To our customers,

Old Company Name in Catalogs and Other Documents

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Renesas Electronics website: http://www.renesas.com

April 1st, 2010
Renesas Electronics Corporation

Issued by: Renesas Electronics Corporation (http://www.renesas.com)

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RENESAS

NEC

Evaluation Board Information

2SC5508/NE662M04
1.9 GHz LNA Evaluation Board (NF optimized)

- **Evaluation Board Pattern Layout**
- **Circuit Description**
- **Noise Figure and Associated Gain**
- **Input and Output Return Loss Data**
- **1 dB Gain Compression Output Power Data**
- **Reference Performance**

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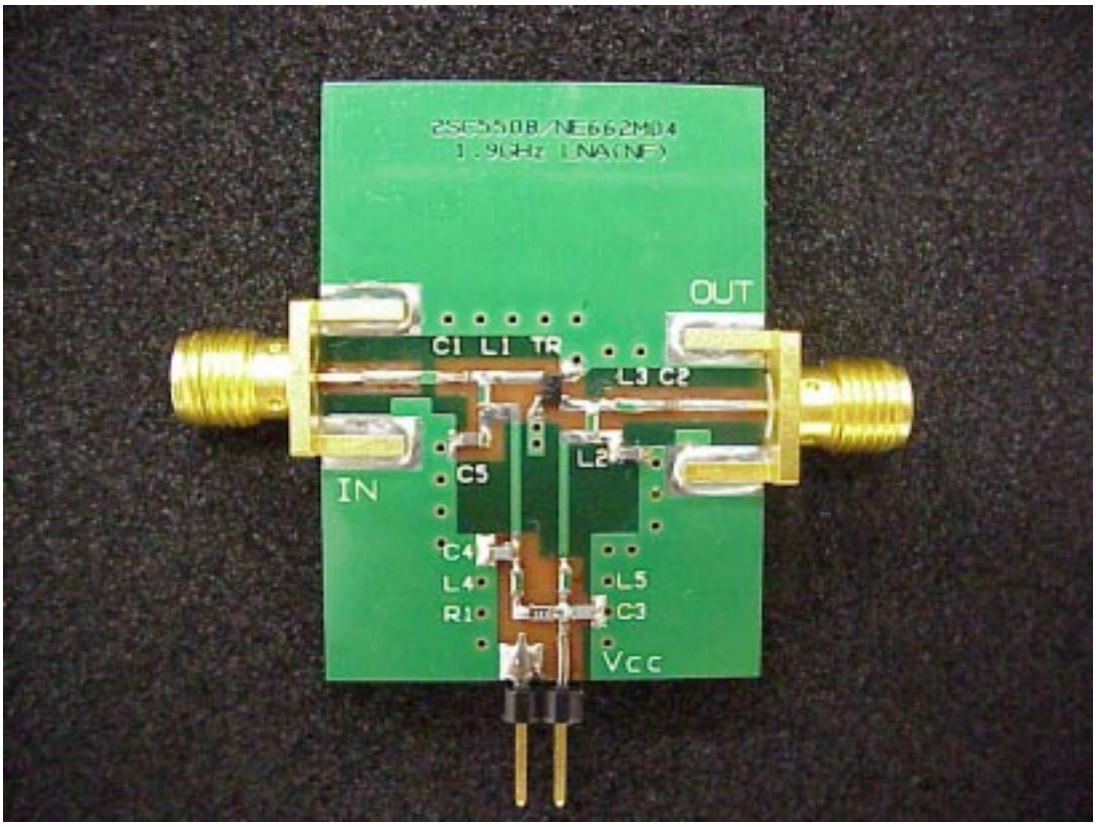
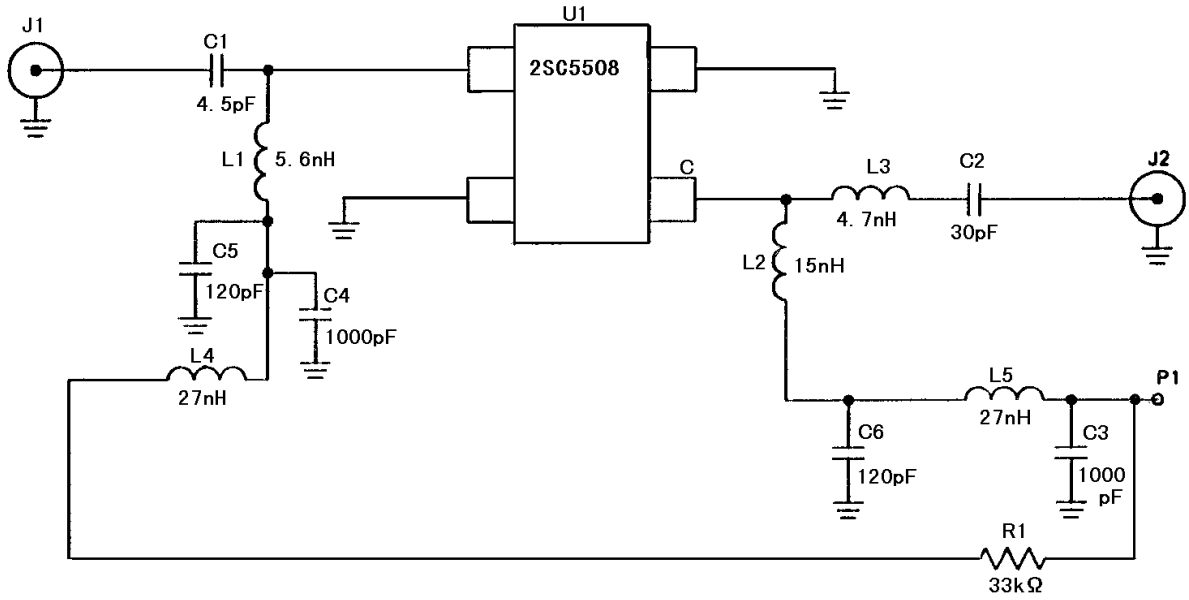
M8E 00. 4 - 0110

Evaluation Board Pattern Layout

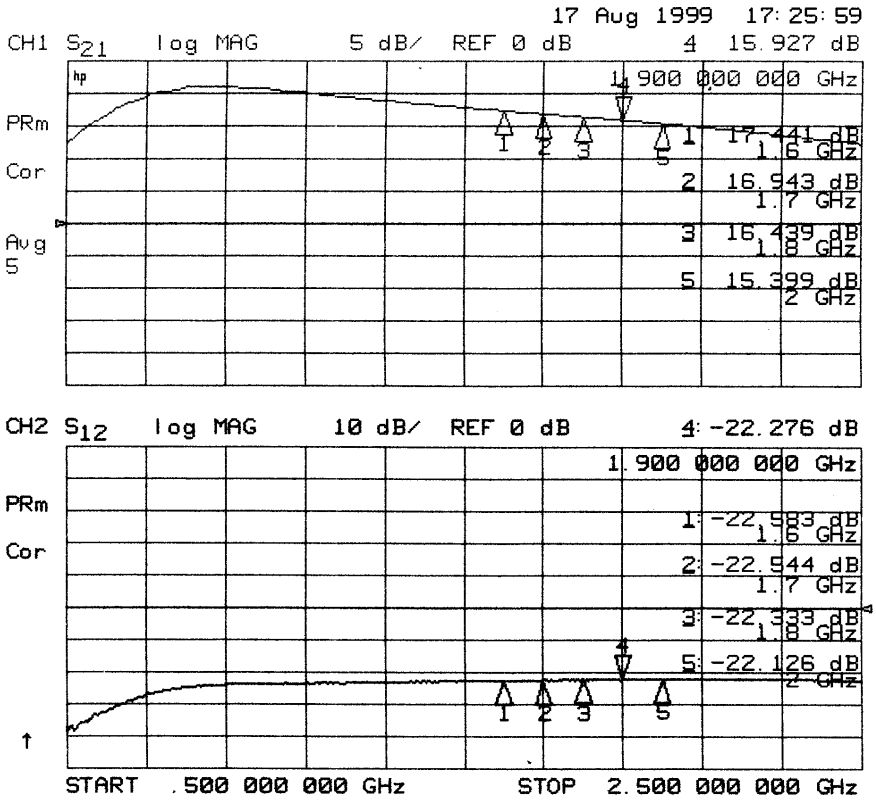


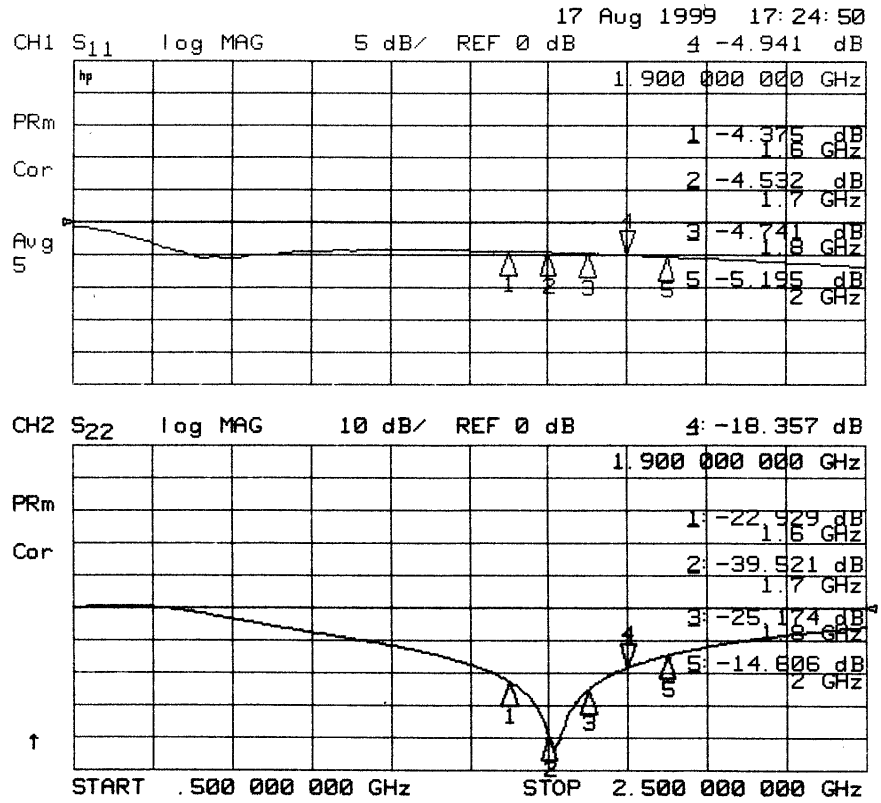
Circuit Description

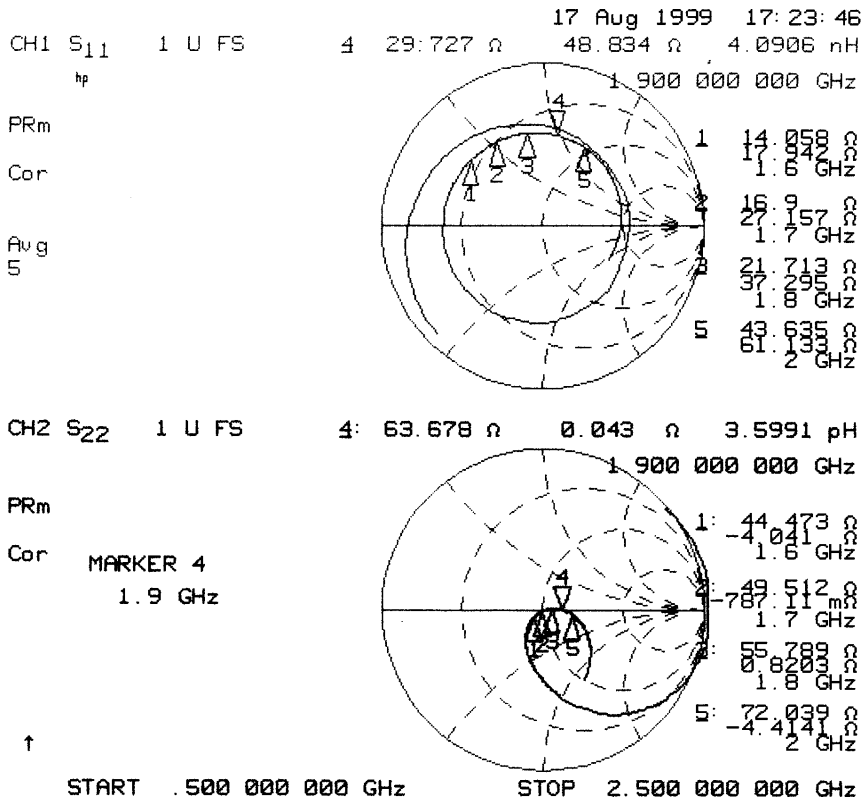


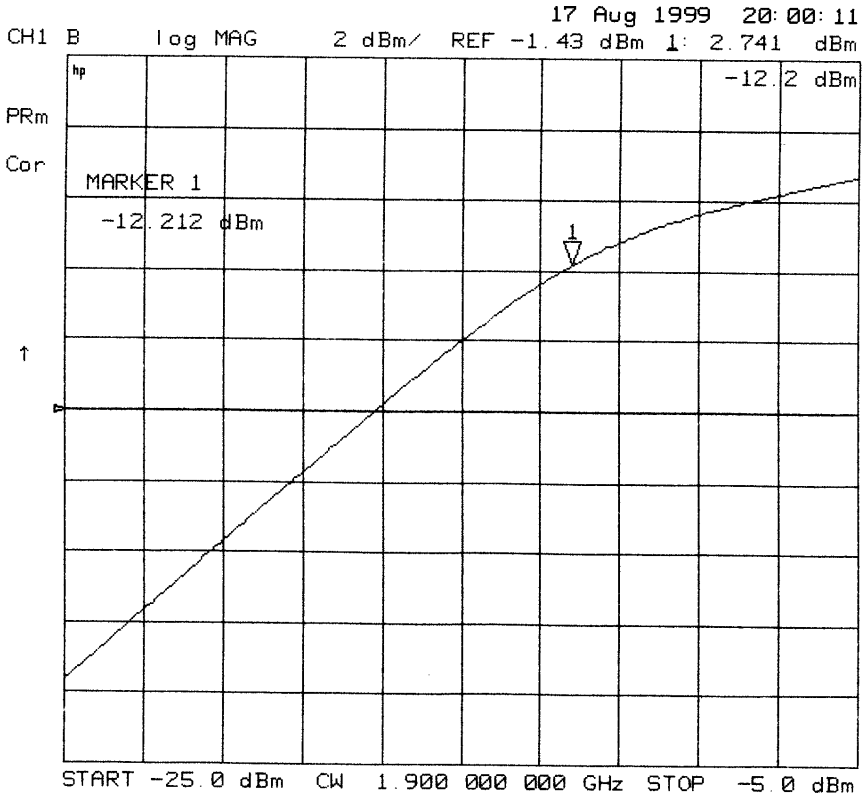
2SC5508/NE662M04 (T_A = +25°C, V_{CE} = 2 V, I_C = 5.5 mA, unless otherwise specified)

Parameter	Symbol	Data	Unit	Test Conditions
Noise Figure	NF	1.28	dB	f = 1.9 GHz
Associated Gain	G_a	16	dB	f = 1.9 GHz
Input Return Loss	RL_{in}	4.9	dB	f = 1.9 GHz
Output Return Loss	RL_{out}	18.4	dB	f = 1.9 GHz
1 dB Gain Compression Output Power	$P_{(1\ dB)}$	2.7	dBm	f = 1.9 GHz


17 Aug 1999 17:25:59
CH1 S21 log MAG 5 dB/ REF 0 dB 4 15.927 dB
PRm
Cor
Avg 5
1.900 000 000 GHz
1 17.441 dB 1.6 GHz
2 16.943 dB 1.7 GHz
3 16.439 dB 1.8 GHz
5 15.399 dB 2 GHz
CH2 S12 log MAG 10 dB/ REF 0 dB 4: -22.276 dB
1.900 000 000 GHz
1: -22.983 dB 1.6 GHz
2: -22.544 dB 1.7 GHz
3: -22.333 dB 1.8 GHz
5: -22.126 dB 2 GHz
START .500 000 000 GHz
STOP 2.500 000 000 GHz


17 Aug 1999 17:24:50
CH1 S11 log MAG 5 dB/ REF 0 dB 4 -4.941 dB
PRm
Cor
Avg 5
1.900 000 000 GHz
1 -4.375 dB 1.6 GHz
2 -4.532 dB 1.7 GHz
3 -4.741 dB 1.8 GHz
5 -5.195 dB 2 GHz
CH2 S22 log MAG 10 dB/ REF 0 dB 4: -18.357 dB
1.900 000 000 GHz
1: -22.929 dB 1.6 GHz
2: -39.521 dB 1.7 GHz
3: -25.174 dB 1.8 GHz
5: -14.806 dB 2 GHz
START .500 000 000 GHz
STOP 2.500 000 000 GHz


17 Aug 1999 17:23:46
CH1 S11 1 U FS
4 29.727 Ω 48.834 Ω 4.0906 nH
1.900 000 000 GHz
PRm
Cor
Avg
5
1 14.058 Ω 17.942 Ω 1.6 GHz
2 16.9 Ω 27.157 Ω 1.7 GHz
3 21.713 Ω 37.295 Ω 1.8 GHz
5 43.635 Ω 61.133 Ω 2 GHz
CH2 S22 1 U FS
4: 63.678 Ω 0.043 Ω 3.5991 pH
1.900 000 000 GHz
PRm
Cor
MARKER 4
1.9 GHz
1: 44.473 Ω -4.041 Ω 1.6 GHz
2: 49.512 Ω -787.11 mΩ 1.7 GHz
3: 55.789 Ω 0.8203 Ω 1.8 GHz
5: 72.039 Ω -4.4141 Ω 2 GHz
START .500 000 000 GHz
STOP 2.500 000 000 GHz


17 Aug 1999 20:00:11
CH1 B log MAG 2 dBm/ REF -1.43 dBm 1: 2.741 dBm
-12.2 dBm
PRm
Cor
MARKER 1
-12.212 dBm
START -25.0 dBm CW 1.900 000 000 GHz STOP -5.0 dBm

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