



**SF1062A**

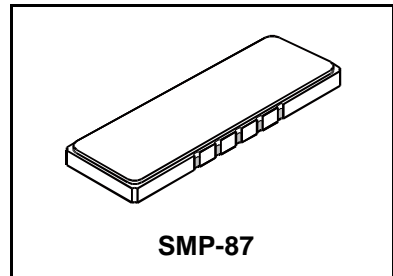
**211.0 MHz  
SAW Filter**

- **Designed for GSM PCS Receiver IF Applications**
- **Simple External Impedance Matching**
- **Hermetic SMP-87 Surface-Mount Case**
- **Unbalanced Input and Output**
- **Complies with Directive 2002/95/EC (RoHS)**



**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
Suitable for lead-free soldering - Max Soldering Profile	260°C for 30 s	



**Electrical Characteristics**

Characteristic	Sym	Notes	Min	Typ	Max	Units	
Nominal Center Frequency	$f_c$	1	211.000			MHz	
Passband	Insertion Loss at $f_c$	IL		6	9.0	dB	
		1.5 dB Passband	$BW_{1.5}$	$\pm 50$		kHz	
		2 dB Passband	$BW_2$	$\pm 80$			
		3 dB Passband	$BW_3$	$\pm 100$	$\pm 135$		
		Amplitude Ripple over $f_c \pm 50$ kHz				1.5	dB <sub>p-p</sub>
Group Delay Variation over $f_c \pm 50$ kHz	GDV			200	500	ns <sub>p-p</sub>	
Absolute Group Delay	GD			2.6		$\mu$ s	
Rejection	fc-400 to fc-200 and fc+200 to fc+400 MHz	1, 2, 3	5			dB	
			fc-600 to fc-400 and fc+400 to fc+600 MHz	25			
			fc-800 to fc-600 and fc+600 to fc+800 MHz	30	35		
			191 MHz to fc-800 kHz and fc+800 kHz to 231 MHz	35	45		
Operating Temperature Range	$T_A$	1	-40		+85	°C	

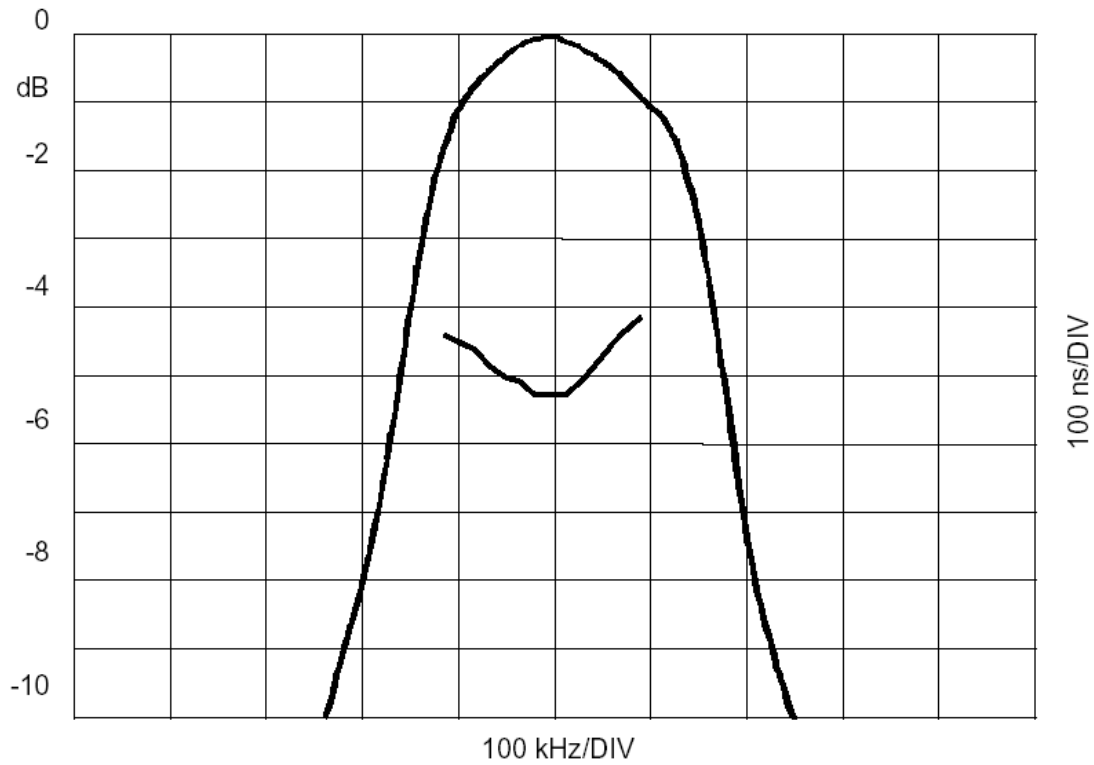
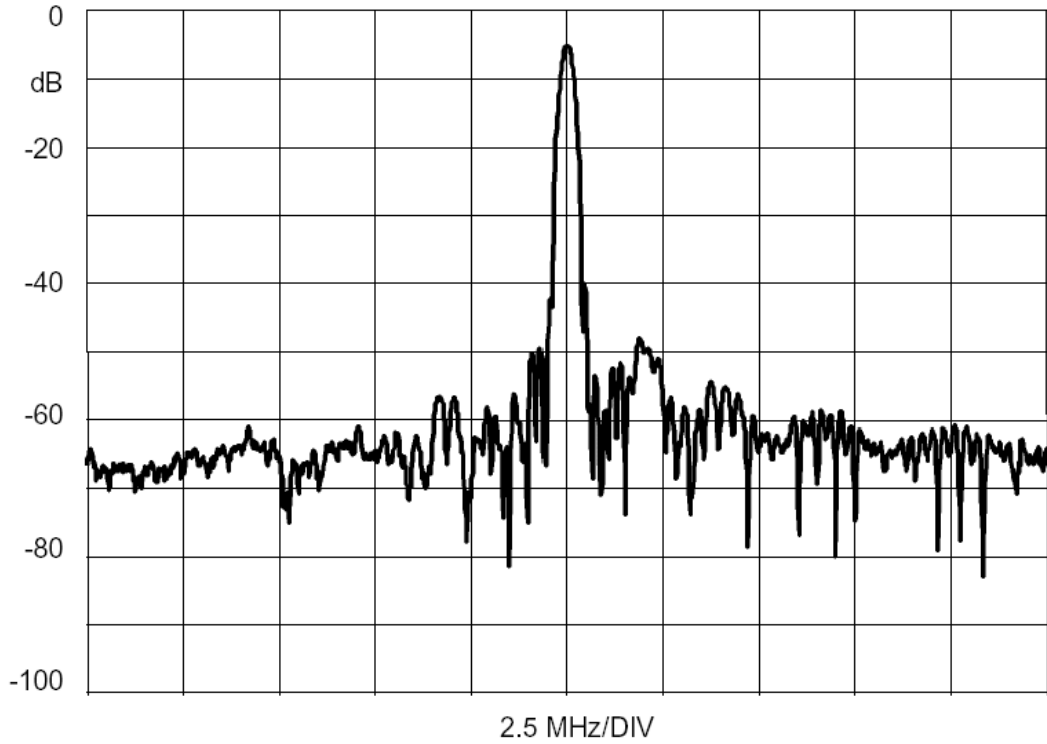
Impedance Matching to 50 $\Omega$ unbalanced	External L-C
Case Style	SMP-87 22.1 X 8 mm Nominal Footprint
Lid Symbolization (YY=year, WW=week)	RFM SF1062A YYWW

**Electrical Connections**

Connection	Terminals
Port 1 Hot	2
Port 1 Gnd Return	3
Port 2 Hot	8
Port 2 Gnd Return	9
Case Ground	All Others

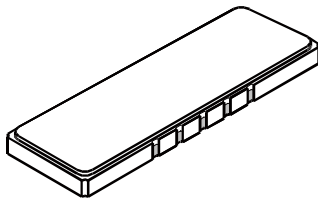
**Notes:**

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  $\Omega$  and measured with 50  $\Omega$  network analyzer.
2. Unless noted otherwise, all frequency specifications are referenced to the nominal center frequency,  $f_c$ .
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.
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9. ©Copyright 1999, RF Monolithics Inc.
10. Electrostatic Sensitive Device. Observe precautions for handling



## SMP-87 Case

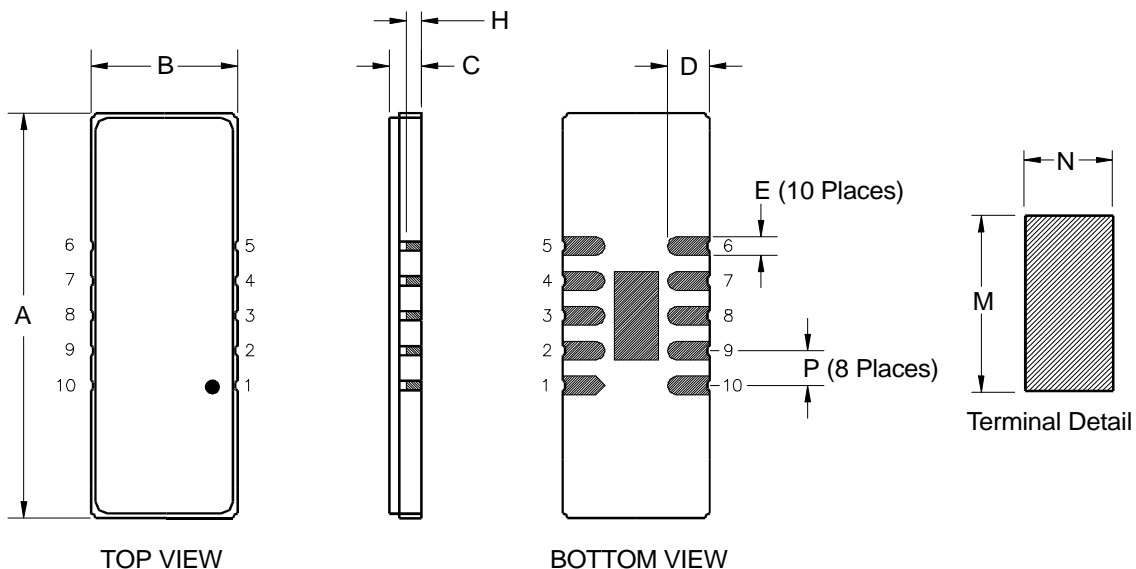
### 10-Terminal Ceramic Surface-Mount Case 22.1 x 8 mm Nominal Footprint



Case Dimensions						
Dimension	mm			Inches		
	Min	Nom	Max	Min	Nom	Max
A	21.90	22.10	22.40	0.862	0.870	0.882
B	7.80	8.00	8.30	0.307	0.315	0.327
C		1.78	2.00		0.070	0.079
D		2.29			0.090	
E		1.02			0.040	
H		1.0			0.039	
M		4.83			0.190	
N		2.41			0.095	
P		1.905			0.075	

Materials	
Solder Pad Termination	Au plating 30 - 60 pinches (76.2-152 $\mu\text{m}$ ) over 80-200 pinches (203-508 $\mu\text{m}$ ) Ni.
Lid	Fe-Ni-Co Alloy Electroless Nickel Plate (8-11% Phosphorus) 100-200 pinches Thick
Body	$\text{Al}_2\text{O}_3$ Ceramic
Pb Free	

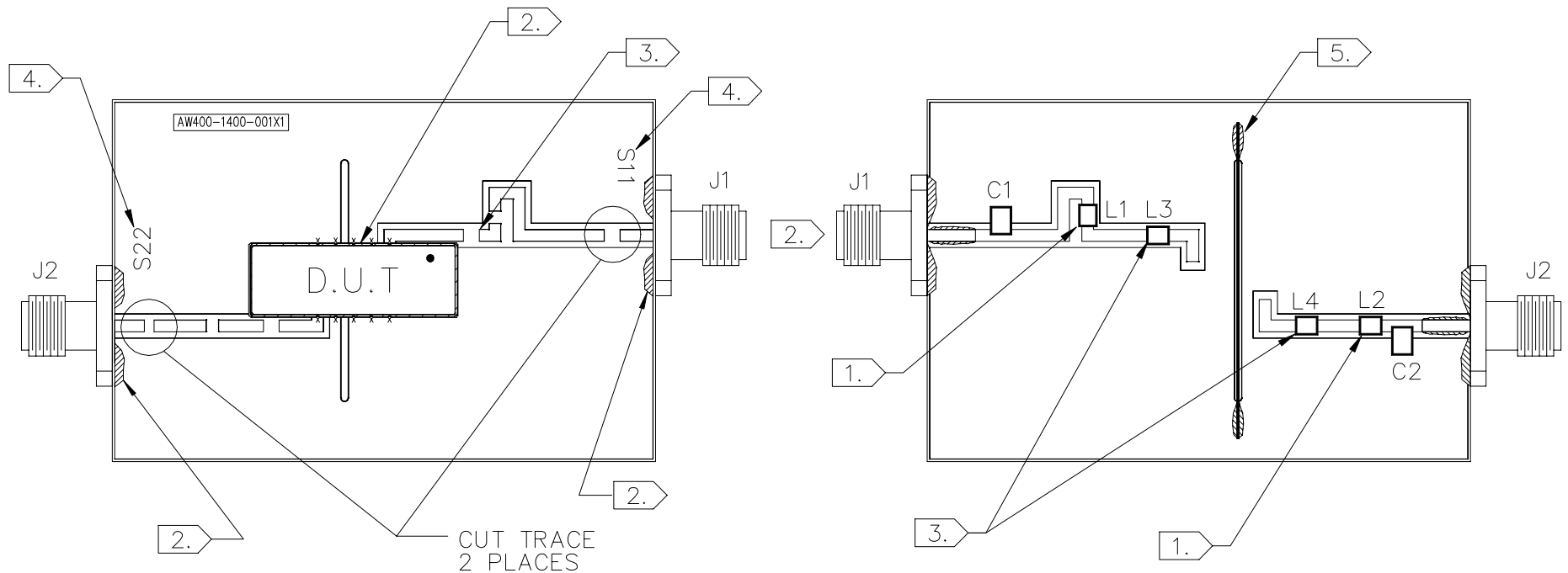
Electrical Connections		
Connection		Terminals
Port 1	Input or Return	10
	Return or Input	1
Port 2	Output or Return	5
	Return or Output	6
Ground		All others
<b>Single Ended Operation</b>		<b>Return is ground</b>
<b>Differential Operation</b>		<b>Return is hot</b>



NOTES:

1. NOTE PROPER ORIENTATION OF INDUCTORS L1 & L4. THEY ARE TO BE POSITIONED 90° TO EACH OTHER.
2. SOLDER SURFACE MOUNT PACKAGE TO TEST SIDE OF PCB. SOLDER 10 PLACES AND CONNECTORS AS SHOWN.
3. CUT TRACES ON BOTH SIDES OF THE PCB BETWEEN THE SAME HOLES TO PROVIDE GAP FOR L3 & L4.
4. LABEL BOARD USING ELECTRONIC METHOD.
5. CUT SHIELD TAB SO THAT IT IS EVEN WITH TEST SIDE. SOLDER AS SHOWN.

REV	ECN NO.	DESCRIPTION	DATE
A	7387	INITIAL RELEASE	12jan99



DRAWN BY/DATE: L. ASHMORE 11 JAN 99

TITLE: ASSEMBLY DIAGRAM, SF1062A-DEMO

**RF Monolithics, Inc.**  
DALLAS, TEXAS 75244

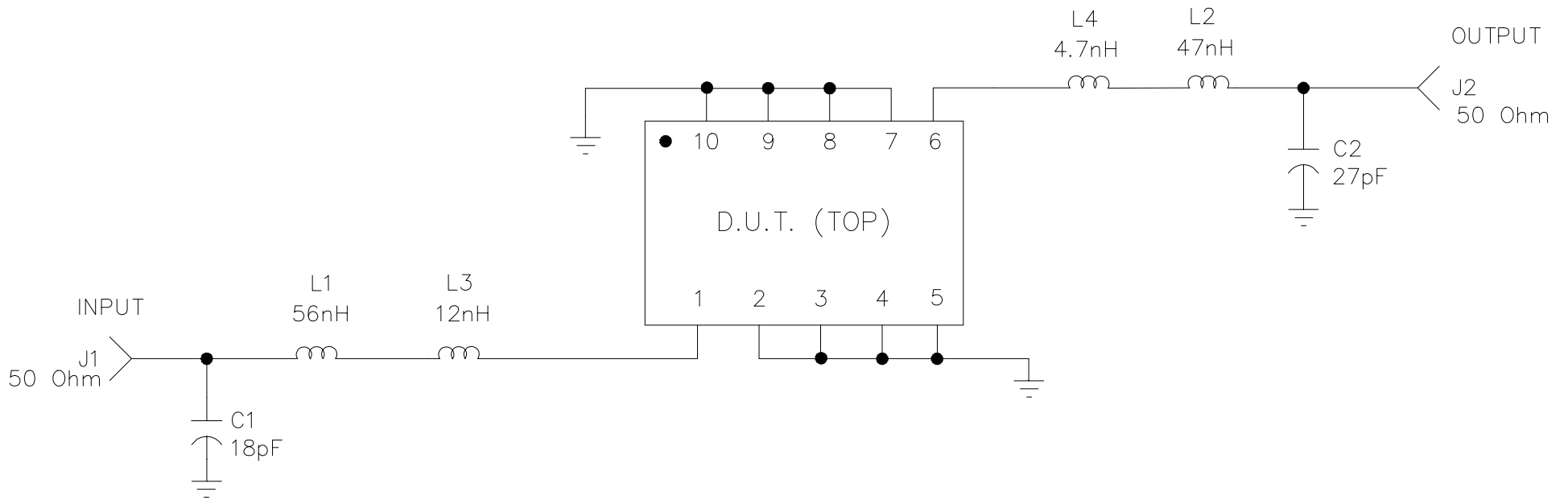
CHECKED/APPROVED

SIZE  
**A**

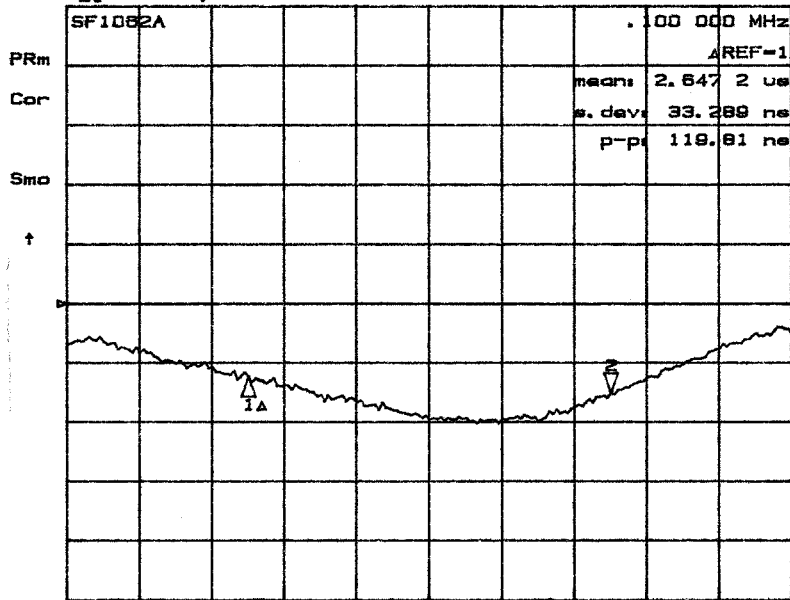
CODE IDENT  
**2U874**

DWG. NO. SF1062A-000

REV A SHEET 1/3

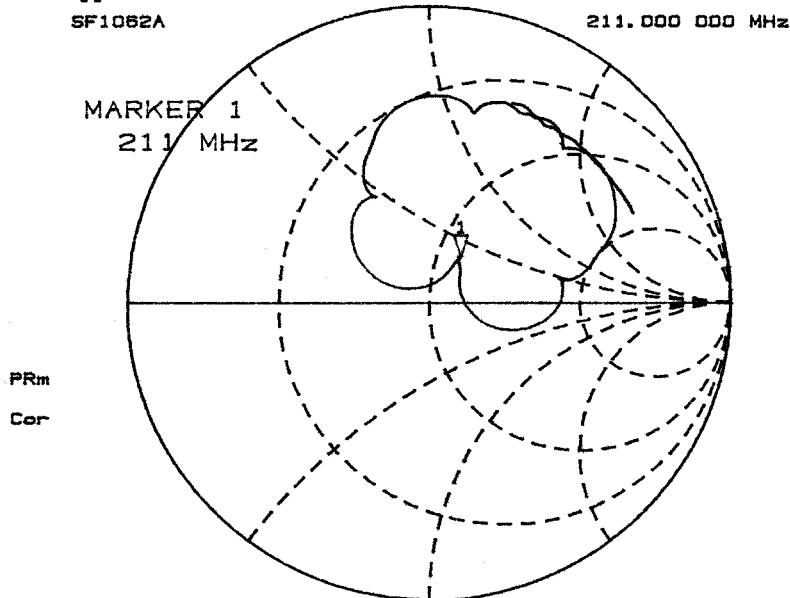


11 Nov 1998 14:33:02  
 CH1 S21 delay 150 ns/ REF 2.907 us 2 -41.962 ne



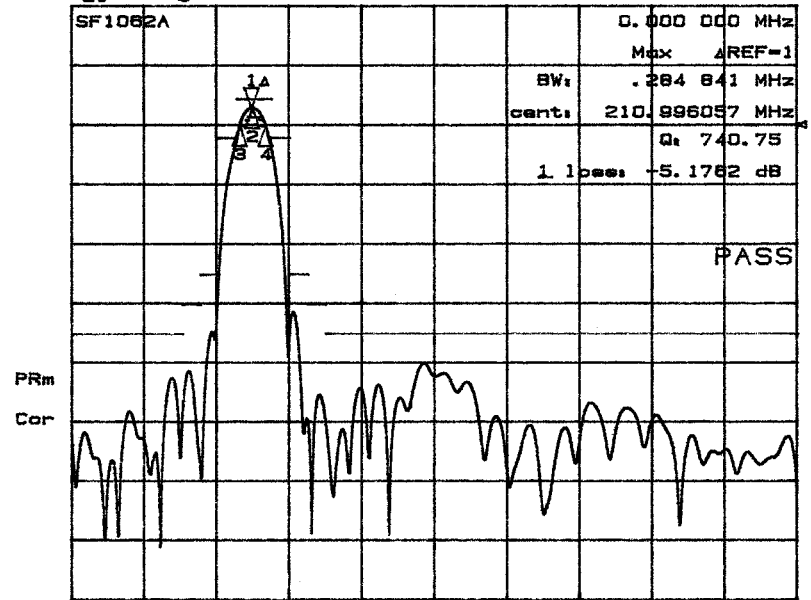
CH1 CENTER 211.000000 MHz SPAN .200000 MHz

11 Nov 1998 14:37:27  
 CH2 S11 1 U FS L 58.172 n 19.166 n 14.457 nH  
 SF1062A 211.000000 MHz



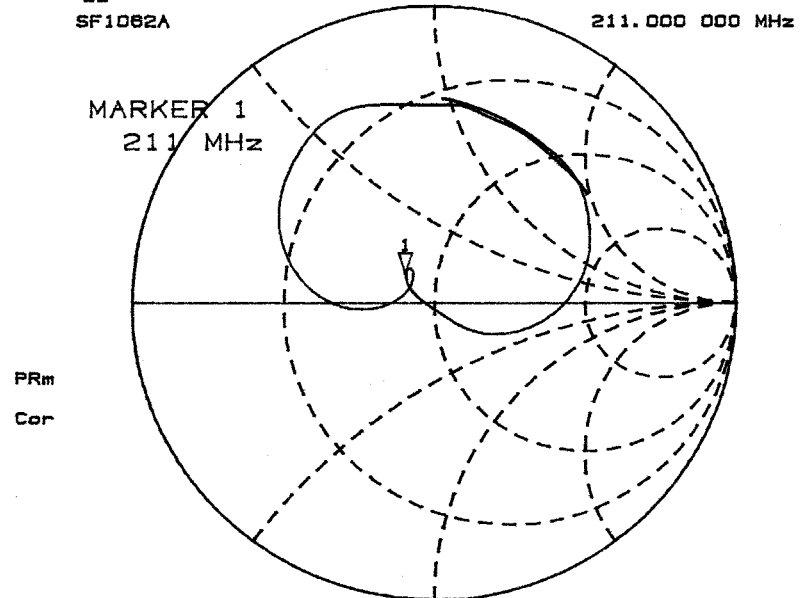
CH2 CENTER 212.999000 MHz SPAN 8.000000 MHz

11 Nov 1998 14:35:14  
 CH2 S21 log MAG 10 dB/ REF -8 dB L 0 dB



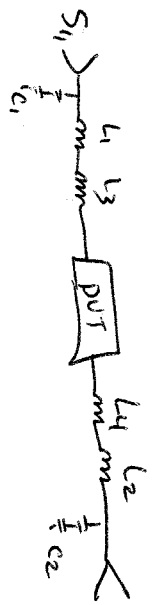
CH2 CENTER 212.999000 MHz SPAN 8.000000 MHz

11 Nov 1998 14:39:41  
 CH2 S22 1 U FS L 40.523 n 8.1873 n 6.1831 nH  
 SF1062A 211.000000 MHz



CH2 CENTER 212.999000 MHz SPAN 8.000000 MHz

SF1062  
 Demo #2  
 Epot-338468  
 11/11/98  
 LP



L1 - 56nH  
 L2 - 47nH  
 L3 - 12nH  
 L4 - 47nH  
 C1 - 18pF  
 C2 - 27pF

## BILL OF MATERIALS

<u>PART IDENTIFIER</u>	<u>DESCRIPTION 1</u>	<u>DESCRIPTION 2</u>	<u>QTY/ASSY</u>	<u>REFERENCE DESCRIPTION</u>
SF1062A-DEMO	DEMO BOARD, SF1062A,	NORTEL MATRA CELLULAR		
400-1400-001	PCB, DEMO BOARD, SF1081A		1.0000	
400-0533-001	SHIELD, TO-39 TEST FIXTURE		1.0000	
500-0319-001	TAPE, COPPER FOIL, SCOTCH	TYPE 1181, 44F3260, 1/2"	0	
SF1062A-LRIP	FILTER, SM, 211.000 MHZ	NORTEL MATRA	1.0000	
SF1062A-000	ASSY DIAGRAM, DEMO BOARD,	SF1062A	0	
500-0003-180	CAP, CHIP, NPO, 18(J), STD		1.0000	C 1
500-0003-270	CAP, CHIP, NPO, 27(J), STD		1.0000	C 2
500-0248-001	CONN, COAX, FLANGE MT. JACK	4 HOLE	2.0000	J 1, 2
500-0010-560	IND, CHIP, 1008CS, 56 NH, 10%	COIL CRAFT 1008CS-560	1.0000	L 1
500-0010-470	IND, CHIP, 1008CS, 47 NH, 10%		1.0000	L 2
500-0010-120	IND, CHIP, 1008CS, 12 NH, 10%		1.0000	L 3
500-0010-047	IND, CHIP, 1008CS, 10%		1.0000	L 4



SIZE

**A**

FSCM NO.

**2U874**

DWG NO.

**SF1062A-DEMO**

SCALE

**NONE**

W/O or ECN

**7387**

REV

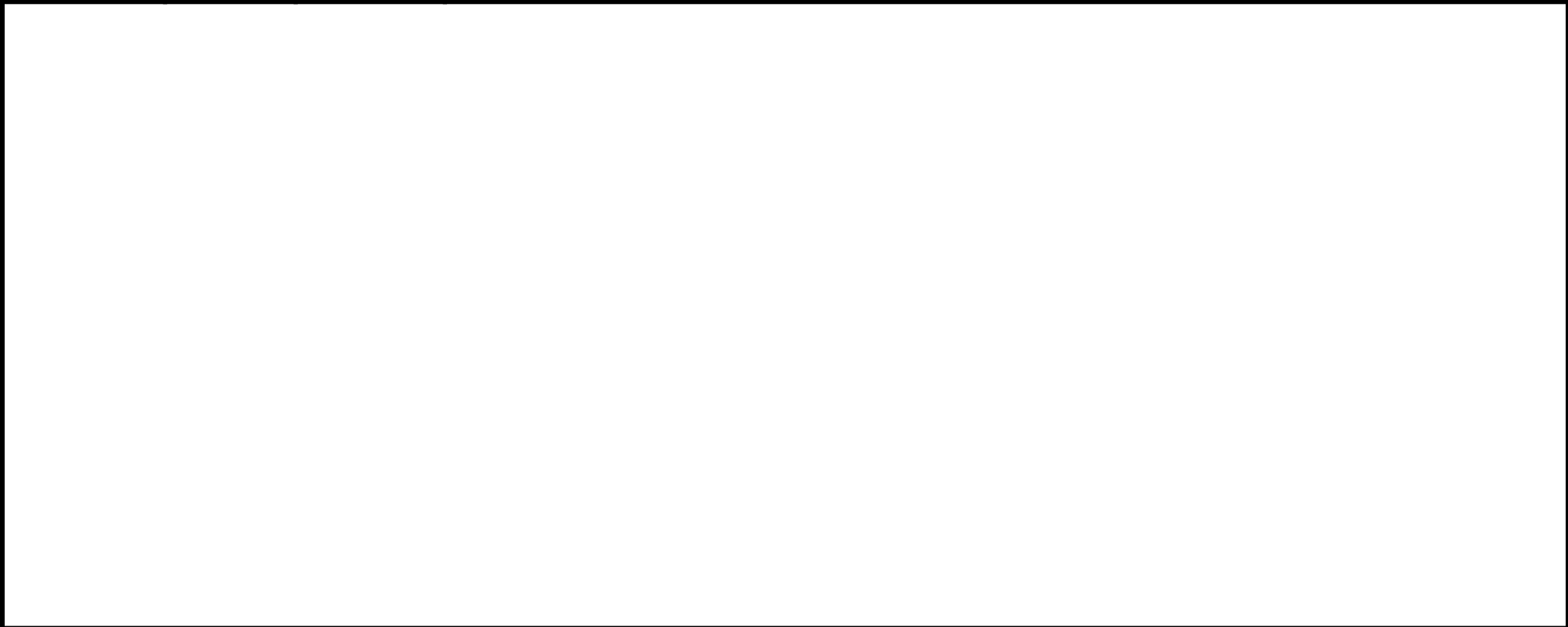
**A**

SHEET

**1 OF 2**

**REV HISTORY**

REV	ECN	DATE	DESCRIPTION
A	7387	01/06/99	INITIAL RELEASE



	SIZE <b>A</b>	FSCM NO. <b>2U874</b>	DWG NO. <b>SF1062A-DEMO</b>	
	SCALE <b>NONE</b>	W/O or ECN <b>7387</b>	REV <b>A</b>	SHEET <b>2</b> OF <b>2</b>