EXHIBIT B

[FCC Ref. 2.1033(b)(4)]

"Description of Circuit Functions"

3. Functional Description

3.1. Radio Section

The radio uses GMSK modulation at 576k bits per second, and utilizes channels of 670KHz bandwidth. All transmissions are hopped over 90 channels chosen from a pseudo-random table, with equal transmission time on all channels.The length of frame is typically of 10 ms duration on a given channel, and never exceed 400 ms in 10 seconds period. The radio is TDMA full-duplex; meaning it is either receiving or transmitting at any given time. These comply with FCC 15.247(a).

3.1.1. Antenna

The antenna used is a vertical di-pole antenna that protrudes from the top of the handset unit. Because of its small size and the limited size of the "ground plane" in the antenna system, the gain of this antenna configuration is -1dBi.

3.1.1.1. 10.368 MHz Crystal circuit

A crystal circuit at 10.368 MHz with 10.368MHz crystal is used as the reference frequency for the phase-lock loop. This reference oscillator is specified to be accurate to within ±10ppm over the temperature range of 0 to +50° C.

3.1.1.2. Voltage Controlled Oscillator

The local oscillator signal originates in the voltage controlled oscillator, which is tuned between 1144 and 1245 MHz .

3.1.1.3. Phase Lock Loop

The phase-lock loop integrated circuit tunes the voltage-controlled oscillator to a given channel based on the control words received from the microprocessor. Tuning is achieved in 300μs.

3.1.2. Receiver

The receiver architecture is down-conversion, with intermediate frequencies of 110.592 MHz. The conversion is performed in theTranciver Chip,. The bandwidth of receiving channel 670 KHz. The channel separation is 863 KHz.

3.1.2.1. 2400-2450 MHz Ceramic Band-pass Filter

A ceramic band-pass filter has been used at the antenna port of the radio receiver front-end. Note that this filter also appears in the transmission signal path. The selected filter has excellent out-of-band rejection to eliminate undesired signals received at the antenna, and to reduce emissions other than the desired RF output during transmission.

3.1.2.2. Transmit/Receive Switch

The RF switch ic are used to switch the antenna between transmit and receive functions. The unit does not transmit and receive simultaneously.

3.1.2.3. SAW Band-pass Filter

The IF circuit utilizes an external surface-acoustic-wave (SAW) band-pass filter between its IF amp and mixer to reduce image noise and further reduce the receiver's susceptibility to out-of-band signals.

3.1.3. Transmitter

In a manner quite analogous to the receiver, the transmitter uses GMSK architecture. The signal is modulated at VCO and finally to the desired RF frequency in the 2400 to 2483.5 MHz range. Transmit power is typically 7.07mW for Handset and 11.0mW for Base at the antenna port with the antenna gain is -1dBi.

3.1.3.1. 2400-2500 MHz Ceramic Band-pass Filter

To reduce the levels of the local oscillator and image signals produced in the second up-conversion mixer, a band-pass filter is used between the mixer and the PA driver.

3.1.3.2. PA Driver

One stage of amplifiers, designed by the NPN transistor, are to amplify the signal from the tranciver ic to 4 dBm radio output power.

3.1.3.3. Power Amplifier

An integrated circuit power amplifier boost the transmission signal level to nominal 20dBm for Handset and 20dBm for Base at the radio output port.

3.1.3.4. 2400-2500 MHz Ceramic Band-pass Filter

As mentioned above in the receiver section, this final filter in the transmission chain is also shared with the receive chain. The selected filter has excellent out-of-band rejection to reduce undesired emissions.

3.2. Digital Section

A baseband modem, an audio modem and a controller are all integrated onto the baseband processor. The baseband processer perform all of the protocol, data formatting, spread spectrum and audio processing in conformance with United States FCC regulation Part 15.247.

The baseband processer portion of the digital section is composed of an 16-bit single-chip microprocessor. The functions performed include control of the radio section (frequency tuning and transmit/receive control), receive data decoding, transmit data generation, and control of ADPCM, LED indicator, ringing signal and key scanning.

3.3. Frequency Plan

The transmitter can be set to operate on any one of 90 frequency channels in the 2400 ~ 2483.5MHz ISM band. Each frequency is used equally by the spread spectrum transmitter in a pseudorandom sequence. The frequency plan is in the following table.

Table of Tx & Rx Frequency Channels

Channel	Frequency
(000)	2401.920
(001)	2402.784
(002)	2403.648
(003)	2404.512
(004)	2405.376
(005)	2406.240
(006)	2407.104
(007)	2407.968
(008)	2408.832
(009)	2409.696
(010)	2410.560
(011)	2411.424
(012)	2412.288
(013)	2413.152
(014)	2414.016
(015)	2414.880
(016)	2415.744
(017)	2416.608
(018)	2417.472
(019)	2418.336
(020)	2419.200
(021)	2420.064
(022)	2420.928
(023)	2421.792
(024)	2422.656
(025)	2423.520
(026)	2424.384
(027)	2425.248
(028)	2426.112
(029)	2426.976

Channel	Frequency
(030)	2427.840
(031)	2428.704
(032)	2429.568
(033)	2430.432
(034)	2431.296
(035)	2432.160
(036)	2433.024
(037)	2433.888
(038)	2434.752
(039)	2435.616

(040)	2436.480
(041)	2437.344
(042)	2438.208
(043)	2439.072
(044)	2439.936
(045)	2440.800
(046)	2441.664
(047)	2442.528
(048)	2443.392
(049)	2444.256
(050)	2445.120
(051)	2445.984
(052)	2446.848
(053)	2447.712
(054)	2448.576
(055)	2449.440
(056)	2450.304
(057)	2451.168
(058)	2452.032
(059)	2452.896

Channel	Frequency
(060)	2453.760
(061)	2454.624
(062)	2455.488
(063)	2456.352
(064)	2457.216
(065)	2458.080
(066)	2458.944
(067)	2459.808
(068)	2460.672
(069)	2461.536
(070)	2462.400
(071)	2463.264
(072)	2464.128
(073)	2464.992
(074)	2465.856
(075)	2466.720
(076)	2467.584
(077)	2468.448
(078)	2469.312
(079)	2470.176
(080)	2471.040

(081)	2471.904
(082)	2472.768
(083)	2473.632
(084)	2474.496
(085)	2475.360
(086)	2476.224
(087)	2477.088
(088)	2477.952
(089)	2478.816

4. Precautions Taken to Avoid Interference

4.1. RF Filtering

The transmit signal passes through a ceramic bandpass filter before reaching the output port. These filters greatly reduce spurious signals, harmonics, and out-of-band transmitter phase noise.

4.2. Shielding

The circuit boards are contained in a shielded enclosure formed by metal housing, which also provides the antenna ground plane.