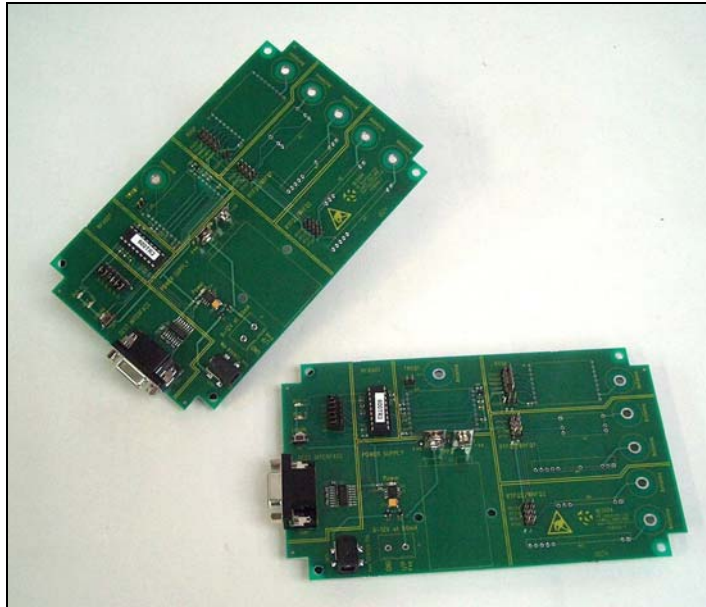**SMART**RADIO
from **rf**solutions

Smart Radio Evaluation Kit

- Hardware Platform for Radio Comms Development
- Accepts Various RF Modules
- RS232 Interface to PC
- Supplied with RF600T Smart Radio Controller
- Performs all Data Encryption for Reliable Data Comms.
- Two Telemetry I/O Lines (addressed mode only)
- Range Testing
- Target Environment Testing
- Antenna Evaluation

Contents

- Two Eval Boards
- Two RF600T Comms Controllers
- Circuit diagrams
- Two RS232 PC cables
- Radio Modules and Antenna available Separately.

The Smart Radio evaluation Kit provides a hardware platform to enable fast development of a Radio comms application.

Supplied as a pair of boards, each can accept a variety of RF Modules including transmitters, receivers and transceivers, an RS232 port is also incorporated for direct connection to a PC.
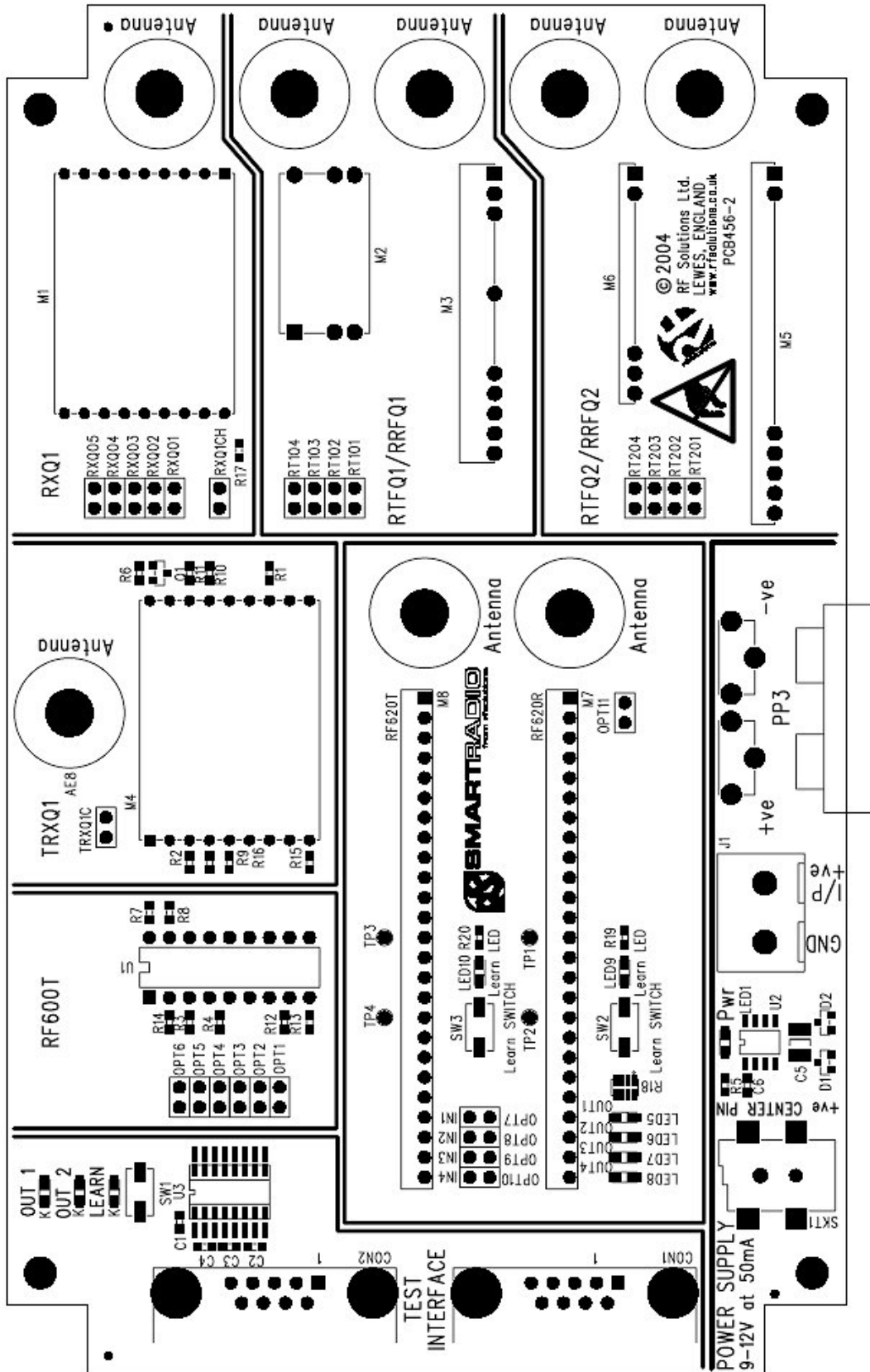
The boards may be used for a wide range of tasks from simple RS232 data transmission to integrated system development and is the ideal platform for exploring the advantages of using the "Smart Radio" range of ICs and radio modules.

This eliminates the need to construct hand-wired prototype boards, which are rarely successful in creating a valid environment for the development of radio systems. (prototyping board also contains large stray capacitance values which has a detrimental effect on the RF connections).

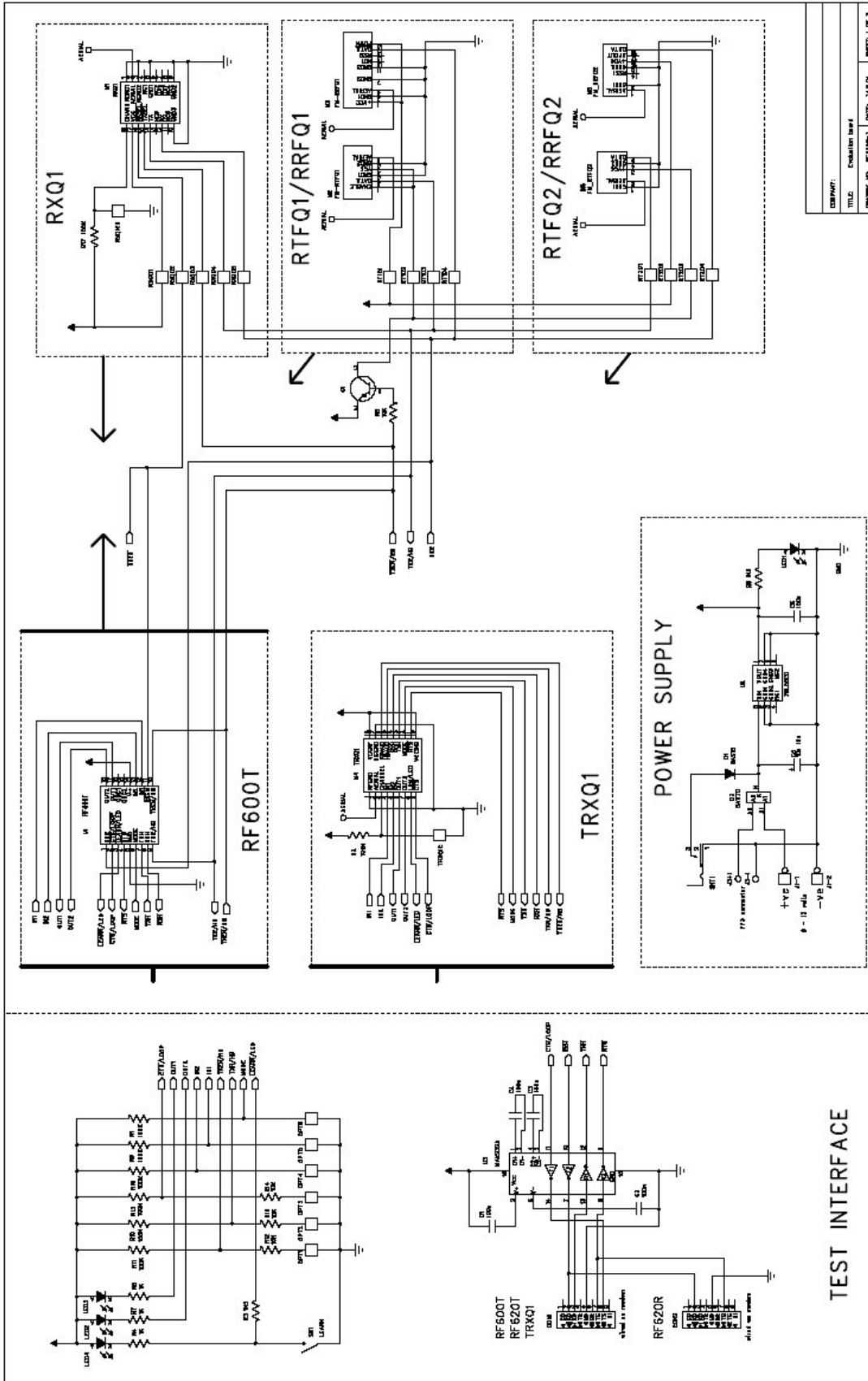| Part Number	Description	Package
RF600T-EVALR1	RF Eval Kit	Kit

Smart Radio Evaluation Kit

Smart Radio Evaluation Kit

RF600T-EVAL Circuit Diagram

Smart Radio Evaluation Kit

The circuit diagram and circuit board have been designed to both flow from one side to the other. The board may be split into the following sections

- Radio Modules
- TRXQ1 Smart Module
- RF600T Encoder / Decoder
- Test interface.
- Power Supply.

Radio Module Section,
Several radio modules may be used;

- FM-RXQ1-433 radio transceiver
- FM-RTFQ1 Radio Transmitter
- FM-RRFQ1 Radio Receiver
- FM-RTFQ2 Radio Transmitter
- FM-RRFQ2 Radio Receiver

Many other modules may also be used, so long as the pin out is the same.
Each of these radio modules may be used in conjunction with the RF600T to provide part of a radio communications system (transmitting or receiving) or in conjunction with the FM-RXQ1 as a radio transceiver system.

RF600T
This area enables the RF600T to be used, A complete low power comms system can be used with the RF600T in conjunction with any of the Radio modules Section above. In this area is also the option links to enable the user to change the set-up parameters for the RF600T or TRXQ1 radio transceiver module.

TRXQ1
The TRXQ1 provides a stand-alone solution to low power RS232 radio transceiver system (FM-RXQ1 & RF600T combined). This is a complete solution, which removes the need for the RF600T.

Test Interface:
This area provides the interfaces that are needed to communicate with a host PC using a MAX232 IC. There are two DB9 connectors in this area, CON1 is for use with RF600T and TRXQ1 devices while the CON2 connectors is used for the RF620 Smart Radio Modules. it is also the location for the standard learn procedure switch.

Power Supply
The board may be powered from;

- A PP3 battery for mobile use

- A standard 2.5 mm power jack socket, which will accept a 9-15 volt dc supply.

Smart Radio Evaluation Kit

Option link settings:

The following table provides a list of the option links that are provide on the evaluation board for setting the parameters of the "Smart Radio" devices. Please note that only either a RF600T or a TRXQ1 should be fitted at any one point in time. If the evaluation board is to be used with the RF600T then the user has the option of being able to select from a choice of 3 types of radio module. The RXQ1 is a complete transceiver radio module while the RTFQ1/RRFQ1 and RTFQ2/RRFQ1 are individual transmitter and receiver radio modules.

Option link	Description	Link in	Link out
OPT 1	RF Baud	200us element time is selected	400us element time selected
OPT 2	Host Baud	19200 Baud Rate	9600 Baud Rate
OPT 3	\CTS (loop)	Loop mode enabled	Normal operation
OPT 4	Telemetry IN#1	Activate	Deactivate
OPT 5	Telemetry IN#2	Activate	Deactivate
OPT 6	Mode	Broadcast Mode	Addressed mode
TXQ1CH	TRXQ1 frequency select	434.33MHz	433.92MHz
RXQ01-RXQ05	These links allow the use of the RXQ1 radio module	Active	Inactive
RXQ1CH	RXQ1 radio module frequency select	434.33MHz	433.92MHz
RT101-RT104	These links allow the use of the RTFQ1 and RRFQ1 radio modules	Active	Inactive
RT201-RT204	These links allow the use of the RTFQ2 and RRFQ2 radio modules	Active	Inactive