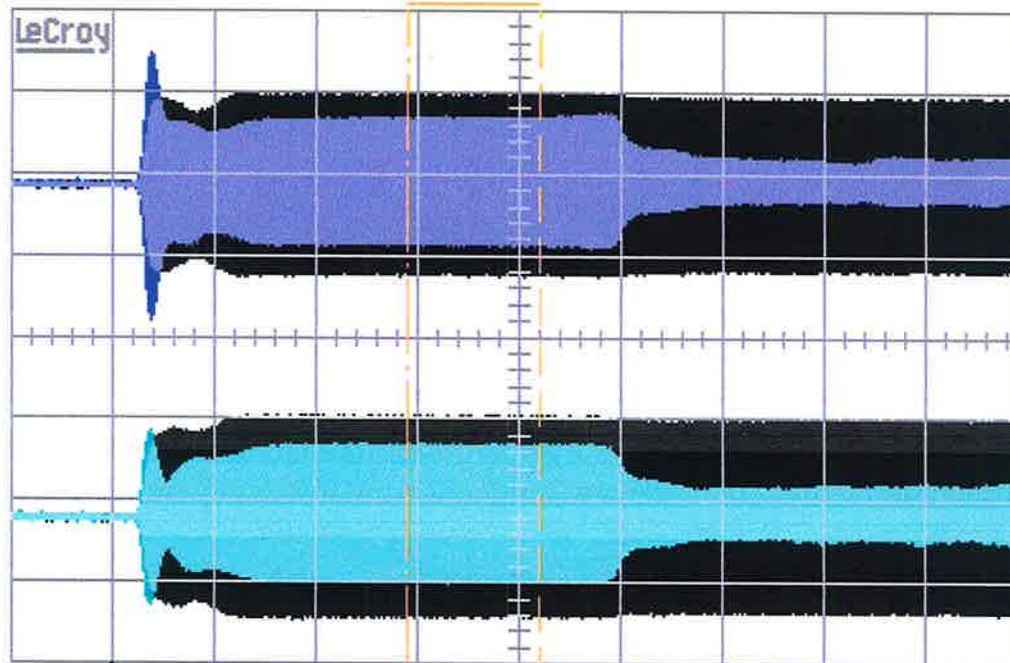
1
.1 ms
0.50 V

3
.1 ms
0.50 V

4
.1 ms
200mV

2
.1 ms
200mV

.1 ms
1 .5 V AC
2 .2 V AC
3 .5 V AC
4 .2 V AC



11 sweeps:

	average	low	high	sigma
rms(1)	379.0mV	376.9	380.4	1.4
rms(2)	98.2mV	88.1	104.6	7.5
rms(3)	421.9mV	420.8	423.0	0.9
rms(4)	109.9mV	104.0	113.7	4.4
phase(1,3)	88.7 °	84.8	91.6	1.0

CHANNEL 1

Trace
OFF **On**

Coupling

ZOOM

FIND

Gain
Fixed
variable

Offsets in
Volts
Divisions

Grids
Single Dual
Quad Octal

100 MS/s

NORMAL

Ext10 DC 0.50 V 50Ω

f21.8008 of H_E

21-Feb-23
10:36:40

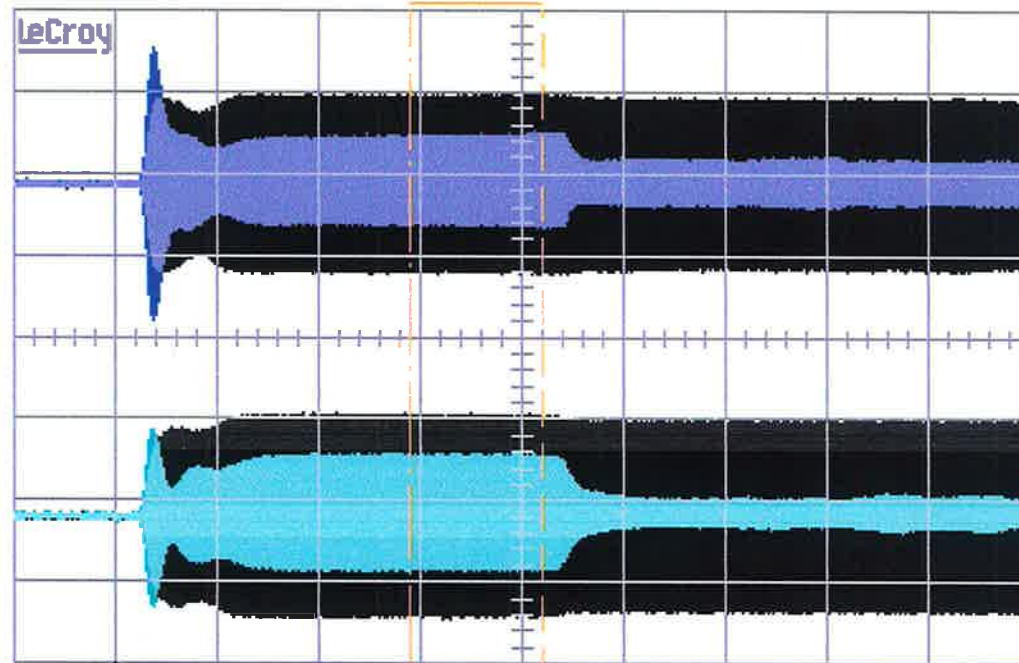
1
.1 ms
0.50 V

3
.1 ms
0.50 V

4
.1 ms
200 mV

2
.1 ms
200 mV

.1 ms
1 .5 V AC
2 .2 V AC
3 .5 V AC
4 .2 V AC



7 sweeps:

	average	low	high	sigma
rms(1)	374.6 mV	374.2	375.0	0.2
rms(2)	72.8 mV	72.2	73.4	0.4
rms(3)	423.6 mV	423.1	424.0	0.3
rms(4)	94.5 mV	94.0	94.7	0.2
phase(1 , 3)	87.6 °	84.6	90.5	1.1

CHANNEL 1

Trace
OFF **On**

Coupling

ZOOM

FIND

Gain
Fixed
variable

Offsets in
Volts
Divisions

Grids
Single Dual
Quad Octal

100 MS/s

NORMAL



Ext10 DC 0.50 V 50Ω

$f = 1.7998 \mu\text{Hz}$

21-Feb-23
10:38:00

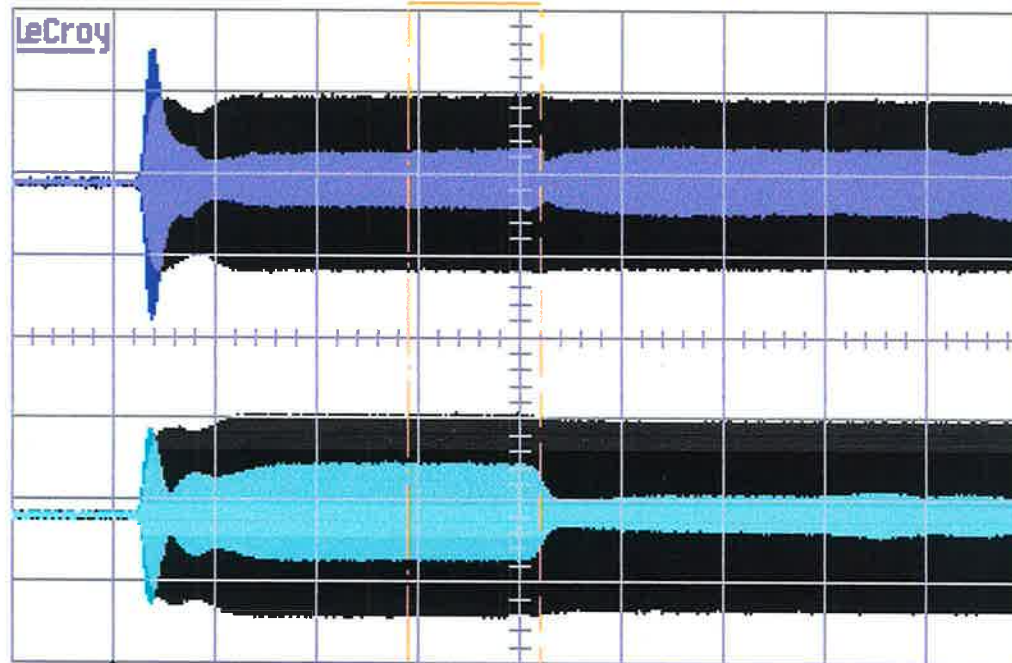
1
.1 ms
0.50 V

3
.1 ms
0.50 V

4
.1 ms
200mV

2
.1 ms
200mV

.1 ms
1 .5 V AC
2 .2 V AC
3 .5 V AC
4 .2 V AC



4 sweeps:

	average	low	high	sigma
rms(1)	369.1mV	368.9	369.3	0.2
rms(2)	45.3mV	45.0	45.7	0.3
rms(3)	421.2mV	419.8	422.3	1.0
rms(4)	76.0mV	73.4	77.5	1.9
phase(1,3)	86.1 °	82.5	88.6	1.0

CHANNEL 1

Trace
OFF **On**

Coupling

ZOOM

FIND

Gain
Fixed
variable

Offsets in
Volts
Divisions

Grids
Single Dual
Quad Octal

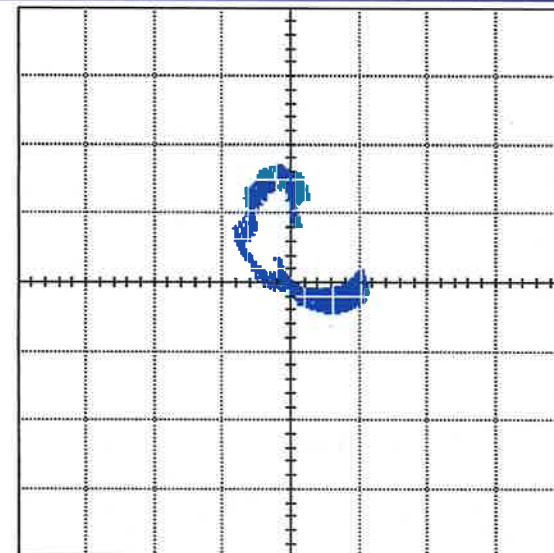
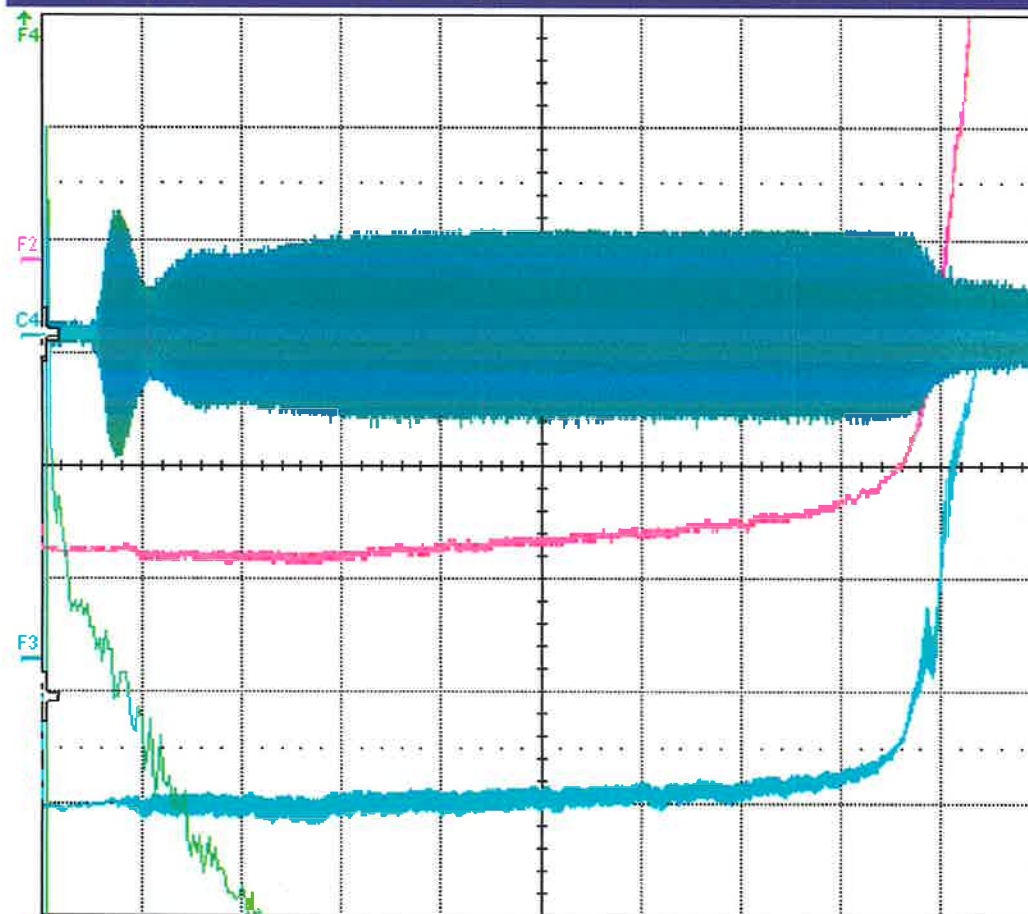
100 MS/s

NORMAL

Ext10 DC 0.50 V 50Ω

$$f = 1.7429$$

File Vertical Timebase Trigger Display Cursors Measure Math Analysis Utilities Help



$\Delta Y/\Delta X = -41e-3$ $\Delta Y * \Delta X = -10 \text{ mV}^2$
 -27.8 dB Angle = -2.3°
 Radius = 504 mV

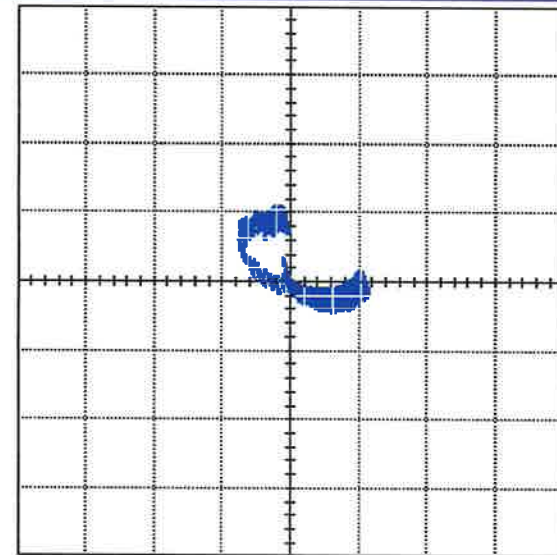
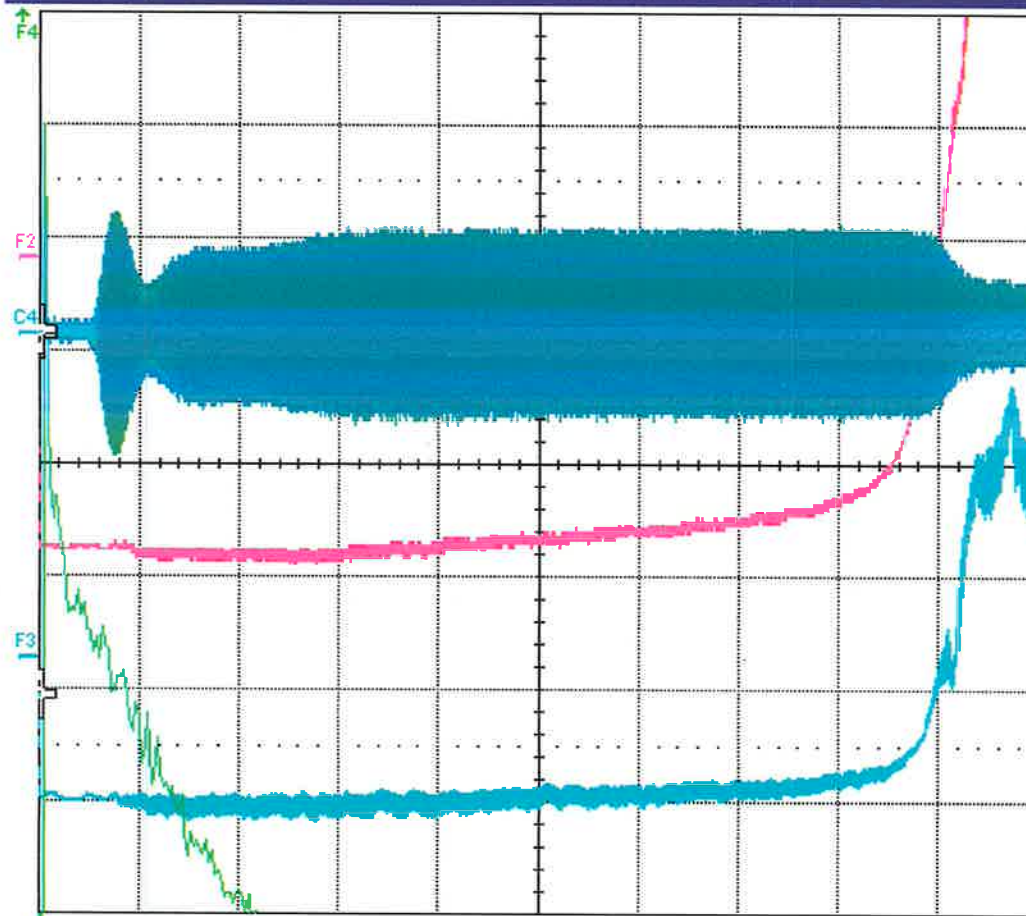
C4	DG1M	F2	<F3>	F3	script(C3,C2)	F4	<FFT(C2)>	XY	X:C2 Y:C3
200 mV/div		500e-3/div		1.00/div		5.00 dB/div		500 mV/div	
230.0 mV		50.0 μ s/div		50.0 μ s/div		100 kHz/div		500 mV/div	
		8 #				36 #			
3.3 mV									

Timebase -250 μ s Trigger Ext/10 DC
 50.0 μ s/div Normal 130 mV
 50.0 kS 100 MS/s Edge Negative
 X1= 0.00 μ s

LeCroy

2/21/2023 10:43:16 AM

File Vertical Timebase Trigger Display Cursors Measure Math Analysis Utilities Help



$\Delta Y/\Delta X = -41e-3$ $\Delta Y \cdot \Delta X = -10 \text{ mV}^2$
 -27.8 dB $\text{Angle} = -2.3^\circ$
 Radius = 504 mV

C4	DCIM	F2	<F3>	F3	script(C3,C2)	F4	<FFT(C2)>	XY	X:C2:Y:C3
200 mV/div		500e-3/div		1.00/div		5.00 dB/div		500 mV/div	
230.0 mV		50.0 μ s/div		50.0 μ s/div		100 kHz/div		500 mV/div	
		12 #				40 #			
400 μ V									

Timebase -250 μ s
 50.0 μ s/div
 50.0 kS 100 MS/s
 X1= 0.00 μ s

Trigger Ext/10 DC
 Normal 130 mV
 Edge Negative

Page successfully sent to the printer queue.

21-Feb-23
10:24:51

1
1 ms
100mV

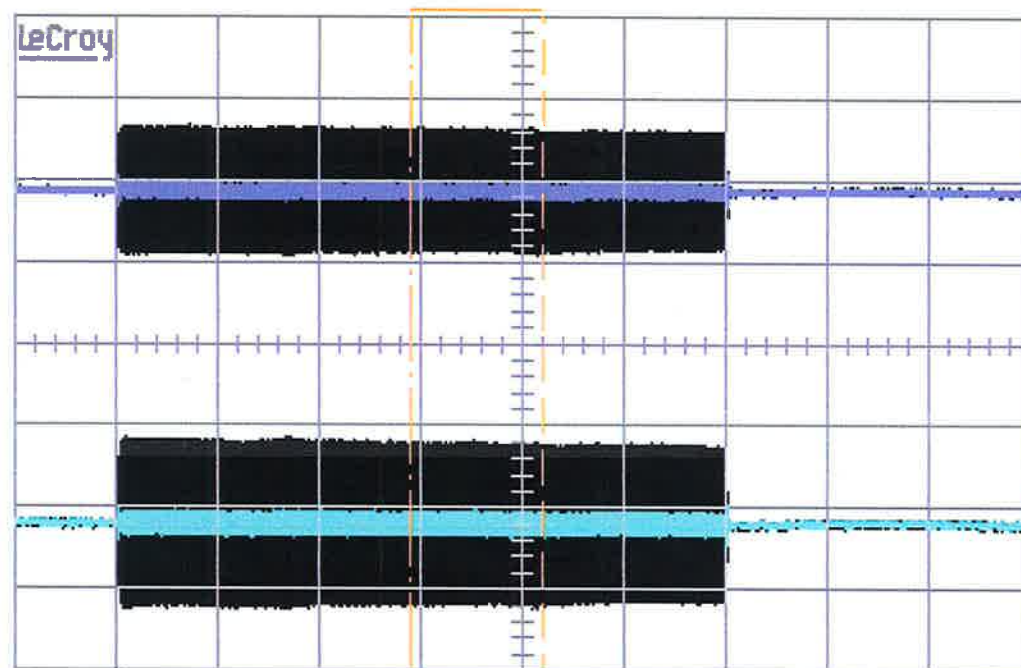
3
1 ms
100mV

4
1 ms
200mV

2
1 ms
200mV

1 ms

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



2 sweeps: average low high sigma

rms(1)	51.6mV	51.5	51.8	0.2
rms(2)	10.8mV	10.7	10.8	0.1
rms(3)	68.1mV	67.9	68.4	0.3
rms(4)	17.6mV	17.4	17.7	0.2
phase(1,3)	92 °	88	98	2



Ext10 DC 0.50 V 50Ω

CHANNEL 3

Trace
OFF **On**

Coupling

ZOOM

FIND

Gain
Fixed
variable

Offsets in
Volts
Divisions

Grids
Single Dual
Quad Octal

10 MS/s

NORMAL

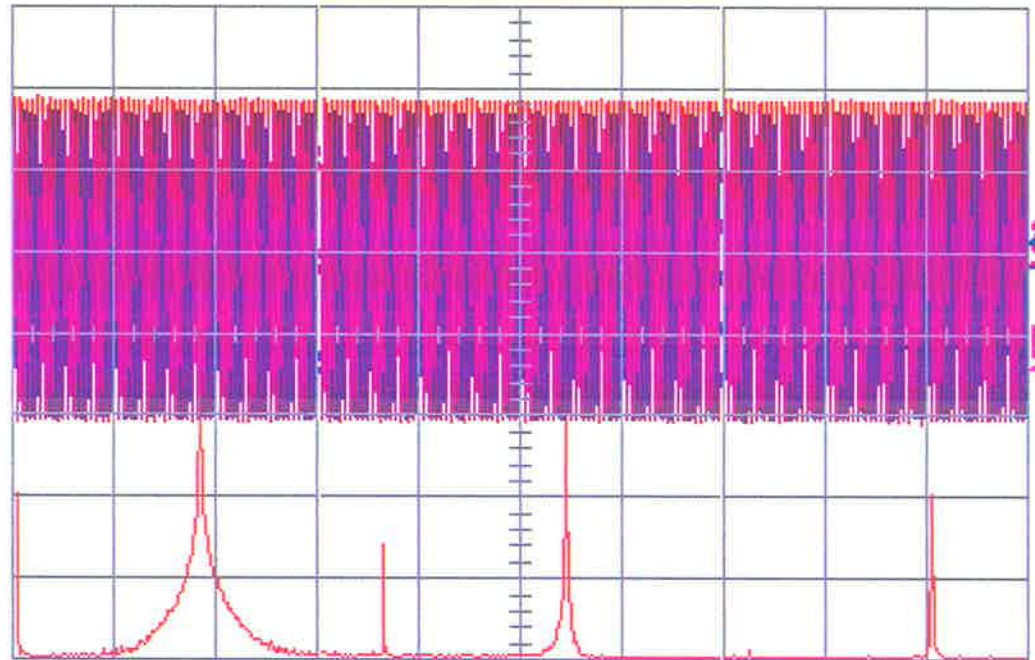
21-Feb-23

10:29:32

3
10 μ s
1.00 V

4
10 μ s
1.00 V

3: Average(A)
1 MHz
=15.0 dBm==



← 1.900 ms

	10 sweeps:	average	low	high	sigma
phase(4,3)		94.79 °	92.29	97.83	0.91
pkpk(3)		3.98 V	3.97	4.00	0.01
rms(2)		44.3mV	44.1	44.4	0.1
rms(4)		1.241 V	1.240	1.243	0.001
rms(3)		1.313 V	1.311	1.317	0.002

10 μ s

1 1 V DC
2 .1 V DC
3 1 V DC
4 1 V DC



Ext10 DC 0.15 V 50 Ω

1 GS/s

☐ NORMAL

21-Feb-23
10:29:37

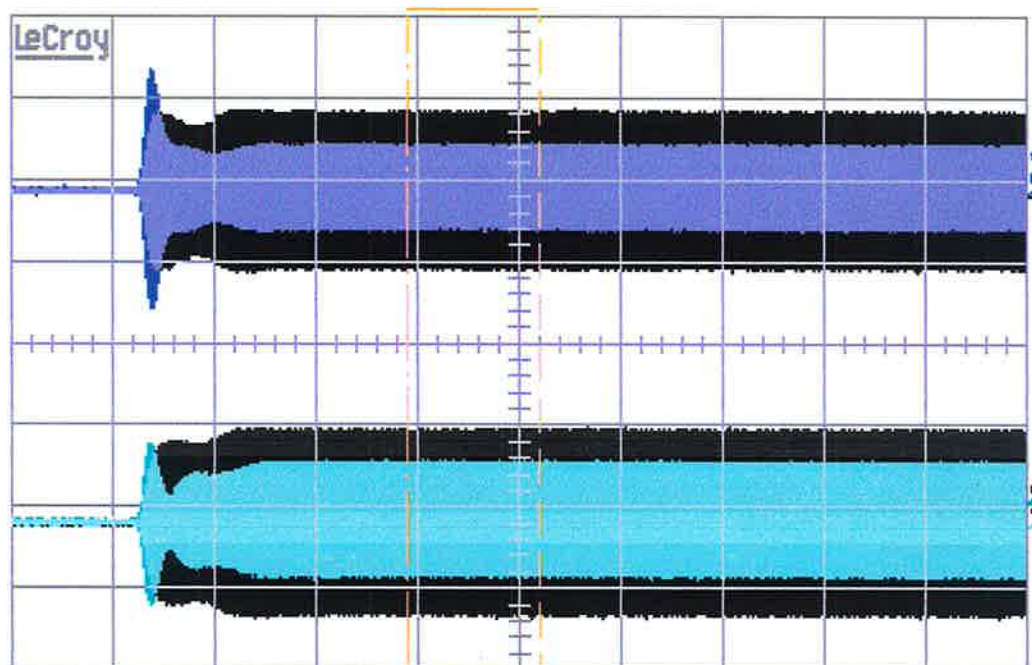
1
.1 ms
0.50 V

3
.1 ms
0.50 V

4
.1 ms
200mV

2
.1 ms
200mV

.1 ms
1 .5 V AC
2 .2 V AC
3 .5 V AC
4 .2 V AC



68 sweeps: average low high sigma

rms(1)	327.2mV	308.1	334.6	9.7
rms(2)	66.6mV	62.0	68.5	2.3
rms(3)	384.9mV	366.7	392.3	9.3
rms(4)	93.6mV	89.5	95.2	2.0
phase(1,3)	89.8 °	85.1	94.9	1.2



Ext10 DC 0.50 V 50Ω

CHANNEL 1

Trace
OFF **On**

Coupling

ZOOM

FIND

Gain
Fixed
variable

Offsets in
Volts
Divisions

Grids
Single Dual
Quad Octal

100 MS/s

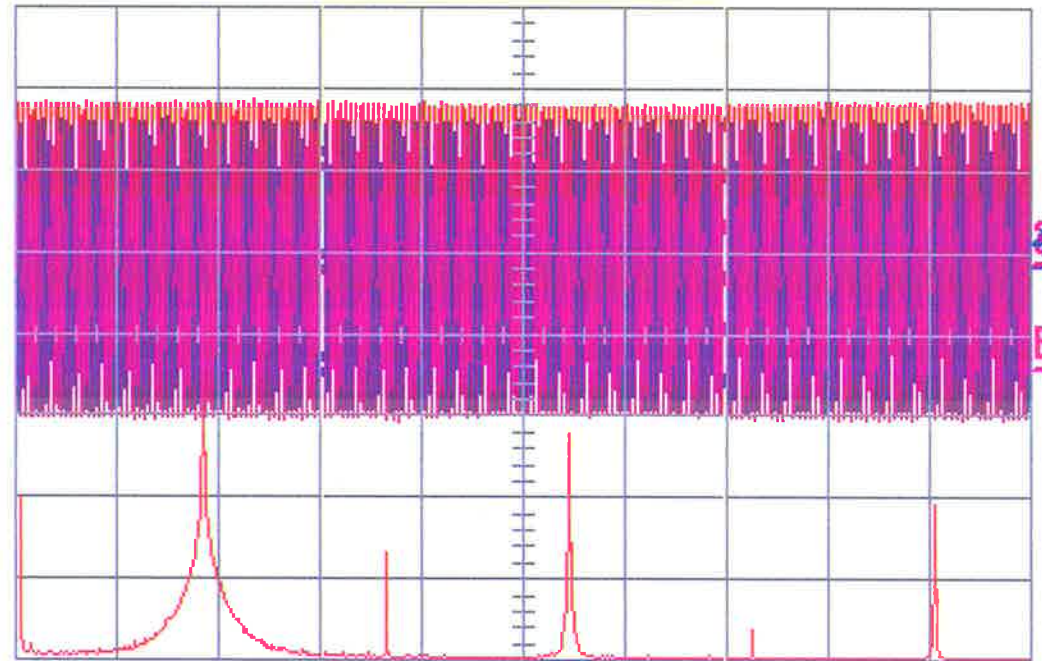
NORMAL

21-Feb-23
10:34:38

3
10 μ s
1.00 V

4
10 μ s
1.00 V

B: Average (**A**)
1 MHz
=15.0 dBm==



← 1.900 ms

	18 sweeps:	average	low	high	sigma
phase(4 , 3)		97.83 °	94.36	101.32	1.20
pkpk(3)		3.94 V	3.91	4.00	0.03
rms(2)		45.1mV	44.5	46.2	0.6
rms(4)		1.197 V	1.185	1.211	0.007
rms(3)		1.296 V	1.280	1.316	0.010

10 μ s

1 1 V DC
2 .1 V DC
3 1 V DC
4 1 V DC



Ext10 DC 0.15 V 50 Ω

TRIGGER SETUP

Edge SMART

trigger on
1 2 3 4 Ext
Ext10 Line

cplg Ext10
DC AC LFREJ
HFREJ HF

slope Ext10
Pos **Neg**
Window

External
Atten x1
DC50 Ω DC1M Ω

holdoff

OFF Time Evts

1 GS/s

DISPLAY



NORMAL

21-Feb-23
10:34:43

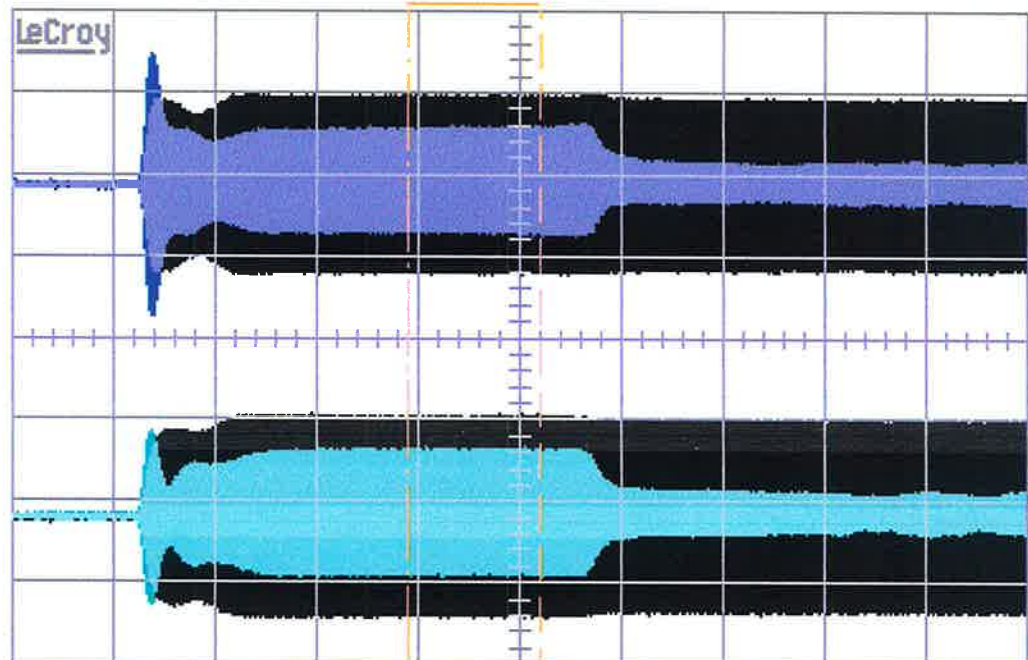
1
.1 ms
0.50 V

3
.1 ms
0.50 V

4
.1 ms
200mV

2
.1 ms
200mV

.1 ms
1 .5 V AC
2 .2 V AC
3 .5 V AC
4 .2 V AC



26 sweeps:

	average	low	high	sigma
rms(1)	375.6mV	373.7	377.0	1.0
rms(2)	85.7mV	84.8	86.8	0.5
rms(3)	423.3mV	421.9	424.3	0.8
rms(4)	103.6mV	103.1	103.8	0.2
phase(1,3)	88.4 °	84.8	92.1	1.0

CHANNEL 1

Trace
OFF **On**

Coupling

ZOOM

FIND

Gain
Fixed
variable

Offsets in
Volts
Divisions

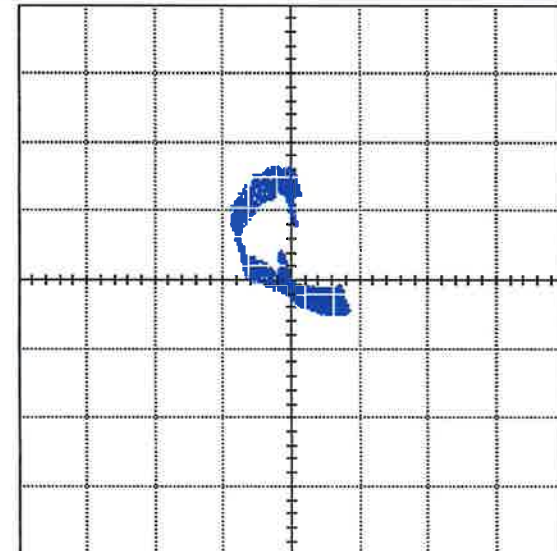
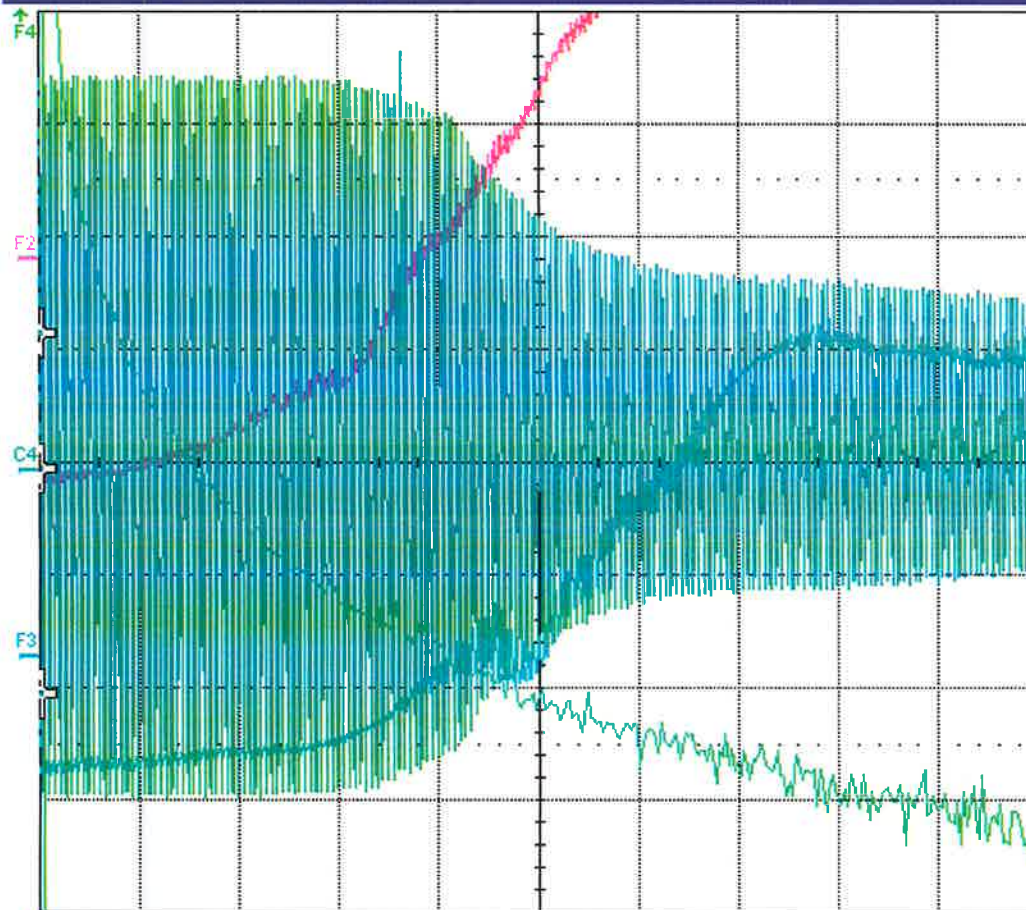
Grids
Single Dual
Quad Octal

100 MS/s

NORMAL

Ext10 DC 0.50 V 50Ω

File Vertical Timebase Trigger Display Cursors Measure Math Analysis Utilities Help



$\Delta Y/\Delta X = -317e-3$ $\Delta Y \cdot \Delta X = -68 \text{ mV}^2$
 -10.0 dB Angle = -17.6°
 Radius = 487 mV

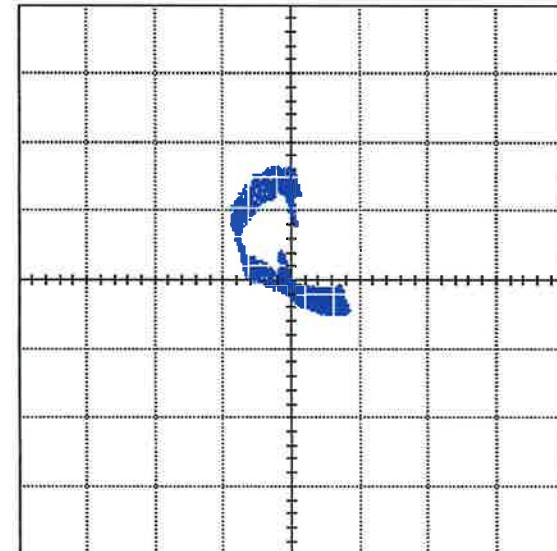
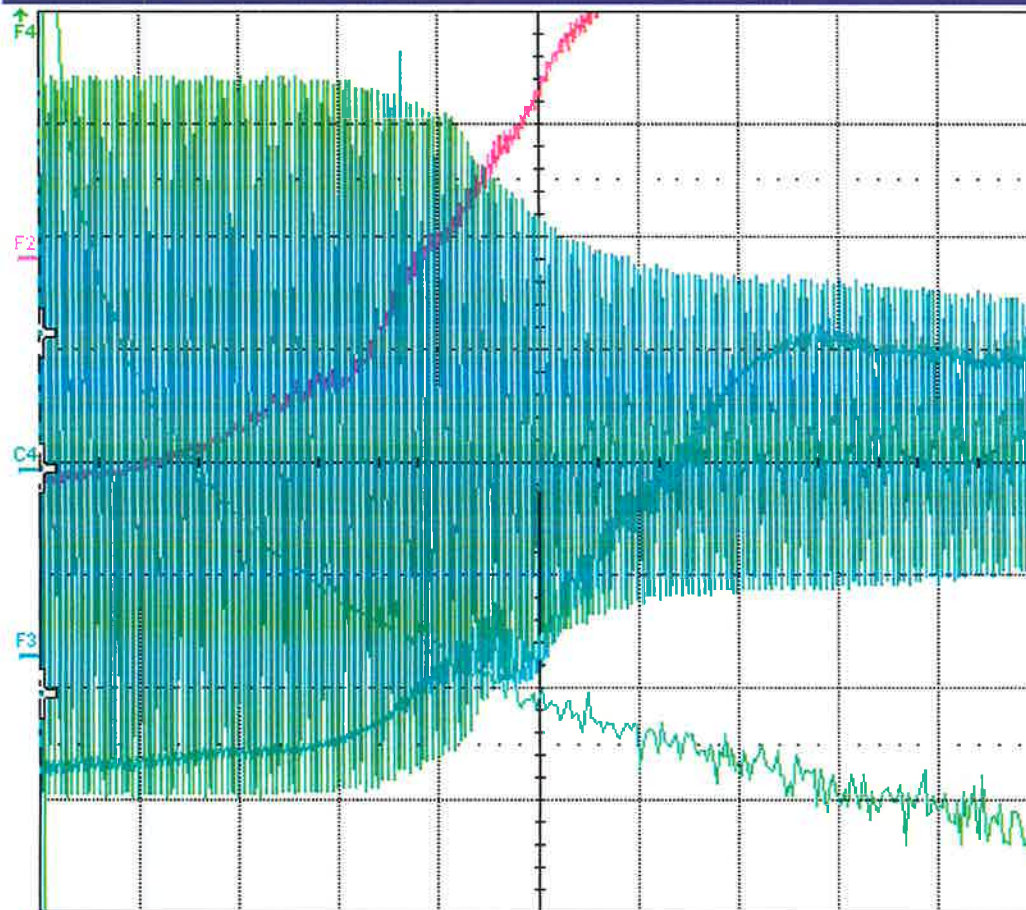
C4	DC1M	F2	<F3>	F3	script(C3,C2)	F4	<FFT(C2)>	XY	X:C2 Y:C3
50.0 mV/div		500e-3/div		1.00/div		5.00 dB/div		500 mV/div	
-3.5 mV ofst		10.0 μ s/div		10.0 μ s/div		500 kHz/div		500 mV/div	
		7 #				7 #			
700 μ V									

Tbase -458.4 μ s Trigger Ext10 DC
 10.0 μ s/div Normal 130 mV
 50.0 kS 500 MS/s Edge Negative
 X1= 408.400 μ s

LeCroy

2/21/2023 10:44:37 AM

File Vertical Timebase Trigger Display Cursors Measure Math Analysis Utilities Help



$\Delta Y/\Delta X = -317e-3$ $\Delta Y^2/\Delta X = -68 \text{ mV}^2$
 -10.0 dB Angle = -17.6°
 Radius = 487 mV

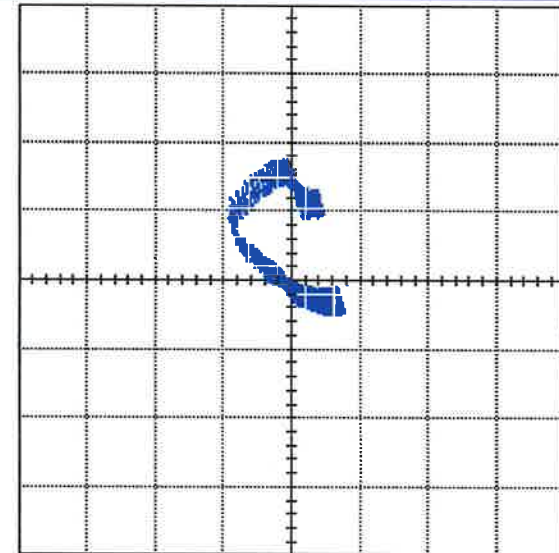
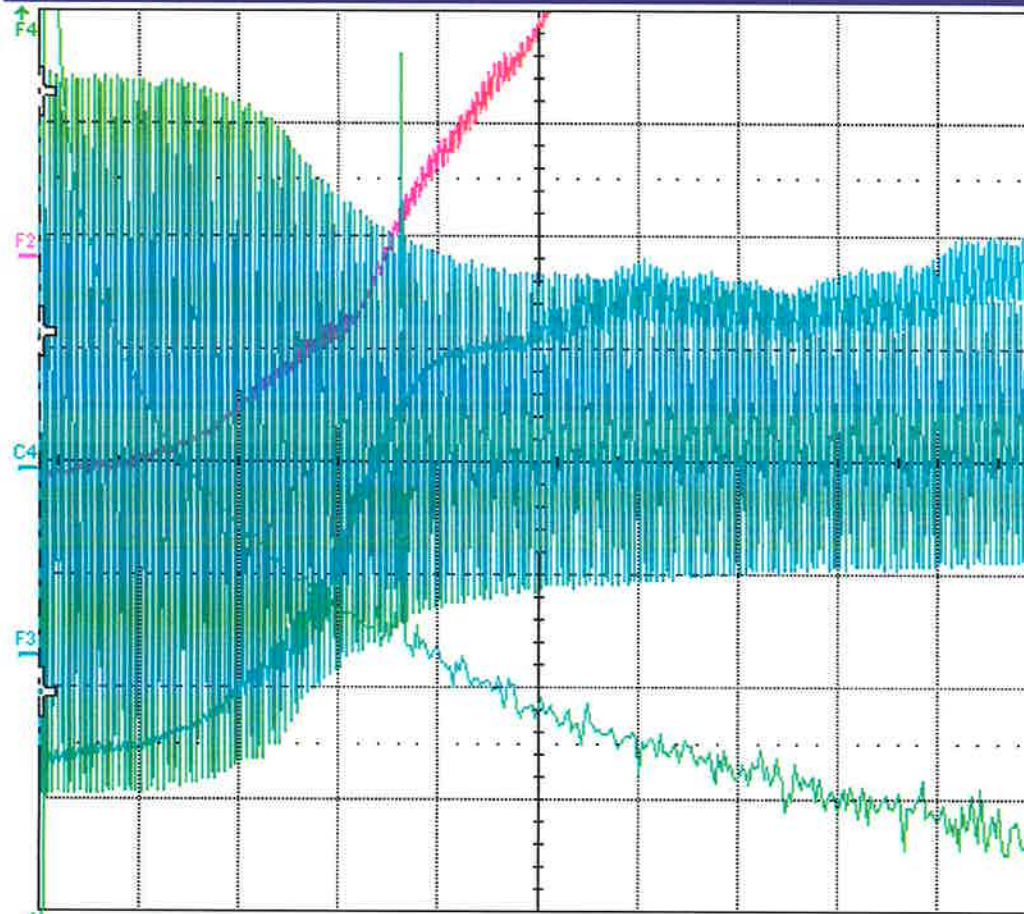
C4	DC1M	F2	<F3>	F3	script(C3,C2)	F4	<FFT(C2)>	XY	X:C2 Y:C3
50.0 mV/div		500e-3/div		1.00/div		5.00 dB/div		500 mV/div	
-3.5 mV ofst		10.0 μ s/div		10.0 μ s/div		500 kHz/div		500 mV/div	
		7 #				7 #			
700 μ V									

Tbase -458.4 μ s Trigger Ext10 DC
 10.0 μ s/div Normal 130 mV
 50.0 kS 500 MS/s Edge Negative
 X1= 408.400 μ s

LeCroy

2/21/2023 10:44:37 AM

File Vertical Timebase Trigger Display Cursors Measure Math Analysis Utilities Help



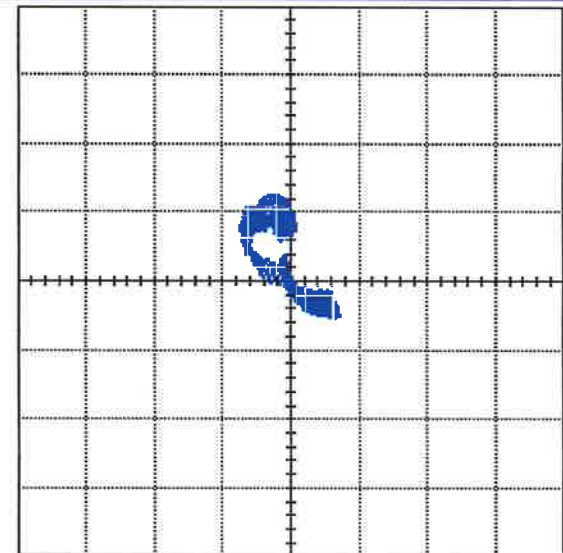
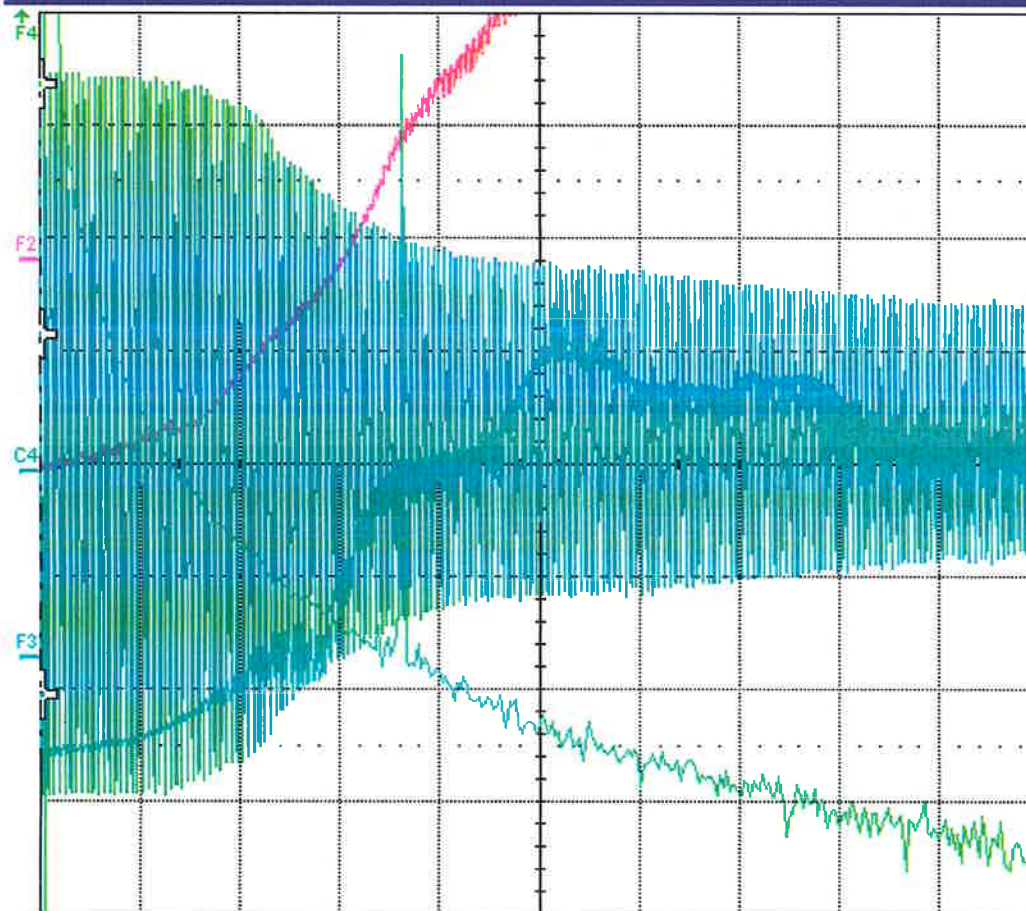
$\Delta Y/\Delta X = -317e-3$ $\Delta Y \cdot \Delta X = -68 \text{ mV}^2$
 $\text{Radius} = 487 \text{ mV}$ $\text{Angle} = -17.6^\circ$

C4	DOTM	F2	<F3>	F3	script(C3,C2)	F4	<FFT(C2)>	XY	X:C2 Y:C3
50.0 mV/div		500e-3/div		1.00/div		5.00 dB/div		500 mV/div	
-3.5 mV ofst		10.0 μ s/div		10.0 μ s/div		500 kHz/div		500 mV/div	
		10 #				10 #			
167.2 mV									

Tbase -458.4 μ s Trigger Ext/10 DC
 10.0 μ s/div Normal 130 mV
 50.0 kS 500 MS/s Edge Negative
 X1= 408.400 μ s

Page successfully sent to the printer queue.

File Vertical Timebase Trigger Display Cursors Measure Math Analysis Utilities Help



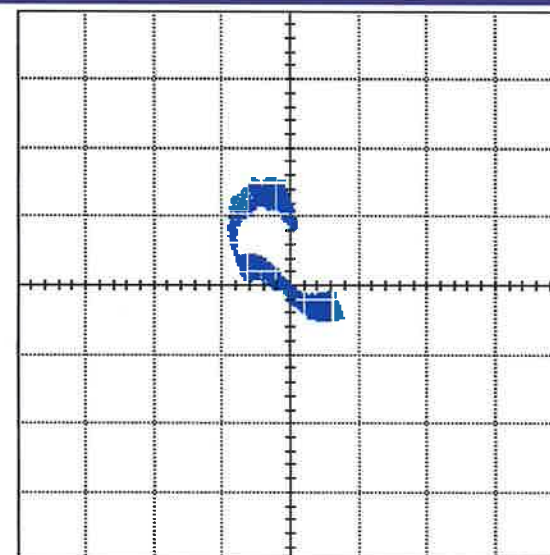
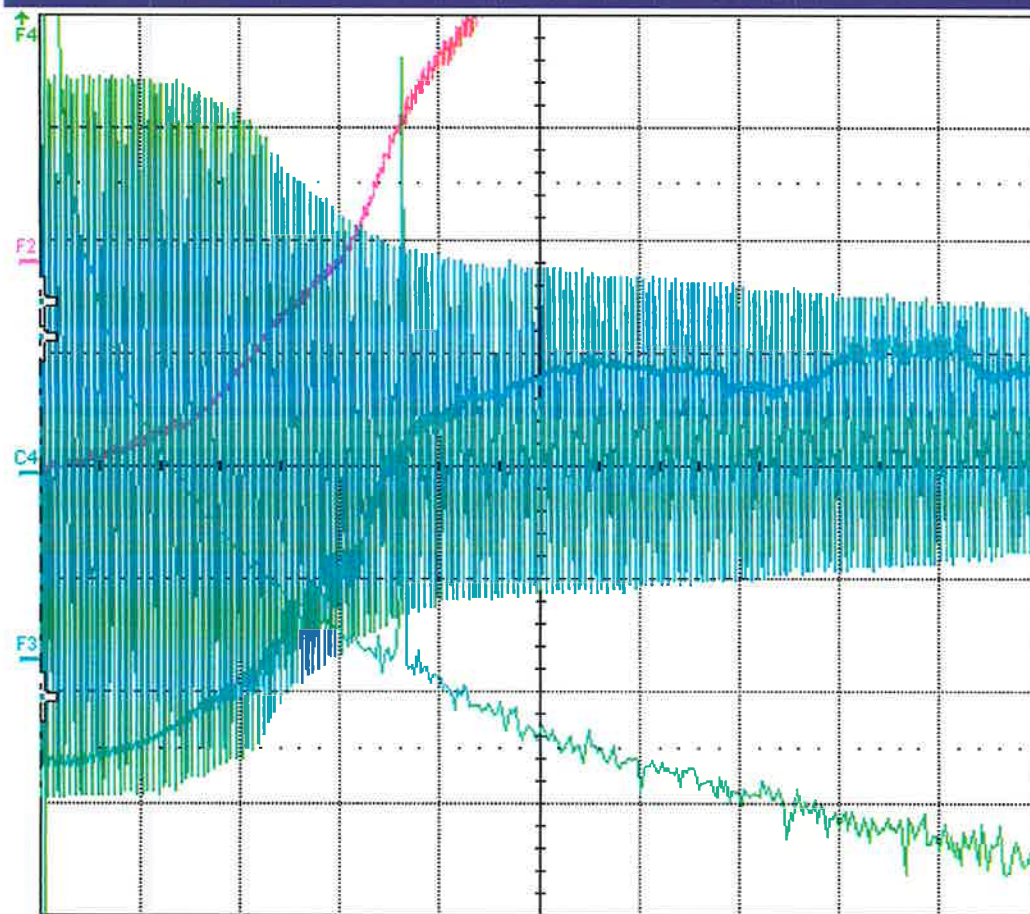
$\Delta Y/\Delta X = -317e-3$ $\Delta Y \cdot \Delta X = -68 \text{ mV}^2$
 -10.0 dB Angle = -17.6°
 Radius = 487 mV

C4	DCIM	F2	<F3>	F3	script(C3,C2)	F4	<FFT(C2)>	XY	X:C2 Y:C3
50.0 mV/div		500e-3/div		1.00/div		5.00 dB/div		500 mV/div	
-3.5 mV ofst		10.0 μ s/div		10.0 μ s/div		500 kHz/div		500 mV/div	
		12 #				12 #			
171.5 mV									

Tbase -458.4 μ s Trigger Ext/10 DC
 10.0 μ s/div Normal 130 mV
 50.0 kS 500 MS/s Edge Negative
 X1= 408.400 μ s

Page successfully sent to the printer queue.

File Vertical Timebase Trigger Display Cursors Measure Math Analysis Utilities Help



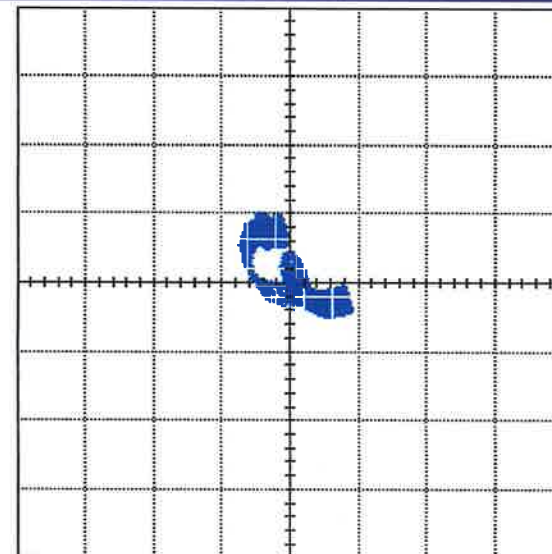
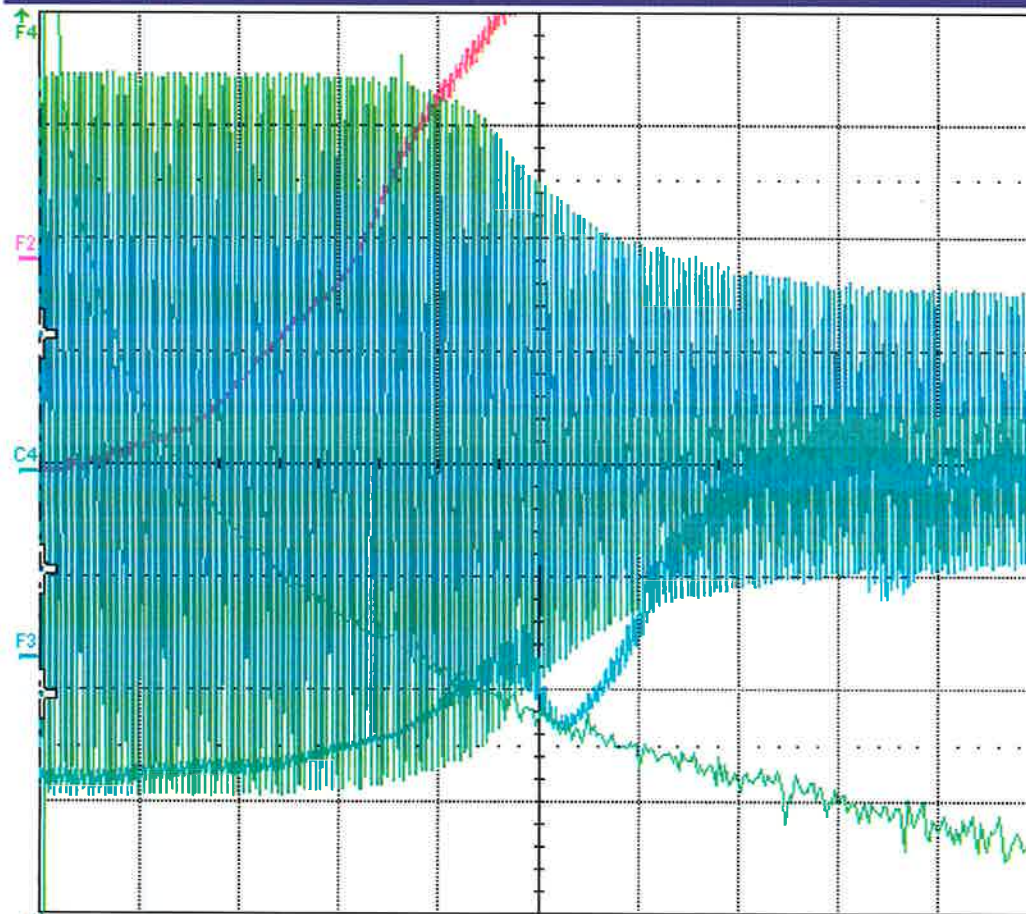
$\Delta Y/\Delta X = -317e-3$ $\Delta Y^* \Delta X = -68 \text{ mV}^2$
 $\text{Radius} = 487 \text{ mV}$ $\text{Angle} = -17.6^\circ$

C4	DC1M	F2	<F3>	F3	script(C3,C2)	F4	<FFT(C2)>	XY	X:C2 Y:C3
50.0 mV/div	500e-3/div	500e-3/div	1.00/div	5.00 dB/div	500 mV/div	500 kHz/div	500 mV/div	500 mV/div	500 mV/div
-3.5 mV ofst	10.0 μ s/div	10.0 μ s/div	10.0 μ s/div	15 #	15 #	15 #	15 #	15 #	15 #
170.0 mV									

Tbase -458.4 μ s Trigger Ext10 DC
 10.0 μ s/div Normal 130 mV
 50.0 kS 500 MS/s Edge Negative
 X1= 408.400 μ s

Page successfully sent to the printer queue.

File Vertical Timebase Trigger Display Cursors Measure Math Analysis Utilities Help



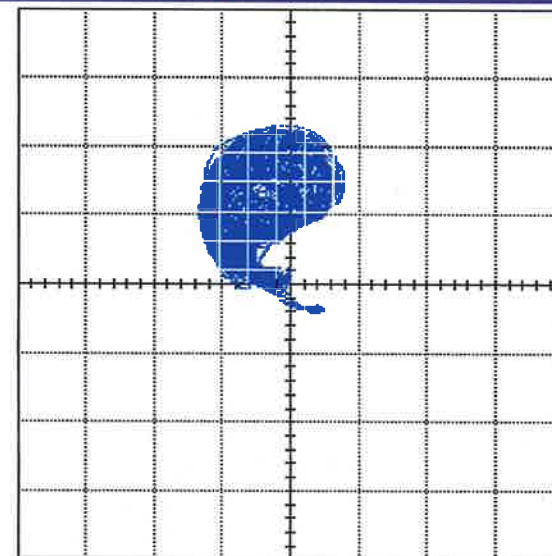
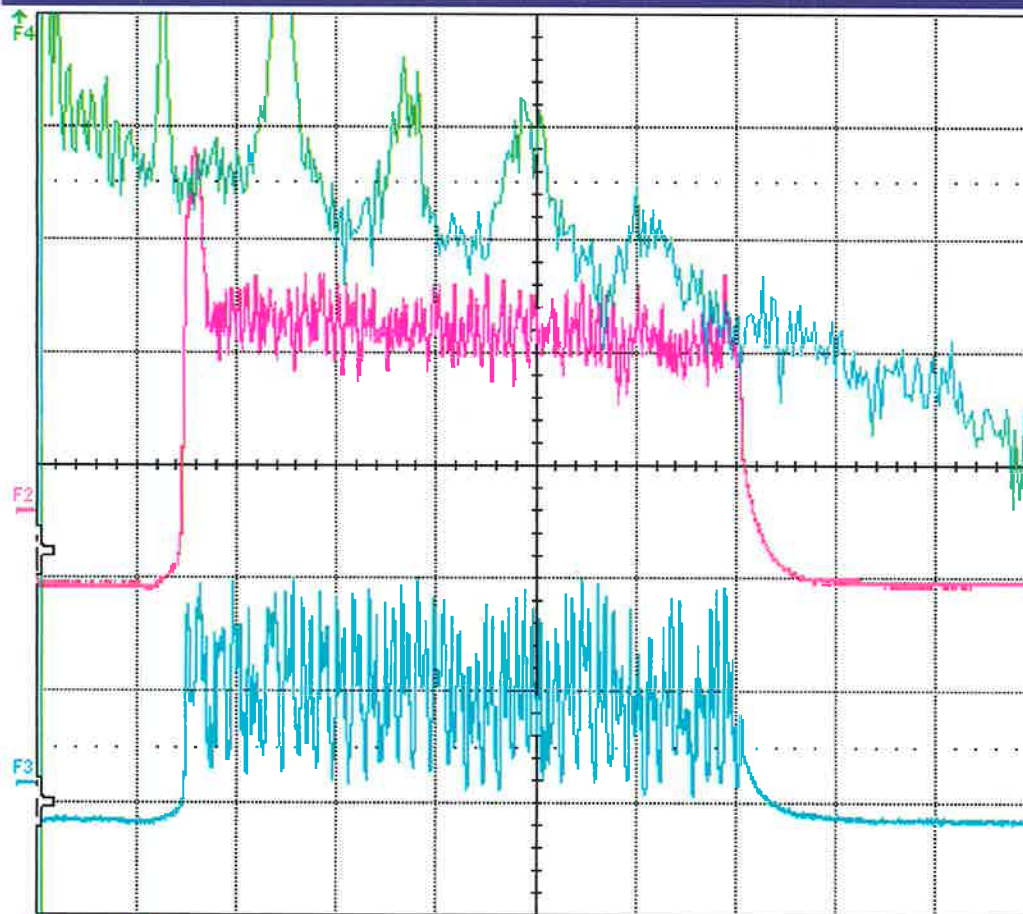
$\Delta Y/\Delta X = -317e-3$ $\Delta Y^*\Delta X = -68 \text{ mV}^2$
 -10.0 dB Angle = -17.6°
 Radius = 487 mV

C4	DBTM	F2	<F3>	F3	script(C3,C2)	F4	<FFT(C2)>	XY	X:C2 Y:C3
50.0 mV/div		500e-3/div		1.00/div		5.00 dB/div		500 mV/div	
-3.5 mV ofst		10.0 μ s/div		10.0 μ s/div		500 kHz/div		500 mV/div	
		16 #				16 #			
-43.5 mV									

Tbase -458.4 μ s Trigger Ext 10 DC
 10.0 μ s/div Normal 130 mV
 50.0 kS 500 MS/s Edge Negative
 X1= 408.400 μ s

Page successfully sent to the printer queue.

File Vertical Timebase Trigger Display Cursors Measure Math Analysis Utilities Help



$\Delta Y/\Delta X = 0$ $\Delta Y^* \Delta X = 0 \text{ V}^2$
 0 dB Angle = 0°
 Radius = 0 V

F2	<F3>	F3 script(C3,C2)	F4	<FFT(C2)>	XY	X: C2 Y: C3
1.00/div	2.00/div	2.00/div	5.00 dB/div	500 mV/div		
1.00 ms/div	1.00 ms/div	1.00 ms/div	5.00 kHz/div	500 mV/div		
17 #			17 #			

Tbase -4.00 ms Trigger Ext10 DC
 1.00 ms/div Normal 130 mV
 50.0 kS 5.0 MS/s Edge Negative
 X1= -1.0000 ms

LeCroy

Processing ...

21-Feb-23
10:36:18

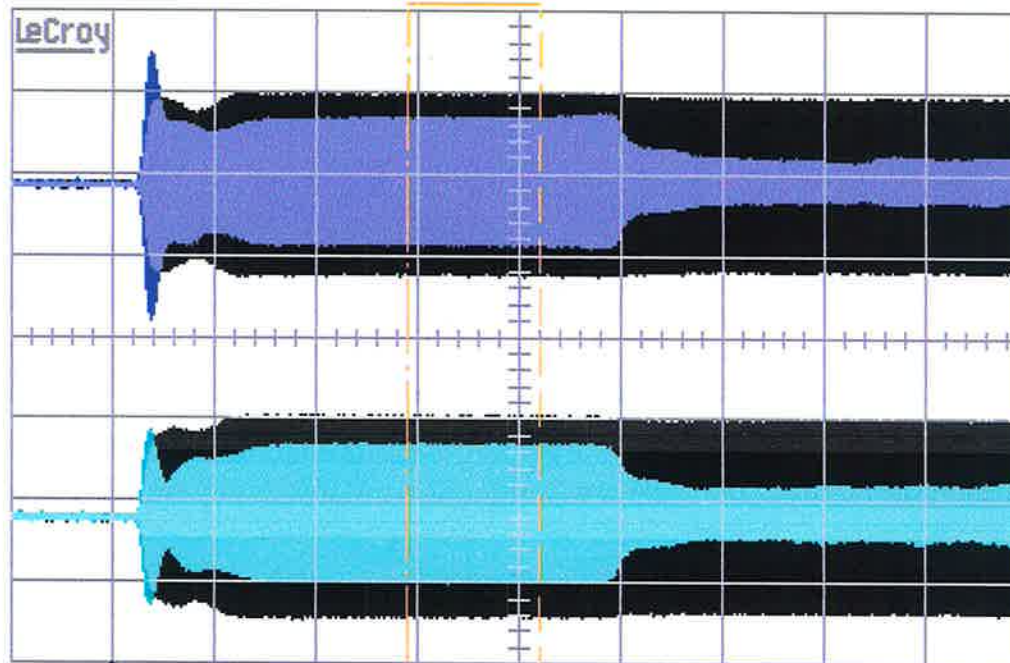
1
.1 ms
0.50 V

3
.1 ms
0.50 V

4
.1 ms
200mV

2
.1 ms
200mV

.1 ms
1 .5 V AC
2 .2 V AC
3 .5 V AC
4 .2 V AC



11 sweeps:

	average	low	high	sigma
rms(1)	379.0mV	376.9	380.4	1.4
rms(2)	98.2mV	88.1	104.6	7.5
rms(3)	421.9mV	420.8	423.0	0.9
rms(4)	109.9mV	104.0	113.7	4.4
phase(1,3)	88.7 °	84.8	91.6	1.0

CHANNEL 1

Trace
OFF **On**

Coupling

ZOOM

FIND

Gain
Fixed
variable

Offsets in
Volts
Divisions

Grids
Single Dual
Quad Octal

100 MS/s

NORMAL

Ext10 DC 0.50 V 50Ω

f21.8008 μs

21-Feb-23
10:36:40

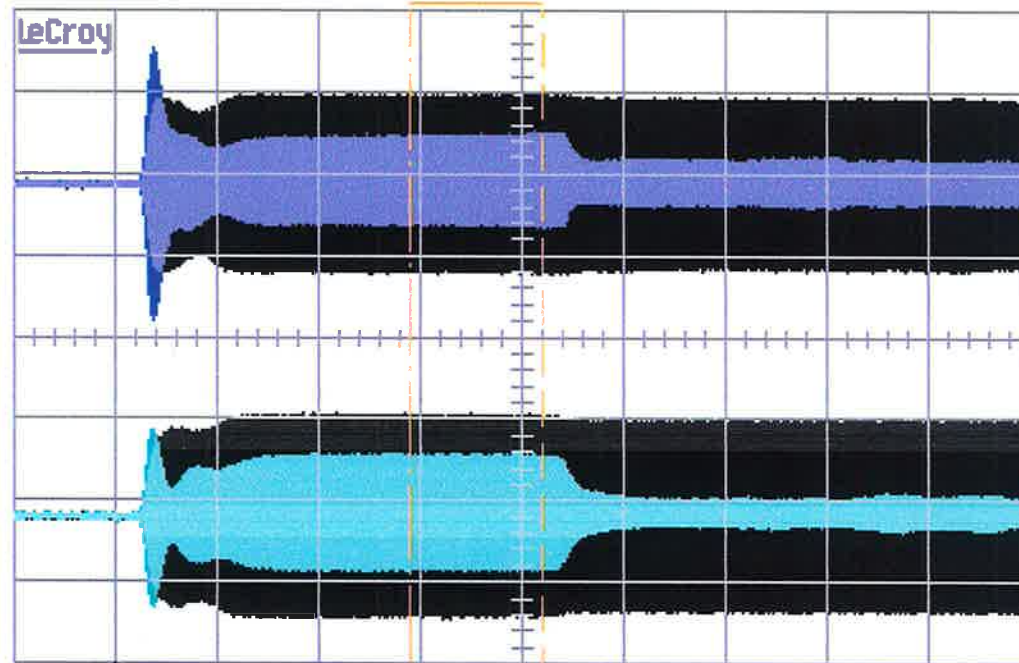
1
.1 ms
0.50 V

3
.1 ms
0.50 V

4
.1 ms
200 mV

2
.1 ms
200 mV

.1 ms
1 .5 V AC
2 .2 V AC
3 .5 V AC
4 .2 V AC



7 sweeps:

	average	low	high	sigma
rms(1)	374.6mV	374.2	375.0	0.2
rms(2)	72.8mV	72.2	73.4	0.4
rms(3)	423.6mV	423.1	424.0	0.3
rms(4)	94.5mV	94.0	94.7	0.2
phase(1 , 3)	87.6 °	84.6	90.5	1.1

CHANNEL 1

Trace
OFF **On**

Coupling

ZOOM

FIND

Gain
Fixed
variable

Offsets in
Volts
Divisions

Grids
Single Dual
Quad Octal

100 MS/s

NORMAL

Ext10 DC 0.50 V 50Ω

$f = 1.7998 \mu\text{Hz}$

21-Feb-23
10:38:00

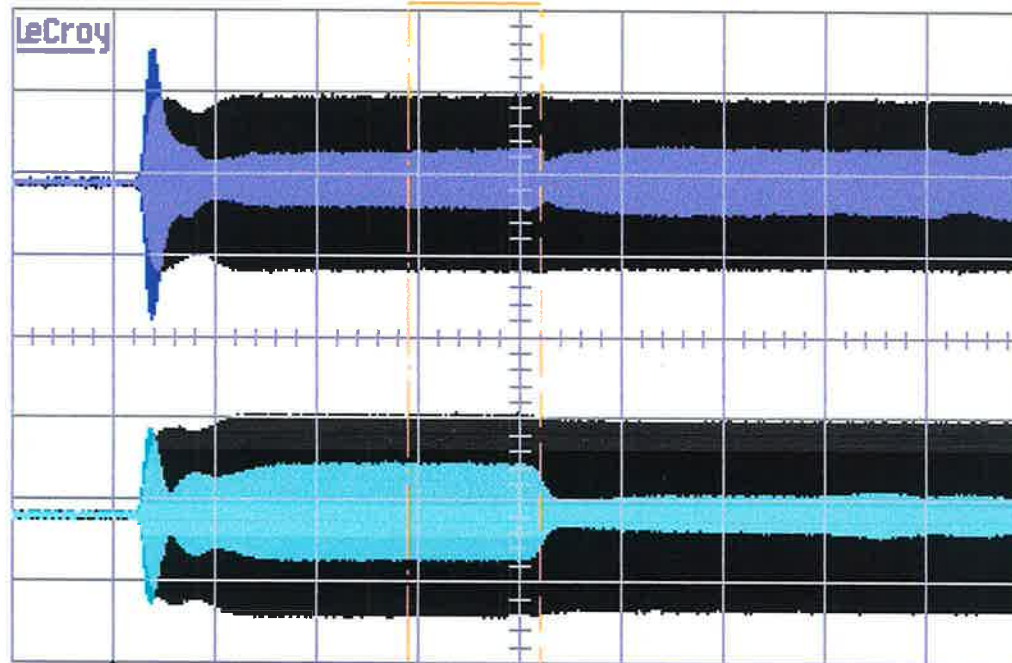
1
.1 ms
0.50 V

3
.1 ms
0.50 V

4
.1 ms
200mV

2
.1 ms
200mV

.1 ms
1 .5 V AC
2 .2 V AC
3 .5 V AC
4 .2 V AC



4 sweeps:

	average	low	high	sigma
rms(1)	369.1mV	368.9	369.3	0.2
rms(2)	45.3mV	45.0	45.7	0.3
rms(3)	421.2mV	419.8	422.3	1.0
rms(4)	76.0mV	73.4	77.5	1.9
phase(1,3)	86.1 °	82.5	88.6	1.0



Ext10 DC 0.50 V 50Ω

CHANNEL 1

Trace
OFF ☒ On

Coupling

ZOOM

FIND

Gain
Fixed ☒
variable

Offsets in
Volts
☒ Divisions

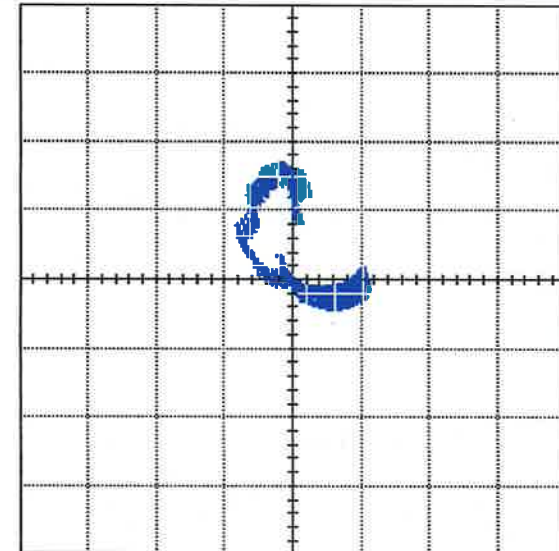
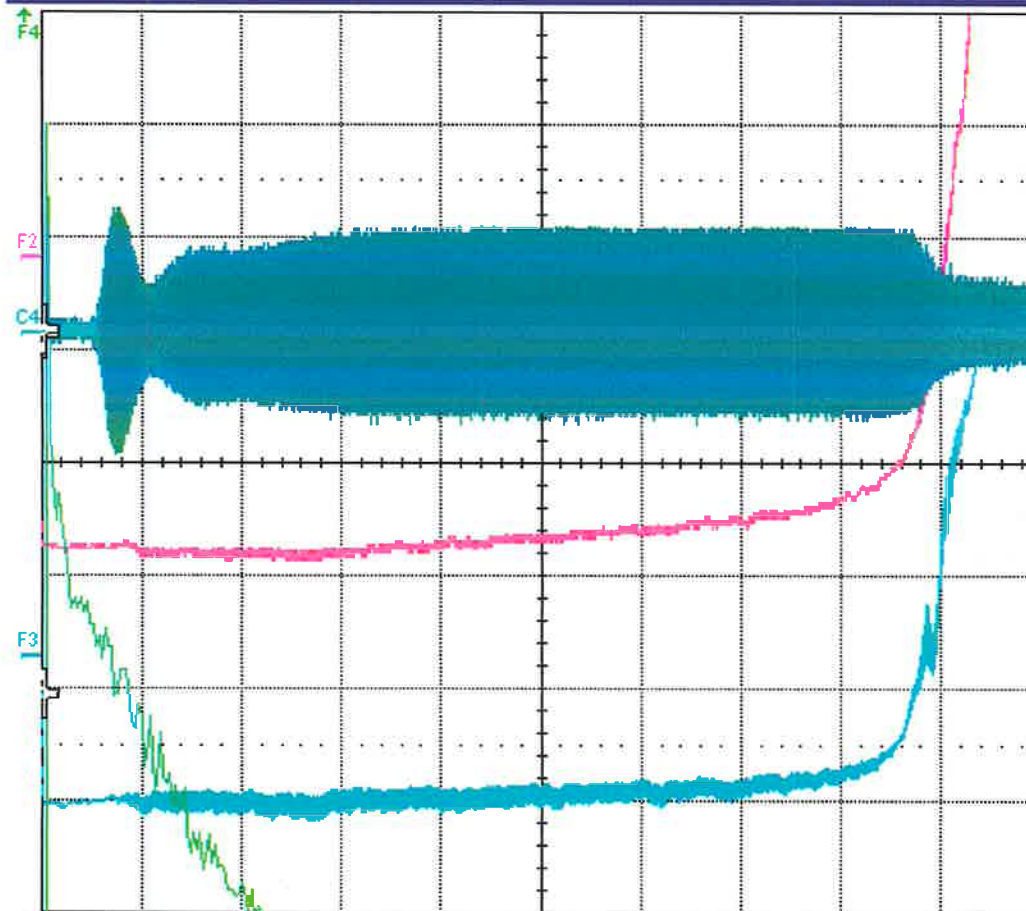
Grids
Single ☒ Dual
Quad Octal

100 MS/s

☒ NORMAL

$$f = 1.7429$$

File Vertical Timebase Trigger Display Cursors Measure Math Analysis Utilities Help



$\Delta Y/\Delta X = -41e-3$ $\Delta Y * \Delta X = -10 \text{ mV}^2$
 -27.8 dB Angle = -2.3°
 Radius = 504 mV

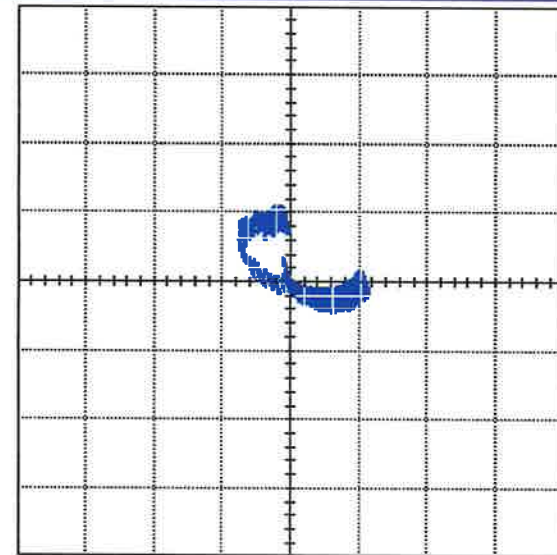
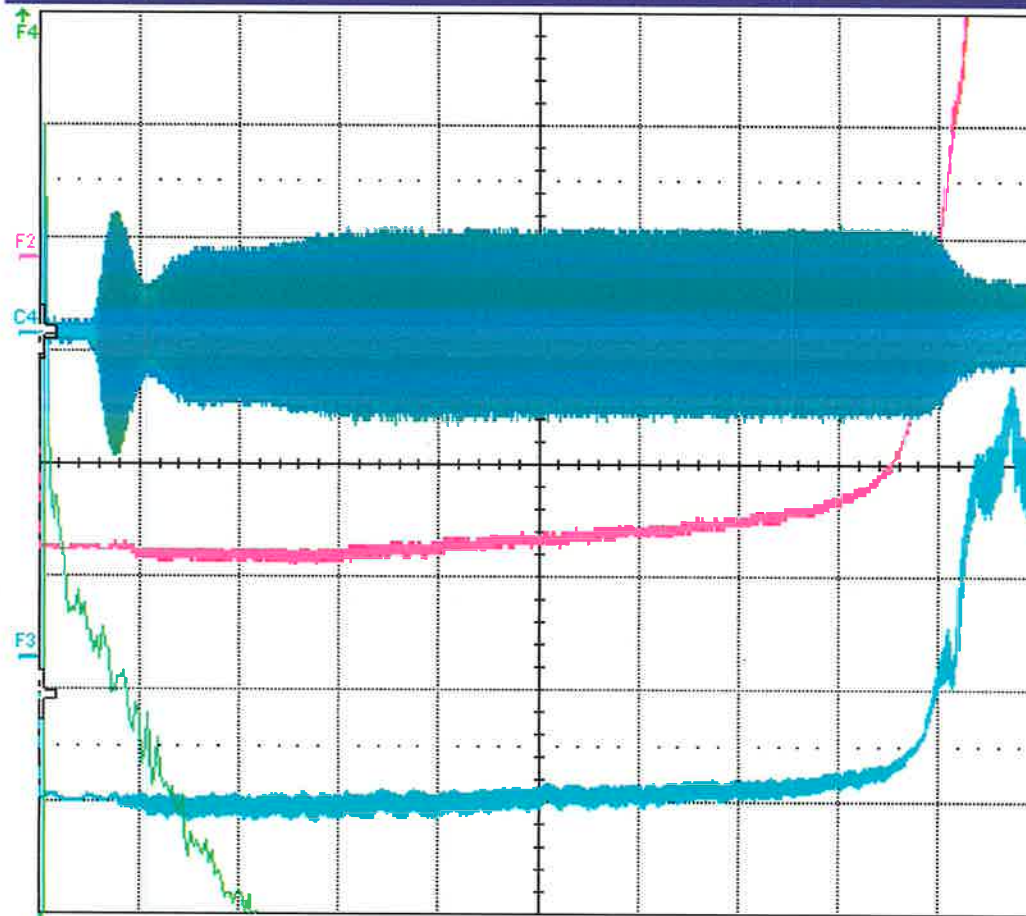
C4 DCM 200 mV/div 230.0 mV 3.3 mV	F2 <F3> 500e-3/div 50.0 μ s/div 8 #	F3 script(C3,C2) 1.00/div 50.0 μ s/div	F4 <FFT(C2)> 5.00 dB/div 100 kHz/div 36 #	XY X:C2 Y:C3 500 mV/div 500 mV/div
--	--	--	--	--

Timebase -250 μ s
 50.0 μ s/div
 50.0 kS 100 MS/s
 X1= 0.00 μ s
 Trigger Ext/10 DC
 Normal 130 mV
 Edge Negative

LeCroy

2/21/2023 10:43:16 AM

File Vertical Timebase Trigger Display Cursors Measure Math Analysis Utilities Help



$\Delta Y/\Delta X = -41e-3$ $\Delta Y \cdot \Delta X = -10 \text{ mV}^2$
 -27.8 dB $\text{Angle} = -2.3^\circ$
 Radius = 504 mV

C4	DCIM	F2	<F3>	F3	script(C3,C2)	F4	<FFT(C2)>	XY	X:C2:Y:C3
200 mV/div		500e-3/div		1.00/div		5.00 dB/div		500 mV/div	
230.0 mV		50.0 μ s/div		50.0 μ s/div		100 kHz/div		500 mV/div	
		12 #				40 #			
400 μ V									

Timebase -250 μ s
 50.0 μ s/div
 50.0 kS 100 MS/s
 X1= 0.00 μ s

Trigger Ext/10 DC
 Normal 130 mV
 Edge Negative

Page successfully sent to the printer queue.

21-Feb-23
10:24:51

1
1 ms
100mV

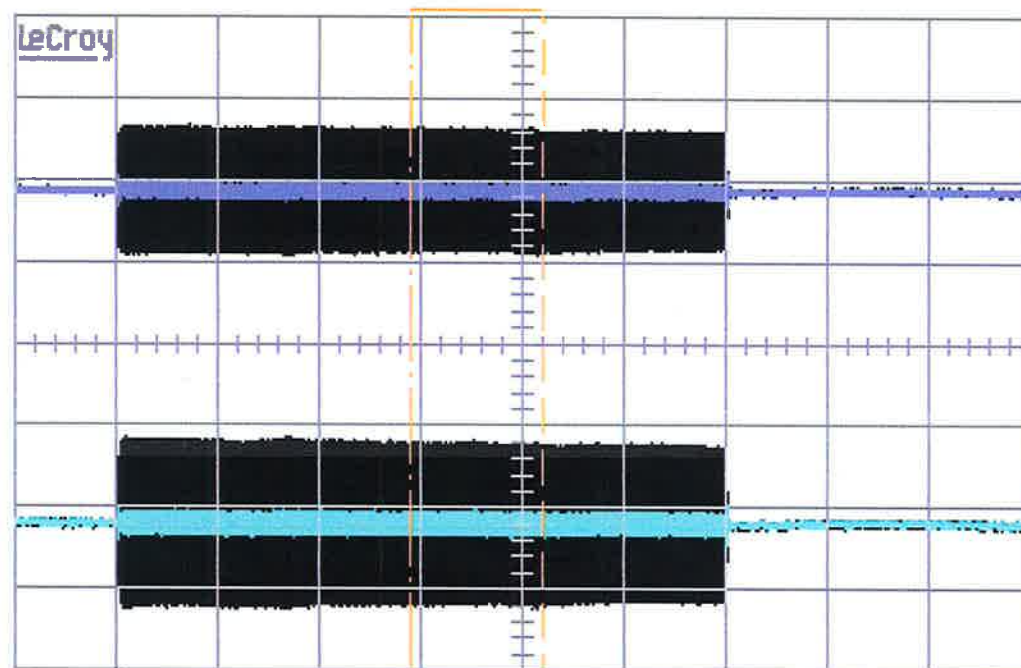
3
1 ms
100mV

4
1 ms
200mV

2
1 ms
200mV

1 ms

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



2 sweeps: average low high sigma

rms(1)	51.6mV	51.5	51.8	0.2
rms(2)	10.8mV	10.7	10.8	0.1
rms(3)	68.1mV	67.9	68.4	0.3
rms(4)	17.6mV	17.4	17.7	0.2
phase(1,3)	92 °	88	98	2



Ext10 DC 0.50 V 50Ω

CHANNEL 3

Trace
OFF **On**

Coupling

ZOOM

FIND

Gain
Fixed
variable

Offsets in
Volts
Divisions

Grids
Single Dual
Quad Octal

10 MS/s

 NORMAL

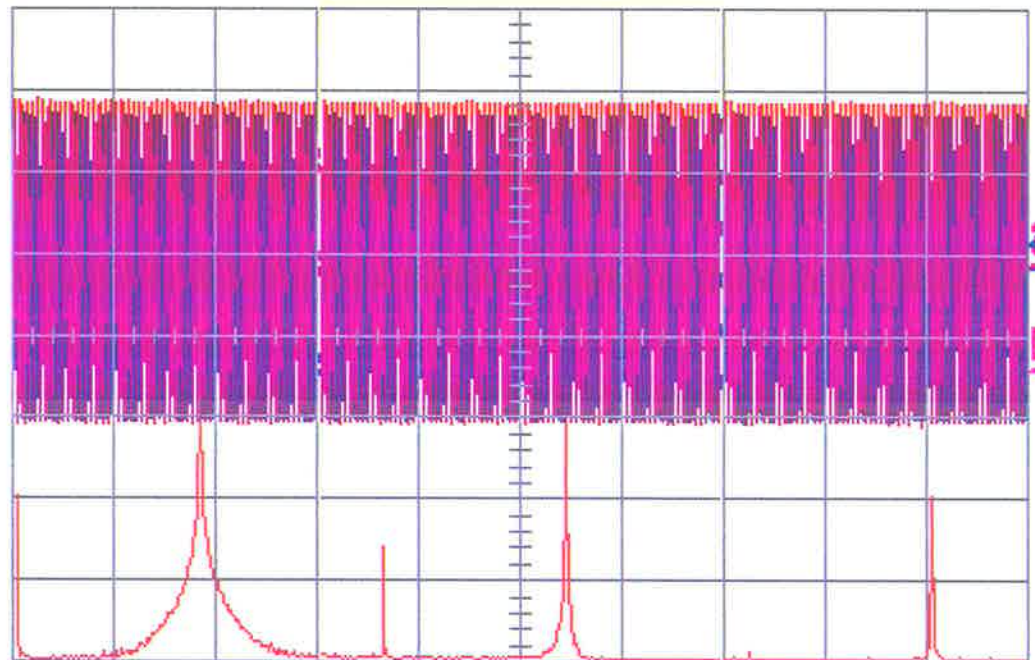
21-Feb-23

10:29:32

3
10 μ s
1.00 V

4
10 μ s
1.00 V

3: Average(A)
1 MHz
=15.0 dBm==



← 1.900 ms

	10 sweeps:	average	low	high	sigma
phase(4,3)		94.79 °	92.29	97.83	0.91
pkpk(3)		3.98 V	3.97	4.00	0.01
rms(2)		44.3mV	44.1	44.4	0.1
rms(4)		1.241 V	1.240	1.243	0.001
rms(3)		1.313 V	1.311	1.317	0.002

10 μ s

1 1 V DC
2 .1 V DC
3 1 V DC
4 1 V DC



Ext10 DC 0.15 V 50 Ω

1 GS/s

☐ NORMAL

21-Feb-23
10:29:37

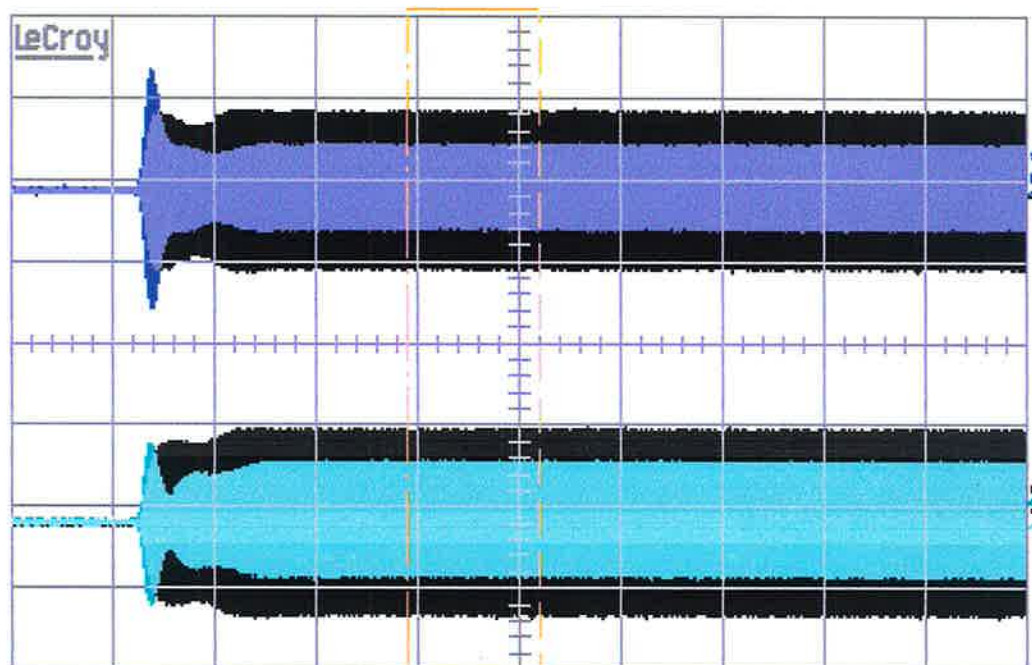
1
.1 ms
0.50 V

3
.1 ms
0.50 V

4
.1 ms
200mV

2
.1 ms
200mV

.1 ms
1 .5 V AC
2 .2 V AC
3 .5 V AC
4 .2 V AC



68 sweeps: average low high sigma
rms(**1**) 327.2mV 308.1 334.6 9.7
rms(**2**) 66.6mV 62.0 68.5 2.3
rms(**3**) 384.9mV 366.7 392.3 9.3
rms(**4**) 93.6mV 89.5 95.2 2.0
phase(**1,3**) 89.8 ° 85.1 94.9 1.2



Ext10 DC 0.50 V 50Ω

CHANNEL 1

Trace
OFF **On**

Coupling

ZOOM

FIND

Gain
Fixed
variable

Offsets in
Volts
Divisions

Grids
Single Dual
Quad Octal

100 MS/s

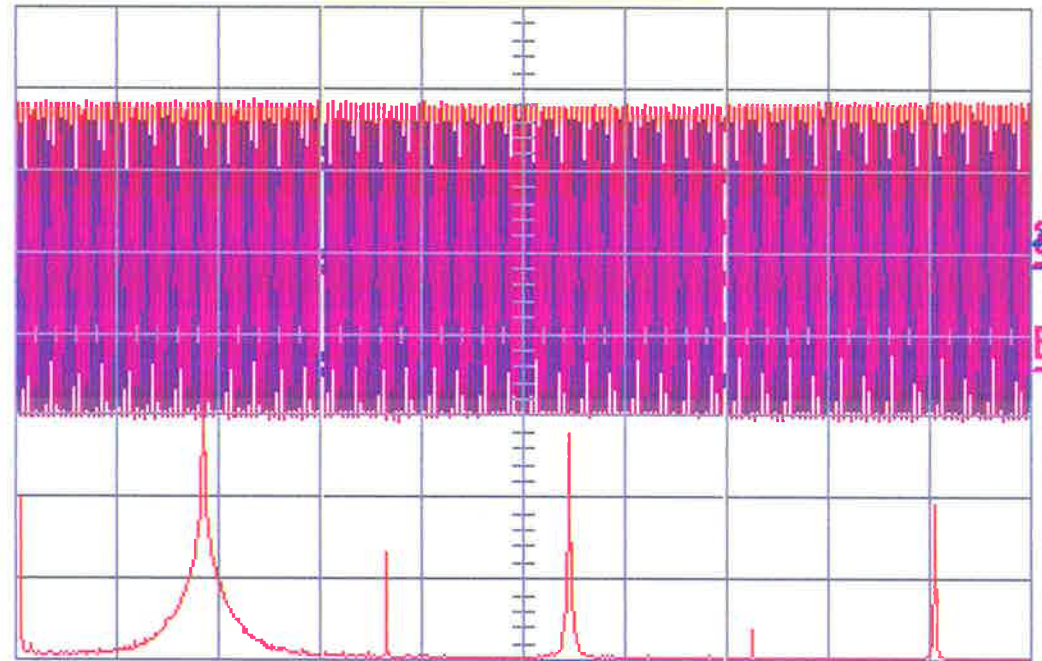
NORMAL

21-Feb-23
10:34:38

3
10 μ s
1.00 V

4
10 μ s
1.00 V

B: Average (**A**)
1 MHz
=15.0 dBm==



← 1.900 ms

	18 sweeps:	average	low	high	sigma
phase(4 , 3)		97.83 °	94.36	101.32	1.20
pkpk(3)		3.94 V	3.91	4.00	0.03
rms(2)		45.1mV	44.5	46.2	0.6
rms(4)		1.197 V	1.185	1.211	0.007
rms(3)		1.296 V	1.280	1.316	0.010

10 μ s

1 1 V DC
2 .1 V DC
3 1 V DC
4 1 V DC



Ext10 DC 0.15 V 50 Ω

TRIGGER SETUP

Edge SMART

trigger on
1 2 3 4 Ext
Ext10 Line

cplg Ext10
DC AC LFREJ
HFREJ HF

slope Ext10
Pos **Neg**
Window

External
Atten x1
DC50 Ω DC1M Ω

holdoff

OFF Time Evts

1 GS/s

DISPLAY ☐ NORMAL

21-Feb-23
10:34:43

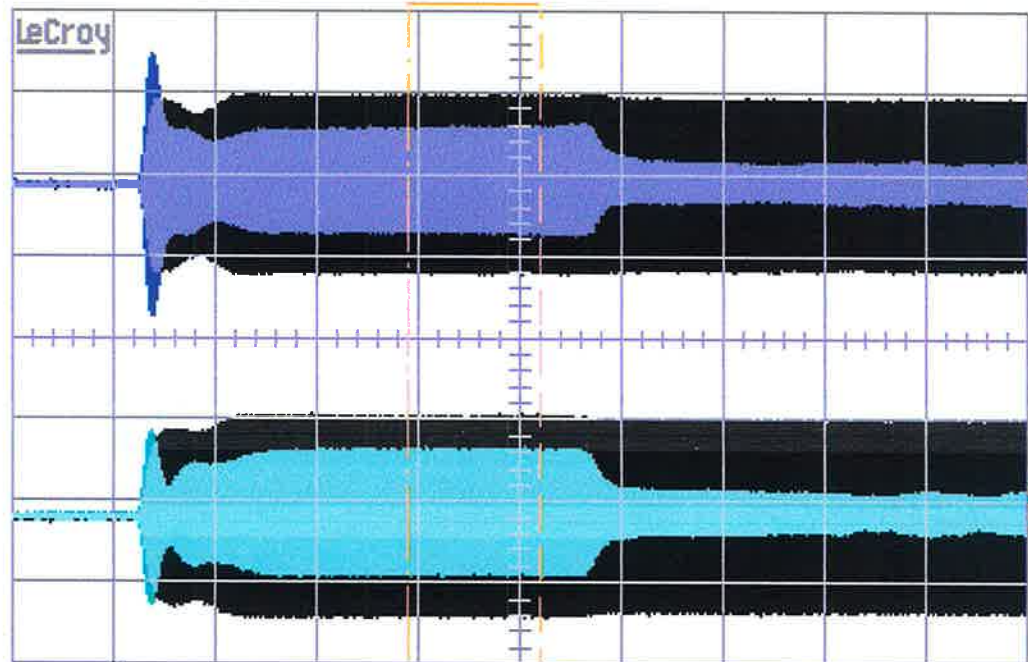
1
.1 ms
0.50 V

3
.1 ms
0.50 V

4
.1 ms
200mV

2
.1 ms
200mV

.1 ms
1 .5 V AC
2 .2 V AC
3 .5 V AC
4 .2 V AC



26 sweeps: average low high sigma

rms(1)	375.6mV	373.7	377.0	1.0
rms(2)	85.7mV	84.8	86.8	0.5
rms(3)	423.3mV	421.9	424.3	0.8
rms(4)	103.6mV	103.1	103.8	0.2
phase(1,3)	88.4 °	84.8	92.1	1.0

CHANNEL 1

Trace
OFF **On**

Coupling

ZOOM

FIND

Gain
Fixed
variable

Offsets in
Volts
Divisions

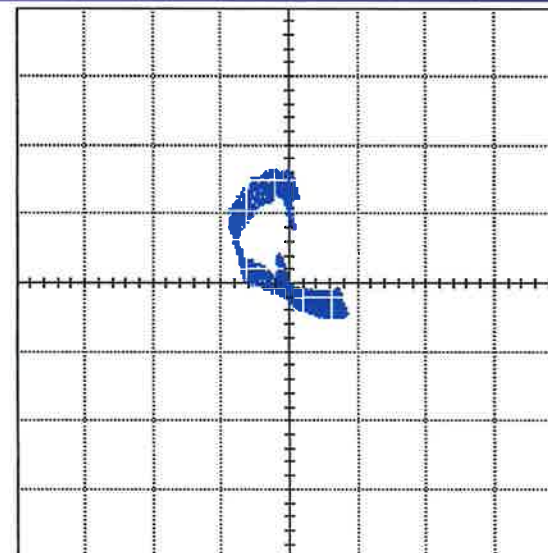
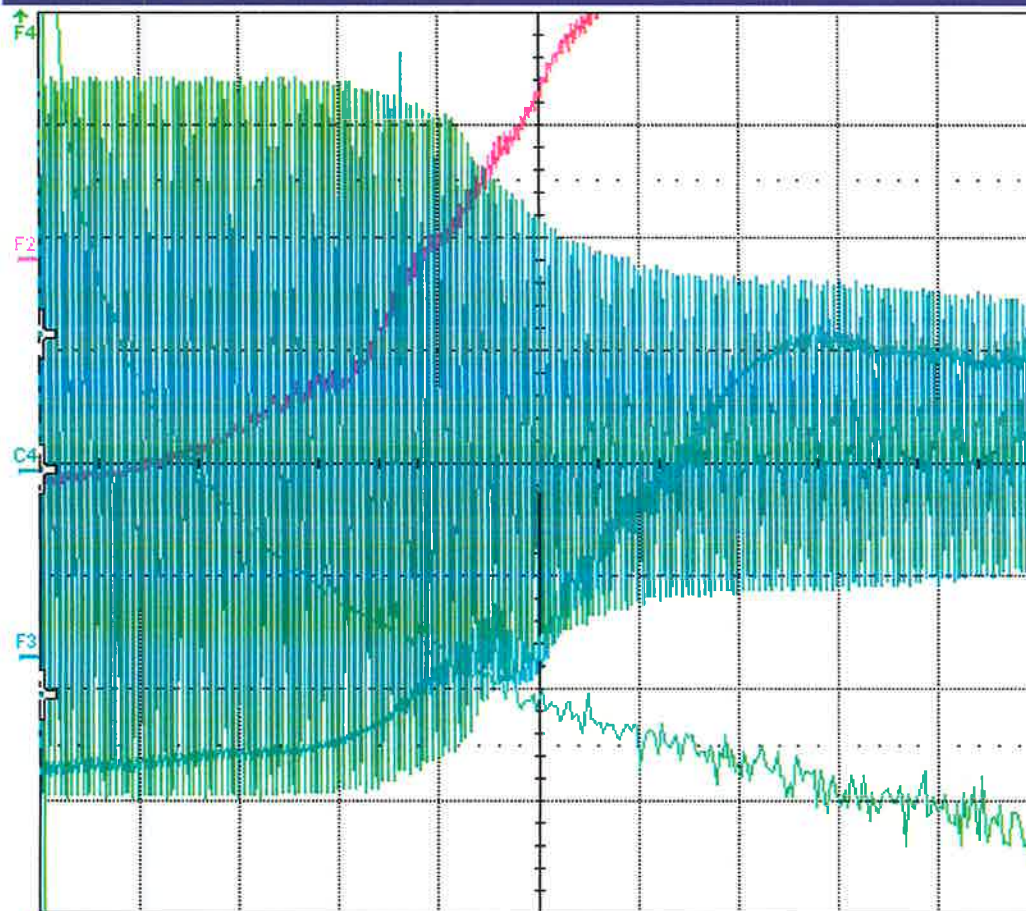
Grids
Single Dual
Quad Octal

100 MS/s

NORMAL

Ext10 DC 0.50 V 50Ω

File Vertical Timebase Trigger Display Cursors Measure Math Analysis Utilities Help



$\Delta Y/\Delta X = -317e-3$ $\Delta Y \cdot \Delta X = -68 \text{ mV}^2$
 -10.0 dB Angle = -17.6°
 Radius = 487 mV

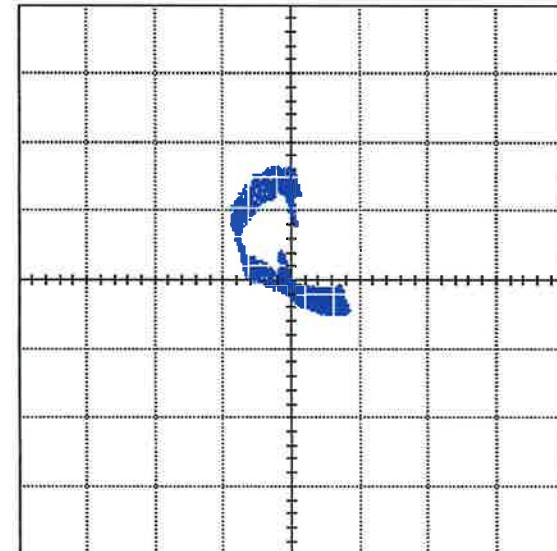
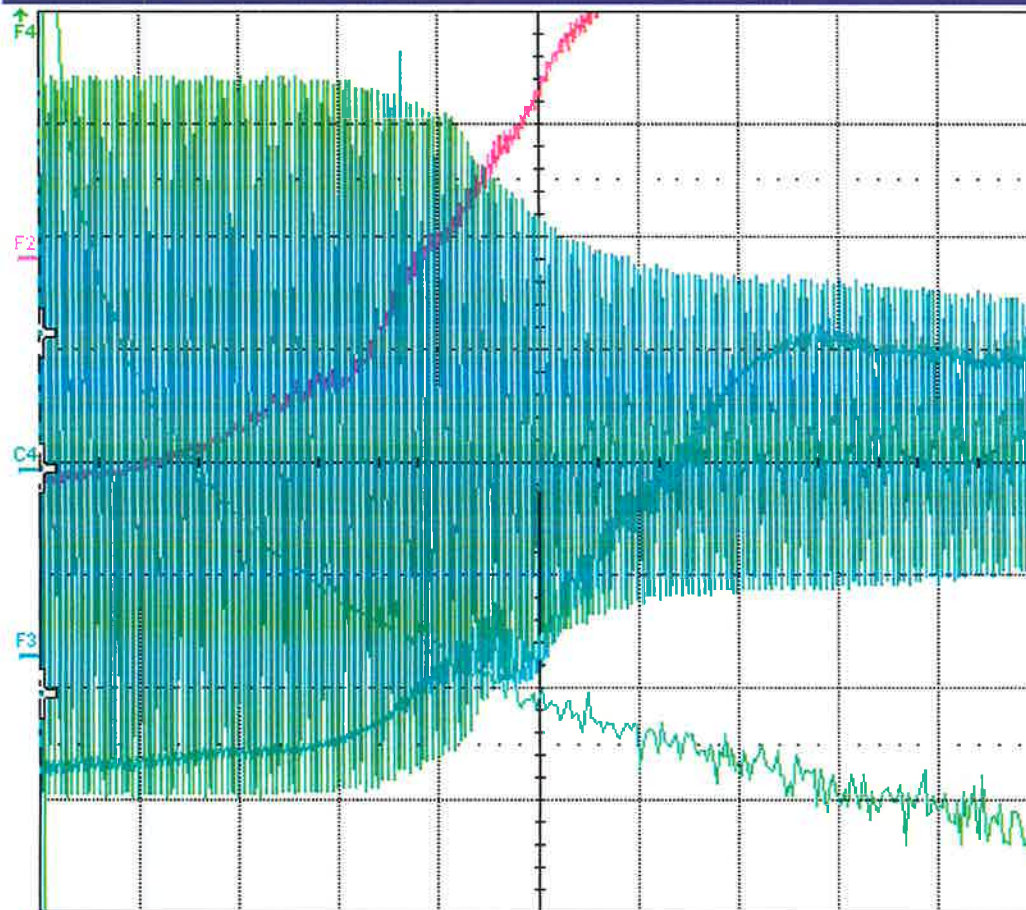
C4	DC1M	F2	<F3>	F3	script(C3,C2)	F4	<FFT(C2)>	XY	X:C2 Y:C3
50.0 mV/div		500e-3/div		1.00/div		5.00 dB/div		500 mV/div	
-3.5 mV ofst		10.0 μ s/div		10.0 μ s/div		500 kHz/div		500 mV/div	
		7 #				7 #			
700 μ V									

Tbase -458.4 μ s Trigger Ext10 DC
 10.0 μ s/div Normal 130 mV
 50.0 kS 500 MS/s Edge Negative
 X1= 408.400 μ s

LeCroy

2/21/2023 10:44:37 AM

File Vertical Timebase Trigger Display Cursors Measure Math Analysis Utilities Help



$\Delta Y/\Delta X = -317e-3$ $\Delta Y^2/\Delta X = -68 \text{ mV}^2$
 -10.0 dB Angle = -17.6°
 Radius = 487 mV

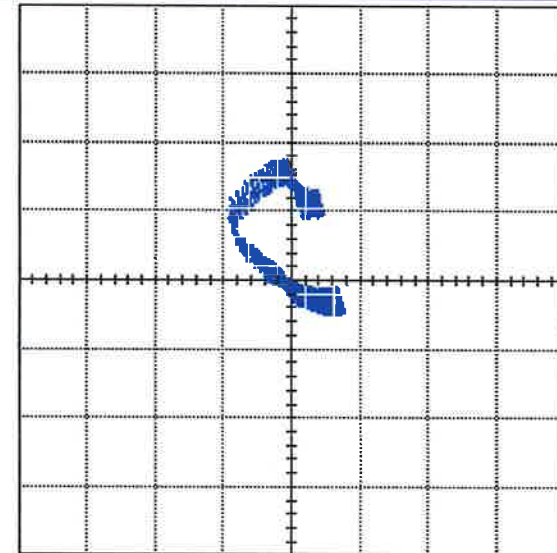
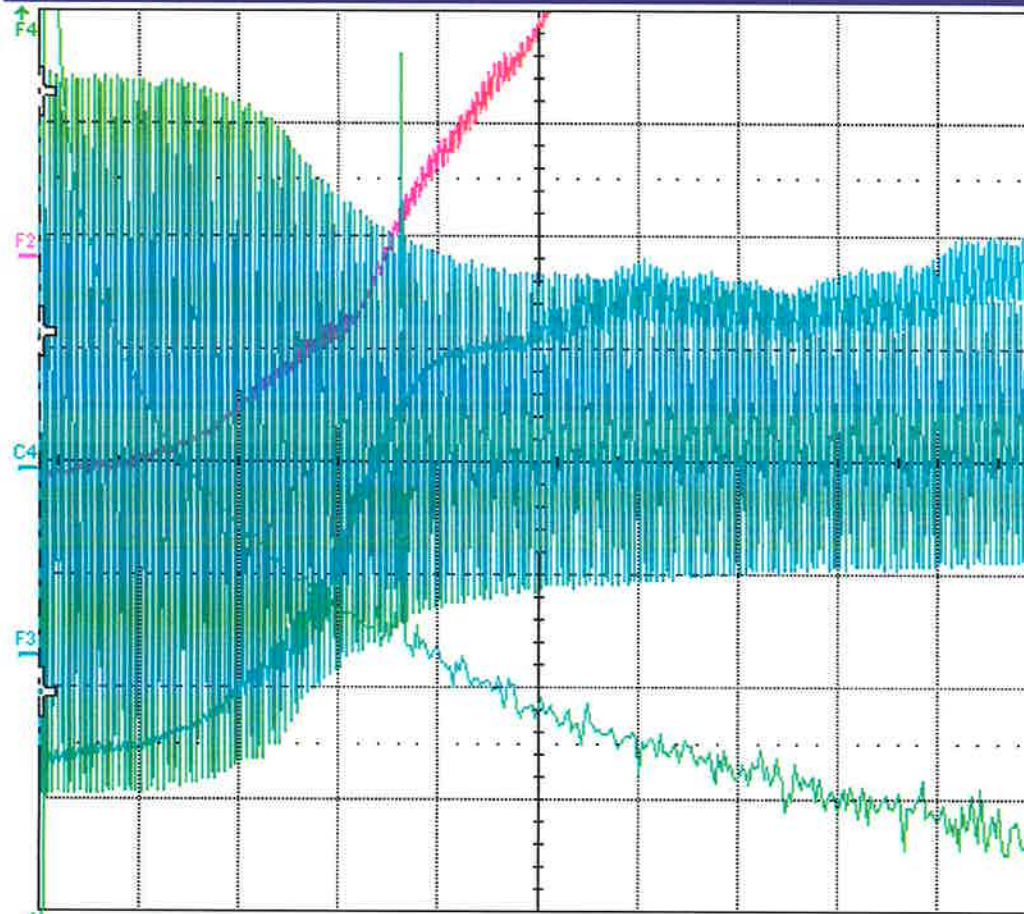
C4	DC1M	F2	<F3>	F3	script(C3,C2)	F4	<FFT(C2)>	XY	X:C2 Y:C3
50.0 mV/div		500e-3/div		1.00/div		5.00 dB/div		500 mV/div	
-3.5 mV ofst		10.0 μ s/div		10.0 μ s/div		500 kHz/div		500 mV/div	
		7 #				7 #			
700 μ V									

Tbase -458.4 μ s Trigger Ext10 DC
 10.0 μ s/div Normal 130 mV
 50.0 kS 500 MS/s Edge Negative
 X1= 408.400 μ s

LeCroy

2/21/2023 10:44:37 AM

File Vertical Timebase Trigger Display Cursors Measure Math Analysis Utilities Help



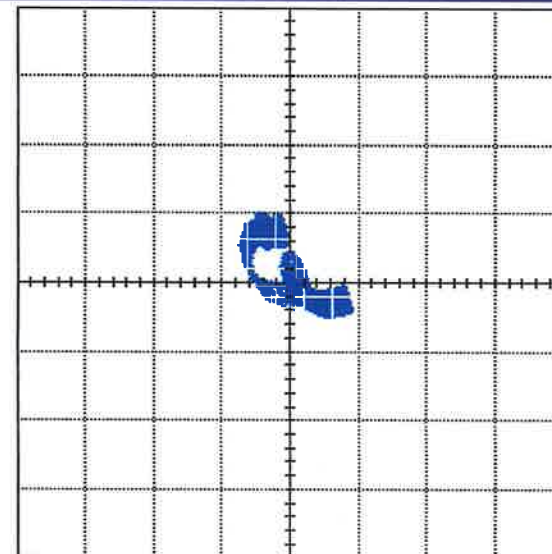
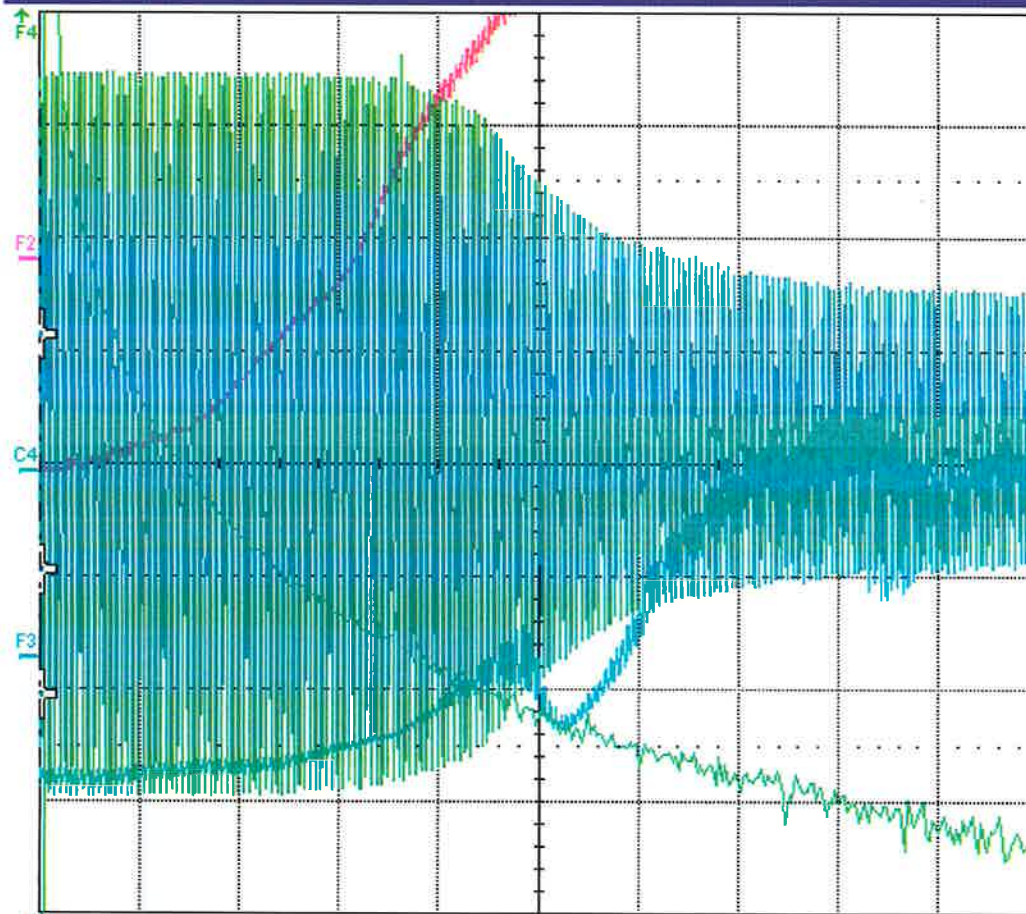
$\Delta Y/\Delta X = -317e-3$ $\Delta Y \cdot \Delta X = -68 \text{ mV}^2$
 $\text{Radius} = 487 \text{ mV}$ $\text{Angle} = -17.6^\circ$

C4	DOTM	F2	<F3>	F3	script(C3,C2)	F4	<FFT(C2)>	XY	X:C2 Y:C3
50.0 mV/div		500e-3/div		1.00/div		5.00 dB/div		500 mV/div	
-3.5 mV ofst		10.0 μ s/div		10.0 μ s/div		500 kHz/div		500 mV/div	
		10 #				10 #			
167.2 mV									

Tbase -458.4 μ s Trigger Ext/10 DC
 10.0 μ s/div Normal 130 mV
 50.0 kS 500 MS/s Edge Negative
 X1= 408.400 μ s

Page successfully sent to the printer queue.

File Vertical Timebase Trigger Display Cursors Measure Math Analysis Utilities Help



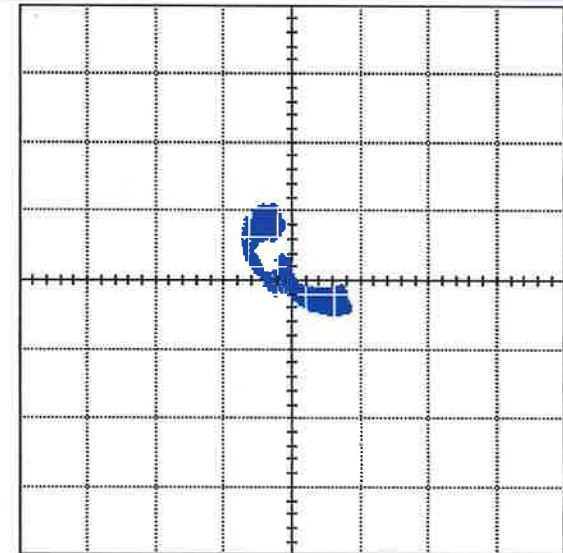
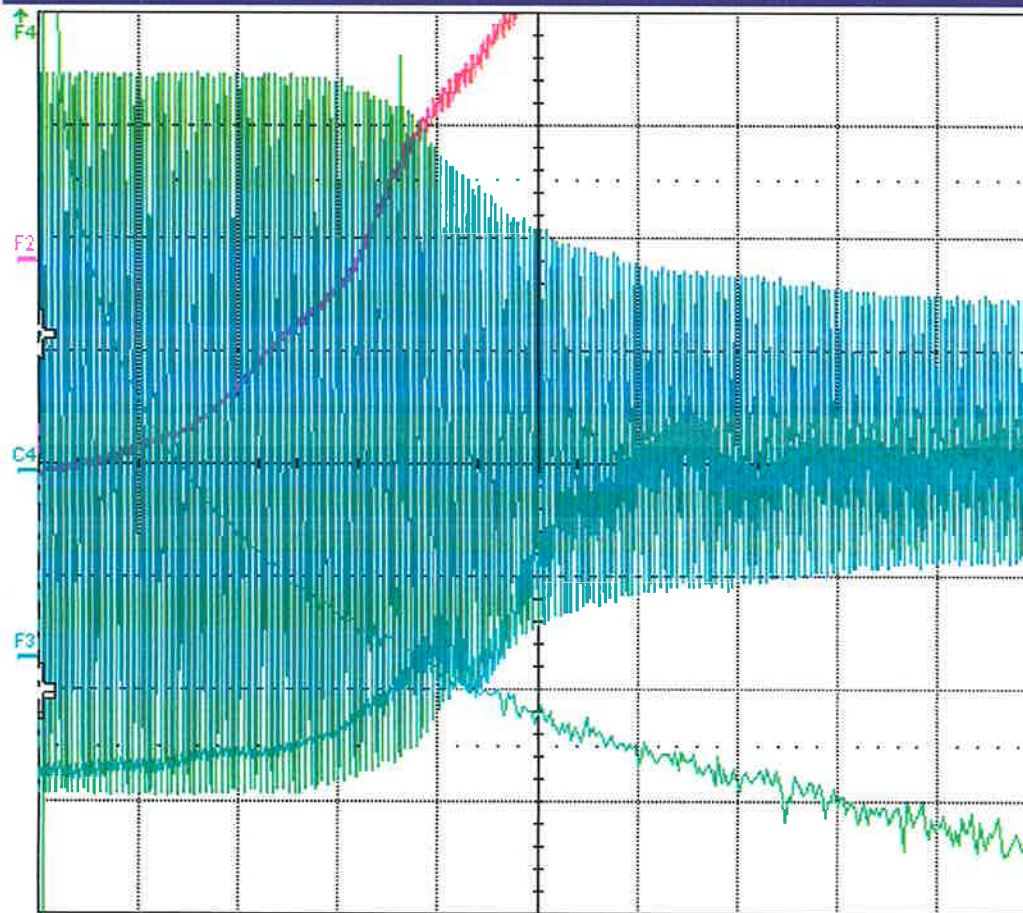
$\Delta Y/\Delta X = -317e-3$ $\Delta Y^*\Delta X = -68 \text{ mV}^2$
 -10.0 dB Angle = -17.6°
 Radius = 487 mV

C4	DBTM	F2	<F3>	F3	script(C3,C2)	F4	<FFT(C2)>	XY	X:C2 Y:C3
50.0 mV/div		500e-3/div		1.00/div		5.00 dB/div		500 mV/div	
-3.5 mV ofst		10.0 μ s/div		10.0 μ s/div		500 kHz/div		500 mV/div	
		16 #				16 #			
-43.5 mV									

Tbase -458.4 μ s Trigger Ext10 DC
 10.0 μ s/div Normal 130 mV
 50.0 kS 500 MS/s Edge Negative
 X1= 408.400 μ s

Page successfully sent to the printer queue.

File Vertical Timebase Trigger Display Cursors Measure Math Analysis Utilities Help



$\Delta Y/\Delta X = -317e-3$ $\Delta Y*\Delta X = -68 \text{ mV}^2$
 -10.0 dB Angle = -17.6°
 Radius = 487 mV

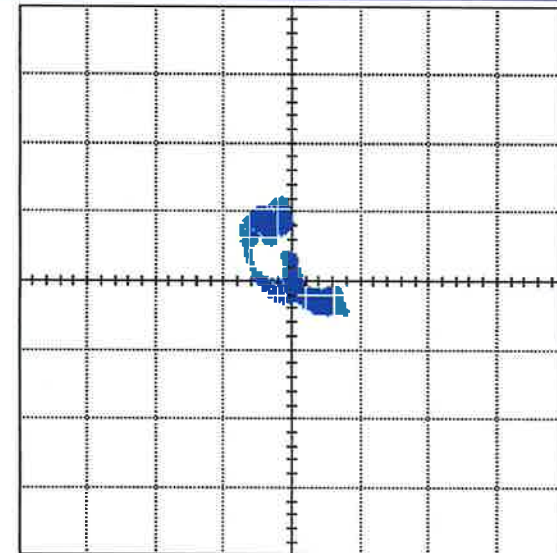
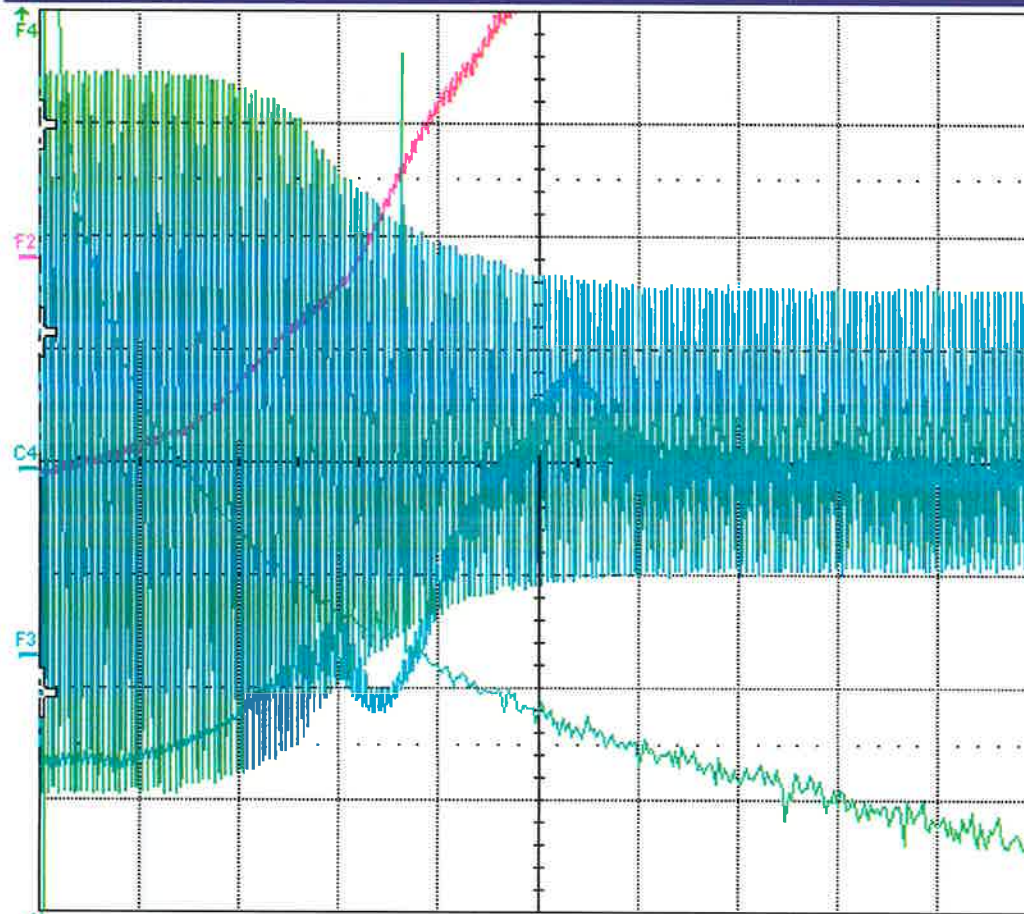
C4	DC:IM	F2	<F3>	F3	script(C3,C2)	F4	<FFT(C2)>	XY	X:C2 Y:C3
50.0 mV/div		500e-3/div		1.00/div		5.00 dB/div		500 mV/div	
-3.5 mV ofst		10.0 μ s/div		10.0 μ s/div		500 kHz/div		500 mV/div	
		18 #				18 #			
-96.4 mV									

Tbase -458.4 μ s Trigger Ext/IO DC
 10.0 μ s/div Normal 130 mV
 50.0 kS 500 MS/s Edge Negative
 X1= 408.400 μ s

Page successfully sent to the printer queue.

Processing ...

File Vertical Timebase Trigger Display Cursors Measure Math Analysis Utilities Help



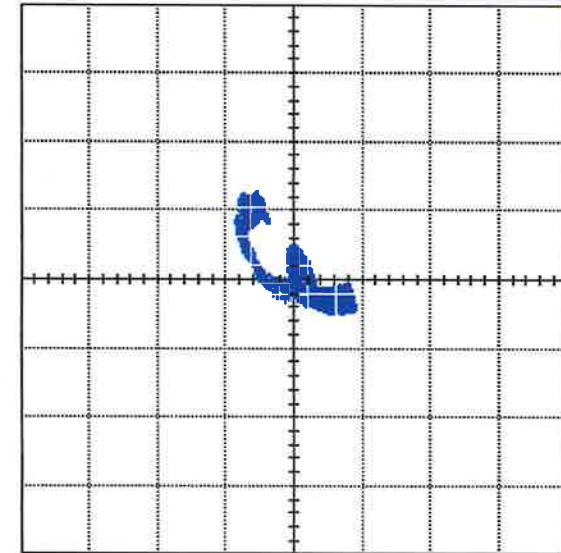
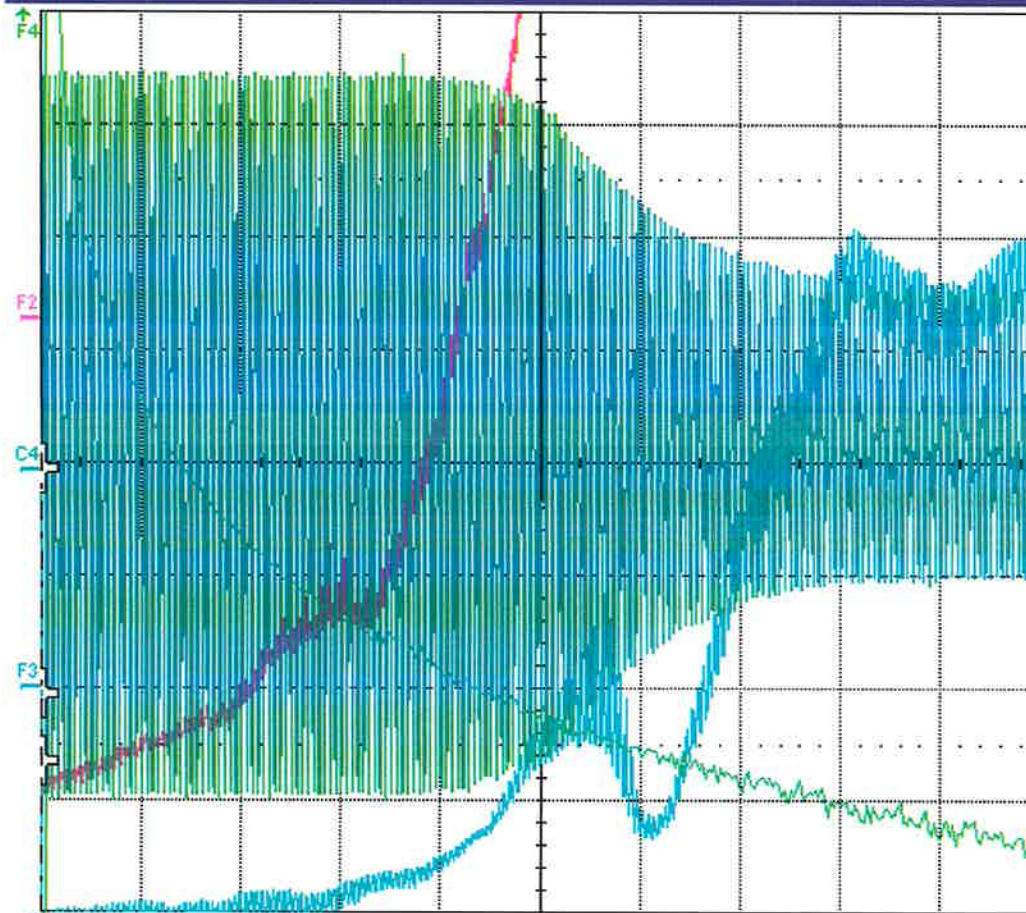
$\Delta Y/\Delta X = -317e-3$ $\Delta Y \cdot \Delta X = -68 \text{ mV}^2$
 $\text{Radius} = 487 \text{ mV}$ $\text{Angle} = -17.6^\circ$

C4	DCIM	F2	<F3>	F3	script(C3,C2)	F4	<FFT(C2)>	XY	X:C2 Y:C3
50.0 mV/div		500e-3/div		1.00/div		5.00 dB/div		500 mV/div	
-3.5 mV ofst		10.0 $\mu\text{s}/\text{div}$		10.0 $\mu\text{s}/\text{div}$		500 kHz/div		500 mV/div	
		19 #				18 #			
152.3 mV									

Tbase -458.4 μs Trigger Ext/10 DC
 10.0 $\mu\text{s}/\text{div}$ Normal 130 mV
 50.0 kS 500 MS/s Edge Negative
 X1= 408.400 μs

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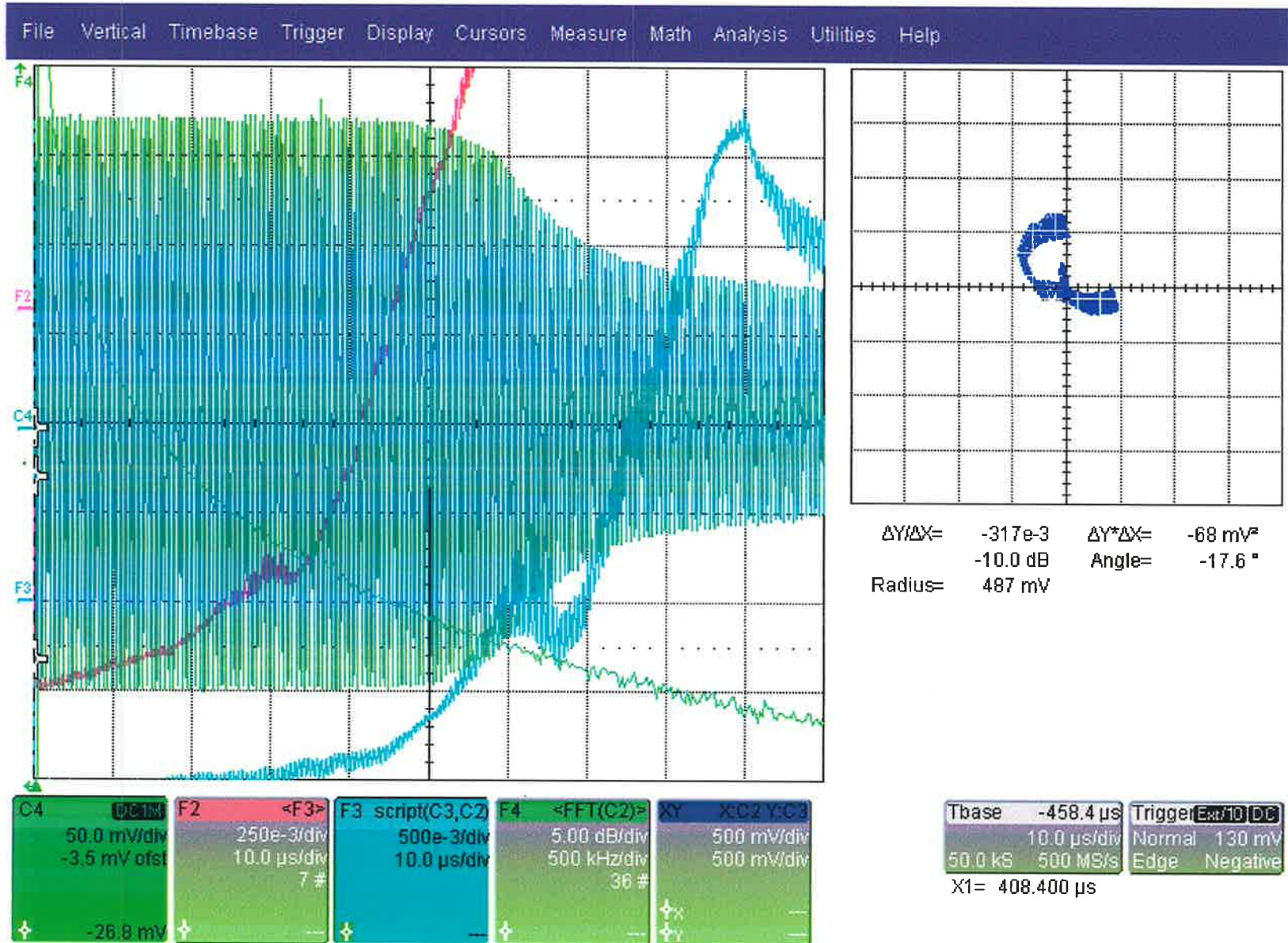
$\Delta Y/\Delta X = -317e-3$ $\Delta Y^2/\Delta X = -68 \text{ mV}^2$
 -10.0 dB Angle = -17.6°
 Radius = 487 mV

C4	DCIM	F2	<F3>	F3	script(C3,C2)	F4	<FFT(C2)>	XY	X:C2 Y:C3
50.0 mV/div		250e-3/div		500e-3/div		5.00 dB/div		500 mV/div	
-3.5 mV ofst		10.0 μ s/div		10.0 μ s/div		500 kHz/div		500 mV/div	
		4 #				33 #			
-98.9 mV									

Tbase -458.4 μ s Trigger Ext/10 DC
 10.0 μ s/div Normal 130 mV
 50.0 kS 500 MS/s Edge Negative
 X1= 408.400 μ s

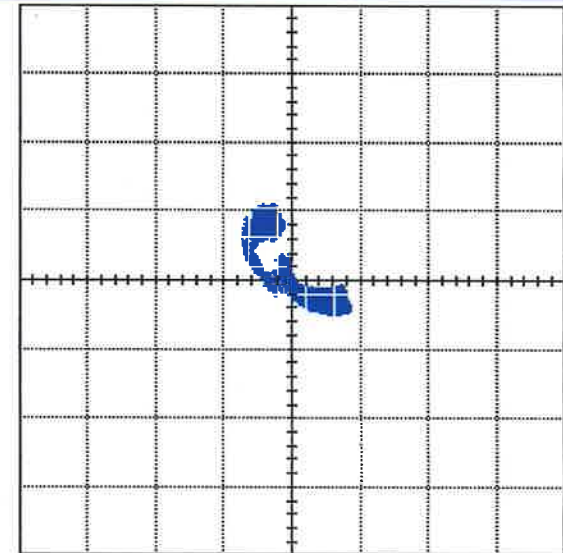
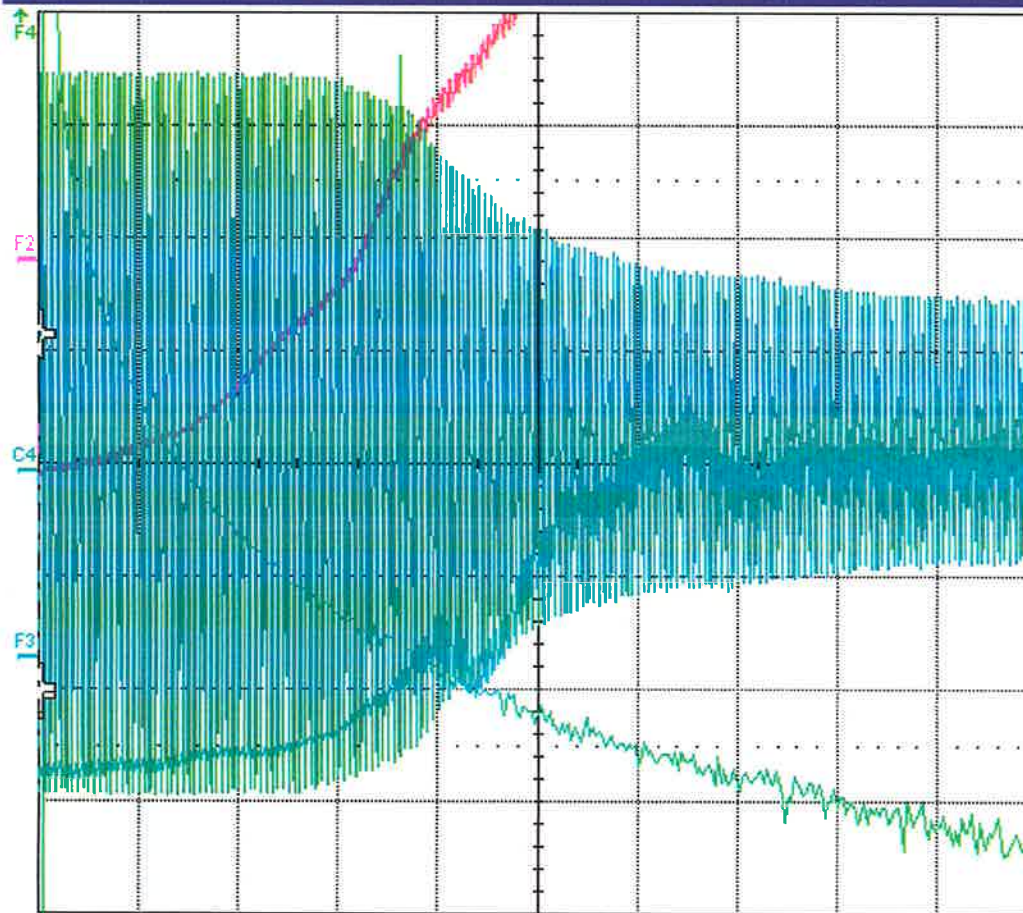
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File Vertical Timebase Trigger Display Cursors Measure Math Analysis Utilities Help



$\Delta Y/\Delta X = -317e-3$ $\Delta Y \cdot \Delta X = -68 \text{ mV}^2$
 -10.0 dB Angle = -17.6°
 Radius = 487 mV

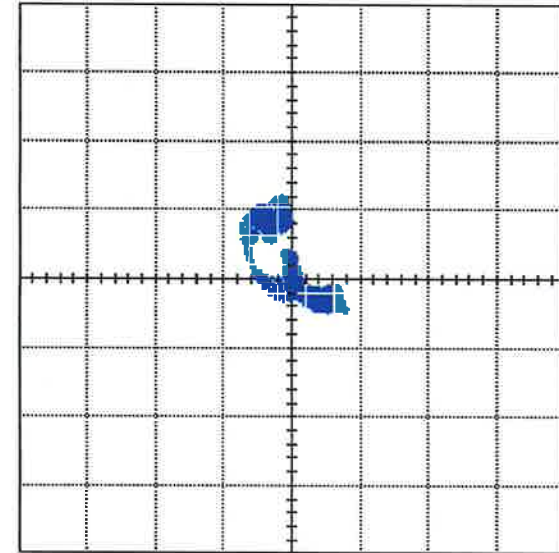
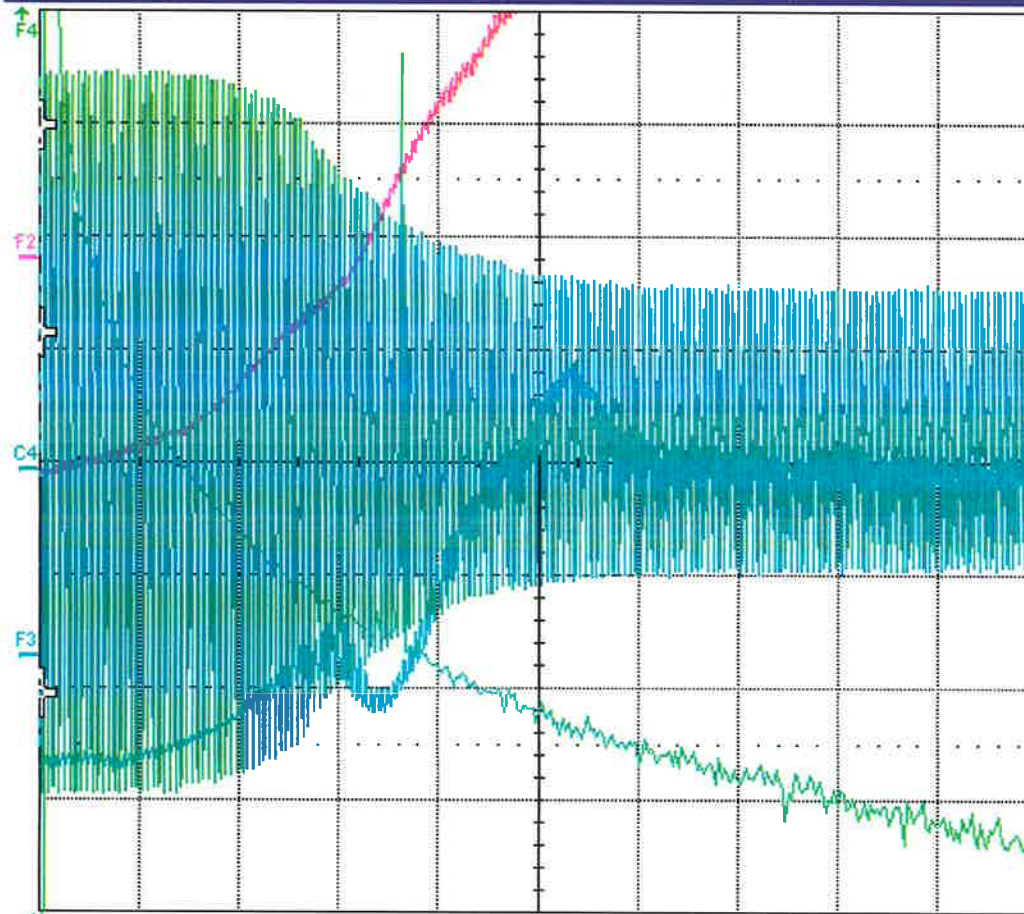
C4 DC:1M 50.0 mV/div -3.5 mV ofst -96.4 mV	F2 <F3> 500e-3/div 10.0 μ s/div 18 #	F3 script(C3,C2) 1.00/div 10.0 μ s/div	F4 <FFT(C2)> 5.00 dB/div 500 kHz/div 18 #	XY X:C2 Y:C3 500 mV/div 500 mV/div
---	---	--	--	--

Tbase -458.4 μ s Trigger Ext:10 DC
 10.0 μ s/div Normal 130 mV
 50.0 kS 500 MS/s Edge Negative
 X1= 408.400 μ s

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File Vertical Timebase Trigger Display Cursors Measure Math Analysis Utilities Help



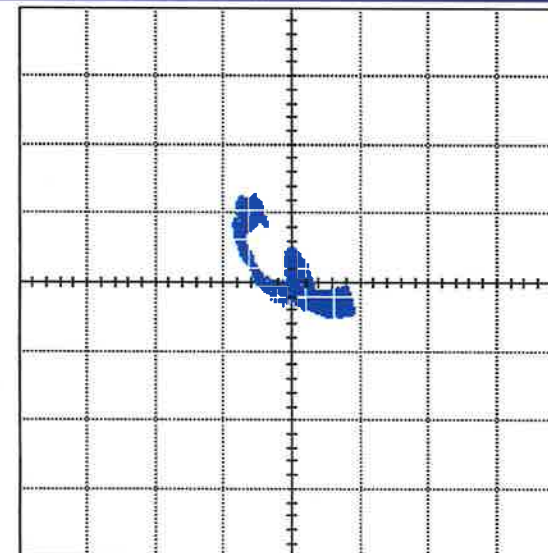
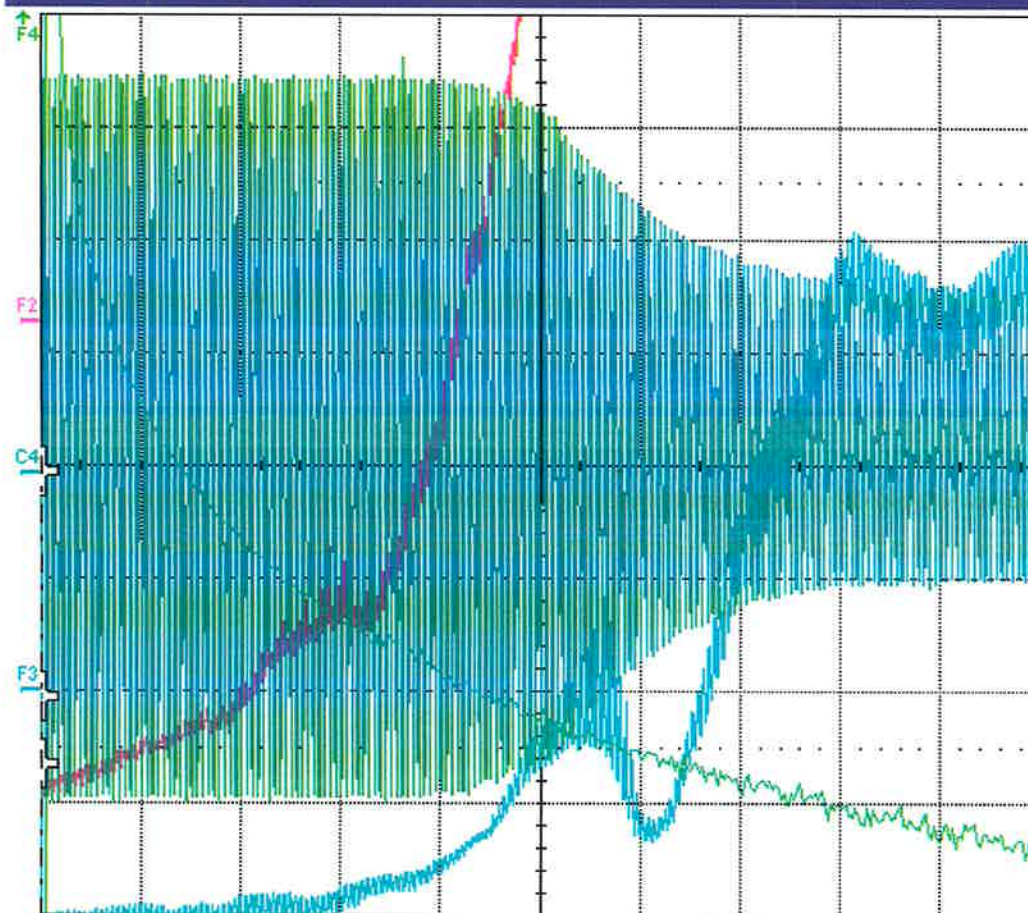
$\Delta Y/\Delta X = -317e-3$ $\Delta Y \cdot \Delta X = -68 \text{ mV}^2$
 -10.0 dB Angle = -17.6°
 Radius = 487 mV

C4	DCIM	F2	<F3>	F3	script(C3,C2)	F4	<FFT(C2)>	XY	X:C2 Y:C3
50.0 mV/div		500e-3/div		1.00/div		5.00 dB/div		500 mV/div	
-3.5 mV ofst		10.0 μ s/div		10.0 μ s/div		500 kHz/div		500 mV/div	
		19 #				18 #			
152.3 mV									

Tbase -458.4 μ s Trigger Ext/10 DC
 10.0 μ s/div Normal 130 mV
 50.0 kS 500 MS/s Edge Negative
 X1= 408.400 μ s

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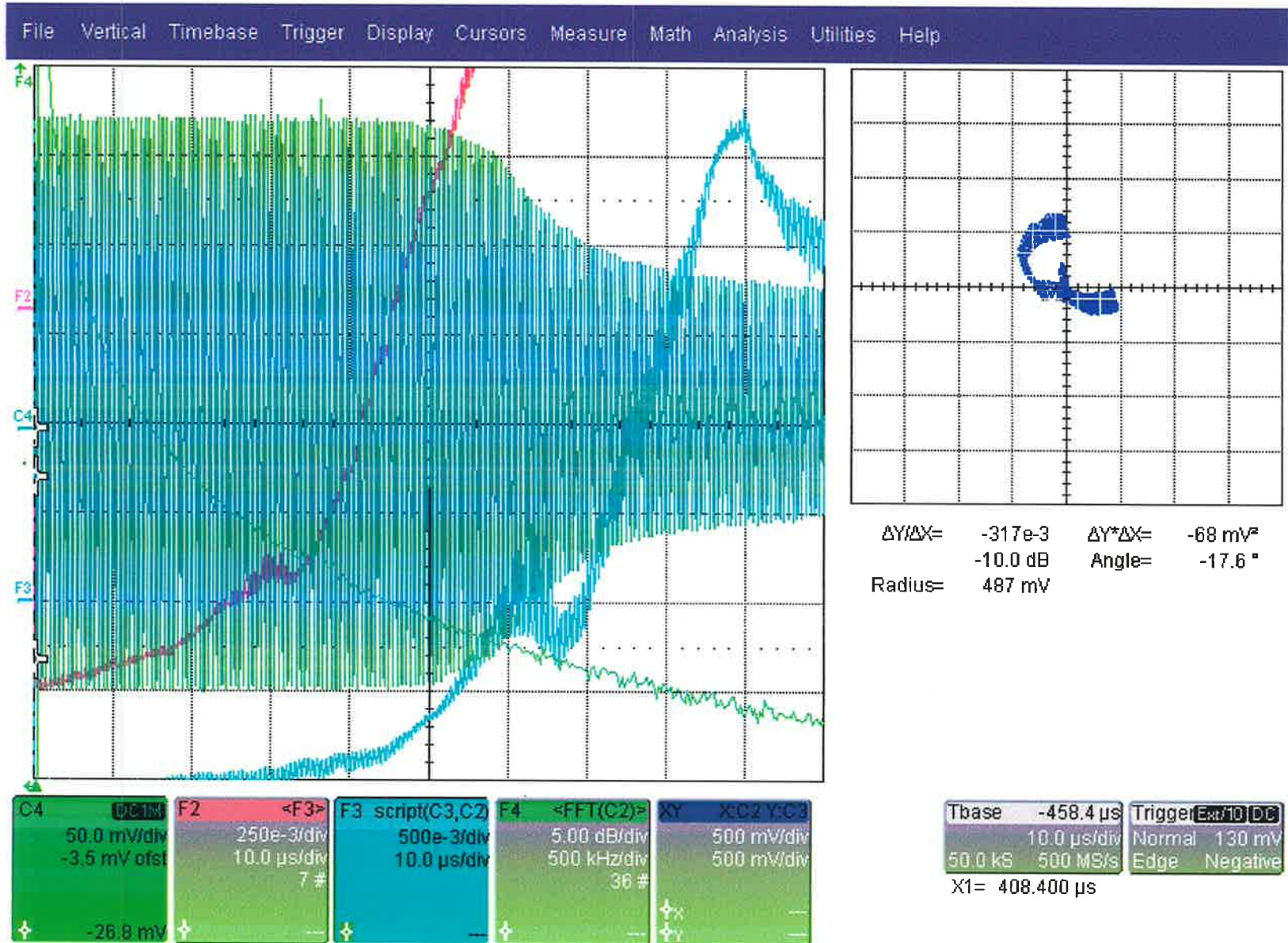
$\Delta Y/\Delta X = -317e-3$ $\Delta Y^2/\Delta X = -68 \text{ mV}^2$
 -10.0 dB Angle = -17.6°
 Radius = 487 mV

C4	DCIM	F2	<F3>	F3	script(C3,C2)	F4	<FFT(C2)>	XY	X:C2 Y:C3
50.0 mV/div		250e-3/div		500e-3/div		5.00 dB/div		500 mV/div	
-3.5 mV ofst		10.0 μ s/div		10.0 μ s/div		500 kHz/div		500 mV/div	
		4 #				33 #			
+		-98.9 mV	+		+		+		

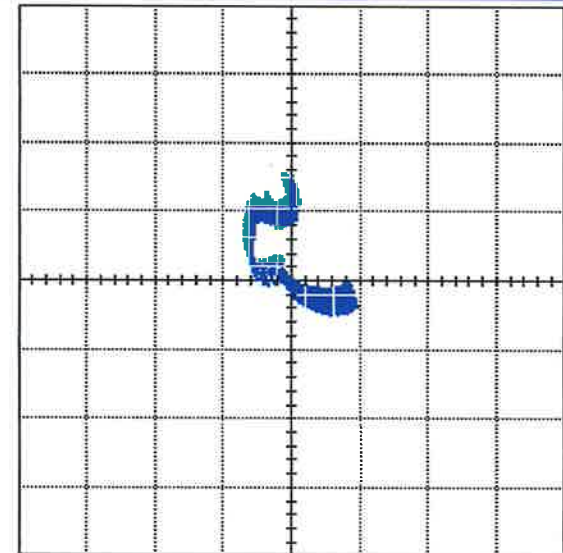
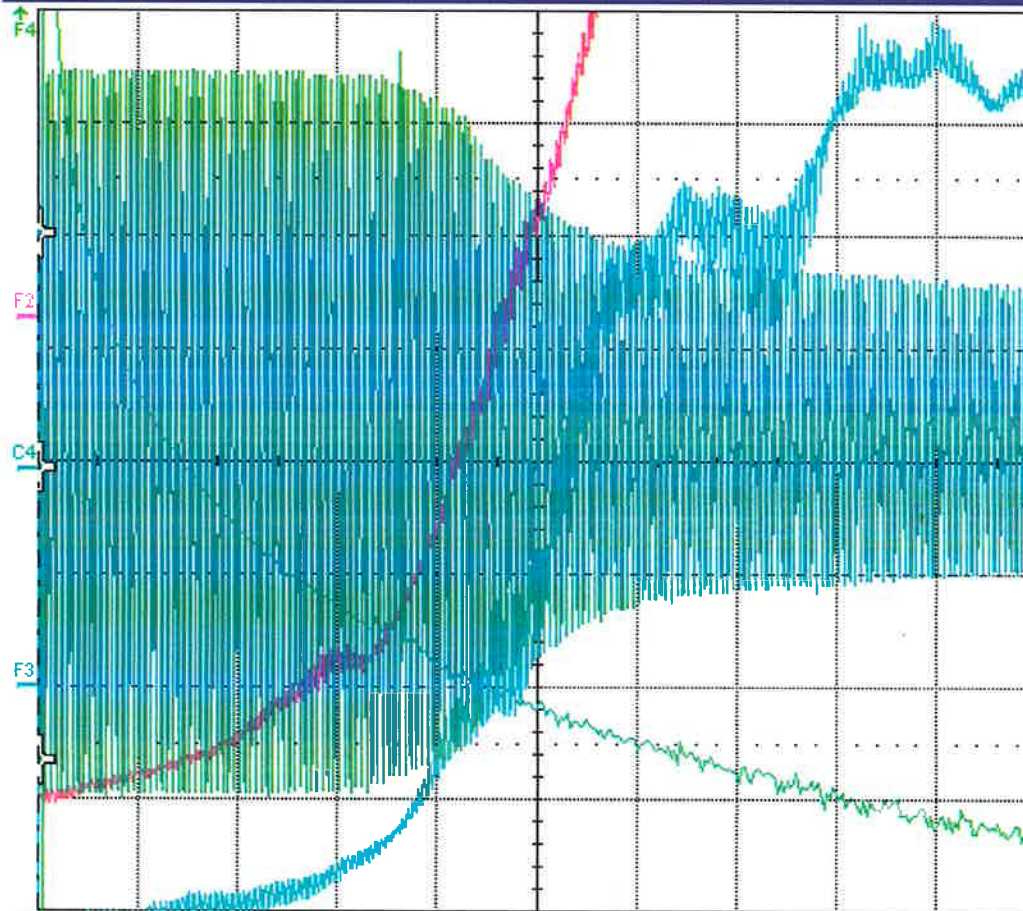
Tbase -458.4 μ s Trigger Ext/10 DC
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$\Delta Y/\Delta X = -317e-3$ $\Delta Y \cdot \Delta X = -68 \text{ mV}^2$
 -10.0 dB Angle = -17.6°
 Radius = 487 mV

C4	DC1M	F2	<F3>	F3	script(C3,C2)	F4	<FFT(C2)>	XY	X:C2 Y:C3
50.0 mV/div		250e-3/div		500e-3/div		5.00 dB/div		500 mV/div	
-3.5 mV ofst		10.0 μ s/div		10.0 μ s/div		500 kHz/div		500 mV/div	
		10 #				38 #			
104.3 mV									

Tbase -458.4 μ s Trigger Ext/10 DC
 10.0 μ s/div Normal 130 mV
 50.0 kS 500 MS/s Edge Negative
 X1= 408.400 μ s

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