APMP project Covid-2021-02

Establish and validate national capabilities to support the growth in use of thermal imagers for public thermal screening

- 15 economies, two work-packages
  WP1: capacity-building (NMIA + NMC-ASTAR)
  WP2: comparison (NMC-ASTAR + NMIA)

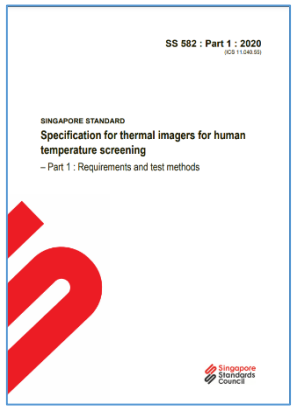
Work packages

WP 1: Training and capability building	
1	Purchase low-cost imagers for training
2	Realize workshop action-packs
3	Tutorial on metrology aspects of SS 582, ISO/IEC 80601-2-59, ASTM E1213-14
4	*Individual hands-on on realising/improving/validating facilities*
5	Workshop on using existing radiation-thermometry facilities to perform ISO/IEC 80601-2-59, SS 582 testing
6	*Individual hands-on on realising/improving/validating facilities*
7	Follow-up facility-problem-solving workshop through walk-in-lab zoom sessions

Work packages…(continued)

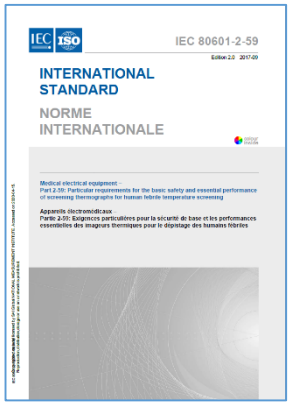
WP 2: Comparison and follow up problem solving	
1	Purchase and characterization of two imagers
2	Pilot study: circulate “compliant” and “non-compliant” imagers to each participant and compare ISO/IEC 80601-2-59, SS 582 test reports
3	Discussion of results

WP1: Metrology essentials from SS 582 and ISO/IEC 80601-2-59



SS 582 2020

1. Drift between self-corrections ≤ 0.3 °C
2. Minimum Detectable Temperature Difference (MDTD) ≤ 0.4 °C
3. Non-Uniformity ≤ 0.3 °C
4. Distance effect ≤ 0.3 °C
5. Calibration of threshold temperature
6. Threshold temperature stability ≤ 0.3 °C



ISO/IEC 80601-2-59-2017

1. Calibration of threshold temperature, uncertainty ≤ 0.3 °C
2. Drift and stability < 0.1 °C
3. Minimum Resolvable Temperature Difference (MRTD) ≤ 0.1 °C
4. Non-Uniformity ≤ 0.2 °C
5. Spatial resolution < 1 mm
6. Threshold temperature adjustable with 0.1 °C

Work shop in WP1 - Action pack

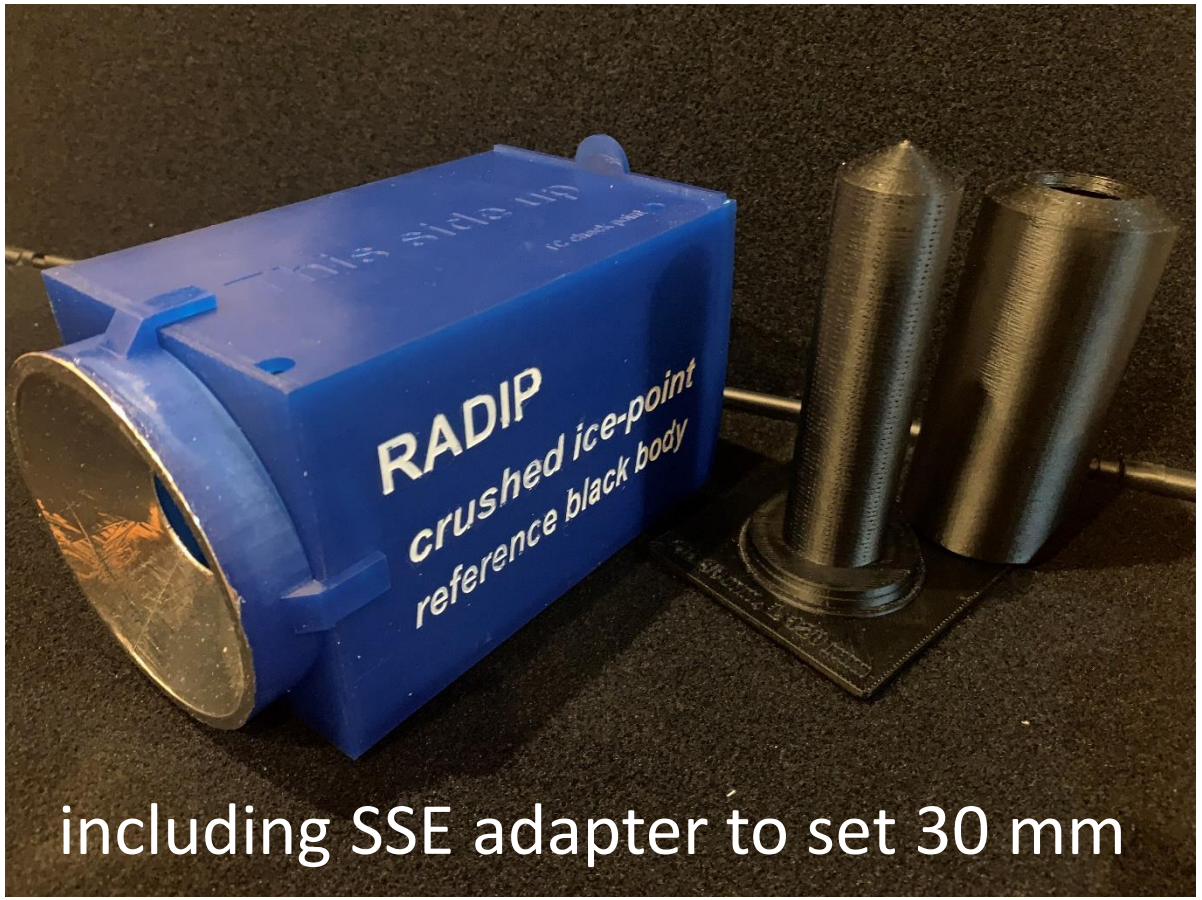
Optimal Remote Knowledge Exchange

- Two-step workshop
- Hands on practise with common instrument
- Supported with 3D printed elements

3D printed elements:

- Shared design using freeware software
- Optimise through shared experience and design
- Reprinted optimized along exchange of experience and discussions

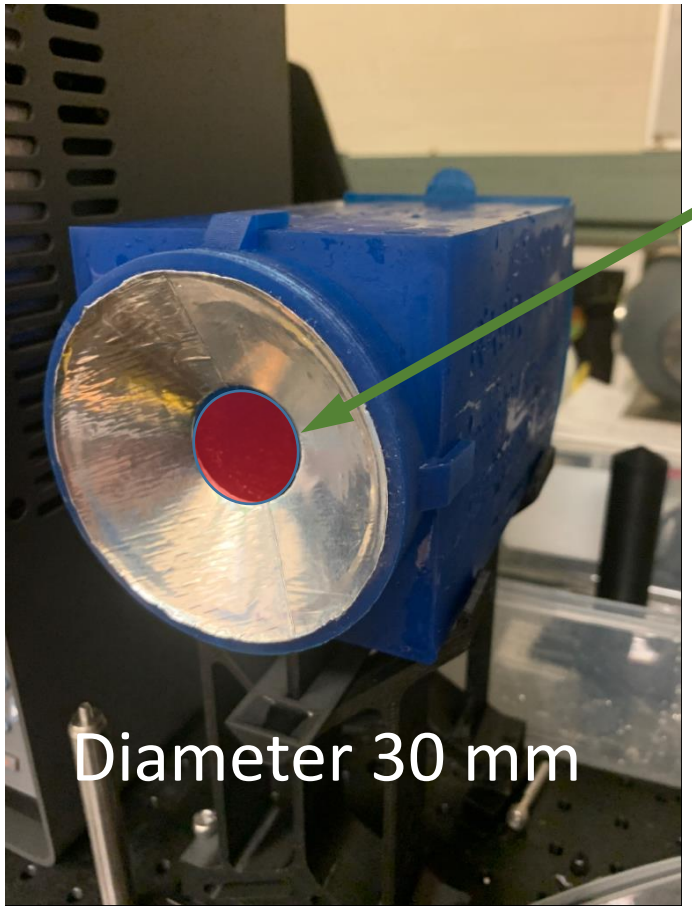
Work shop - Action pack



including SSE adapter to set 30 mm

Action packs send April 2022

Work shop - Action pack



Reference ice point with well-defined diameter

Controlled increase in diameter to determine dominant uncertainty.