

SECTION - C

TECHNICAL SPECIFICATIONS OF STORES AND DRAWINGS.

Supply of 2.45 GHz, 6 kW, CW Microwave Generator Setup consisting of Microwave Generator, Circulator with Match Load (Isolator), Water Cooled Dummy Load to absorb the Generator Power and Power Supply with required Accessories to run the Set-up



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TECHNICAL SPECIFICATION cum COMPLIANCE STATEMENT

Item: 2.45 GHz, 6 kW CW Microwave Generator setup

Qty.: 2 Nos.

Sr. No.	Parameter	IPR Specification	Vendor Specification
Scope of Supply: Supply of 2.45 GHz, 6 kW CW Microwave Generator setup consisting of Microwave generator, circulator with match load (Isolator), Water cooled dummy load to absorb the generator power and power supply with required accessories to run the setup.			
Specification of Generator including circulator with match load (Isolator) and power supply			
1	Operating Frequency	2.45GHz, Bandwidth should be specified by supplier	
2	Output Power	6.0 kW CW (Typ.)	
3	Output power variability	Minimum threshold value to 6kW manually as well as remotely with Analog input signal (preferably 0-10V)	
4	Reflected Power handling capability	Should be capable to handle 100% reflected power using circulator with match load (Isolator)	
5	Power Supply	Compatible power supply/supplies should be provided.	
6	Input Power	415V ± 10% or 400V ± 10%, 3 Phase, 50Hz	
7	Output waveguide type and flange	WR340 CPR (preferably flat flange)	
8	Interface	a) Digital signal (preferably 5V / 24V) to enable the rf power b) Analog signal (preferably 0-10V) to vary the output power	
9	Operating / User manual	Should be provided in English	
Desirable information			
1	VSWR		
2	Cooling requirement		
3	Minimum response time to full output power and switch off time to zero output power should be mentioned.		
4	Interface details should be provided.		
5	Display: Important parameters like microwave power on/off, power set point, local/remote indication, fault condition should be displayed.		
6	Interlocks: To be provided for the fail safe operation & should be mentioned. (Typical interlocks are Generator over temperature, arc detector, water parameters, reflection etc.) Generator should have the facility to switch off, when external interrupt (TTL) signal is enabled.		

Specification of Water cooled dummy load			
1	Operating Frequency	2.45GHz, Bandwidth should be specified by supplier (compatible with generator)	
2	Power	6.0 kW CW minimum	
3	Flange	WR340 CPR Flat preferably (Appropriate gasket should be provided to match the output of microwave generator)	
4	Cooling requirement	Detailed requirement should be specified by the supplier (like water quality, lpm, inlet/outlet temperature range etc.)	
5	VSWR	1.15:1 or better (Typ.)	
Optional: Coupling port for monitoring the output power on Water cooled dummy load with suitable power detector should be provided.			
Accessories		All necessary accessories like cables, gaskets, cooling connectors etc. should be provided along with material. Accessories should be quoted separately if required with options if any.	
Factory acceptance criteria:			
1	Microwave Generator Setup will be tested on Water cooled dummy load at full power of 6kW/ rated power for minimum 10 minute continuous operation using local and remote mode operation. In remote mode, Minimum response time to full output power and switch off time to zero output power should be tested and reported. All necessary power measurements at load side should be tested and mentioned in test report.		
2	Water cooled dummy load VSWR test report should be provided.		
3	Vendor should ensure and mention in the test report that the microwave radiation is much below the international safety standards (like ICNIRP – 5mW/cm ² or equivalent) for human exposure as per International guidelines during the full power operation on load.		
Final acceptance criteria:			
1	Microwave Generator Setup will be tested on Water cooled dummy load at full power of 6kW/ rated power for minimum 10 minute continuous operation using local and remote mode operation. In remote mode, Minimum response time to full output power and switch off time to zero output power will be tested. Supervision by vendor/their representative will be required during installation and testing.		

Dispatch Clause: Vendor has to submit the test results and certificates as mentioned in Factory acceptance criteria to IPR before dispatching the material. The material has to be dispatched to IPR only after getting the dispatch clearance certificate from IPR.	
Warranty: 1 Year minimum	

Note:

- 1) Technical literature / brochure should be attached with quotation.
- 2) Any optional accessories should be quoted separately.
- 3) In compliance form, Number / value should be specified wherever applicable.

Bidder's Name & Sign

Official Seal

Date :-