

Functional Description

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MITSUMI

Bluetooth Module “ WML-C11##”

Hardware:Version 1

Ultra-small and thin size achieved through use of high density mounting technology.

1. APPLICATIONS

Notebook PCs, mobile phones, digital cameras, PC peripherals, PDA.

2. DESCRIPTIONS

Wireless communication module conforming to Bluetooth Ver.1.1.

3. FEATURES

- 1) Ultra-small and thin size achieved through use of high density mounting technology.
- 2) High sensitivity.
- 3) UART, USB and PCMIF interfaces enable wide range of applications.
- 4) Conforms to FCC, CE and other countries' EMI standards.
- 5) Supports Bluetooth Class1.

Note) The BLUETOOTH trademarks are owned by Bluetooth SIG,INC.,U.S.A.

4. SPECIFICATIONS

Item	Specifications
Frequency	2402 to 2480MHz
Modulation	FHSS / GFSK
Channel intervals	1 M H z
Number of channels	7 9 C H
Power supply voltage	3.3V(typ.) ,3.2 to 3.4V
Transmission rate	7 2 1 k b p s
Receive sensitivity	-80dBm typ.
Output level (Class1)	20dBm max.

TM

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Product specifications are subject to revisions or changes without notification.

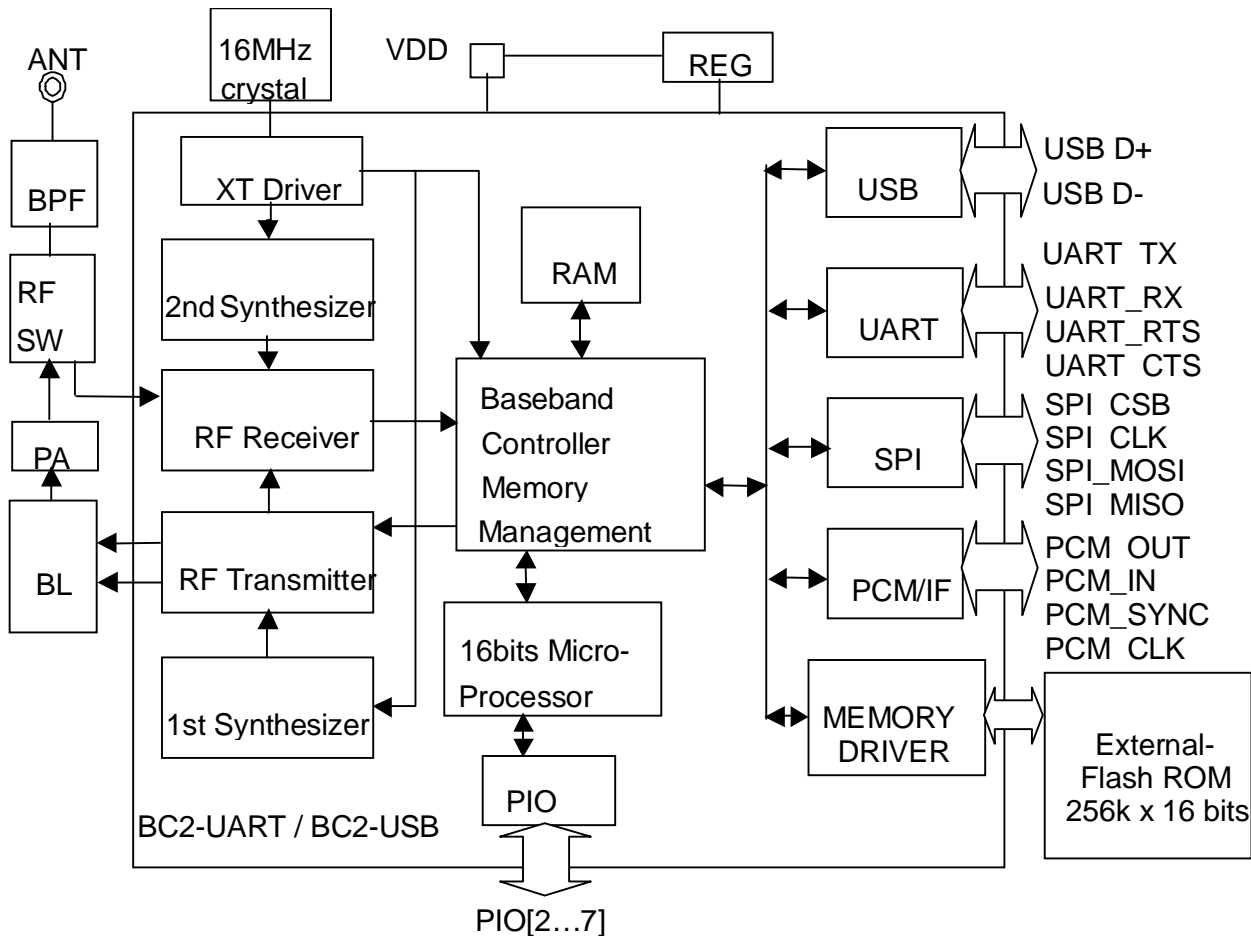
5. TERMINAL DESCRIPTION

No.	Symbol	I/O	Description
1	GND		Ground
2	SPI_MOSI	I	Synchronous Serial Interface data input (N.C.*)
3	PIO [6]	I/O	Programmable I/O line
4	PIO [7]	I/O	Programmable I/O line
5	RESET	I	Reset if high
6	SPI_CLK	I	Synchronous Serial Interface Clock (N.C.*)
7	PCM_CLK	I/O	Synchronous PCM data clock
8	PCM_SYNC	I/O	Synchronous data strobe
9	PCM_IN	I	Synchronous PCM data input
10	PCM_OUT	O	Synchronous PCM data out
11	VDD		Operating supply voltage is 3.3V+/-0.1V
12	GND		Ground
13	UART_RX	I	Asynchronous Serial Data Input
14	UART_TX	O	Asynchronous Serial Data Output
15	UART_RTS	O	Asynchronous Serial Data RTS
16	UART_CTS	I	Asynchronous Serial Data CTS
17	USB D+		USB D+ line
18	USB D-		USB D- line
19	PIO [2] / USB PULL UP	I/O	Programmable I/O line. / USB Pull-Up
20	PIO [3] / USB RESUME	I/O	Programmable I/O line. / Output goes high to wake up PC when USB mode
21	PIO [5]	I/O	Programmable I/O line.
22	PIO [4]	I/O	Programmable I/O line.
23	SPI_CSB	I	Chip select for Synchronous Serial Interface (N.C.*)
24	SPI_MISO	O	Synchronous Serial Interface data output (N.C.*)
25	GND		Ground
26	ANT	I/O	RF input/output
27	GND		Ground
28	GND		Ground
29	GND		Ground

* N.C.=OPEN

**5V tolerant input terminal.

6. BLOCK DIAGRAM



7. PCM IF

PCM_OUT, PCM_IN, PCM_CLK, PCM_SYNC carry one of bi-directional channel of voice data using 13bits PCM at 8ks/s.

PCM_SYNC operates at a fixed clock frequency of 8kHz.

PCM_CLK operates at a fixed clock frequency of 256kHz.

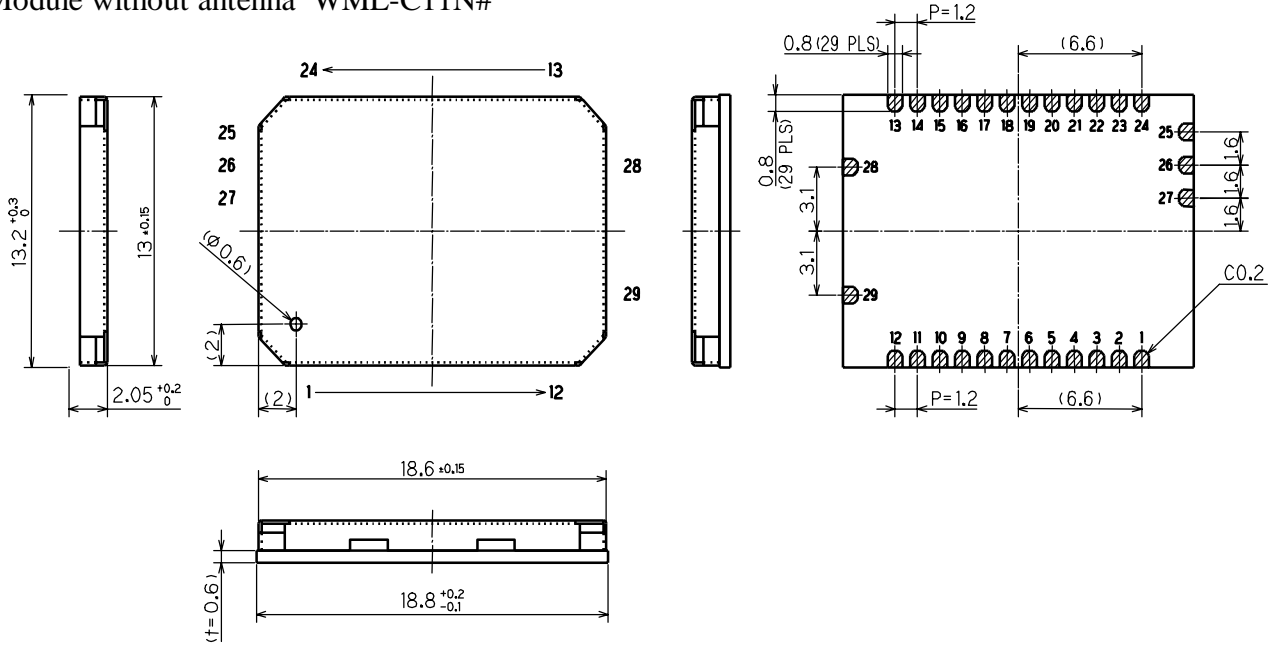
Bits 1 to 13 of the PCM_OUT data carry the current output sample value.

Bits 14 to 16 carry a three bit signal level value.

Reference PCM audio device is MC145483.

8. OVERALL APPEARANCE

Module without antenna WML-C11N#



Module with antenna WML-C11A#

