Operating Instruction- User

Modular Transceiver & Test Board

Version1.0

BY

APRROVED BY

This is an operating instruction document for Modular Transceiver V1.0

Project Name : Modular Transceiver
Version : V1.0
Compatibility:

Firmware:
Transceiver : dp1203TxRxV1.0-5-6-11
Test Board : test_boardV1.0-05-06-11

Hardware:
Transceiver : MODTXR1.0
Test Board : TXR-TEST-v1.0

Powersupply:
Transceiver & Test Board : 9V DC from Duracell battery.

1 Introduction:

This is a Modular RF Transceiver designed to be used in Base/Remote units operating at a frequency of 915MHz

2 Transceiver:

The Transceiver is as shown in the fig1.1. It can be mounted on the test board using the 0.1" pitch header connector provided.

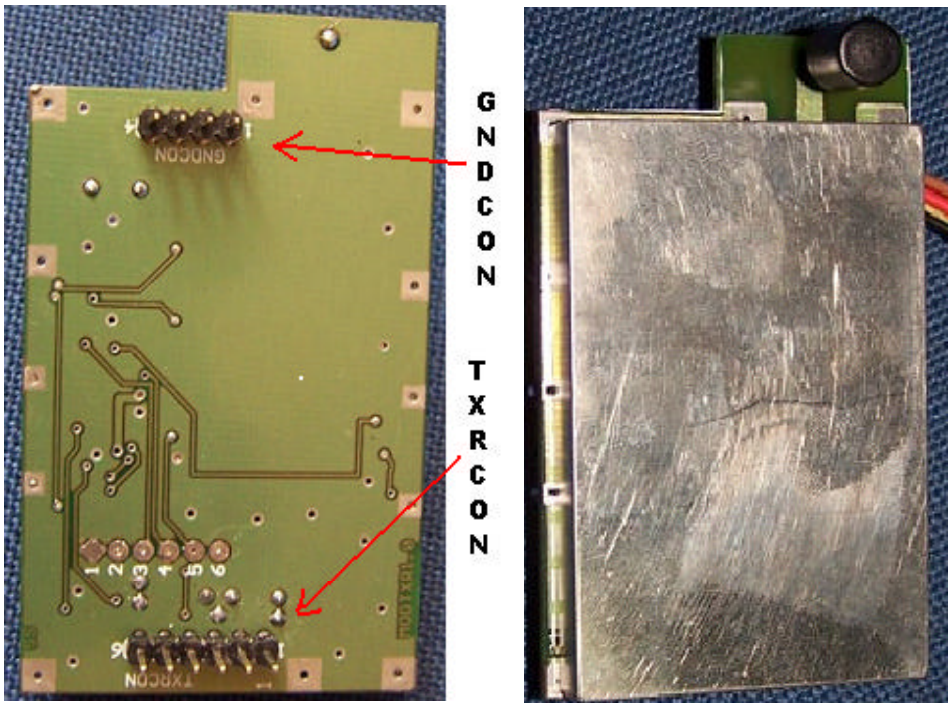

Fig1.1

Power Suppy:
There is no need for any external power supply. It draws power from the Test Board it has been connected.

Connector Details:
TXRCON:This is a 6-pin male Berg (0.1" pitch) Connector.This has to be connected to the 6-pin Female Berg Connector on the test board.
GNDCON:This is a 4-pin male Berg Connector.This has to be connected to the 4-pin Female Berg Connector on the Test board.

3 Test Board:

The test board is use to provide the test data to the Transceiver module when it is configured as the Transmitter and it will receive the data from the Transceiver when it is configured as the Receiver. In the Transmitter mode the microcontroller will provide the 20 bytes for transmission for every 1 second.

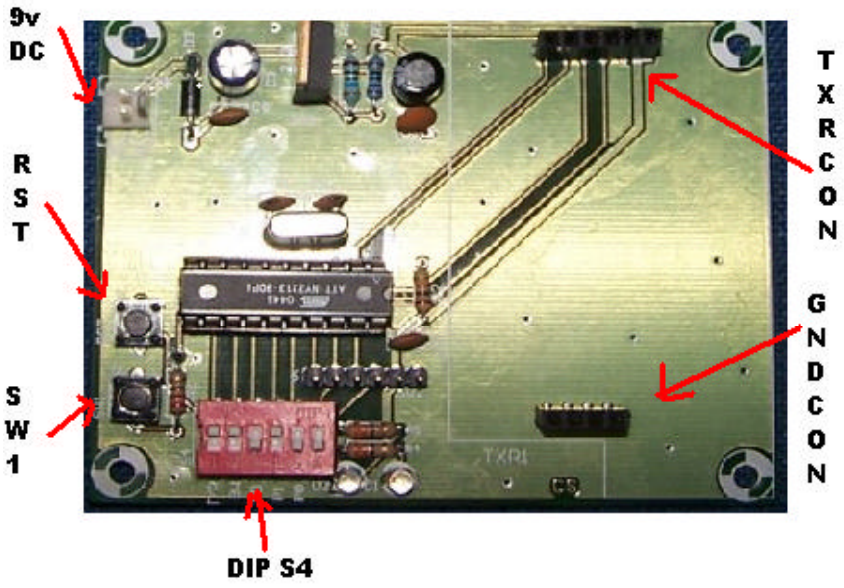

Fig 1.2

Connector Details:
9V_DC: The 9V-DC from Duracell battery provided must be connected.

Note: Two female berg connectors– 6-pin female berg connector and 4-pin female berg connector, are provided to connect the transceiver module to the test board.

Modular transceiver can be connected to the test board using berg connector as shown in the fig 1.3

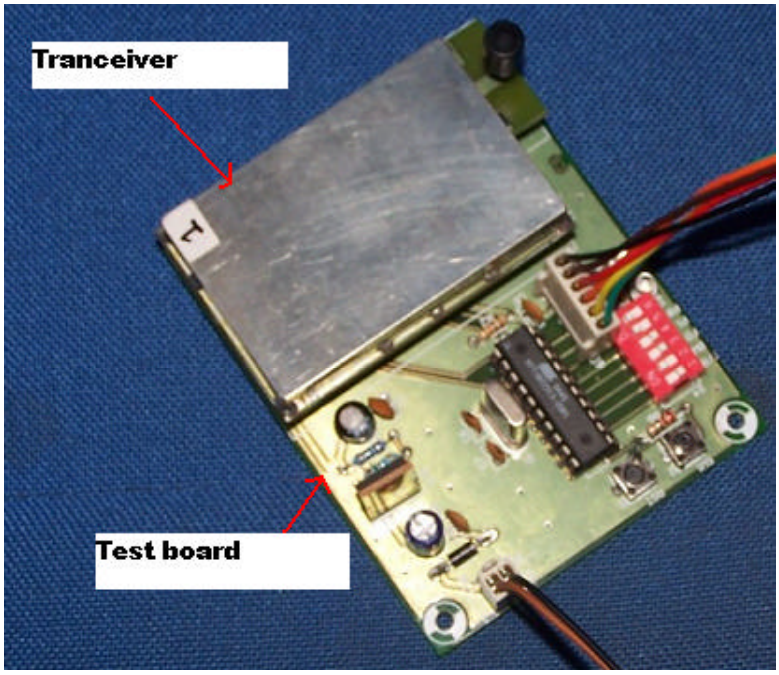

Fig1.3

Operating instructions:

1. Connect the Modular transceiver to the Test Board
2. Set the parameters (Power, Frequency Deviation, Transmitter/Receiver) according to the requirement using the DIP Switch S4 Provided.See the table 1.1 for the details
3. Set one test board as the Transmitter and the other as the Receiver.
4. Connect 9V-DC from the duracell battery to the 9V_DC connector on the test board.
5. After power up both red and green leds will blink twice on both the test boards.
6. Then Transmitter will indicate the transmission by blinking the Red led(Toggling for every one second).This indicates that for every one second 20 Bytes of data has been transmitted.
7. The Receiver will indicate the reception of data by blinking the Green Led for every byte received with 50ms ON time.
8. **RST:** RST switch provided on the test board is used to reset the system.

NOTE: The system has to be reset whenever any settings are changed for them to take effect.

9. **SW:** This switch is used to send the Modular Transceiver to Power Down mode. The same switch can be used to wake up the Modular Transceiver. RST switch can also be used to wake up.

10. The new parameters can be set using DIP Switch S4. But the new settings will take into effect only after resetting the Test Board using RST switch provided.

DIP SWITCH S4 DETAILS (Positions):

TX/RX	BW	FD	P1	P0	FUNCTION
ON	-	-	-	-	RECEIVER
OFF	-	-	-	-	TRANSMITTER
-	-	ON	-	-	Freq. Dev = 235
		OFF	-	-	Freq. Dev = 55
-	-	-	ON	ON	POWER = 0dB
-	-	-	ON	OFF	POWER = 5dB
-	-	-	OFF	ON	POWER = 10dB
-	-	-	OFF	OFF	NOT USED

Table1.1

Note:

1. Whenever Frequency Deviation is set to 55, Power is forced to 0dB and Band width is forced to 200KHz to comply with FCC part 15
2. When Frequency Deviation is 235, Power is selectable and BandWidth is forced to 600KHz.
3. The BW Switch provide on the DIP Switch S4, is not used.