



Micro Modules

(Substrates with Built-in ICs, Products Utilizing with SESUB)

Bluetooth® V4.1 Smart (Low Energy) Single Mode Module

SESUB-PAN-D14580

Caution

The products in this catalog will be or have been stopped production

| | |
|---------------------------------|---------------|
| Discontinue Issue Date | Nov. 2, 2020 |
| Last Purchase Order Date | Apr. 30, 2021 |
| Last Shipment Date | Jun. 30, 2021 |

Please refer to our Web site about replacement information.

Micro Modules

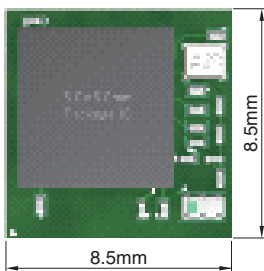
(Substrates with Built-in ICs, Products Utilizing with SESUB)

Bluetooth® V4.1 Smart (Low Energy) Single Mode Module

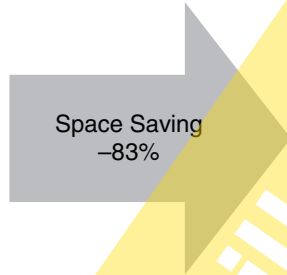
Overview of SESUB-PAN-D14580

FEATURES

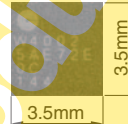
- Ultra small package - Ideal for for wearable devices
- Space saving Ultra small package 3.5 x 3.5 x 1.0mm (TYP)
- Packaged in 36 pin solder bumped BGA with 0.5mm pitch
- Compatible with Bluetooth® Smart Ready products
- ARM Cortex-M0 32bit high performance microcontroller
- 32kB OTP programmable memory, 84kB ROM for BT stack
- 42kB System SRAM, 8kB Retention SRAM
- Including IC (Dialog Semiconductor : DA14580), Crystal (16MHz), Inductor, and Capacitor in this module.



Discrete Solution
72.3mm²



* Production Part is over molded

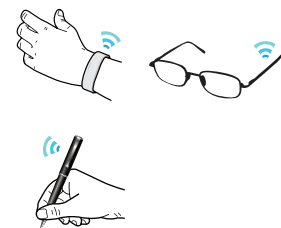


0.5mm pitch
Solder Bumped BGA
36pins

SESUB-PAN-D14580
12.3mm²

APPLICATION

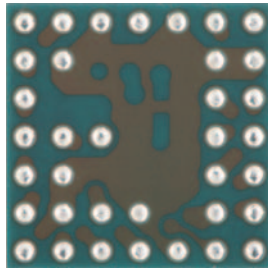
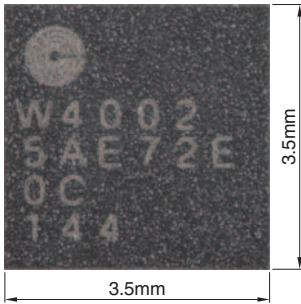
- Healthcare/sports & fitness equipment
(Example: Activity mass meter, thermometer, sphygmomanometer, blood oximeter, blood glucose meter, heart rate meter, biometrics)
- Wearable devices
(Example: Wristband, watch, ring, glasses, shoes, hat, shirt)
- Home entertainment equipment
(Example: Remote control, sensor tag, toys, lighting products)
- PC peripheral applications
(Example: Mouse, key board, stylus, presentation pointer)



○ Bluetooth® and Bluetooth® Low Energy are the standards established by Bluetooth Special Interest Group (SIG).

SESUB-PAN-D14580

SHAPE & DIMENSIONS



0.5mm pitch
Solder Bumped BGA
36pins

* Production Part is over molded

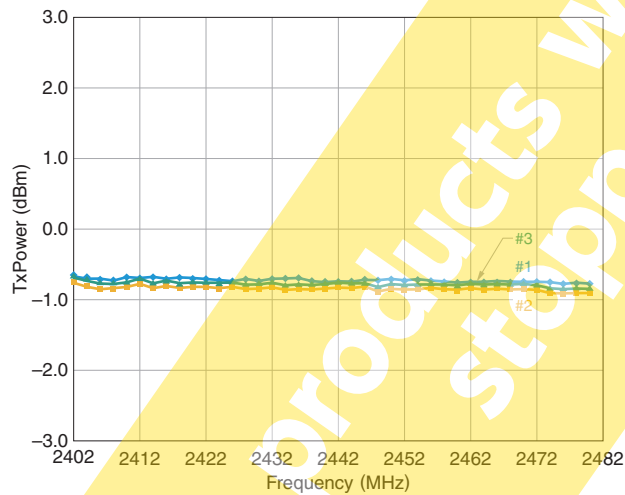
ELECTRICAL CHARACTERISTICS

CHARACTERISTICS SPECIFICATION TABLE

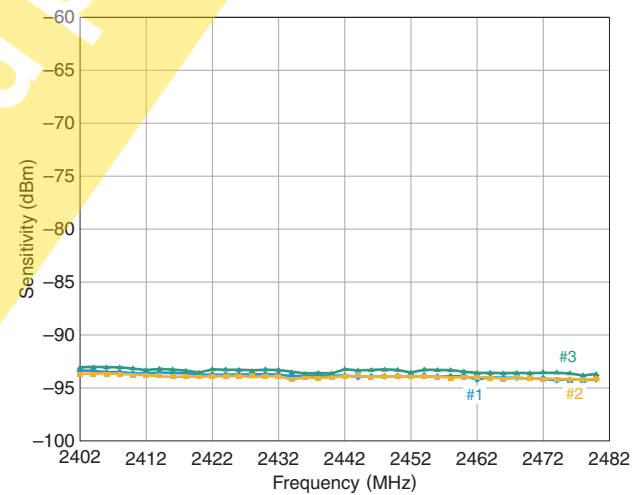
| | |
|--------------------------------|---|
| Communication standard | 2.4GHz Bluetooth® V4.1 Low Energy |
| Transmitter output power level | 0dBm (typ) |
| Receiver sensitivity level | -94dBm |
| Host Interface | UART (2ch) / SPI+ / I2C (100k/400kHz) |
| Peripheral Interface | 10bits ADC (4ch) / Pin-configurable GPIO |
| Current consumption | 5.0mA (Tx), 5.4mA (Rx), 0.8μA (Deep Sleep mode) |

RF CHARACTERISTICS

Frequency vs. TX Power



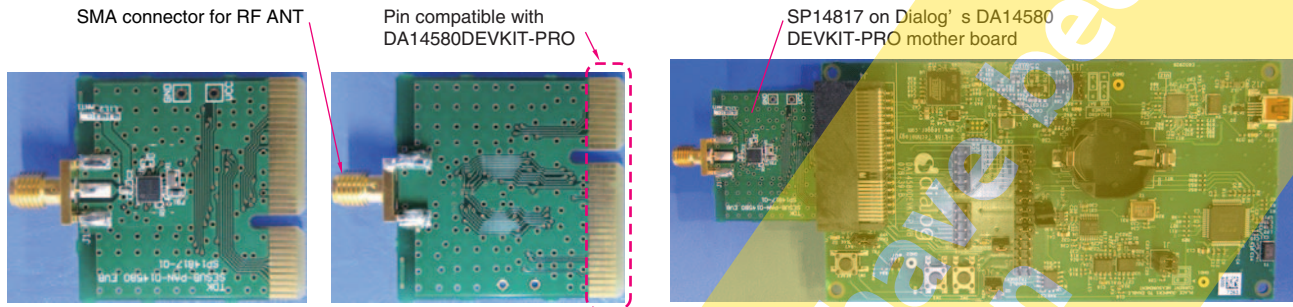
Frequency vs. Sensitivity



SESUB-PAN-D14580

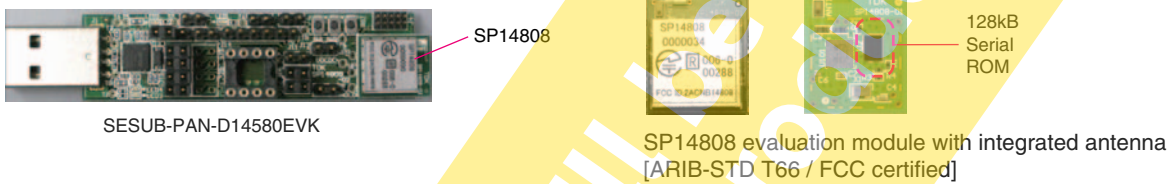
■ SESUB-PAN-D14580 EVALUATION BOARD [SP14817]

- TDK's SP14817, Daughter board is ready to connect with Dialog Semiconductor's evaluation mother board. This allows for quick designs by utilizing Dialog's -software development tools and development materials



■ SESUB-PAN-D14580 EVALUATION KIT [SESUB-PAN-D14580EVK]

- Regulatory certified evaluation module [SP14808] with integrated 128kB Serial Flash ROM for reprogramming during development. Evaluation Module is ideal for immediate software development.



■ ORDERING INFORMATION

| Ordering Code | Contents | MOQ | Remark |
|----------------------|----------|---------|--|
| SESUB-PAN-D14580 | | 1000pcs | |
| SP14817 | | 1pc | Evaluation board for RF characteristics. |
| SESUB-PAN-D14580 EVK | SP14808 | 1pc | SESUB-PAN-D14580 Evaluation Module with ANT |
| | SP14809 | 1pc | Certified Japanese & FCC Radio Certification Adapter Board for SP14808. |
| SP14808 | | 1pc | For the customer who wants to have spare units. |
| SP14808 ST | | 1set | SP14808ST contains 5 pcs of SP14808 in a set. Volume discount. |