



## DFBM-CR220

### DFBM-CR220 Bluetooth™ Module Class 2

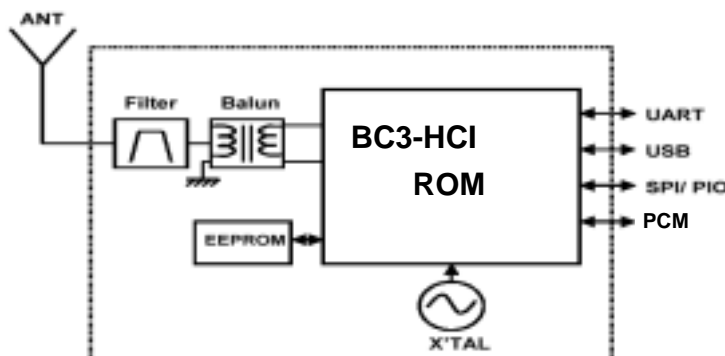
**Wireless communication  
module compliant with  
Bluetooth™ Specification V1.2**



#### FEATURES:

- **Suitable for Cellular Phones, Notebook PCs, PDAs, Digital Cameras, Printers ....., etc.**
- **Small size and Low Profile using high-density packaging technology.**
- **High sensitivity for better reception.**
- **Variable profiles with 4M flash ROM.**
- **Various interfaces: UART, USB and PCM.**
- **Wide operating temperature range: -40~+85 .**

#### Device diagram





## DFBM-CR220

### General Specification

<b>Bluetooth Specification</b>	<b>Version 1.2</b>
<b>Frequency</b>	<b>2402~2480MHz</b>
<b>Modulation</b>	<b>FHSS/GFSK</b>
<b>Transmission Rate</b>	<b>721kbps</b>
<b>Receive Sensitivity</b>	<b>Typ. -78dBm</b>
<b>Maximum Output Power</b>	<b>+4dBm(Class 2)</b>
<b>Operating Voltage</b>	<b>2.7~3.3V</b>
<b>Operating Temperature</b>	<b>-40~+85</b>
<b>Antenna Impedance</b>	<b>50</b>
<b>Flash Memory</b>	<b>4M bit</b>
<b>Package Size</b>	<b>10.5*10.5*2.0 (mm)</b>



## DFBM-CR220

### Interface

Interface	Description
Antenna	External Antenna 50
UART Interface	TX, RX, RTS, CTS(9600bps~1.5Mbps)
SPI Interface	Synchronous Serial Interface for firmware download
USB Interface	Full speed Universal Serial Bus interface
PCM Codec	Qualcomm MSM 3000/5000 , Motorola MC145483/ MC145481 OKI MSM7705 , STW 5093/5094
PIO Interface	8 terminals
AIO Interface	2 terminals

### Pin description

Pin No.	Name	Description
1	Reset	An active high reset
2	AIO_1	Analogue Programmable input/output
3	AIO_0	Analogue Programmable input/output



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4	ANT	RF input/output
5	Gnd	Ground
6	NC	Leave unconnected
7	NC	Leave unconnected
8	NC	Leave unconnected
9	NC	Leave unconnected
10	Vdd_1.8V	Supply Voltage (1.8V)
11	Vdd_3.15V	Supply Voltage (3.15V)
12	USB_DP	USB data plus with selectable internal 1.5kohm pull-up resistor
13	USB_DN	USB data minus
14	Gnd	Ground
15	UART_RTS	UART request to send active low
16	UART_CTS	UART clear to send active low
17	UART_RX	UART data input active high
18	UART_TX	UART data output active high
19	PCM_CLK	Synchronous data clock
20	PCM_SYNC	Synchronous data sync
21	PCM_OUT	Synchronous data output
22	PCM_IN	Synchronous data input



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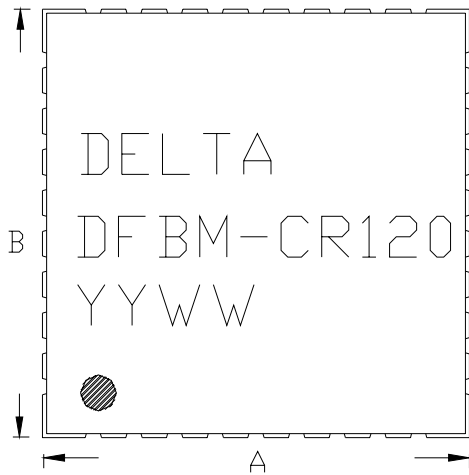
23	Gnd	Ground
24	SPI_CS	Chip select for Serial Peripheral Interface, active low
25	SPI_CLK	Serial Peripheral Interface clock
26	SPI_MOSI	Serial Peripheral Interface data input
27	SPI_MISO	Serial Peripheral Interface data output
28	PIO_11	Programmable input/output line
29	PIO_9	Programmable input/output line
30	PIO_5	Programmable input/output line
31	PIO_4	Programmable input/output line
32	Gnd	Ground
33	PIO_3	Programmable input/output line
34	PIO_2	Programmable input/output line
35	PIO_1	Programmable input/output line
36	PIO_0	Programmable input/output line



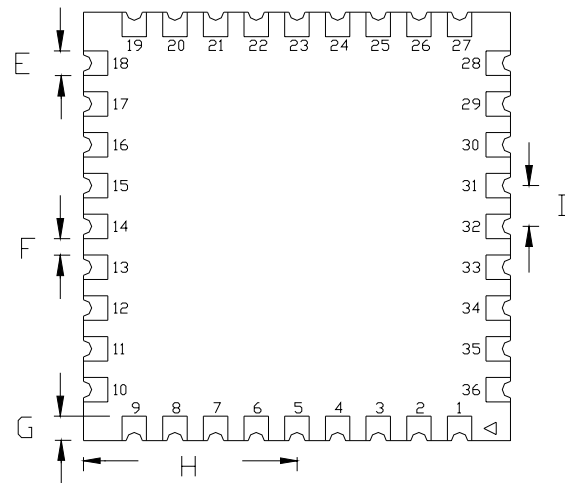
# DFBM-CR220

## Dimensions (mm)

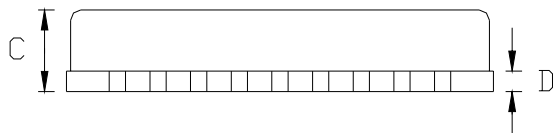
TOP VIEW



BOTTOM VIEW



SIDE VIEW



Unit:mm

A	10.5±0.2	D	0.5±0.1	G	0.6±0.1
B	10.5±0.2	E	0.6±0.1	H	5.25±0.1
C	2.0 max	F	0.4±0.1	I	1.0±0.1



## DFBM-CR220

### Record of changes

Date	Reason of change	Issue by
May 11 2005	Original publication for this document.	Emerson.Shih

### Contact information:

Website: <http://www.deltaww.com>

Email: [Richard.meng@delta.com.tw](mailto:Richard.meng@delta.com.tw) (Worldwide)

Tel: [886-3-3591968](tel:886-3-3591968) Ext: 2925