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## CORRIGENDUM

NIT NO: IITI(MM)/EE/1/1A/436/VS/2022-23

February 21,2023

With reference to the **NIT NO: IITI(MM)/EE/1/1A/436/VS/2022-23, Dated-18/02/2023** & Bid Number: **GEM/2023/B/3110818** for Supply and Installation of Tunable Light Source the Additional Technical Specifications are as Below:

### Additional Technical Specifications of Tunable Light source

The Tunable Light Source (TLS) are pre-aligned, pre-assembled illumination systems capable of outputting monochromatic light from 200nm. Complete plug and play system including Software. TLS is composed of light source and Monochromator.

#### Source

**Spectral range:** 200 – 2000 nm

**Output Light Ripple:** 1%

**Type:** UV Xenon

**Power:** 150 W

**Output Beam Dia:** 43 mm

**Reflectors:** It must include spherical reflectors to increase the light output power by 60%

**Lamp Housing:** Must have precise external lamp adjusters.

**Current ripple for lamp supply:** < 0.05% (@ 8.5 A)

#### Monochromator

**Focal length:** 200 mm, It must have one Side entrance and two Exit Slit with 2mm, 4mm, 8mm aperture film, The entrance & Exit slits should be micrometer driven.

**Mirror:** coated by UV film

**Gratings:** Two gratings 1) 1200 g/mm, 300nm blaze wavelength; 2) 600 g/mm, 500nm blaze wavelength

**Bandwidth of output light:** 1) 0.15-10 nm by using first grating, 2) 0.3-23 nm by using second grating

**Wavelength Accuracy:**  $\pm 0.2$ nm @1200 g/mm Grating.

**Wavelength repeatability:** 0.1 nm @1200 g/mm grating.

**The output intensity at 1200g/mm grating with 3mm slit width should be:**

1. >3.5uw @200nm

2. >10uw @225nm
3. >50uw @255nm
4. >200uw @305nm

**Filter Wheel:** Automatic Six gears motorized filter wheel for removing unwanted wavelengths.

**Additional points:**

1. The source and monochromator should be integrated in a breadboard.
2. There should be a shield tube to for user eye protection.
3. There should be a box which can be used to install optical chopper.

**Collimation Adapter**

1. Should have 90 degrees output.
2. Divergence angle must be < 0.3 degrees.
3. Must have provision for variable beam size ranging between 3 mm – 25 mm beam diameter.

**Function Generator**

**(Integrated with the Tunable light source for applying various waveforms to characterize DUT, meeting the following detailed specifications)**

1. **Channel:** Dual
2. **Sample Rate:** 250 MS/s – 2 GS/s
3. **Frequency:** 25 MHz or 60 MHz sine waveforms, 12.5 MHz or 30 MHz square waveforms
4. **Range:** 1  $\mu$ Hz to 25 MHz Sine wave, 1  $\mu$ Hz to 12.5 MHz Square wave, : 1  $\mu$ Hz to 1 MHz Ramp wave, 1  $\mu$ Hz to 12.5 MHz Pulsewave
5. **Amplitude flatness (1 Vp-p), typical:**  $\pm 0.4$  dB
6.  **$\geq 10$  MHz and  $\leq 25$  MHz:**  $\pm 0.7$  dB
7. **Harmonic distortion (1 Vp-p)  $\leq 10$  MHz:** < -50 dBc and  **$> 10$  MHz:** < -50 dBc
8. **Total harmonic distortion:** < 0.2% (10 Hz to 20 kHz, 1 Vp-p)
9. **Spurious (1 Vp-p), typical:** < -45 dBc
10. **Phase noise, typical:** 1 MHz: < -110 dBc/Hz at 10 kHz offset, 1 Vp-p
11. **Residual clock noise, typical:** -57 dBm

This will be treated as a part of the tender/NIT Document and the Other terms and conditions are remains the same.

  
Assistant Registrar (MMS)

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