

ORG447X Evaluation Kit

Datasheet



Description

Evaluation Kit of the ORG447X Series GPS Module comprises the Demo Board, USB to UART cable and CD with GPS simulator software and documentation.

The Demo Board is built of Main Board, incorporating 3.3V LDO regulator, UART connector, push-button tactile switch for Push-To-Fix™ interrupt and various test points.

The Demo Kit is equipped with miniature passive antenna assembly, connected to an ORG447X Interface Adaptor.

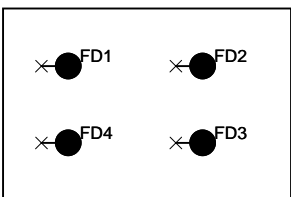
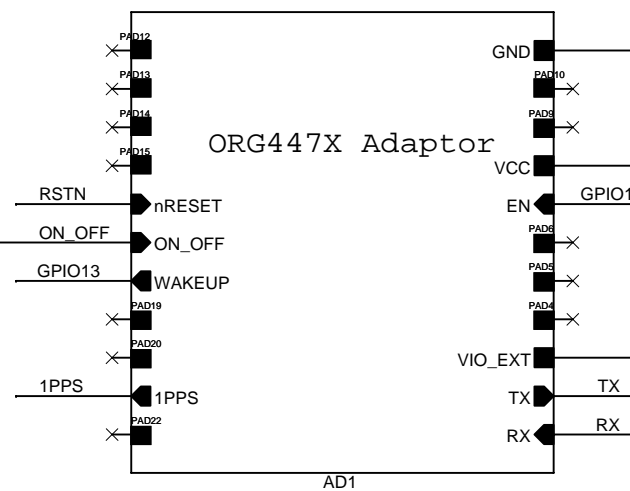
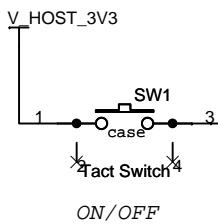
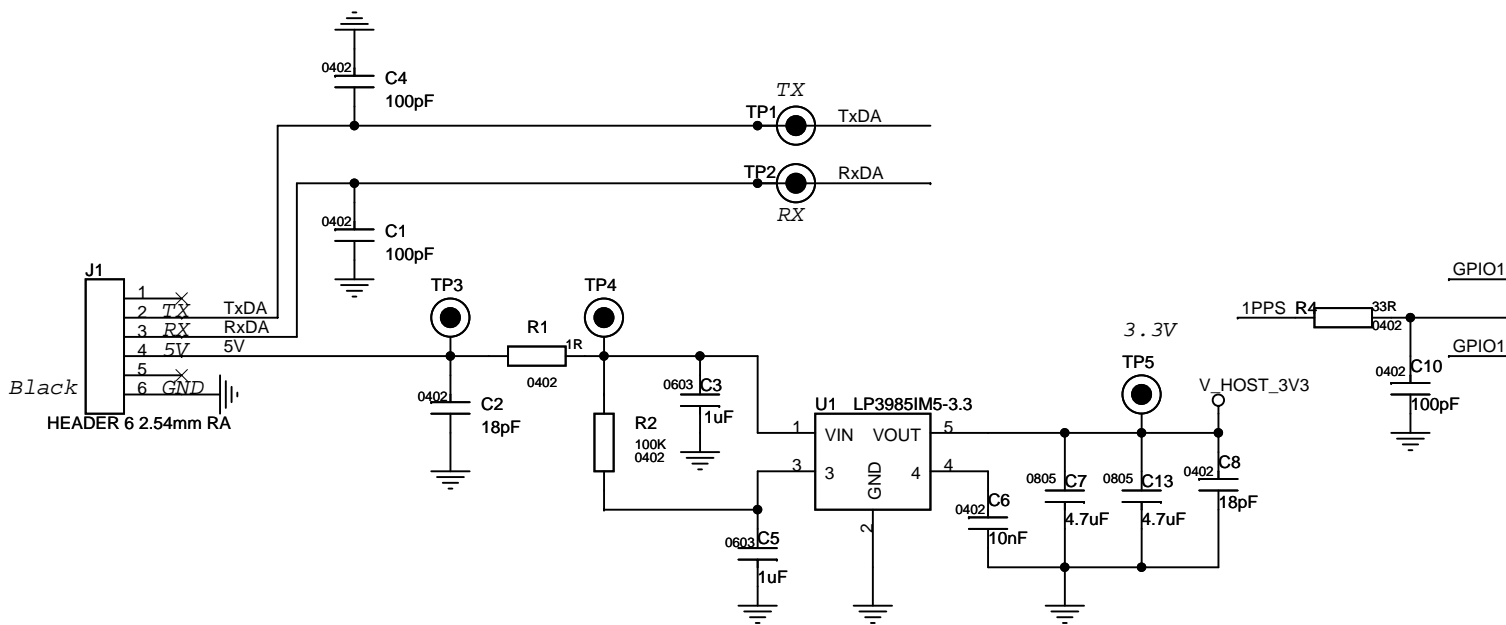
An ORG447X Interface Adaptor is soldered onto the Main Board.

An Interface Adaptor includes miniature RF input connector, 1.8V regulator, single buffer for voltage level translation of TX line, and voltage supervisor for autonomous power on, among several assembly options:

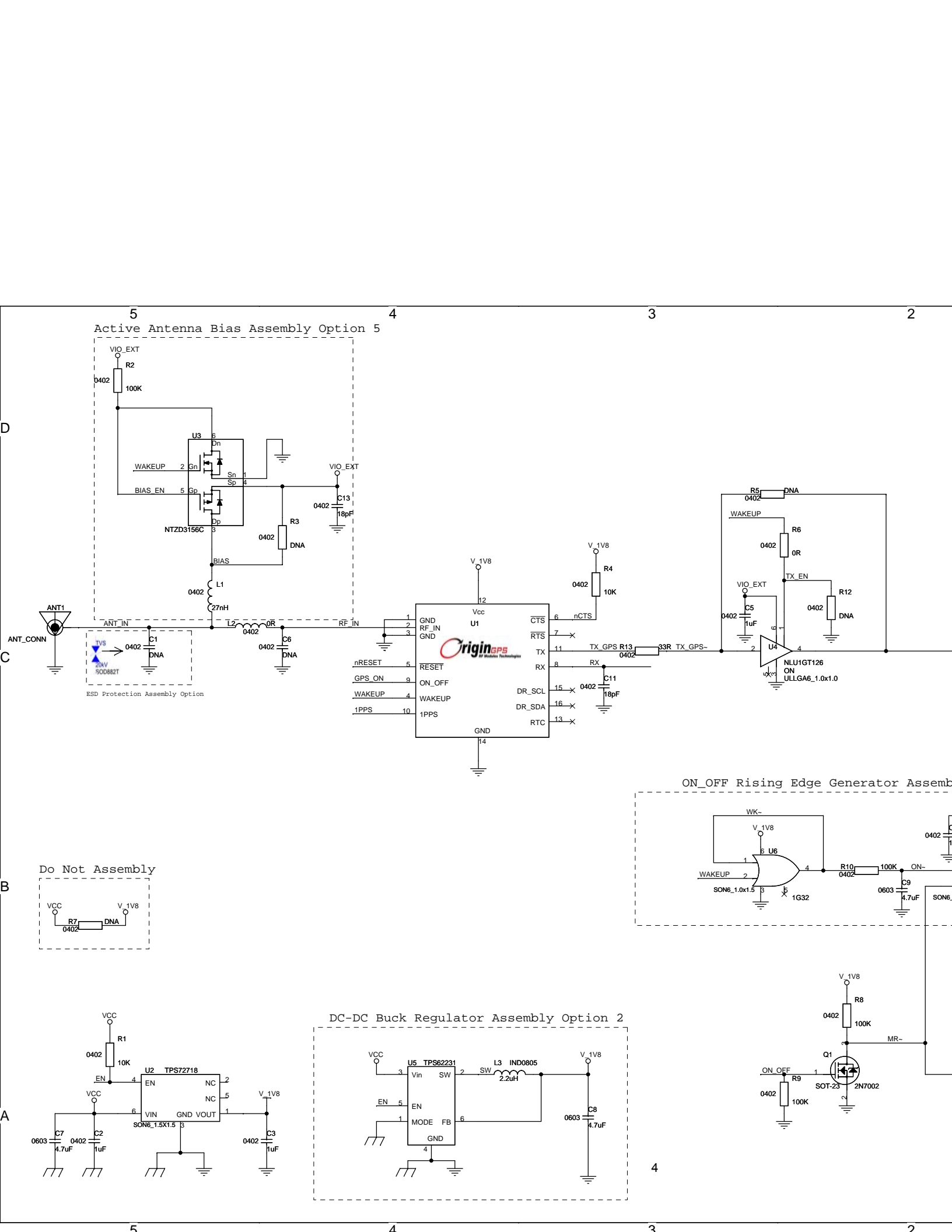
Assembly Option	Description	Notes
Option 1	1.8V Supply by LDO Regulator	Default
Option 2	1.8V Supply by Switch Mode Regulator	
Option 3	ON Pulse Delay by Integrated Supervisor	Default
Option 4	ON Pulse Delay by Logic Gates	
Option 5	Active Antenna Bias Control Circuit	

Options 1 and 3 are populated by default.

Customers are encouraged to apply different assembly option.



Title	OR
Size	A4
Date:	Su





ORG447X Series Evaluation Kit Datasheet
Fully Integrated GPS Modules

3. Main Board Assembly Bill Of Materials

Item	Quantity	Reference	Value	Description	P/N
1	8	C1,C4,C9,C10,C11,C12,C14,C15	100pF	CAP SMT 100pF 50V 5% COG 0402	GRM1555C1H101JA01
2	2	C2,C8	18pF	CAP SMT 18pF 50V 5% COG 0402	GRM1555C1H180JZ01
3	1	C3,C5	1uF	CAP SMT 1uF 6.3V 10% X5R 0603	GRM188R60J105KA01
4	1	C6	10nF	CAP SMT 10nF 25V 10% X7R 0402	GRM155R71E103KA01
5	2	C7,C13	4.7uF	CAP SMT 4.7uF 6.3V 10% X5R 0805	GRM21BR61C475KA81
6	1	J1	HEADER 6 2.54mm RA	CONN. 6P TH RA	2211S-06G-F1
7	1	R1	1R	RESISTOR CHIP METAL FILM 0402 0.063W	CRCW04021RFRT1
8	1	R2	100K	RESISTOR CHIP METAL FILM 0402 0.063W	CRCW0402100KFRT1
9	5	R3,R4,R5,R6,R7	33R	RESISTOR CHIP METAL FILM 0402 0.063W	CRCW040233RFRT1
10	1	SW1	Tact Switch	SMD TACT SWITCH	TJ-532-V-T/R
11	1	U1	LP3985IM5-3.3	3.3V LDO REGULATOR 200mA	LP3985IM5-3.3



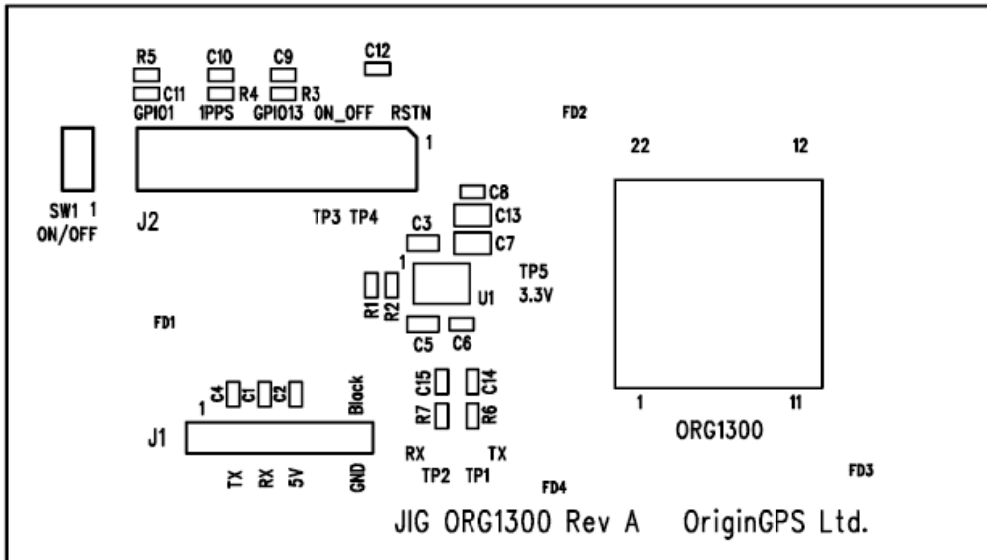
ORG447X Series Evaluation Kit Datasheet
Fully Integrated GPS Modules

4. ORG447X Adaptor Assembly Bill Of Materials

Item	Quantity	Reference	Value	Description	P/N	MF
1	1	ANT1	ANT_CONN	Ultra Small SMD Coaxial Conn.	W.FL	HIRC
2	1	C1	ESD1	Ceramic ESD protection device	LXE15AAA1-017	MU
3	3	C2,C3,C5	1uF	CAP SMT 1uF 10V 10% X5R 0402	GRM155R61A105KE15	MU
4	2	C4,C12	1uF	CAP SMT 1uF 10V 10% X5R 0402	GRM155R61A105KE15	MU
5	1	C10	1uF	CAP SMT 1uF 10V 10% X5R 0402	GRM155R61A105KE15	MU
6	1	C6	DNA	CAP SMT 1pF 50V 5% COG 0402	GRM1555C1H1RWZ01D	MU
7	2	C7,C8	4.7uF	CAP SMT 4.7uF 6.3V 10% X5R 0603	GRM155R60G475ME87D	MU
8	1	C9	4.7uF	CAP SMT 4.7uF 6.3V 10% X5R 0603	GRM155R60G475ME87D	MU
9	1	C11	18pF	CAP SMT 18pF 50V 5% COG 0402	GRM1555C1H180JZ01D	MU
10	1	C13	18pF	CAP SMT 18pF 50V 5% COG 0402	GRM1555C1H180JZ01D	MU
11	1	L1	27nH	IND SMT 27nH 0402	LQG15HS27NJ02	MU
12	2	L2,R6	OR	RESISTOR CHIP METAL FILM 0402 0.063W	CRCW04020RJK	VISH
13	1	L3	2.2uH	SMD IND 2.2uH 0.74A DSR=0.1Ohm	LQM21PN2R2MCO	MU
14	1	Q1	2N7002	N-CH 0.38A 60V SOT23 Power MOSFET	2N7002KT1G	ON
15	3	R8,R9,R11	100K	RESISTOR CHIP METAL FILM 0402 0.063W	CRCW0402100KJK	VISH
16	1	R2	100K	RESISTOR CHIP METAL FILM 0402 0.063W	CRCW0402100KJK	VISH
17	1	R10	100K	RESISTOR CHIP METAL FILM 0402 0.063W	CRCW0402100KJK	VISH
18	4	R3,R5,R7,R12	DNA	RESISTOR CHIP METAL FILM 0402 0.063W	CRCW0402100KJK	VISH
19	2	R1,R4	10K	RESISTOR CHIP METAL FILM 0402 0.063W	CRCW040210KJK	VISH
20	1	R13	33R	RESISTOR CHIP METAL FILM 0402 0.063W	CRCW040233RFR1	VISH
21	1	U1	ORG447X	Minuature GPS Engine Module	ORG447X	ORIG
22	1	U2	TPS72718	1.8V Low Iq Low N RF LDO Regulator 200mA	TPS72718DSER	TI
23	1	U3	NTZD3156C	Compl. N- P-Ch. MOSFET w Integr PUR PDR ESD Protection	NTZD3156CT1G	ON
24	1	U4	NLU1GT125	Single Buffer W. 3-STATE	NLU1GT126CMX1TCG	ON
25	1	U5	TPS62231	1.8V High Efficiency DC-DC Buck Converter	TPS62231DRYR	TI
26	1	U6	1G32	Low Power Single OR Gate	SN74AUP1G32DRY	TI
27	1	U7	1G08	Low Power Single AND Gate	SN74AUP1G08DRY	TI
28	1	U8	TPS3808	Low Iq Programmable Delay Supervisor	TPS3808G18DRVR	TI

5. Main Board PCB layout

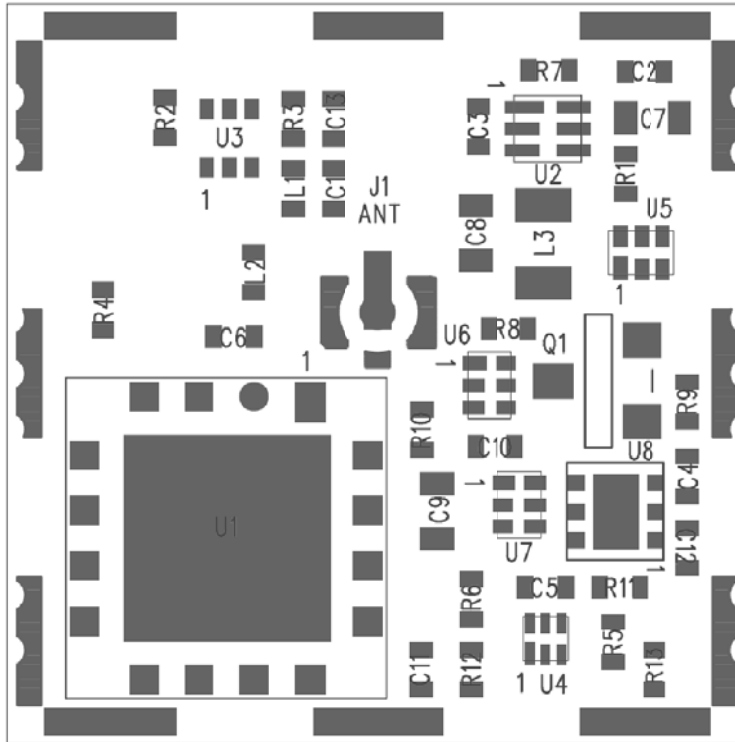
UART Main Board for ORG447x Series Module Adaptor is 2 layers 1.6mm thickness FR4 PCB.



Components Placement

6. ORG447X Adaptor PCB layout

Adaptor Board for ORG447x Series Modules is 4 layers 0.6mm thickness FR4 PCB.



Components Placement

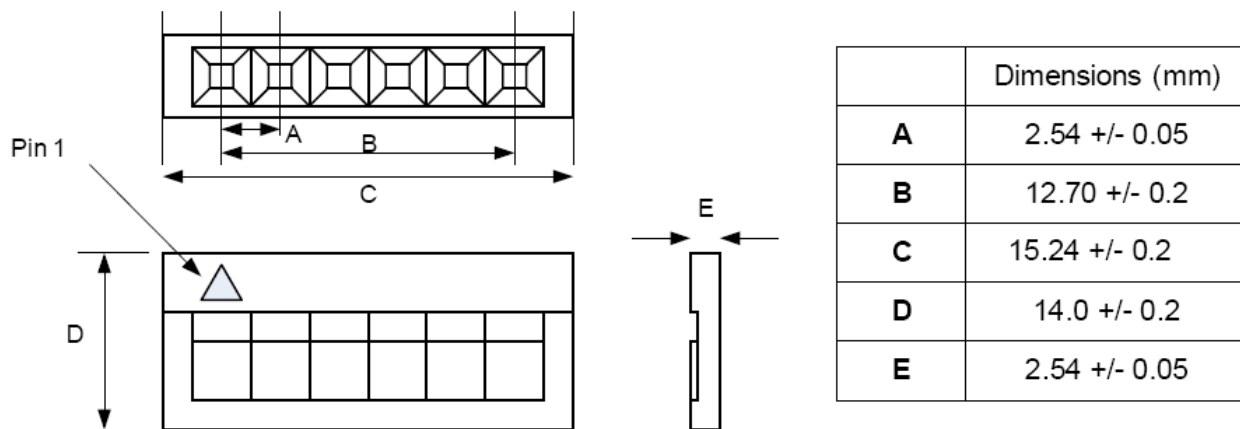
7. TTL-232R-3V3 USB-Serial Converter

The TTL-232R-3V3 is a USB to Serial (TTL level) converter cable which allows for a simple way to connect TTL interface devices to USB.

The TTL-232R-3V3 uses an FTDI FT232RQ IC which is housed inside the USB 'A' connector and is terminated at the end of a 1.8 meter cable (6 ft.) with a 0.1" pitch header socket which provided access to transmit (Tx), receive (Rx), RTS# and CTS#. These lines all operate at 3.3V levels.

Also brought out on the header are VCC (5V) and GND.

The mechanical details of the 6 way connector are shown in the following diagram



Header Pin Number	Name	Type	Colour	Description
1	GND	GND	Black	Device ground supply pin.
2	CTS#	Input	Brown	Clear to Send Control input / Handshake signal.
3	VCC	Output	Red	+5V output,

Header Pin Number	Name	Type	Colour	Description
4	TXD	Output	Orange	Transmit Asynchronous Data output.
5	RXD	Input	Yellow	Receive Asynchronous Data input.
6	RTS#	Output	Green	Request To Send Control Output / Handshake signal.

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for [Interface Development Tools](#) category:

Click to view products by [Origingps](#) manufacturer:

Other Similar products are found below :

[CY4607M](#) [PEX 8748-CA RDK](#) [DP130SSEVM](#) [ISO3086TEVM-436](#) [SP338EER1-0A-EB](#) [ADM00276](#) [ADP5585CP-EVALZ](#) [PEX8724-CA RDK](#) [PEX 8732-CA RDK](#) [PEX8747-CA RDK](#) [AS8650-DB](#) [MLX80104 TESTINTERFACE](#) [I2C-CPEV/NOPB](#) [ISO35TEVM-434](#) [KIT33978EKEVB](#) [416100120-3](#) [XR17D158CV-0A-EVB](#) [XR17V358/SP339-E4-EB](#) [XR17V358/SP339-E8-EB](#) [XR18910ILEVB](#) [XR22804IL56-0A-EB](#) [ZSC31050KIT V3.1](#) [ZSC31150KIT V1.2](#) [SCRUBBER-EVM](#) [SI838XISO-KIT](#) [73931-3022](#) [XIO2200AEVM](#) [XIB-E](#) [XBIB-U-SP](#) [TW-DONGLE-USB](#) [EVAL-ADM2483EBZ](#) [EVAL-ADM2491EEBZ](#) [ATUSB-PCB-80146](#) [EVB-USB83340](#) [MAX9921EVKIT](#) [MAXREFDES23DB#](#) [MAX9291COAXEVKIT#](#) [MAX9286COAXEVKIT#](#) [MAX3535EEVKIT+](#) [MAX3223EEVKIT+](#) [MAX3100EVKIT](#) [MAX13235EEVKIT](#) [MAX14970EVKIT#](#) [MAX14826EVKIT#](#) [3298](#) [XR21B1424IV64-0A-EVB](#) [XR21B1421IL24-0A-EVB](#) [XTIB-U](#) [XR17D152CM-0A-EVB](#) [XR22802IL56-0A-EB](#)