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SIFLOWER

***SF16A18 - Highly-Integrated and Feature-rich
IEEE 802.11a/b/g/n/ac 1X1 2.4/5GHz***

Smart Wireless Router Application Processor

DATASHEET

Rev 1.1

Feb. 28, 2018

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Smart Wireless Router Application Processor

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1.1 Features

● Applications Processor Subsystem

- Quad-processing MIPS32® interAptiv
 - ◆ Two Physical Cores
 - ◆ Four Virtual Processing Elements (VPEs)
 - ◆ Twelve Thread Contexts (TCs)
 - ◆ 16KB L1 I-Cache and 16KB L1 D-Cache at each Physical Core
 - ◆ 256KB Unified L2-Cache
 - ◆ Typical 1GHz, maximum 1.2GHz
- 16-bit DDR2/DDR3 interface operating up to 667MHz (1333MT/s)
- 1x 8-line SD/eMMC Interface
- 1x 4-line SD/SDIO Interface
- 8-Channel Direct Memory Access (DMA)
- 4x Universal Asynchronous Receivers/Transmitters (UARTs)
- 2x Serial Peripheral Interfaces (SPIs)
- 3x Inter-integrated Circuits (I²Cs)
- 4x General-Purpose Timers (GPTs)
- 1x Watchdog Timer Module
- 2x 16-Bit Pulse-Width Modulation (PWM) Interfaces
- 2x Inter-IC Sound (I²S) Interfaces
- 2x Pulse Code Modulation (PCM) Interfaces
- 1x USB2.0 OTG
- Programmable GPIO Pins

● Wired Ethernet Network Processor Subsystem

- 1x Reduced Gigabit Media-Independent

Interface (RGMII), 10/100/1000Mbps, or Reduced Media-Independent Interface (RMII) 10/100Mbps, with support for jumbo frame, VLAN tagging and flow control

- 5-Port switch/router in compliance with IEEE 802.3 standard, with five built-in 10/100Mbps Ethernet PHYs

● Wi-Fi Network Processor Subsystem

- 2.4GHz 802.11b/g/n Radio, Baseband and Medium Access Control, 20/40M Bandwidth, with MAX 150Mbps data rate
- 5GHz 802.11a/n/ac Radio, Baseband and Medium Access Control, 20/40/80M Bandwidth, with MAX 433Mbps data rate
- 1x1 SISO 2.4GHz/5GHz Dual-Band RF Transceiver, with PAs, LNAs, TX/RX Switches and Baluns
- 2.4GHz/5GHz Dual-Band Concurrent
- Two Embedded Micro-Processor
- Internal Auxiliary ADC for calibration, RF power and temperature measurement

● Clock Resource

- System Clock: 12MHz
- RF Clock: 40MHz

● Package and Operating Conditions

- 0.65-mm Pitch, 0.3mm Ball, 360-Pin, 13-mm x 13-mm TFBGA Package for Easy Assembly and Low-Cost PCB Design
- Operating Temperature Range: -40°C to 125°C

1.2 Application

- Smart Router
- Smart Gateway
- Smart Speaker
- VoIP

