

**GOVERNMENT OF INDIA
DEPARTMENT OF SPACE
ISRO TELEMETRY TRACKING & COMMAND NETWORK (ISTRAC)
BANGALORE**

Tender for PCB Rate Contract

Bids to be submitted online

Tender No.: ISTRAC/ISTRAC PURCHASE/TR202400039201 dated 12-03-2025

A. Tender Details

Tender No : **ISTRAC/ISTRAC PURCHASE/TR202400039201**

Tender Date : **12-03-2025**

Tender Classification: **WORKS**

Purchase Entity : **ISTRAC PURCHASE**

Centre : **ISRO TELEMETRY TRACKING & COMMAND NETWORK (ISTRAC)**

PCB Rate Contract

Please provide your compliance specifically for the following: (a) Security Deposit Clause (b) Performance Bank Guarantee Clause (c) Security Deposit cum Performance Bank Guarantee (SD cum PBG) Clause (d) DELAY IN COMPLETION / LIQUIDATED DAMAGES (e) Certificate of Undertaking (f) MII and other terms and conditions.

A.1 Tender Schedule

Bid Submission Start Date : **12-03-2025 10:30**

Bid Clarification Due Date : **04-04-2025 17:00**

Bid Submission Due Date : **25-04-2025 14:00**

Bid Opening Date : **25-04-2025 14:30**

B. Tender Attachments

NA

Instructions To Vendors

1. INSTRUCTIONS TO TENDERERS FOR ONLINE SUBMISSION OF TENDERS THROUGH E-PROCUREMENT SYSTEM

1. a) Bidders shall arrange themselves all resources, including Digital signature certificates and Internet Connections at their own cost, for participating in online tendering.
- b) Vendors can download the tender details and submit their offers online using their vendor accounts (obtained during registration) in our portal. Help demos for tender download and bidding processes are given on home page.
- c) The tender should be submitted online in the ISTRAC link before the due date and time as specified in the tender schedule in the portal.
- d) Vendors shall also take note of other Instructions to tenderers indicated in the tender documents.

2. Conditions for online submission of tenders:

- a) It is mandatory for interested parties to register as vendors in our e-procurement portal <https://eproc.vssc.gov.in/home.html> for participating in online eProcurement process of ISRO. Only registered vendors can submit their offers online in our eProcurement portal.
- b) Vendors who are already registered in the existing EGPS software of ISRO, please register by clicking the link in the email you would have already received from 'eproc@vssc.gov.in'. After registration, do the profile update by login to this portal.
- c) For new vendors, who are not registered in the existing EGPS software, vendor registration will be released along with the portal release. To register as vendors please refer to the help demos listed on the home page of the e-procurement link mentioned above. They may approach help desk (contact details provided on the home page) for any technical help for registration and subsequent process.
- d) OEM details should be added in your E-Procurement profile under Add Agent/Principal without fail.

3. ISTRAC shall not be responsible for failure of vendors in submitting bids online caused due to technical reasons at vendor end such as network or power failures, computer failure, internet-browser, mistakes / errors in filling the bids on line by vendor etc.

4. Procedure for seeking clarifications/help for the tender:

- a) All enquiries regarding the tenders and submission of offers shall be online and only through our eProcurement portal.
- b) Vendors may approach help desk e-mail id and phone number given on the home page for any technical help (e-mail: eproc@vssc.gov.in and Phone: +91471 2565454/4574/2527/3753/3289).

5. Queries by vendors on technical problems on the last day of tender will not be binding on ISTRAC/ISRO for resolving/addressing. ISTRAC will not be responsible for non-submission of bids for those cases.

2. PROFORMA FOR INSTRUCTIONS TO TENDERERS AND TERMS & CONDITIONS OF TENDER

1. a) All available technical literature, catalogues and other data in support of the specifications and details of the items should be furnished along with the offer.
- (b) Samples, if called for, should be submitted free of all charges by the tenderer and the Purchaser shall not be responsible for any loss or damage thereof due to any reason whatsoever. In the event of nonacceptance of tender, the tenderer will have to remove the samples at his own expense.
- (c) Approximate net and gross weight of the items offered shall be indicated in your offer. If dimensional details are available the same should also be indicated in your offer.
- (d) Specifications: Stores offered should strictly confirm to our specifications. Deviations, if any, should be clearly indicated by the tenderer in his quotation. The tenderer should also indicate the Make/Type number of the stores offered and provide catalogues, technical literature and samples, wherever necessary, along with the quotations. Test Certificates, wherever necessary, should be forwarded along with supplies. Wherever options have been called for in our specifications, the tenderer should address all such options. Wherever specifically mentioned by us, the tenderer could suggest changes to specifications with appropriate response for the same.

2. ACCEPTANCE OF STORES: (a) The stores shall be tendered by the Contractor for inspection at such places as may be specified by the purchaser at the Contractor's own risk, expense and cost. (b) It is expressly agreed that the acceptance of the stores Contracted for, is subject to final approval by the purchaser, whose decision shall be final. (c) If, in the opinion of the purchaser, all or any of the stores do not meet the performance or quality requirements specified in the Purchase Order, they may be either rejected or accepted at a price to be fixed by the purchaser and his decision as to rejection and the prices to be fixed shall be final and binding on the Contractor. (d) If the whole or any part of the stores supplied are rejected in accordance with Clause No. (c) above, the purchaser shall be at liberty, with or without notice to the Contractor, to purchase in the open market at the expense of the Contractor stores meeting the necessary performance and quality Contracted for in place of those rejected, provided that either the purchase, or the agreement to purchase, from another supplier is made within six months from the date of rejection of the stores as aforesaid.

3. ARBITRATION : All disputes, differences, claims and demands arising under or pursuant to or touching this agreement shall be referred to Arbitration of a sole Arbitrator to be appointed by the Director, ISTRAC, whose decision/award will be final and binding on both the parties. Such arbitration shall be held in Bangalore and shall be subject to and governed by the provisions of the Arbitration and Conciliation Act of 1996 or any statutory modification or re-enactment thereof. The language to be used in Arbitration is English only.

4. As a Government of India Department, this office is exempted from payment of Octroi and similar local levies. Tenderers shall ensure that necessary Exemption Certificates are obtained by them from the Purchase Officer concerned to avoid any payment of such levies.
5. a) Your offer should be valid for 120 days from the date of opening of the tender. b) Prices are required to be quoted according to the units indicated in the annexed tender form. 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.
6. CUSTOMS DUTY : This office is eligible for Concessional Customs Duty @ 5.5% against Ministry of Finance, Department of Revenue, Government of India, vide Customs Notification No.51/96-Cus Dated 23-07-1996 (SI.No.1) and amended under Notification No.93/96 dated 11th December 1996 and 24/2002 dated 01-03-2002
7. DESPATCH: The Contractor is responsible for obtaining a clear receipt from the Transport Authorities specifying the goods despatched. The consignment should be despatched with clear Railway Receipt/Lorry Receipt. If sent in any other mode, it shall be at the risk of the Contractor. Purchaser will take no responsibility for short deliveries or wrong supply of goods when the same are booked on 'said to contain' basis. Purchaser shall pay for only such stores as are actually received by them in accordance with the Contract.
8. TAXES: GST is payable as per applicable rates.
9. GUARANTEE & REPLACEMENT: (a) The Contractor shall guarantee that the stores supplied shall comply fully with the specifications laid down, for material, workmanship and performance. (b) Warranty shall be for the period mentioned in the tender document. After the acceptance of the stores, if any defects are discovered therein or any defects therein found to have developed under proper use, arising from faulty stores design or workmanship, the Contractor shall remedy such defects at his own cost provided he is called upon to do so within the warranty period, by the purchaser who shall state in writing in what respect the stores or any part thereof are faulty. (c) If, in the opinion of the purchaser, it becomes necessary to replace or renew any defective stores such replacement or renewal shall be made by the Contractor free of all costs to the purchaser, provided the notice informing the Contractor of the defect is given by the purchaser in this regard within the said period of warranty from the date of acceptance thereof. (d) Should the Contractor fail to rectify the defects, the purchaser shall have the right to reject or repair or replace at the cost of the Contractor the whole or any portion of the defective stores. (e) The decision of the Purchaser notwithstanding any prior approval or acceptance or inspection thereof on behalf of the Purchaser, as to whether or not the Stores supplied by the Contractor are defective or any defect has developed within the said period of warranty or any other period or as to whether the nature of defects requires renewal or replacement, shall be final, conclusive and binding on the Contractor. (f) To fulfill guarantee conditions outlined in (a) to (e) above, the Contractor shall, at the option of the Purchaser, furnish a Bank Guarantee (as prescribed by the

Purchaser)

10. If the IGST is applicable, the same will be reimbursed if it is reflected in Bill Of Entry. Proof shall be provided while claiming payment.

11. It is to be noted that either Customs Duty or GST is applicable (any one)

12. JURISDICTION : The contract/ purchase order shall be governed by an interpreted and construed in accordance with the laws of India. The courts situated at Bangalore only shall have jurisdiction to deal with and decide any legal matter or dispute arising out of contract/ purchase order.

13. PACKING FORWARDING & INSURANCE: The Contractor will be held responsible for the stores being sufficiently and properly packed for transport by rail, road, sea or air to withstand transit hazards and ensure safe arrival at the destination. The packing and marking of packages shall be done by and at the expense of the Contractor. The purchaser will not pay separately for transit insurance, all risks in transit being exclusively of the Contractor and the Purchaser shall pay only for such stores as are actually received in good condition in accordance with the Contract.

14. Please provide your compliance for Security Deposit, Performance Bank Guarantee and Liquidated Damages Clause.

15. PRICES: Tender offering firm prices will be preferred. Where a price variation clause is insisted upon by a tenderer, quotation with a reasonable ceiling should be submitted. Such offers should invariably be supported by the base price taken into account at the time of tendering and also the formula for any such variation/s.

16. REJECTED STORES: Rejected stores will remain at destination at the Contractor's risk and responsibility. If instructions for their disposal are not received from the Contractor within a period of 14 days from the date of receipt of the advice of rejection, the purchaser or his representative has, at his discretion, the right to scrap or sell or consign the rejected stores to Contractor's address at the Contractor's entire risk and expense, freight being payable by the Contractor at actuals.

17. Sales Tax and/or other duties/levies legally leviable and intended to be claimed should be mentioned in the price bid template. If nothing is mentioned, then it will be presumed that the rate quoted is inclusive of all taxes/duties.

18. SECURITY DEPOSIT: Wherever, the Purchase Order value is Rs. 5.00 Lakhs or more, on acceptance of the tender, the Contractor shall, at the option of the Purchaser and within the period specified by him, deposit with him, in cash or in any other form as the Purchaser may determine, security deposit not exceeding ten percent of the value of the Contract as the Purchaser shall specify. If the Contractor is called upon by the Purchaser to deposit, 'Security' and the Contractor fails to

provide the security within the period specified, such failure shall constitute a breach of the Contract, and the Purchaser shall be entitled to make other arrangements for the re-purchase of the stores Contracted at the risk of the Contractor in terms of Sub-Clause (ii) and (iii) of clause regarding Delivery. (b) hereof and/or to recover from the Contractor, damages arising from such cancellation.

19. SETTLEMENT OF DISPUTES : Except as otherwise specifically provided in the contract, all disputes concerning question of fact arising under the Contract shall be decided by the Purchaser subject to a written appeal by the Contractor to the Purchaser whose decision shall be final to the parties hereto. Any disputes or differences including those considered as such by only one of the parties arising out of or in connection with the Contract shall be, to the extent possible, settled amicably between the parties. If amicable settlement cannot be reached, then all disputes shall be settled by arbitration.

20. TERMS & CONDITIONS OF TENDER

21. TEST CERTIFICATE: Wherever required, test certificates should be sent along with the despatch documents.

22. The authority of the person signing the tender, if called for, should be produced.

23. The Purchaser reserves the right to place order on the successful tenderer for additional quantity up to 25% of the quantity offered by them at the rates quoted.

24. The purchaser 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 portions of the quantity offered and the tenderers shall supply the same at the rates quoted.

25. The tenderer should supply along with his tender, the name of his bankers as well as the latest Income-Tax clearance certificate duly countersigned by the Income-Tax Officer of the Circle concerned under the seal of his office, if required by the Purchaser.

26. The term Contractor shall mean, the person, firm or company with whom or with which the order for the supply of Stores is placed and shall be deemed to include the Contractor's successors, representative, heirs, executors and administrators unless excluded by the Contract.

27. The term Purchase Order shall mean the communication signed on behalf of the Purchaser by an Officer duly authorised intimating the acceptance on behalf of the Purchaser on the terms and conditions mentioned or referred to in the said communication accepting the tender or offer of the Contractor for supply of stores or plant, machinery or equipment or part thereof.

28. The term Purchaser shall mean the President of India or his successors or assigns.

29. The term "Stores" shall mean what the Contractor agrees to supply under the Contract as specified in the Purchase Order including erection of plants & machinery and subsequent testing, should such a condition is included in the Purchase Order.

3. TENDER TERMS AND CONDITIONS

1. All information in Vendor Specified Terms shall be provided without fail to avoid unnecessary correspondence / delay in process. The same should reach before technical bid opening date and time without fail.

2. a) Order no: F.No.6/18/2019 PPD dated 23.07.2020 of Department of Expenditure), Ministry of Finance

Under Public procurement division for the General Financial rule (GFRs).

3. As per Rule 144(xi) of General Financial Rules, 2017, any bidder from a country which shares a land border with India will be eligible to bid in any procurement whether of goods, services (including consultancy services and non consultancy services) or works (including turnkey projects) only if the bidder is registered with the Competent Authority (i.e., Department for Promotion of Industry and Internal Trade) in line with Order (Public Procurement No. 1, 2 and 3) dated 23/07/2020 and 24/07/2020 or any amendments thereon issued by the Public Procurement Division, Department of Expenditure, Ministry of Finance. Hence, Vendors or Agents of a Vendor (Indian or Others) from a country sharing border with India shall submit the copy of Valid Registration made with DPIIT along with the tender mandatorily, without which the offer will be treated as invalid.

4. A supplier who has been debarred by any procuring entry for violation of this order shall not be eligible

for preference under this order for procurement by any other procuring entity for the duration of the debarment. The debarment for such other procuring entities shall take effect prospectively from the date on which it comes to the notice of other procurement entities, in the manner prescribed.

5. b) Class I local supplier means a supplier or service provider, whose goods, service or works offered for

procurement, has local content equal to or more than 50%, as defined under order.

6. c) Class II local supplier means a supplier or service provider, whose goods, services or works offered

for procurement, has local content more than 20% but less than 50%, as defined under this Order.

7. d) Bidders offering imported products will fall under the category of Non-local suppliers. They cannot claim themselves as Class I Local suppliers/Class II Local suppliers by claiming the services such as transportation, insurance, installation, commissioning, training and after sales service support like

AMC/CMC etc. as local value addition.

8. Delivery Terms: FOR ISTRAC

9. e) Verification of local content:

i) The Class I local supplier/ Class II local supplier at the time to tender, bidding or solicitation shall be required to indicate percentage of local content and provide self certification that the item offered meets the local content requirement for Class I local supplier / Class II local supplier as the case may be. They shall also give details of the location(s) at which the local value addition is made.

10. GENERAL TERMS & CONDITIONS FOR BIDDERS: For this procurement, bids from Class I & class II Local Suppliers are admissible. hence provisions contained in Public Procurement (Preference to Make in India), Order 2017 issued by Department for Promotion of Industry and Internal Trade (DIPP), Ministry of Commerce & Industries vide letter No. P 45021/2/2017 PP(BE II) dated 04.06.2020 and subsequent amendment & directives shall be followed. Accordingly, offer will be evaluated & processed in conformation with above referred GOI order (Specially mentioned below). The bidder shall provide compliance and undertaking as per order and hereafter amendments:

11. If an agent submit bid on behalf of the principal/OEM, the same agent shall not submit a bid on behalf of another principal/OEM in this tender for the same item. If submitted, all offers will be liable for rejection.

12. iii) False declarations will be in breach of the code of Integrity under Rule 175(1)(i)(h) of the General Financial Rules (GFR) for which a bidder or its successors can be debarred for up to two years as per Rule 151 (iii) of the general Financial Rules along with such other actions as may be permissible under Law.

13. ii) In case bid value is in excess of Rs. 10 Cr., Class I local supplier/ Class II local supplier shall be required to provide a certificate from the statutory auditor or cost auditor of the company (in the case of companies) or from a practicing cost accountant or practicing chartered accountant (in respect of suppliers other than companies) giving the percentage of local content.

14. In case the bidders propose any other payment terms in deviation with the standard terms mentioned in the tender enquiry, it may be noted that applicable cash flow implications will be loaded on the prices quoted for commercial comparison of the offers. If advance payments are insisted by the bidders, interest at the rate of MCLR (Marginal Cost Linked Rate) as notified by State Bank of India from time to time shall be loaded on the prices for price comparison.

15. In this tender either the Indian agent on behalf of the principal/OEM or the principal /OEM itself can

bid, but both cannot bid simultaneously for the same item. Indian agents while quoting on behalf of their principals shall provide necessary latest authorisation letter obtained from their principals/manufacturers.

16. Liquidated damages: If the vendor fails to deliver the items on or before the delivery date, or any extension thereafter purchaser shall recover from the vendor as liquidated damages a sum of 0.5% of the contract price of the undelivered stores for each calendar week of delay. The total liquidated damages shall not exceed 10% of the contract price of the unit or units so delayed.

17. Model Certificate for Tenders:

I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India I certify that this bidder is not from such a country or, if from such a country, has been registered with the Competent Authority. I hereby certify that this bidder fulfills all requirements in this regard and is eligible to be considered.

18. Model Certificates for Tenders for Work involving possibility of sub contacting:

I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India and on sub contracting to contracting from such countries I certify that this bidder is not from such a country or, if from such a country, has been registered with the Competent Authority and will not sub contract any work to a contract form such countries unless such contractor is registered with the Competent Authority. I hereby certify that this bidder fulfills all requirements in this regard and is eligible to be considered.

Provide Compliance for the above in Vendor Specified Commercial Terms.

19. NO EMD AND TENDER FEE.

20. Performance Bank Guarantee (PBG) to be furnished as a security for fulfilment of warranty obligations by the successful vendor after satisfactory execution of purchase order/Contract (3% of the value of the purchase order/Contract). Central SUs/PSE/Autonomous bodies are exempted from the production of Performance Bank Guarantee. Instead; an indemnity bond shall be furnished in lieu of PBG.

21. Product Scope: Class I local supplier/ Class II local supplier shall offer only standard and catalogued product for Equipment / Spares Cards / assemblies. If the above offered Equipment / Cards / Assemblies are under development / to be developed the bid will not be considered.

22. PUBLICITY: No publicity of any kind whatsoever in case of PURCHASE ORDER shall be given by the Supplier without prior permission of the Purchaser.

23. SECRECY: The technical information, drawings, specifications and other related documents, forming part of the CONTRACT, are the property of the Purchaser and shall not be used for any other

purpose, except for execution of the CONTRACT. All rights, including rights in the event of grant of patent and registration of designs are reserved. The technical information, drawings, specifications, records and other documents shall not be copied, transcribed, traced or reproduced in any other form or otherwise in whole and/or duplicated, modified, divulged and/or disclosed to a third party nor misused in any other form whatsoever without Purchasers consent in writing except to the extent required for the execution of this CONTRACT. These technical informations, drawings, specifications and other related documents shall be returned to the Purchaser with approved copies and duplicates, if any, immediately after they have been used for the agreed purpose.

24. Senior Purchase and Stores Officer, ISTRAC, reserves the right to accept or reject any/or all the tenders in part or full without assigning any reasons thereof.

25. Submit the bid on or before due date.

26. Successful vendor has to submit the security deposit. (3 % of the value of the purchase order). Central PSUs/PSE/Autonomous bodies shall be exempted from the payment of security deposit, and instead, an indemnity bond shall be secured from them.

27. VENDORS HAS TO REFLECT THE POINT NO (4), (5) AND (6) IN THEIR BID.

28. TAXES: GST is payable as per applicable rates.

29. Foreign OEMs/Agents quoting on behalf of Foreign OEMs are not permitted to quote. High Sea Sales quotes not permitted. The bids shall be in INR only.

4. CERTIFICATE OF UNDERTAKING

1. A certificate from the bidder shall be enclosed along with their quotation (Technical bid) as per the format enclosed.

2. An AGENT is a person employed to do any act for another, or to represent another in dealings with third person.

3. Any bidder from a country which shares a land border with India will be eligible to bid in this tender only if the bidder is registered with the Competent Authority. (Competent authority is : DEPARTMENT FOR PROMOTION OF INDUSTRY AND INTERNAL TRADE (DPIIT)).

4. (b)Control shall include the right to appoint majority of the directors or to control the management or policy decisions including by virtue of their shareholding or management rights or shareholders

agreements or voting agreements.

5. Bidder from a country which shares a land border with India for the purpose means:

(a) An entity incorporated, established or registered in such a country; or

(b) A subsidiary of an entity incorporated, established or registered in such a country; or

(c) An entity substantially controlled through entities incorporated, established or registered in a such a country; or

(d) An entity whose beneficial owner is situated in such a country; or

(e) An Indian (or other) agent of such an entity; or

(f) A natural person who is a citizen of such a country; or

(g) A consortium or joint venture where any member of the consortium or joint venture falls under any of the above.

6. **BIDDER** (including the term tenderer, consultant or service provider in certain contexts) means any person or firm or company, including any member of a consortium or joint venture (that is an association of several persons, or firms or companies), every artificial juridical person not falling in any of the descriptions of bidders stated hereinbefore, including any agency branch or office controlled by such person, participating in a procurement process.

7. **CERTIFICATE**

8.

COMPANY NAME AND SEAL:

9. **DESIGNATION:**

10. **Explanation:**

(a) Controlling Ownership interest means ownership of or entitlement to more than twenty-five per cent of shares or capital or profits of the company;

11. **GOVERNMENT OF INDIA**

DEPARTMENT OF SPACE

ISTRAC, BENGALURU: 560 058.

12. iii) In case of an unincorporated association or body of individuals, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person, has ownership of or entitlement to more than fifteen percent of the property or capital or profits of such association or body of individuals.

13. (iii). I/We _____ hereby undertake that if the Certificate is found to be false at any given time ISRO/ISTRAC may treat this as a ground for immediate termination and further legal action in accordance with law can be initiated.

14. ii) In case of a partnership firm, the beneficial owner is the natural person(s) who, whether acting alone or together, or through one or more juridical person, has ownership of entitlement to more than fifteen percent of capital or profits of the partnership.

15. (ii). I/We hereby confirm that the country of origin of goods is _____

16. i) In case of a company or Limited Liability Partnership, the beneficial owner is a natural person(s), who, whether acting alone or together, or through one or more juridical person, has a controlling ownership interest or who exercises control through other means.

17. (i). I/WE _____ read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India. I / We _____ Certify that this bidder is not from such a country.

18. iv) Where no natural person is identified under (i) or (ii) or (iii) above, the beneficial owner is the relevant natural person who holds the position of senior managing official.

19. I / We _____ Certify that this bidder is from such a country and registered with the Competent Authority (i.e. Registration Committee constituted by the Department for Promotion of Industry and Internal Trade (DPIIT). Copy of Registration Certificate is enclosed.

20. NAME:

21. OR*

I/We _____ read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India.

22. Ref:Tender No _____ date _____

Our Quotation No. _____ date _____

23. REQUIREMENT OF REGISTRATION:

24. SIGNATURE:

25. (* Strike out whichever is not applicable).

26. Subject: Restrictions under Rule 144 (xi) of the General Financial Rules (GFRs) 2017 - reg.

27. The beneficial owner for the purpose of (6) above will be as under:

28. (TO BE PRINTED ON THE LETTER HEAD OF THE VENDOR)

29. v) In case of a trust, the identification of beneficial owner(s) shall include identification of the author of the trust, the trustee, the beneficiaries with fifteen percent or more interest in the trust and any other natural person exercising ultimate effective control over the trust through a chain of control or ownership.

5. MAKE IN INDIA UNDERTAKING (VENDORS SHALL SUBMIT THE BELOW CERTIFICATE ON THEIR LETTER HEAD DULY SIGNED)

1. The type of Class which the vendor belongs: Class-I or Class-II Local Suppliers as defined under DPIIT Order dtd 04/06/2020- Preference to Make in India Order-2017 Revision. (Class I local supplier means a supplier or service provider, whose goods, service or works offered for procurement, has local content equal to or more than 50% & Class II local supplier means a supplier or service provider, whose goods, services or works offered for procurement, has local content more than 20% but less than 50%). NOTE: Bidders offering imported products will fall under the category of Non-local suppliers. They cannot claim themselves as Class I Local suppliers/Class II Local suppliers by claiming the services such as transportation, insurance, installation, commissioning, training and after sales service support like AMC/CMC etc. as local value addition.

2. Percentage of local content for the quoted item.

3. Details of location (s) at which the local value addition is made

4. Provide self-certification that the item (s) offered meets the local content requirement for Class-I/Class-II Local Suppliers as the case may be.

C. Bid Templates

C.1 Technical Bid - PCB Rate Contract

- 1. PCB design Schematic and layout: A4 Size / Sheet as per ISRO Standards**

- 2. PCB design Schematic and layout: PCB Layout /Art work Design and all the relevant hard copies and soft copies required for post to generate photo film and PCB fabrication, for 2 layer Layout / Artwork**

- 3. PCB design Schematic and layout: PCB Layout /Art work Design and all the relevant hard copies and soft copies required for post to generate photo film and PCB fabrication, for 4 layer Layout / Artwork**

- 4. PCB design Schematic and layout: PCB Layout /Art work Design and all the relevant hard copies and soft copies required for post to generate photo film and PCB fabrication, for 6 layer Layout / Artwork**

- 5. PCB design Schematic and layout: PCB Layout /Art work Design and all the relevant hard copies and soft copies required for post to generate photo film and PCB fabrication, for 8 layer Layout / Artwork**

- 6. PCB design Schematic and layout: PCB Layout /Art work Design and all the relevant hard copies and soft copies required for post to generate photo film and PCB fabrication, for 10 layer Layout / Artwork**

- 7. PCB design Schematic and layout: PCB Layout /Art work Design and all the relevant hard copies and soft copies required for post to generate photo film and PCB fabrication, for 12 layer Layout / Artwork**

- 8. PCB design Schematic and layout: Layout Art work / Minor Modification in old approved Art work**

- 9. PCB design Schematic and layout: Layout Art work / Major Modification in old approved Art work**

10. PCB design Schematic and layout: FOOT Print Generation for Discrete of 2 pin SMD

**11. PCB design Schematic and layout:
FOOT Print Generation for Discrete of 2 pin through hole**

**12. PCB design Schematic and layout:
FOOT Print Generation for 4 pin ICs**

**13. PCB design Schematic and layout:
FOOT Print Generation for 4 to 16pin**

**14. PCB design Schematic and layout:
FOOT Print Generation for 16 to 48 pin**

**15. PCB design Schematic and layout:
FOOT Print Generation for 48 to 100pin**

**16. PCB design Schematic and layout:
FOOT Print Generation for 100 & above**

**17. PCB design Schematic and layout:
FOOT Print Generation for Connector < 10 pins**

**18. PCB design Schematic and layout:
FOOT Print Generation for Connector 10 to 25 pins**

**19. PCB design Schematic and layout:
FOOT Print Generation for Connector 25 to 100 pins**

**20. PCB design Schematic and layout:
FOOT Print Generation for Connector 100 & above**

**21. PCB design Schematic and layout:
FOOT Print Generation for HMCs 40 to 80 pins**

- 22. PCB design Schematic and layout:
FOOT Print Generation for HMCs 80 to 120 pins**
- 23. PCB design Schematic and layout:
FOOT Print Generation for HMCs 120 & above**
- 24. PCB design Schematic and layout:
FOOT Print Generation for BGA Packages up to 121**
- 25. PCB design Schematic and layout:
FOOT Print Generation for BGA Packages up to 324**
- 26. PCB design Schematic and layout:
FOOT Print Generation for BGA Packages > 325**
- 27. PCB Signal Integrity Analysis: Without Timing Analysis**
- 28. PCB Signal Integrity Analysis: With Timing Analysis**
- 29. PCB Signal Integrity Analysis: Power integrity analysis**
- 30. PCB Signal Integrity Analysis: Thermal Analysis / iteration**
- 31. PCB Fabrication: Material FR4 - Normal Tg 140**
- 32. PCB Fabrication: Material FR4 - High Tg 170**
- 33. PCB Fabrication: Material FR4 - High Tg 180**
- 34. PCB Fabrication: Material Polyamide Rigid**
- 35. PCB Fabrication: Material Polyamide Kapton (Flex)**

36. PCB Fabrication: Material Teflon

37. PCB Fabrication: Material Polyimide Polyester (Flex)

38. PCB Fabrication: RF Material 0.6 mm thickness

39. PCB Fabrication: RF Material 0.8 mm thickness

40. PCB Fabrication: RF Material 1.6 mm thickness

41. PCB Fabrication: RF Material 3 mm thickness

42. PCB Fabrication: Material Rigid

43. PCB Fabrication: Material Flexi

44. PCB Fabrication: Material Flexi Rigid

45. PCB FABRICATION AND ASSEMBLY: Board Thickness Single Layer \leq 1mm

**46. PCB FABRICATION AND ASSEMBLY:
Board Thickness Single Layer $>$ 1mm and \leq 2mm**

**47. PCB FABRICATION AND ASSEMBLY:
Board Thickness Single Layer $>$ 2mm and \leq 3mm**

**48. PCB FABRICATION AND ASSEMBLY:
Board Thickness Single Layer $>$ 3mm and \leq 4mm**

**49. PCB FABRICATION AND ASSEMBLY:
Board Thickness 2 Layer \leq 1mm thickness**

50. PCB FABRICATION AND ASSEMBLY:
Board Thickness 2 Layer > 1mm and ≤ 2mm

51. PCB FABRICATION AND ASSEMBLY:
Board Thickness 2 Layer > 2mm and ≤ 3mm

52. PCB FABRICATION AND ASSEMBLY:
Board Thickness 2 Layer > 3mm and ≤ 4mm

53. PCB FABRICATION AND ASSEMBLY:
Board Thickness 4 Layer ≤ 1mm thickness

54. PCB FABRICATION AND ASSEMBLY:
Board Thickness 4 Layer > 1mm and ≤ 2mm

55. PCB FABRICATION AND ASSEMBLY:
Board Thickness 4 Layer > 2mm and ≤ 3mm

56. PCB FABRICATION AND ASSEMBLY:
Board Thickness 4 Layer > 3mm and ≤ 4mm

57. PCB FABRICATION AND ASSEMBLY:
Board Thickness 6 Layer ≤ 1mm

58. PCB FABRICATION AND ASSEMBLY:
Board Thickness 6 Layer > 1mm and ≤ 2mm

59. PCB FABRICATION AND ASSEMBLY:
Board Thickness 6 Layer > 2mm and ≤ 3mm

60. PCB FABRICATION AND ASSEMBLY:
Board Thickness 6 Layer > 3mm and ≤ 4mm

61. PCB FABRICATION AND ASSEMBLY:

Board Thickness 8 Layer \leq 1mm thickness

62. PCB FABRICATION AND ASSEMBLY:

Board Thickness 8 Layer $>$ 1mm and \leq 2mm

63. PCB FABRICATION AND ASSEMBLY:

Board Thickness 8 Layer $>$ 2mm and \leq 3mm

64. PCB FABRICATION AND ASSEMBLY:

Board Thickness 8 Layer $>$ 3mm and \leq 4mm

65. PCB FABRICATION AND ASSEMBLY:

Board Thickness 10 Layer \leq 1mm thickness

66. PCB FABRICATION AND ASSEMBLY:

Board Thickness 10 Layer $>$ 1mm and \leq 2mm

67. PCB FABRICATION AND ASSEMBLY:

Board Thickness 10 Layer $>$ 2mm and \leq 3mm

68. PCB FABRICATION AND ASSEMBLY:

Board Thickness 10 Layer $>$ 3mm and \leq 4mm

69. PCB FABRICATION AND ASSEMBLY:

Board Thickness 12 Layer \leq 1mm thickness

70. PCB FABRICATION AND ASSEMBLY:

Board Thickness 12 Layer $>$ 1mm and \leq 2mm

71. PCB FABRICATION AND ASSEMBLY:

Board Thickness 12 Layer $>$ 2mm and \leq 3mm

72. PCB FABRICATION AND ASSEMBLY:

Board Thickness 12 Layer $>$ 3mm and \leq 4mm

- 73. PCB FABRICATION AND ASSEMBLY:**
RF Board Thickness Single Layer $\leq 1\text{mm}$ thickness
- 74. PCB FABRICATION AND ASSEMBLY:**
RF Board Thickness Single Layer $> 1\text{mm}$ and $\leq 2\text{mm}$
- 75. PCB FABRICATION AND ASSEMBLY:**
RF Board Thickness Single Layer $> 2\text{mm}$ and $\leq 3\text{mm}$
- 76. PCB FABRICATION AND ASSEMBLY:**
RF Board Thickness Single Layer $> 3\text{mm}$ and $\leq 4\text{mm}$
- 77. PCB FABRICATION AND ASSEMBLY:**
RF Board Thickness 2 Layer $\leq 1\text{mm}$ thickness
- 78. PCB FABRICATION AND ASSEMBLY:**
RF Board Thickness 2 Layer $> 1\text{mm}$ and $\leq 2\text{mm}$
- 79. PCB FABRICATION AND ASSEMBLY:**
RF Board Thickness 2 Layer $> 2\text{mm}$ and $\leq 3\text{mm}$
- 80. PCB FABRICATION AND ASSEMBLY:**
RF Board Thickness 2 Layer $> 3\text{mm}$ and $\leq 4\text{mm}$
- 81. PCB FABRICATION AND ASSEMBLY:**
RF Board Thickness 4 Layer $\leq 1\text{mm}$ thickness
- 82. PCB FABRICATION AND ASSEMBLY:**
RF Board Thickness 4 Layer $> 1\text{mm}$ and $\leq 2\text{mm}$
- 83. PCB FABRICATION AND ASSEMBLY:**
RF Board Thickness 4 Layer $> 2\text{mm}$ and $\leq 3\text{mm}$
- 84. PCB FABRICATION AND ASSEMBLY:**

RF Board Thickness 4 Layer > 3mm and ≤ 4mm

85. PCB FABRICATION AND ASSEMBLY:

RF Board Thickness 6 Layer ≤ 1mm thickness

86. PCB FABRICATION AND ASSEMBLY:

RF Board Thickness 6 Layer > 1mm and ≤ 2mm

87. PCB FABRICATION AND ASSEMBLY:

RF Board Thickness 6 Layer > 2mm and ≤ 3mm

88. PCB FABRICATION AND ASSEMBLY:

RF Board Thickness 6 Layer > 3mm and ≤ 4mm

89. PCB FABRICATION AND ASSEMBLY:

RF Board Thickness 8 Layer ≤ 1mm thickness

90. PCB FABRICATION AND ASSEMBLY:

RF Board Thickness 8 Layer > 1mm and ≤ 2mm

91. PCB FABRICATION AND ASSEMBLY:

RF Board Thickness 8 Layer > 2mm and ≤ 3mm

92. PCB FABRICATION AND ASSEMBLY:

RF Board Thickness 8 Layer > 3mm and ≤ 4mm

93. PCB FABRICATION AND ASSEMBLY:

Hybrid Board Thickness 2 Layer ≤ 1mm

94. PCB FABRICATION AND ASSEMBLY:

Hybrid Board Thickness 2 Layer > 1mm and ≤ 2mm

95. PCB FABRICATION AND ASSEMBLY:

Hybrid Board Thickness 2 Layer > 2mm and ≤ 3mm

96. PCB FABRICATION AND ASSEMBLY:
Hybrid Board Thickness 2 Layer > 3mm and ≤ 4mm

97. PCB FABRICATION AND ASSEMBLY:
Hybrid Board Thickness 4 Layer ≤ 1mm thickness

98. PCB FABRICATION AND ASSEMBLY:
Hybrid Board Thickness 4 Layer > 1mm and ≤ 2mm

99. PCB FABRICATION AND ASSEMBLY:
Hybrid Board Thickness 4 Layer > 2mm and ≤ 3mm

100. PCB FABRICATION AND ASSEMBLY:
Hybrid Board Thickness 4 Layer > 3mm and ≤ 4mm

101. PCB FABRICATION AND ASSEMBLY:
Hybrid Board Thickness 6 Layer ≤ 1mm thickness

102. PCB FABRICATION AND ASSEMBLY:
Hybrid Board Thickness 6 Layer > 1mm and ≤ 2mm

103. PCB FABRICATION AND ASSEMBLY:
Hybrid Board Thickness 6 Layer > 2mm and ≤ 3mm

104. PCB FABRICATION AND ASSEMBLY:
Hybrid Board Thickness 6 Layer > 3mm and ≤ 4mm

105. PCB FABRICATION AND ASSEMBLY:
Hybrid Board Thickness 8 Layer ≤ 1mm thickness

106. PCB FABRICATION AND ASSEMBLY:
Hybrid Board Thickness 8 Layer > 1mm and ≤ 2mm

107. PCB FABRICATION AND ASSEMBLY:

Hybrid Board Thickness 8 Layer > 2mm and ≤ 3mm

108. PCB FABRICATION AND ASSEMBLY:

Hybrid Board Thickness 8 Layer > 3mm and ≤ 4mm

109. PCB FABRICATION AND ASSEMBLY:

Surface Finish ENIG (Electroless Nickel Immeion Gold) NI-4-6 microns, Au 0.08- 0.1 microns

110. PCB FABRICATION AND ASSEMBLY:

Surface Finish Gold Plating thickness (Edge Connector-0.8 microns)

111. PCB FABRICATION AND ASSEMBLY:

Surface Finish Electroless Gold (Director on copper)- Au 2-3 microns

112. PCB FABRICATION AND ASSEMBLY:

Surface Finish Gold Plating thickness (Edge Connector- up to 2.5 microns)

113. PCB FABRICATION AND ASSEMBLY:

Surface Finish HASL

114. PCB FABRICATION AND ASSEMBLY:

Surface Finish OSP

115. PCB FABRICATION AND ASSEMBLY:

Surface Finish Immeion Tin

116. PCB FABRICATION AND ASSEMBLY:

Surface Finish Immeion Silver

117. PCB FABRICATION AND ASSEMBLY:

Surface Finish Immeion Gold

118. PCB FABRICATION AND ASSEMBLY:

Surface Finish Electrolytic Gold

119. PCB FABRICATION AND ASSEMBLY:

Surface Finish Gold Finge

120. PCB FABRICATION AND ASSEMBLY:

Control Impedance $\pm 5\%$

121. PCB FABRICATION AND ASSEMBLY:

Control Impedance $\pm 10\%$

122. PCB FABRICATION AND ASSEMBLY:

Control Impedance $\pm 15\%$

123. PCB FABRICATION AND ASSEMBLY:

Copper thickness (0.25- OZ)

124. PCB FABRICATION AND ASSEMBLY:

Copper thickness (0.5- OZ)

125. PCB FABRICATION AND ASSEMBLY:

Copper thickness (1.0- OZ)

126. PCB FABRICATION AND ASSEMBLY:

Copper thickness (2.0- OZ)

127. PCB FABRICATION AND ASSEMBLY:

Solder Mask White Colour

128. PCB FABRICATION AND ASSEMBLY:

Solder Mask Yellow Colour

129. PCB FABRICATION AND ASSEMBLY:

Solder Mask Black Colour

130. PCB FABRICATION AND ASSEMBLY:

Solder Mask Orange Colour

131. PCB FABRICATION AND ASSEMBLY:

Solder Mask Blue Colour

132. PCB FABRICATION AND ASSEMBLY:

Solder Mask Red Colour

133. PCB FABRICATION AND ASSEMBLY:

Filming charges as per specification

134. PCB Design fabrication component assembly and testing: One time NRE Cost for stencil engineering (BGA)

135. PCB Design fabrication component assembly and testing: One time NRE Cost for stencil engineering (Full board)

136. PCB FABRICATION AND ASSEMBLY: Per component tinning

137. PCB FABRICATION AND ASSEMBLY: Leaded Components Mounting

138. PCB FABRICATION AND ASSEMBLY: Through hole components Mounting

139. PCB FABRICATION AND ASSEMBLY: Fine Pitch components Mounting

140. PCB FABRICATION AND ASSEMBLY: Leadless Components Mounting

141. PCB FABRICATION AND ASSEMBLY: SMD Components Mounting

142. PCB FABRICATION AND ASSEMBLY: BGA Components Mounting with X-Ray Report

143. PCB FABRICATION AND ASSEMBLY: Leaded Components Solder

144. PCB FABRICATION AND ASSEMBLY:

Through hole components Solder

145. PCB FABRICATION AND ASSEMBLY:

Fine Pitch components Solder

146. PCB FABRICATION AND ASSEMBLY:

Leadless Components Solder

147. PCB FABRICATION AND ASSEMBLY:

SMD Components Solder

148. PCB FABRICATION AND ASSEMBLY:

BGA Components Solder

149. PCB FABRICATION AND ASSEMBLY: Power on TESTING of Assembled cards (As specified by ISTRAC)

150. PCB FABRICATION AND ASSEMBLY: Procurements of Components as per BOM (% of margin should give)

Item specifications for PCB FABRICATION AND ASSEMBLY: Procurements of Components as per BOM (% of margin should give)

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	Procurements of Components as per BOM (% of margin should give)	They should produce the component (BOM) invoice while billing	Yes / No / Explain		

151. PCB FABRICATION AND ASSEMBLY: Procurements of RF PCB material for RF board Fabrication (% of margin should give)

Item specifications for PCB FABRICATION AND ASSEMBLY: Procurements of RF PCB material for RF board Fabrication (% of margin should give)

SI No	Specification	Value	Compliance	Offered Specification	Remark
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1	Procurements of RF PCB material (% of margin should give)		-		
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152. NRE CHARGES: Set up / NRE Charges for Two Layers Rigid PCB Fabrication

153. NRE CHARGES: Set up / NRE Charges for Four Layers Rigid PCB Fabrication

154. NRE CHARGES: Set up / NRE Charges for Six Layers Rigid PCB Fabrication

155. NRE CHARGES: Set up / NRE Charges for Eight Layers Rigid PCB Fabrication

156. NRE CHARGES: Set up / NRE Charges for Ten Layers Rigid PCB Fabrication

157. NRE CHARGES: Set up / NRE Charges for Twelve Layers Rigid PCB Fabrication

158. NRE CHARGES: Set up / NRE Charges for Two Layers RF PCB Fabrication

159. NRE CHARGES: Set up / NRE Charges for Four Layers RF PCB Fabrication

160. NRE CHARGES: Set up / NRE Charges for Six Layers RF PCB Fabrication

161. NRE CHARGES: Set up / NRE Charges for Eight Layers RF PCB Fabrication

162. NRE CHARGES: Set up / NRE Charges for Two Layers Hybrid PCB Fabrication

163. NRE CHARGES: Set up / NRE Charges for Four Layers Hybrid PCB Fabrication

164. NRE CHARGES: Set up / NRE Charges for Six Layers Hybrid PCB Fabrication

165. NRE CHARGES: Set up / NRE Charges for Eight Layers Hybrid PCB Fabrication

166. NRE CHARGES: Set up / NRE Charges for Two Layers Flexi-Rigid PCB Fabrication

- 167. NRE CHARGES: Set up / NRE Charges for Four Layers Flexi-Rigid PCB Fabrication**
- 168. NRE CHARGES: Set up / NRE Charges for Six Layers Flexi-Rigid PCB Fabrication**
- 169. NRE CHARGES: Set up / NRE Charges for Eight Layers Flexi-Rigid PCB Fabrication**
- 170. NRE CHARGES: Set up / NRE Charges for Ten Layers Flexi-Rigid PCB Fabrication**
- 171. NRE CHARGES: Set up / NRE Charges for Twelve Layers Flexi-Rigid PCB Fabrication**
- 172. MECHANICAL ASSEMBLY: Electronic PCB Packaging Enclosure Design charges (CAD design, Layout etc) according to mechanical Dimensions**
- 173. MECHANICAL ASSEMBLY: Electronic PCB Enclosure Packaging Fabrication in sheet metal**
- 174. MECHANICAL ASSEMBLY: Electronic PCB Enclosure Fabrication in Aluminum for Electronic PCB Packaging**
- 175. MECHANICAL ASSEMBLY: Electronic PCB Enclosure Packaging Design charges for Milling of Aluminum or Copper**
- 176. MECHANICAL ASSEMBLY: Electronic PCB Enclosure Packaging Fabrication Milling in Aluminum**
- 177. MECHANICAL ASSEMBLY: Electronic PCB Enclosure Packaging Fabrication Milling in Copper**
- 178. MECHANICAL ASSEMBLY: Electronic PCB Enclosure Packaging NRSE charges for above Sl. no 172, 173 and 174 fabrication**
- 179. MECHANICAL ASSEMBLY: Electronic PCB Enclosure Packaging Surface Finishing Anodized finish**

180. MECHANICAL ASSEMBLY: Electronic PCB Enclosure Packaging Surface Finishing Chromatizing finish

181. MECHANICAL ASSEMBLY: Electronic PCB Enclosure Packaging Surface Finishing Powder coating finish

182. MECHANICAL ASSEMBLY: Electronic PCB Enclosure Packaging thermal design

183. MECHANICAL ASSEMBLY: Electronic PCB Enclosure Packaging enclosure thermal Analysis

Common Specifications (Applicable for all items)

Sl No	Specification	Value	Compliance	Offered Specification	Remark
1	Vendors should quote for all Sl.nos (including slab) .Otherwise quotation will be rejected		-		
2	DELIVERY period to be mentioned for PCB design services, Including Schematic, layout, board fie and Gerber etc. according to PCB no.of layers. After design complete Final folder should be written/copy in CD/DVD and handover to RDA/ISTRAC.	2 layers to 4 layers - 3 weeks 6 layers to 8 layers - 4 weeks 8 layers to 12 layers - 5 weeks	Yes / No / Explain		

3	DELIVERY period to be mentioned for PCB Fabrication according to PCB no.of layers after completion of CAD design.	2 layers to 4 layers - 3 weeks 6 layers to 8 layers - 4 weeks 8 layers to 12 layers - 5 weeks	Yes / No / Explain		
4	DELIVERY period to be mentioned for Components assembly and testing for fabricated PCB boards.	2 layers to 4 layers - 1 weeks 6 layers to 8 layers - 2 weeks 8 layers to 12 layers - 3 weeks	Yes / No / Explain		
5	DELIVERY period to be mentioned for SI, Thermal & EMI/EMC Analysis.	2 to 3 weeks	Yes / No / Explain		
6	The scope of this Rate Contract is for complete CAD design, fabrication and assembly for Radar Development Area (RDA)/ISTRAC Bangalore.		-		
7	No Advance payment will be considered.		-		

8	<p>All the Ground PCB design activities shall confirm to IPC Standards as per design Requirement. All orders released till the last date of the Rate Contract shall be accepted and executed. The Rate Contract will remain alive for the purpose of delivery and acceptance for all the Stores ordered during the period of the Contract (i.e., until deliveries are completed, accepted and payment done).</p>		-		
9	<p>Schedule and quality should be maintained. ISTRAC has the right to terminate the order if the terms and conditions are not met.</p>		-		
10	<p>Rate Contract will be valid for a period of three years and extendable for further Period of two years on mutual acceptance.</p>		-		

11	The CAD design Engineers from the party shall be available full-time at RDA/ISTRAC whenever requisition is sent to the party.		-		
12	Once the PO released, vender shall deploy the CAD design Engineers within 20 days at ISTRAC during entire period of the contract. If vendor fails for the same, ISTRAC has the right to close the contract at its own discretion.		-		
13	Place of Delivery shall be ISTRAC Stores/RDA, Peenya, Bangalore		-		
14	The bills shall be submitted to the Accounts Officer, ISTRAC, Plot No 12 & 13, Peenya II Stage, Bangalore 560058. The payment shall be released within 30 days after receipt and acceptance by Engineer in-charge and approved by Group Head, RDA.		-		

15	<p>RDA/ISTRAC reserves the right to (i) enter into parallel Purchase Order/Rate Contract or Adhoc Contract simultaneously or at any time during the currency of Rate Contract with one or more supplies. (ii) Terminate the Purchase Order/Rate Contract by giving one month notice by either party.</p>		-		
16	<p>Rejection of CAD design jobs if any will be intimated within 30 days from the date of delivery. The replacement shall be made by party free of cost including To and Fro transportation within a reasonable time i.e., 2 to 3 weeks</p>		-		

17	Any dispute of difference arising against this Rate Contract shall be settled amicably between the parties. If amicable settlement cannot be reached, then the unresolved dispute or difference shall be referred to the Sole Arbitration of Director ISTRAC whose decision shall be final and binding on the parties		-		
18	Consignee: Purchase and Stores Officer (Stores), ISTRAC, Plot No 12 & 13, Peenya II Stage, Bangalore 560058		-		
19	Fall Clause: The prices charged for the CAD design and fabrication against this Rate Contract by the party should in no event exceed the lowest price at which party undertake the CAD design job and fabrication of identical specification to any other party/parties during the currency of Rate Contract.	If at any time during the said currency of Rate Contract, if the vendor reduce the price of the CAD design and fabrication job covered by this Rate Contract to any other party/parties, the party shall forth with notify such reduction of Price to Purchase and Stores Officer (Purchase), ISTRAC	Yes / No / Explain		

20	This Rate Contract may also be operated by other constituent Centers / Units and autonomous bodies of ISRO/DOS at Bangalore and elsewhere.		-		
21	List of Deliverables: Project File Copy in CD/DVD including Schematic files, Layout Files, Net lists, Board files, Gerber files, etc. which are all relevant for the project/work. Hardcopy of Schematic files, Board files, Gerber files, Fabrication files, Photo films, etc as and when informed by Engineer-in-charge, RDA/ISTRAC		-		
22	Vendor should have minimum 3 years of experience in PCB/Hardware design & Development.		-		

23	Personnel involved in PCB designing shall be professionally experienced with latest version of ORCAD / ALLEGRO / MENTOR EXPEDITION PCB design software.		-		
24	All software used should have authorized licenses and the tool version; quantity should support the copies of the certificate.		-		
25	The proof of license of the CAD tools shall be provided.		-		
26	The assembly process should be ROHS compliances (must use proper solder paste & Flux) and X-ray report shall be provided after BGA assembly.		-		
27	Vendors are required to furnish clause by clause compliance and quote of all the tendered specifications. Otherwise their bid will not be accepted.		-		

28	During tender evaluation, ISTRAC committee reserves the right to visit the vendor premises for assessing the technical capability		-		
29	The Quantity mentioned all Sl.no in the tender is tentative only. The Actual quantity may increase or decrease on the project requirement without changing the overall PO Value.		-		
30	Payment will be processed based on the work order issued by end-user.		-		
31	Evaluation of Tenders: ISTRAC shall evaluate the price bids of vendors for deciding lowest vendor (L-1) on the basis of Overall landing cost of all the items as per the tender, ie. Total Summation of all the Sl. no's including Slabs.		-		

Supporting Documents required from Vendor

1. Nil

5 additional documents can be uploaded by the vendor

C.2 Commercial Terms / Bid

Sl. No.	Description	Compliance	Vendor Terms
1	On site, Stores ISTRAC/ISRO, Bengaluru	Yes / No / Explain	
2	Performance Bank guarantee : BG for 3% of PO value to be submitted while claiming payment valid till end of warranty period with a claim period of 60 days.	Yes / No / Explain	
3	SD-cum-Warranty (PBG) (in lieu of SD & PBG as a single instrument): BG for 3% of PO value to be submitted after receipt of PO valid till end of warranty period with a claim period of 60 days.	Yes / No / Explain	
4	DELAY IN COMPLETION / LIQUIDATED DAMAGES :If the Contractor fails to deliver the stores within the time specified in the Contract or any extension thereof, the Purchaser shall recover from the Contractor as Liquidated Damages a sum of one-half of one per cent (0.5%) of the Contract price of the undelivered stores for each calendar week of delay. The total liquidated damages shall not exceed ten percent (10%) of the contract price of the unit or units so delayed. Stores will be deemed to have been delivered only when all their component parts are also delivered. If certain components are not delivered in time, the stores will be considered as delayed until such time as the missing parts are delivered.	Yes / No / Explain	
5	Validity	Yes / No / Explain	
6	In sl. no 22 of General specification in technical bid: "Vendor should have minimum 3 years of experience in PCB/Hardware design & Development" - Vendor has to submit previous purchase order along with work completion certificate from user as documentary proof.	Yes / No / Explain	
7	In sl. no 25 of General specification in technical bid:" The proof of license of the CAD tools shall be provided"- Vendor has to submit license purchase copy and installation certificate as documentary proof.	Yes / No / Explain	

8	This tender is for concluding a rate contract (RC). Please note the tender is invited to quote for unit quantity against each item. Supply orders will be placed against this RC as per ISTRAC requirement during the RC validity period and this RC will be utilized for a max value of Rs.450 Lakhs. Further, there will be no commitment from ISTRAC to issue order against this RC. .	Yes / No / Explain	
9	Name and Address of the company on whom purchase order to be placed (OEM if any should be added in your E-Procurement profile under Add Agent/Principal without fail). Address indicated here must be available in your profile as a Principal/Agent failing which PO will be placed on the e-procurement address available in the profile.	Yes / No / Explain	
10	Certificate of Undertaking: Any bidder from a country which shares a land border with India will be eligible to bid in any procurement whether of goods or services (including consultancy services and non consultancy services) or works (including turn-key projects) only if the bidder is registered with the Competent authority (i.e. DPIIT). Hence, it is mandatory to furnish Certificate of Undertaking as indicated in the tender document.	Yes / No / Explain	
11	Foreign vendors are not permitted to quote. 1.Only Class -I and Class-II Local suppliers as per make in India policy are eligible to participate in the bid. 2. The percentage of local content should be specifically mentioned in the offer, without which will be summarily rejected 3. Preference will be given to class-I Local Supplier and in their absence, class-II Local supplier will be considered.	Yes / No / Explain	

12	<p>This tender is restricted only to Class-I and Class-II Local Suppliers as defined under DPIIT Order dtd 04/06/2020- Preference to Make in India Order-2017 Revision. Non-Local Suppliers need not quote. Foreign OEMs/Agents quoting on behalf of Foreign OEMs are not permitted to quote. High Sea Sales Quotes not permitted. The bids shall be in INR only.</p> <p>Purchase preference to eligible vendors are applicable as per extant notifications issued by the Government of India.</p> <p>The Class-I/Class-II Local suppliers, at the time of submitting their offer, shall also indicate percentage of local content and provide self certification that the item (s) offered meets the local content requirement for Class-I/Class-II Local Suppliers as the case may be. They shall also give details of location (s) at which the local value addition is made.</p> <p>In cases if the item(s) offered exceed Rs. 10 Crores, the Class-I/Class-II Local Suppliers shall provide a Certificate from the statutory auditor or cost auditor of the company (in case of companies) or from a practicing cost accountant or practicing chartered accountant (in respect of suppliers other than companies) giving the percentage of local content. False Declarations will be in breach of the Code of Integrity under Rule 175 (1) (i) (h) of the General Financial Rules for which a bidder or its successors can be debarred for up to two years as per Rule 151 (iii) of the General Financial Rules along with such other actions as may be permissible under law.</p>	Yes / No / Explain	
13	<p>GeM Seller ID: As per Gol OM No. 6/9/2020-PPD dated 24.08.2020 and DO No. 170/CEO-GeM/2020, sellers providing Goods and Services to Central Government Organizations shall be registered on GeM and obtain a unique GeM registered ID. Hence please get registered in GeM and furnish your GeM Seller ID.</p>	Yes / No / Explain	
14	<p>Payment Term (Our normal terms of payment is 100% within 30 days from the date of receipt and acceptance of the item at our site)</p>	Yes / No / Explain	

15	Percentage of local content for the quoted item. Details of break-up of local content shall be provided in terms of percentage. Please note that the value should not be mentioned.	Yes / No / Explain	
16	Details of location (s) at which the local value addition is made	Yes / No / Explain	
17	Foreign OEMs/Agents quoting on behalf of Foreign OEMs are not permitted to quote. High Sea Sales quotes not permitted. The bids shall be in INR only.	Yes / No / Explain	
18	Any other terms	Yes / No / Explain	
19	Taxes and other costs, if any	Yes / No / Explain	
20	Delivery Period	Yes / No / Explain	
21	Delivery Term	Yes / No / Explain	
22	Security Deposit: FD or BG for 3% of PO value to be submitted after receipt of PO and valid till supply & acceptance.	Yes / No / Explain	
23	Warranty	Yes / No / Explain	
24	Fall Clause: The prices charged for the stores supplied under the Contract by the vendor should in no event exceed the lowest price at which the vendor sells the stores of identical description to any other person during the period of the Contract. If at any time, the prices are reduced, the same shall be notified to the Department and shall stand correspondingly reduced.	Yes / No / Explain	
25	The Unit shall reserve the right to enter into parallel Rate Contracts simultaneously, or at any time during the period of the Rate Contract, with one or more tenderers, and to terminate the Contract by giving one months notice.	Yes / No / Explain	
26	The successful vendor shall maintain stocks at the station and shall make deliveries against supply orders from such stocks as and when required.	Yes / No / Explain	

27	The stores shall normally be supplied within a fortnight from the date of receipt of the order. Upon receipt of the order, the vendor shall, within seven days, intimate the quantity that can be supplied from stock within the period stipulated therein and the time required to supply the balance quantity. If no intimation is received from the vendor, it shall be assumed that he will make the supplies within the specified time.	Yes / No / Explain	
28	In case a bidder is an MSE, registered under NSIC or any other Government Agencies and would like to avail exemptions, offer should be accompanied with necessary registration certificate with declaration to consider their offer. Quotation received without such declaration and valid registration certificate will not be considered for exemptions under the Public Procurement Policy.	Yes / No / Explain	
29	Confirm whether you are a reseller or distributor if not mention the nature of business with the copy of valid registration certificate to substantiate the same.	Yes / No / Explain	
30	Arbitration with Overseas Supplier: In the event of any dispute or difference arising out of or in connection with this Purchase Order, such dispute or difference shall be settled amicably by mutual consultants or through the good offices of the respective parties. If such resolution is not possible, then the unresolved dispute or difference shall be referred to the Sole Arbitrator appointed in accordance with provisions of the ICADR Arbitration Rules, 1996 of the International Center for Alternative Dispute Resolution, New Delhi. The Arbitration shall be conducted in India in accordance with the Rules & Procedures of the Arbitration and Conciliation Act of 1996 or any re-enactment or modification thereof. The expenses for the Arbitration shall be paid as may be determined by the Arbitrator. The Seat for Arbitration shall be Bengaluru. The applicable language for Arbitration shall be English only. Adherence and acceptance to this Clause is Compulsory or otherwise the Tender will be rejected.	Yes / No / Explain	

31	Arbitration with Public Sector Undertakings: In the event of any dispute or difference relating to the interpretation and application of the Contract, such dispute or difference shall be taken up by either party for resolution through AMRCD as mentioned in DPE OM No. 4 (1)/2013 - DPE (GM) /FTS 1835 dated 22.05.2018. And/or amended thereafter".	Yes / No / Explain	
32	Micro and Small Enterprises [MSEs] a. In order to avail the benefits extended by Government of India to the Micro and Small Enterprises [MSEs] in respect of Goods and Services as per provision of the policy, MSEs registered with District Industries Centre [DIC] or Khadi and Village Industries Commission [KVIC] or Khadi and Village Industries Board [KVIB] or Coir Board or National Small Industries Commission [NSIC] or Directorate of Handicrafts and Handlooms or Udyog Aadhar Memorandum, or any other Body specified by Ministry of MSME have to submit a copy of Valid Certificate with self-attestation along with the Techno-commercial bid. No Certificate claiming exemption will be entertained after Tender due date.	Yes / No / Explain	
33	b. MSEs are entitled for [i] issue of Tender documents Free of Cost [ii] Exemption of Earnest Money Deposit [EMD]. However, Performance Security is mandatory for Goods and Services.	Yes / No / Explain	
34	c. If the MSE Tenderer[s] is/are SC/ST/Woman entrepreneur owned MSEs, specific mention for the same should be there in the valid certificate submitted by the tenderer.	Yes / No / Explain	
35	d. Tenderers claiming MSME benefit shall furnish copy of UAM no. as uploaded on CPP portal to avail benefit	Yes / No / Explain	

36	<p>Arbitration: Local suppliers: :In the event of any dispute/s, difference/s or claim/s arising out of or relating to the interpretation and application of the Contract, such dispute/s or difference/s or claim/s shall be settled amicably by mutual consultations of the good Offices of the respective Parties and recognizing their mutual interests attempt to reach a solution satisfactory to both the parties. If such a resolution is not possible, within 30 days from the date of receipt of written notice of the existence of such dispute/s, then the unresolved dispute/s or difference/s or claim/s shall be referred to the Sole Arbitrator appointed by the Parties by mutual consent, in accordance with the rules and procedures of Arbitration and Conciliation Act 1996 together with amendments thereto or any modification thereof. The Arbitration shall be conducted in Bengaluru in the Arbitration and Conciliation Centre-Bengaluru (Domestic and International) as per its rules and regulations. The expenses for the Arbitration shall be shared equally or as may be determined by the Arbitrator. The considered and written decision of the Arbitrator shall be final and binding between the Parties. The applicable language for Arbitration shall be English only. Work under the contract shall be continued by the Tenderer during the pendency of arbitration proceedings, without prejudice to a final adjustment in the accordance with the decision of the Arbitrator unless otherwise directed in writing by the Purchaser or unless the matter is such that the works cannot be possibly continued until the decision (whether final or interim) of the Arbitrator is obtained. Adherence and acceptance to this Clause is Compulsory or otherwise the Tender will be rejected.</p>	Yes / No / Explain	
37	<p>Rate Contract will be valid for a period of three years and extendable for further Period of two years on mutual acceptance.</p>	Yes / No / Explain	

C.3 Price Bid

Sl. No.	Item	Quantity	Unit Price	Currency	Total Price	Remark
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1	PCB design Schematic and layout: A4 Size / Sheet as per ISRO Standards	1.00 Sheet		-		
2	PCB design Schematic and layout: PCB Layout /Art work Design and all the relevant hard copies and soft copies required for post to generate photo film and PCB fabrication, for 2 layer Layout / Artwork	1.00 Sq CM		-		
3	PCB design Schematic and layout: PCB Layout /Art work Design and all the relevant hard copies and soft copies required for post to generate photo film and PCB fabrication, for 4 layer Layout / Artwork	1.00 Sq CM		-		

4	PCB design Schematic and layout: PCB Layout /Art work Design and all the relevant hard copies and soft copies required for post to generate photo film and PCB fabrication, for 6 layer Layout / Artwork	1.00 Sq CM		-		
5	PCB design Schematic and layout: PCB Layout /Art work Design and all the relevant hard copies and soft copies required for post to generate photo film and PCB fabrication, for 8 layer Layout / Artwork	1.00 Sq CM		-		
6	PCB design Schematic and layout: PCB Layout /Art work Design and all the relevant hard copies and soft copies required for post to generate photo film and PCB fabrication, for 10 layer Layout / Artwork	1.00 Sq CM		-		

7	PCB design Schematic and layout: PCB Layout /Art work Design and all the relevant hard copies and soft copies required for post to generate photo film and PCB fabrication, for 12 layer Layout / Artwork	1.00 Sq CM		-		
8	PCB design Schematic and layout: Layout Art work / Minor Modification in old approved Art work	1.00 Sq CM		-		
9	PCB design Schematic and layout: Layout Art work / Major Modification in old approved Art work	1.00 Sq CM		-		
10	PCB design Schematic and layout: FOOT Print Generation for Discrete of 2 pin SMD	1.00 Job		-		
11	PCB design Schematic and layout: FOOT Print Generation for Discrete of 2 pin through hole	1.00 Job		-		
12	PCB design Schematic and layout: FOOT Print Generation for 4 pin ICs	1.00 Job		-		

13	PCB design Schematic and layout: FOOT Print Generation for 4 to 16pin	1.00 Job		-		
14	PCB design Schematic and layout: FOOT Print Generation for 16 to 48 pin	1.00 Job		-		
15	PCB design Schematic and layout: FOOT Print Generation for 48 to 100pin	1.00 Job		-		
16	PCB design Schematic and layout: FOOT Print Generation for 100 & above	1.00 Job		-		
17	PCB design Schematic and layout: FOOT Print Generation for Connector < 10 pins	1.00 Job		-		
18	PCB design Schematic and layout: FOOT Print Generation for Connector 10 to 25 pins	1.00 Job		-		
19	PCB design Schematic and layout: FOOT Print Generation for Connector 25 to 100 pins	1.00 Job		-		
20	PCB design Schematic and layout: FOOT Print Generation for Connector 100 & above	1.00 Job		-		

21	PCB design Schematic and layout: FOOT Print Generation for HMCs 40 to 80 pins	1.00 Job					
22	PCB design Schematic and layout: FOOT Print Generation for HMCs 80 to 120 pins	1.00 Job					
23	PCB design Schematic and layout: FOOT Print Generation for HMCs 120 & above	1.00 Job					
24	PCB design Schematic and layout: FOOT Print Generation for BGA Packages up to 121	1.00 Job					
25	PCB design Schematic and layout: FOOT Print Generation for BGA Packages up to 324	1.00 Job					
26	PCB design Schematic and layout: FOOT Print Generation for BGA Packages > 325	1.00 Job					
27	PCB Signal Integrity Analysis: Without Timing Analysis	1.00 Job					
28	PCB Signal Integrity Analysis: With Timing Analysis	1.00 Job					

29	PCB Signal Integrity Analysis: Power integrity analysis	1.00 Job		-		
30	PCB Signal Integrity Analysis: Thermal Analysis / iteration	1.00 Job		-		
31	PCB Fabrication: Material FR4 - Normal Tg 140	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		
32	PCB Fabrication: Material FR4 - High Tg 170	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		
33	PCB Fabrication: Material FR4 - High Tg 180	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		

34	PCB Fabrication: Material Polyamide Rigid	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		
35	PCB Fabrication: Material Polyamide Kapton (Flex)	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		
36	PCB Fabrication: Material Teflon	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		
37	PCB Fabrication: Material Polyimide Polyester (Flex)	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		

		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		
38	PCB Fabrication: RF Material 0.6 mm thickness	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		
39	PCB Fabrication: RF Material 0.8 mm thickness	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		
40	PCB Fabrication: RF Material 1.6 mm thickness	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		

41	PCB Fabrication: RF Material 3 mm thickness	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		
42	PCB Fabrication: Material Rigid	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		
43	PCB Fabrication: Material Flexi	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		
44	PCB Fabrication: Material Flexi Rigid	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		

		51.0 - 100.0 Sq CM		-		
45	PCB FABRICATIO N AND ASSEMBLY: Board Thickness Single Layer ≤ 1mm	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		
46	PCB FABRICATIO N AND ASSEMBLY: Board Thickness Single Layer > 1mm and ≤ 2mm	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		
47	PCB FABRICATIO N AND ASSEMBLY: Board Thickness Single Layer > 2mm and ≤ 3mm	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		

		51.0 - 100.0 Sq CM		-		
48	PCB FABRICATIO N AND ASSEMBLY: Board Thickness Single Layer > 3mm and ≤ 4mm	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		
49	PCB FABRICATIO N AND ASSEMBLY: Board Thickness 2 Layer ≤ 1mm thickness	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		
50	PCB FABRICATIO N AND ASSEMBLY: Board Thickness 2 Layer > 1mm and ≤ 2mm	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		

		51.0 - 100.0 Sq CM		-		
51	PCB FABRICATIO N AND ASSEMBLY: Board Thickness 2 Layer > 2mm and ≤ 3mm	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		
52	PCB FABRICATIO N AND ASSEMBLY: Board Thickness 2 Layer > 3mm and ≤ 4mm	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		
53	PCB FABRICATIO N AND ASSEMBLY: Board Thickness 4 Layer ≤ 1mm thickness	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		

		51.0 - 100.0 Sq CM		-		
54	PCB FABRICATIO N AND ASSEMBLY: Board Thickness 4 Layer > 1mm and ≤ 2mm	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		
55	PCB FABRICATIO N AND ASSEMBLY: Board Thickness 4 Layer > 2mm and ≤ 3mm	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		
56	PCB FABRICATIO N AND ASSEMBLY: Board Thickness 4 Layer > 3mm and ≤ 4mm	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		

		51.0 - 100.0 Sq CM		-		
57	PCB FABRICATIO N AND ASSEMBLY: Board Thickness 6 Layer ≤ 1mm	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		
58	PCB FABRICATIO N AND ASSEMBLY: Board Thickness 6 Layer > 1mm and ≤ 2mm	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		
59	PCB FABRICATIO N AND ASSEMBLY: Board Thickness 6 Layer > 2mm and ≤ 3mm	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		

60	PCB FABRICATIO N AND ASSEMBLY: Board Thickness 6 Layer > 3mm and ≤ 4mm	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		
61	PCB FABRICATIO N AND ASSEMBLY: Board Thickness 8 Layer ≤ 1mm thickness	1.0 - 5.0 Month		-		
		6.0 - 10.0 Month		-		
		11.0 - 20.0 Month		-		
		21.0 - 50.0 Month		-		
		51.0 - 100.0 Month		-		
62	PCB FABRICATIO N AND ASSEMBLY: Board Thickness 8 Layer > 1mm and ≤ 2mm	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		

63	PCB FABRICATIO N AND ASSEMBLY: Board Thickness 8 Layer > 2mm and ≤ 3mm	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		
64	PCB FABRICATIO N AND ASSEMBLY: Board Thickness 8 Layer > 3mm and ≤ 4mm	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		
65	PCB FABRICATIO N AND ASSEMBLY: Board Thickness 10 Layer ≤ 1mm thickness	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		

66	PCB FABRICATIO N AND ASSEMBLY: Board Thickness 10 Layer > 1mm and ≤ 2mm	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		
67	PCB FABRICATIO N AND ASSEMBLY: Board Thickness 10 Layer > 2mm and ≤ 3mm	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		
68	PCB FABRICATIO N AND ASSEMBLY: Board Thickness 10 Layer > 3mm and ≤ 4mm	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		

69	PCB FABRICATIO N AND ASSEMBLY: Board Thickness 12 Layer ≤ 1mm thickness	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		
70	PCB FABRICATIO N AND ASSEMBLY: Board Thickness 12 Layer > 1mm and ≤ 2mm	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		
71	PCB FABRICATIO N AND ASSEMBLY: Board Thickness 12 Layer > 2mm and ≤ 3mm	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		

72	PCB FABRICATIO N AND ASSEMBLY: Board Thickness 12 Layer > 3mm and ≤ 4mm	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		
73	PCB FABRICATIO N AND ASSEMBLY: RF Board Thickness Single Layer ≤ 1mm thickness	1.00 Sq CM		-		
74	PCB FABRICATIO N AND ASSEMBLY: RF Board Thickness Single Layer > 1mm and ≤ 2mm	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		
75	PCB FABRICATIO N AND ASSEMBLY: RF Board Thickness Single Layer > 2mm and ≤ 3mm	1.0 - 5.0 Sq CM		-		

		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		
76	PCB FABRICATIO N AND ASSEMBLY: RF Board Thickness Single Layer > 3mm and ≤ 4mm	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		
77	PCB FABRICATIO N AND ASSEMBLY: RF Board Thickness 2 Layer ≤ 1mm thickness	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		
78	PCB FABRICATIO N AND ASSEMBLY: RF Board Thickness 2 Layer > 1mm and ≤ 2mm	1.0 - 5.0 Sq CM		-		

		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		
79	PCB FABRICATIO N AND ASSEMBLY: RF Board Thickness 2 Layer > 2mm and ≤ 3mm	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		
80	PCB FABRICATIO N AND ASSEMBLY: RF Board Thickness 2 Layer > 3mm and ≤ 4mm	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		
81	PCB FABRICATIO N AND ASSEMBLY: RF Board Thickness 4 Layer ≤ 1mm thickness	1.0 - 5.0 Sq CM		-		

		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		
82	PCB FABRICATIO N AND ASSEMBLY: RF Board Thickness 4 Layer > 1mm and ≤ 2mm	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		
83	PCB FABRICATIO N AND ASSEMBLY: RF Board Thickness 4 Layer > 2mm and ≤ 3mm	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		
84	PCB FABRICATIO N AND ASSEMBLY: RF Board Thickness 4 Layer > 3mm and ≤ 4mm	1.0 - 5.0 Sq CM		-		

		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		
85	PCB FABRICATIO N AND ASSEMBLY: RF Board Thickness 6 Layer ≤ 1mm thickness	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		
86	PCB FABRICATIO N AND ASSEMBLY: RF Board Thickness 6 Layer > 1mm and ≤ 2mm	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		
87	PCB FABRICATIO N AND ASSEMBLY: RF Board Thickness 6 Layer > 2mm and ≤ 3mm	1.0 - 5.0 Sq CM		-		

		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		
88	PCB FABRICATIO N AND ASSEMBLY: RF Board Thickness 6 Layer > 3mm and ≤ 4mm	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		
89	PCB FABRICATIO N AND ASSEMBLY: RF Board Thickness 8 Layer ≤ 1mm thickness	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		
90	PCB FABRICATIO N AND ASSEMBLY: RF Board Thickness 8 Layer > 1mm and ≤ 2mm	1.0 - 5.0 Sq CM		-		

		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		
91	PCB FABRICATIO N AND ASSEMBLY: RF Board Thickness 8 Layer > 2mm and ≤ 3mm	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		
92	PCB FABRICATIO N AND ASSEMBLY: RF Board Thickness 8 Layer > 3mm and ≤ 4mm	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		
93	PCB FABRICATIO N AND ASSEMBLY: Hybrid Board Thickness 2 Layer ≤ 1mm	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		

		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		
94	PCB FABRICATIO N AND ASSEMBLY: Hybrid Board Thickness 2 Layer > 1mm and ≤ 2mm	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		
95	PCB FABRICATIO N AND ASSEMBLY: Hybrid Board Thickness 2 Layer > 2mm and ≤ 3mm	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		
96	PCB FABRICATIO N AND ASSEMBLY: Hybrid Board Thickness 2 Layer > 3mm and ≤ 4mm	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		

		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		
97	PCB FABRICATIO N AND ASSEMBLY: Hybrid Board Thickness 4 Layer ≤ 1mm thickness	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		
98	PCB FABRICATIO N AND ASSEMBLY: Hybrid Board Thickness 4 Layer > 1mm and ≤ 2mm	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		
99	PCB FABRICATIO N AND ASSEMBLY: Hybrid Board Thickness 4 Layer > 2mm and ≤ 3mm	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		

		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		
100	PCB FABRICATIO N AND ASSEMBLY: Hybrid Board Thickness 4 Layer > 3mm and ≤ 4mm	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		
101	PCB FABRICATIO N AND ASSEMBLY: Hybrid Board Thickness 6 Layer ≤ 1mm thickness	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		
102	PCB FABRICATIO N AND ASSEMBLY: Hybrid Board Thickness 6 Layer > 1mm and ≤ 2mm	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		

		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		
103	PCB FABRICATIO N AND ASSEMBLY: Hybrid Board Thickness 6 Layer > 2mm and ≤ 3mm	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		
104	PCB FABRICATIO N AND ASSEMBLY: Hybrid Board Thickness 6 Layer > 3mm and ≤ 4mm	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		
105	PCB FABRICATIO N AND ASSEMBLY: Hybrid Board Thickness 8 Layer ≤ 1mm thickness	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		

		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		
106	PCB FABRICATIO N AND ASSEMBLY: Hybrid Board Thickness 8 Layer > 1mm and ≤ 2mm	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		
107	PCB FABRICATIO N AND ASSEMBLY: Hybrid Board Thickness 8 Layer > 2mm and ≤ 3mm	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		
108	PCB FABRICATIO N AND ASSEMBLY: Hybrid Board Thickness 8 Layer > 3mm and ≤ 4mm	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		

		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		
109	PCB FABRICATIO N AND ASSEMBLY: Surface Finish ENIG (Electroless Nickel Immeion Gold) NI-4-6 microns, Au 0.08- 0.1 microns	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		
110	PCB FABRICATIO N AND ASSEMBLY: Surface Finish Gold Plating thickness (Edge Connector- 0.8 microns)	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		

111	PCB FABRICATIO N AND ASSEMBLY: Surface Finish Electroless Gold (Director on copper)- Au 2-3 microns	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		
112	PCB FABRICATIO N AND ASSEMBLY: Surface Finish Gold Plating thickness (Edge Connector- up to 2.5 microns)	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		
113	PCB FABRICATIO N AND ASSEMBLY: Surface Finish HASL	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		

		51.0 - 100.0 Sq CM		-		
114	PCB FABRICATIO N AND ASSEMBLY: Surface Finish OSP	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		
115	PCB FABRICATIO N AND ASSEMBLY: Surface Finish Immeion Tin	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		
116	PCB FABRICATIO N AND ASSEMBLY: Surface Finish Immeion Silver	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		

117	PCB FABRICATIO N AND ASSEMBLY: Surface Finish Immeion Gold	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		
118	PCB FABRICATIO N AND ASSEMBLY: Surface Finish Electrolytic Gold	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		
119	PCB FABRICATIO N AND ASSEMBLY: Surface Finish Gold Finge	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		

120	PCB FABRICATIO N AND ASSEMBLY: Control Impedance \pm 5%	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		
121	PCB FABRICATIO N AND ASSEMBLY: Control Impedance \pm 10%	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		
122	PCB FABRICATIO N AND ASSEMBLY: Control Impedance \pm 15%	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		

123	PCB FABRICATIO N AND ASSEMBLY: Copper thickness (0.25- OZ)	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		
124	PCB FABRICATIO N AND ASSEMBLY: Copper thickness (0.5- OZ)	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		
125	PCB FABRICATIO N AND ASSEMBLY: Copper thickness (1.0- OZ)	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		

126	PCB FABRICATIO N AND ASSEMBLY: Copper thickness (2.0- OZ)	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		
127	PCB FABRICATIO N AND ASSEMBLY: Solder Mask White Colour	1.00 Sq CM		-		
128	PCB FABRICATIO N AND ASSEMBLY: Solder Mask Yellow Colour	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		
129	PCB FABRICATIO N AND ASSEMBLY: Solder Mask Black Colour	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		

130	PCB FABRICATIO N AND ASSEMBLY: Solder Mask Orange Colour	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		
131	PCB FABRICATIO N AND ASSEMBLY: Solder Mask Blue Colour	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		
132	PCB FABRICATIO N AND ASSEMBLY: Solder Mask Red Colour	1.0 - 5.0 Sq CM		-		
		6.0 - 10.0 Sq CM		-		
		11.0 - 20.0 Sq CM		-		
		21.0 - 50.0 Sq CM		-		
		51.0 - 100.0 Sq CM		-		

133	PCB FABRICATIO N AND ASSEMBLY: Filming charges as per specification	1.00 Sq CM		-		
134	PCB Design fabrication component assembly and testing: One time NRE Cost for stencil engineering (BGA)	1.00 Job		-		
135	PCB Design fabrication component assembly and testing: One time NRE Cost for stencil engineering (Full board)	1.00 Job		-		
136	PCB FABRICATIO N AND ASSEMBLY: Per component tinning	1.0 - 10.0 Nos.		-		
		11.0 - 20.0 Nos.		-		
		21.0 - 100.0 Nos.		-		
		101.0 - 500.0 Nos.		-		
		501.0 - 1000.0 Nos.		-		
		1001.0 - 2000.0 Nos.		-		
137	PCB FABRICATIO N AND ASSEMBLY: Leaded Components Mounting	1.0 - 10.0 Nos.		-		
		11.0 - 50.0 Nos.		-		

		51.0 - 100.0 Nos.		-		
		101.0 - 500.0 Nos.		-		
		501.0 - 1000.0 Nos.		-		
		1001.0 - 2000.0 Nos.		-		
138	PCB FABRICATIO N AND ASSEMBLY: Through hole components Mounting	1.0 - 10.0 Nos.		-		
		11.0 - 50.0 Nos.		-		
		51.0 - 100.0 Nos.		-		
		101.0 - 500.0 Nos.		-		
		501.0 - 1000.0 Nos.		-		
		1001.0 - 2000.0 Nos.		-		
139	PCB FABRICATIO N AND ASSEMBLY: Fine Pitch components Mounting	1.0 - 10.0 Nos.		-		
		11.0 - 50.0 Nos.		-		
		51.0 - 100.0 Nos.		-		
		101.0 - 500.0 Nos.		-		
		501.0 - 1000.0 Nos.		-		
		1001.0 - 2000.0 Nos.		-		

140	PCB FABRICATIO N AND ASSEMBLY: Leadless Components Mounting	1.0 - 10.0 Nos.		-		
		11.0 - 50.0 Nos.		-		
		51.0 - 100.0 Nos.		-		
		101.0 - 500.0 Nos.		-		
		501.0 - 1000.0 Nos.		-		
		1001.0 - 2000.0 Nos.		-		
141	PCB FABRICATIO N AND ASSEMBLY: SMD Components Mounting	1.0 - 10.0 Nos.		-		
		11.0 - 50.0 Nos.		-		
		51.0 - 100.0 Nos.		-		
		101.0 - 500.0 Nos.		-		
		501.0 - 1000.0 Nos.		-		
		1001.0 - 2000.0 Nos.		-		
142	PCB FABRICATIO N AND ASSEMBLY: BGA Components Mounting with X-Ray Report	1.0 - 5.0 Nos.		-		
		6.0 - 10.0 Nos.		-		
		11.0 - 20.0 Nos.		-		
		21.0 - 30.0 Nos.		-		

		31.0 - 50.0 Nos.		-		
		51.0 - 100.0 Nos.		-		
143	PCB FABRICATIO N AND ASSEMBLY: Leaded Components Solder	1.0 - 10.0 Nos.		-		
		11.0 - 50.0 Nos.		-		
		51.0 - 100.0 Nos.		-		
		101.0 - 500.0 Nos.		-		
		501.0 - 1000.0 Nos.		-		
		1001.0 - 2000.0 Nos.		-		
144	PCB FABRICATIO N AND ASSEMBLY: Through hole components Solder	1.0 - 10.0 Nos.		-		
		11.0 - 50.0 Nos.		-		
		51.0 - 100.0 Nos.		-		
		101.0 - 500.0 Nos.		-		
		501.0 - 1000.0 Nos.		-		
		1001.0 - 2000.0 Nos.		-		
145	PCB FABRICATIO N AND ASSEMBLY: Fine Pitch components Solder	1.0 - 10.0 Nos.		-		
		11.0 - 50.0 Nos.		-		

		51.0 - 100.0 Nos.		-		
		101.0 - 500.0 Nos.		-		
		501.0 - 1000.0 Nos.		-		
		1001.0 - 2000.0 Nos.		-		
146	PCB FABRICATIO N AND ASSEMBLY: Leadless Components Solder	1.0 - 10.0 Nos.		-		
		11.0 - 50.0 Nos.		-		
		51.0 - 100.0 Nos.		-		
		101.0 - 500.0 Nos.		-		
		501.0 - 1000.0 Nos.		-		
		1001.0 - 2000.0 Nos.		-		
147	PCB FABRICATIO N AND ASSEMBLY: SMD Components Solder	1.0 - 10.0 Nos.		-		
		11.0 - 50.0 Nos.		-		
		51.0 - 100.0 Nos.		-		
		101.0 - 500.0 Nos.		-		
		501.0 - 1000.0 Nos.		-		
		1001.0 - 2000.0 Nos.		-		

148	PCB FABRICATIO N AND ASSEMBLY: BGA Components Solder	1.0 - 5.0 Nos.		-		
		6.0 - 10.0 Nos.		-		
		11.0 - 20.0 Nos.		-		
		21.0 - 30.0 Nos.		-		
		31.0 - 50.0 Nos.		-		
		51.0 - 100.0 Nos.		-		
149	PCB FABRICATIO N AND ASSEMBLY: Power on TESTING of Assembled cards (As specified by ISTRAC)	1.00 Job		-		
150	PCB FABRICATIO N AND ASSEMBLY: Procurement s of Components as per BOM (% of margin should give)	1.00 Sets		-		
151	PCB FABRICATIO N AND ASSEMBLY: Procurement s of RF PCB material for RF board Fabrication (% of margin should give)	1.00 Sets		-		
152	NRE CHARGES: Set up / NRE Charges for Two Layers Rigid PCB Fabrication	1.00 Job		-		

153	NRE CHARGES: Set up / NRE Charges for Four Layers Rigid PCB Fabrication	1.00 Job		-		
154	NRE CHARGES: Set up / NRE Charges for Six Layers Rigid PCB Fabrication	1.00 Job		-		
155	NRE CHARGES: Set up / NRE Charges for Eight Layers Rigid PCB Fabrication	1.00 Job		-		
156	NRE CHARGES: Set up / NRE Charges for Ten Layers Rigid PCB Fabrication	1.00 Job		-		
157	NRE CHARGES: Set up / NRE Charges for Twelve Layers Rigid PCB Fabrication	1.00 Job		-		
158	NRE CHARGES: Set up / NRE Charges for Two Layers RF PCB Fabrication	1.00 Job		-		
159	NRE CHARGES: Set up / NRE Charges for Four Layers RF PCB Fabrication	1.00 Job		-		
160	NRE CHARGES: Set up / NRE Charges for Six Layers RF PCB Fabrication	1.00 Job		-		

161	NRE CHARGES: Set up / NRE Charges for Eight Layers RF PCB Fabrication	1.00 Job		-		
162	NRE CHARGES: Set up / NRE Charges for Two Layers Hybrid PCB Fabrication	1.00 Job		-		
163	NRE CHARGES: Set up / NRE Charges for Four Layers Hybrid PCB Fabrication	1.00 Job		-		
164	NRE CHARGES: Set up / NRE Charges for Six Layers Hybrid PCB Fabrication	1.00 Job		-		
165	NRE CHARGES: Set up / NRE Charges for Eight Layers Hybrid PCB Fabrication	1.00 Job		-		
166	NRE CHARGES: Set up / NRE Charges for Two Layers Flexi-Rigid PCB Fabrication	1.00 Job		-		
167	NRE CHARGES: Set up / NRE Charges for Four Layers Flexi-Rigid PCB Fabrication	1.00 Job		-		
168	NRE CHARGES: Set up / NRE Charges for Six Layers Flexi-Rigid PCB Fabrication	1.00 Job		-		

169	NRE CHARGES: Set up / NRE Charges for Eight Layers Flexi-Rigid PCB Fabrication	1.00 Job		-		
170	NRE CHARGES: Set up / NRE Charges for Ten Layers Flexi-Rigid PCB Fabrication	1.00 Job		-		
171	NRE CHARGES: Set up / NRE Charges for Twelve Layers Flexi-Rigid PCB Fabrication	1.00 Job		-		
172	MECHANICAL ASSEMBLY: Electronic PCB Packaging Enclosure Design charges (CAD design, Layout etc) according to mechanical Dimensions	1.00 Sq.IN		-		
173	MECHANICAL ASSEMBLY: Electronic PCB Enclosure Packaging Fabrication in sheet metal	1.00 Sq.IN		-		
174	MECHANICAL ASSEMBLY: Electronic PCB Enclosure Fabrication in Aluminum for Electronic PCB Packaging	1.00 Sq.IN		-		

175	MECHANICAL ASSEMBLY: Electronic PCB Enclosure Packaging Design charges for Milling of Aluminum or Copper	1.00 Hrs					
176	MECHANICAL ASSEMBLY: Electronic PCB Enclosure Packaging Fabrication Milling in Aluminum	1.00 KG					
177	MECHANICAL ASSEMBLY: Electronic PCB Enclosure Packaging Fabrication Milling in Copper	1.00 KG					
178	MECHANICAL ASSEMBLY: Electronic PCB Enclosure Packaging NRSE charges for above Sl. no 172, 173 and 174 fabrication	1.00 Job					
179	MECHANICAL ASSEMBLY: Electronic PCB Enclosure Packaging Surface Finishing Anodized finish	1.00 Job					

180	MECHANICAL ASSEMBLY: Electronic PCB Enclosure Packaging Surface Finishing Chromatizing finish	1.00 Job					
181	MECHANICAL ASSEMBLY: Electronic PCB Enclosure Packaging Surface Finishing Powder coating finish	1.00 Job					
182	MECHANICAL ASSEMBLY: Electronic PCB Enclosure Packaging thermal design	1.00 Sq.IN					
183	MECHANICAL ASSEMBLY: Electronic PCB Enclosure Packaging enclosure thermal Analysis	1.00 Hrs					

Common charges (Applicable for all items)

P&F Charges	
Freight Charges	
Installation Charges	
Documentation & Handling Charges	
Other Charges (If any)	