Operational Description

1 Overview

1.1 Introduction

Fn-Link Technology would like to announce a low-cost and low-power consumption module which has all of the Wi-Fi functionalities. It is a highly-integrated IEEE 802.11a/b/g/n/ac MAC/Baseband/RF WLAN single chip. For Wireless LAN(WLAN)operation.

The integrated module provides PCI-e interface for Wi-Fi . The module provides simple legacy and 20MHz/40MHz/80MHz co-existence mechanisms to ensure backward and network compatibility The wireless module complies with IEEE 802.11 a/b/g/n/ac 1x1 MIMO standard and it can achieve up to a speed of 433Mbps to connect the wireless LAN. The integrated module provides PCI-e interface for Wi-Fi, USB/ PCM interface for Bluetooth.

This compact module is a total solution for a combination of Wi-Fi and Bluetooth V4.2 technologies. The module is specifically developed for all portable devices.

1.2 Features

Highly integrated wireless local area network(WLAN) system-on-chip (SOC) for 5GHZ 802.11ac, or 2.4G/5G 802.11n WLAN applications.

Supports 20/40MHz at 2.4GHz and supports 20/40/80MHz at 5GHz

Supports low power PCI-e interface for WLAN and USB/PCM interface for Bluetooth.

Supports Bluetooth V4.2+HS, BLE and be backwards compatible with Bluetooth 1.2, 2.X+ enhance data rate.

Supports WLAN-Bluetooth coexistence .

Supports Bluetooth for class1 and class2 power level transmissions without requiring an external PA.

BT host digital interface:

- USB1.1

- PCM for audio data

The 40MHz oscillator drives the base of XTAL1. The modulation GFSK provided by RTL8821CE-VL-CG. The output of RTL8821CE-VL-CG has matching network that limit the harmonic content and effect the proper coupling

of the antenna to the output stage.

There is no external grounding. The ground is only that of the printed circuit board.

Electric current is supplied by a 7.4 volt primary battery.

The transmitter is powered by a 7.4V battery and the transmitting frequency is controlled

 The operation is achieved by different combinations of form pulse modulating

signal on the carrier frequency.

BR+EDR

Operating Frequency	2402MHz~2480MHz
Modulation	GFSK, π/4-DQPSK, 8-DPSK
Number of Channels	79 Channels
Antenna Type	FPCB Antenna
Antenna Gain	1.54 dBi

BLE

Operating Frequency	2402MHz~2480MHz
Modulation	GFSK
Number of Channels	40 Channels
Antenna Type	FPCB Antenna
Antenna Gain	1.54 dBi

WIFI2.4G

Operating Frequency	2412-2462MHz for 802.11b/g/11n(HT20); 2422-2452MHz for 802.11n(HT40);
Modulation	DSSS with DBPSK/DQPSK/CCK for 802.11b; OFDM with BPSK/QPSK/16QAM/64QAM for 802.11g/n;
Number of Channels	11 channels for 802.11b/g/11n(HT20); 7 channels for 802.11n(HT40);
Antenna Type	FPCB Antenna
Antenna Gain	1.54 dBi

WIFI5G

IEEE 802.11 WLAN Mode Supported	☒802.11a/n/ac (20MHz channel bandwidth) ☒802.11n/ac (40MHz channel bandwidth) ☒802.11ac (80MHz channel bandwidth)
Data Rate	802.11a: 6,9,12,18,24,36,48,54Mbps; 802.11n(HT20/HT40):MCS0-MCS15; 802.11ac(VHT20):MCS0-MCS8; 802.11ac(VHT40/VHT80):MCS0-MCS9;
Modulation	OFDM with BPSK/QPSK/16QAM/64QAM/256QAM for 802.11a/n/ac;
Operating Frequency Range	☒5180-5240MHz for 802.11a/n(HT20)/ac(VHT20); 　5190-5230MHz for 802.11n(HT40)/ac(VHT40); 　5210MHz for 802.11ac(VHT80) ☒5745-5825 MHz for 802.11a/n(HT20)/ac(VHT20); 　5755-5795 MHz for 802.11n(HT40)/ac(VHT40); 　5775MHz for 802.11ac(VHT80)
Number of Channels	☒4 channels for 802.11a/n20/ac20 in the 5180-5240MHz band ; 2 channels for 802.11 n40/ac40 in the 5190-5230MHz band ; 1 channels for 802.11 ac80 in the 5210MHz band ; ☒5 channels for 802.11a/n20/ac20 in the 5745-5825MHz band ; 2 channels for 802.11 n40/ac40 in the 5755-5795MHz band ; 1 channels for 802.11 ac80 in the 5775MHz band ;
Antenna Type	FPCB Antenna
Antenna Gain	1.48 dBi