

The charger unit is an inductive charging device to charge up RTX8050 battery directly. MCU PIC10F200 is the main processor in the system it handles the application SW and over-charging timing control. The MCU is running at 4MHz precision internal oscillator and control directly to 2 individual 5.95MHz oscillators for handset unit and 2<sup>nd</sup> battery charging, followings are the functional blocks interfaced with MCU:

- Oscillator

Two equivalent oscillators are connected by MCU for charging handset unit and 2<sup>nd</sup> battery. The oscillators are crystal controlled and provide voltage doubler function. They are formed by:

- The oscillator is a typical crystal controlled oscillator form by two transistors T4/T5 and T9/T10. The oscillating frequency is controlled by 5.95MHz crystal X1/X2.
- The oscillators are connected to the voltage doubler coils L1/L2 and inductive charging coils directly. Variable capacitors C8/C 38 are using for fine tune the resonance loading of the coils for maximum output.

- Charge Detect

The charge detect circuit is formed by comparer IC U3, LM393. The detector measures the inductive charging oscillator current to identify charging state. In order to prevent miss triggering, the detector circuit is controlled by hall sensor input which is active only if the battery (with magnate) is put on cradle.

- LED

Two LEDs are employed to indicate the charging states. They are controlled by MCU.

- Line filter

The system is powered by 12V switching power adaptor. It is powered to oscillators via line filter coil L3 to reduce EMI/EMC.

Date:21 July, 2008	RTX8050 Circuit description and Block Diagram	
File: RTX8050_Phantom_Technical_description_V1.doc	Ref.: BIL/KSC	Page: 2 of 9