VALENCE TECH

Specifications of OS-322 MCU Board (Preliminary)

HARDWARE

Specifications

Frequency Band:	Support for 802.11 co-existence 2.4GHz ~ 2.48GHz unlicensed band
Bluetooth System:	v2.1 (Class 2)
Antenna:	Class 2 power output with printed PCB antenna
Power:	3.3V from uSqueez App Power PCBA (2.7V to 3.6V)
RF:	1Mbps GFSK.
Interfaces:	7 connectors – CN1 – 5 pins (1 x 5 connector 2.0mm pitch) CN7 – 3 pins (1 x 3 connector 2.50mm pitch) CN9 – 2 pins (1 x 2 connector 2.50mm pitch) CN12 – 9 pins (1 x 9 connector 2.0mm pitch) ISO3 – 7 pins, 2.54mm (1 x 7 connector 2.50mm pitch) J1 – 6pins (1 x 6 connector 2.54mm pitch) J4 – 7 pins, 2.0mm (1 x 7 connector 2.0mm pitch)
Limit Safety Switch:	A safety limit switch will be connecting to CN9. The safety limit switch is normally close (GND) and makes the uSqueez App working normally. If the safety limit switch is opened (Pull-high), the motors in uSqueez App will stop immediately and output beep sound twice.
Optical Sensor:	The optical sensor is used to detect the wide and narrow position. It will be connected to CN7.
Operating: Temperature Range	0 - 70°C
Dimensions:	80mm x 43mm x 8.6mm
Indicators:	8 LEDs (on Button PCBs) – Power On/OFF (Color Red) Vibration Hi (Color Red) Vibration Lo (Color Red) Soothe of Auto Mode (Color Red) Pulse of Auto Mode (Color Red) Energize of Auto Mode (Color Red)

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		Bluetooth power indictor (Color Red)
		BT connection status (Color Blue)
Buttons:	4 buttons (on Button PCBs) –	Power On/OFF
		Vibration Hi/Lo
		Auto Mode
		Bluetooth button
Current consumption:	50mA (approx.)	

Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.

Conformément à la réglementation d'Industrie Canada, le présent émetteur radio peut fonctionner avec une antenne d'un type et d'un gain maximal (ou inférieur) approuvé pour l'émetteur par Industrie Canada. Dans le but de réduire les risques de brouillage radioélectrique à l'intention des autres utilisateurs, il faut choisir le type d'antenne et son gain de sorte que la puissance isotrope rayonnée équivalente (p.i.r.e.) ne dépasse pas l'intensité nécessaire à l'établissement d'une communication satisfaisante.

Information for the OEMS Integrators
This device is intended for OEM integrators only. Please see the full grant of equipment document for restrictions.

Label Information to the End User by the OEM or Integrators
If the FCC ID of this module is not visible when it is installed inside another device, then the outside of the device into which the module is installed must be labelled with “Contains FCC ID: ARG-OS-322 and IC: 10142A-OS322”.

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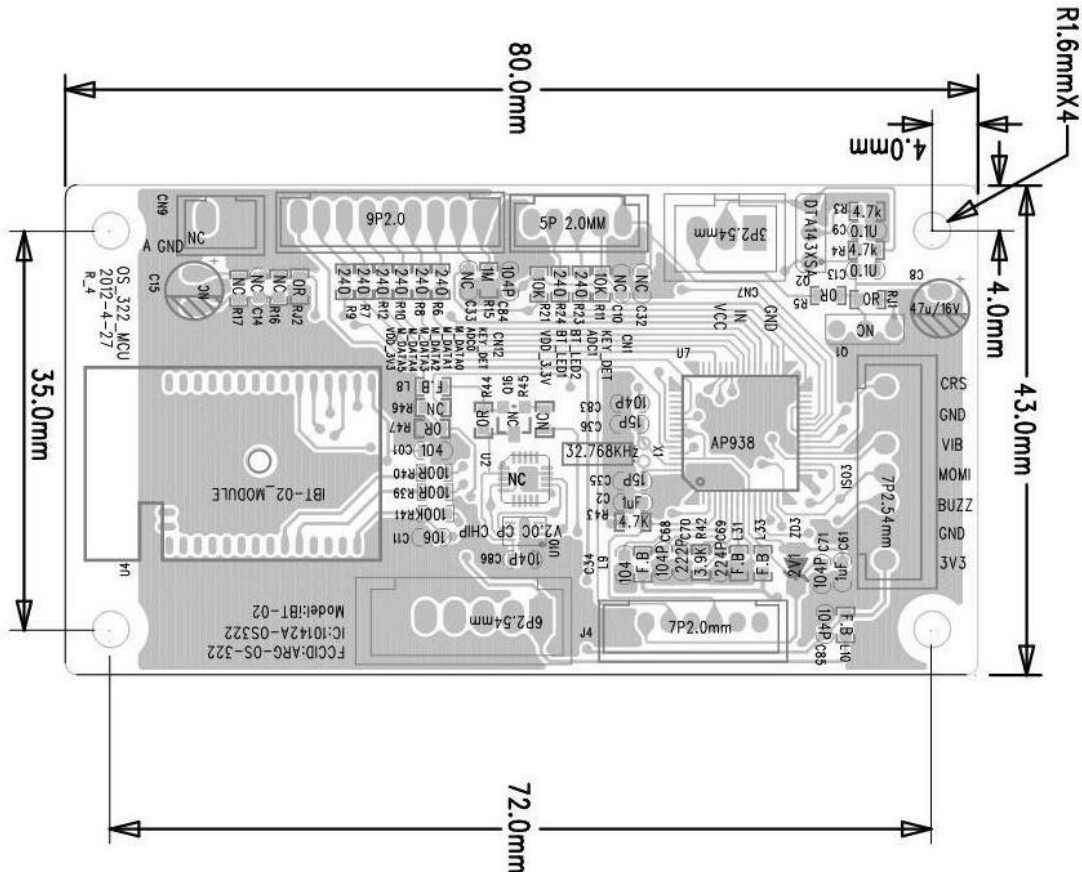
MECHANICAL SIZE



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CONNECTOR PIN LAYOUT

Connector	Pin	Signal Name	Description
CN1 (To Push Button PCB - BT)	1	VDD_3V3	3.3V power for LED
	2	BT_LED1	Bluetooth LED1 enable / disable
	3	BT_LED2	Bluetooth LED2 enable / disable
	4	ADC1	Detect Push button according to input voltage level No button press : 0.28×VDD to VDD Bluetooth button: 0V to 0.28×VDD
	5	KEY_DET	Push button press detect
CN7 (To Optical Sensor)	1	SENS_VDD	3.3V Power for Sensor
	2	OPT_IN	Input signal from Optical Sensor
	3	GND	Signal Ground
CN9 (To Safety Limit Switch)	1	SAFE_DET	Safety Limit Switch detection input
	2	GND	Signal Ground
CN4 (To Button PCB - Function)	1	VDD_3V3	3.3V power for LED
	2	M_DATA5	LED5 enable / disable
	3	M_DATA4	LED4 enable / disable
	4	M_DATA3	LED3 enable / disable
	5	M_DATA2	LED2 enable / disable
	6	M_DATA1	LED1 enable / disable
	7	M_DATA0	LED0 enable / disable
	8	ADC0	Detect Push button according to input voltage level No button press: 0.90×VDD to VDD Vibration button: 0.59×VDD to 0.90×VDD Power button : 0.28×VDD to 0.59×VDD Program button : 0V to 0.28×VDD
	9	KEY_DET	Push button press detect
ISO3 (To Power PCBA)	1	VDD	3.3V Power supply from power board (2.7 to 3.6V)
	2	GND	Signal Ground
	3	O_BUZZER	Buzzer control signal to power board
	4	O_MOMI	Massage motor control signal to power board
	5	O_VIB	Vibration motor control signal to power board
	6	GND	Signal Ground
	7	ZERO_CRS	Zero cross signal from power board
J4	1	GND	Signal Ground
	2	3V3	Control Signal for MCU firmware upgrade
	3	PGM	Control Signal for MCU firmware upgrade
	4	SDO	Control Signal for MCU firmware upgrade
	5	RESET	Control Signal for MCU firmware upgrade

	6	SDI	Control Signal for MCU firmware upgrade
	7	SCK	Control Signal for MCU firmware upgrade
J1	1	BT_3V3	Control Signal for BT module firmware upgrade
	2	MOSI	Control Signal for BT module firmware upgrade
	3	MISO	Control Signal for BT module firmware upgrade
	4	CSB	Control Signal for BT module firmware upgrade
	5	CSK	Control Signal for BT module firmware upgrade
	6	GND	Signal Ground

Caution:
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.

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.

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

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 in a residential installation. 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 to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
—Reorient or relocate the receiving antenna.
—Increase the separation between the equipment and receiver.
—Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
—Consult the dealer or an experienced radio/TV technician for help.