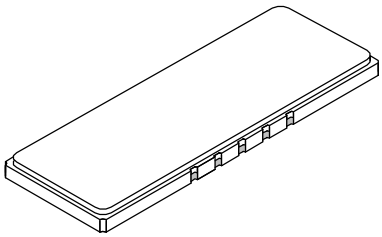
SF1111A 160 MHz SAW Filter

PRELIMINARY

- *Designed for CDMA2000 BTS Applications*
- *Simple External Impedance Matching*
- *Hermetic SMP-97 Surface-Mount Case*
- *Unbalanced Input and Output*



Characteristic		Sym	Min	Typ	Max	Units	Notes
Nominal Center Frequency		fc		160.000		MHz	1
Passband	Insertion Loss at fc	IL		9	11.0	dB	
	1.5 dB Passband	$BW_{1.5}$	±590			kHz	1, 2
	3 dB Passband	BW_3		±750			
	Amplitude Ripple over fc ±470 kHz			0.7	1.0	dB	
	Phase Linearity over fc ±590 kHz			2	5	°rms	
Rejection	fc-10.0 to fc-1.25 and fc+1.25 to fc+10.0 MHz		40			dB	1, 2, 3
	fc-20 to fc-10.0 and fc+10.0 to fc+20 MHz		50				
Operating Temperature Range		T_A	-20		+70	°C	1

Impedance Matching to 50 Ω unbalanced	External L-C
Case Style	SMP-97 24.6 x 9 mm Nominal Footprint
Lid Symbolization (YY = year, WW = week)	RFM SF1111A YYWW

Absolute Maximum Ratings

Rating	Value	Units
Maximum Incident Power in Passband	+10	dBm
Max. DC voltage between any 2 terminals	30	VDC
Storage Temperature Range	-40 to +85	°C
Max Soldering Profile	265°C for 10 s	

Electrical Connections (See note 3)

Connection	Terminals
Port 1 Hot	10
Port 1 Gnd Return	1
Port 2 Hot	5
Port 2 Gnd Return	6
Case Ground	All others

Notes:
1. Unless noted otherwise, all specifications apply *over the operating temperature range* with filter soldered to the specified demonstration board with impedance matching to 50 Ω and measured with 50 Ω network analyzer.
2. Unless noted otherwise, all frequency specifications are referenced to the nominal center frequency, fc.
3. Rejection is measured as attenuation below the minimum IL point in the passband. Rejection in final user application is dependent on PCB layout and external impedance matching design. See Application Note No. 42 for details. All "NC" or "no connection" terminals should be grounded.
4. "LRIP" or "L" after the part number indicates "low rate initial production" and "ENG" or "E" indicates "engineering prototypes."
5. The design, manufacturing process, and specifications of this filter are subject to change.
6. Either Port 1 or Port 2 may be used for either input or output in the design. However, impedances and impedance matching may vary between Port 1 and Port 2, so that the filter must always be installed in one direction per the circuit design.
7. US and international patents may apply.
8. RFM, stylized RFM logo, and RF Monolithics, Inc. are registered trademarks of RF Monolithics, Inc.
9.
10. Electrostatic Sensitive Device. Observe precautions for handling.

RF Monolithics, Inc.
4347 Sigma Road
Dallas, Texas 75244
USA

Phone: +1(972)233-2903
Fax: +1(972)387-8148
e-mail: info@rfm.com
Home page: www.rfm.com

European Sales Office
44 1963 251383
44 1963 251510

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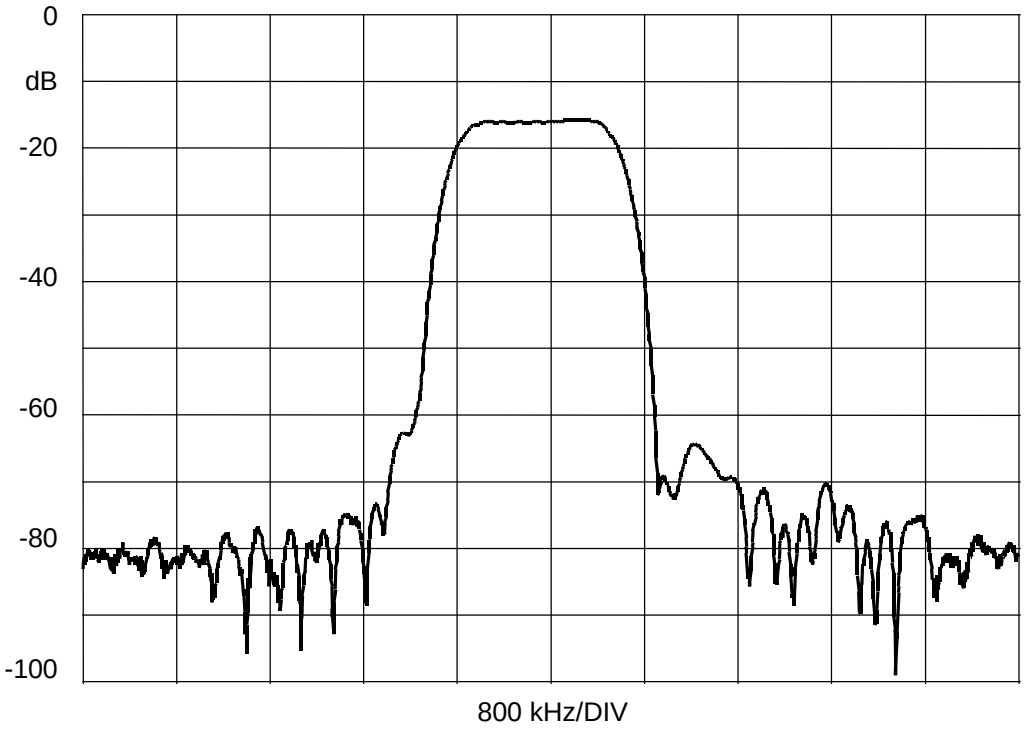

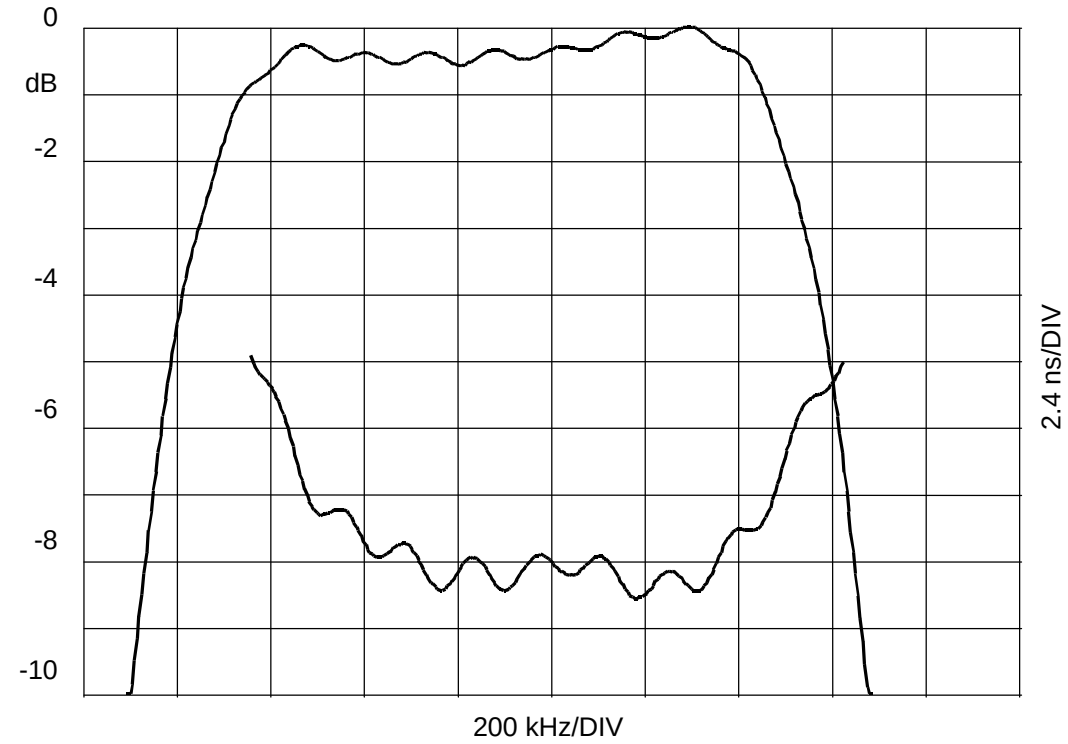

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e-mail: info@rfm.com
Home page: www.rfm.com

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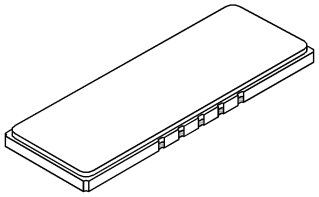
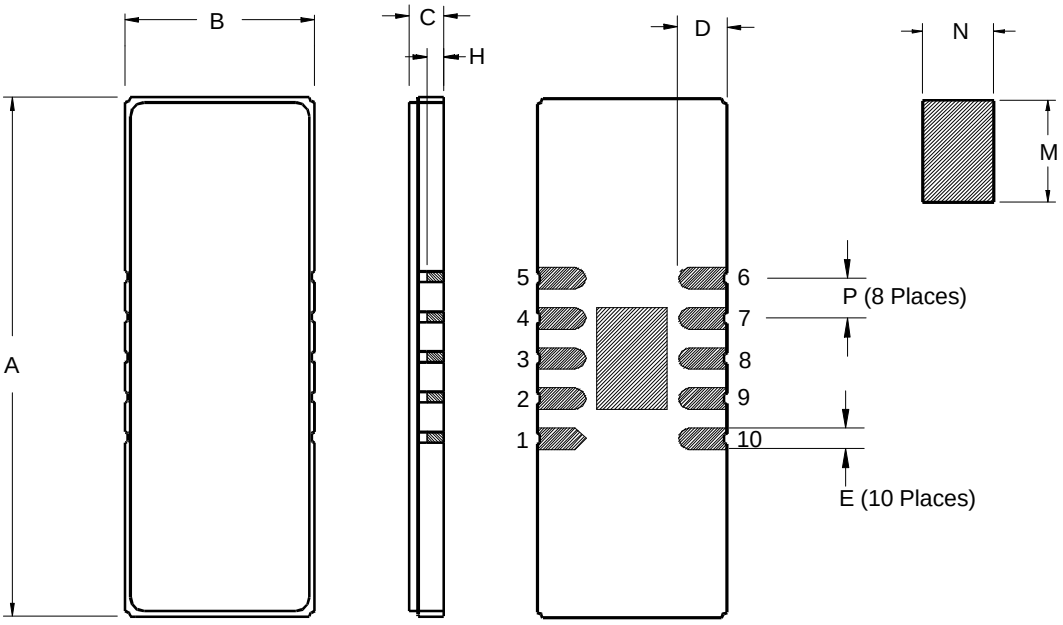
SMP-97 Case

10-Terminal Ceramic Surface-Mount Case
24.6 x 9 mm Nominal Footprint



Dimension	mm			Inches		
	Min	Nom	Max	Min	Nom	Max
A	24.41	24.64	24.94	0.961	0.970	0.982
B	8.80	8.99	9.30	0.349	0.354	0.366
C		1.75	2.00		0.069	0.079
D		2.29			0.090	
E		1.02			0.040	
H		0.76			0.030	
M		4.83			0.190	
N		3.40			0.134	
P		1.905			0.075	



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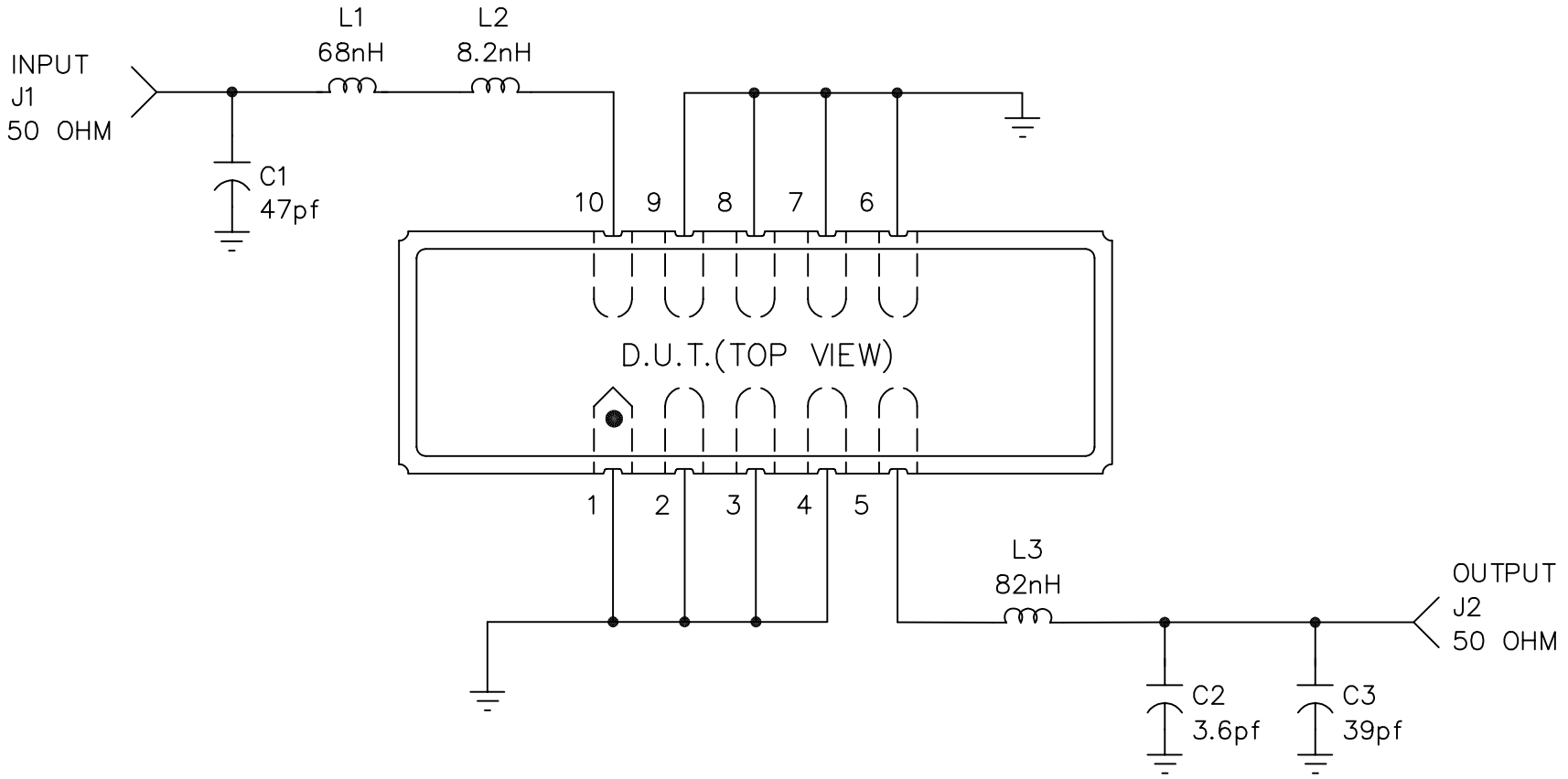
RFM Europe Phone: 44 1963 251383 Fax: 44 1963 251510 http://www.rfm.com

REV	ECN NO.	DESCRIPTION	DATE
A	8252	NEW DESIGN	05nov99



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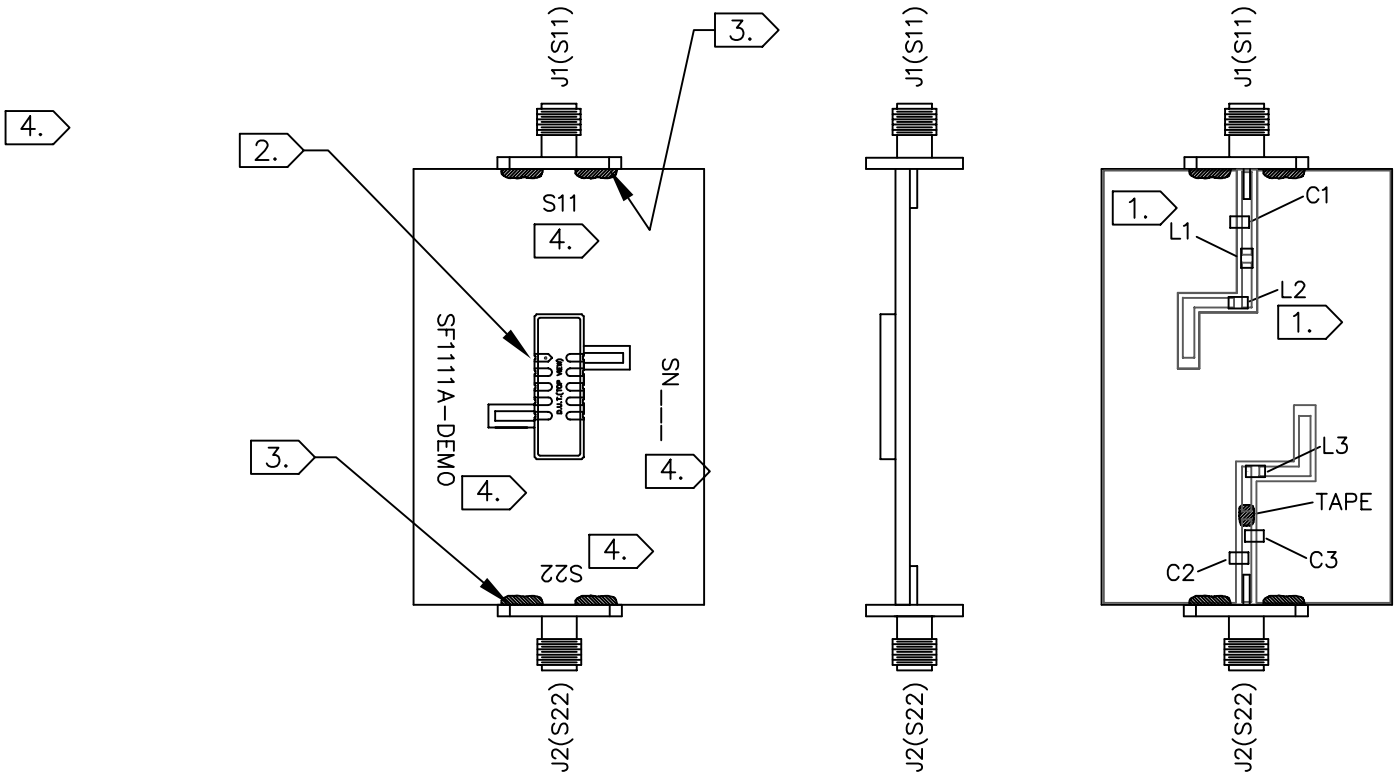
RF Monolithics, Inc. DALLAS, TEXAS 75244	CHECKED/APPROVED	SIZE A	CODE IDENT 2U874	DWG. NO. SF1111A-000		REV A	SHEET 1/4

NOTES:

1. NOTE PROPER ORIENTATION OF INDUCTOR PAIRS L1 & L2. THEY ARE TO BE POSITIONED 90° TO EACH OTHER.
2. SOLDER SURFACE MOUNT PACKAGE TO TEST SIDE OF PCB. SOLDER 10 PLACES AS SHOWN. NOTE PIN 1 INDICATOR.
3. SOLDER CONNECTOR FLANGES ON BOTH SIDES OF PCB.
4. MARK USING LABEL MAKER.



RF Monolithics, Inc. DALLAS, TEXAS 75244		SIZE A	CODE IDENT 2U874	DWG. NO. SF1111A-000	REV A	SHEET 2

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DATE CODE: 9935
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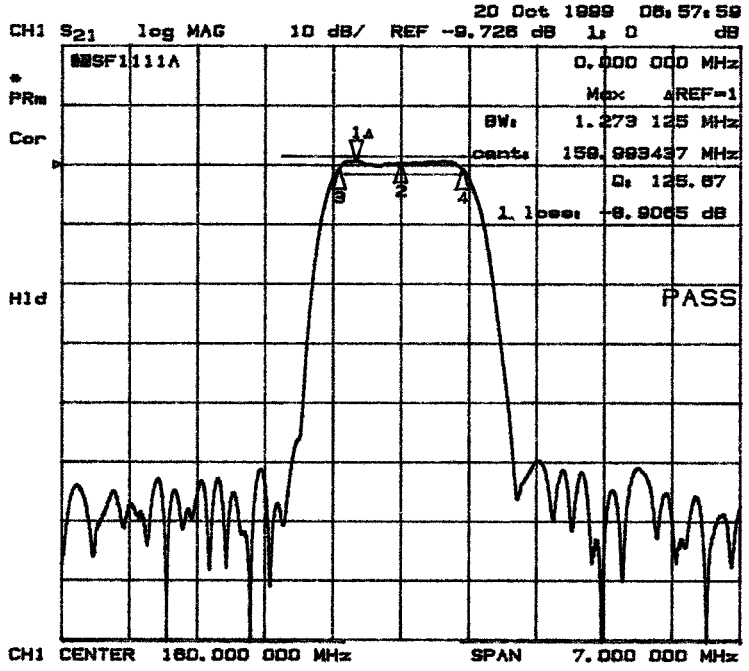

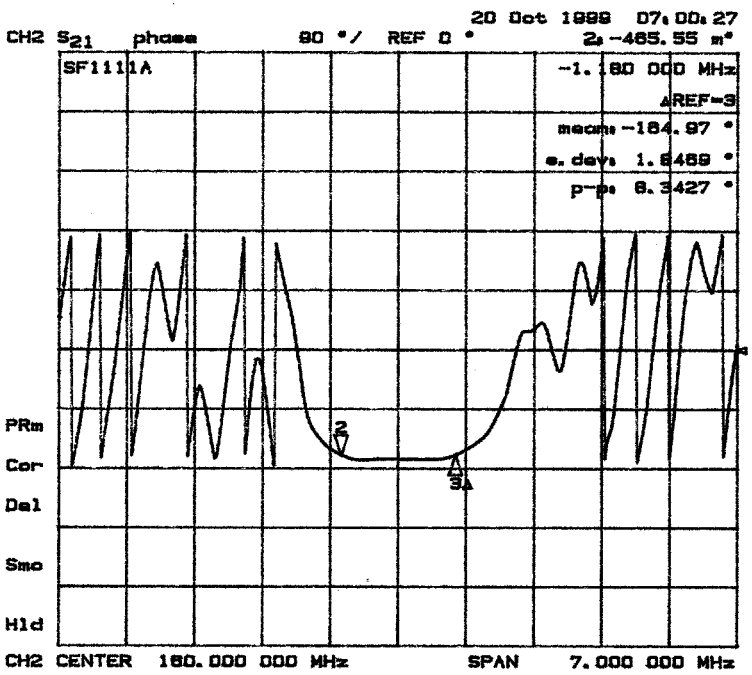

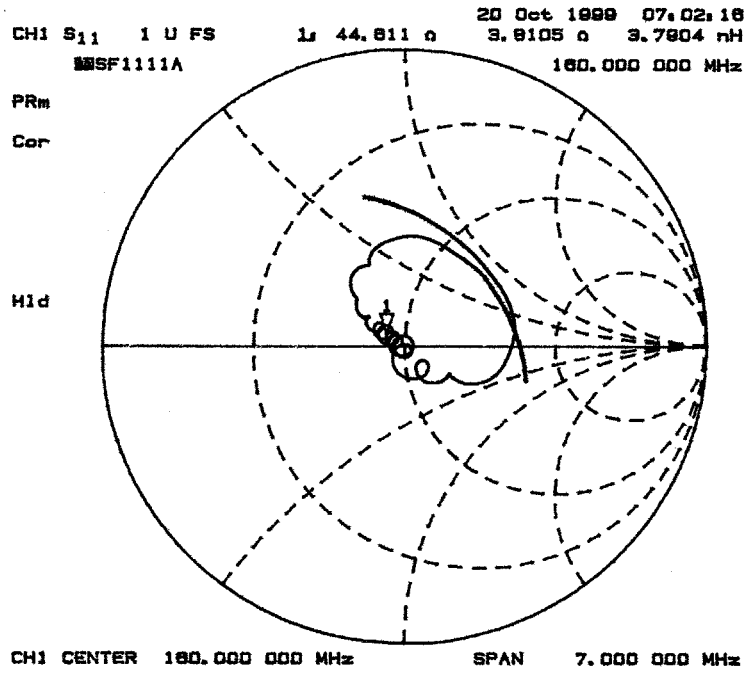

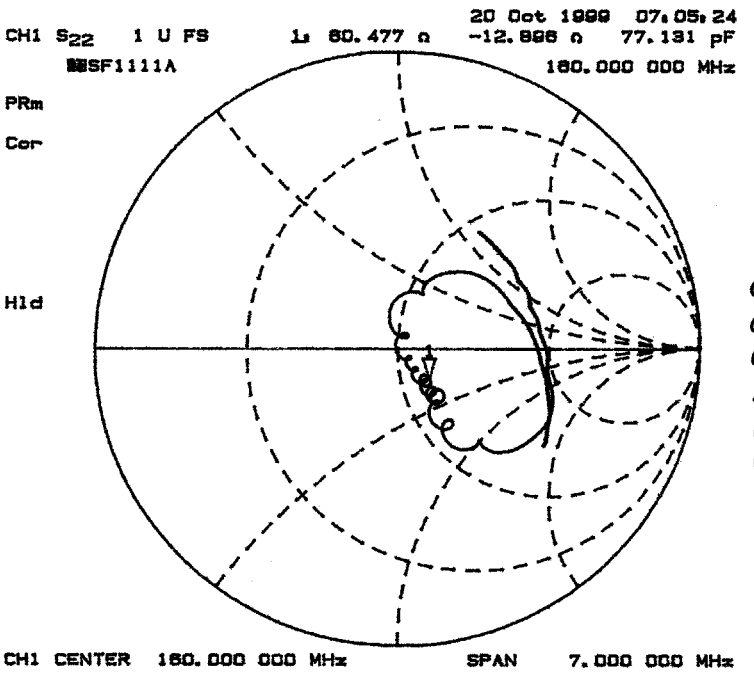

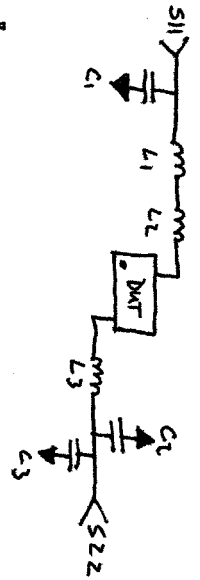

$C_1 = 47$ pf.
$C_2 = 3.6$ pf.
$C_3 = 39$ pf.
$L_1 = 68$ NH
$L_2 = 8.2$ NH
$L_3 = 82$ NH

SF1111A-000

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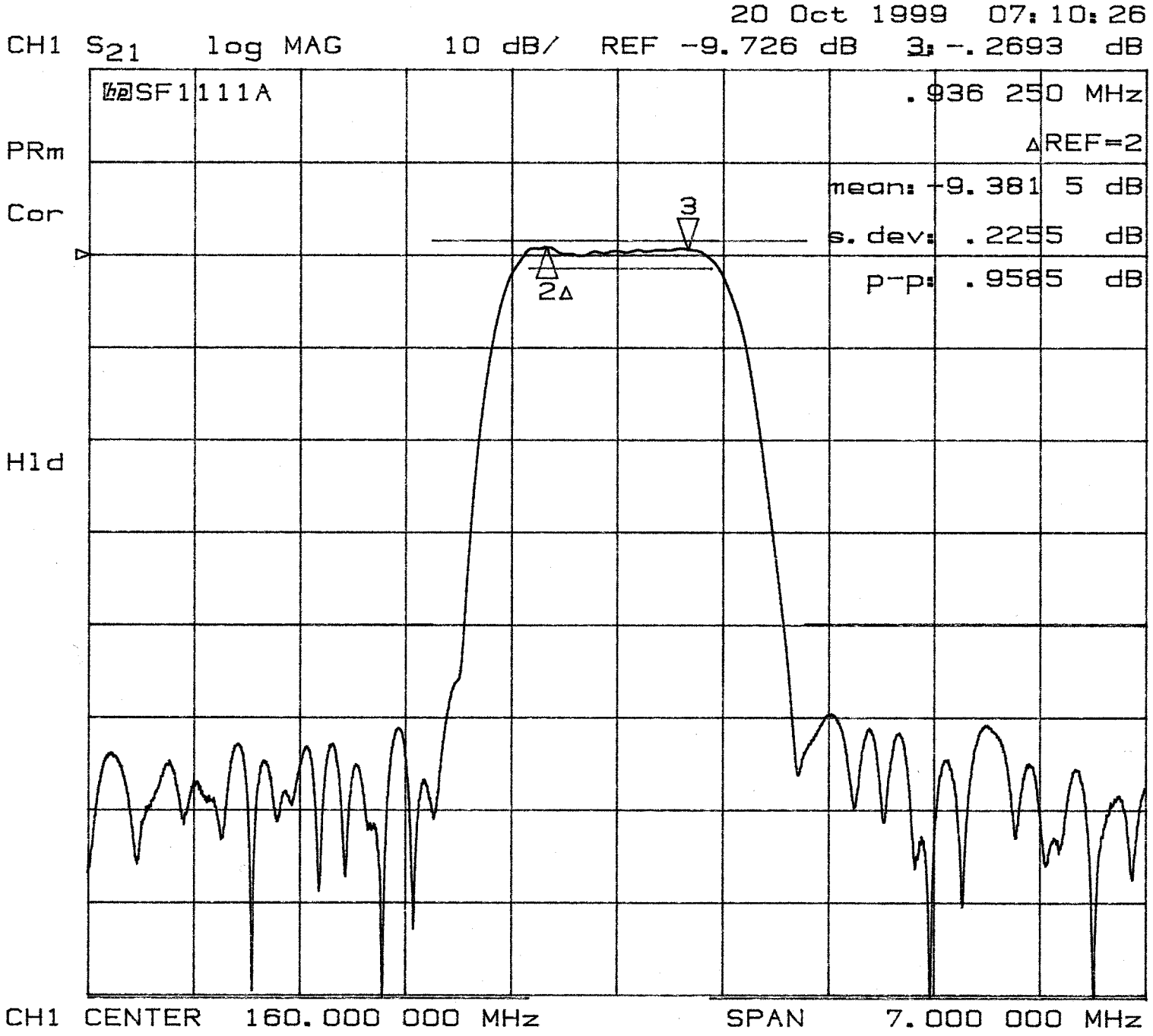

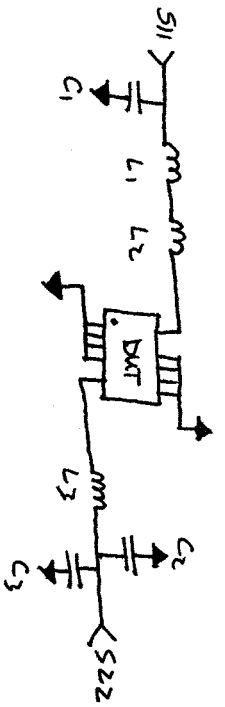

$C_1 = 47pf.$
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