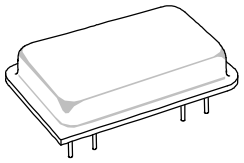
BP1042 70 MHz SAW Filter

- *Designed for CDMA Receiver IF Applications*
- *Simple External Impedance Matching*
- *Hermetic Metal DIP*
- *Unbalanced Input and Output*
- *Complies with Directive 2002/95/EC (RoHS)*



See Associated Plots

Characteristic		Sym	Min	Typ	Max	Units	Notes
Nominal Center Frequency		fc		70.000		MHz	1
Passband	Insertion Loss at fc	IL		22	28	dB	
	1 dB Passband	BW_1	±455	±500		kHz	1, 2
	3 dB Passband	BW_3	±550	±600			
	Group Delay Variation over fc ±550 kHz	GDV		150	175	ns_{P-P}	
	Phase Linearity over fc ±550 kHz			4	5	$°_{P-P}$	
Rejection	At fc ±1.0 MHz		40	45		dB	1, 2, 3
	Ultimate from 1 MHz to 105 MHz		40	50			
Operating Temperature Range		T_A	-25		+85	°C	1

Impedance Matching to 50 Ω unbalanced	External L-C
Suggested Matching Network Impedance at Port 1 Suggested Matching Network Impedance at Port 2	375 nH in parallel with 310 Ω 240 nH in parallel with 320 Ω
Case Style	DIP14L-8 22.1 x 12.6 mm Nominal Footprint
Lid Symbolization (RR = run code, LL = lot code)	RFM BP1042 RRLL

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 Temperature	260°C for 30 s	
Suitable for lead-free Soldering		

Electrical Connections (See note 3)

Connection	Terminals
Port 1 Hot	7
Port 1 Gnd Return	9
Port 2 Hot	14
Port 2 Gnd Return	2
No Connection	1, 8
Case Ground	2, 9 & 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 pins 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.

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European Sales Office
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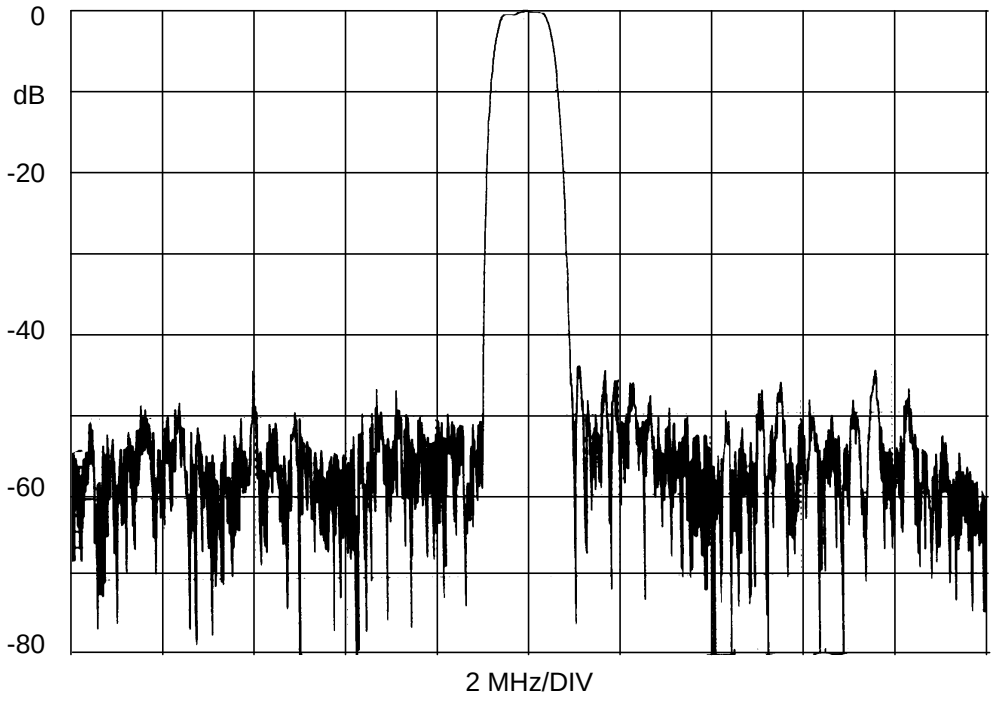

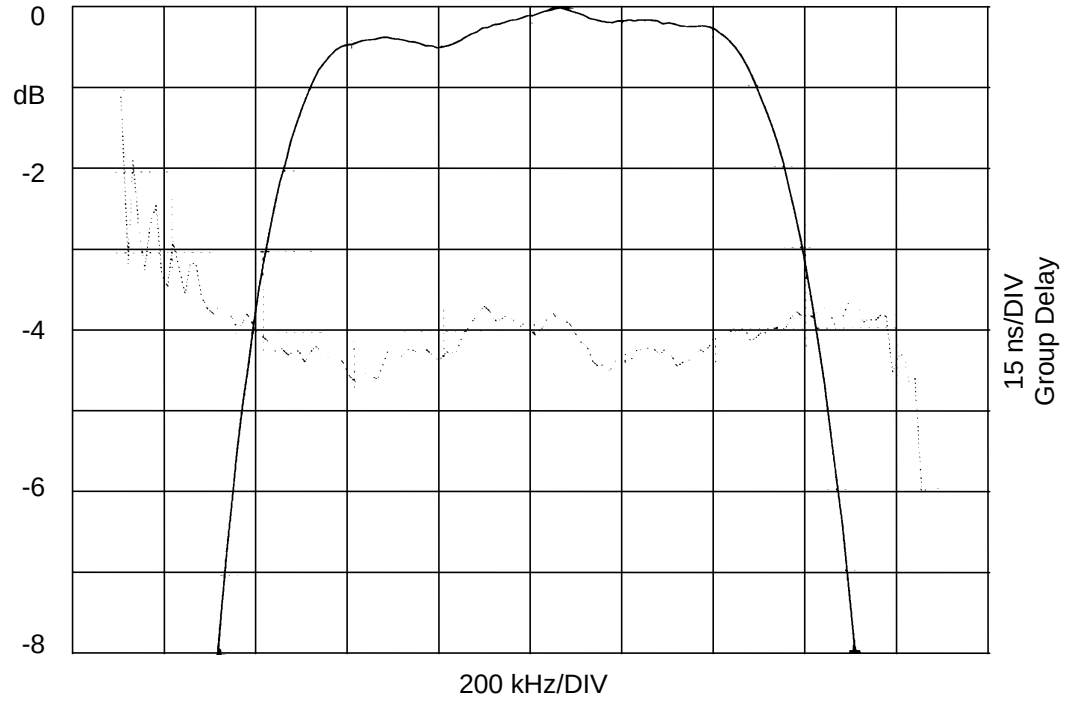

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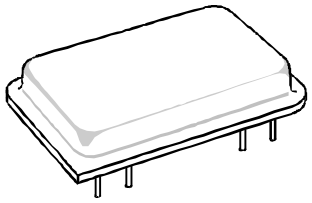
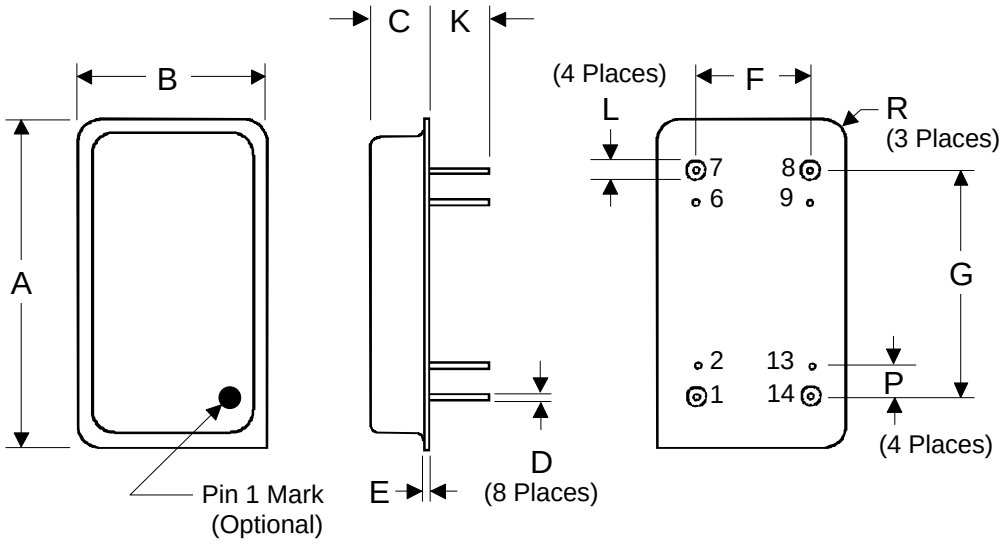
European Sales Office

DIP14L-8 Case

Metal 8-Pin DIP in 14-Pin (Long) Configuration
22.1 x 12.6 mm Nominal Footprint



Dimension	mm			Inches		
	Min	Nom	Max	Min	Nom	Max
A		22.10	22.50		0.870	0.886
B		12.55	13.00		0.494	0.512
C		3.56	3.81		0.140	0.150
D	0.41	0.48	0.51	0.016	0.019	0.020
E		0.89			0.035	
F		7.62			0.300	
G		15.24			0.600	
K	3.30	3.81	6.73	0.130	0.150	0.265
L	1.37	1.45	1.52	0.054	0.057	0.060
P		2.54			0.100	
R		1.60			0.063	



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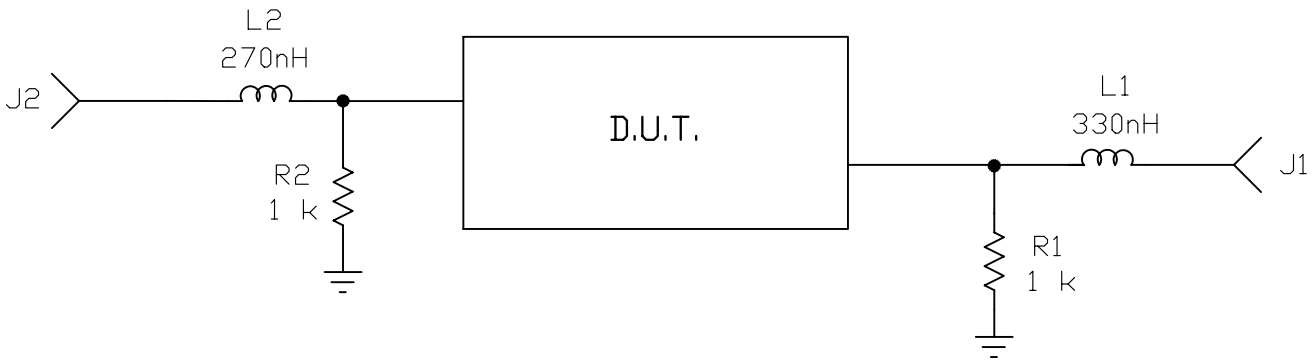
REV	ECN NO.	DESCRIPTION	APP/DATE
A	4571	INITIAL RELEASE	

BILL OF MATERIALS

SEQ	QTY	RFM P/N	DESCRIPTION	REF DES	REFERENCE/ COMMENTS
1	1	400-0846-001	14 PIN PCB	PCB	
2	2	500-0248-001	CONN, COAX, FLANGE MT. JACK	J1,2	
3	1	500-0010-331	IND, CHIP 330 nH	L1	±10%,
4	1	500-0010-271	IND, CHIP 270 nH	L2	±10%,
5	2	500-0127-102	RES, C.COMP, 1.0 k, .25W	R1,2	±5%

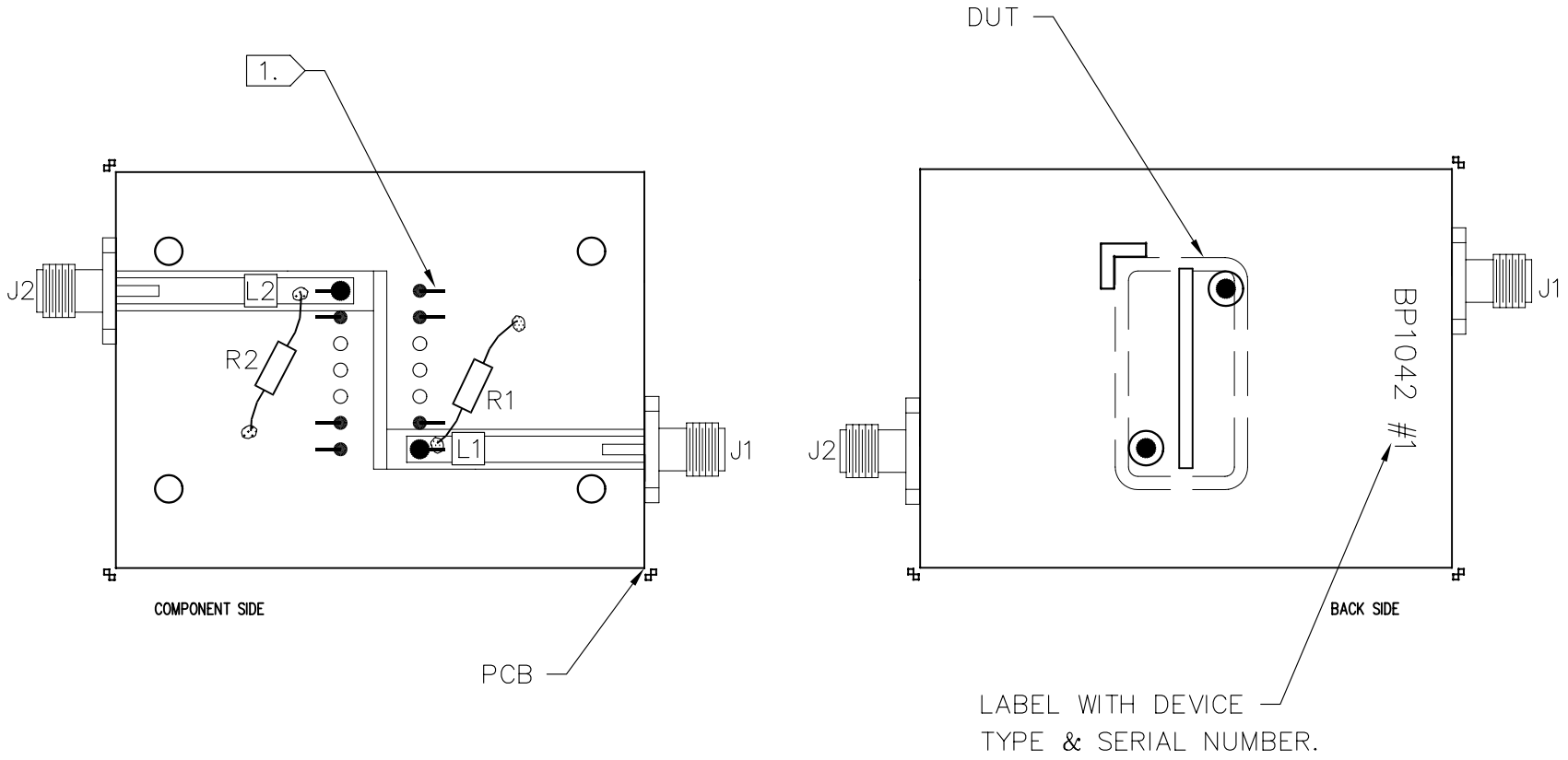
DRAWN BY/DATE: J. LAYTON 05/01/96		TITLE: DEMO PCB, BP1042					
RF Monolithics, Inc. DALLAS, TEXAS 75244	CHECKED/APPROVED	SIZE A	CODE IDENT 2U874	DWG. NO. BP1042(DEMO)		REV A	SHEET 1/7

SCHEMATIC, BP1042 (DEMO)



RF Monolithics, Inc. DALLAS, TEXAS 75244		SIZE A	CODE IDENT 2U874	DWG. NO. BP1042(DEMO)	REV A	SHEET 2

1. DEVICE LEADS ARE TO BE SOLDERED DIRECTLY TO PCB. (NO PIN SOCKETS ARE USED)

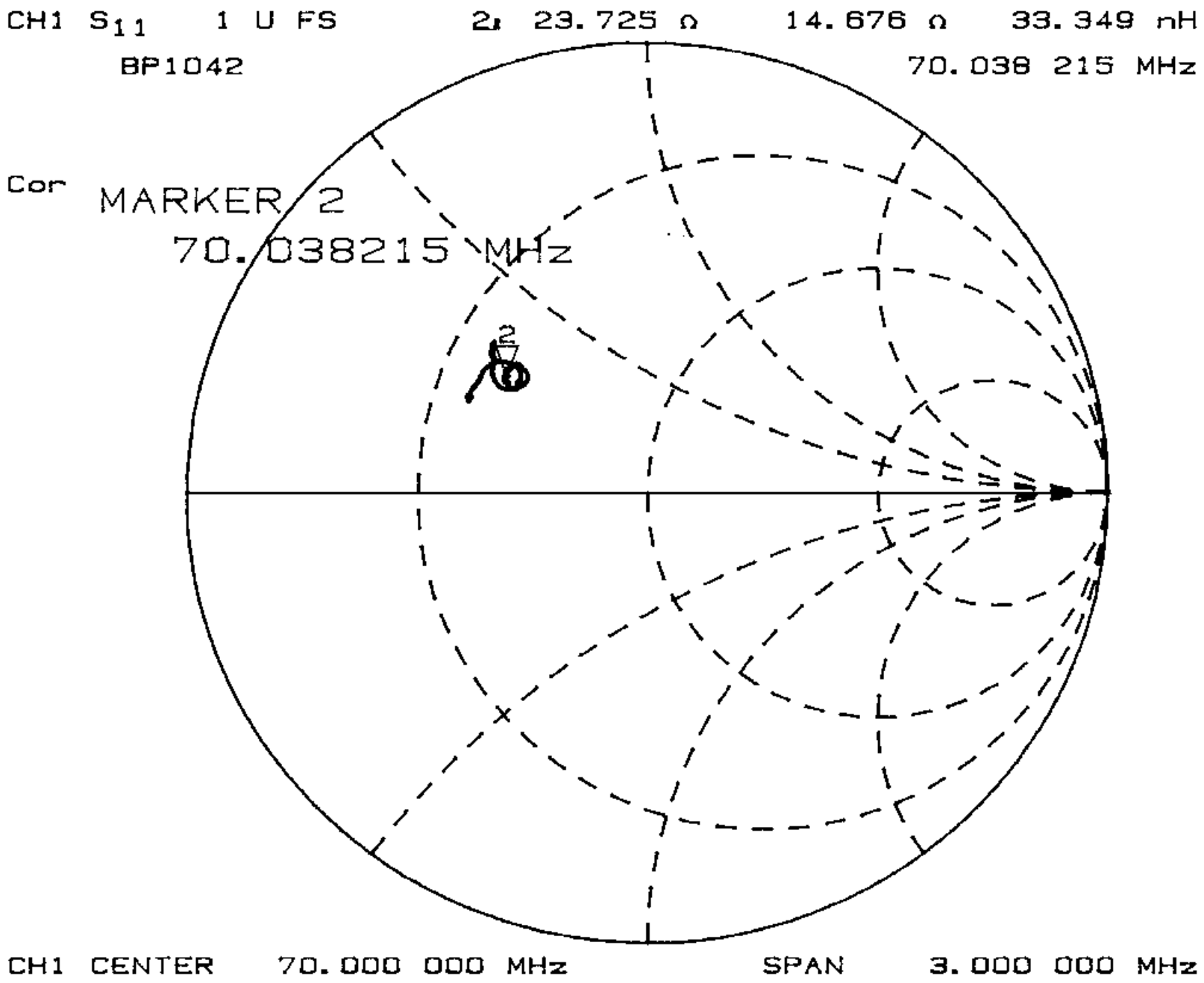


RF Monolithics, Inc. DALLAS, TEXAS 75244		SIZE A	CODE IDENT 2U874	DWG. NO. BP1042(DEM□)	REV A	SHEET 3

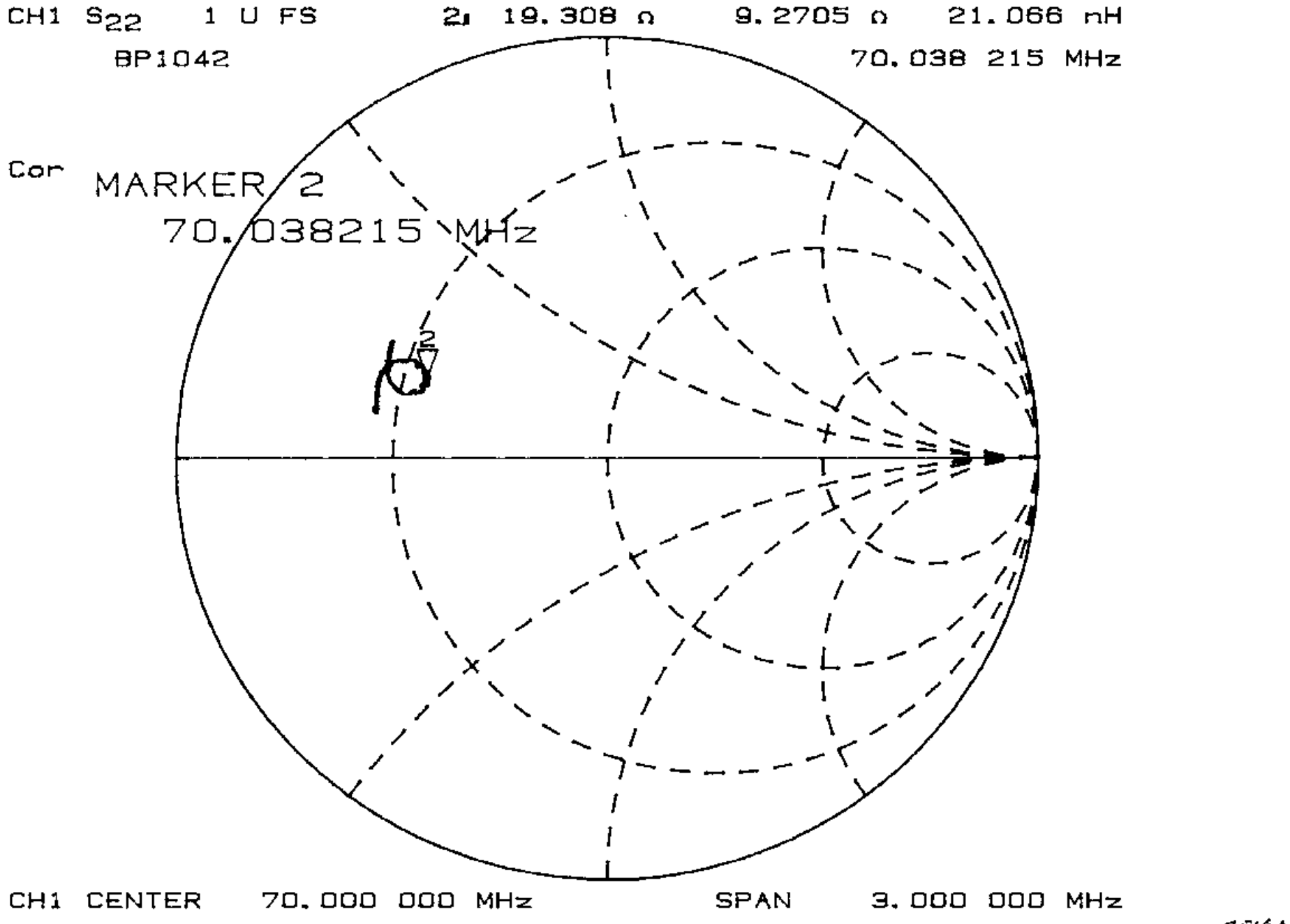
INSTRUCTIONS:

PLOTS: PLOTS A & B SHOW PLACE ON SMITH CHART WHERE DEVICE IS TO BE TUNED TO.
PLOT #C IS TO BE DELIVERED WITH EACH DEMO.
THE TUNING COMPONENT VALUES MAY VARY IN ORDER TO ACHIEVE PROPER TUNING
DUE TO COMPONENT TOLERANCES. NOTE COMPONENT VALUES AND TOLERANCES ON EACH PLOT.

BP1042 plot A



BP1042 plot B



BP1042 plot C

BP1042
d/c 9519 B
1

S11/S22

S11, 1KΩ ±5%
L1 330nH ±10%

S22, 1KΩ ±5%
L2 270nH ±10%

1-26-96

SS.