

**REQUEST FOR COMMENTS OF STAKEHOLDERS/OEM/FIRMS
ON QRS (QUALITY REQUIREMENT) & TDS (TRIAL DIRECTIVES)
OF DIGITAL FREQUENCY COUNTER**

1. The proposed QRs/TDs of Digital Frequency Counter are attached as **Appendix 'A & B'**. The OEMs/Vendors are requested to forward information of the product which they can offer and also forward correct specifications of their system against each parameter. Complied or not complied remarks will not be accepted.

2. The required information/details may please be forwarded at the following addresses by **11th March 2019**.

Directorate General CRPF

East Block-7, Sec-1, R.K. Puram, New Delhi-110066

Email: comncell@crpf.gov.in

3. An early response is requested.

QRS/ TECHNICAL SPECIFICATIONS OF DIGITAL FREQUENCY COUNTER

Sl No	Particulars	QRs/ Technical specification
1.	Frequency Range	2 mili Hz to 3 GHz, or 2 milli Hz to 6 GHz (As per user requirement).
2.	No of Channels	2 Nos
3.	Type of Input Signal	a) AM, FM signal b) Burst and Noise Signal etc.
4.	Resolution	10 or better digit
5.	Input Impedance	1 M Ohm \pm 1.5% , 50 Ohm \pm 1.5%
6.	Trigger Slope	Positive or Negative
7.	Input Connector	BNC & N connector
8.	Display Type	Backlit (LCD Graphics Screen for Menu Control, Numerical Read Output & Status Information)
9.	Measurement	Frequency /Period ,Time, Phase, Volt, Duty Cycle, Pulse, Rise Time
10.	Indication	Frequency/ Level / Status Indication (Histogram)
11.	No. of Digits	Switchable or Programmable
12.	Time Base Type	OEXO
13.	Gate Time / Measurement time	100 Micro sec to 1000 sec or better
14.	Single Shot Time Resolution	100 Pico Sec
15.	Calibration	Electronic
16.	Aging Rate Per Year (AS declared by the OEM) -	better than 2/10000000 PPM
17.	Temperature Stability at 26 ^o C	0.02 PPM
18.	Interface	GPIB & USB
19.	Operating Temperature	0 to 50 ^o C
20.	Operating Humidity (RH)	80% RH, non-condensing
21.	Storage Temperature	- 30 ^o to + 50 ^o C
22.	Short Warm up Time	45 Minutes
23.	Power Rating	90 Watt
24.	Power Supply	100 - 240 Volt \pm 10%, 45 to 60 Hz

S1 No	Particulars	QRs/ Technical specification
25.	Dimensions (H x W x L)	Be specified
26.	Weight	4 Kg Maximum
27.	Standard Accessories Supplied with the Equipment	CD containing Users guide, SCPI/ programmers reference, programming examples, drivers, IO library instructions, Power Line Chord , USB Cable

TRIAL DIRECTIVES OF DIGITAL FREQUENCY COUNTER

Trial/ technical evaluation of equipment will be conducted by a Board of Officers (B.O.O) in the presence of vendor or representative of firm to assess actual performance of the instrument.

2. All specifications/ parameter of equipment mentioned in the QRs will be checked by B.O.O during trial to be ascertained/verified by following ways.

I) **Physical Check**:-In this category specification of the equipment will be checked by B.O.O physically as per QRs.

II) **Functional Check**:-In this category Vendor/ supplier will show practically all features/ configuration to the board of officers during trial.

III) **Submission of Certificate**:- Specification which cannot be checked due to lack of testing facilities / expertise, certificate provided by the vendor issued by a Government authorized laboratory of test shown against the parameter will be acceptable by B.O.O during trial.

S. N	PARTICULARS	TECHNICAL SPECIFICATION	TRIAL DIRECTIVES
1.	Frequency Range	2 mili Hz to 3 GHz, or 2 milli Hz to 6 GHz (As per user requirement).	Board will check practically
2.	No of Channels	2 Nos	Board will check practically
3.	Type of Input Signal	a) AM, FM signal	Board will check practically
		b) Burst and Noise Signal etc.	Firm will submit certificate of any Govt lab or NABL or ILAC accredited laboratory or OEM certificate.
4.	Resolution	10 or better digit	Board will check practically.
5.	Input Impedance	1 M Ohm \pm 1.5% , 50 Ohm \pm 1.5%	Firm will submit OEM certificate.
6.	Trigger Slope	Positive or Negative	Firm will submit certificate of any Govt lab or NABL or ILAC accredited laboratory or OEM certificate.
7.	Input Connector	BNC & N connector	Board will check practically.
8.	Display Type	Backlit (LCD Graphics Screen for Menu Control, Numerical Read Output & Status Information)	Board will check practically.
9.	Measurement	Frequency /Period ,Time, Phase, Volt, Duty Cycle, Pulse, Rise Time	Board will check practically.
10.	Indication	Frequency/ Level / Status Indication (Histogram)	Board will check practically.

S1 No	PARTICULARS	TECHNICAL SPECIFICATION	TRIAL DIRECTIVES
11.	No. of Digits	Switchable or Programmable	Board will check practically.
12.	Time Base Type	OCXO	Firm will submit certificate of any Govt lab or NABL or ILAC accredited laboratory or OEM certificate.
13.	Gate Time / Measurement time	100 Micro sec to 1000 sec or better	Board will check practically.
14.	Single Shot Time Resolution	100 Pico Sec	Firm will submit certificate of any Govt lab or NABL or ILAC accredited laboratory or OEM certificate.
15.	Calibration	Electronic	Board will check practically.
16.	Aging Rate Per Year (AS declared by the OEM) –	better than 2/10000000 PPM	Firm will submit OEM certificate
17.	Temperature Stability at 26° C	0.02 PPM	Firm will submit certificate of any Govt lab or NABL or ILAC accredited laboratory.
18.	Interface	GPIB & USB	Board will check practically.
19.	Operating Temperature	0 to 50° C	Firm will submit certificate of any Govt lab or NABL or ILAC accredited laboratory.
20.	Operating Humidity (RH)	80% RH , non-condensing	Firm will submit certificate of any Govt lab or NABL or ILAC accredited laboratory.
21.	Storage Temperature	-30°to + 50° C	Firm will submit certificate of any Govt lab or NABL or ILAC accredited laboratory.
22.	Short Warm up Time	45 Minutes	Firm will submit OEM certificate.
23.	Power Rating	90 Watt	Firm will submit OEM certificate and board will check practically.
24.	Power Supply	100-240 Volt ± 10%, 45 to 60 Hz	Firm will submit OEM certificate and board will check practically.
25.	Dimensions (H x W x L)	Be specified	Board will check practically.

S1 No	PARTICULARS	TECHNICAL SPECIFICATION	TRIAL DIRECTIVES
26.	Weight	4 Kg Maximum	Board will check practically.
27.	Standard Accessories Supplied with the Equipment	CD containing Users guide, SCPI/programmers reference, programming examples, drivers, IO library instructions, Power Line Chord, USB Cable	Board will check practically.