

ENQUIRY - LOCAL

OFFICE COPY ENQUIRY NO : I-IEN20019
Date : 25/06/2020
Due Date : 14/07/2020 by 5:00 PM (IST)

We invite your rate/s for the following item/s. The Instructions to bidders and Terms & Conditions are attached herewith.
Important Note :

1. Enquiry No., Date & Due Date should appear on the envelope otherwise your offer will be rejected.
2. Address quotation only to the Purchase officer.
3. ITER-India, IPR is entitled to avail concessional rate of GST @ 5% (2.5% CGST and 2.5% SGST) as per Central Goods and Services Tax (CGST) Notification No. 45/2017-Central Tax (Rate) dated 14th November, 2017, State Goods and Services Tax (SGST) Notification No. 45/2017 – State Tax (Rate) dated 15th November, 2017 and IGST @ 5% as per Notification No. 47/2017-Integrated Tax (Rate) dated 14th November, 2017. Therefore, please consider GST in your quotation accordingly.

Sr No.	Material Description	Quantity	Unit
1	Development of Switch interface board as per BTP design basis: Fabrication of PCBs, procurement of components, and component assembly with professional soldering (manual) as per attached technical specifications & requirements document	1	SET

Note :


- (1) Submit your quotation duly signed and stamped in a sealed envelope AT THE ABOVE ADDRESS. You can also submit password protection quotation duly stamped and signed in soft copy through email sent to toc@iter-india.org only along with Password so as to open the document. It is mandatory to mention the mobile no. of your contact person in your quotation.
- (2) Any clarification on this enquiry may be sought from the Purchase Officer, ITER-India (purchase@iter-india.org)
- (3) Quote with complete technical details.
- (4) Quotation should invariably be submitted in the attached format (Quotation Format) ONLY else ITER-India may not consider your offer.
- (5) Payment shall be made within 30 days from the date of final acceptance of ordered items of purchaser's site and on receipt of error free invoice and other necessary documents at our end.
- (6) Technical Specifications, Scope of work & supply and Price Bid Format are given in attached Annexure-A (Pages-16)
- (7) Bidder needs to sign & stamp on each & every page of Annexure-A including Input Documents as per attached Annexures. This will be considered as an acceptance by the bidder on all specifications, scope, drawings & other terms as mentioned in the Annexure & other documents.
- (8) Bidder under the category of MSE (Micro & Small Enterprise) for the quoted item shall attach MSE certificate. Under MSE category, only manufacturers for goods and Service Providers for Services are eligible under the policy. Traders are excluded from the purview of this Policy.

Encl:- as above


Rakhi Dharamdasani
OFFICER-I (PURCHASE & STORES)
ITER-India (IPR)

TERMS AND CONDITIONS

1. The quotation and any order resulting from this enquiry shall be governed by our Conditions of Order and supplier quoting against this enquiry shall be deemed to have read and understood the same in to
2. Where counter terms and conditions have been offered by the Tenderer, the same shall not be deemed to have been accepted by ITER-India unless our specific written acceptance thereof is obtained.
3. Quotation: Your quotation superscripting our enquiry No., date, due date and brief description of item should be submitted to the Purchase Officer, ITER-India in sealed envelope on or before the due date. Late/Delayed/incomplete quotations will not be considered. Envelopes received without Enquiry number, date, due date and brief description of item may be rejected. The quoted prices should be firm for a period of 120 days from due date for placing order. ITER-India is not bound to accept lowest rate/s. Bidders shall submit the price bid/offer on Bidder's letter head with official seal and sign on each page.
4. The bid documents shall be prepared in English language only
5. All pages of the bid documents shall be numbered. Each page of the bid document shall be stamped and initialized.
6. In the event of any date indicated above is a declared Holiday, the next working day with the same time limit shall become operative for the respective purpose mentioned herein
7. In case of deviation in payment terms including demand of advance other than specified in payment schedule and accepted by ITER-India, prevailing Prime Lending Rate (PLR) of SBI will be loaded for price comparison purpose
8. ITER-India and their authorized representatives may visit the Contractor/Sub-contractors if required as part of technical evaluation process
9. ITER-India reserves the right to place order on one or more parties.
10. Specifications: Material should be offered strictly conforming to our specifications/drawings, if any. Deviation, if any, should be clearly indicated by the supplier in their quotation. The Tenderer should also indicate the Make/Type number of the materials offered and catalogues, technical literature and samples, wherever necessary should accompany the quotation. Clarification/s on specifications/drawings should be obtained from Purchase Officer before submitting quotation.
11. Terms of Prices: Quotation should be submitted on door delivery basis, duly packed & insured without extra charge wherever possible. In the case of Indian suppliers, the material is to be delivered at our stores free of charge duly packed & insured.
12. Unit rate/s should be valid throughout the validity of Purchase Order for addition/deletion purposes. Break-up of price should be furnished. The quoted price should not be subject to price escalation for whatsoever reasons. The quoted price shall be firm, fixed and non-revisable during the validity/extended validity of Purchase Order.
13. Prices are required to be quoted according to the units indicated in the tender form/Enquiry. When Quotations are given in terms of units other than those specified in the tender form, relationship between the two sets of units must be furnished.
14. Tender should be free from Correction and Erasures. Corrections, if any, must be attested. All amounts shall be indicated both in words as well as in figures. Where there is difference between amounts quoted in words and figures, amount quoted in words shall prevail. Unsigned quotations will summarily be rejected.
15. ITER-India shall be under no obligation to accept the lowest or any tender and reserves the right of acceptance of the whole or any part of the tender or portion of the quantity offered and the tenderers shall supply the same at the rates quoted. ITER-India also reserves the right to split the order at its sole discretion.
16. Octroi is not applicable at present.
17. Delivery Date/Period: Delivery period is essence of the Order. Supplier must indicate the firm delivery date by which the materials will be dispatched / delivered by them from the date of our order.
18. Delivery period shall be clearly indicated against each item separately.
19. Inspection: Materials on its arrival at ITER-India will be inspected by our Engineer/Stores In-Charge, and his decision in the matter will be final. However, where the items are required to be inspected at the Suppliers Premises, Supplier has to give advance notice to the Purchaser regarding readiness of the material to enable Purchase/Stores section to depute his representative for inspection.
20. Payment: Payment will be arranged for accepted materials only within 30 days from the date of acceptance of materials at ITER-India and receipt of error free bills in our accounts section, complete in all respects.
21. No correspondence will be entertained within 30 days from the date of receipt of material and bills, whichever is later.
22. Warranty: The Stores/items offered should be guaranteed for a minimum period of twelve months from the date of acceptance, against defective materials, design, workmanship, operation or manufacture. For defects noticed and communicated during the Guarantee period, replacement/rectification should be arranged free of cost within a reasonable period of such notification. In case where our specifications call for a guarantee period more than 12 months specifically, then such a period shall apply.
23. The Contractor/Supplier shall at all times indemnify the purchaser against all claims which may be made in respect of the stores for infringement of any right protected by Patent, Registration of design or Trade Mark and shall take all risk of accidents or damage, which may cause failure of supply from whatever cause arising and the entire responsibility for sufficiency of all means used by him for the fulfillment of the Order.
24. Successful tenderer will have to furnish in the form a Bank Guarantee or in Indemnity Bond form as called for by the Purchaser towards adequate security for the materials/property provided/issued by the Purchaser as Free Issue Material for the due execution of the Order. Insurance for the Free Issue Material shall be arranged by the Supplier/Contractor at his risk and cost.
25. Non-compliance to tender specifications and/or tender scope and/or tender terms and conditions are liable for rejection. Decision of ITER-India in respect of non-compliance shall be final and binding on the bidders.
26. Canvassing in any form with regard to this tender will lead to rejection of the bid.
27. The Project Director, ITER-India reserves the right to accept or reject any quotations fully or partly or to cancel the enquiry without assigning any reasons.
28. This enquiry is not a commitment and the Purchaser reserves the right to reject or cancel any or all offers.
29. Jurisdiction: The Order shall be governed by the Laws of India for the time being in force. The Courts of Ahmedabad/Gandhinagar only shall have jurisdiction to deal with and decide any legal or dispute arising out of this Order.
30. Unsuccessful bidders will not be intimated about the results of the enquiry/tender.
31. Purchase will not be responsible for payment of any interest to the Supplier, in case of delay in releasing payment.
32. The price evaluation shall be carried out on Landed price.

	Annexure-A Technical Specifications	Enq.No. : I-IEN20019
		Date: 25.06.2020

Technical Specifications for Development of Switch Interface board as per BTP design basis

1. Scope of Supply

Sr. No	Description	Qty
1	Development of Switch interface board as per BTP design basis : Fabrication of PCBs, procurement of components and component assembly with professional soldering (manual) as per given specifications and bill of materials (refer following sections for more details)	1 set


2. Scope of Work:

Following the list, describes the scope of work for the supplier:

- 2.1. PCB Fabrication as per specified Specification in section -2 of this document
- 2.2. Component procurement as per the Bill of Material (BOM) given by ITER-India (refer section: **11.1** for more details) from reputed sources.
- 2.3. Component Assembly with profession soldering as per BOM (refer section: **11.1**) & design schematic (refer section: **11.3**) and Basic Power ON Health check
- 2.4. Procurement of 19", 2U, 220D Enclosure as per details specified in section: **5**

3. Technical Specifications of PCB Fabrication

Sr. No	ITER-India Specifications
3.1.	Type: Double-sided, PTH with SM & LP, PISM, SMOBC, ENIG Surface finish
3.2.	Layer: 4 layer (including power and Ground layers)
3.3.	Material: Glass epoxy (FR-4) Nema Grade
3.4.	Thickness: 2 mm+/- 0.1mm
3.5.	Base copper : > 60 micron each side
3.6.	Finish copper: > 90 micron each side, Gold/ENIG Finish
3.7.	Size of PCB: 422 mm X 218 mm, 2 mm thickness
3.8.	PCB should be in compliance with IPC 6012, IPC-A-610, IPC 4101 and IPC-SM-840
3.9.	Gerber files: refer section: 11.2
3.10.	BBT report shall be submitted for ITER-India approval A bare board shall be submitted for inspection before component stuffing and soldering
3.11.	Qty: 02

	Annexure-A Technical Specifications	Enq.No. : I-IEN20019
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4. Bill of Material & Additional Components

- 4.1. The complete list of Bill of Materials (including make and part number) is attached in section: **11.1**, and additional Spare components (SMD Resistors & Capacitors) are attached in section: **11.5**, which are part of the scope of supply.
- 4.2. Bidder shall submit the compliance sheet for specified BOM along with their bid as an annexure with duly signed and sealed.
- 4.3. For passive components, on request from the Supplier, the specified mandatory Make and part number may be changed to the alternate make (part number having superior or equivalent technical specifications), if they have been declared obsolete by OEM or non- available in the market subject to a maximum of 20 % of total components of a given card (refer BOM). The supplier has to take a prior approval of ITER-India in this regard before effecting the change and this shall have no cost impact to the Purchaser. The Purchaser may at its discretion approve or reject any change request proposed by the Supplier.
- 4.4. For active components, on request from the Supplier, the specified mandatory Make and part number may be changed to the alternate make (part number having superior or equivalent technical specifications), if they have been declared obsolete by OEM or non- available in the market after placing the order. The proof of the same shall be submitted by the supplier along with alternate make (superior or equivalent technical specifications) for ITER-India review and approval. The supplier has to take a prior approval of ITER-India in this regard before effecting the change and this shall have no cost impact to the Purchaser. The Purchaser may at its discretion approve or reject any change request proposed by the Supplier.
- 4.5. Extra components in the BOM shall be submitted as a loose item along with the assembled PCB to ITER-India.


5. Mechanical enclosure detail

The supplier has to procure the mechanical enclosure (19", 2U, 220D) as per the following list. The Cutouts and Screen-printing on Front & rear plates of the enclosure shall be carried out by the supplier as per details given in the Annexure-4 (11.4) of this document.

MULTI PACK CHASSIS 19", 2U, 220D Chassis assembly with accessories			
a.	MULTIPAC Basic Kit/CHASSIS 2U 220D	20860-210	1 no.
b.	CHASSIS Mounting PLATE	20860-107	1 no.
c.	COVER PLATES (Top & Bottom)	30860-501	2 nos.
d.	FRONT-HANDLE 2U MULTI-PACK (2X) with screw	20860-257	2 sets
e.	EMC GASKET KIT (MULTIPAC/PRO)	20860-130	1 set
f.	19" FRONT Plate/panel 2U	30860029	1 set
g.	19" Rear Plate/panel 2U	30860486	1 set
h.	Threaded insert M3 for an extruded side panel	30821-589	2 nos.

6. Delivery

The required delivery schedule for all the deliverables is within 2 months from the date of the purchase order.

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7. Final Acceptance

Final acceptance of the deliverable items through a formal Acceptance Note shall be issued by ITER-India to the Supplier after successful completion of inspection testing of all the deliverables at the ITER-India site. The inspection testing shall be carried out by ITER-India within one month from the receipt of all deliverable items at ITER-India site. The date of issuance of the Final Acceptance Note shall be considered as the date of final acceptance.

8. Warranty


A minimum warranty of one year from the date of Final Acceptance shall be included with the supplied deliverables.

9. Packing & Shipment

The material should be appropriately packed with one set of documentation & dispatched to ITER-India Lab, IPR with the following address:

**ECRH-Lab,
ITER-India Lab Building,
Institute for Plasma Research,
Near Indira Bridge, P.O. Bhat Gandhinagar -382 428, India**


Prior information of the material dispatch should be given to ITER-India Purchase Officer.

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10. Price bid format


Table-1				
Sr. No	Item Description	Qty	Unit price (INR)	Total (INR)
Bidder must quote the basic price of the items in this table excluding applicable Taxes and duties				
10.1.	Development of Switch interface board as per BTP design basis: Fabrication of PCBs, procurement of components, and component assembly with professional soldering (manual) as per given technical specifications & requirements.	1 set		
Total excluding all applicable taxes and duties				
Total in words				

10.2 Commercial Terms	Vendor Compliance (Yes/No) In case of No, details of the change(s) to be specified
Committed delivery Period of all deliverables at purchaser site: 2 Months from date of the Purchase order	
Bid Validity Period (120 Days from Due date of submission)	
Payment Terms: ITER-India Payment terms will apply	
Delivery Basis: Free Door Delivery Basis	
Packing & Forwarding (To Specify, if any)	
Safe Delivery Charges (Please mention if not included in rate mention above)	
Payment: ITER-India payment terms will apply (Refer Sr. No. 5 of Note)	
Warranty (Refer Sr. No. 8 of attached Annexure-A)	
GST (Not to be included in quoted rates)	
GST (Refer Sr.No.3 of Important Note)	
GST Registration No. (To specify)	
HSN Code	
Udhyog Aadhar No. & Category (Micro/Small Enterprise)	
Discount (If any)	
Remarks	
10.3 Taxes and Duties (not to be included in the basic price as per table-1)	

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	Value in %	Remarks if any
Goods and Service Tax (pls. specify type of GST applicable). ITER-India, IPR is entitled to avail concessional rate of GST@5% on supply of Items		
Any other, please specify		


Bidder Signature		
Name of the signatory& Title	Name	Title
Bidder's Official seal		
Place & Date	Place	DD-MM-YYYY

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11. Input Document as an Annexures

11.1. Annexure-1: Bill of Material (BOM)

Sr. No.	Make/Value/PCB Footprint	Part Number	Quantity
1	2 Pin, PHONIX_2 PINRA_5.08PITCH	796638-2	20
2	4-Pin, PHONIX_4 PINRA_08PITCH	796638-4	10
3	KEMET Make/Tantalum Capacitors 4.7uF, 35V, 10% , ESR 1.6 ohms/ SMD 6032/	#T491C475K035AT	100
4	Panasonic/ Capacitor, 150uF, 50V, ELECTROLYTIC, RADIAL, FC SERIES/ Through Hole	#EEUFC1H151	25
5	AVX Make/ 0.1uF +/-10%, X7R/ SMD 0805	#08055C104K4Z2A	200
6	Nichicon make /Aluminium Electrolytic Capacitors - Radial Leaded 450volts 100uF AEC-Q200	#UPW2W101MRD	5
7	RF Connector, BNC Right Angle PCB Jack, Through Hole, 50 Ohm	364A2595 (alternate 112704)	4
8	Toggle Switches ON-NONE-ON SPDT RA PC	7101MD9AV2BE	20
9	KEMET Make/Tantalum Capacitors 10uF, 35V, 10% , ESR 1.6 ohms/ SMD 6032	#T491C106K035AT	200
10	Fuse Holder 2 IN 1 FUSE HOLDER	3557-2	15
11	Fixed Terminal Blocks 2P RT ANGL TERM BLOK	796683-2	20
12	LED Circuit Board Indicators 3mm CBI	551-0501F	10
13	LED Circuit Board Indicators 3mm CBI	568-0302-222 or 568-0302-222F	10
14	EPOS make/MOV 25VAC, 20mm DIA/Through Hole/ EPS#	B72220S0250K101	20
15	EPOS make/MOV 275VAC, 20mm DIA/Through Hole	B72220S0271K101	20

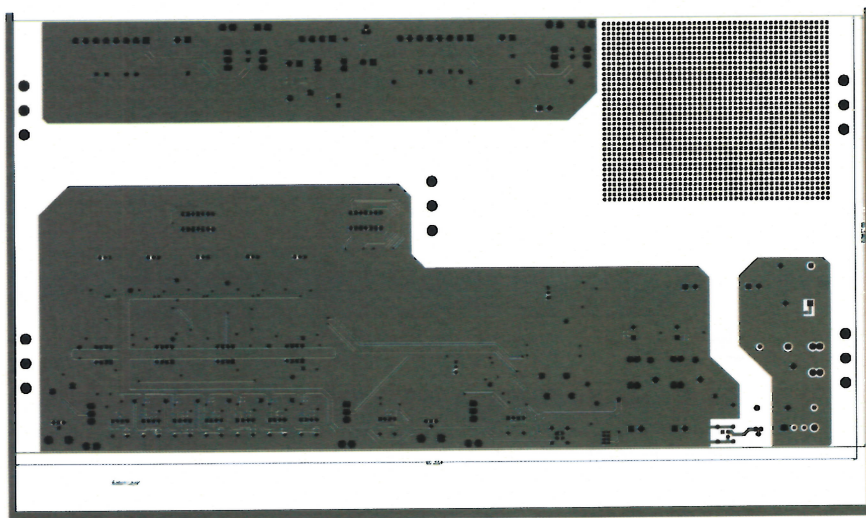
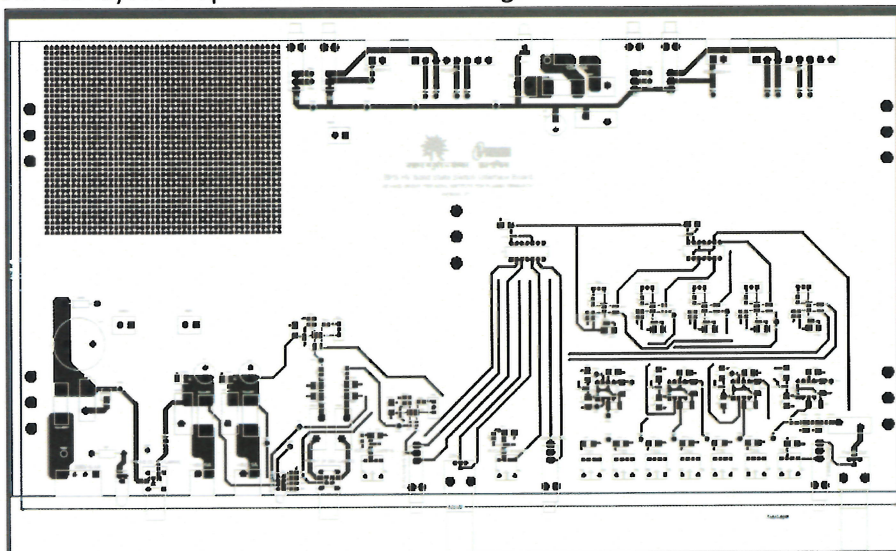
	Annexure-A Technical Specifications	Enq.No. : I-IEN20019
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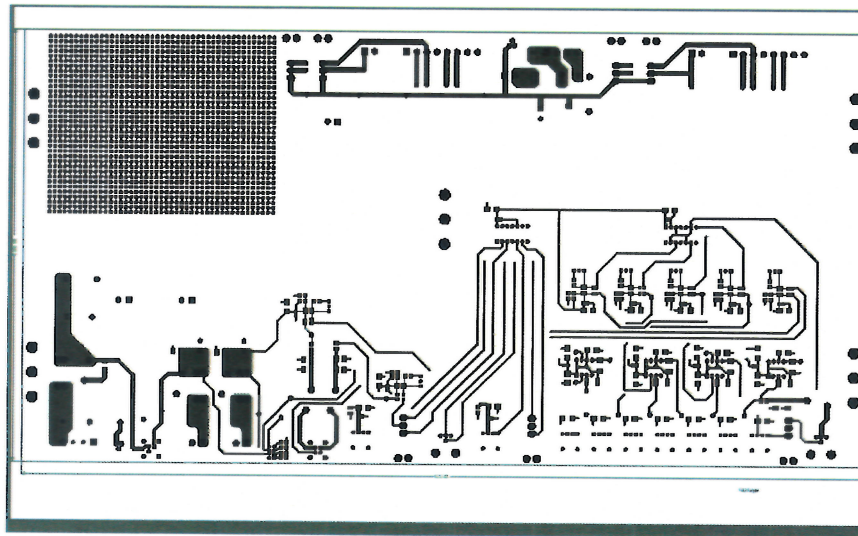
Sr. No.	Make/Value/PCB Footprint	Part Number	Quantity
16	BOURNS Make/ 100K. 0.5W, 25T, 3/8" square TRIM/ Through hole (TH)/ #3296W-1-104LF	#3296W-1-104LF	30
17	Lemo Make/ Circular Push Pull Connectors, 4PIN RECEPT R/A PCB MNT	EPL.OS.304.HLN	2
18	Lemo make/Circular Push Pull Connectors, 3PIN RECEPT R/A PCB MNT ELBOW RECEPTACLE	EPL.OS.303.HLN	2
19	Resettable Fuses - PPTC PTC 60V/250V.180A POLY TELECOM	PTC 250R180T or PTC 250R180TF	10
20	Pluggable Terminal Blocks 5.08MM RA HDR 7P	796638-7	10
21	Vishay (Draloric) make / Thick Film Resistors - SMD 1.5watts 100ohms 1% High Power AEC-Q200	CRCW2512100RFKEGHP	40
22	YAGEO Make/ 0E, 0.1W, 5%, 50V, THICK FILM CHIP, 1206	RC1206JR-070RL	100
23	RESISTOR 39Ω, 0.1%, 400mW, SMD1206, TNPW e3 series/SMD1206/	TNPW120639R0BEEA or RT1206BRD0739RL	100
24	Panasonic Make/ 680E, 0.1 %, 25ppm, 250mW/ SMD 1206/	#ERA-8AEB681V	100
25	Thin Film Resistors - SMD 330ohms .1% 25ppm	TNPW1206330RBEEA	10
26	Metal Film Resistors - Through Hole RCMA 02 500K 1% K5 BA10 e3	RCMA0250002FDS03 or Equivalent	10
27	VISHAY Make/10K, 250mW, 0.1 %, 25ppm/SMD 1206	#TNPW120610K0BEEA	100
28	Fibre Optic Transmitters, Receivers, Transceivers V-Link Horz 50MBd 50m POF, 3.3/5 V	AFBR2624Z	10
29	Vishay (Draloric) make / Thick Film Resistors - SMD 1.5watts 68 ohms 1% High Power AEC-Q200	CRCW251268R0FKEGHP	40
30	PCB TEST POINT RED, Through Hole Mount, 1.6 mm, Phosphor Bronze, Silver Plated Contacts	# 5005 (alternate 151-106-RC)	200

Sr. No.	Make/Value/PCB Footprint	Part Number	Quantity
31	STMicroelectronics make/ ESD Suppressors / TVS Diodes 600W 6.8V Bidirect, TRANSIL/ SMB/	SM6T6V8CA	30
32	STMicroelectronics make/ ESD Suppressors, TVS Diodes, 600W 18V Bidirec, TRANSIL/ SMB/#SM6T18CA	SM6T18CA	20
33	ESD Suppressors / TVS Diodes 600W 400V 5% Bi-Directional	SMBJ400CA	5
34	Fibre Optic Transmitters, Receivers, Transceivers V-Link Horz 50MBd 50m POF, 3.3/5 V	AFBR1624Z	12
35	Buffers & Line Drivers Tri-State Quad Bus, PDIP	SN74ABT125N	5
36	Buffers & Line Drivers Dual Hi-Speed Peripheral / 8 CDIP	SN55451BJG	12
37	Delay Lines/Timing Elements LTC6994 – Timer Box: Delay Block/ Debouncer	LTC6994HS6-2#PBF or LTC6994HS6-2#TRMPBF	14
38	Vishay (Dralloric) make / Thick Film Resistors , SMD 1206, 4.7Kohms, 0 .1%, 25ppm	#TNPW12064K70BEEA	100
39	4 POS 5.08MM R/A PLUG, TRM BLK	796634-4	10
40	2 POS 5.08MM R/A PLUG, TRM BLK	796634-2	10
41	7 POS 5.08MM R/A z PLUG, TRM BLK	796634-7	10
42	2 Pin, PHONIX_2 PINRA_5.08PITCH	796683-2	200
43	CONN BNC JACK R/A 50 OHM PCB	1-1634613-0	70
44	Screw SS M5 x 8mm length	50M050080F008 or 183050870409 or equivalent	200
45	Rail adapters, for M5 screws, Length: 42.6 mm, Width: 10 mm, Height: 19 mm, Color: gray	1202713	50 nos.

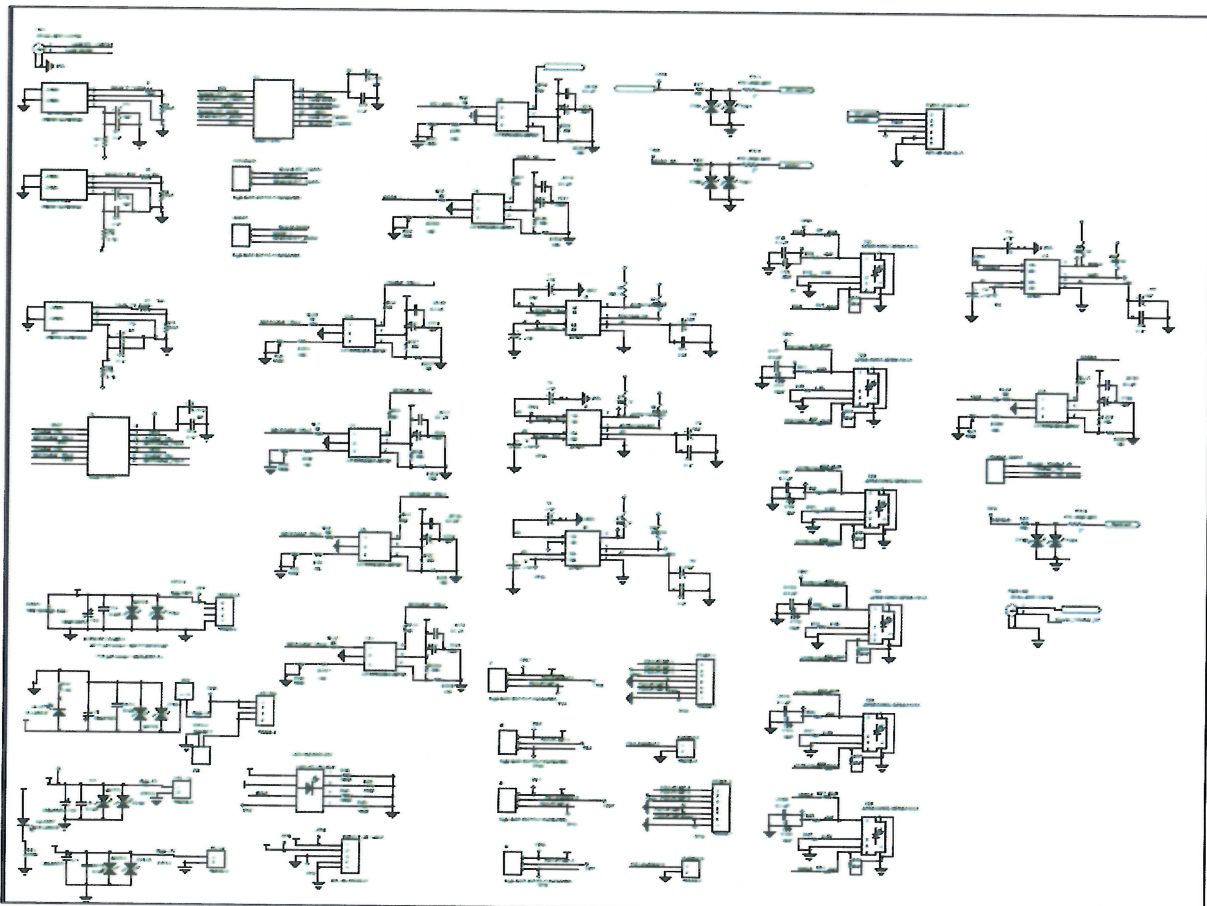
11.2. Annexure-2 : Gerber files


A separate zip file (Gerber files) shall be provided as an input document along with the purchase order for PCB fabrication. PCB layout snap is shown in the below figures.





11.3. Annexure-3: Design Schematic




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11.5. Annexure-5: Additional components (SMD Resistors & Capacitors)

Please refer below table for an additional component (SMD Resistors & Capacitors) that will be supplied by the supplier as a loose item with proper packing of all the items (in suitable plastic box for each item) with suitable identification of each item.

Annexure-5: Additional components (SMD Resistors & Capacitors)		
A1 : Type-1 : SMD Resistor 1206, 400mW, 0.1 %		
Sr. No.	Item Descriptions	Qty
1	RESISTOR 10Ω, 0.1%, 400mW, SMD1206, TNPW e3 series/SMD1206/ #TNPW120610R0BEEA	100
2	RESISTOR 39Ω, 0.1%, 400mW, SMD1206, TNPW e3 series/SMD1206/ #TNPW120639R0BEEA	100
3	RESISTOR 100Ω, 0.1%, 2/5W, SMD 1206, TNPW e3 series /SMD1206 /#TNPW1206100RBEEA	100
4	RESISTOR 120Ω, 0.1%, 2/5W SMD 1206,TNPW e3 series /SMD1206 /#TNPW1206120RBEEA	100
5	RESISTOR 150Ω, 0.1%, 2/5W SMD 1206,TNPW e3 series /SMD1206 /#TNPW1206150RBEEA	100
6	RESISTOR 200Ω, 0.1%, 2/5W SMD 1206,TNPW e3 series /SMD1206 /#TNPW1206200RBEEA	100
7	RESISTOR 390Ω, 0.1%, 2/5W SMD 1206,TNPW e3 series /SMD1206 /#TNPW1206390RBEEA or TNPW1206390RBEEN	100
8	RESISTOR 470Ω, 0.1%, 2/5W SMD 1206,TNPW e3 series /SMD1206 /#TNPW1206470RBEEA	100
9	RESISTOR 510Ω, 0.1%, 2/5W SMD 1206,TNPW e3 series /SMD1206 /#TNPW1206510RBEEA or TNPW1206510RBEEN	100
10	RESISTOR 680Ω, 0.1%, 2/5W SMD 1206,TNPW e3 series /SMD1206 /#TNPW1206680RBEEA or TNPW1206680RBEEN	100
11	RESISTOR 750Ω, 0.1%, 2/5W SMD 1206,TNPW e3 series /SMD1206 /#TNPW1206750RBEEA	100
12	RESISTOR 1KΩ, 0.1%, 2/5W SMD 1206, TNPW e3 series /#SMD1206 /#TNPW12061K00BEEA	100
13	RESISTOR 1.5KΩ, 0.1%, 2/5W, SMD 1206, TNPW e3 series /SMD1206 /#TNPW12061K50BEEA	100
14	RESISTOR 2KΩ, 0.1%, 2/5W, SMD1206, TNPW e3 series /SMD1206 /#TNPW12062K00BEEA	100
15	RESISTOR 2.2KΩ, 0.1%, 2/5W, SMD 1206, TNPW e3 series /SMD1206 /#TNPW12062K20BEEA	100

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16	RESISTOR 2.4K Ω , 0.1%, 2/5W, SMD1206, TNPW e3 series /SMD1206 /#TNPW12062K40BEEA	100
17	RESISTOR 5K Ω , 0.1%, 2/5W, SMD1206, TNPW e3 series /SMD1206 /#TNPW12065K00BEEA or TNPW12065K00BEEN	100
18	RESISTOR 8.2K Ω , 0.1%, 2/5W, SMD1206, TNPW e3 series /SMD1206 /#TNPW12068K20BEEA	100
19	RESISTOR, 10K Ω , 0.1%, 2/5W, SMD 1206,TNPW e3 series /SMD1206 / #TNPW120633K0BEEA	100
20	RESISTOR 12K Ω , 0.1%, 2/5W, SMD 1206, TNPW e3 series /SMD1206 /#TNPW120612K0BEEA	100
21	RESISTOR 20K Ω , 0.1%, 2/5W, SMD 1206, TNPW e3 series /SMD1206 /#TNPW120620K0BEEA	100
22	RESISTOR 22K Ω , 0.1%, 2/5W, SMD 1206, TNPW e3 series /SMD1206 /#TNPW120622K0BEEA	100
23	RESISTOR 27K Ω , 0.1%, 2/5W, SMD 1206, TNPW e3 series /SMD1206 /#TNPW120627K0BEEA	100
24	RESISTOR 30K Ω , 0.1%, 2/5W, SMD 1206, TNPW e3 series /SMD1206 /#TNPW120630K0BEEA	100
25	RESISTOR 33K Ω , 0.1%, 2/5W, SMD 1206, TNPW e3 series /SMD1206 /#TNPW120633K0BEEA	100
26	RESISTOR 39K Ω , 0.1%, 2/5W, SMD 1206, TNPW e3 series /SMD1206 /#TNPW120639K0BEEA	100
27	RESISTOR 47K Ω , 0.1%, 2/5W, SMD 1206, TNPW e3 series /SMD1206 /#TNPW120647K0BEEA	100
28	RESISTOR 51K Ω , 0.1%, 2/5W, SMD 1206, TNPW e3 series /SMD1206 /#TNPW120651K0BEEA	100
29	RESISTOR 56K Ω , 0.1%, 2/5W, SMD 1206, TNPW e3 series /SMD1206 /#TNPW120656K0BEEA	100
30	RESISTOR , 100K Ω , 0.1%, 2/5W, SMD 1206, TNPW e3 series/ SMD1206/#ERA8AEB104V or TNPW1206100KBEEA	100
31	RESISTOR 200K Ω , 0.1%, 2/5W, SMD1206, TNPW e3 series /SMD1206 /#TNPW1206200KBEEA	100
32	RESISTOR 300K Ω , 0.1%, 2/5W, SMD1206, TNPW e3 series /SMD1206 /#TNPW1206300KBEEA	100
33	RESISTOR 1M Ω , 0.1%, 2/5W, SMD1206, TNPW e3 series /SMD1206 /#TNPW12061M00BEEA	100
34	RESISTOR 10M Ω , 1%, 1/2W, SMD 1206/#RC1206FR-0710ML or #RC1206FR-0710ML	100
A2 : Type-2: SMD Resistor 2512, 1W, 0.5 %		
1	Thick Film Resistors - SMD CRGCQ 2512 47R 1% SMD Resistor/#CRGCQ2512F47R or #ERJ-1TNF47ROU	100

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2	Thick Film Resistors - SMD 51 ohm 1% 1W AEC-Q200 ANTI-SULFUR/#RK73HW3ARTTE51R0F or #ERJ-1TNF51R0U	100
3	Thick Film Resistors - SMD CRGCQ 2512 56R 1% SMD Resistor/#CRGCQ2512F56R or #ERJ-1TNF56R0U	100
4	Thick Film Resistors - SMD 62 ohm 0.5% 1W AEC-Q200 ANTI-SULFUR /#RK73HW3ARTTE62R0D or ERJ-S1TD62R0U	100
5	Thick Film Resistors - SMD 68 ohm 1% 1W AEC-Q200 ANTI-SULFUR/#RK73HW3ARTTE68R0F or # ERJ-S1TF68R0U	100
6	Thick Film Resistors - SMD CRGCQ 2512 100R 1% SMD Resistor/#CRGCQ2512F100R or #RK73HW3ARTTE1000F	100
7	Thick Film Resistors - SMD 200 ohm 1% 1W AEC-Q200 ANTI-SULFUR/ #RK73HW3ARTTE2000F	100
8	Thick Film Resistors - SMD CRGCQ 2512 220R 1% SMD Resistor/#CRGCQ2512F220R or RK73HW3ARTTE2200D	100
9	Thick Film Resistors - SMD 2512 300ohms 1% AEC-Q200/#ERJ-1TNF3000U/ #RK73HW3ARTTE3000F	100
10	Thick Film Resistors - SMD 330 ohm 1% 1W AEC-Q200 ANTI-SULFUR/ #RK73HW3ARTTE3300F	100
11	Thick Film Resistors - SMD 383 ohm 0.5% 1W AEC-Q200 ANTI-SULFUR/ #RK73HW3ARTTE3830D or #ERJ-S1TF3900U	100
12	Thick Film Resistors - SMD 2512 2Kohms 1% Tol AEC-Q200/ #ERJ-1TNF2001U or #RK73HW3ARTTE2001F	100
13	Thick Film Resistors - SMD 2512 1Kohms 1% Tol AEC-Q200/ #ERJ-1TYF102U or #RK73HW3ARTTE1001F	100
14	Thick Film Resistors - SMD 1watts 10Kohms 1%/ #RK73H3ATTE1002F or ERJ-1TNF1002U	100
15	Thick Film Resistors - SMD 2512 12Kohms 1% AEC-Q200/ #ERJ-1TNF1202U	100

A3: SMD Capacitors

1	Multilayer Ceramic Capacitors MLCC - SMD/SMT 50V 1000pF COG 1206 1% AEC-Q200; #C1206C102F5GCAUTO	100
2	Multilayer Ceramic Capacitors MLCC - SMD/SMT 50V 10pF COG 0805 1% AEC-Q200/C0805X103F5GCAUTO	100
3	Multilayer Ceramic Capacitors MLCC - SMD/SMT 50V 15pF COG 0805 1% AEC-Q200/#C0805C150F5GCAUTO	100
4	Multilayer Ceramic Capacitors MLCC - SMD/SMT 50V 20pF COG 0805 1% AEC-Q200/#08055A200F4T2A	100
5	Multilayer Ceramic Capacitors MLCC - SMD/SMT 50V 56pF COG 0805 1% Flex AEC-Q200/# C0805X560F5GCAUTO	4000
6	Multilayer Ceramic Capacitors MLCC - SMD/SMT 50V 100pF COG 0805 1% Tol/# 08055A101F4T2A or # GCM2165C1H101FA16J or C0805C101F5GACTU	100
7	Multilayer Ceramic Capacitors MLCC - SMD/SMT 0805 200pF 50volts COG 1%/ #GCM2165C1H201FA16D	100

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8	Multilayer Ceramic Capacitors MLCC - SMD/SMT 0805 180pF 50volts COG 1%/#GCM2165C1H181FA16D	100
9	Multilayer Ceramic Capacitors MLCC - SMD/SMT 0805 300pF 50volts COG 1%/#GCM2165C1H301FA16D	100
10	Multilayer Ceramic Capacitors MLCC - SMD/SMT 0805 330pF 50volts COG 1%/#GCM2165C1H331FA16D	100
11	Multilayer Ceramic Capacitors MLCC - SMD/SMT 0805 360pF 50volts COG 1%/#GCM2165C1H361FA16D	100
12	Multilayer Ceramic Capacitors MLCC - SMD/SMT 0805 390pF 50volts COG 1%/#GCM2165C1H391FA16D	100
13	Multilayer Ceramic Capacitors MLCC - SMD/SMT 0805 430pF 50volts COG 1%/#GCM2165C1H431FA16D	100
14	Multilayer Ceramic Capacitors MLCC - SMD/SMT 50V 470pF COG 0805 1% AEC-Q200/#C0805C471F5GACAUTO	100
15	Multilayer Ceramic Capacitors MLCC - SMD/SMT 50V 560pF COG 0805 1% AEC-Q200/#08055A561F4T2A	100
16	Multilayer Ceramic Capacitors MLCC - SMD/SMT 0805 510pF 50volts COG 1%/#GCM2165C1H511FA16D	100
17	Multilayer Ceramic Capacitors MLCC - SMD/SMT 50V 680pF COG 0805 1% AEC-Q200/# C0805C681F5GACAUTO or #GCM2195C1H681FA16D	100
18	Multilayer Ceramic Capacitors MLCC - SMD/SMT 0805 750pF 50volts COG 1%/#GCM2165C1H751FA16D	100
19	Multilayer Ceramic Capacitors MLCC - SMD/SMT 0805 820pF 50volts COG 1%/#GCM2195C1H821FA16D	100
20	Multilayer Ceramic Capacitors MLCC - SMD/SMT 0805 910pF 50volts COG 1%/#GCM2195C1H911FA16D	100
21	Multilayer Ceramic Capacitors MLCC - SMD/SMT 50V 1000pF COG 0805 1% AEC-Q200/#C0805C102F5GACAUTO	100
22	Multilayer Ceramic Capacitors MLCC - SMD/SMT 50V 0.01uF COG 0805 1% AEC-Q200/#C0805C103F5GECAUTO7210	200
23	Multilayer Ceramic Capacitors MLCC - SMD/SMT 50V 1500pF COG 0805 1% AEC-Q200/#C0805C152F5GACAUTO	100
24	Multilayer Ceramic Capacitors MLCC - SMD/SMT 0805 3300pF 50volts COG 1%/#GCM2165C1H332FA16D	100
25	Multilayer Ceramic Capacitors MLCC - SMD/SMT 0805 6800pF 50volts COG 1%/#GCM2195C1H682FA16D	100
26	Multilayer Ceramic Capacitors MLCC - SMD/SMT 50V 51pF COG 0805 1% Tol/#C0805C510F5GACTU	100
27	Multilayer Ceramic Capacitors MLCC - SMD/SMT 50V 56pF COG 0805 1%/#C0805C560F5GACTU	100
28	Multilayer Ceramic Capacitors MLCC - SMD/SMT 50V 62pF COG 0805 1%/#C0805C620F5GACTU	100
29	Multilayer Ceramic Capacitors MLCC - SMD/SMT 50V 68pF COG 0805 1%/#C0805C680F5GACTU	100

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30	Multilayer Ceramic Capacitors MLCC - SMD/SMT 50V 75pF C0G 0805 1% /#08055A750FAT2A	100
31	Multilayer Ceramic Capacitors MLCC - SMD/SMT 50V 82pF C0G 0805 1% /#08055A820FAT2A	100
32	Multilayer Ceramic Capacitors MLCC - SMD/SMT 50V 91pF C0G 0805 1% /#C0805C910F5GACTU	100
33	Multilayer Ceramic Capacitors MLCC - SMD/SMT 50V 58 pF C0G 0805 1% Tol /#08055A580FAT2A	100