

13 June , 2008

**Purpose of Change**

Dear Sir/Madam:

**Re: Application for a Permissive Change Filing with FCC ID: EW780-6270-00 and FCC Registration No.: US:EW7W401B80-627000**

The purpose of this document is to describe all the changes that are made to the VTECH new designed family models **AT&T SL87x18, SL82x18, SL82x58 & SL80108** from the original granted model **VTech DS6121**, in order to meet the new features.

**Changes from the original granted model DS6121 to the new designed models SL87x18, SL82x18, SL82x58 & SL80108:**

- Add LNA “Low Noise Amplifier” onto both HS & BS RF circuit;
- Minor change PCB for keyboard of HS & BS;
- Minor change PCB for main board of HS;
- BS antenna is change to coaxial antenna permanently affixed (+2dBi);
- The outlook of base & handset is not same as original models
- Change RF module PCB layer of both BS and HS from 4 to 2
- RF circuit employ new RF chipset (801x) with bit difference from previous RF chipset (800x) used on initial design. (please refer to attached Explanation of the RFIC for further details) (please refer to attached Explanation of the RFIC for further details)

**Similarities between original granted model DS6121 to the new designed models SL87x18, SL82x18, SL82x58 & SL80108:**

- Same frequency band & channels
- Same handset antennas
- The power supply scheme and the DC current consumption are very similar
- Same line interface circuit

Sincerely,



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Samson Man  
Approbation Supervisor

# Explanation of the RFIC used for FCC Part 15 permissive change

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## 1. Aim

This document is aimed at explaining the differences between the RFIC PNX800x and its low cost successor PNX801x in order to apply a permissive change using PNX801x with the same FCC ID as PNX800x.

## 2. Introduction

### 2.1 PNX800x

The PNX800x family is a newly developed RFIC by DSPG. It is built with baseband controller for DECT 6.0 cordless phone application. Each PNX800x IC has two dice built-in: RFAPU and DPU. The RFAPU consists of the RF transceiver, crystal oscillator and the voltage regulators control circuits. The DPU consists of an ARM core processor, memory, burst mode processor (BMP) and the digital IO.

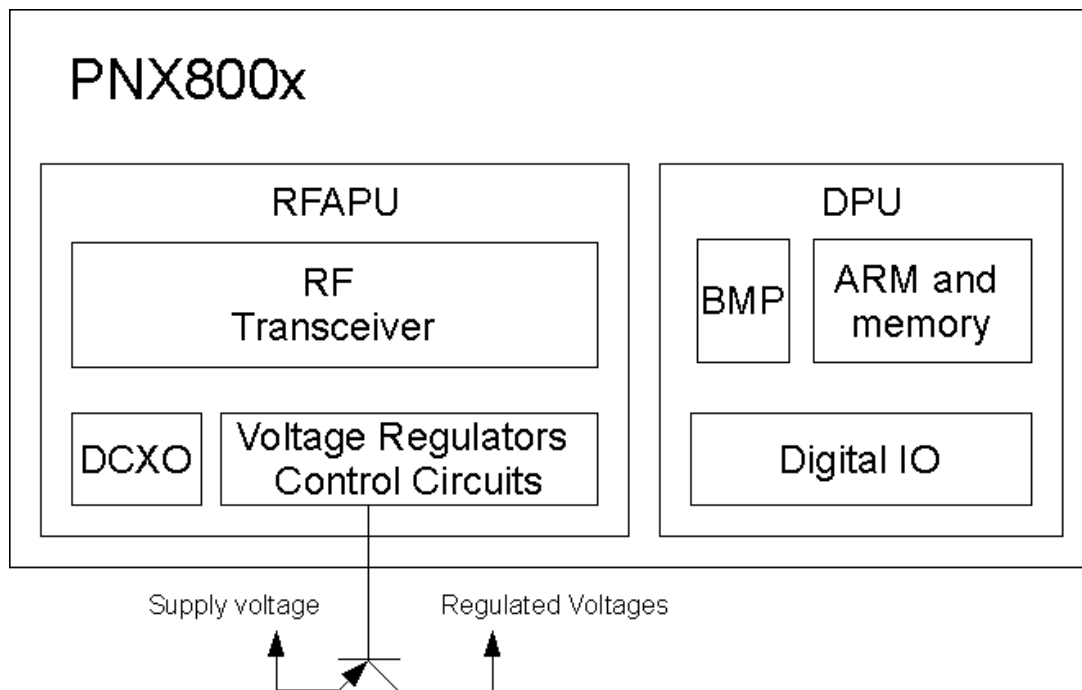


Figure 2.1.1 Block Diagram of PNX800x

The voltage regulators control circuits in RFAPU is used to drive the external general-purpose transistor to regulate out the desired voltages from the supply voltage.

The last digit x in PNX800x represents the different internal memory sizes.

| Member  | Flash size (byte) | ROM size (byte) | RAM size (byte) | Regulated Voltage for digital core circuits (V) |
|---------|-------------------|-----------------|-----------------|---|
| PNX8001 |                   | 320k            | 28k             | 1.2   |
| PNX8002 |                   | 640k            | 68k             | 1.2   |
| PNX8009 | 512k              | 128k            | 68k             | 1.8   |

Table 2.1.1 Memory size of PNX800x

## 2.2 PNX801x

The PNX801x family is the low cost successor of the PNX800x family. It shares the same architecture and the same package (HVQFN88). The only difference between PNX800x and PNX801x is the built-in voltage regulator transistors. The whole RF architecture and other blocks are remained unchanged.

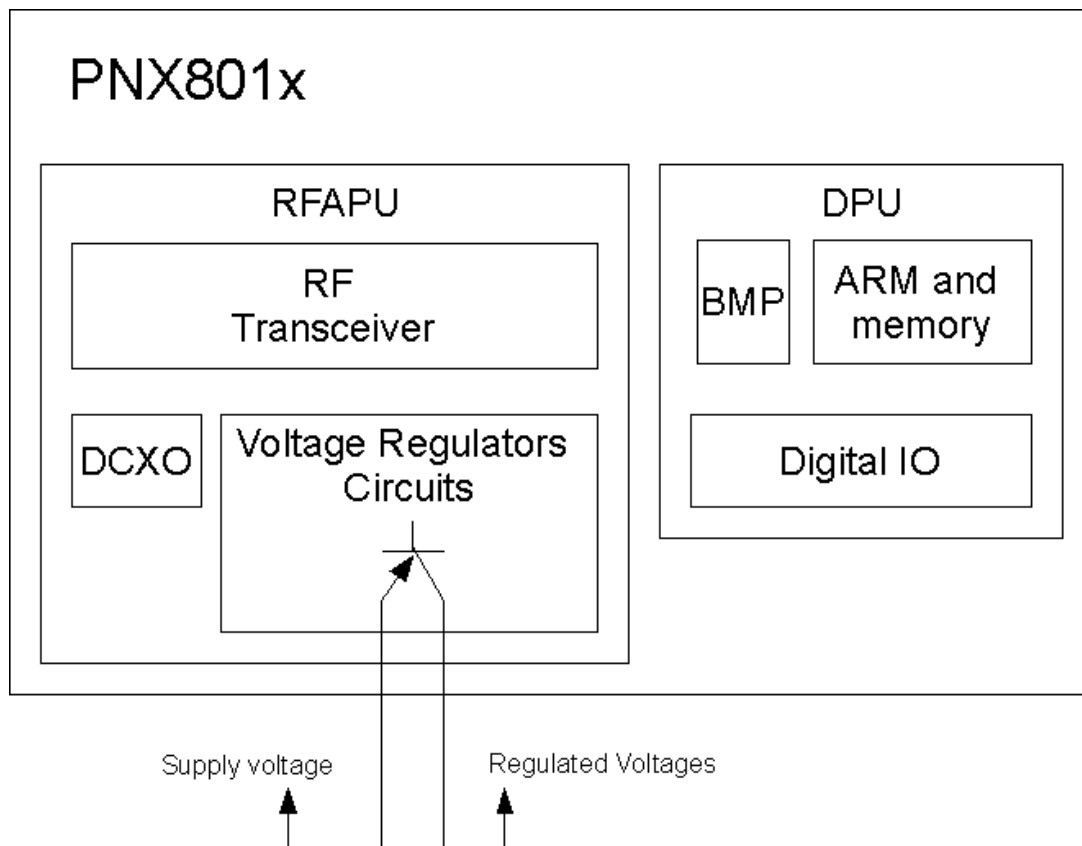


Figure 2.2.1 Block Diagram of PNX801x

The last digit x in PNX801x represents the different internal memory sizes.

| Member  | Flash size (byte) | ROM size (byte) | RAM size (byte) | Regulated Voltage for digital core circuits (V) |
|---------|-------------------|-----------------|-----------------|---|
| PNX8010 |                   | 256k            | 24k             | 1.2   |
| PNX8011 |                   | 320k            | 28k             | 1.2   |
| PNX8019 | 512k              | 128k            | 68k             | 1.8   |

Figure 2.2.2 Memory size of PNX801x

### 3. Details information in permissive change

PNX800x is currently used in VTech model DS6111, LS6115, LS6117 and SL82218. All models granted the FCC Part 15 approval. PNX801x will be used on the same models as a cost reduction version without the following changes.

*a. RF Frequency Plan*

- No change in both Tx and Rx frequencies.

*b. Frequency Multiplication Stages*

- No change in frequency multiplication stages

*c. Modulator Circuit*

- No change in modulator circuit

*d. Crystal Frequency*

- No change in crystal frequency

*e. Data Rate*

- No change in data rate

*f. Maximum Power*

- No change in maximum power

*g. Antenna changes*

- No change in antenna in both fixed part and portable part

*h. PCB and hardware changes*

- No active hardware component is added
- No change in RF transceiver block
- No change in radio parameters has occurred
- No change in PCB size

*i. Enclosure changes*

- No enclosure is changed

*j. Software changes*

- No additional frequency is added
- No data rate is added

## **4. Conclusions**

1. PNX800x and PNX801x are sharing the same architecture as both baseband and RF blocks are highly integrated into a single chip.
2. Both ICs have the same RF transceiver block. The pins at transmitter part are pin to pin compatible and no change in radio parameters has occurred.
3. Both IC shares the same frequency plan, same frequency multiplication stages, same crystal frequency and same maximum power.
4. Both IC shares the same digital blocks including the MCU, stabilizing circuitry and modulator circuits.
5. Both IC shares the same package and hence the same PCB size.
6. PNX801x has the cost advantage by building-in the voltage regulator transistors. It will not bring any degradation in RF and electrical performance.
7. From the above statements, we claim that models with PNX801x can use the same FCC ID as PNX800x to apply the permissive change in FCC approval.