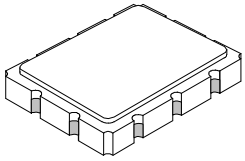
SF1059A

350.0 MHz SAW Filter

- ***Designed for WLAN IF Applications***
- ***Low Insertion Loss***
- ***9.1 x 7.1 mm Version of SF1059A-1***
- ***Unbalanced Input and Output***



SM9171-10

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 Characteristics

Characteristic		Sym	Notes	Min	Typ	Max	Units
Nominal Center Frequency		f_C	1		350.00		MHz
Passband	Insertion Loss at fc	IL			8	10.0	dB
	3 dB Passband	BW_3	1, 2	±400	±600		kHz
	Amplitude Variation over fc ±250 kHz				0.5	1.0	dB_{P-P}
	Group Delay Variation over fc ±400 kHz	GDV			200	250	ns_{P-P}
Rejection	fc-8.0 to fc-2.0 and fc+2.0 to +8.0 MHz		1, 2, 3	35	40		dB
	fc-50 to fc-8.0 and fc+8.0 to fc+50 MHz			40	45		
	Ultimate				50		
Operating Temperature Range		T_A	1	-20		+70	°C

Impedance Matching to 50 Ω unbalanced	External L-C
Case Style	SM9171-10 9.1 x 7.1 mm Nominal Footprint
Lid Symbolization (XX = 2 character date code)	RFM SF1059A XX

Electrical Connections

Connection		Terminals
Port 1	Input or Return	5
	Return or Input	6
Port 2	Output or Return	10
	Return or Output	1
Ground		All others
Single Ended Operation		**Return is ground**
Differential Operation		**Return is hot**

Notes:

1. Unless noted otherwise, all specitication apply over the operating temperature range with filter soldered to the specified demonstration board with impedanced matching to 50 Ω network analyzer.
2. Unless noted otherwise, all frequency specitications 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.
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. Electrostatic Sensitive Device. Observe precautions for handling.

RF Monolithics, Inc. Phone: (972) 233-2903 Fax: (972) 387-9148 E-mail: info@rfm.com
RFM Europe Phone: 44 1963 251383 Fax: 44 1963 251510 http://www.rfm.com

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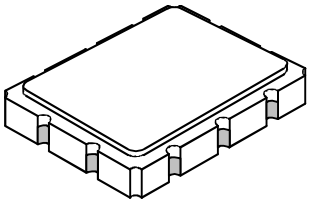
SM9171-10 Case

10-Terminal Ceramic Surface-Mount Case
9.1 x 7.1 mm Nominal Footprint

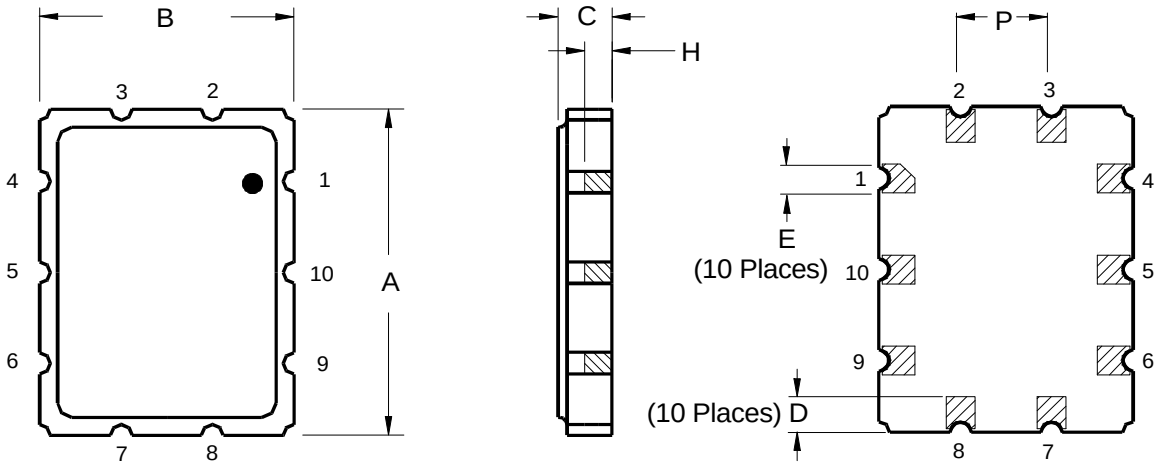


Case Dimensions

Dimension	mm			Inches		
	Min	Nom	Max	Min	Nom	Max
A	8.86	9.09	9.40	0.349	0.358	0.370
B	6.88	7.11	7.40	0.271	0.280	0.291
C		1.91	2.00		0.075	0.079
D		0.99			0.039	
E		0.79			0.031	
H		1.0			0.039	
P		2.54			0.100	

Electrical Connections

Connection		Terminals
Port 1	Input or Return	5
	Return or Input	6
Port 2	Output or Return	10
	Return or Output	1
Ground		All others
Single Ended Operation		**Return is ground**
Differential Operation		**Return is hot**



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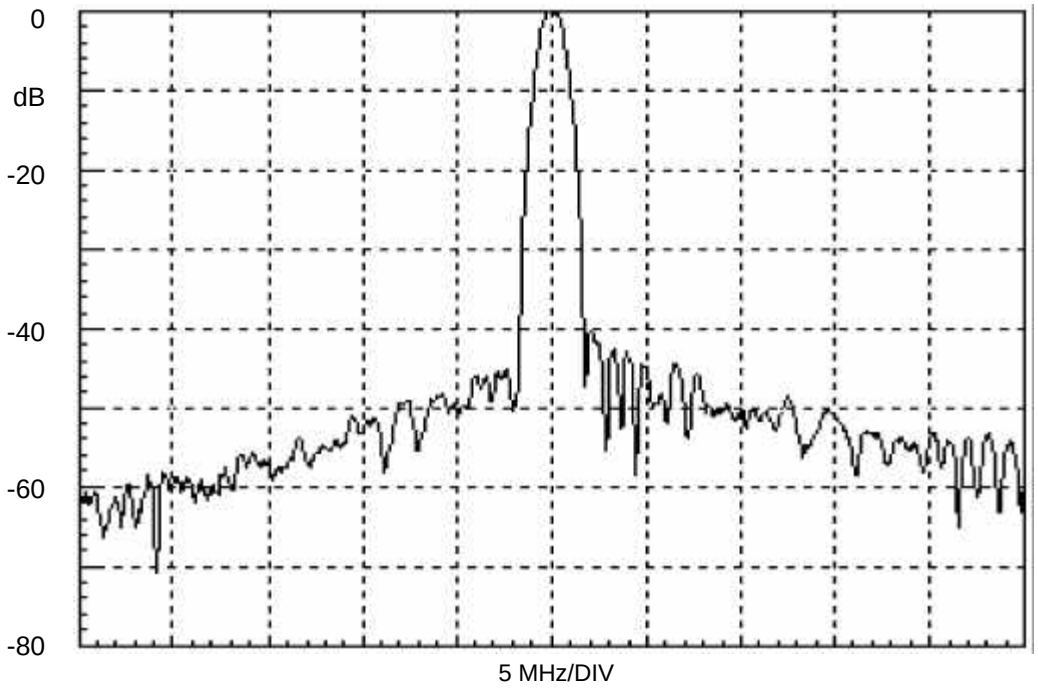
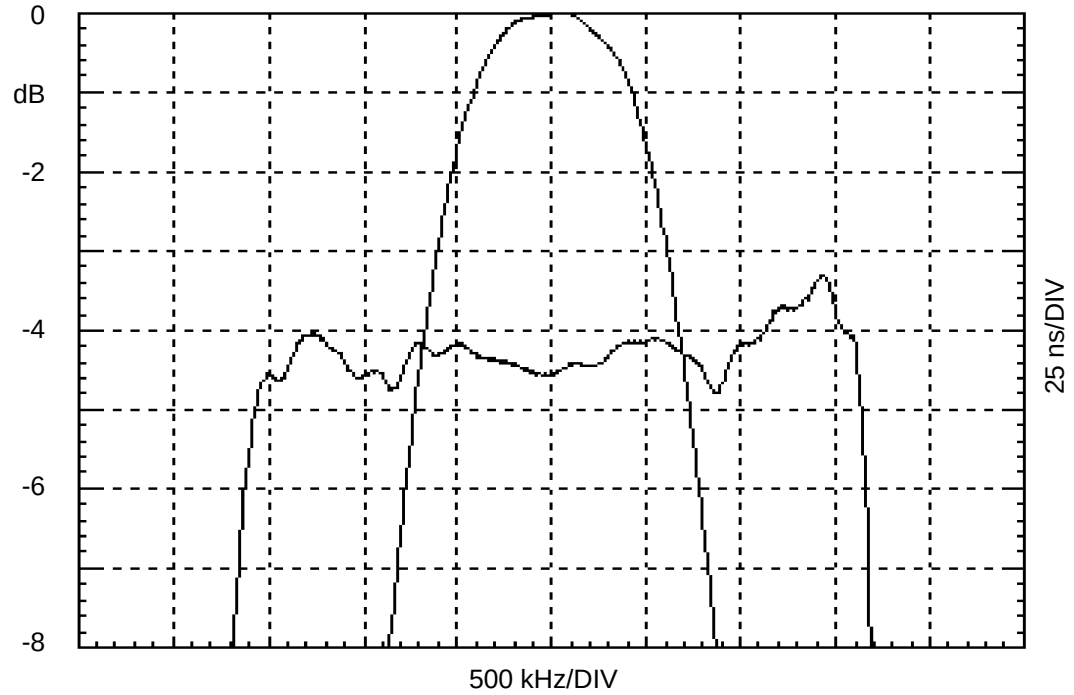
SF1059A 350 MHz SAW Filter





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

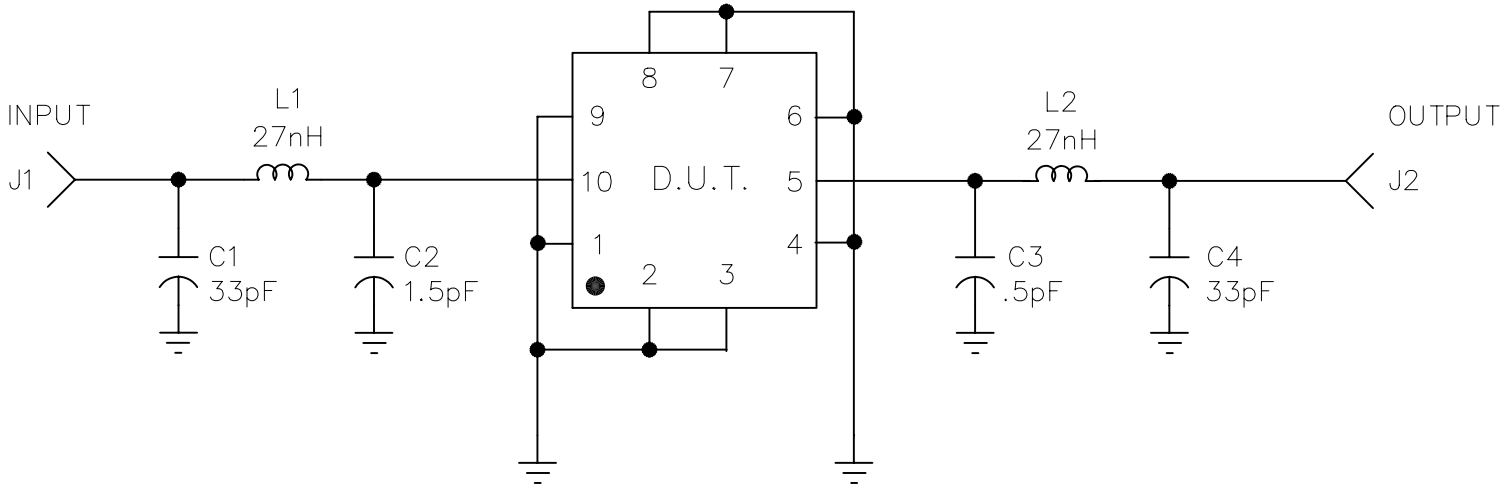
European Sales Office
44 1963 251383
44 1963 251510

REV	ECN NO.	DESCRIPTION	APP/DATE
A	3887	REL TO MFG	FR 6/19/95
B	4631	CHANGE ADJUSTABLE CAPS TO FIXED CAPS	

BILL OF MATERIALS

ITEM	QTY	P/N	DESCRIPTION	REF DES	REMARKS
1	1	400-0845-001	PCB	PCB1	
2	1	SF1059A	FILTER	FLTR1	
3	2	500-0003-330	CAP, 33pF	C1,C4	
4	1	500-0003-015	CAP, 1.5pF	C2	
5	1	500-0013-005	CAP, .5pF	C3	
6	2	500-0010-008	CHIP INDUCTOR, 27nH	L1,L2	
7	1	500-0248-001	CONN, COAX, FLANGE MNT	J1,J2	

DRAWN BY/DATE: J.F.Christopherson 25apr95		TITLE: DEMO PCB, SF1059A				
RF Monolithics, Inc. DALLAS, TEXAS 75244		SIZE A	CODE IDENT 2U874	DWG. NO. SF1059A(DEMO)	REV B	SHEET 1/6

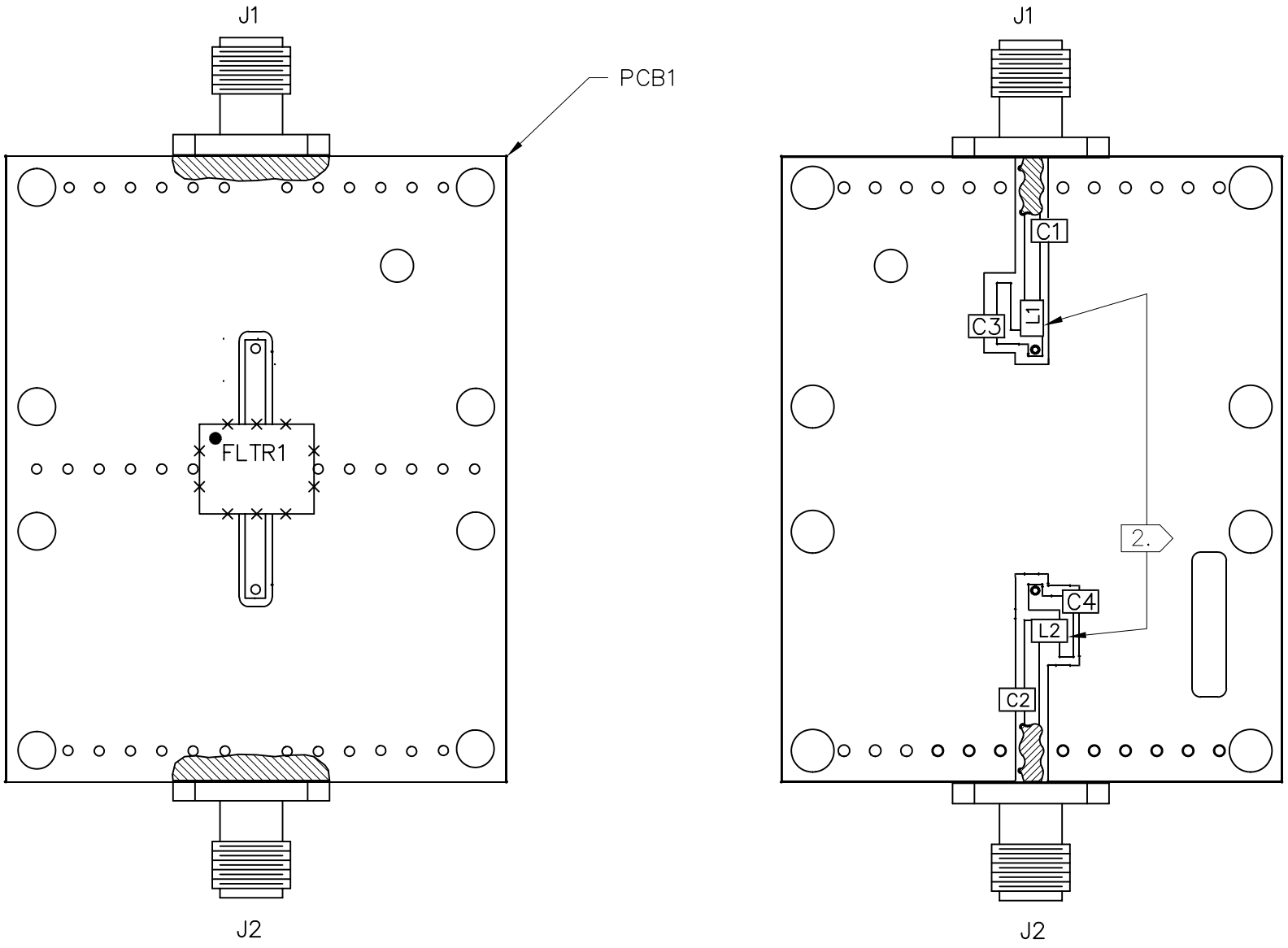


SCHEMATIC

RF Monolithics, Inc. DALLAS, TEXAS 75244		SIZE A	CODE IDENT 2U874	DWG. NO. SF1059A(DEMO)	REV B	SHEET 2

NOTES:

1. SOLDER MOUNT COMPONENTS, CONNECTORS, TO PCB1
2. NOTE PROPER ORIENTATION OF INDUCTORS [L1, L2] SHOULD BE 90° TO EACH OTHER.

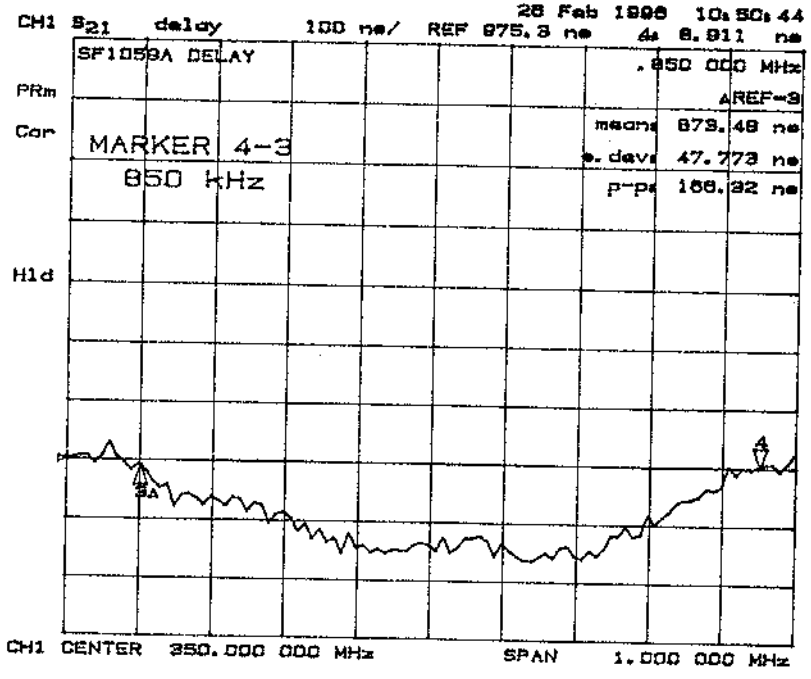


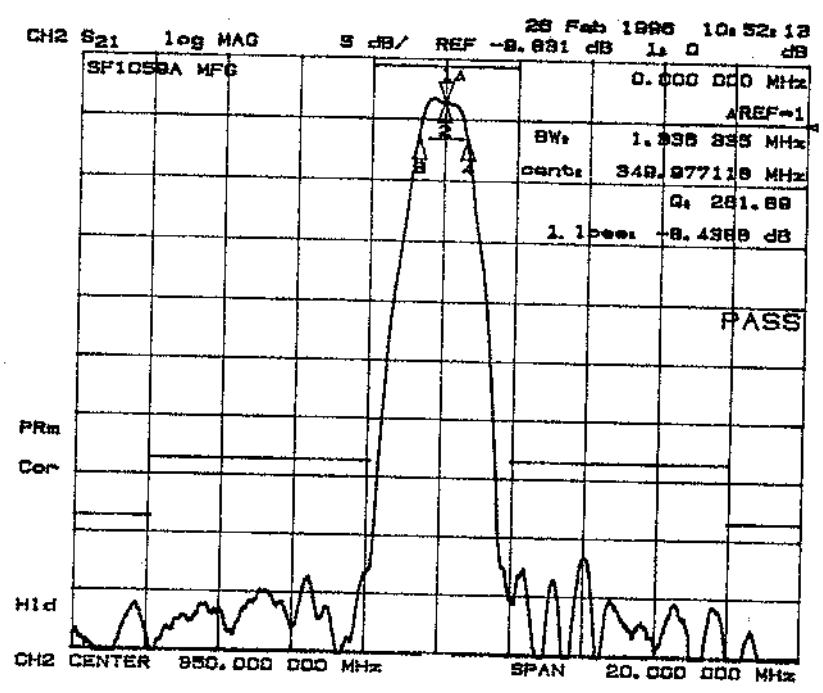
RF Monolithics, Inc. DALLAS, TEXAS 75244		SIZE A	CODE IDENT 2U874	DWG. NO. SF1059A(DEMO)	REV B	SHEET 3

TUNING PROCEDURE:

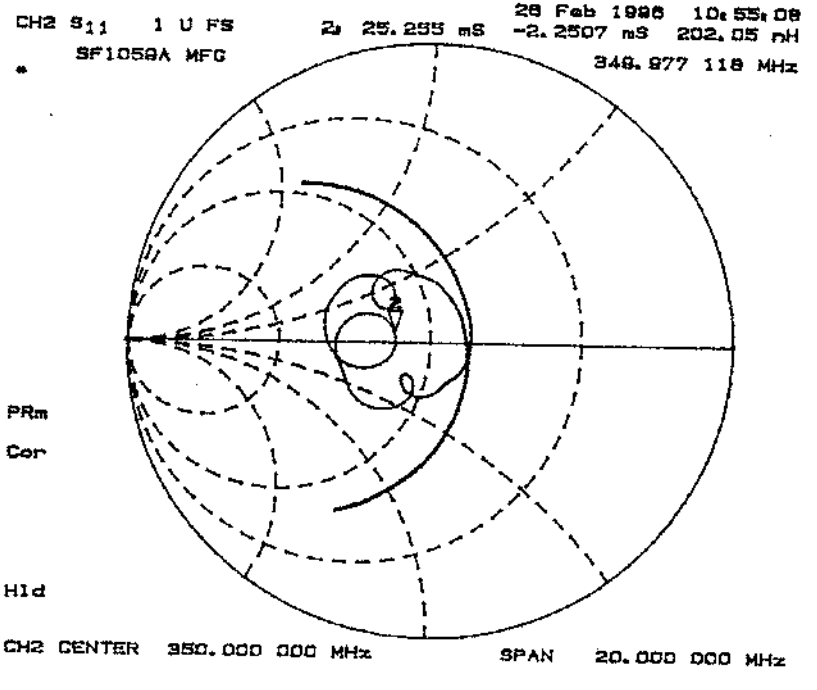
1. THERE ARE TWO PLOTS INCLUDED IN THIS DOCUMENT.
   PLOT #1 SHOWS APPROXIMATE TUNING.
   PLOT #2 WILL NEED TO BE GENERATED FOR EACH DEMO. WHEN MORE THAN ONE DEMO IS REQUIRED, DEMO'S NEED TO BE SERIALIZED AND THE SERIALIZATION NOTED ON PLOT #2.

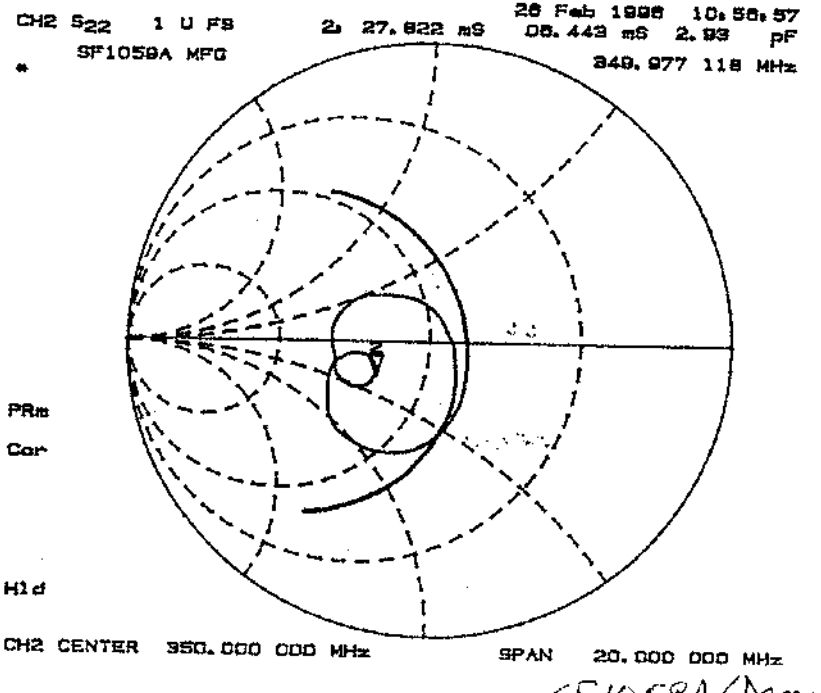
2. DUE TO TOLERANCE VARIATIONS IN THE VALUES OF CAPACITORS AND INDUCTORS, IT MAY BE IMPOSSIBLE TO DUPLICATE TUNING POSITIONS AS DOCUMENTED. IT MAY REQUIRE USING EITHER A SLIGHTLY HIGHER OR SLIGHTLY LOWER VALUE CAPACITOR OR INDUCTOR. THIS WILL DEPEND ON EACH INDEPENDANT PART.



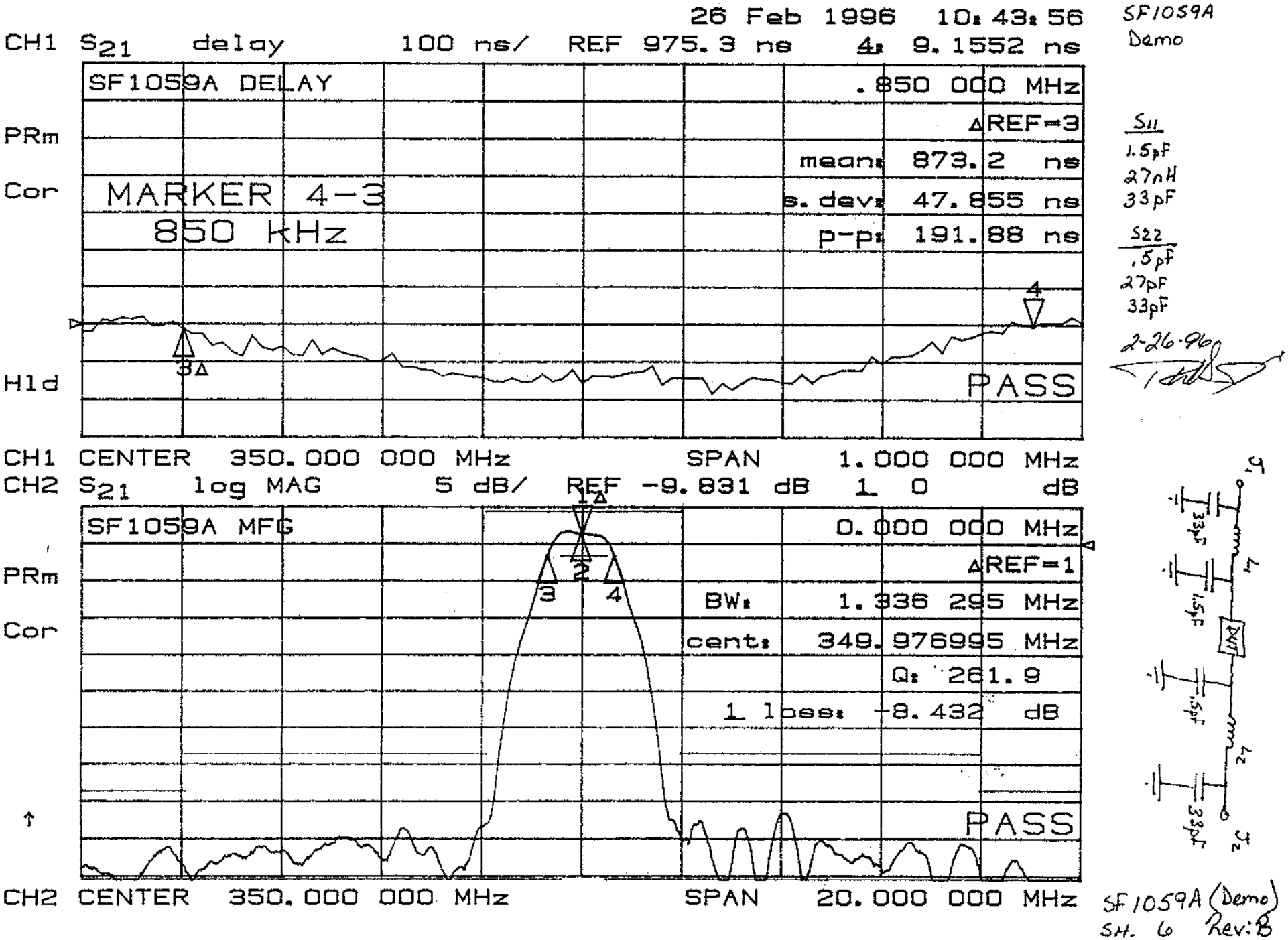


SF1059A Demo
2-26-98





SF1059A (Demo)
SH. 5 REV: B



SF1059A (Demo)
SH. 6 Rev:B