

## Testing laboratory technical assessment checklist

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| <b>Laboratory name</b>   |  |
| <b>Laboratory contact</b>  |  |
| <b>Laboratory location</b>   |  |
| <b>Accreditation body</b>  |  |
| <b>Date of assessment</b>  |  |
| <b>Completed by</b><br>(Assessor name(s))  |  |
| <b>Scope of accreditation</b><br>(Indicate standards covered by assessment: <i>e.g.</i> <i>RSS-GEN, RSS-247, RSS-102 (SAR), etc.</i> ) |  |
| <b>Type of assessment</b>  |  |

|   |   |     |  |  |
|---|---|-----|--|--|
| <b>I. SCOPE OF ASSESSMENT</b> ( <i>The laboratory shall possess or demonstrate access to appropriate ISED standards, and measurement methods, consistent with their scope of accreditation. Has the test laboratory been assessed and found to be capable and competent to perform testing to the standards listed below?</i> ) |   |     |  |  |
| Y   | N | N/A | 1. Have all the applicable RSS and BETS standards for the scope of interest been assessed?   |  |
| Y   | N | N/A | 2. ANSI C63.4-2014, American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz.   |  |
| Y   | N | N/A | 3. ANSI C63.10-2013, American National Standard for Testing Unlicensed Wireless Devices.   |  |
| Y   | N | N/A | 4. ANSI C63.26-2015, Standard for Compliance Testing of Transmitters Used in Licensed Radio Services.  |  |
| Y   | N | N/A | 5. ANSI C63.17-2013, American National Standard Methods of Measurement of the Electromagnetic and Operational Compatibility of Unlicensed Personal Communications Services (UPCS) Devices. |  |
| Y   | N | N/A | 6. Has RSS-102: <i>Radio Frequency (RF) Exposure Compliance of Radiocommunication Apparatus (All Frequency Bands)</i> , latest issue been assessed for the scopes of interest?             |  |

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| Y | N | N/A | 7. IEEE 1528: Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques or IEC 62209-1: Measurement procedure for the assessment of specific absorption rate of human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices - Part 1: Devices used next to the ear (frequency range of 300 MHz to 6 GHz) |  |
| Y | N | N/A | 8. IEC 62209-2 (Body): Human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices – Human models, instrumentation, and procedures – Part 2: Procedure to determine the specific absorption rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz).  |  |
| Y | N | N/A | 9. Is the testing laboratory familiar with ISED DRS Notices, Supplementary Procedures (SPRs), and accepted FCC KDB procedures and capable of testing devices subject to said notices/procedures?   |  |
| Y | N | N/A | 10. Can the testing laboratory demonstrate access to all of the accepted supplementary procedures and notices published by ISED?   |  |
| Y | N | N/A | 11. Does the testing laboratory possess or can demonstrate access to all ISED standards and any normative reference standards in their desired scope of the assessment?  |  |
| Y | N | N/A | 12. Is any measurement software used by the testing laboratory documented in the test report? Has the testing software been properly validated?  |  |
| Y | N | N/A | 13. For each type and size of equipment under test (EUT) to be measured, does each radiated emission test facility comply with the conditions and requirements of the appropriate test procedure? (i.e. is the test volume large enough to encompass the EUT?)   |  |
| Y | N | N/A | 14. Are LISN(s), filters, and isolation transformers, if used, properly installed? Is the LISN bonded to the ground reference plane?   |  |
| Y | N | N/A | 15. Does the radiated emission test site(s) meet the site validation requirements of 5.4 of ANSI C63.4-2014 for the frequency range of 30 MHz to 1 GHz?  |  |
| Y | N | N/A | 16. Does the radiated emission test site(s) meet the site voltage standing wave ratio (Svswr) site validation requirements of International Special Committee on Radio Interference (CISPR) CISPR 16-1-4:2010 for the frequency range of 1 GHz to 18 GHz?  |  |
| Y | N | N/A | 17. Was the test site validation for performing radiated emissions measurements completed in the last three years?   |  |

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| Y                         | N | N/A | 18. Does the test laboratory have all of the appropriate test equipment to cover the required frequency range per the scope of accreditation for the measurements to be performed by the testing laboratory?          |  |
| Y                         | N | N/A | 19. Does the test laboratory have an up-to-date description of measurement facilities?  |  |
| <b>II. EMISSION TESTS</b> |   |     |   |  |
| Y                         | N | N/A | 20. Are the AC power-line conducted emission tests performed in accordance with the applicable parts of the applicable RSS standards?   |  |
| Y                         | N | N/A | 21. Are the guidelines in ANSI C63.4 followed for large EUTs, including <i>in-situ</i> measurements, if appropriate?  |  |
| Y                         | N | N/A | 22. Is the conducted emission test setup in accordance with ANSI C63.4 with the required separation between the EUT and any conducting surfaces maintained and is the Vertical coupling plane the correct dimensions? |  |
| Y                         | N | N/A | 23. Is the EUT connected to one LISN and all the peripherals connected to one or more LISNs or a power strip to one LISN; i.e. per ANSI C63.4-2014?   |  |
| Y                         | N | N/A | 24. Is the testing laboratory using any adaptors (i.e. power bars) on the input to the LISN and has it been properly characterized and included in any test results?  |  |
| Y                         | N | N/A | 25. For each type of EUT, are measurements made over the correct frequency ranges and the correct detectors and bandwidth as required by the applicable standards?  |  |
| Y                         | N | N/A | 26. Are the radiated emission tests performed in accordance with the proper standard?   |  |
| Y                         | N | N/A | 27. Were radiated emission tests observed, and is the radiated emission test setup in accordance with proper standard?  |  |
| Y                         | N | N/A | 28. Does the radiated emission measurement represent the maximized cable configuration and worst case mode of EUT operation?  |  |
| <b>III. SAR TESTS</b>     |   |     |   |  |
| Y                         | N | N/A | 29. Does the SAR system meet the standardized requirements in the referenced standards listed in the above Scope of Assessment?   |  |
| Y                         | N | N/A | 30. Does the laboratory have the proper equipment (TSL, dipoles, VNA for dielectric measurements, etc.) to cover the entire frequency range listed in the scope of IEEE 1528, IEC 62209-1 and IEC 62209-2?            |  |
| Y                         | N | N/A | 31. Was the SAR measurement system validated in accordance with the proper standards and at the proper intervals (i.e. annually/after probe calibration/etc.) and is it being tracked?                                |  |

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| Y  | N | N/A | 32. Are the SAR measurements performed in accordance with the proper standards (including dielectric measurements/system checks/SAR evaluation, etc.)?   |  |
| <b>IV. RF EXPOSURE EVALUATION AND NERVE STIMULATION TEST</b>   |   |     |  |  |
| Y  | N | N/A | 33. Does the laboratory have the proper equipment to cover the entire frequency range listed in the scope of IEEE C95.3?   |  |
| Y  | N | N/A | 34. Are the RF exposure evaluations conducted in accordance with IEEE C95.3?   |  |
| Y  | N | N/A | 35. Does the laboratory have the proper equipment to cover the entire frequency range listed in the scope of ISED SPR-002, <a href="#"><i>Supplementary Procedure for Assessing Compliance with RSS-102 Nerve Stimulation Exposure Limits?</i></a> |  |
| Y  | N | N/A | 36. Are the NS measurements conducted in accordance with SPR-002?  |  |
| <b>V. TEST REPORTS</b> ( <i>Assessor should request to review several sample test reports for various types of products.</i> ) |   |     |  |  |
| Y  | N | N/A | 37. Have several sample test reports for various types of products been reviewed for accuracy?   |  |
| Y  | N | N/A | 38. Does each of the test reports contain all the required information based on the RSS being assessed (e.g. reporting requirements of RSS-Gen or RSS-102)?  |  |
| Y  | N | N/A | 39. Does the test report reference the standard used and specify any deviations?   |  |
| Y  | N | N/A | 40. Is the rationale for selecting and arranging the EUT clearly stated, and are the components of the EUT system clearly identified?  |  |
| Y  | N | N/A | 41. Does the test report include photographs or detailed sketches of the EUT configuration?  |  |
| Y  | N | N/A | 42. Does the measurement report include a sample calculation with all conversion and correction factors used?  |  |
| Y  | N | N/A | 43. Does the testing laboratory use external resources/subcontractors to perform testing, and if so do they have procedures in place to ensure that the external resources are properly accredited and ISED recognized?                            |  |
| Y  | N | N/A | 44. If external resources/subcontractors are used to perform testing, do the test reports clearly identify the work performed by the external resources/subcontractors and the results of the testing?   |  |
| Note: External resources/subcontractors must be  |   |     |  |  |

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|   |   |     | from an ISED recognized testing laboratory.  |  |
| <p><b>VI. PERSONNEL COMPETENCY</b> <i>(The following is a list of general or lead-in questions, which are intended to be used as a guide to assess competency of laboratory personnel. Additional specific questions should be used to determine the technical competency of the personnel performing the measurement.)</i></p> |   |     |  |  |
| <b>Radio Laboratory Personnel</b>   |   |     |  |  |
| Y   | N | N/A | 45. Are laboratory personnel able to obtain recent ISED standards and appropriate test procedures?   |  |
| Y   | N | N/A | 46. Has each laboratory personnel responsible for testing been able to demonstrate performing a measurement of an applicable device?   |  |
| Y   | N | N/A | 47. Do the test personnel know how to determine if an emission is from the EUT or is an ambient signal? Do the test personnel know how to handle an emission that is close to, or coincident with, an ambient signal?  |  |
| Y   | N | N/A | 48. Can the test personnel explain the ISED requirements for testing a product in accordance with the requirements of the standards in the desired scope and is the test personnel knowledgeable of the testing conditions prescribed in the appropriate standard for different types of products?   |  |
| Y   | N | N/A | 49. Arrange for one of the laboratory personnel, at each type of site, replicate at least three frequency points for site attenuation, and at least three test points for the Svswr. Is the test performed correctly, and is the site attenuation data or Svswr at these frequencies consistent with the previously recorded data?<br><br>Note: Select frequencies from previous data that have both low and high deviations from the NSA and Svswr. |  |
| <b>SAR Laboratory Personnel</b>   |   |     |  |  |
| Y   | N | N/A | 50. Has each laboratory personnel responsible for testing been able to demonstrate performing a SAR measurement on an applicable device?   |  |
| Y   | N | N/A | 51. Are the test personnel knowledgeable of the SAR measurement procedures and requirements in RSS-102 and referenced standards/DRS Notices/SPRs/FCC KDBs?   |  |
| Y   | N | N/A | 52. Are the test personnel knowledgeable of the SAR exemption limits and test reduction requirements in RSS-102 and referenced standards/DRS Notices/SPRs/FCC KDBs?  |  |