To our customers,

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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

EC-NE3509M04

10.6 GHz DR Oscillator Evaluation Board

- Evaluation Board Photo
- Oscillator Circuit Description
- Evaluation Board Test Results
- Output Power
- Phase Noise
- 2nd Harmonics

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Date Published February 2010 NS

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The characteristics of high-frequency devices in particular vary depending on the external components and mounting pattern used.
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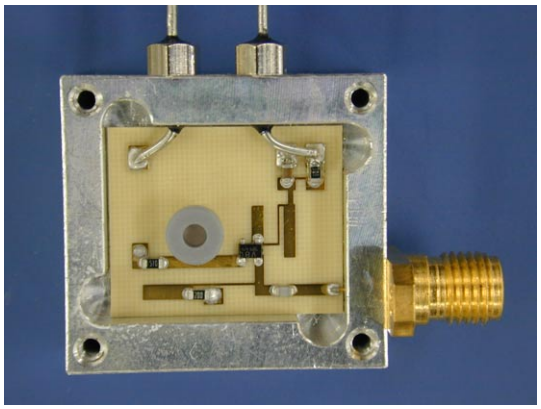
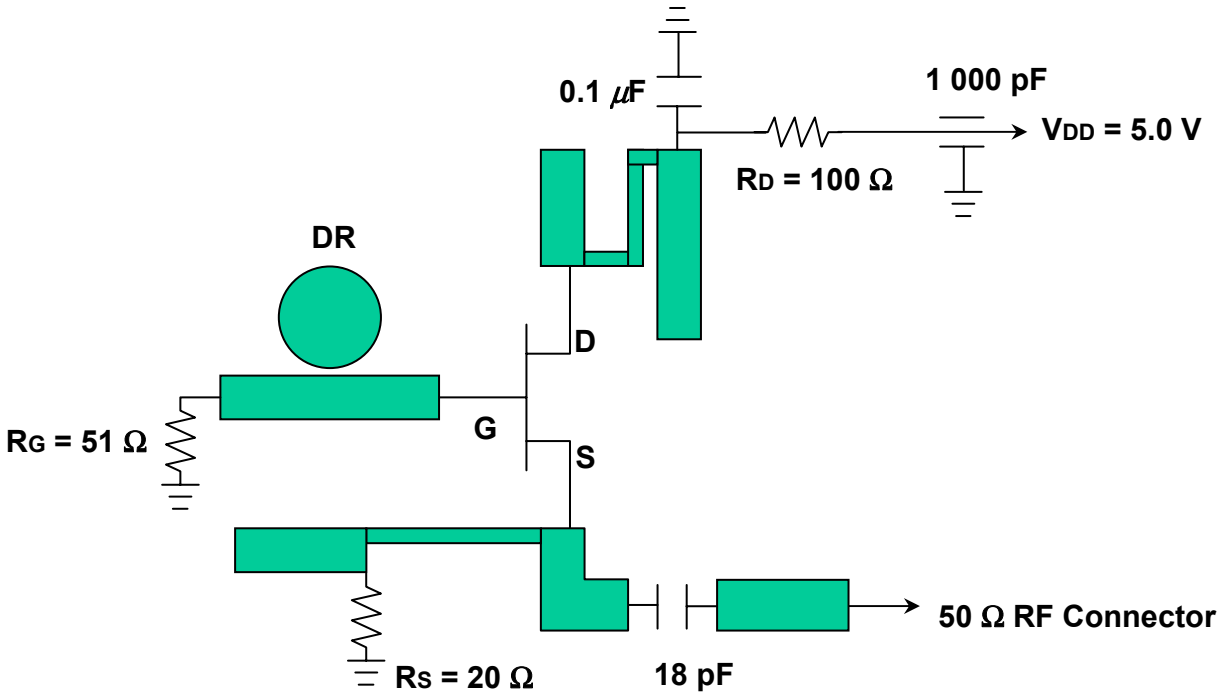
M8E0904E

Evaluation Board Photo



Oscillator Circuit Description



Substrate: R5775K (Matsushita Electric works)
εr = 3.5, t = 0.5 mm

Dielectric Resonator (DR): SV430 (KYOCERA)
Q value = 12 500

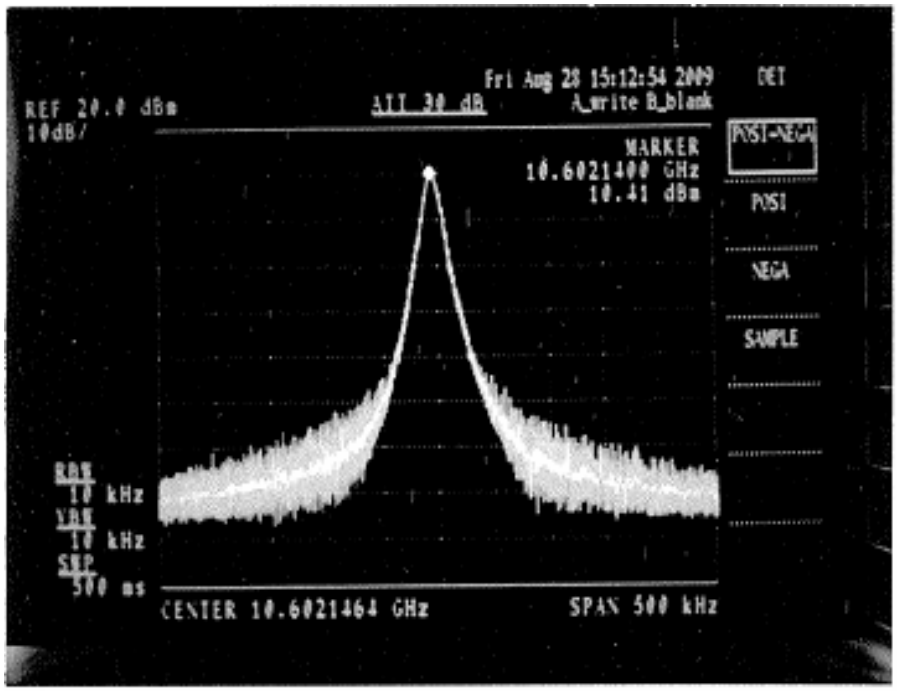
Support: A476 (KYOCERA)

Evaluation Board Test Results

Item	Symbol	Data	Unit
Drain Voltage	V_{DD}	5.0	V
Drain Current	I_D	19.0	mA
Oscillation Frequency	f_{OSC}	10.6	GHz
Output Power	P_{out}	10.4	dBm
Phase Noise @100 kHz Offset	P/N	−102.3	dBc/Hz
2nd Harmonics	2f0	−26.6	dBc

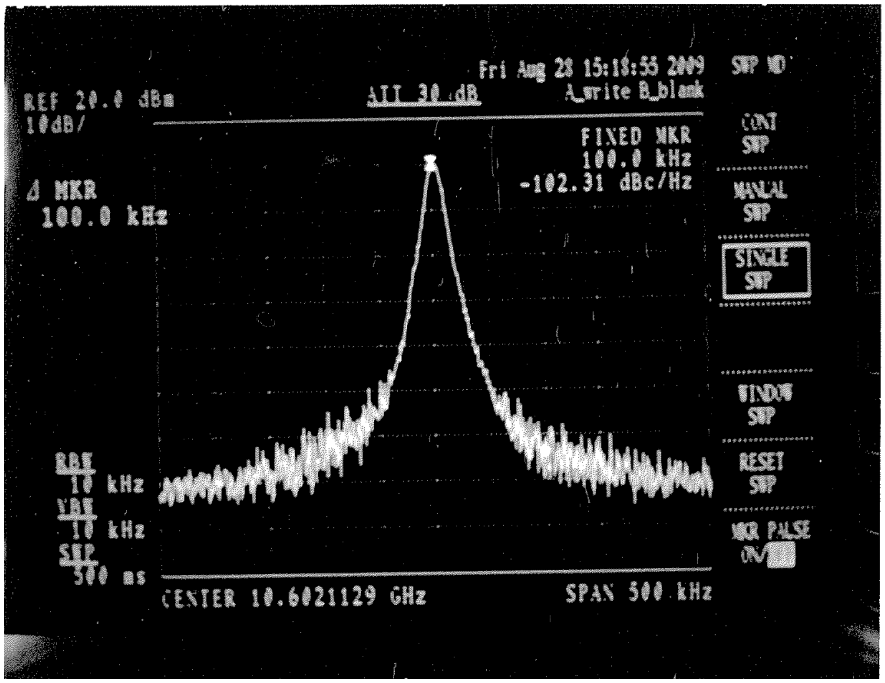
Output Power

(V_{DD} = 5.0 V, I_D = 19.0 mA, f_{OSC} = 10.6 GHz)



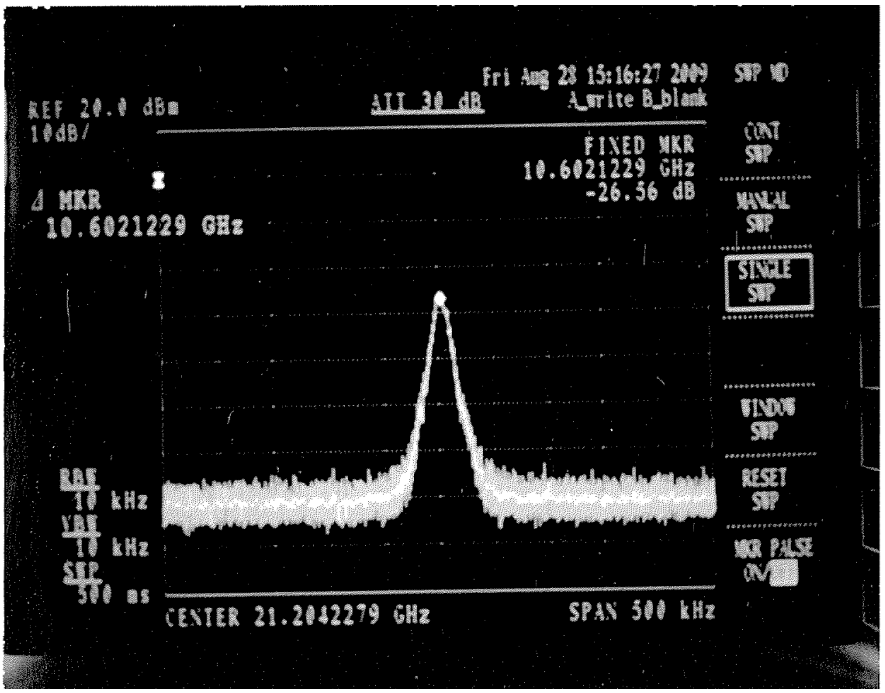
Phase Noise

(V_{DD} = 5.0 V, I_D = 19.0 mA, f_{OSC} = 10.6 GHz, Offset = 100 kHz)



2nd Harmonics

(V_{DD} = 5.0 V, I_D = 19.0 mA, 2f0 = 21.2 GHz)



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