Notice for TAIYO YUDEN Products

Please read this notice before using the TAIYO YUDEN products.

⚠ REMINDERS

■ Product information in this catalog is as of October 2018. All of the contents specified herein are subject to change without notice due to technical improvements, etc. Therefore, please check for the latest information carefully before practical application or use of our products.

Please note that TAIYO YUDEN shall not be in any way responsible for any damages and defects in products or equipment incorporating our products, which are caused under the conditions other than those specified in this catalog or individual product specification sheets.

■ Please contact TAIYO YUDEN for further details of product specifications as the individual product specification sheets are available.

■ Please conduct validation and verification of our products in actual condition of mounting and operating environment before using our products.

■ The products listed in this catalog are intended for use in general electronic equipment (e.g., AV equipment, OA equipment, home electric appliances, office equipment, information and communication equipment including, without limitation, mobile phone, and PC). Please be sure to contact TAIYO YUDEN for further information before using the products for any equipment which may directly cause loss of human life or bodily injury (e.g., transportation equipment including, without limitation, automotive powertrain control system, train control system, and ship control system, traffic signal equipment, disaster prevention equipment, medical equipment classified as Class I, II or III by IMDRF, highly public information network equipment including, without limitation, telephone exchange, and base station).

Please do not incorporate our products into any equipment requiring high levels of safety and/or reliability (e.g., aerospace equipment, aviation equipment, medical equipment classified as Class IV by IMDRF, nuclear control equipment, undersea equipment, military equipment).

When our products are used even for high safety and/or reliability-required devices or circuits of general electronic equipment, it is strongly recommended to perform a thorough safety evaluation prior to use of our products and to install a protection circuit as necessary.

Please note that unless you obtain prior written consent of TAIYO YUDEN, TAIYO YUDEN shall not be in any way responsible for any damages incurred by you or third parties arising from use of the products listed in this catalog for any equipment requiring inquiry to TAIYO YUDEN or prohibited for use by TAIYO YUDEN as described above.
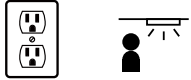
■ Information contained in this catalog is intended to convey examples of typical performances and/or applications of our products and is not intended to make any warranty with respect to the intellectual property rights or any other related rights of TAIYO YUDEN or any third parties nor grant any license under such rights.

■ Please note that the scope of warranty for our products is limited to the delivered our products themselves and TAIYO YUDEN shall not be in any way responsible for any damages resulting from a fault or defect in our products. Notwithstanding the foregoing, if there is a written agreement (e.g., supply and purchase agreement, quality assurance agreement) signed by TAIYO YUDEN and your company, TAIYO YUDEN will warrant our products in accordance with such agreement.

■ The contents of this catalog are applicable to our products which are purchased from our sales offices or authorized distributors (hereinafter "TAIYO YUDEN's official sales channel"). Please note that the contents of this catalog are not applicable to our products purchased from any seller other than TAIYO YUDEN's official sales channel.

■ Caution for Export
Some of our products listed in this catalog may require specific procedures for export according to "U.S. Export Administration Regulations", "Foreign Exchange and Foreign Trade Control Law" of Japan, and other applicable regulations. Should you have any questions on this matter, please contact our sales staff.

Wireless Module

Our recommended Line Up of *Bluetooth*®, W-LAN & GPS Module

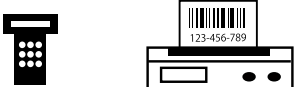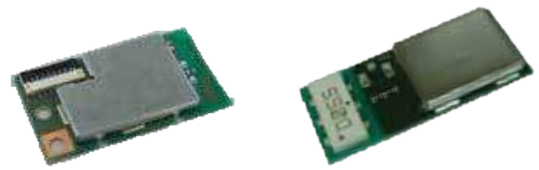■ For Smartphone Peripheral & IoT Solution

Electricity/Light

Security/Access

Bluetooth® low energy Module

■ For Industrial Market

Handy Terminal / Mobile Printer

123-456-789

WLAN（＋BT）
Original or ON-board Antenna & FPC Connector

■ For IoT Solution & Industrial
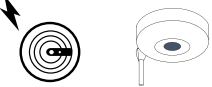
White Goods

Heating and Cooling

CPU Embedded
WLAN Module

GPS Full Module

Alarm/Sensing

Support for 2.4GHz ＆ 5GHz
BT+WLAN Module

※As some of the Wireless Modules listed above are still under development, the specification is subject to change without prior notice.
We also have Evaluation Kits for our modules.
For the latest information, please visit our web site at **http://www.ty-top.com/** or feel free to contact our sales department.

※The *Bluetooth*® word mark and logos are owned by the Bluetooth SIG, Inc. and any use of such marks by TAIYO YUDEN CO., LTD. is under license.
Other trademarks and trade names are those of their respective owners.

▶ This catalog contains the typical specification only due to the limitation of space. When you consider the purchase of our products, please check our product specification sheets.
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■ Bluetooth® low energy Module

Part number	BLE	BT	ANT	NFC	802.11a	802.11b	802.11g	802.11n	802.11ac	802.15.4 (Thread)	802.15.4g	GPS	GLONASS	UART	USB	PCM	SPI	I2C	I2S	SDIO	SMD	Connector	Antenna	Japan	FCC	IC	CE	Remark
EYSKBNZWB	○		○△	○						○				○	○		○	○	○		○		○	○	○	○	○*	32k X'tal,256k RAM、BT5(Full)
EYSLSNZWW	○		○△											○			○	○			○		○	○	○	○	○*	Ultra Small,24k RAM、BT5
EYSHSNZWZ	○		○*	○										○			○	○	○		○		○	○	○	○	○*	Ultra Small,64k RAM、BT5
EYSHJNZWZ	○		○*	○										○			○	○			○		○	○	○	○	○*	64k RAM、BT5
EYSGJNZXX	○													○			○	○			○		○	○	○	○	○*	16k RAM
EYSGJNZWY	○													○			○	○			○		○	○	○	○	○*	32k RAM
EYSGJNAWY-WX	○													○							○		○	○	○	○	○*	TY's APP
EYSLCNZWW	○		○△											○			○	○			○		○	○	○	○	○*	32k X'tal,24k RAM、BT5
EYSHCNZWZ	○		○*	○										○			○	○			○		○	○	○	○	○*	32k X'tal,64k RAM、BT5
EYSGCNZXX	○													○			○	○			○		○	○	○	○	○*	32k X'tal,16k RAM
EYSGCNZWY	○													○			○	○			○		○	○	○	○	○*	32k X'tal,32k RAM
EYSGCNAWY-WX	○													○							○		○	○	○	○	○*	32k X'tal,TY's APP

*Softdevice S332
△Plan to support soft devices.
*ETSI EN 300 328 v2.1.1 Conducted Test Report Available

■ Bluetooth® low energy & ANT Module

Part number	BLE	BT	ANT	NFC	802.11a	802.11b	802.11g	802.11n	802.11ac	802.15.4 (Thread)	802.15.4g	GPS	GLONASS	UART	USB	PCM	SPI	I2C	I2S	SDIO	SMD	Connector	Antenna	Japan	FCC	IC	CE	Remark
EYAGJNZXX	○		○											○			○	○			○		○	○	○	○	○*	32k RAM

*ETSI EN 300 328 v2.1.1 Conducted Test Report Available

■ Bluetooth® Dual Mode Module

Part number	BLE	BT	ANT	NFC	802.11a	802.11b	802.11g	802.11n	802.11ac	802.15.4 (Thread)	802.15.4g	GPS	GLONASS	UART	USB	PCM	SPI	I2C	I2S	SDIO	SMD	Connector	Antenna	Japan	FCC	IC	CE	Remark
EYSGCCAXX	○	○												○							○		○	○	○	○	○*	
EYSGCCSXX	○	○													○						○		○	○	○	○	○*	

*ETSI EN 300 328 v2.1.1 Conducted Test Report Available

■ Sub-1GHz Module

Part number	BLE	BT	ANT	NFC	802.11a	802.11b	802.11g	802.11n	802.11ac	802.15.4 (Thread)	802.15.4g	GPS	GLONASS	UART	USB	PCM	SPI	I2C	I2S	SDIO	SMD	Connector	Antenna	Japan	FCC	IC	CE	Remark
SYSFCSAXX-XX											○			○							○		○	○	○			32k X'tal,32k RAM、31Multihop

■ CPU Embedded WLAN Module

Part number	BLE	BT	ANT	NFC	802.11a	802.11b	802.11g	802.11n	802.11ac	802.15.4 (Thread)	802.15.4g	GPS	GLONASS	UART	USB	PCM	SPI	I2C	I2S	SDIO	SMD	Connector	Antenna	Japan	FCC	IC	CE	Remark
WYSACVLXY-XZ						○	○	○						○							○		○	○	○	○	○*	w/Cortex M4, 4M-Flash ROM
WYSACVLXY-XX						○	○	○						○							○		○	○	○	○	○*	TY's APP

*ETSI EN 300 328 v2.1.1 Conducted Test Report Available

■ WLAN or WLAN+BT Module

Part number	BLE	BT	ANT	NFC	802.11a	802.11b	802.11g	802.11n	802.11ac	802.15.4 (Thread)	802.15.4g	GPS	GLONASS	UART	USB	PCM	SPI	I2C	I2S	SDIO	SMD	Connector	Antenna	Japan	FCC	IC	CE	Remark
WYSAGVDXG	○	○			○	○	○	○	○							○				○	○		○	○	○	○	○*	Dual Band Antenna(Chip)
WYSEGVDXG	○	○			○	○	○	○	○							○				○	○		○	○	○	○	○*	RF Connector,（Limited antenna)
WYSBHVGXG	○	○														○				○	○	○						
WYSAGVDX7						○	○	○												○		○		○	○	○		
WYSAAVDXB		○			○	○	○	○												○		○		○	○	○		
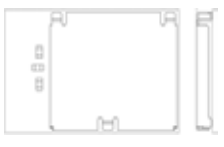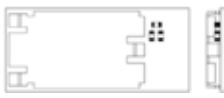
*ETSI EN 300 328 v2.1.1 Conducted Test Report Available

■ GNSS Module

Part number	BLE	BT	ANT	NFC	802.11a	802.11b	802.11g	802.11n	802.11ac	802.15.4 (Thread)	802.15.4g	GPS	GLONASS	UART	USB	PCM	SPI	I2C	I2S	SDIO	SMD	Connector	Antenna	Japan	FCC	IC	CE	Remark
GYSFDMAXB												○		○								○	○					12x12x4mm Patch antenna

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Part number	Function	Module type	I/F	Feature	Outline [mm] (Height : Maximum)
EYSKBNZWB (nRF52840)	*Bluetooth*® low energy v5.0（Full）& 802.15.4 (Thread) & NFC-A Type-2	BLE Slave and Master NFC-A Type-2 SMD type	UART USB I2C SPI I2S PDM 46 GPIO	w/CPU（Cortex M4F）32kHz Crystal Antenna 1MB Flash 256KB RAM FCC/IC/Japan certified ETSI EN 300 328 v2.1.1 Conducted Test Report Available	15.4 x 10.0 x 2.0
EYSLSNZWW (nRF52810)	*Bluetooth*® low energy v5.0（2Mbps Data Rate suppurt）	BLE Slave and Master SMD type	UART I2C SPI PDM 15 GPIO	w/CPU（Cortex M4）Antenna 192KB Flash 24KB RAM FCC/IC/Japan certified ETSI EN 300 328 v2.1.1 Conducted Test Report Available	8.55 x 3.25 x 1.0
EYSHSNZWZ (nRF52832)	*Bluetooth*® low energy v5.0 & NFC-A Type-2	BLE Slave and Master NFC-A Type-2 SMD type	UART I2C SPI I2S PDM 15 GPIO	w/CPU（Cortex M4F）Antenna 512KB Flash 64KB RAM FCC/IC/Japan certified ETSI EN 300 328 v2.1.1 Conducted Test Report Available	8.55 x 3.25 x 0.85
EYSHJNZWZ (nRF52832)	*Bluetooth*® low energy v5.0 & NFC-A Type-2	BLE Slave and Master NFC-A Type-2 SMD type	UART I2C SPI I2S PDM 15 GPIO	w/CPU（Cortex M4F）Antenna 512KB Flash 64KB RAM FCC/IC/Japan certified ETSI EN 300 328 v2.1.1 Conducted Test Report Available	11.3 x 5.1 x 1.3
EYSGJNZXX (nRF51822)	*Bluetooth*® low energy v4.2 （*）	BLE Slave and Master SMD type	UART I2C SPI 14 GPIO	w/CPU（Cortex M0）Antenna 256KB Flash 16KB RAM FCC/IC/Japan certified CE Conducted test report available	11.3 x 5.1 x 1.3
EYSGJNZWY (nRF51822)	*Bluetooth*® low energy v4.2 （*）	BLE Slave and Master SMD type	UART I2C SPI 14 GPIO	w/CPU（Cortex M0）Antenna 256KB Flash 32KB RAM FCC/IC/Japan certified ETSI EN 300 328 v2.1.1 Conducted Test Report Available	11.3 x 5.1 x 1.3
EYSGJNAWY-WX (nRF51822)	*Bluetooth*® low energy v4.1	BLE Slave and Master SMD type Taiyo Yuden Software Embedded	UART	w/CPU（Cortex M0）Antenna FCC/IC/Japan certified ETSI EN 300 328 v2.1.1 Conducted Test Report Available	11.3 x 5.1 x 1.3
EYSLCNZWW (nRF52810)	*Bluetooth*® low energy v5.0（2Mbps Data Rate suppurt）	BLE Slave and Master SMD type	UART I2C SPI PDM 30 GPIO	w/CPU（Cortex M4）Antenna 192KB Flash 24KB RAM 32kHz Crystal FCC/IC/Japan certified ETSI EN 300 328 v2.1.1 Conducted Test Report Available	12.9 x 9.6 x 2.0
EYSHCNZWZ (nRF52832)	*Bluetooth*® low energy v5.0 & NFC-A Type-2	BLE Slave and Master NFC-A Type-2 SMD type	UART I2C SPI I2S PDM 30 GPIO	w/CPU（Cortex M4F）Antenna 512KB Flash 64KB RAM 32kHz Crystal FCC/IC/Japan certified ETSI EN 300 328 v2.1.1 Conducted Test Report Available	12.9 x 9.6 x 2.0
EYSGCNZXX (nRF51822)	*Bluetooth*® low energy v4.2 （*）	BLE Slave and Master SMD type	UART I2C SPI 29 GPIO	w/CPU（Cortex M0）Antenna 256KB Flash 16KB RAM 32kHz Crystal FCC/IC/Japan certified ETSI EN 300 328 v2.1.1 Conducted Test Report Available	12.9 x 9.6 x 2.0
EYSGCNZWY (nRF51822)	*Bluetooth*® low energy v4.2 （*）	BLE Slave and Master SMD type	UART I2C SPI 29 GPIO	w/CPU（Cortex M0）Antenna 256KB Flash 32KB RAM 32kHz Crystal FCC/IC/Japan certified ETSI EN 300 328 v2.1.1 Conducted Test Report Available	12.9 x 9.6 x 2.0

FUNCTIONAL MODULES

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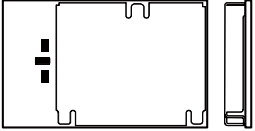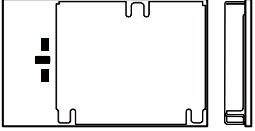For details of each product (characteristics graph, reliability information, precautions for use, and so on), see our website (http://www.ty-top.com/) .

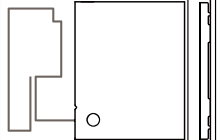| Part number	Function	Module type	I/F	Feature	Outline [mm] (Height : Maximum)
EYSGCNAWY–WX (nRF51822)	*Bluetooth®* low energy v4.1	BLE Slave and Master SMD type Taiyo Yuden Software Embedded	UART	w/CPU （Cortex M0） Antenna 32kHz Crystal FCC/IC/Japan certified ETSI EN 300 328 v2.1.1 Conducted Test Report Available	12.9 x 9.6 x 2.0

（＊）Supported by S130

■ *Bluetooth®* low energy & ANT Module

Part number	Function	Module type	I/F	Feature	Outline [mm] （Height : Maximum）
EYAGJNZXX (nRF51422)	*Bluetooth®* low energy v4.2 & ANT	BLE Slave ANT SMD type	UART I2C SPI 14 GPIO	w/CPU （Cortex M0） Antenna 256KB Flash 32KB RAM FCC/IC/Japan certified ETSI EN 300 328 v2.1.1 Conducted Test Report Available	11.3 x 5.1 x 1.3

■ *Bluetooth®* Dual Mode Module

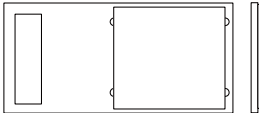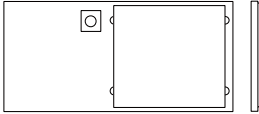| Part number	Function	Module type	I/F	Feature	Outline [mm] （Height : Maximum）
EYSGCCAXX	*Bluetooth®* Classic and BLE	SMD type	UART	Integrated System Clock Antenna FCC/IC/Japan certified ETSI EN 300 328 v2.1.1 Conducted Test Report Available	15.4 x 10.0 x 2.0
EYSGCCSXX	*Bluetooth®* Classic and BLE	SMD type	USB	Integrated System Clock Antenna FCC/IC/Japan certified ETSI EN 300 328 v2.1.1 Conducted Test Report Available	15.4 x 10.0 x 2.0

■ Sub–1GHz Module
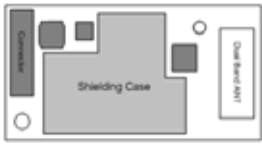
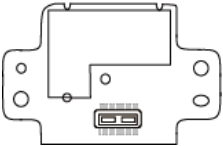| Part number	Function	Module type	I/F	Feature	Outline [mm] （Height : Maximum）
SYSFCSAXX–XX	IEEE802.15.4g	SMD type Taiyo Yuden Software Embedded	UART	w/CPU （Cortex M3） Antenna 256KB Flash 32KB RAM Japan certified	30.0 x 21.0 x 2.6

■ CPU Embedded WLAN Module

Part number	Function	Module type	I/F	Feature	Outline [mm] （Height : Maximum）
WYSACVLXY–XZ	IEEE802.11b/g/n	SMD type	UART SPI	Integrated System Clock Antenna Supprt Micro AP Supprt WiFi Direct FCC/IC/Japan certified ETSI EN 300 328 v2.1.1 Conducted Test Report Available	21.4 x 14.0 x 2.4
WYSACVLXY–XX	IEEE802.11b/g/n	SMD type Original Software Embedded	UART SPI	Integrated System Clock Antenna Supprt Micro AP FCC/IC/Japan certified ETSI EN 300 328 v2.1.1 Conducted Test Report Available	21.4 x 14.0 x 2.4

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■WLAN or WLAN+BT Module

Part number	Function	Module type	I/F	Feature	Outline [mm](Height : Maximum)
WYSAGVDXG	IEEE802.11ac/a/b/g/n+Bluetooth® 4.2 (Chip antenna Type)	SMD type	SDIO PCM	Integrated System Clock 2.4GHz & 5GHz 11ac(HT80) Antenna FCC/IC/Japan certified ETSI EN 300 328 v2.1.1 Conducted Test Report Available	26.0 x 12.0 x 2.0
WYSEGVDXG	IEEE802.11ac/a/b/g/n+Bluetooth® 4.2 (RF connector Type)	SMD type	SDIO PCM	Integrated System Clock 2.4GHz & 5GHz 11ac(HT80) External Antenna FCC/IC/Japan certified ETSI EN 300 328 v2.1.1 Conducted Test Report Available (Limited antenna)	26.0 x 12.0 x 2.0
WYSBHVGXG	IEEE802.11ac/a/b/g/n+Bluetooth® 4.2	SMD type	SDIO PCM	Integrated System Clock 2.4GHz & 5GHz 11ac(HT80)	12.6 x 8.9 x 1.9
WYSAGVDX7	IEEE802.11b/g/n	Connector type	SDIO	Integrated System Clock Antenna FCC/IC/Japan certified	20.0 x 11.0 x 2.15
WYSAAVDXB	IEEE802.11 a/b/g/n+Bluetooth® 3.0	Connector type	SDIO PCM	Integrated System Clock Dual Band Antenna HT40 Japan certified	30.0 x 15.0 x 2.45

■GNSS Module

Part number	Function	Module type	I/F	Feature	Outline [mm](Height : Maximum)
GYSFDMAXB	GPS Full Module NMEA Output	Connector type	UART	Patch Antenna TCXO RTC LNA SAW On-chip Logger	23.2 x 15.3 x 6.9

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FUNCTIONAL MODULES