EXHIBIT C

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

"Description of Circuit Functions"

Circuit Description

Model: 27851B

The following circuit description is for Model 27851B and base on the Circuit diagram and Block diagram.

Handset Unit

1. Receiving path

The receiving path is established by below sections:

RX Antenna

The Solid-wire RX antenna detects electro-magnetic signals at radio frequencies. These signals are further filtered into usable frequency for the receiving path through the 925MHz dielectric filter F1.

Low Noise Amplifier (LNA)

FM signal filtered by the 925MHz dielectric filter F1, is input to tuning amplifier Q3 before output to mixer.

Mixer, IF filter

Mixer has built in U1, which is controlled by PLL. The signal is then filtered by CF1 (10.7MHz) ceramic filter and feed into pin 30 of U1 for demodulation.

IF amplifier

IF amplifier has built in U1, amplified IF is filtering again by a ceramic filter CF2 (10.7MHz), the filtered IF will input to FM demodulator U1 pin 26.

FM demodulator and expander

The second IF signal and the recovered audio signal is demodulated and expand respectively by U1 for de-emphasis before output to the handset speaker through the audio amplifier (built in U1).

2. Transmitting path

The transmitting path is established by below stages:

Mic amplifier and compressor

Audio pick up by handset microphone is amplified by internal mic amplifier of U1, then input to compressor for pre-emphasis before input to the Modulator (Tx VCO).

Modulator and TX VCO

The transmit VCO is built in U1, which is controlled by PLL. Both audio and data signal input to the transmission VCO will cause a frequency modulation progress.

RF Power Amplifier and TX Antenna

FM signal amplified by Q2 & Q4 and the amplified Radio Frequency signal from the LC filter is fed into the Solid-wire, spring type TX Antenna then propagates the composite RF signal.

Base Unit

1. Receiving Path

The receiving path is established by below stages:

RX Antenna

The Solid-wire, spring type RX antenna detects electro-magnetic signals at radio frequencies. These signals are further filtered into usable frequency for the receiving path through the 2405MHz dielectric filter F21.

Low Noise Amplifier (LNA)

The filtered FM signal is inputted to tuning amplifier Q18 before output to mixer.

Mixer, Rx VCO, Tripler, IF filter

Mixer stage constructed by Q24, which is controlled by the Rx VCO build by Q20 and the Tripler Q2. The mixed IF signal is filtered by the 10.7MHz ceramic filter CF1 before passing into U1 pin 40 for demodulation.

IF Amplifier

IF amplifier constructed by Q1, amplified IF is filtering again by a ceramic filter CF2 (10.7MHz), the filtered IF will input to FM demodulator U1 pin 33.

FM Demodulator and Expander

The second IF signal is demodulated by quadrature coil T1, then the recovered audio signal is input to the expander stage in U1 for de-emphasis before output to MCU IC2 (TMP87C405) through the audio amplifier in U1.

2. Transmitting Path

The transmitting path is established by below sections.

Compressor, Splatter, Modulator

The received line audio and side tone signal from the hybrid will go to the audio input of the combo chip. It will pass through a compressor. From the output of the compressor, it will go to the splatter circuit. The audio will then modulate the Tx VCO (Transmit Voltage Controlled Oscillator) frequency of the modulator (Q13) which is controlled by the PLL of the combo IC.

Pre-amp, TX Antenna

The Tx VCO frequency is extracted and amplified by RF pre-amp Q12. The final Tx signal is provided to the Solid-wire, spring-type TX Antenna for transmission.

3.Telephone Line Interface

The telephone line interface circuit is established by below stages:

Audio Power Amplifier

Q2 & Q3 are built as an audio amplifier, according to high current output requirement for line interface.

Line Relay & Isolation

Line isolation mainly performed by two transistors (Q1 and Q6). Q1 also has a function of controlling the line-seize. Both audio input and output will through transistor Q6.

Ring Detect circuitry

Q19 and Q23 are used as AC amplifier for pick up the ring signal, which is input through resistor R52 (3.6M-ohm) and capacitor C37 (10nF, 500Volt) as DC isolation from the telephone line.

Caller ID Circuit

The CAS tone and the FSK signal are input from the audio transformer and couple from the telephone line through L6, L7 (1mH), C5, C6 (680pF, 2kVolt) and R4, R5 (330kohm, 0.25W).

Answering Machine

i). Base Unit and PSTN interface.

The interface between the base unit and the PSTN is the hybrid transformer. As a call is coming from the PSTN, the ring detect circuit does the function of alert the BASE MCU and the DSP. A Line on/off control circuit is provided both for the MCU and TAD to form a subscriber loop. Behind

the hybrid transformer, a audio amplifier and pre-amplifier are used as a base-band filter before the human voice transmitted to the PSTN. The function of the Caller ID receiver decode the Caller ID signal for the PSTN to the B/U MCU and the MCU transfers the CID signal to the HS unit. A base-band audio-amp is used for adjust the frequency response of the in-coming signal from the tel. line before the audio signal is modulated by the RF module or digitized by the DSP.

ii) Base unit and Memory machine interface.

There are six major peripherals between the base unit and the memory machine. The ON/OFF hook detection circuit indicates whether the HS unit occupies the telephone line or not. The FLASH memory performs the Non-volatile data storage for DSP key parameters and audio PCM data. The association of the power-up reset and power-down circuit perform the function of H/W power up reset and memory machine message retention during failure of 9VDC power adapter. A photo-coupler and a transistor network perform the parallel-phone detection for TAD and an isolation with the tel. network during over-voltage condition. A condenser microphone and a low-power audio amp perform the voice recording and playback. A dual-digit, 7-segment LED is used as a message counter of the TAD. A 1P2T switch is used for response of the ring count of the TAD.

iii). Memory machine and local H/S interface.

The line output of the DSP can be routed to the local H/S through the analogue switch, which is controlled by the HS remote pin of the MCU. The unit can be remote access by the far end user after entering three-digit security code. The Default security code is "123" and it can be programmed from the local handset. This three-digit code can be any combination in between 000 to 999. User can be turn on/off the answerer by remote operation. If the unit is turn on, i.e. in answer on mode, it can answer the incoming call in the 3rd or 5th ring. If the unit is turn off i.e. in answer off mode, it can answer the incoming call in the 10th ring.