

TENDER DOCUMENT

TENDER NO.: S-CEM/IP/1080/GTE/100-02/2019-2020

SUB: Supply, installation, Commissioning, Performance testing and validation of Radiated Immunity Test System

DUE ON

13.12.2019 : 14.00 Hrs.



SOCIETY FOR APPLIED MICROWAVE ELECTRONICS
ENGINEERING AND RESEARCH

(An Autonomous R&D Institution under the Ministry of Electronics &
Information Technology, Govt. of India)

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NOTICE INVITING TENDER (NIT)
(Submission of Tender in Two Bid Format)

Sealed Tenders are invited under Two Bid format (Technical & Commercial) from reputed Manufactures/ Indian agent of foreign principals for the supply of item mentioned below.

Sl. No.	Item Description	Earnest Money Deposit (EMD)			
		(In Indian Rupees)	US (\$)	Euro (€)	Sfr (CHF)
1.	Supply, installation, Commissioning, Performance testing and validation of Radiated Immunity Test System	45, 00,000/-	63479	56984	61788
		Cost of Tender			
		(In Indian Rupees)	US (\$)	Euro (€)	Sfr (CHF)
		2,500/-	35.33	32.15	35.00

Tender Documents can be downloaded from SAMEER CEM website

<<http://cem.sameer.gov.in>> and CPPP website <<https://eprocure.gov.in/cppp/>>

IMPORTANT DATES

SAMEER-CEM,Chennai invites bids from interested parties for **Supply, installation, Commissioning, Performance testing and validation of Radiated Immunity Test System** as per the schedule mentioned below.

Tender Schedule

Tender Reference No.	S-CEM/IP/1080/GTE/100-02/2019-2020
Date and time of publishing and downloading of bid document	01.11.2019
Date of Pre-Bid Meeting	19.11.2019 11:00 Hrs. in Conference Hall of SAMEER-CEM,2nd Cross Road, Taramani, Chennai - 600 113
Last date and time of submission of bids	13.12.2019 2019 at 14:00 Hrs
Date, time and Place of opening of Technical Bid.	13.12.2019 at 15:00 Hrs. at SAMEER-CEM,2nd Cross Road,Taramani,Chennai - 600 113
Date and time of opening of financial Bids	To be announced later
Validity of Tender	180 days
EMD	Rs.45,00,000/- (Rupees forty five lakhs only)
Cost of Tender	Rs.2500/- (Rupees two thousand and five hundred only) Non-refundable.

IMPORTANT TO NOTE

1. Any queries regarding the tender should be addressed to Head- Administration, SAMEER-CEM,2nd Cross Road,Taramani,Chennai - 600 113 (either through letter or through e-mail:-ramamoorthi.sameer@nic.in or purchase.chn.sameer@nic.in or contact no.044-22544020/22544061 up to 1 day before pre-bid meeting.
2. All communication, addendum/corrigendum related to this tender will be issued only on the SAMEER-CEM website cem.sameer.gov.in and CPPP.
3. Programme Director,SAMEER-CEM reserves the right to reject any or all the bids without assigning any reason.
4. The Date and time mentioned in the tender schedule shall be strictly adhered .
5. The bids will be opened in the presence of bidders/representatives. If any unscheduled holiday occurs on the date of submission/opening, then next working day shall be

prescribed as date of submission/opening. Prospective bidders are requested to submit their offers in **Two-Bid format** only as per tender documents.

6. Requests for postponement of date and time of submission and opening of bids will not be entertained.
7. Fax/e-mail bids will not be accepted
8. Late/Delayed bids shall not be opened

Note-Changes suggested by prospective bidder in Pre-Bid meeting may be incorporated in the tender document at the sole discretion of the tender inviting authority and for which corrigendum will be issued separately and uploaded only on the SAMEER-CEM website cem.sameer.gov.in and CPPP.

INSTRUCTIONS TO BIDDER (ITB) FOR SUBMISSION OF BID etc.,
AND TERMS & CONDITIONS

SECTION-A ELIGIBILITY/QUALIFICATION CRITERIA

1. Eligible Bidders

1.1 Bids are invited from manufacturers or their Indian agent of foreign principals specifically authorized by the manufacturers, to quote on their behalf for this tender. The manufacturers or their Indian agent of foreign principals shall have designed, manufactured, tested and supplied the Radiated Immunity test system similar to the type specified in the "Technical Specification". Such system must be of the most recent series/models, incorporating the latest improvements in design.

1.2 Either the Indian Agent on behalf of the Principal/OEM or Principal/OEM itself can bid, but both cannot bid simultaneously for the same item/product in the same tender.

1.3 If an agent submits bid on behalf of the Principal/OEM, the same agent shall not submit a bid on behalf of another Principal/OEM in the same tender for the same item/ product.

1.4 In case a foreign bidder who does not have an agent in India quotes, then the foreign bidder shall have to furnish a certificate to the effect that the bidder is or will be represented by an agent in India and will be able to carry out the supply, maintenance, repair obligations etc. during the warranty and post-warranty period. In case of non-availability of Indian agent, the foreign bidder shall ensure a mechanism at place for carrying out the supply, maintenance, repair obligations etc. during the warranty and post-warranty period. And also, provide their service visit plan for mandatory visits and breakdown visits.

1.5 Details of service support facilities that would be provided after the warranty period should be submitted in the Service Support Details Form.

1.6 The Bidder will assume total responsibility for the fault-free operation of the Radiated Immunity Test System, application software, if any, and maintenance during the warranty period and provide necessary maintenance services and availability of spares for ten years after end of warranty period if, required.

1.7 In order to assess the financial solvency of a firm, The Programme Director, SAMEER-CEM may seek a report from the bankers of the technically evaluated lowest quoting firm in order to assess if the firm is financially capable of executing the purchase order/work successfully.

1.8 Bidders who meet the criteria given above are subject to be disqualified, if they have made untrue or false representation in the forms, statements and attachments submitted in proof of the qualification requirements or have a record of poor performance, not properly completing the contract, inordinate delays in completion or financial failure, etc.,

1.9 If before/after the placement of the Purchase Order it is found/noticed that the supplier has

been black-listed/debarred then such supplier will be dropped from the tendering process as technically not suitable to quote or order will be cancelled. Thus, black-listed/debarred firms are requested not to participate in our tendering process.

1.10 Any additional bid participation criteria/eligibility conditions etc. mentioned in the Technical Specification sheet will also form and part of the Qualification Requirements along with those mentioned in this chapter.

SECTION-B: THE BIDDING DOCUMENTS

2. Cost of Bid Document

Tender document can be purchased from the Accounts Section of SAMEER-CEM located at CIT Campus, 2nd Cross Road, Taramani, Chennai – 600 113 between 10.00 AM and 5.00 PM, on cash payment of Rs. 2500/- (Rupees two thousand five hundred only) on all days except Saturdays, Sundays and public holidays. If the tender document is downloaded from our website <<http://cem.sameer.gov.in>>or <<https://eprocure.gov.in/cppp>>, then Tender fee should be paid along with Technical Bid (EMD & Tender Fee should be paid separately)

3. Contents of Bid Document

The goods required, bidding procedures and contract terms are prescribed in this bid document. The Bidder is expected to examine all instructions, forms, terms ,conditions and specifications in the bidding documents. Failure to furnish all information required by the bidding documents or submission of a bid not substantially responsive to the bidding documents in every respect will be at the Bidder's risk and shall result in rejection of the bid.

4. Amendment to Bid Document

4.1 At any time prior to the deadline for submission of bids, SAMEER-CEM may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective bidder, modify the Bid Document by amendment. Such amendments shall form an integral part of bid documents and it shall amount to an amendment of relevant clauses of the Bid Document.

4.2 The prospective bidders are required to keep a watch on the SAMEER-CEM website <<http://cem.sameer.gov.in>> for any amendment to the tender document or clarifications to the queries raised by the bidders in till 01 (one) day prior to the opening of the tender. SAMEER-CEM reserves the right to reject the bids if the bids are submitted without taking into account these amendments/ clarifications. Further, bidders will be fully responsible for downloading the tender document and amendments thereto if, any for their completeness.

4.3 In order to allow prospective bidders to take reasonable time in which to effect the amendment into account in preparing their bids, SAMEER-CEM, at its discretion, may also extend the deadline for the submission of bids.

SECTION - C. PREPARATION OF BIDS

5. Language of Bid

The Bid prepared by the Bidders and all correspondence and documents relating to the bid exchanged by the bidder shall be written in English language only.

6. Documents Comprising the Bid

6.1 The bid is required to be submitted **in two Bid Format(Technical & Commercial bid)**. The bidders shall submit their bids in sealed covers (Tender No. & Due date must be compulsorily mentioned on the envelope containing the bid)

6.2 Detailed Specifications, Catalogues, List of users & Technical Details, Technical Compliance Sheet, Pre-Installation Requirements, payment terms, warranty terms etc., must be submitted along with technical bid.

6.3 Technical Bid shall include the following

- (i) EMD as specified in the invitation to bids
- (ii) MSME/NSC Certificate If,EMD waiver is claimed
- (iii) Tender fee as specified in the invitation to bids
- (iv) Service Support Details Form
- (v) Deviation Statement Form
- (vi) Technical Specification Compliance Statement Form
- (vii) Manufacturer's Authorization Letter
- (viii) Bidder's Performance Statement Form
- (ix) Equipment Data sheet/ Technical specification
- (x) Tender document (Page No.4 to 20) duly signed by the bidder with company seal

7. Prices

7.1 The Bidder shall indicate the unit price and total price of the item it proposes to supply under the order and enclose it with the price bid. SAMEER-CEM is a Govt funded R&D centre, please consider quoting special prices applicable to R&D institutions as per your company policies.

7.2 Full Prices in Foreign Currency or in Indian Rupees may be given in in the bid for

Radiated Immunity Test System which consist of the following.

ITEM-1

- a) RF Rack instrumentation - from 2 MHz to 1GHz.

- i. RF Signal Generators
- ii. RF Power Amplifiers
- iii. Directional Couplers
- iv. E-field Generators
- v. EMC Antennas
- vi. Horn Antenna
- vii. RF cables and assemblies
- viii. RF Switching unit
- ix. Field Monitoring system and Field probes
- x Dual Channel power meter with power sensors
- xi. System Controller and Measurement software
- xii. LISNs

ITEM - II

b) Microwave Rack instrumentation from 1 GHz to 40 GHz.

- i. Microwave Signal Generators
- ii. Microwave Power Amplifiers
- iii. Directional Couplers
- iv. Horn Antenna
- v RF cables and assemblies
- vi. RF Switching unit
- vii. Field Monitoring system and Field probes
- viii Dual Channel power meter with power sensors
- ix. System Controller and Measurement software

7.3 Prices indicated shall be entered separately in the following manner (*For Indigenous and Imported Items*):

7.4 For goods manufactured in India: -

(i) The price of the item shall be quoted on the basis F.O.R destination (delivered at SAMEER- CEM), as specified in the bidding document.

(i) GST and other taxes like excise duty etc., which will be payable on the goods of the contract is awarded. SAMEER-CEM is not entitled for issuing C&D form.

(ii) All Charges involved for inland transportation, insurance, Road Permit if required for delivering the goods at the desired destination i.e., F.O.R, SAMEER-CEM, Chennai, Tamil Nadu.

(iii) The installation, training, accommodation and travel charges if any

7.5 The goods manufactured in abroad: -

(i) The price of the items shall be quoted on the basis of CIP (Destination Port) as specified in the bidding document.

(ii) Installation & Training charges if any.

(iii) In case, where the foreign principal quotes and he does not have an agent in India then the foreign service engineer visits and AMC charges should be provided. The foreign service engineer's visit during installation would be added for the purpose of cost comparison and selection

(iv) **Taxes: SAMEER-CEM** is registered with Department of Scientific Industrial Research (DSIR), for the purpose of availing custom duty exemption in terms of Government amendment to 24/2007-customs dated 1st March, 2007. {approx. 9.356 % duty is applicable under this notification (5 % Basic + 4 % SAD + cess) and central excise duty exemption in terms of Government Notification no. 10/97-central excise amended to 16/2007-central excise dated 1st March, 2007.

(v) If there is no explicit mention of taxes in offer, then quoted price will be *deemed inclusive* of such taxes. **No other charges except those mentioned clearly in the price bid will be paid.**

(vi) Packing, forwarding, documentation, freight and insurance charges and installation charges must be clearly mentioned separately. Vague terms like "packing, forwarding, transportation etc., would be extra" without mentioning the specific amount/percentage of these charges will NOT be accepted. Such offers shall be treated as incomplete and will be rejected.

(vii) If the bidder quoted certain optional items, these items should not be taken into consideration for the evaluation of the bid unless the specifications of the optional item quoted by the bidder are part of original indented specification

8. Training

The supplier should provide detailed onsite training at SAMEER-CEM Chennai at free of cost, after installation and commissioning of the said Radiated Immunity test system at SAMEER-CEM. This training shall be to the satisfaction of SAMEER-CEM Scientists.

9. Installation

Installation, commissioning, performance testing and validation of **Radiated Immunity Test System** will be the sole responsibility of the Supplier / Indian Agent. Installation with all infrastructural works have to be done by the supplier. The bid must include pre-requisite for installation of the system at SAMEER-CEM. Bidders shall also indicate in their offer the total expected time required for installation/commissioning and testing of Radiated Immunity test

system. However, the successful bidder shall arrange and complete the installation of the Radiated Immunity test system within 60 days from the date of arrival of the Radiated Immunity test system at SAMEER-CEM

10. Warranty

- a) Bidders (OEM/ Agents) must submit offers with at least 3 **(three) years comprehensive and onsite warranty** after successful installation of the test system in all respects at Site, i.e., SAMEER-CEM, Chennai **(which would be considered for the tender evaluation purpose)**.
- b) The successful installation date along with the date to be reckoned for start of the warranty period needs to be certified by the vendor & the user scientist. **The warranty offered should be unconditional and the vendor should agree to replace or repair at their cost. The spare parts for the repair during warranty period have to be provided by the vendor.**
- c) All costs /expenses incurred towards repair/service during warranty period (like courier/Freight, Insurance, Customs etc) shall be reimbursed by the supplier to SAMEER-CEM. Alternatively, supplier / manufacturer shall take up the total responsibility of courier/Freight, Insurance, Customs etc. for repair/service during warranty period.
- d) The supplier shall warrant that the equipment to be supplied shall be new and free from all defects and faults in materials used workmanship and manufacture and shall perform in full conformity with the specifications and applicable standards.
- e) The system supplied shall be covered by a warranty of three (3) years from the date of acceptance after I&C in labs as mentioned above including for the equipment manufactured by 3rd party suppliers.
- f) If within the period of warranty, the equipment is reported by the buyer to have failed to perform as per specification, the seller shall either replace or rectify the same free of charge, maximum within 10-14 working days for spares available in India and 45 working days for spares to be imported after notification of such defects received by the seller. Warranty of equipment would be extended by such duration.

11. Comprehensive Annual Maintenance Contract (CAMC)

11.1 SAMEER-CEM enters into Comprehensive Annual Maintenance Contract (CAMC) with the supplier at the rates as stipulated in the contract as per the Annexure-VI.

11.2 After the warranty period, the vendor shall ensure CAMC for a further period of minimum 4 (Four) years. The details of CAMC proposals must be submitted separately by the vendor along with Price bid.

11.3 The payment of CAMC will be made on half yearly(six months) basis after satisfactory completion of said period, duly certified by SAMEER-CEM on receipt of bank guarantee for an amount equivalent to 2.5 % of the cost of the equipment as per contract valid till 2 months after expiry of entire CAMC period.

11.4 CAMC includes the following;

- i. Yearly onsite visit for test and verification of the equipment, replacement of faulty and worn parts.
- ii. CAMC charges shall be quoted as part of tender per year after completion of warranty period.
- iii. Cost of CAMC will be added for Ranking/Evaluation purpose. The same will be taken at Net Present Value with a 10% discounting factor each year.
- iv. Calibration plan and charges for calibrating all the required equipment shall be provided by the supplier during the AMC period.

11.5 SAMEER-CEM reserve the rights to enter into Annual Comprehensive Maintenance Contract between SAMEER-CEM and the Supplier for the period of 4 years.

11.6 The supplier along with its Indian Agent and the CAMC provider shall ensure continued supply of the spare parts for the machines and equipments supplied by them to the purchaser for 10 years from the date of installation and handing over.

12. Delivery Period:

- a) In case of **foreign suppliers, the firm delivery period is 180 days after opening irrevocable Letter of Credit (LC) by sight.** No part shipment is permitted.
- b) In case of **Indigenous suppliers, the firm delivery period is 180 days after issue of Purchase Order.** Delivery is to be made at SAMEER-CEM, Chennai. Delivery must be on FREIGHT PAID BASIS for despatch by Road.
- c) The bidder must provide information regarding mode of shipment whether it is by **Air/Sea/Road/Rail.**

13. Bid Currencies

Prices shall be quoted in Indian Rupees (INR) or in freely convertible foreign currency preferably in **USD (\$), Euro (€), Yen (¥), GBP (£) and SFr (CHF).**

14. Documents Establishing Bidder's Eligibility and Qualifications

The bidder shall furnish, as part of its bid, documents establishing the bidder's eligibility to bid and their qualification to perform the contract if the bid is accepted.

15. Documents Establishing Goods' Eligibility and Conformity to Bid Document

15.1 The documentary evidence of the Radiated Immunity test system eligibility shall consist of a statement on the country of origin of the goods and services offered which shall be confirmed by a certificate of origin at the time of shipment.

15.2 Specifications are basic essence of the product. It must be ensured that the offers are strictly as per our tendered specifications. At the same time, it must also be kept in mind that merely copying our specifications in their quotation shall not make firms eligible for consideration. The documentary evidence of conformity of the Radiated Immunity test system to the Bid Document may be in the form of literature, drawings and data, and shall consist of:

(i) A detailed description of the essential technical and performance characteristics of the Radiated Immunity test system.

(ii) A list giving full particulars, including available sources and current prices, of spare parts, special tools, etc., necessary for the proper and continuing functioning of the Radiated Immunity test system for a period of 10 years, following commencement of the use of the goods by the Purchaser; and

(iii) An item-by-item commentary on the SAMEER-CEM Technical Specifications demonstrating substantial responsiveness of the goods and services to those specifications or a statement of deviations and exceptions to the provisions of the Technical Specifications.

16. Period of Validity of Bids

Bids must remain valid for at least **180 days** after the date of bid opening prescribed by **SAMEER-CEM**. A bid valid for a shorter period may be rejected as non-responsive.

16.1 In exceptional circumstances, SAMEER-CEM may solicit the Bidder's consent to an extension of the period of validity. The request and the responses thereto shall be made in writing (fax or e-mail). The bid security shall also be suitably extended, if applicable.

17. Patent Right & IPR Laws:

The supplier shall indemnify SAMEER-CEM against all third-party claims of infringement of Patent, Trademark or Industrial Design Rights arising from the use of Goods or any part thereof in the Purchaser's country (INDIA). The vendor should be sure about his claim on the ownership of technology and total compensation in the event of a claim should be paid to the buyer in case of patent infringement.

18. Right to Information Act.2005

The bidder may indicate if any information in his tender includes information of commercial confidence, trade secrets or intellectual property, the disclosure of which would harm the competitive position of their company.

19. Format of Bid

The tenders are invited on two bid systems i.e. the qualifying bid (technical bid including tender fee and EMD) and then the price bid:

19.1 Technical Bid

Technical Bid: – Supply,Installation, Commissioning , Performance testing and Validation of Radiated immunity test system for the frequency range of 2MHz to 1 GHz and 1 GHz to 40 GHz.

Technical bid shall be complete in all respects should be submitted in sealed cover superscripted – **“Technical Bid – Supply,Installation, Commissioning, Performance testing and Validation of Radiated immunity test system”**.

19.2 Price Bid

The tender form for price bid shall be complete in all respects should be submitted in sealed cover superscribed – **“Price Bid --Supply, Installation, Commissioning, Performance testing and Validation of Radiated immunity test system”**. A single price bid comprising of ITEM -I and ITEM-II shall be submitted. The price of ITEM-I and ITEM-II shall be indicated separately. SAMEER-CEM reserves the right to place order on ITEM-I or ITEM-II or both. The L1 will be decided based on the combined price of ITEM-I and ITEM-II.

The above two sealed covers (**Technical bid and Price bid**) should be put together in another big cover/envelope which should be sealed with wax. The cover shall be superscribed as **“Tender No:....., dated: & Name of Tender “Supply, Installation, Commissioning, Performance Testing and Validation of Radiated immunity test system”** and addressed to

The Programme Director,
Society for Applied Microwave Electronics Engineering and
Research(SAMEER) -
Centre for Electromagnetics, CIT Campus, 2nd Cross Road, Taramani,
Chennai - 600 113, Tamil Nadu, India.

Further, the sentence "NOT TO BE OPENED" before due date and time of tender opening, should also to be indicated on this envelope. If the outer big envelope is not sealed and marked properly as above, SAMEER will not take any responsibility for its misplacement, premature opening etc. The bid document shall be submitted in the above mentioned address latest by 14.00 hrs. on 13.12.2019

20. The original and all copies of the bid shall be typed or written in indelible ink and shall be signed by the Bidder or a person or persons duly authorized to bind the Bidder to the Contract. All pages of the bid, except for un-amended printed literature, shall be initialled /endorsed by the person or persons signing the bid.

20.1 Any interlineations, erasures or overwriting shall be valid only if the person or persons signing the bid initial them.

20.2 The Bidder shall furnish information on commissions or gratuities, if any paid or to be paid to agents relating to this Bid, and to contract execution if the Bidder is awarded the contract as per the bid form.

SECTION - D. SUBMISSION OF BIDS

21. BID SECURITY (EARNEST MONEY DEPOSIT):

21.1 The bidders shall furnish as part of the bid, a Bid Security (EMD) for an amount of Rs.45,00,000/- (Rupees forty five lakhs only) in the form of Demand Draft/ Banker Cheque from any nationalized Bank in favour of "**SAMEER - Centre for Electromagnetics**" payable at **Chennai**. The EMD will bear no interest whatsoever. The EMD & Tender fee should be enclosed with the Technical Bid.

21.2 The bid security is to protect SAMEER against the risk of bidder's conduct, which warrant the bid security's forfeiture.

21.3 In case the Bidder claims for waiver of EMD, the bidder shall provide documentary proof of being registered with the National Small Industries Corporation (NSIC)/MSME or the concerned Ministry or Department as per Rule 170 (i) of GFR 2017 of Government of India. The registration must remain valid till the Bid Validity period.

21.4 Bids without Earnest Money or documentary evidence for waiver of the same as indicated above shall be summarily rejected as non-responsive.

21.5 Unsuccessful bidder's EMD will be returned within 30 days from the date of placement of order to the successful bidder.

21.6 The EMD of successful bidder will be retained as Retention Money and the same will be returned after submitting the Bank guarantee.

21.7 No interest is payable on the EMD.

21.8 The bid security(EMD) may be forfeited:

- (a) If a bidder withdraws his bid during the period of bid validity or makes modifications to his tender which are not acceptable to SAMEER-CEM
- (b) If the bidder fails to sign the contract and does not furnish the performance security.
- (c) Failure to full fill the contract terms & conditions

21.9 Fax or e-mail bids will be rejected.

22. Deadline for Submission of Bids

22.1 Bids must be received at SAMEER-CEM in the address specified not later than the time and date specified in the NIT. In the event of the specified date for the submission of Bids being declared a holiday for SAMEER-CEM, the Bids will be received up to the appointed time on the next working day.

22.2 SAMEER-CEM may, at its discretion, extend this deadline for submission of bids by amending the bid documents.

23.Late Bids

Any bid received after the deadline for submission of bids prescribed by SAMEER-CEM, will be rejected and/or returned to the Bidder.

24. Modifications and Withdrawal of Bids

The Bidder may modify or withdraw its bid after the submission of bid provided that written notice of the modification or withdrawal is received by SAMEER-CEM prior to the deadline prescribed for submission of bids.

24.1 No bid may be modified subsequent to the deadline for submission of bids.

24.2 No bid may be withdrawn in the interval between the deadline for submission of bids and the expiration of the period of bid validity specified by the Bidder on the bid form. Withdrawal of a bid during this interval may result in the Bidder's forfeiture of its bid security

SECTION- E: OPENING AND EVALUATION OF BIDS

25. Opening of Bids

25.1 SAMEER-CEM through its "TENDER OPENING COMMITTEE (TOC)" will open bid in the presence of Bidders/representatives who choose to attend, as per the schedule given in invitation to bids.

25.2 Bidders interested in participating in the bid opening process, should depute their representatives along with an authorization letter to be submitted to SAMEER-CEM (Tender

Opening Committee) at the time of bid opening as mentioned in the NIT.

25.3 The Bidders' representatives who are present shall sign the bid opening attendance sheet evidencing their attendance. In the event of the specified date of Bid opening being declared a holiday for SAMEER-CEM, the Bids shall be opened at the appointed time and location on the next working day.

25.4 The bidder's names, bid modifications or withdrawals, specifications, and the presence or absence of requisite bid security and such other details, TOC at its discretion, may consider appropriate, will be announced at the bid opening meeting.

26. Bids that are received late shall not be considered for further evaluation, irrespective of the circumstances.

26.1 If any correction in the price quoted in the tender in words and/or figures shall be encircled in red ink by the bidders/representative and signed. The members of the tender opening committee shall endorse this.

27. Clarification of Bids

27.1 To assist in the examination, evaluation and comparison of bids, the Purchaser may, at its discretion ask the bidder for any clarification(s) of its bid/offer. The request for clarification and the response shall be in writing and no change in the prices or substance of the bid shall be sought, offered or permitted. **However, no post Bid clarifications at the initiative of the Bidder shall be entertained/considered.**

27.2 Any clarification and confirmation from the vendor after opening of the bid should not result in modification of their original offer in order to suit or meet the tendered specifications which would not be considered and accepted. Technical evaluation will be done strictly as per the details mentioned by the vendor in original offer with respect to the tendered specifications of SAMEER-CEM.

27.3 Any item not quoted in their original offer will not be accepted even though the bidder is willing to provide the unmentioned items at the same cost.

27.4 Any confirmation/clarification/modification by the bidder against the letter from SAMEER-CEM for communicating them the technical points of rejection would not make the firm technically suitable and their offer will stand as technically rejected. **Technical evaluation will be done strictly as per original offer submitted by the vendor with respect to the tendered specifications of SAMEER-CEM.**

28. Preliminary Examination

28.1 The TOC will examine the bids to determine whether they are complete, whether required tender fee and EMD have been furnished, whether the documents have been properly signed, and whether the bids are generally in order.

28.2 The TOC shall examine the bids to confirm that all documents and technical documentation as requested have been provided, and to determine the completeness of each document submitted.

All the tenders received will first be scrutinized to see whether the tenders meet the basic requirements as incorporated in the NIT. The tenders, which do not meet the basic requirements, are to be treated as unresponsive and ignored. The following are some of the important points, for which a tender may be declared as unresponsive and to be ignored, during the initial scrutiny:

- (i) The Bid is unsigned.
- (ii) The Bidder is not eligible.
- (iii) Tender fee and EMD are not submitted.
- (iv) The Bid validity is shorter than the required period.
- (v) The Bidder has quoted for goods manufactured by a different firm without the required authorization letter from the manufacturer/OEM.
- (vi) Bidder has not agreed to give the required performance security.
- (vii) The goods quoted are sub-standard, not meeting the required specification etc.
- (viii) Against the schedule of Requirement (incorporated in the tender enquiry), the bidder has not quoted for the entire requirement as specified in that schedule.
- (ix) The bidder has not agreed to some essential condition(s) incorporated in the tender enquiry.

29. Prior to the detailed evaluation, the TOC will determine the substantial responsiveness of each bid to the bidding documents. For purposes of this clause, a substantive responsive bid is one, which conforms to all terms and condition of the bidding documents without material deviations, reservations or omissions. A material deviation, reservation or omission is one that:

- (a) affects in any substantial way the scope, quality or performance of the items and Related Services specified in the Contract; or
- (b) limits in any substantial way, inconsistent with the Bidding Documents, the Purchaser's rights or the Bidder's obligations under the Contract; or
- (c) If rectified, would unfairly affect the competitive position of other bidders presenting substantially responsive bids.

29.1 The TOC determination of a bid's responsiveness is to be based on the contents of the bid itself without recourse to extrinsic evidence.

29.2 If a bid is not substantially responsive, it will be rejected by the TOC and may not subsequently be made responsive by the Bidder by correction of the material deviation, reservation or omission.

30. Non-conformities between the figures and words of the quoted price

30.1 Any discrepancy between quoted prices in figures and that in words, if noted will be sorted out in the following manner:

(a) If there is a discrepancy between the unit price and the total price (which is obtained by multiplying the unit price by the quantity), the unit price shall prevail and the total price corrected accordingly, unless in the opinion of the TOC there is an obvious misplacement of the decimal point in the unit price, in which case the total price as quoted shall govern and the unit price corrected accordingly.

(b) If there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail and the total shall be corrected.

(c) If there is a discrepancy between words and figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetic error, in which case the amount in figures shall prevail subject to (a) and (b) above.

30.2 If there is such discrepancy in a bid, the same is to be conveyed to the bidder with target date on the above lines and if the bidder does not agree to the observation of the TOC, the tender is liable to be ignored and its Bid Security may be forfeited.

31. Non-conformity, Error and Omission

30.1 Provided that a Bid is substantially responsive, the TOC may waive any non-conformities or omissions in the Bid that do not constitute a material deviation.

31.2 Provided that a bid is substantially responsive, the TOC may request that the Bidder submit the necessary information or documentation, within a reasonable period of time, to rectify nonmaterial nonconformities or omissions in the bid related to documentation requirements. Such omission shall not be related to any aspect of the price of the Bid. Failure of the Bidder to comply with the request may result in the rejection of its Bid.

32. Examination of terms & Conditions, technical Evaluation

32.1 The TOC shall examine the Bid to confirm that all terms and conditions specified in the tender document have been accepted by the Bidder without any material deviation or reservation including the terms & conditions mentioned.

32.2 Prior to the detailed evaluation, the TOC determine the *substantial responsiveness* of each bid to the Bid Document as mentioned. Deviations from or objections or reservations to critical provisions such as those concerning Bid Security/ Performance Security, Warranty, Taxes& Duties will be deemed to be a material deviation. The Purchaser's determination of a bid's responsiveness is to be based on the contents of the bid itself without recourse to extrinsic evidence.

32.3 TOC shall evaluate the technical aspects of the Bid submitted to confirm that all requirements

specified in Schedule of Requirement of the Bidding Documents have been met without any material deviation or reservation.

32.4 If, after the examination of the terms and conditions and the technical evaluation with respect to the tendered technical specification of SAMEER-CEM, the Purchaser determines that the Bid is not substantially responsive in accordance with ITB, it shall reject the Bid.

32.5 SAMEER-CEM may waive any minor informality, non-conformity, or irregularity in a bid, which does not constitute a material deviation, provided such a waiver, does not prejudice or affect the relative ranking of any Bidder.

32.6 After downloading, the language of standard clauses etc. mentioned in this 'Bid Document' should not be tampered with/ changed/modified in any manner whatsoever. If any such modification etc. comes to our knowledge at any stage, the bid shall be rejected immediately and EMD shall also be forfeited.

33. Evaluation & Comparison of Bids.

33.1 Conversion to Single Currency: -To facilitate evaluation and comparison, the TOC will convert all bid prices expressed in the amounts in various currencies in which the bid prices are payable to Indian Rupees at the selling exchange rate established by the Reserve Bank of India <www.rbi.org> prevailing rate on the date of opening the Price bid.

33.2 For the bids surviving the technical evaluation which have been found to be substantially responsive shall be evaluated and compared.

33.3 To evaluate a Bid, the TOC shall only use all the factors, methodologies and criteria defined below. No other criteria or methodology shall be used.

34. Contacting SAMEER-CEM

34.1 No bidder shall contact SAMEER-CEM or concerned scientist on any matter relating to its bid, from the time of the bid opening to the time the Contract is awarded. If the bidder wishes to bring additional information to the notice of SAMEER-CEM, it should do so in writing.

34.2 Any effort by a bidder to influence SAMEER-CEM in its decisions on bid evaluation, bid comparison or contract award may result in rejection of the Bidder's bid.

SECTION-F: PAYMENT TERMS

35. Payment Terms

35.1 Payment for Indigenous supplier: 100% payment would be released after satisfactory installation as certified by the user Scientists, subject to submission of Performance Bank Guarantee (PBG) for 10% of the purchase order value, covering the period of Warranty+60days.

a) Successful bidder is requested to furnish the following details for making payment.

- (i) 11digit core banking Account Number.
- (ii) Type of Account (Saving/ Current)
- (iii) Name of Account Holder
- (iv) Name of Bank & Branch
- (v) IFSC Code Number
- (vi) MICR Number

35.2 Payment for Foreign Suppliers:

100% of the payment will be released by Irrevocable Foreign Letter of Credit(BY SIGHT) against the supply of items and related accessories. Payment is subject to submission of Performance Bank Guarantee (PBG) by the successful bidder for 10% of the purchase order value covering the period of warranty + 60 days within 21 days of placement of purchase order and before opening Irrevocable Letter of credit.

35.3 Commission for Indian Agent

Bidders must clearly indicate in their offer whether they have any Agent in India. If so, bidders must furnish the names and addresses of their agents and state clearly whether agents are authorised to receive any commission. The rate of commission amount must be indicated, which will be payable only in non-convertible Indian currency. Unless otherwise specified it will be assumed that Agency commission has been included in the offered price, If there is no mention about the commission amount, it will be assumed that no commission is involved against this purchase. Commission to Indian Agents shall be released only after successful installation & commissioning by the Bidder/Indian agent.

35.4 No outright advance payments will be made to the firms. Any advance will be against a bank guarantee of equivalent value.

- (i) No extra charge will be paid by SAMEER-CEM,. Supplier shall take care for all transit risks for the safe delivery of the item.
- (ii) The L/C will be confirmed at the suppliers cost, if requested specifically by the supplier. **All bank charges abroad shall be to the account of the beneficiary i.e. supplier and all bank charges in India shall be to the account of the opener i.e. purchaser.** If L/C is requested to be extended/ reinstated for reasons not attributable to the purchaser, the charges thereof would be to the suppliers' account. Payment of local currency portion shall be made in Indian Rupees within thirty (30) days of presentation of claim supported by a certificate from the Purchaser declaring that the Goods have been delivered and that all other contracted Services have been performed.

SECTION - G: PENALTY CLAUSE

36. Penalty clauses: -

36.1 Penalty (Liquidated Damages) @ 0.5% of basic price per week will be deducted from Manufacturer's/ Indian Agent's Bill for delay in Delivery & Despatch beyond Delivery dates (as extended by SAMEER-CEM in Purchase Order and Letter of Credit Schedule). Maximum deduction for failing to deliver within SAMEER-CEM approved delivery period & extensions will be limited to 5% of Ex-works Value (equivalent in Indian Rupees) for non-fulfilment of delivery deadlines and any other contractual obligations as per Purchase Order. Once the maximum is reached, SAMEER-CEM may consider termination of the Contract.

36.2 Delay in Installation beyond contractual deadline will result in forfeiture of EMD and Performance Bank Guarantee.

37. PERFORMANCE GUARANTEE

The successful bidder has to give Performance Bank Guarantee (PBG) in the form of Demand Draft / Fixed Deposit Receipt from an Indian Nationalised bank / a counter Letter of Credit (LC) from our bankers (in case of foreign order), for 10 % of Order Value. Performance Bank Guarantee should remain valid for a period of sixty days beyond the warranty period.

38. SAMEER-CEM Clearing Agent in India for imported consignment

M/s.BalmerLawrie& Co Ltd.,
628, Anna Salai, Teynampet,
Chennai-600 018, Tamil Nadu, India
Phone 91-44- 24302463 - 24348104
E-mail: thiyagarajan.j@balmerlawrie.com , baskar.m@balmerlawrie.com
Mobile: 9940015440 / 9551324005

39. Delivery & Documents:

Details of Shipping and other Documents to be furnished by the Supplier are

(i) For Goods manufactured within India

Within 24 hours of dispatch, the supplier shall notify SAMEER-CEM the complete details of dispatch and also supply following documents by registered post / speed post and copies thereof by FAX or e-mail.

(ii) For Goods manufactured abroad

- i)** Supplier's original invoice giving full details of the goods including quantity, value, and so on;
- ii)** Packing list;
- iii)** Certificate of country of origin of the goods to be given by the seller or a recognized

chamber of commerce or another agency designated by the local Government for this purpose;

- iv) Certificate of pre-dispatch inspection by the purchaser's representative; if applicable
- v) Manufacturer's test certificate and guarantee;
- vi) Certificate of insurance;
- vii) Bill of lading/airway bill/rail receipt or any other dispatch document, issued by a Government agency (like the Department of Posts) or an agency duly authorized by the concerned Ministry/Department, indicating:
 - a) Name of the vessel/carrier;
 - b) Bill of lading/airway bill;
 - c) Port of loading;
 - d) Date of shipment;
 - e) Port of discharge and expected date of arrival of goods; andAny other document(s) as and if required in terms of the contract.

Note:

1. The nomenclature used for the item description in the invoices(s), packing list(s) and the delivery note(s) etc. should be identical to that used in the contract. The dispatch particulars including the name of the transporter should also be mentioned in the Invoice(s)
2. The above documents should be received by the Purchaser before arrival of the Goods and, if not received, the Supplier will be responsible for any consequent expenses

40. Insurance:

The goods supplied under the contract, shall be fully insured in a freely convertible currency against loss or damage. Insurance liabilities will be as per the basis of delivery point/INCOTERMS in case of imported items, the supplier shall arrange and pay for air/marine insurance making, SAMEER-CEM as beneficiary.

41. Pre-bid meeting

To provide a level playing field, pre-bid meeting will be held at the address mentioned in the tender schedule for clarifying issues/clearing doubts, if any, about the specifications and other allied technical/commercial details of the Radiated Immunity test system and its related accessories projected in the bidding document. The date, time and place of the pre-bid meeting are indicated in the tender schedule. Bidders are requested to submit written queries in advance of the meeting either through e-mail <ramamoorthi.sameer@nic.in>, <purchase.chn.sameer@nic.in> or registered speed post to the address mentioned above. After the meeting, the techno-commercial requirements may be revised if, considered necessary by way of a formal corrigendum and shared with all the prospective bidders.

42. Corrigenda: Corrigenda, if any, to this tender will be published on our website <http://cem.sameer.gov.in>. The bidders are advised to check our website before submitting the bid.

TECHNICAL BID

TECHNICAL SPECIFICATIONS

(Radiated Immunity Test System)

1. Specifications of Radiated Immunity test system as per MIL-STD 461F/G and IEC 61000-4-3:2010

- The Radiated Immunity Test System shall be supplied, installed and commissioned. A tentative list of equipment and their broad specifications are given in the following sections.
- However any other equipment/ component(s)/accessory not explicitly indicated in this requirement but is/are considered essential for the system performance, operation and maintenance shall be indicated and included in the offer.
- It is the sole responsibility of the vendor to prove the performance specifications of the integrated system as per the required standards, irrespective of the constituent equipment and their specifications offered or used in it.

Note: *The successful vendor need to coordinate with Chamber supplier and electrical department during the installation of the test equipment.*

2. General requirements:

Test and Measuring Equipments to conduct Radiated Immunity test as per MIL-STD 461F/G and IEC 61000-4-3 need to be supplied.

Sl. No.	Test	Description	Standards
1	RS 103	Electric field, 2 MHz to 40 GHz, field strength 200V/m at 1m distance	MIL STD 461F/G.
2	Radiated immunity test	Electric field, 80MHz to 6GHz, field strength 30V/m at 3m distance	IEC 61000-4-3:2010

3. Detailed Technical requirements:

Radiated Immunity Test Equipment (Up to 40 GHz)

Complete automated radiated Immunity test system to generate electric field strength of **200 V/m** from 2 MHz to 40 GHz as per MIL-STD 461 F & G requirements at a distance of 1m and 30V/m from 80 MHz to 6 GHz as per IEC 61000-4-3 at distance of 3m from transmitting antenna.

The Radiated Immunity test system shall be provided in two racks:

- a) RF Rack instrumentation - Below 1 GHz
- b) Microwave Rack instrumentation - Above 1 GHz

The RF Rack instrumentation shall be kept in amplifier room and the Microwave rack instrumentation shall be kept inside the anechoic chamber.

The rack containing microwave instrumentation should have wheels for easy movement. The Integrated Antenna Mast, Antenna mounting also shall be fixed on this rack.

Broad specifications of Radiated Immunity Test Equipment (Up to 40 GHz)

Sl. No.	Equipment	Specifications
1	Signal Generator	<ul style="list-style-type: none">• Frequency range : 9kHz - 1 GHz• Frequency resolution : 0.001Hz• Oscillator Aging: $\leq 1 \times 10^{-7}$ per year• Levels: -120dBm to +10 dBm (min.)• RF output Impedance : 50 Ohms• SSB phase noise: $< -100\text{dBc}/\text{Hz}@1\text{GHz}$, 20kHz offset• Harmonics: 100 kHz $< f < 1$ GHz : $< -30\text{dBc}$• RF Reverse power: 1 MHz $< f \leq 1$ GHz : 50W• Modulation types : AM, FM, Pulse , PM• Remote control : USB, LAN, IEEE 488.2• Quantity: 0 1 (one number)

2	Microwave Signal Generator	<ul style="list-style-type: none"> • Frequency range: 1GHz – 40 GHz • Frequency Resolution : 0.001Hz • Oscillator Aging: $\leq 1 \times 10^{-7}$ per year • Levels: -120dBm to +10 dBm (min.) • SSB phase noise: <-100dBc/Hz@10GHz, 20kHz offset • Harmonics: 1GHz < f < 40GHz : <-30dBc • RF Reverse power: 1GHz < f \leq 40GHz : 0.5W • Modulation types : AM, FM ,Pulse , PM • Remote control : USB, LAN, IEEE 488.2 • Quantity:0 1 (one number)
3	RF Power Amplifiers / Microwave Power Amplifiers	<ul style="list-style-type: none"> • Frequency range : 10kHz to 40 GHz • RF output power: Should not exceed 1.0 dB compression point to produce field strength mentioned in the clause 2. • Input for rated output : 1 mW (0 dBm) • Modulation Capability: AM, FM, Pulse. • Input / output impedance : 50 Ohm • Remote interfaces : GPIB / IEEE 488, RS 232 • Safety and remote inter locks • Cooling : Forced Air (Self-contained fans)/Liquid cooling • Appropriate Amplifier Load to be provided for Amplifier performance test.
3.1	RF Amplifier (10kHz -1000MHz) (*Single or multiple frequency bands)	<ul style="list-style-type: none"> • Frequency range : 10kHz to 1.0GHz • Power output @1dB compression point 3000W(min): 10kHz to 200MHz 800W (min) : 200MHz to 1GHz • Harmonic Distortion: <- 15dBc at 1 dB compression point. <p>* Vendor can offer single or multiple amplifiers to cover the entire frequency band. The amplifier output power at 1 dB compression in each frequency band shall meet the specifications mentioned.</p>
3.2	Microwave Amplifier (1GHz - 40GHz)	<p>* Vendor can offer single or multiple amplifiers to cover the entire frequency band to generate field strength given in clause 2.</p>

	(*Single or multiple frequency bands)	
3.2.1	Amplifier (1 GHz-2.5 GHz)	<ul style="list-style-type: none"> • Power output: 200W (min) at 1dB compression point • Harmonic distortion: <-15dBc
3.2.2	Amplifier (2.5 GHz-7.5 GHz)	<ul style="list-style-type: none"> • Power output: 200W (min) at 1dB compression point • Harmonic distortion: <-15dBc
3.2.3	Amplifier (7.5 GHz-18 GHz)	<ul style="list-style-type: none"> • Power output: 200W (min) at 1dB compression point • Harmonic distortion: <-15dBc
3.2.4	Amplifier (18 GHz-26.5 GHz)	<ul style="list-style-type: none"> • Power output: 40W (min) • Harmonic distortion: <-15dBc at 1dB compression point
3.2.5	Amplifier (26.5 GHz-40 GHz)	<ul style="list-style-type: none"> • Power output: 40W (min) • Harmonic distortion: <-15dBc at 1dB compression point
4	Directional Couplers	<ul style="list-style-type: none"> • Vendor can offer single or multiple directional couplers to cover the entire frequency band to generate field strength given in clause 2 -General requirements • Frequency Range: 10 kHz - 40 GHz • Power rating: 10kHz-250MHz : 3000 W (min) 250 -1000 MHz : 1500 W (min) 1- 2.5 GHz : 300 W (min) 2.5 - 7.5 GHz : 300 W (min) 7.5 - 18 GHz : 300 W (min) 18 - 26.5 GHz : 100 W (min) 26.5 - 40 GHz : 100 W (min) • Insertion loss: 0.15dB - 0.26dB • Coupling factor: 40 -70 dB • Impedance : 50 Ω • Low insertion loss and VSWR (main line) are preferred. • High coupling factor and directivity are preferred.
5	Low VSWR, wide beam width and high gain Antennas	
5.1	Field Generator (BroadBand transmissionline)	<ul style="list-style-type: none"> • Frequency range 10 kHz -100 MHz • Minimum input power: 3000W • Impedance: 50 Ohms • Shall provide stand for mounting the field generator for height and polarization adjustments.

		<ul style="list-style-type: none"> • Quantity: 01 (one)
5.2	Bi-conical Antenna	<ul style="list-style-type: none"> • Frequency Range: 30 MHz – 200 MHz • Minimum Input Power: 3000 W • Shall provide tripod/antenna mast for mounting the antenna for height and polarization adjustments. • Quantity: 01 (one)
5.3	BI-CONI LOG Antenna	<ul style="list-style-type: none"> • Frequency range : 80-1000MHz • Minimum input power:1000 W • Impedance :50 ohms • Shall provide tripod/antenna mast for mounting the antenna for height and polarization adjustments. • Quantity: 01 (one)
5.4	High Gain Horn Antenna	<ul style="list-style-type: none"> • Frequency range: 200 – 1000 MHz • VSWR : < 2 • Minimum input power: 1000 W • Impedance: 50 Ohms • Shall provide tripod/antenna mast for mounting the antenna for height and polarization adjustments.
5.5	High Gain Horn	<ul style="list-style-type: none"> • Frequency range: 1 – 4GHz • VSWR : typ.1.5 • Minimum input power: 250W • Impedance: 50 Ohms
5.6	High Gain Horn	<ul style="list-style-type: none"> • Frequency range: 4 – 8 GHz • VSWR : typ. 2.0 • Maximum input power: 250 W • Impedance: 50 Ohms
5.7	High Gain Horn	<ul style="list-style-type: none"> • Frequency range: 8 –18 GHz • VSWR : typ. 2.0 • Maximum input power: 250 W • Impedance: 50 Ohms
5.8	High Gain Horn	<ul style="list-style-type: none"> • Frequency range: 18 – 26.5 GHz • VSWR : typ. 1.5 • Maximum input power: 75 W • Impedance: 50 Ohms
5.9	High Gain Horn	<ul style="list-style-type: none"> • Frequency range: 26.5 – 40 GHz • VSWR : typ. 1.5 • Maximum input power: 75 W • Impedance: 50 Ohms

Note: .		
<p>i) Variation in the individual frequency band of the horn antennas is allowed to cover the frequency range from 1GHz-40GHz)</p> <p>ii) Antennas above 1GHz should be fixed in a mobile antenna rack that can be attached to the Microwave rack instrumentation which is kept inside the EMC chamber.</p> <p>iii) Antennas below 1GHz are to be supplied with tripod or appropriate antenna Mast wherever applicable.</p>		
6	FIELD STRENGTH (V/m) MONITORING SYSTEM WITH ADJUSTABLE NON CONDUCTING PROBE STANDS	
6.1	Field Monitor	<ul style="list-style-type: none"> • Frequency Range : 10 kHz to 40 GHz • Input : 4 independent probes (minimum) • Resolution : 1 V/ m or better • Remote Control : IEEE 488, RS 232, USB • Quantity: 01 (one)
6.2	Electric Field Probes (Compatible with the above field monitor)	<ul style="list-style-type: none"> • Frequency Range : 10 kHz to 40 GHz (The frequency may be split into multiple bands according to suppliers capability to cover the entire frequency range) • Level Range : 1V/m - 500 V/ m or better • Field Probe Stand for each of the above Field probes
MONITORING OF FORWARD AND REFLECTED POWER		
7	Dual Channel power meter with power sensors must be supplied to allow simultaneous monitoring of forward and reflected power of power amplifier during test.	<ul style="list-style-type: none"> • Frequency range : 10 kHz to 40 GHz • No. of channels : 2 • Power Range : As per the power requirements from sensing port of directional couplers connected with Power Amplifier • Impedance : 50 Ohm • Range selection : Automatic / Manual • Remote control operation IEEE 488, RS 232 • Power meter should not affect VSWR and attenuation.
Note: Power meters and Power sensors shall have capability to measure unmodulated (CW) and broadband modulated power (average power, pulse power, peak envelop power, AM, reflected power). Power meter should have good matching, low insertion loss and excellent inter modulation characteristics.		
8	LISNs	<ul style="list-style-type: none"> • Shall fulfill the requirements of MIL STD 461 F/G • RF Output Socket : 50 Ohm, BNC/ N • Frequency range : 9kHz - 50 MHz • Impedance: 50 Ohms

		<ul style="list-style-type: none"> • Inductance: 50 μH • Current rating : 63 Amps • Quantity : 4 nos.
9	RF Cables, Interconnecting cables, adapters and terminations etc.	All the necessary RF cables, internal interconnecting cable assemblies of required length, adaptors and terminations shall be provided.
10	Automation of Radiated Immunity test	
	RF test system controller (signal routing switch matrices of suitable power handling capability) to allow switching of all signal generators, all power amplifiers, all directional couplers, different RF loads. The controller should have system interlock capability.	
10.1	System controller	<p>All the necessary software, hardware and accessories including the interconnecting cable assemblies for fully automated Radiated immunity testing as per MIL STD 461F/G, IEC 61000-4-3 or any other customer specified requirement.</p> <p>The software should have the following features.</p> <ol style="list-style-type: none"> 1. Windows based, menu-driven, user friendly interactive operation 2. Modular and flexible enough to allow the user to adapt the system to new Regulations / Standards or extend or modify the hardware due to new test requirements. 3. User's selection of MIL STD 461F/G, IEC 61000-4-3 STD or other Regulation test limits or EUT susceptibility threshold levels. 4. Program listing shall be provided for modification /up gradation 5. User's option to modify / debug/ update the program. 6. Software program should comply with any make

		<p>of USB/RS232C/ IEEE 488 Compatible instruments.</p> <p>7. Device drivers for monitoring analog and digital signal outputs for EUT for evaluation</p> <p>8. Ability for harmonics monitoring of power amplifier and test system.</p> <p>9. Enable the system to calibrate the test equipment</p> <p>10. Generating test reports in graphical and tabulated data format.</p> <p>11. Ability to export reports to RTF, PDF or HTML</p> <p>12. Measurements may be stopped during testing runtime to evaluate signals or repeat individual measurements while working in the semi - automatic mode. After evaluation the measurement can be resumed.</p> <p>13. The software should have the feature of detecting the change of status of the EUT during testing, using the camera monitoring system.</p> <p>14. EUT monitoring and evaluation of the measurements.</p> <p>15. Graphical representation of the results on computer screen.</p> <p>16. Download the results / data in internal / external memory.</p> <p>17. Context sensitive online help facility.</p>
<p>11</p>	<p>RF Switching Unit</p>	<p>RF Signal switching Unit with suitable power rating shall be provided between the signal generator and the Power amplifiers from 2MHz to 40 GHz. Terminations from 2MHz to 40 GHz with suitable power rating cable, adaptor, termination and attenuator set necessary to conduct test shall be provided. Test rack with power distribution system, Heat dissipation fans and all necessary cables shall be provided.</p>

12	Any other item considered desirable (Please OFFER)
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6. Technical Terms and Conditions

<p>System Engineering and Installation</p>	<ul style="list-style-type: none"> • The system shall have complete menu driven and operator interactive software for automatic operation of the system for performing EMI/EMC tests as per MIL STD 461F/G and IEC 61000-4-3 STANDARD. • The system must be configured and demonstrated in the manual mode also. • The system design should be divided into two parts <ul style="list-style-type: none"> a) Amplifiers from 10 KHz to 1 GHz to be placed in Amplifier Room. b) Amplifiers from 1 GHz to 40 GHz along with antennas mounted on a movable rack to be placed inside the Chamber. • Supplier shall provide along with quotation theoretical calculations of meeting the field strength of 200 V/m at 1m distance from 2 MHz to 40 GHz as per MIL- STD-461 F/G and 30V/m at 3m distance as per IEC 61000-4-3 with the amplifiers, antennas etc. quoted in the proposal. • The system shall have the facility for self-calibration, self- checks, self-diagnostic functions using RS232, IEEE-488 bus compatible equipment, transducers and cables. • Standard, low loss, MIL rated coaxial cables with low RF leakage are to be used for interfacing / cabling of the system and these cables shall be insulated, abrasion resistant, flame retardant and terminated at appropriate connectors mating with those on the equipment, probes and adapters/bulkheads of the system. • The system shall be configured and engineered such that all the constituent equipment required for EMI/EMC testing as per MIL-STD-461F&G and IEC 61000-4-3 Standard requirement is assembled in 19"
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	<p>system racks with lockable castor wheels.</p> <ul style="list-style-type: none"> • Each 19" rack shall be provided with fans and internal cabling. It must include the following accessories apart from equipment: • Relay switch unit for automatic switching off signal paths to eliminate change of connectors manually. Relay switch unit should cover entire frequency range up to 40 GHz. This switching unit path should be operated through system controller. • Power distribution unit which should include power line filter to eliminate conducted noise. • GPIB Bus extender for use when rack moves in the chamber. • POWER SUPPLY: The System with all its constituent equipment shall operate on single phase, 230V AC± 10%, 50Hz. • The equipment plugs shall be compatible to the Indian type socket.
<p>MANUALS</p>	<p>Two sets of hard copies and one set of soft copies for the following are to be supplied</p> <ul style="list-style-type: none"> ✓ Detailed System operation ✓ Detailed block diagrams with cable layouts for the system ✓ Maintenance manuals ✓ Manual for GPIB commands for test equipments ✓ Service manuals for each constituent equipment along with block diagrams ✓ Software support for future up gradation. ✓ Comprehensive flow diagrams and algorithms ✓ Calibration Certificates for all Equipment/ Accessories.
<p>References</p>	<p>The supplier shall provide following reference cases as information along with technical offer:</p> <ul style="list-style-type: none"> • A minimum of three similar test systems with similar test instrumentation has successfully executed and installed by the vendor. • The vendor shall produce corresponding address and names to be contacted. • The vendor shall produce at least three reference letters

	signed by an end customer for the successful supply and installation of test system of similar specifications.
Calibration	Free of cost , Accredited calibration as per OEM shall be provided during the warranty period.
Local service support	Calibration, maintenance and repair/service facilities should be available in India.
Factory acceptance test	Three or Four scientists will be deputed from the SAMEER for carrying out acceptance test procedure at firm's premises for 5 working days for Factory Acceptance Test. In case no one is deputed from SAMEER due to unforeseen problems, an integrated test report shall be submitted by the vendor before dispatching the system.
Training at Vendor/Customer Sites	Training for SAMEER scientists for ten working days.
Acceptance of facility	<p>a)Factory Acceptance Test :</p> <p>Test plan for FAT and training program shall be sent for acceptance by SAMEER before inviting for FAT.</p> <p>All instruments and accessories shall be verified during the factory acceptance test at vendor's site prior to its delivery to the purchaser. The results of these tests shall be provided. The supplier shall intimate at least 60 days in advance for FAT so as to make travel plans by SAMEER scientists.</p> <p>b) Installation & Commissioning in Labs and Acceptance Test :</p> <p>All instruments and accessories shall be installed, commissioned and demonstrated at SAMEER.</p> <p>All the acceptance tests shall be performed as per required specifications for the full power and field levels required by the regulations.</p>
Recommended Spare Parts:	The supplier shall provide a list of recommended spare parts with price breakup.

Technical Bid shall include the following

- a. EMD as specified in the invitation to bids
- b. MSME/NSC Certificate If, EMD waiver is claimed
- c. Tender fee as specified in the invitation to bids
- d. Service Support Details Form
- e. Deviation Statement Form
- f. Technical Specification Compliance Form
- g. Manufacturer's Authorization Letter
- h. Bidder's Performance Statement Form
- i. Equipment Data sheet/Technical specification
- j. Tender document (Page No.4 to 20) duly signed by the bidder with company seal.

I/We certify that all the terms and conditions of the tender documents are acceptable to us.

Signature of the authorized person

Name :

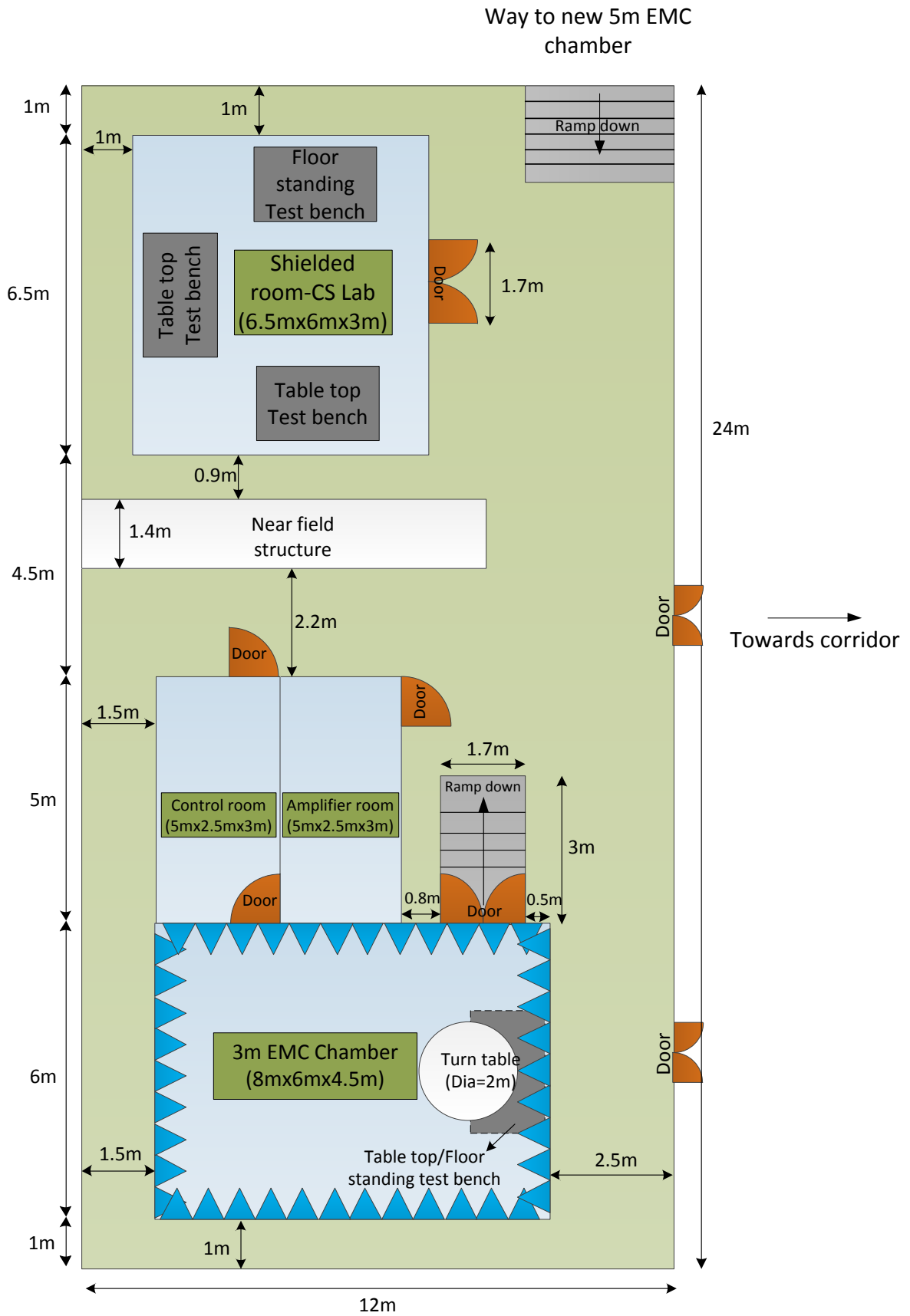
Designation :

Company Seal :

Date :

Place :

Plan diagram of EMC CHAMBER and CS LAB in the existing 24×12×5.5m RCC BUILDING:



Format for Price Bid

ITEM-I

(Price bid for Radiated immunity test system for the frequency range 2MHz to 1 GHz)

IMPORTANT

Bidder is required to submit the price bid in the given format on their LETTER HEAD.

ITEM	DESCRIPTION	QUANTITY	PRICE IN INR	PRICE IN (Name of the currency)
1	Radiated immunity test system for the frequency range 2MHz to 1 GHz			
i.	RF Signal Generators	AS MENTIONED IN THE TECHNICAL BID		
ii.	RF Power Amplifiers			
iii.	Directional Couplers			
iv.	E-field Generators			
v.	EMC Antennas			
vi.	Horn Antenna			
vii.	RF cables and assemblies			
Viii.	RF Switching unit			
ix.	Field Monitoring system and Field probes			
x	Dual Channel power meter with power sensors			
xi.	System Controller and Measurement software			
xii.	LISNs			
2.	AMC 1st Year	Refer Annxure-VI		
	AMC 2nd Year			
	AMC 3rd Year			
	AMC 4th Year			
3.	Commission for Indian Agent			
4.	Insurance			

5.	Installation, Commissioning & Performance Testing charges			
6	TAXES AND DUTIES APPLICABLE ON ITEMS			
	TOTAL AMOUNT			
	TOTAL AMOUNT (IN WORDS)			

Signature of the Manufacturer/authorized agent

Name :

Company Seal :

Date :

Place :

Format for Price Bid

ITEM-II

(Price bid for Radiated immunity test system for the frequency range 1 GHz to 40 GHz)

IMPORTANT

Bidder is required to submit the price bid in the given format on their LETTER HEAD.

ITEM	DESCRIPTION	QUANTITY	PRICE IN INR	PRICE IN (Name of the currency)
1	Radiated immunity test system for the frequency range 1 GHz to 40 GHz			
i	Microwave Signal Generators	AS MENTIONED IN THE TECHNICAL BID		
ii.	Microwave Power Amplifiers			
iii.	Directional Couplers			
iv.	Horn Antenna			
v	RF cables and assemblies			
vi.	RF Switching unit			
vii.	Field Monitoring system and Field probes			
viii	Dual Channel power meter with power sensors			
ix.	System Controller and Measurement software			
2.	CAMC 1st Year	Refer Annxure-VI		
	CAMC 2nd Year			
	CAMC 3rd Year			
	CAMC 4th Year			
3.	Insurance			
4	Commission for Indian Agent			
5	Installation, Commissioning & Performance Testing charges			

6	TAXES AND DUTIES APPLICABLE ON ITEMS			
	TOTAL AMOUNT			
	TOTAL AMOUNT (IN WORDS)			

Signature of the Manufacturer/authorized agent

Name :

Company Seal :

Date :

Place :

ANNEXURE -I

MANUFACTURER'S AUTHORIZATION LETTER

Dated-----

To
The Programme Director
SAMEER-Centre for Electromagnetics
CIT Campus, 2nd Cross Road,
Taramani
Chennai - 600 113
INDIA.

Dear Sir:

NIT Ref No.----- dated-----

We, ----- who are proven and reputable manufacturers of ----- (*name and description of the goods offered in the tender*) having factories at-----, hereby authorize M/s. ----- (*name and address of the agent*), to submit a tender, process the same further and the enter into a contract with you against your requirement contained in the above referred NIT for the above goods manufactured by us.

We also state that we are not participating directly in this tender for the following reason(s):
----- (*Please provide reason here*).

We, further confirm that no supplier or firm or individual other than M/s.----- (*name and address of the agent*) is authorized to submit a tender, process the same further and enter into a contract with you against your requirement as contained in the above referred NIT for the above goods manufactured by us.

We also hereby extend our full warranty, CAMC as applicable as per 11 of the CAMC clause, read with modification, if any, in the contract for the goods and services offered for supply by the above firm against this NIT.

We also hereby confirm that we would be responsible for the satisfactory execution of contract placed on the authorized agent.

we also confirm the price quoted by our agent shall not exceed the price which we would have quoted directly.

Your faithfully,

[*Signature with date, name and designation*]

for and on behalf of M/s. ----- [*Name & address of the Manufacturer*]

Note: 1. *This letter of authorization should be on the letter head of the manufacturing firm and should be signed by a person competent and having the power of attorney to legally bind the manufacturer.*

2. *Original letter may be attached along with technical bid. Photocopy will not be accepted.*

ANNEXURE -II

BIDDER'S PERFORMANCE STATEMENT FORM

(For a Period of Last 5 Years)

Order placed by (full address of purchaser)	Descripti on and quantity of ordered similar Radiated Immunit y test system	Order No and Date	Price	Date of Completi on of delivery as per Contract/ Actual	Remarks indicating reasons for late delivery, if any	Has the Radiated Immunity test system been installed satisfactor ly?	Contact Person along with Tel.No., Fax No. & e- mail address

Name of the bidder

Signature& Seal

Date :

Place :

ANNEXURE-III

SERVICE SUPPORT DETAILSFORM

SL. No.	Nature of training imparted	List of similar type items's/services in the past 3 years or as per Tender Enquiry/Document	Address, Telephone Nos., Fax and email address of the firm located in India	Value of minimum stock of consumable spares held at all times

Signature and Seal of the manufacturer/Bidder

Place:

Date:

ANNEXURE-IV

DEVIATION STATEMENT FORM

The following are the particulars of deviations from the requirements of the tender document and specifications:

CLAUSE	DEVIATION	REMARKS (INCLUDING JUSTIFICATION)

Signature and Seal of the Manufacturer/Bidder

Place :

Date :

NOTE:

Where there is no deviation, the statement should be returned duly signed with an endorsement indicating "No Deviations"

ANNEXURE-V

TECHNICAL SPECIFICATION COMPLIANCE STATEMENT FORM

An item-by-item commentary on the SAMEER-CEM Technical Specifications demonstrating substantial responsiveness of the item's to those specifications or a statement of deviations and exceptions to the provisions of the Technical Specifications. (Technical literature/brouchers/manuals should be attached along with this format)

ITEM NAME			
Sl.No	Tender Specifications	Bidder's Specifications	Remarks/Deviation if any

(Technical literature/brouchers/manuals should be attached along with this format)

Please note:

1. Compliance statement should compare the specifications of the quoted model to the required specifications. This statement should also give the page number(s) of the technical literature where the relevant specification is mentioned.
2. Bids must have supporting documents (technical literature or copies of relevant pages from the service manual or factory test data) for all the points noted above, failure regarding which may result in rejection of bid.

Signature of the authorized person:

Name :

Designation :

Company Seal :

Date :

Place :

ANNEXURE-VI

CONTRACT FORM FOR COMPREHENSIVE ANNUAL MAINTENANCE
CONTRACT(CAMC) (Shall be attached along with price bid)

Between SAMEER-CEM,CIT CAMPUS, 2nd CROSS ROAD,TARAMANI,CHENNAI

(Address of the consignee)

And _____

(Name & Address of the Supplier)

Ref: PO No..... dated..... for Supply, installation, Commissioning,
Performance testing and validation of Radiated Immunity Test System.

1	2	3	4				5	6
Sl. No.	BRIEF DESCRIPTION OF ITEMS	QUANTI TY. (Nos.)	Annual Comprehensive Maintenance Contract Cost for Each Unit year wise*.				Total Annual comprehensive maintenance contract for 4 years for each unit for 4 years	Total Annual Comprehens ive Maintenance Contract Cost for 4 years [3×(4a+4b+4 c+4d)]
			1 st	2 nd	3 rd	4 th		
			a	b	c	d	4a+4b+4c+4d	(3x5)

Total Value (In Figure) _____ (In Words) _____

- a) The CAMC commence from the date of expiry of Warranty) and will expire on _____(date of expiry of CAMC)
- b) The cost of Annual Comprehensive Maintenance Contract (CAMC) which includes preventive maintenance, labour and spares, after satisfactory completion of Warranty period may be quoted for next 4 years as contained in the NIT in yearly basis for complete equipment.
- c) During CAMC period, the supplier shall visit SAMEER - CEM site for preventive

maintenance including testing and calibration as per the manufacturer's service / technical / operational manual. The supplier shall visit SAMEER-CEM as recommended in the manufacturer's manual, but at least once in 6 months commencing from the date of the successful completion of warranty period for preventive maintenance of the goods.

- d) All software updates should be provided free of cost during CAMC.
- e) The bank guarantee valid till _____ [(fill the date) 2 months after expiry of entire CAMC period] for an amount Rs. _____ [(fill amount) equivalent to 2.5 % of the cost of the equipment as per contract] shall be furnished in the prescribed format, along with the signed copy of Annual CAMC within a period of 21 (twenty one) days of issue of Annual CAMC failing which the proceeds of Performance Security shall be payable to the SAMEER - CEM
- f) If there is any lapse in the performance of the CAMC as per contract, the proceeds Annual CAMC bank guarantee for an amount of Rs. _____ (equivalent to 2.5 % of the cost of the equipment as per contract) shall be payable to the SAMEER - CEM.
- g) Payment terms: The payment of Annual CAMC will be made against the bills raised to SAMEER - CEM by the supplier on six monthly basis after satisfactory completion of said period, duly certified by the HoD concerned division.

(Signature, name and address)

Received and accepted this contract

(Signature, name and address of the supplier's executive
duly authorised to sign on behalf of the supplier)

For and on behalf of _____

(Name and address of the supplier)

(Seal of the supplier)

Date: _____

Place: _____