

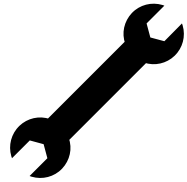
SIM MWG experience on the JCRB review of CMCs

Thiago Menegotto

Researcher at Inmetro

Chair of MWG2 for PR

Tools for reviewing CMCs



- CIPM MRA-G-13;
- KCDB Getting Started;
- SIM-D-05;
- CCs guidance documents.



SIM REFERENCE DOCUMENT Nº 05
SIM Procedure for Review of Calibration and Measurement Capabilities
Submitted on the KCDB 2.0 Platform of the CIPM MRA

Calibration and measurement capabilities in the context of the CIPM MRA

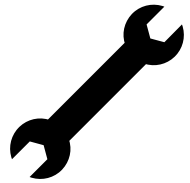
Guidelines for their review, acceptance and maintenance

CIPM MRA-G-13

SIM-D-05 3.5



Tools for reviewing CMCs



- CIPM MRA-G-13;
- KCDB Getting Started;
- SIM-D-05;
- **CCs guidance documents.**

These are the documents needed for reviewing CMCs in the field of PR.

Guidance documents on the CIPM MRA

[CCPR] CCPR-G2 Guidelines for CCPR key comparison report preparation

[CCPR] CCPR-G8 Guidelines for the evaluation of CMC claims in light of comparison results

[CCPR] CCPR-G6 Guidelines for RMO key comparisons in PR

[CCPR] CCPR-G1 Guidelines for membership of CCPR-WG-KC

[CCPR] KCDB 2.0 indications for CMC data migration in PR

[CCPR] PR - Classification of services in Photometry and Radiometry

[CCPR] CCPR-G7 Guidelines for RMO PR Supplementary Comparisons

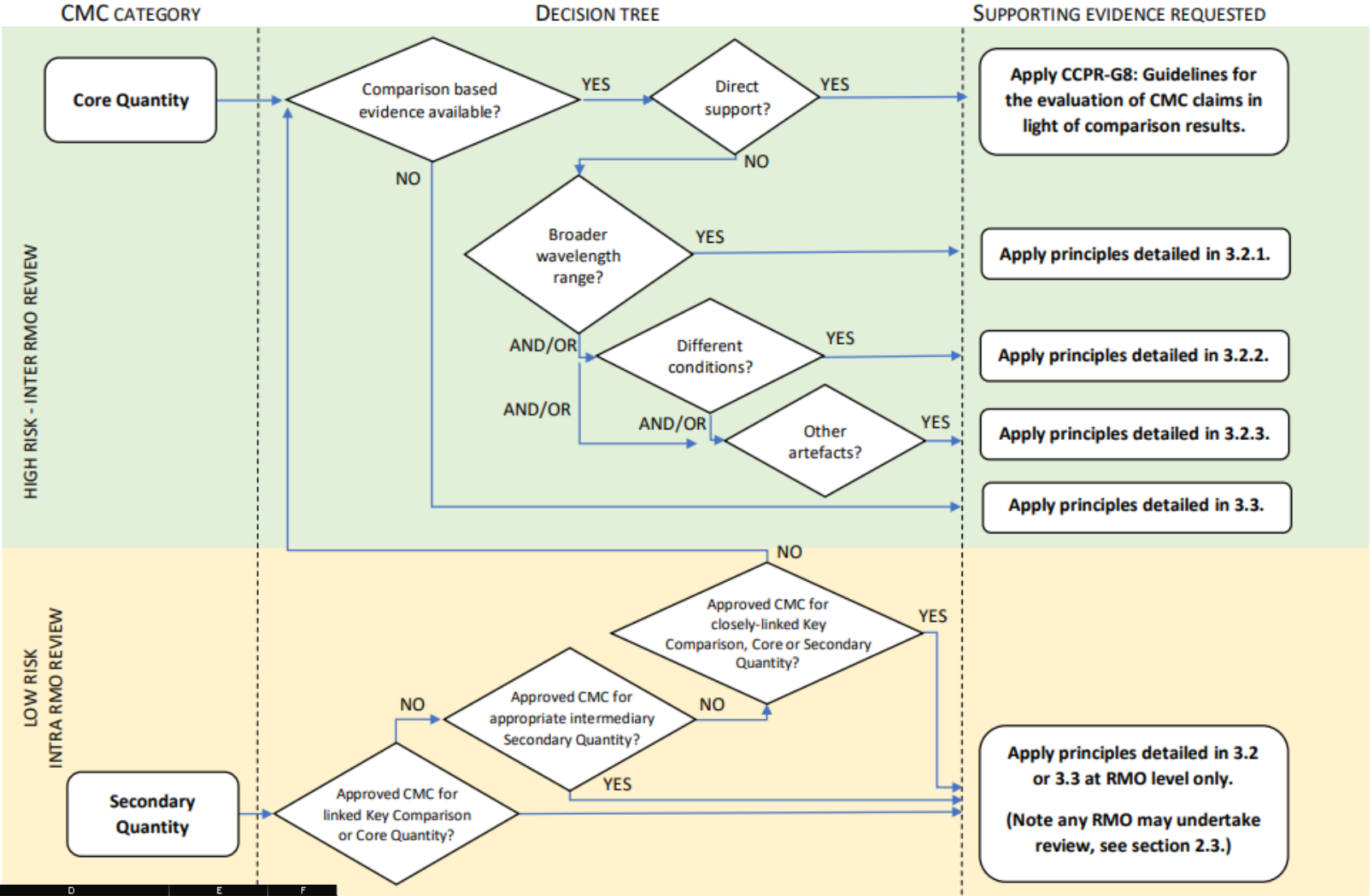
[CCPR] CCPR-G5 Guidelines for CCPR and RMO bilateral key comparisons

[CCPR] CCPR-G4 Guidelines for preparing CCPR key comparisons

[CCPR] Supporting evidence for CMCs in PR

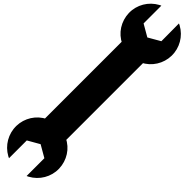
[CCPR] CCPR-G9 Rules for review of CMC claims and requirements for supporting evidence

Decision tree for core and secondary quantities from CCPR-G9.



| | A | B | C | D | E | F |
|---|------------------|---------------|------------------------|--|----------------|-----------|
| 1 | | | | | | |
| 2 | | | | | | |
| | Service category | Quantity | Instrument or artifact | Parameters | Classification | Linked to |
| 1 | 1.3.1 | Luminous flux | Tungsten lamp | Correlated color Temperature (CCT) Geometric measurement conditions (partial or full), Peak wavelength or | Key | K4 |
| 2 | 1.3.2 | Luminous flux | LED | | Secondary | 1.3.1 |

Tools for reviewing CMCs



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- KCDB Getting Started;
- SIM-D-05;
- **CCs guidance documents.**



Writers

TC/WG chairs

Reviewers

JCRB Review of CMCs

De: new_kcdb_message@bipm.org <new_kcdb_message@bipm.org>

Enviada em: Sunday, November 7, 2021 6:00 AM

Para: Thiago Menegotto <tmenegotto@inmetro.gov.br>

Assunto: KCDB / Daily notification on KCDB

Please pay attention the following time limited actions on CMCs as listed below:

2021-11-07 You are invited for **JCRB review** on CMC APMP-PR-TH-00000KB5-1 (Photometry).
2021-11-07 You are invited for **JCRB review** on CMC APMP-PR-AU-0000054J-2 (Photometry).
2021-11-07 You are invited for **JCRB review** on CMC APMP-PR-AU-0000054K-2 (Photometry).
2021-11-07 You are invited for **JCRB review** on CMC APMP-PR-AU-0000054L-2 (Photometry).
2021-11-07 You are invited for **JCRB review** on CMC APMP-PR-JP-000005T8-2 (Properties of detectors and sources).
2021-11-07 You are invited for **JCRB review** on CMC APMP-PR-JP-000005SH-2 (Properties of detectors and sources).
2021-11-07 You are invited for **JCRB review** on CMC APMP-PR-JP-000005SI-2 (Properties of detectors and sources).
2021-11-07 You are invited for **JCRB review** on CMC APMP-PR-JP-000005T1-2 (Photometry).
2021-11-07 You are invited for **JCRB review** on CMC APMP-PR-JP-000005T2-2 (Photometry).
2021-11-07 You are invited for **JCRB review** on CMC APMP-PR-JP-000005T3-2 (Photometry).
2021-11-07 You are invited for **JCRB review** on CMC APMP-PR-JP-000005T4-2 (Properties of detectors and sources).
2021-11-07 You are invited for **JCRB review** on CMC APMP-PR-JP-000005T5-2 (Properties of detectors and sources).

Checking if claims need JCRB review

Examples of clear description of modification:

1)

COMMENT (Technical)

" This is an update to a previous CMC entry

Previous comment: None

New comment: Uncertainties increase for power levels lower than 0.1 μ W.

2)

Proposed CMC change for 1.2.1 Illuminance responsivity

Current CMC:

5.65 (b) Illuminance Meters

| Range | Minimum uncertainty |
|---------------------|---------------------|
| 0.005 lux to 10 lux | 3 % |
| 10 lux to 3000 lux | 0.8 % |

The proposal is to change the upper limit in range from 3000 lux to 30000 lux.

Linearity of photodiodes

- High-accuracy measurement of linearity of optical detectors based on flux

Checking if claims need review

Example of misplaced poor description:

References

Reference standard used in calibration

Silicon trap detector traceable to primary standard-cryogenic radiometer

Source of traceability




KCDB support for CMC claim

[CCPR-S3](#)

Comments for publication

Revised CMC

 I confirm that I am authorized by my Institute to submit this CMC for review, and that supporting evidence of the RMO approval of the Quality System is provided.

[→ Read or add comments](#)

[→ Add document\(s\)](#)

JCRB Review of CMCs – inviting reviewers

ADD REVIEWER


ADD REVIEW DOCUMENTS

COMPARE CMCs

APPROVE

NOT APPROVE

SELECT ALL



➔ MWG2 members

Show entries

<

1

>

| <input type="checkbox"/> CMC STATE | CMC IDENTIFIER ▲ | INDIVIDUAL SERVICE CODE ▼ | BRANCH ▼ | SERVICE CODE ▼ | QUANTITY ▼ | INSTRUMENT ▼ | RMO ▼ | COU |
|------------------------------------|--|---------------------------|-------------------------------------|-------------------------|-------------------------------|---------------------------------------|---------|------|
| <input type="checkbox"/> N | COOMET-PR-RU-00000N9L-1 | VNIIOFI | Fibre optics | Fibre optics | polarization mode dispersion | Optical fibre | COOMET | Russ |
| <input type="checkbox"/> N | COOMET-PR-RU-00000NTK-1 | VNIIOFI | Fibre optics | Fibre optics | polarization mode dispersion | Polarization mode dispersion analyzer | COOMET | Russ |
| <input type="checkbox"/> N | EURAMET-PR-CZ-00000NVY-1 | | Properties of detectors and sources | Properties of detectors | Responsivity, spectral, power | Broad band detector | EURAMET | Czec |
| <input type="checkbox"/> N | EURAMET-PR-CZ-00000NVZ-1 | | Properties of detectors and sources | Properties of detectors | Responsivity, spectral, power | Broad band detector | EURAMET | Czec |

JCRB Review of CMCs – inviting reviewers



new_kcdb_message@bipm.org

Para Thiago Menegotto

Acompanhar. Data de conclusão: Monday, March 14, 2022.

Please pay attention the following time limited actions **on** CMCs as listed below:

2022-02-23 You are invited for **JCRB review** **on** CMC EURAMET-PR-CZ-00000N6Z-1 (Properties of detectors and sources).

2022-02-23 You are invited for **JCRB review** **on** CMC EURAMET-PR-CZ-00000N72-1 (Properties of detectors and sources).

2022-02-23 You have received a CMC for **JCRB review** - 3 weeks remaining to JCRB review limit for CMC APMP-PR-TW-00000AUE-5 (Photometry)

Please pay attention the following time limited actions **on** CMCs as listed below:

2022-03-21 You are invited for **JCRB review** **on** CMC EURAMET-PR-CZ-00000NVY-1 (Properties of detectors and sources).

2022-03-21 You are invited for **JCRB review** **on** CMC EURAMET-PR-CZ-00000NVZ-1 (Properties of detectors and sources).

3.3. Current list of SIM CMC reviewers/writers;

| SC | Branch | NMI Expert |
|----|--|---|
| 1 | Photometry | CENAM – Carlos Matamoros INTI – Alberto Zinzallari, Juan Babaro, Valeria Jesiotr NIST – Cameron Miller |
| 2 | Properties of Detectors | CENAM – Carlos Matamoros INMETRO – Thiago Menegotto NIST – Cameron Miller , John Lehman |
| 3 | Spectral Emission Properties of Sources | CENAM – Carlos Matamoros INMETRO – Thiago Ferreira INTI – Alberto Zinzallari, Juan Babaro, Valeria Jesiotr NIST – Maria Nadal |
| 4 | Spectral Properties of Materials | CENAM – Carlos Matamoros INM – Juliana Serna Saiz (Spectral regular transmittance) INMETRO – Ana Alvarenga , Willian Sousa INTI – Valeria Jesiotr LATU – Andrea Sica (Spectral Regular Transmittance) NIST – Maria Nadal |
| 5 | Spectrally-integrated Measurements for Sources and Detectors | CENAM – Carlos Matamoros NIST – Cameron Miller , Howard Yoon |
| 6 | Colour and other Spectrally-Integrated Measurements of Materials | CENAM – Carlos Matamoros NIST – Maria Nadal |
| 7 | Fibre Optics | CENAM – Carlos Matamoros INMETRO – Thiago Ferreira NIST – John Lehman, Tasshi Dennis |

¹⁰
In **red**, people not yet registered.

JCRB Review of CMCs – claim returned to TC chair

KCDB / Daily notification on KCDB



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Para Thiago Menegotto

Please pay attention to the past day actions on CMCs within the JCRB listed below:

2022-01-27 Reviewed CMC COOMET-PR-RU-00000N95-1 (Fibre optics) was returned to TC Chair.
2022-01-27 Reviewed CMC COOMET-PR-RU-00000N9K-1 (Fibre optics) was returned to TC Chair.
2022-01-27 Reviewed CMC COOMET-PR-RU-00000N9J-1 (Fibre optics) was returned to TC Chair.

<https://www.bipm.org/kcdb/>

Reviewer analysis returned to “TC Chair” -
For the TC Chair, it is time to check the reviewer comments and see if there is any other (usually editorial) issue with the claim.

Example:

| J5 | | | | | |
|---------|------------------------------|----------------|-------------|----------------------|------|
| Power | | | | | |
| A | B | C | U | V | |
| Type | KCDB internal CMC identifier | Metrology area | Parameter 3 | Value of Parameter 3 | Par. |
| PHYSICS | EURAMET-PR-CZ-00000N6Z-1 | PR | Power level | < 30 mW | |
| PHYSICS | EURAMET-PR-CZ-00000N70-1 | PR | Power level | < 30 mW | |
| PHYSICS | EURAMET-PR-CZ-00000N72-1 | PR | Power level | < 30 mW | |
| PHYSICS | EURAMET-PR-CZ-00000NW0-1 | PR | Power | < 30 mW | |

→ [Read or add comments](#)

→ [Add document\(s\)](#)

APPROVE

RETURN FOR REVISION

QUIT

JCRB Review of CMCs – voting on revised CMCs

KCDB / Daily notification on KCDB



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Para Thiago Menegotto

Please pay attention the following time limited actions on CMCs as listed below:

2022-03-28 **CMC available for vote** - 3 weeks remaining to vote on CMC APMP-PR-KR-000009CO-2 (Fibre optics).
2022-03-28 **CMC available for vote** - 3 weeks remaining to vote on CMC APMP-PR-KR-000009DC-3 (Fibre optics).
2022-03-28 **CMC available for vote** - 3 weeks remaining to vote on CMC APMP-PR-KR-000009DD-2 (Fibre optics).
2022-03-28 **CMC available for vote** - 3 weeks remaining to vote on CMC APMP-PR-JP-000005SV-2 (Fibre optics).
2022-03-28 **CMC available for vote** - 3 weeks remaining to vote on CMC APMP-PR-JP-000005SW-2 (Fibre optics).
2022-03-28 **CMC available for vote** - 3 weeks remaining to vote on CMC APMP-PR-JP-000005SX-2 (Fibre optics).
2022-03-28 **CMC available for vote** - 3 weeks remaining to vote on CMC APMP-PR-JP-000005SU-2 (Fibre optics).
2022-03-28 **CMC available for vote** - 3 weeks remaining to vote on CMC APMP-PR-JP-00000NBT-1 (Properties of detectors and sources).
2022-03-28 **CMC available for vote** - 3 weeks remaining to vote on CMC APMP-PR-JP-00000NBV-1 (Properties of detectors and sources).

Usually the TC/WG chair can decide if the revised CMC is ok.

Concluding remarks

- The whole process became more dynamic with KCDB 2.0 platform;
- TC/WG chairs should provide support to the parties (writers specially);
- We should be ready to learn and adapt.