Level:Public Information

HY-40Q102CC Bluetooth to LIN positioning Antenna module

Version: v1.0

11th Nov, 2019

1. Parameter configuration

Item	Detail	Specification	Remarks
Bluetooth IC selection	CC2640R2F TWRGZRQ1	CC2640R2FTWRGZRQ1 QFN48 7*7 IC	TI Vechile spec. 7*7 QFN48 Encapsulation sheet
LIN IC Selection	TJA1028T	TJA1028T/3V3/20 SO8 NXP	O/P 3.3V
Others Configuration	PCB Mode	HY-40Q102 LIN Bus Bluetooth Vechile spec. Blockle	
	Crystal	24MHz and 32.768 KHz	
	Equipment mode	Central Peripheral central+peripheral	

2. Bluetooth electrical characteristics (Ta = 25 ° C, VDD = 3.0 V, 1 Mbps, GFSK 250 KHz modulation, standard measurement of Bluetooth low energy mode.)

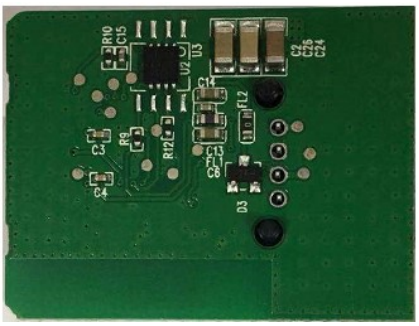
1. Modulation mode:GFSK
2. Frequency range: 2402~2480MHZ (2.4G ISM band)
3. IC RF TX power range can be set by software programming: -21~ +5 dB
4. Antenna feed-in-port RF transmit power: +2 dBm typical. (RF TX is set at +5dBmmaximum characteristic)
5. The range of working environment temperature: -40 ° C ~ +105 ° C
6. Sensitivity of receiving: Antenna feed-in-port test -93dBm typical (at PER \<30.8% feature)
7. Frequency offset value: RF ± 60ppm, MCU clock 32.768KHz ± 350ppm (using crystal mode)
8. Installation suggestion: Near the module antenna, there can be no metal parts and hinder the electromagnetic emission material, which will affect the control distance.
9. Can meet the safety regulations of countries
10. Bluetooth version: Bluetooth 4.2~5.0 compatible

3.ESD rating

ESD Electrostatic Discharge Withstand			数值 max	单位
V_{ESD} Electrostatic discharge voltage	Human body model : HBM According to ANSI/ESDA/JEDEC JS001 (Note 1)	All pins	±2500	V
	Charged device model: (CDM) According to JESD22-C101 (Note 2)	All pins	±750	

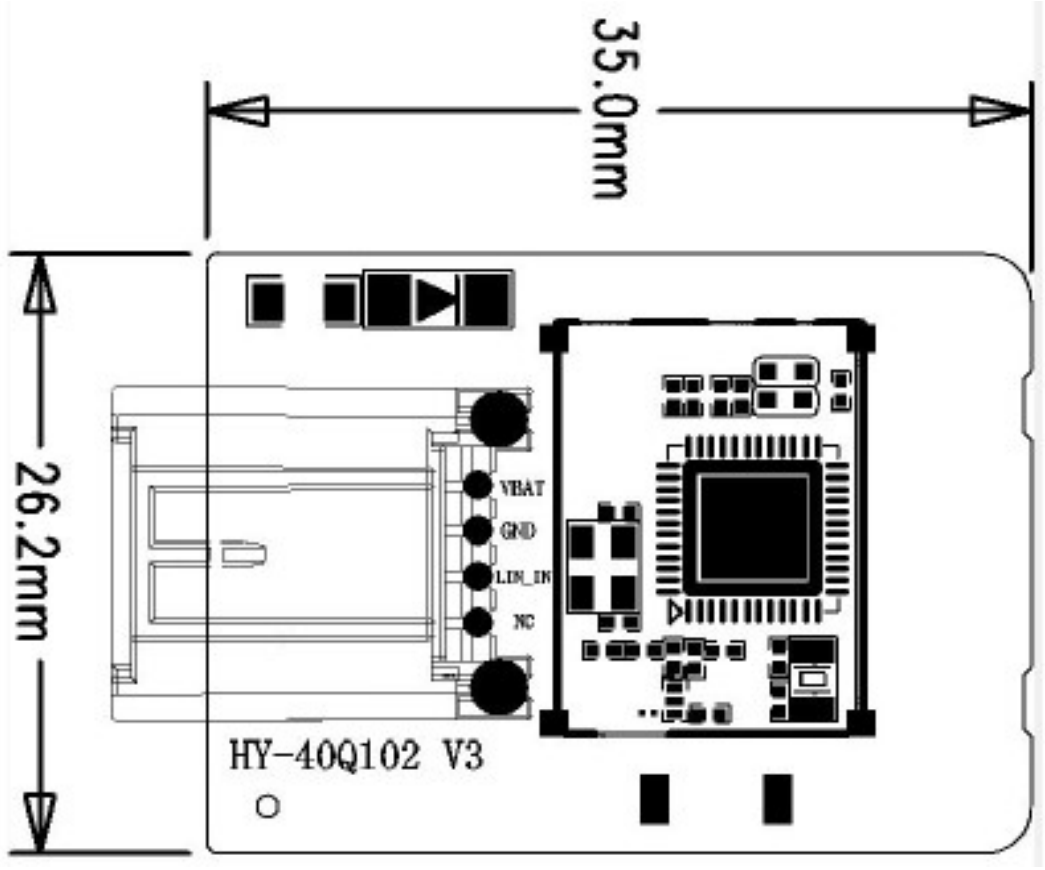
Note (1). JEDEC-JEP155 specifies: In the 500V HBM mode, the anti-static control process of the safe production standard is allowed.
Note (2). JEDEC-JEP157 stipulates: In the 250V CDM mode, it is allowed to safely produce standard anti-static control process.
Note: ESD sensitive equipment components must have anti-static precautions during use to prevent permanent damage.

4.HY-40Q102 V2 LIN bus Bluetooth Vechile Spec. block front / back plane picture



5.HY-40Q102 V2 LIN bus Bluetooth Vechile Spec. block size picture & pin picture

PCBA size：35.0*26.2*4.0mm



6.LIN Specifications:

1) LIN power supply input the range of voltage: 10~26VDC Output voltage: DC3.3V

2) LIN bus software function antenna is to do LIN peripheral, control box to set up, read and other logic operations on the three lines, the specific support instructions are as follows:

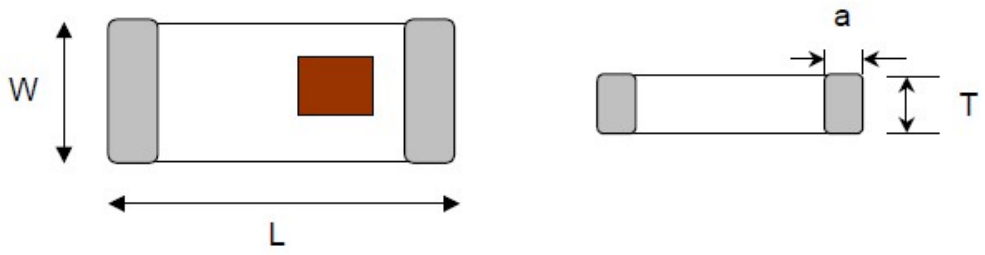
1) 18ID : ; Set the broadcaster identification code
2) 30ID : ; Set the calibration field strength
3) 32 ID : ; Version number read
4) 3C ID: ; Sleep instruction
5) 20 ID : ; ID of Antenna setting
6) 21~2F ID : ; The real-time field strength of the corresponding device when reading.

7: Ceramic Antenna ACX AT5020 Description of Features:

(1). Frequency Band: 2400~2500MHz / maximum gain 0dBi / average gain -1dBi / VSWR 2.0max.

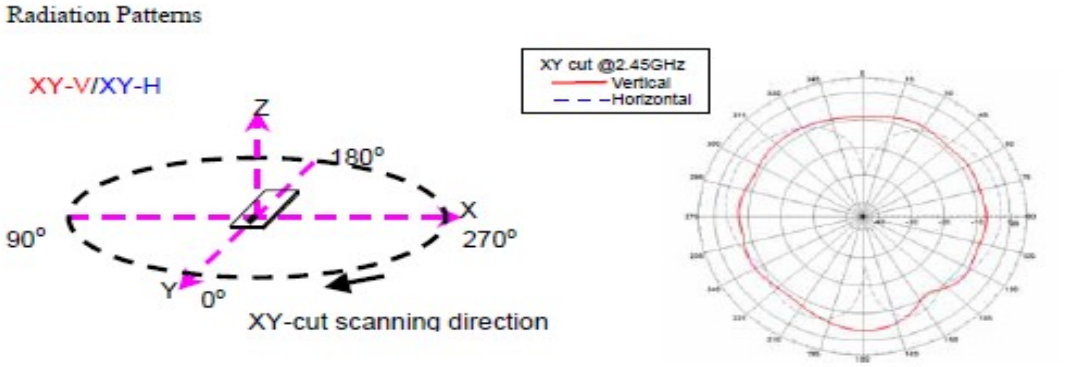
(2) Physical dimension

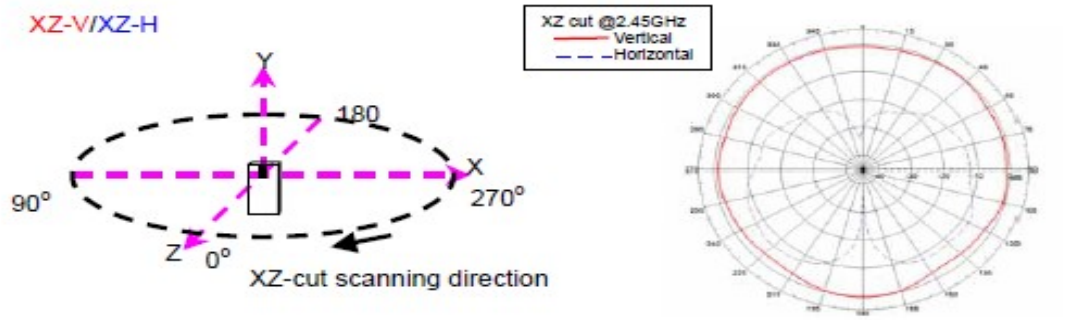
Unit : mm

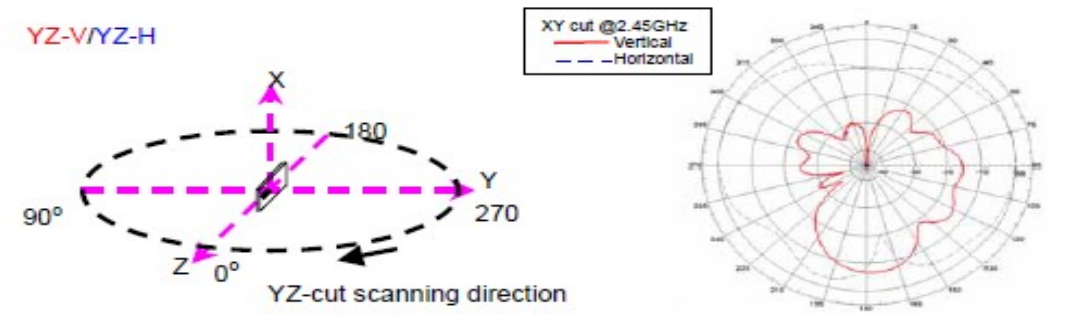


Mark	L	W	T	a
Dimensions	5.0•0.2	2.0•0.2	1.1•0.2	0.5•0.3

(3)Radiation field strength picture







8.Packaging method: as shown below

(1) Placed in a (5*6=30pcs/layer) tray, and every 13 layers (390pcs) +1 empty trays are place in an electrostatic bag and vacuumed.

9.Contact US

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