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Revision No.	0.0

User Manual

SBT – CY71

802.15.1 BLE Module

Revision History

Revision	Date	Descriptions
0.0	2016-06-01	- Initial release

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1 Gnenral Description

1.1 Functional Description

SBT-CY71 is the module for BLE at embedded and Digital appliance applications. It is based on Cypress CYBL11171-56LQXI solution which comprises single chip with integrated BLE 4.2



Figure 1-1 Module Picture

1.2 Features

- BLE - compliant
- Supports Adaptive Frequency Hopping
- On chip support for serial peripheral interface (master and slave modes)
- Compact dimension: 3 5 mm x 2 0 mm / H max : 4 . 8 mm
- Host Interfaces: UART Interface
- RoHS compliant

1.2.1 Power Management

- Supply voltage range

VCC 5V (4.5V ~ 5.5V)

1.2.2 Applications

- Home appliances
(electric oven, Hood, Cooktop etc)

2 Dimension , Pin Assignments , Pictures

2.1 Dimension

2.1.1 Module Dimension

- L X W X H = 20.0 x 35.0 x 4.8mm

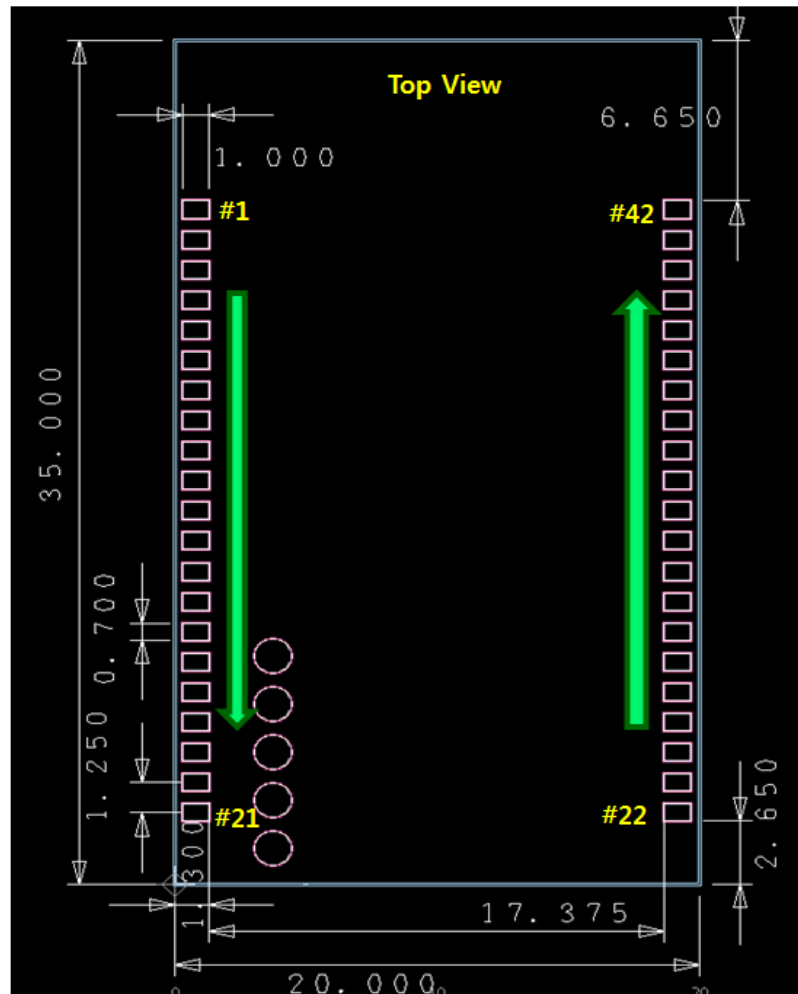


Figure 2-1 Module Dimension

Parameter	Conditions	Min.	Nom.	Max.	Unit
Dimension (Module)					
X	-	19.7	20	20.3	mm
Y	-	29.7	35	35.3	mm
Height	-	-	4.8	-	mm

2.2 Pin Assignments

4.2.1 UART Interface

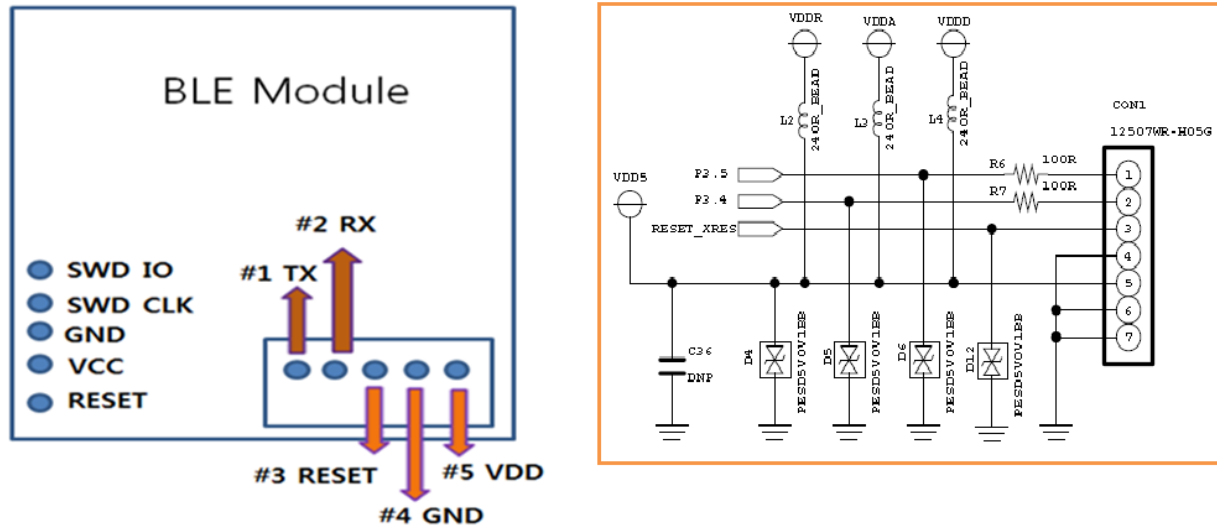


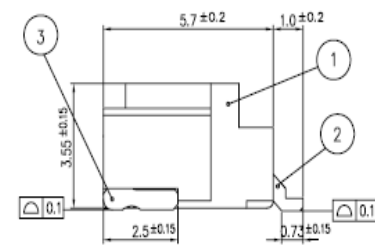
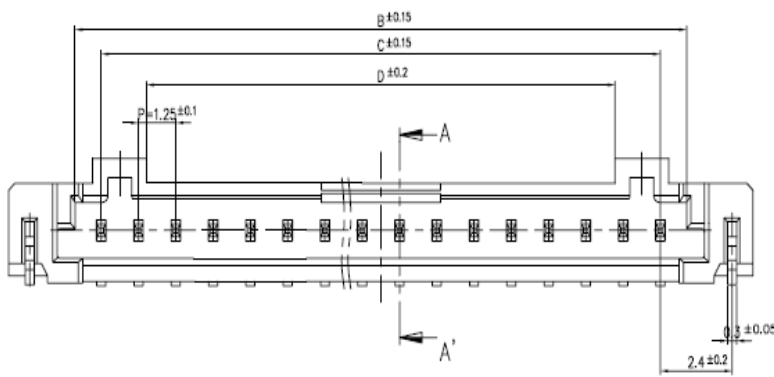
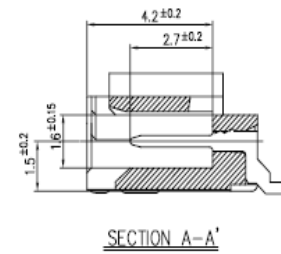
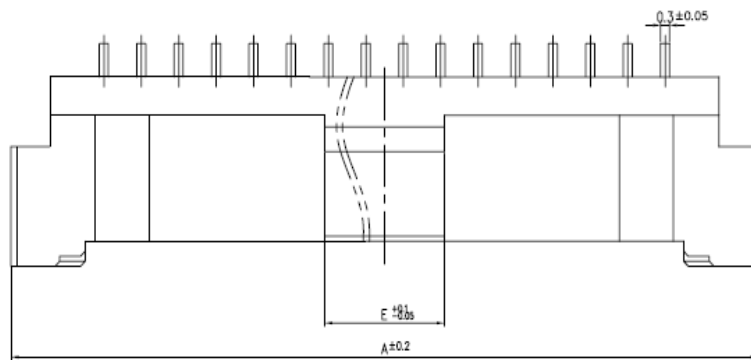
Figure 2-4 UART Pin Assignments (Top View)

No.	Pin Name	Description	Type
1	P3.5	UART TX	O
2	P3.4	UART RX	I
3	RESET_XRES	Reset	O
4	GND	Ground	G
5	VDD5	+5V Power supply for BLE	P
6	GND	Ground	G
7	GND	Ground	G

4.2.2 SWD Interface

No.	Pin Name	Description	Type
1	SWD DATA	SWD IO	I/O
2	SWD CLK	Clk	CLK
3	GND	Ground	G
4	VCC	VDD5	P
5	RESET	Reset	O

2.3 Connector Specification



PARTS NO.	A	B	C	D	E
12507WR-H05G	11.2	6.75	5.0	4.15	3.5

3 Electrical Characteristics(TBD)

3.1 Absolute Maximum Ratings

Symbol	Parameter	Min.	Max.	Unit
VDD_5	DC supply voltage	-	5.5V	V

3.2 Recommended Operating Conditions

Symbol	Parameter	Conditions	Min.	Nom.	Max.	Unit
VDD_5V	DC supply voltage from HOST	-	+4.5	+5	+5.5	V
Top	Operating temperature(Ambient)	-	0	-	+70	°C

3.3 Environmental Characteristics

Symbol	Parameter	Conditions	Min.	Max.	Unit
ESD	Electro-static discharge voltage	HBM	-4K	+4K	V
Top	Operating temperature	-	0	+70	°C
Tstg	Storage temperature	-	-30	+85	°C

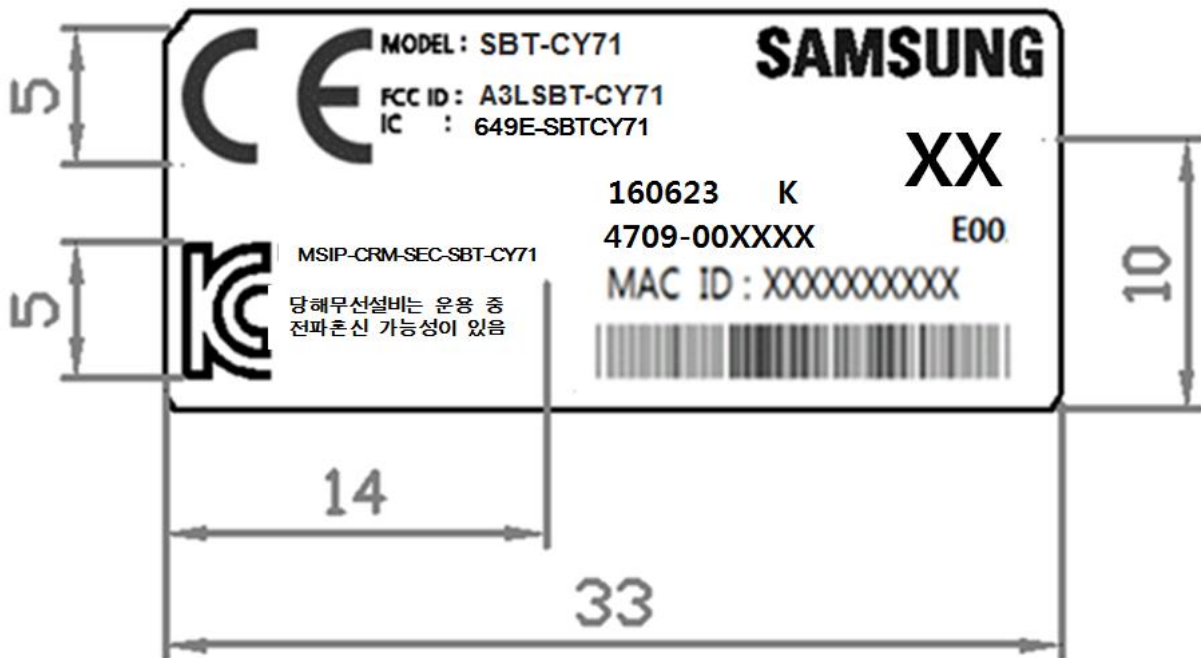
4 RF Specifications

All measurements are made under nominal supply voltage, room temperature, and conducted conditions at each antenna port except antenna.

4.1 Receiver RF Specifications (TBD)

Parameter	Conditions	Min	Typ.	Max	Unit
Frequency Range	2402+K*2MHz (K=0~39)	2402	-	2480	MHz
Receiver					
Sensitivity (PER)	PER ≤30.8%	-	-	-70	dBm
Maximum Input Level	PER ≤30.8%	-10			dBm
Transmitter					
Output Power	Average Power	-4	0	4	dBm
ICFT		-150	-	150	kHz
Frequency Drift		-50	-	50	
Drift rate		-	-	20	kHz/50us
Frequency Deviation	Avg (payload sequence 00001111)	225	-	275	kHz
	Max (payload sequence 10101010)	185	-	-	kHz

5 Product Label Information



6 Manufacturing Site

Samsung Electro-mechanics Thailand Co., Ltd. (SEMTHAI)
Wellgrow Industrial Estate, 93 Moo 5 T. Bangsamak, A.Bangpakong,
Chachoengsao 24180 THAILAND

Tel. : 66-38-562-000

Fax No. : 66-38-562-177

Instruction to OEM

This device complies with Industry Canada's license-exempt RSSs. Operation is subject to the following two conditions:

- (1) This device may not cause interference and
- (2) This device must accept any interference, including interference that may cause undesired operation of the device.

This application and its antenna must not be co-located or operation in conjunction with any other antenna or transmitter. A minimum separation distance of 20cm must be maintained between the antenna and the person for this appliance to satisfy the RF exposure requirements.

Host labeling requirement: "Contains transmitter module

FCC ID: A3LSBT-CY71

IC ID: 649E-SBTCY71"

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

7 WARNING & SAFETY INFORMATION

Safety Symbols



- When encountering this symbol in the manual, you must follow these recommendations to avoid irreparable damage to your car, system or connected devices or to avoid accidents with injuries or death.

IC Information

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions:

- (1) this device may not cause interference, and
- (2) this device must accept any interference, including interference

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence.

L'exploitation est autorisée aux deux conditions suivantes :

- (1) l'appareil ne doit pas produire de brouillage, et
- (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

The antenna(s) used for this device must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

FCC Information

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

FCC notification to users

This equipment has been tested and found to comply with the limits for a CLASS B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference, the user is encouraged to try to correct the interference by consulting with a dealer or an experienced technician for technical assistance.

Any changes or modifications to the equipment not expressly approved by the party responsible for compliance could void user's authority to operate the equipment.