



TECHNICAL COMPLIANCE FOR LAB EQUIPMENTS

| Programmable Pattern Generator | | | | | |
|--------------------------------|---|---|------------------------------------|--|--|
| Sl. | Parameters | Specifications | M/s Agmatel India Pvt. Ltd., Delhi | M/s Peridot Technologies Secunderabad | M/s Convergent Technologies India Pvt. Ltd., Bangalore |
| 1. | Number of Channels | 2 (Two) Analog - differential outputs 2 Marker outputs/Channel (Differential) for Syncing /Triggering with external systems. | - | Complied (AWG70002B) 2 (Two) Analog - differential outputs 2 Marker outputs/Channel (Differential) | Complied (AWG70002B) 2 (Two) Analog -differential outputs 2 Marker outputs/Channel (Differential) |
| 2. | Rise /Fall time | 22 ps or better | - | Complied <22 psec (rise time should be minimum) | Complied <22 psec (rise time should be minimum) |
| 3. | Wide Range of Sampling Rate per Channel Simultaneously | Lowest Sample rate: 1.5KS/s or better Highest Sample rate: 25GS/s or better | - | Complied (AWG70002B) 1.5Ks/s -25GS/s | Complied (AWG70002B) 1.5Ks/s -25GS/s |
| 4. | DAC Resolution per channel | 10 bit or higher | - | Complied 10 bit | Complied 10 bit |
| 5. | Analog Bandwidth (-3dB) per channel | ≥13.5 GHz or better | - | Complied (AWG70002B) 13.5GHz | Complied (AWG70002B) 13.5GHz |
| 6. | Waveform Length | 2 G Samples on both channels simultaneously | - | Complied 2G Samples | Complied 2G Samples |
| 7. | SFDR | Output frequency (fout)= DC to 5GHz; SFDR<-51dBc fout= 5GHz to 10GHz <-40dBc | - | Complied Output frequency (fout)= DC to 5GHz; SFDR<-52dBc fout= 5GHz to 10GHz <-42dBc | Complied Output frequency (fout)= DC to 5GHz; SFDR<-52dBc fout= 5GHz to 10GHz <-42dBc |
| 8. | Phase Noise (Typical) | < -122 dBc/Hz (typ) at 10 kHz offset, fout = 1 GHz, < -103dBc/Hz (typ) at 10 kHz offset, fout = 10 GHz | - | Complied < -122 dBc/Hz (typ) at 10 kHz offset, fout = 1 GHz, < -103dBc/Hz (typ) at 10 kHz offset, fout = 10 GHz | Complied < -122 dBc/Hz (typ) at 10 kHz offset, fout = 1 GHz, < -103dBc/Hz (typ) at 10 kHz offset, fout = 10 GHz |
| 9. | 2 nd Harmonic distortion | <-50dBc; up to 6GHz ,<-40dBc; greater than 5GHz | - | Complied <-50dBc; up to 6GHz, <-42dBc; greater than 5GHz | Complied <-50dBc; up to 6GHz, <-42dBc; greater than 5GHz |
| 10. | Waveform granularity to generate complex Waveforms easily | 1 point | - | Complied (AWG70002B) | Complied (AWG70002B) |
| 11. | Run Modes | Continuous, Triggered, Triggered continuous | - | Complied | Complied |

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| 12. | Output skew control between the 2 channels | -100 to 100 ps with 5psec | - | Complied | Complied |
| 13. | Ref Output (SMA) | 10MHz | - | Complied | Complied |
| 14. | Ref In (SMA) | 10MHz, 35 MHz to 250 MHz | - | Complied | Complied |
| 15. | Software should be available to generate Various RF signals capabilities | Ability to generate IQ/RF signals BPSK, QPSK, DQPSK,8PSK, GMSK, FSK2//4/8/16, 6/32/64/128/256QAM, 16/32 APSK Hopping Signals IQ impairments Additive Noise Interference Generation Multi-Path Multi- Carrier with each Carrier to be modulated with different Modulation schemes | - | Complied (With SW option - RFGENNL-SS01 Ability to generate IQ/RF signals BPSK, QPSK, DQPSK,8PSK, GMSK, FSK2//4/8/16, 32/64/128/256 QAM, 16/32 APSK Hopping Signals IQ impairments Additive Noise Interference Generation Multi-Path Multi- Carrier with each Carrier to be modulated with different Modulation schemes) | Complied (With SW option - RFGENNL-SS01 Ability to generate IQ/RF signals BPSK, QPSK, DQPSK,8PSK, GMSK, FSK2//4/8/16,32/64/128/256 QAM, 16/32 APSK Hopping Signals IQ impairments Additive Noise Interference Generation Multi-Path Multi- Carrier with each Carrier to be modulated with different Modulation schemes) |
| 16. | Trigger External | Pos or Neg, 50Ohm;<5 Vrms, 1kΩ: ±10 V | - | Complied | Complied |
| 17. | External Clock in and Out | 6.25 GHz to 12.5 GHz | - | Complied | Complied |
| 18. | Built -In OS | Win7 or better with HDD to store signals and setups | - | Complied (Window 10 superior) Win 10 with Internal HDD | Complied (Window 10 superior) Win 10 with Internal HDD |
| 19. | Operating temp. | 0-50 degree | - | Complied | Complied |
| 20. | No. of Analog Channels | 4 | - | Complied DPO70404C with SW options, SVE and SVM | Complied DPO70404C with SW options SVE and SVM |
| 21. | Rise Time (Typical) (20% to 80%) | 68psec | - | Complied (DPO70404C) | Complied (DPO70404C) |
| 22. | Hardware Analog BW (-3dB) | 4 GHz simultaneously on all channels | - | Complied | Complied |
| 23. | Sample Rate (Real time) | 25 GS/s simultaneously on all channels | - | Complied | Complied |
| 24. | Sample Rate (Equivalent time) & Timing Resolution | 5TS/s ,200fs | - | Complied | Complied |
| 25. | Record Length | 30M on each channel | - | Complied (31.25M) | Complied (31.25M) |
| 26. | Vertical Resolution | 8 Bits | - | Complied | Complied |
| 27. | DC gain accuracy | ±2% (of reading) | - | Complied | Complied |

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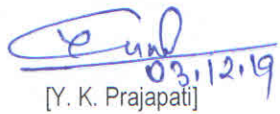
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|-----|--|--|---|---|---|
| 28. | Time Base Range | 20ps to 1000sec per division | - | Complied | Complied |
| 29. | Fast Waveform Capture Rate to discover Glitches in pulses | >300,000 waveforms | - | Complied (310,000 waveforms) | Complied (310,000 waveforms) |
| 30. | Acquisition Mode | Fast Acq, Waveform database, Sample, Peak Detect, Averaging, Envelope, Hi Res, Roll Modes | - | Complied | Complied |
| 31. | Search and Mark Events | Search for edges, glitches, or pulses of specified width. Any events found matching the search criteria are marked and placed in the Event table. | - | Complied | Complied |
| 32. | Jitter Noise Floor | 350fs or better | - | Complied 340fs (340fs is better than 350fs) | Complied 340fs (340fs is better than 350fs) |
| 33. | Pinpoint Triggering system a) A event and delayed B event Trigger Types b) Trigger sequences c) Trigger Holdoff range | a) Edge, glitch, width, runt, timeout, transition time, logic pattern, logic state, setup/hold, window b) Main, delayed by Time, delayed by Events, Reset by Time, Reset by State, Reset by Transition. All sequences can include a separate horizontal delay after the trigger event to position the acquisition window in time c) 250ns-12sec | - | Complied | Complied |
| 34. | Connector type | SMA for better fidelity | - | Complied | Complied |
| 35. | Measurements | Amplitude related: Amplitude, High, Low, Maximum, Minimum, Peak-to-Peak, Mean, Cycle Mean, RMS, Cycle RMS, Positive Overshoot, Negative, Overshoot Time related: Rise Time, Fall Time, Positive Width, Negative Width, Positive Duty Cycle, Negative Duty Cycle, Period, Frequency, Delay. Spectrum Related: OBW, RF IQ vs. Time, Amplitude vs. Time, Power vs. Time, Frequency vs. Time, Phase vs. Time, CCDF, Peak-to- Average Ratio, Amplitude, Frequency, and Phase Modulation Analysis | - | | |

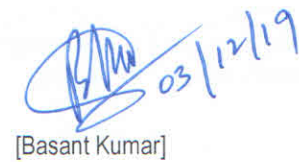

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|---|---|--|---|--|--|
| 36. | Supported Modulation schemes | BPSK, QPSK, DQPSK, 8PSK, GMSK, FSK2/4/8/16, 6/32/64/128/256QAM, 16/32 APSK | - | Complied | Complied |
| 37. | Accessories | Power Cord, Keyboard, Mouse, user manual | - | Complied (But required standard and recommended accessories with software) | Complied (But required standard and recommended accessories with software) |
| Tunable Laser Source | | | | | |
| 1. | Wavelength Support | 1527.60 to 1567.54 nm (C Band); 1567.54 to 1609.62 nm (L Band) | - | Complied | Complied |
| 2. | Wavelength Resolution No of ports | 0.01pm Two | | | |
| 3. | Settable Grid | Down to 10GHz | | | |
| 4. | Integrated wavelength locker to support | 50 GHz ITU wavelength grid For Custom Wavelength | | | |
| 5. | Off Grid Tuning | +6 dBm to +15.5 dBm | | | |
| 6. | Power Output | RoHS compliant class | | | |
| 7. | Compliant | 1M laser | | | |
| 8. | Power Resolution | 0.02 dB or better <100KHz | | | |
| 9. | Line Width | -145dB/Hz@+13dBm | | | |
| 10. | RIN | To Control the equipment through ethernet | | | |
| 11. | Software Support | | | | |
| STATUS (Responsive/Non-Responsive) | | | Not Quoted <i>(instead protest bid submitted)</i> | Responsive | Responsive |

Recommendation: On the basis of the above Comparative Statement, the Committee observed that M/s Agmtel India Pvt. Ltd., Delhi has protested that the specifications of both the above items are too specific & restrictive and alleged that the specifications of the above items are based on specific OEM products.


[Y. K. Prajapati]


[Basant Kumar]



मोतीलाल नेहरू राष्ट्रीय प्रौद्योगिकी संस्थान इलाहाबाद,
प्रयागराज-211004 (भारत)
जनपदीय अभियांत्रिकी विभाग
Motilal Nehru National Institute of Technology Allahabad
Prayagraj-211004 (India)
Electronics & Communication Engineering Department

TECHNO-COMMERCIAL COMPLIANCE STATEMENT

Tender reference No.: Open Tender # OT-02/432/MNNIT/ECED/Lab Equipments/2019-20 dated 26.07.2019

Description: Procurement of Lab Equipments at MNNIT Allahabad

Date of Technical Bid Opening: 21.08.2019 at 1530 Hrs.

Venue: Room No. 203 (Conference Hall, Purchase office)

| Eligibility Criteria under ITB (Page # 7/39 of NIT) | Title/Requirement | [1/3] | | [3/3] | |
|---|---|---|--------------------------|--|-----------------------|
| | | M/s Convergent Technologies India Pvt. Ltd., Bangalore | | M/s Peridot Technologies Secunderabad | |
| Para 12 (i) | The Bidder must be a legally valid entity i.e. a Proprietary/Partnership Firm/Limited Company/Society Legally constituted or registered under the relevant act | Complied (Pg. no. 67) (Registration # BAS/AKLPS 2599F ST002) | | Complied (Pg. no. 107) (Registration # 1309/1997) | |
| Para 12 (ii) | Bidder must have an annual average turnover of Rs. 202.50 lakhs during the past three financial years i.e. 2016-17, 2017-18 and 2018-19. | FY 2016-17 | 2295.46 lakhs (pg. # 68) | FY 2016-17 | 844 lakhs (pg. # 97) |
| | | FY 2017-18 | 1546.74 lakhs (pg. # 68) | FY 2017-18 | 690 lakhs (pg. # 102) |
| | | FY 2018-19 | Not given | FY 2018-19 | Not given |
| Para 12 (iii) | Must have supplied the same equipments with same set of accessories to reputed Indian organizations especially NITS/ITs/IITs/Central Universities/ISERs/CSIR/Labs etc. during the last three financial years i.e. 2016-17, 2017-18 and 2018-19. | Complied (Pg. no. 88 to 92) | | Complied (Pg. no. 83 to 85) | |
| Para 12 (iv) | Duly filled in format 'A' to 'K'. | | | | |
| | Format – A : Check List for Eligibility Criteria | Complied (Pg. no. 5-06) | | Complied (Pg. no. 76-77) | |
| | Format – B : Bid Proposal Sheet | Complied (Pg. no. 83) | | Complied (Pg. no. 77-78) | |
| | Format – C : Bidder's Statement | Complied (Pg. no. 84) | | Complied (Pg. no. 78-79) | |
| | Format – D : Capability Statement Form | Complied (Pg. no. 85) | | Complied (Pg. no. 80) | |
| | Format – E : Bill Of Material (BOM) | Complied (Pg. no. 92) | | Complied (Pg. no. 81) | |
| | Format – F : Deviation Statement | Complied (Pg. no. 93) | | Complied (Pg. no. 81) | |
| | Format – G : Manufacturers' Authorization Form (MAF) | Complied (Pg. no. 93) | | Complied (Pg. no. 90) | |
| | Format – H : Price Reasonability Certificate | Complied (Pg. no. 94) | | Complied (Pg. no. 83) | |
| | Format – I : Bid Security (BS)/Earnest Money Deposit (EMD) Form | Complied (Pg. no. 7-8) | | Complied (Pg. no. 77) | |
| | Format – J : Performance Security Form | Complied (Pg. no. 8-9) | | Complied (Pg. no. 78) | |
| | Format – K : Affidavit Regarding Blacklisting/ Non-Blacklisting Firm | Complied (Pg. no. 94-95) | | Complied (Pg. no. 82) | |
| SCC under GCC (Page # 16/39 of NIT) | Payment for Equipments and Services offered from India: Payment for Equipments and Services supplied from within India shall normally be made in Indian Rupees, as follows: (i) On shipment: Ninety (90) percent of the Contract Price shall be paid on receipt of the Equipments and upon submission of the documents specified in GCC Clause 16(i). (ii) On Acceptance: The remaining ten(10) percent of the Contract value shall be paid to the Supplier within thirty (30) days after the date of the acceptance certificate issued by the Purchaser subject to submission of performance security, if any. | Complied (Pg. # 63 to 65) | | Complied (Pg. no. 86) | |
| OVERALL STATUS | | NON-RESPONSIVE | | NON-RESPONSIVE | |

RECOMMENDATIONS:

From the perusal of the Manufacturer Authorization Format (MAF) submitted by both the above bidders, it is observed that M/s Peridot Technologies, Secunderabad has only been authorized by M/s Techtronix to submit the supporting bid of M/s Convergent Technologies India Pvt. Ltd., Bangalore

On the basis of above, the committee found none of the bidder as RESPONSIVE for procurement of Programmable Pattern Generator & Tunable Laser Source. Therefore, the Committee recommends that the aforesaid bid may be declared as CANCELLED & CLOSED.

[Y. K. Prajapati]
03/12/19

[Basant Kumar]
03/12/19

[Satyajeet Kumar]
21/12/19

[Dean (R&C)]
3-12-19

Dy. Registrar
(Accounts)
3-12-19

Asstt. Registrar
(Purchase)
03/12/19