

**CORRIGENDUM-III Dated: 08.09.2020**

Attention is invited to Tender No. S-CEM/IP/3038/PTE/100-01/2020-2021 dated 05.06.2020, for the Supply, Installation, Commissioning, Performance testing and validation of Antenna/RF measurement system and Shielded chamber. Technical Specifications and commercial terms has been revised after pre-bid meeting held on 18.08.2020.

Sl. No	Page No.	Clause No.	Published as:	Revised as
1	Page 2 of 40	EMD	Rs.28,75,500 /- (Rupees twenty eight lakhs seventy five thousand and five hundred only)	Rs.15,90,000/- (Rupees fifteen lakhs and ninety thousand only)
2	Page 2 of 40	Tender Schedule	Last date and time of submission of bids: <b>11<sup>th</sup> September,2020, 14:00 Hrs.</b>	Last date and time of submission of bids: <b>30<sup>th</sup> September,2020, 14:00 Hrs.</b>
3	Page 2 of 40	Tender Schedule	Date and time of Technical Bid opening: <b>11<sup>th</sup> September,2020 at 15:00 Hrs..</b>	Date and time of Technical Bid opening: <b>30<sup>th</sup> September,2020 at 15:00 Hrs.</b>
4	Page 6 of 40	7 Prices (7.2 (ii))	Shielded chamber with dimensions 8.0m(L) x 3.5m(W) x 3.5m(H) - <b>1 no.</b>	Shielded chamber with dimensions 8.0mtr.(Length) x 4.0mtr.(Width) with tolerance of $\pm 1$ mtr. Height : 3.5 mtr. (maximum) or less - <b>1 No.</b>
5	Page 11 of 40	Format of Bid 19.3	The bid document shall be submitted in the above mentioned address latest by <b>14.00 hrs. on 11<sup>th</sup> September,2020</b>	The bid document shall be submitted in the above mentioned address latest by <b>14.00 hrs. on 30<sup>th</sup> September,2020</b>
6	Page 11 of 40	<b>21.BID SECURITY (EARNEST MONEY DEPOSIT)</b>	The bidders shall furnish as part of the bid, a Bid Security (EMD) for an amount of <b>Rs.28,75,500/- (Rupees twenty eight lakhs seventy five</b>	The bidders shall furnish as part of the bid, a Bid Security (EMD) for an amount of <b>Rs.15,90,000/- (Rupees fifteen lakhs and ninety thousand only)</b> in the form of

			<p><b>thousand and five hundred only)</b> 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 &amp; Tender fee should be enclosed with the Technical Bid.</p>	<p>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 &amp; Tender fee should be enclosed with the Technical Bid.</p>
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7	Page 7 of 40	9.Installation	<p>Installation, commissioning, performance testing and validation (<i>by the third party</i>) of Antenna RF Measurement system and Shielded Chamber 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 chamber at SAMEER-CEM. Bidders shall also indicate in their offer the total expected time required for installation/commissioning and testing of measurement system. However, the successful bidder shall arrange and complete the installation of the Antenna RF Measurement system and Shielded Chamber within 45 days from the date of arrival of the said unit at SAMEER-CEM. <b>The successful bidder should take all precautionary measures to ensure the safety of the workmen during installation of the measurement system and SAMEER shall not be responsible in case of any eventuality.</b></p>	<p>Installation, commissioning, performance testing and validation (<i>either by OEM or third party</i>) of Antenna RF Measurement system and Shielded Chamber 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 chamber at SAMEER-CEM. Bidders shall also indicate in their offer the total expected time required for installation/commissioning and testing of measurement system and shielded chamber. However, the successful bidder shall arrange and complete the installation of the Antenna RF Measurement system and Shielded Chamber within 45 days from the date of arrival of the said unit at SAMEER-CEM. <b>The successful bidder should take all precautionary measures to ensure the safety of the workmen during installation of the measurement system and SAMEER shall not be responsible in case of any eventuality.</b> Tests and</p>
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8	Page 8 of 40	<b>12. Delivery Period</b>	<p>In case of foreign suppliers, the firm delivery period is 180 days from the date of design approval by SAMEER-CEM and after opening irrevocable Letter of Credit (LC) by sight. <b>However, the successful bidder shall submit the</b></p>	<p>Delivery period is <b>180 days from the date of Purchase order</b> and after opening irrevocable Letter of Credit (LC) by sight. However, the successful bidder shall submit the design plan within 30</p>

			<b>design plan within 30 days on receipt of Purchase order. No Part shipment is permitted.</b>	days on receipt of Purchase order. <b>Part shipment is permitted(not more than 3 shipments) and the last supply should be made within 180 days. No part payment.</b>
9	Page 20 of 40	<b>38.5 PERFORMANCE GUARANTEE</b>	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) (in case of foreign order) <b>for 10 % of Purchase Order Value. Performance Bank Guarantee should remain valid for a period of sixty days beyond the warranty period</b>	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) (in case of foreign order) <b>for 10 % of Purchase Order Value. Performance Bank Guarantee should remain valid for a period of sixty days beyond the warranty period within 21 days after satisfactory installation, commissioning testing and validation of the Antenna/RF measurement system and Shielded Chamber at SAMEER CEM.</b>
10			Annexure-VIII- Eligibility of Bidder ( <i>shall be submitted along with technical bid</i> )	As per the OM No. 6/18/2019-PPD dated 23.07.2020 issued by the Department of Expenditure, Public Procurement Division, Ministry of Finance, Government of India, the prospective bidders are requested to submit a certificate in their company letter head and Model certificate is given below. " <b>I have read clause regarding restrictions on procurement from a</b>

				bidder of a country which shares a land border with India; I hereby certify that this bidder is not from such a country and eligible to be considered".
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## Technical Terms

11	22	COVER -I (Technical Bid)  Sr no 1.	<ul style="list-style-type: none"> <li>• 650MHz- 6GHz</li> <li>• 6 GHz- 18GHz</li> <li>• 18GHz - 50 GHz</li> </ul> <p>The measurement facility may be a single unit covering all the frequency bands or separate units for covering the respective band.</p>	<ul style="list-style-type: none"> <li>• 650 MHz to 50GHz</li> </ul> <p>The measurement facility may be a single unit covering all the frequency bands or separate units jointly covering the total band</p>
12	22	COVER -I (Technical Bid)  Sr no 2.	<p>Near-field</p> <p><i>(Preferably multi-probe configurations.)</i></p>	<p>Near-field/ far field</p> <p><i>(Preferably multi-probe approach for Near field measurement system.)</i></p>

13	23	COVER -I (Technical Bid) Sr no 4.	<p>45cmX45cm over the frequency of operation</p> <ul style="list-style-type: none"> <li>• Extendable up to 2.7 mtrs x 45 cm by incorporating Linear scanner.</li> </ul>	<p><b>i. For single unit AUT/DUTs</b></p> <p>40cmX40cm or larger : Over the total frequency band of operation</p> <p><b>ii. For Array type structures</b></p> <ul style="list-style-type: none"> <li>• 2.5mts x 40cm or larger: (Conventional BTS type antennas) for 650MHz to 6GHz.</li> <li>• 1.5mts x 40cm or larger: (Planar Array antennas) for 6GHz to 26GHz.</li> <li>• 0.8mts x 40cm or larger: (Planar array antennas) for 26GHz to 50GHz.</li> </ul>
14	24	COVER -I (Technical Bid) Sr no 7.	Measurement system should be incorporated With over sampling option for near-field measurement.	<p>Measurement system should be incorporated with over sampling option.</p> <p>(Applicable only for Near field implementation approach)</p>

15	24	COVER -I (Technical Bid)  Sr no 8.	<b>Linear Scanner Option</b>  Linear Scanner provision must be incorporated additionally for enabling the large (long column) antenna measurements like BTS.	<b>Linear Scanner Option: (Applicable only for Near field implementation approach)</b>  Linear Scanner provision must be incorporated additionally for enabling the large (long column) antenna measurements like BTS.
16	24	COVER -I (Technical Bid)  Sr no 9.	<b><u>Software Requirements</u></b>  Preliminary settings, Measurement control, Data acquisition and advanced post processing modules, System Calibration, Probe correction options Near-field/far-field transform OTA and Massive MIMO measurement features LTEFDD&LTETDD,1 <sup>st</sup> 5GNRFR1(Sub 6GHz) aggregated carrier.	<b><u>Software Requirements</u></b>  Preliminary settings, Measurement control, Data acquisition and advanced post processing modules, System Calibration, Probe correction options Near-field/far-field transform  Derived /Measured Output should include OTA and Massive MIMO measurement features. LTE and 5G New Radio (NR) FR1(Sub6GHz) aggregated carrier. The measurement parameters can be derived directly( in the case of far-field approach) or indirectly ( in the case of Near-field approach).



17	25	COVER -I (Technical Bid)  Sr. no. 10.2	The measurement system should be compatible With the following Network Analyzers  i.Keysight E8363B Network Analyzer  ii.Keysight E8364B Network Analyzer  iii.Keysight N5244BPNA-XNetworkAnalyzer  The measurement system should also be compatible with Radio Communication Tester	The measurement system should be compatible with the following Network Analyzers  i. KeysightE8363BNetwork Analyzer  ii. Keysight E8364B Network Analyzer  iii. Keysight N5244BPNA-XNetwork Analyzer  The bidder should submit the list of compatible Radio Communication Tester equipment.
18	25	COVER -I (Technical Bid)  Sr no 11.1	8.0m(L)x3.5m(W)x 3.5m(H)	8.0mtr.(Length) x 4.0mtr.(Width) with tolerance of $\pm 1$ mtr. Height : 3.5 mtr. (maximum) or less
19	32	Cover -II (Price Bid-Item No.2	Shielded chamber with dimensions 8.0m(L) x  3.5m(W) x 3.5m(H)	Shielded chamber with dimensions 8.0mtr.(Length) x 4.0mtr.(Width) with tolerance of $\pm 1$ mtr. Height : 3.5 mtr. (maximum) or less

20	30	<b>Technical Terms and Conditions</b>  <b>iii) Compliance certificates</b>	<p>Supplier shall provide compliance certificate for <b>Antenna/RF measurement system, Shielded Chamber and associated accessories.</b></p> <p><b>* Supper shall provide performance certificate of at least one recently installed Antenna/RF measurement and system Shielded chamber in India along with technical bid. Vendor shall give a presentation on their technical bid proposal.</b></p> <ul style="list-style-type: none"> <li>• SAMEER technical team can visit a similar measurement facility installed by the supplier (in India) to assess the performance and service.</li> </ul>	<p>Supplier shall provide compliance certificate for <b>Antenna/RF measurement system, Shielded Chamber and associated accessories.</b></p> <p><b>* Supplier shall provide Purchase order and performance certificate of at least one recently installed Antenna/RF Measurement system and Shielded chamber in India/abroad along with the technical bid.</b></p> <ul style="list-style-type: none"> <li>• If required, SAMEER technical team may visit the measurement facility installed by the supplier (in India) to assess the performance and service.</li> </ul>
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