The USB1 FC is a WiFi & BLE wireless to USB adapter to be used in test and measurement equipment such as the 1735 Energy Logger to communicate readings wirelessly. The adapter is placed inside the instrument and the instrument is left to record voltage and current over a period of time. The adapter will host the STM32 microcontroller along with the TI WL1831 radio module. The STM32 will act as a USB to SDIO and USB to UART bridge between the host Fluke product and the WL1831 radio module. The unit is powered via a 5V USB connector and utilizes a TDK chip antenna with Peak Gain in 2.4GHz band = 2.27 dBi

The USB1 FC is intended for use only inside a Fluke test instrument and is not a general purpose adapter for use with a PC. It will not operate or transmit without the host firmware so it cannot be operated when connected to a PC

The host firmware that resides inside a Fluke test instrument limits the BT mode of operation to BLE only. It will not operate or transmit without the host firmware so BLE is the only mode of BT operation.

Microprocessor Number: ST Micro STM32F427IH6
Transceiver Number: TI WL1831MOD

| WLAN Channel | Center frequency Of 20MHz channel (MHz) | Bandwidth at 20MHz (HT20) (MHz) | Channel availability for CRDA range 2402-2472 MHz |
|---|---|---|---|
| 1 | 2412 | 2402-2422 | Enabled |
| 2 | 2417 | 2407-2427 | Enabled |
| 3 | 2422 | 2412-2432 | Enabled |
| 4 | 2427 | 2417-2437 | Enabled |
| 5 | 2432 | 2422-2442 | Enabled |
| 6 | 2437 | 2427-2447 | Enabled |
| 7 | 2442 | 2432-2452 | Enabled |
| 8 | 2447 | 2437-2457 | Enabled |
| 9 | 2452 | 2442-2462 | Enabled |
| 10 | 2457 | 2447-2467 | Enabled |
| 11 | 2462 | 2452-2472 | Enabled |
| 12 | 2467 | 2457-2477 | Disabled (2477MHz > 2472 MHz) |
| 13 | 2472 | 2462-2482 | Disabled (2482MHz > 2472 MHz) |
| 14 | 2484 | 2474-2494 | Disabled (2494MHz > 2472 MHz) |

Table 1: 20MHz (HT20)

| WLAN Channel | Center frequency of 40MHz channel (MHz) | Bandwidth at 40MHz high (HT40+) (MHz) | Channel availability for CRDA range 2402-2472 MHz |
|---|---|---|---|
| 1 | 2422 | 2402-2442 | Enabled |
| 2 | 2427 | 2407-2447 | Enabled |
| 3 | 2432 | 2412-2452 | Enabled |
| 4 | 2437 | 2417-2457 | Enabled |
| 5 | 2442 | 2422-2462 | Enabled |
| 6 | 2447 | 2427-2467 | Enabled |
| 7 | 2452 | 2432-2472 | Enabled |
| 8 | 2447 | 2437-2477 | Disabled (2477MHz > 2472 MHz) |
| 9 | 2452 | 2442-2482 | Disabled (2482MHz > 2472 MHz) |
| 10 | 2457 | 2447-2487 | Disabled (2487MHz > 2472 MHz) |
| 11 | 2462 | 2452-2492 | Disabled (2492MHz > 2472 MHz) |
| 12 | 2467 | 2457-2497 | Disabled (2497MHz > 2472 MHz) |
| 13 | 2472 | 2462-2502 | Disabled (2502MHz > 2472 MHz) |
| 14 | 2484 | 2474-2514 | Disabled (2514MHz > 2472 MHz) |

Table 3: 40MHz high (HT40+)

| WLAN Channel | Center frequency of 40MHz channel (MHz) | Bandwidth at 40MHz low (HT40-) (MHz) | Channel availability for CRDA range 2402-2472 MHz |
|---|---|---|---|
| 1 | 2402 | 2382-2422 | Disabled (2382MHz < 2402 MHz) |
| 2 | 2407 | 2387-2427 | Disabled (2387MHz < 2402 MHz) |
| 3 | 2412 | 2392-2432 | Disabled (2392MHz < 2402 MHz) |
| 4 | 2417 | 2397-2437 | Disabled (2397MHz < 2402 MHz) |
| 5 | 2422 | 2402-2442 | Enabled |
| 6 | 2427 | 2407-2447 | Enabled |
| 7 | 2432 | 2412-2452 | Enabled |
| 8 | 2437 | 2417-2457 | Enabled |
| 9 | 2442 | 2422-2462 | Enabled |
| 10 | 2447 | 2427-2467 | Enabled |
| 11 | 2452 | 2432-2472 | Enabled |
| 12 | 2467 | 2437-2477 | Disabled (2477MHz > 2472 MHz) |
| 13 | 2472 | 2442-2482 | Disabled (2482MHz > 2472 MHz) |
| 14 | 2484 | 2454-2494 | Disabled (2494MHz > 2472 MHz) |

Table 2: 40MHz low (HT40-)