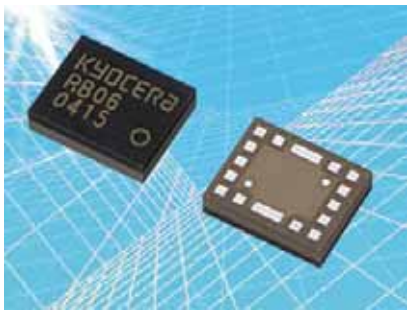
Bluetooth™ RF Module RB06 Series for QUALCOMM® Based Handsets



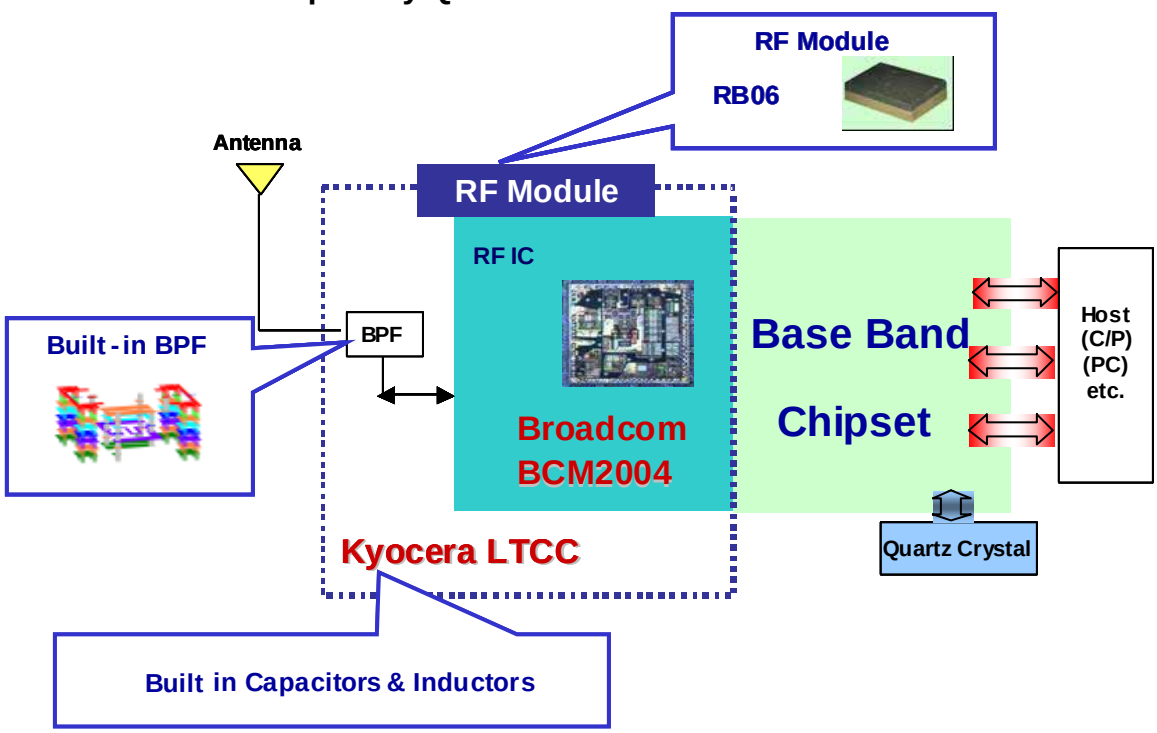
Kyocera introduces miniature size Bluetooth RF module RB06 Series with low current consumption and improved reception sensitivity. This RF module, especially designed for CDMA cell phone, utilizes Broadcom RF chip and is compatible with MSM base band chipset by QUALCOMM.

Features

- **Best solution for CDMA cell phone with Bluetooth function, and BQB qualified as Bluetooth version 1.1 and 1.2**
- **World smallest size of 5.0 x 4.0 x 1.4mm**
- **Improved reception sensitivity (–88dBm typ)**
- **Low power consumption (Tx:36mA typ, Rx: 38mA typ)**
- **Wide operating temperature range of –30-+75 degrees C**
- **Verified connection with MSM base band chip by QUALCOMM**

Outline of Kyocera Bluetooth Module

RB06 consists of Broadcom RF IC BCM2004 and multi-layer ceramic substrate called LTCC (low temperature co-fired ceramics) with embedded band pass filter, capacitors and inductors. It forms full module with Bluetooth core built in MSM base band chipset by QUALCOMM.



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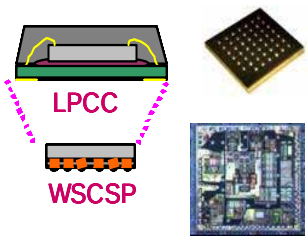
Features of Kyocera Bluetooth Module

Miniature module with excellent performance by Kyocera's highly functional LTCC together with Broadcom's BMC2004 which is compatible with MSM base band chipset by QUALCOMM.

Chip & Assembly Technology



- C-MOS
- 0.18 μm Technology
- Low Current
- High Sensitivity
- Low Power 1.8V Operation

Kyocera Bluetooth Module

With Broadcom RF IC

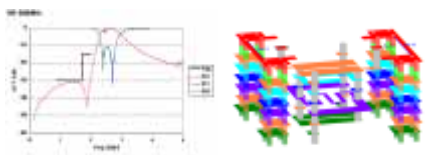
- Small Size 5.0 x 4.0mm
- Low profile 1.4mm max
- Lead Free
- High Reception Sensitivity -88dBm typ
- Low Current Tx:36mA typ, Rx:38mA typ
- Class 2

LTCC Technology

LTCC (Low Temperature Co-fired Ceramics)
ε=18.7
50μm Layer Thickness

BPF & Balun Embedded in LTCC

Band Pass Filter



Electrical Specifications

General		Specifications			Unit
		Min	Typ	Max	
Operating Conditions	VREG_IN (VDDA/VDDD)	1.9	2.8	3.6	V
	VDD_MSM	2.7	2.8	2.9	
	LDO1(VDD_Secondary)	1.6	1.8	2.0	V
	LDO2(VDD_Primary)	1.6	1.8	2.0	
Current (Continuous)	TX	-	36	45	mA
	RX	-	38	45	mA
Current (Loop Back)	DH1	-	25	-	mA
	DH5	-	29	-	mA
*Figures for Reference	HV3	-	9	-	mA
	Inquiry Scan(R1)	-	250	-	μA
	Inquiry Scan(R2)	-	120	-	μA

Transmitter		Specifications			Unit
		Min	Typ	Max	
TRM/CA/01/C (Output Power)	Pave	-2	0.5	3	dBm
TRM/CA/04/C (TX Output Frequency range)		2400	-	2484	MHz
TRM/CA/06/C (TX Output - Spectrum Adjacent channel power)	+2MHz	-	-	-20	dBm
	-2MHz	-	-	-20	
	≦-3MHz	-	-	-40	
	≧+3MHz	-	-	-40	

Receiver		Specifications			Unit
		Min	Typ	Max	
RCV/CA/01/C(Sensitivity - single slot packets)	DH1	-	-88	-70	dBm
RCV/CA/02/C(Sensitivity - multi slot packets)	DH3	-	-88	-70	dBm
	DH5	-	-88	-70	