



## Micro Modules

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

Bluetooth V4.0 Smart Single Mode Module

# SESUB-PAN-T2541

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### **Caution**

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

<b>Discontinue Issue Date</b>	Oct 16, 2017
<b>Last Purchase Order Date</b>	Jan. 31, 2018
<b>Last Shipment Date</b>	Jun. 30, 2018

**Please refer to our Web site about replacement information.**

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## Micro Modules

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

#### Bluetooth V4.0 Smart Single Mode Module

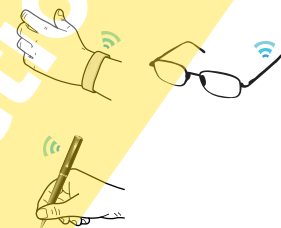
# Overview of SESUB-PAN-T2541

## FEATURES

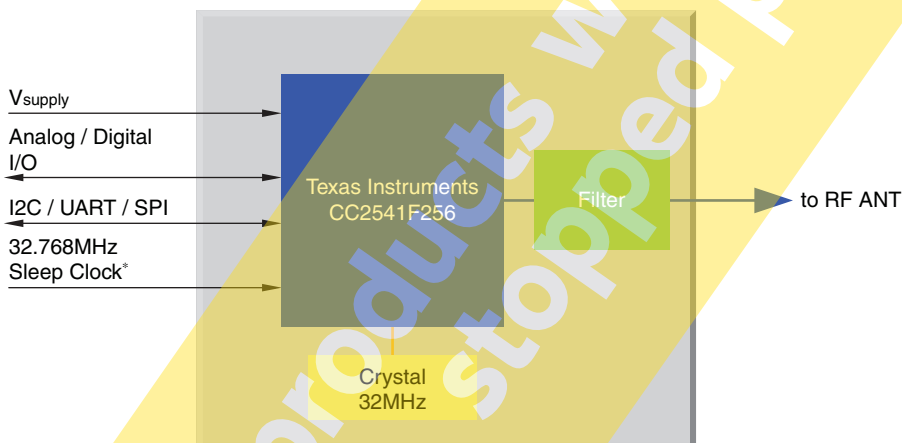
- Micro size (4.6×5.6×1.0mm) ideal for wearable devices.
- Communicable with Bluetooth® Smart Ready compatible devices.
- Separate antenna type that provides more flexibility for product design.

## APPLICATION

- Health care, sports & fitness devices  
(physical activity monitor, thermometer, blood pressure monitor, blood oxygen monitor, blood sugar monitor, heart rate monitor, etc.)
- Wearable computers  
(bracelet type, watch type, ring type, glass type, shoe, hat, shirt, etc.)
- Home & entertainment devices  
(remote control, sensor tag, toy, lighting apparatus, etc.)
- PC accessories  
(mouse, keyboard, stylus pen, presentation pointer, etc.)



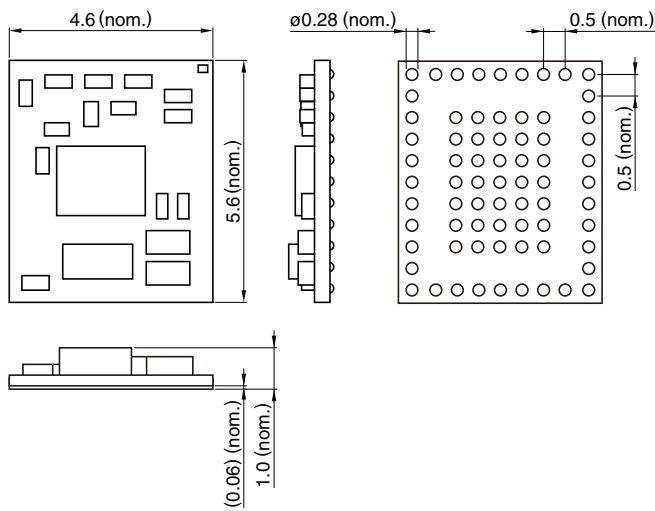
## BLOCK DIAGRAM



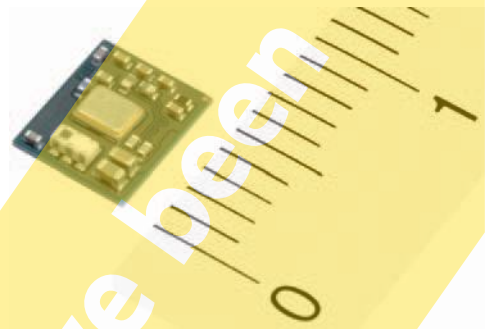
○ Bluetooth® and Bluetooth® Low Energy are the standards established by Bluetooth Special Interest Group (SIG).

# SESUB-PAN-T2541

## ■ SHAPE & DIMENSIONS



Dimensions in mm



## ■ ELECTRICAL CHARACTERISTICS

### □ CHARACTERISTICS SPECIFICATION TABLE

Communication standards	2.4GHz Bluetooth® V4.0 low energy
Wireless output power (dBm)typ.	0
Communication range (m)*	10
Interface	UART/SPI/I2C/GPIO/ADC

\* Line-of-sight distances. Depending on antenna properties.

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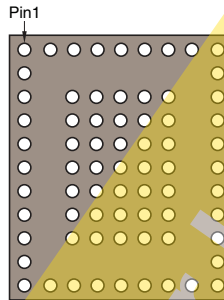
# SESUB-PAN-T2541

## MODULE TERMINAL

1	2	3	4	5	6	7	8	9
GND	P2_1	P2_0	VDO	VDA_1	VDA_2	GND	RST_N	GND
36								10
P2_2								P0_0
35								11
GND		GND	GND	GND	GND	GND		P0_1
34								12
P2_4/32k		GND	GND	GND	GND	GND		P0_2
33								13
P2_3/32k		GND	GND	GND	GND	GND		P0_3
32								14
P1_7		GND	GND	GND	GND	GND		P0_4
31								15
P1_6		GND	GND	GND	GND	GND		P0_5
30								16
P1_1		GND	GND	GND	GND	GND		P0_6
29								17
P1_2		GND	GND	GND	GND	GND		P0_7
28								18
P1_3								P1_0
27	26	25	24	23	22	21	20	19
GND	SCL	SDA	P1_4	P1_5	GND	2G_RF	GND	GND

Module Bottom View

RF	Orange
POWER	Red
Clock	White
I/O	Yellow
Cont	Green
GND	Blue



## EVALUATION BOARD

Based on the IC manufacturer-provided evaluation environment (TDK part number: SP13801)

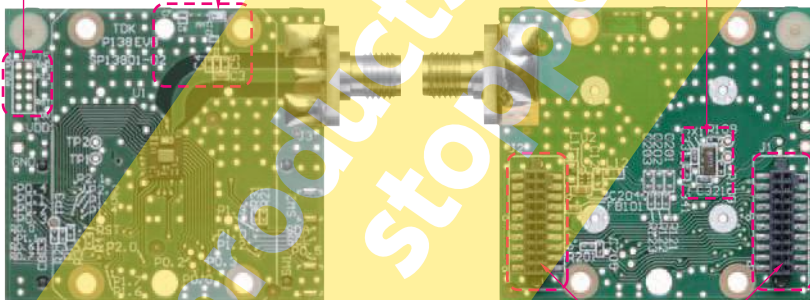
- The product is used by connecting to the IC evaluation kits of IC manufacturers.
- All software development environments and programming tools are provided by IC manufacturers.
- Various development materials of IC manufacturers are available as they are, which enables smooth development of products.
- We also offer evaluation kits which enables to evaluate product functions easily. (TDK part number: SP13808)

\* For more details, please contact us.

Equipped with a program writing terminal

A chip antenna on the evaluation board

Equipped with a land pattern for a crystal unit for generating a sleep clock



Connectors to evaluation boards of the IC manufacturers