

Testing Laboratory Technical Assessment Checklist

MONTH XX, 2024

General information	
Laboratory name	
Laboratory location/address:	
Laboratory contact (name) :	
Laboratory contact (email address):	
Accreditation body :	
Date of assessment :	
Completed by (assessor(s) name(s))	
Signature(s) of assessor(s) : (handwritten or electronic)	
Scope of accreditation (for each site if different): (standards covered by assessment, e.g. RSS-102 , RSS-102.SAR.MEAS, RSS-Gen , RSS-247 , etc.)	
Type of assessment :	

I. Scope of assessment				
<i>The laboratory shall possess or demonstrate access to appropriate Innovation, Science and Economic Development Canada (ISED) standards and measurement methods, consistent with their scope of accreditation.</i>				
Yes	No	N/A	Question	Comments
Y	N		1. Have all applicable Radio Standards Specifications (RSS) and Broadcasting Equipment Technical Standards (BETS) for the scope(s) of interest been assessed?	
Y	N	N/A	2a. Has the testing laboratory been assessed and found to be capable and competent to perform test site validation in accordance with ANSI C63.4 and/or ANSI C63.25.1, of editions as listed here under “test site validation”.	
			Specify the standard(s) assessed, including which edition:	

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Y	N	N/A	2b. Has the testing laboratory been assessed and found to be capable and competent to perform measurements in accordance with ANSI C63.10, of edition as listed here under “licence-exempt device”.	
			Please specify ANSI C63.10 version:	
Y	N	N/A	2c. Has the testing laboratory been assessed and found to be capable and competent to perform measurements in accordance with ANSI C63.26, of edition as listed here under “licensed device”.	
			Specify ANSI C63.26 version:	
Y	N	N/A	2d. Has the testing laboratory been assessed and found to be capable and competent to perform measurements in accordance with IEC/IEEE 62209-1528, Measurement procedure for the assessment of specific absorption rate of human exposure to radio frequency fields from hand-held and body-worn wireless communication devices - Human models, instrumentation, and procedures (Frequency range of 4 MHz to 10 GHz)?	
Y	N	N/A	3. Has the latest issue of RSS-102, Radio Frequency (RF) Exposure Compliance of Radiocommunication Apparatus (All Frequency Bands) , and related documents been assessed for the scope(s) of interest?	
Y	N		4. Is the testing laboratory familiar with ISED Directorate of Regulatory Standards (DRS) Notices and accepted Federal Communications Commission (FCC) Knowledge Database (KDB) procedures, and is it capable of testing devices subject to said notices and procedures?	
Y	N		5. Does the testing laboratory possess or can it demonstrate access to the correct editions of all ISED standards and notices as well as any normative reference standards in their desired scope of assessment?	
Y	N	N/A	6. Are all measurement software packages used by the testing laboratory (such as software for controlling the turntable and antenna height and/or software for controlling the measurement receiver) documented in the test report?	
Y	N	N/A	7. Is the validated test volume large enough to encompass the Equipment Under Test (EUT)?	
Y	N	N/A	8. Are Line Impedance Stabilization Networks (LISNs), filters, and isolation transformers, if used, properly installed?	
Y	N	N/A	9. Does the radiated emission test site(s) meet the site validation requirements of ANSI C63.4, of edition as listed here , for the frequency range of 30 MHz to 1 GHz?	

			Please specify the edition of the standard used:	
Y	N	N/A	10. Does the radiated emission test site(s) meet the site validation requirements of ANSI C63.25.1, of edition as listed here , for the frequency range of 1 GHz to 18 GHz? Specify the edition of the standard used:	
Y	N	N/A	11. Was the test site validation for performing radiated emissions measurements, in all frequency bands covered by the test lab's scope of assessment where site validation requirements exist, completed in the last three years from the date of the assessment?	
Y	N		12. Does the testing 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?	

II. Emission tests				
Yes	No	N/A	Question	Comments
Y	N	N/A	13. Are the AC power-line conducted emission tests performed in accordance with the applicable parts of the applicable RSS standards?	
Y	N	N/A	14. Is the conducted emission test setup in accordance with ANSI C63.10 with respect to the required separation between the EUT and any conducting surfaces?	
Y	N	N/A	15. Is the conducted emission test setup in accordance with ANSI C63.10 with respect to the vertical coupling plane dimensions?	
Y	N	N/A	16. Is the EUT connected to one LISN and all the peripherals connected to other LISNs or to a separate LISN through a power strip (i.e. per ANSI C63.10)?	
Y	N	N/A	17. Is the testing laboratory using any adaptors (e.g. power bars) connected to the EUT port of the LISN?	
Y	N	N/A	18. For the standards assessed, has the testing laboratory demonstrated its capability of performing measurements in the appropriate frequency range, with the correct detector, and using the correct bandwidth (resolution bandwidth and video bandwidth, as applicable)?	
Y	N	N/A	19. Are the radiated emission tests performed in accordance with the proper standards?	
Y	N	N/A	20. Were some radiated emission tests observed?	

Y	N	N/A	21. Are the final radiated emission measurements representative of the maximized cable configuration and worst-case mode of EUT operation?	
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III. Measurements: Nerve stimulation (NS), specific absorption rate (SAR), incident power density (IPD) and/or absorbed power density (APD) tests

Ye s	No	N/A	Question	Comments
Y	N	N/A	22. Does the measurement system meet the standardized requirements in the referenced standards listed in the scope of accreditation? Specify the applicable RSS-102 standard(s) (RSS-102.NS.MEAS, RSS-102.SAR.MEAS, RSS-102.IPD.MEAS, RSS-102.APD.MEAS :	
Y	N	N/A	23. Does the testing laboratory have the proper equipment (tissue simulating liquid, dipoles, vector network analyzer for dielectric measurements, etc.) to conduct the assessment in accordance with the latest version of IEC/IEEE SAR-related standards as defined in 2d?	
Y	N	N/A	24. Was the measurement system validated in accordance with the proper standards or methods and at the proper intervals (annually, after probe calibration, etc.) and is it being tracked?	
Y	N	N/A	25. Are the measurements performed in accordance with the proper standards (including dielectric measurements where applicable)? Specify the applicable RSS-102 standard(s) (RSS-102.NS.MEAS, RSS-102.SAR.MEAS, RSS-102.IPD.MEAS, RSS-102.APD.MEAS :	
Y	N	N/A	26. Are the RF exposure evaluations conducted in accordance with IEEE C95.3?	

IV. Simulations : Nerve stimulation (NS), specific absorption rate (SAR), incident power density (IPD) and/or absorbed power density (APD)

Yes	N o	N/A	Question	Comments
Y	N	N/A	27. Does the simulation system meet the standardized requirements in the referenced standards listed in the scope of accreditation ? Specify the applicable RSS-102 standard(s) (RSS-102.NS.SIM, RSS-102.SAR.SIM, RSS-102.IPD.SIM, RSS-102.APD.SIM :	

Y	N	N/A	28. When simulation assessments are performed, does the software meet the normative requirements, including the validations methods and procedures, of IEC/IEEE 62704-1, Determining the peak spatial-average specific absorption rate (SAR) in the human body from wireless communications devices, 30 MHz to 6 GHz - Part 1: General requirements for using the finite difference time-domain (FDTD) method for SAR calculations or IEC/IEEE 62704-4, Determining the peak spatial-average specific absorption rate (SAR) in the human body from wireless communication devices, 30 MHz to 6 GHz - Part 4: General requirements for using the finite element method for SAR calculations for Finite-Difference Time-Domain and Finite Element Method applications, respectively?	
Y	N	N/A	29. Are the simulations performed in accordance with the proper standards (including dielectric measurements, where applicable)? Specify the applicable RSS-102 standard(s) (RSS-102.NS.SIM, RSS-102.SAR.SIM, RSS-102.IPD.SIM, RSS-102.APD.SIM :	

V. Test reports				
<i>Assessor should request to review several sample test reports for various types of products.</i>				
Yes	No	N/A	Question	Comments
Y	N		30. Have several sample test reports for various types of products been reviewed for accuracy? Please specify the number of samples:	
Y	N		31. Does each of the test reports contain all the required information based on the RSS being assessed (e.g. reporting requirements of RSS-Gen, General Requirements for Compliance of Radio Apparatus , or RSS-102)?	
Y	N		32. Does each of the test reports reference the standard used and specify any deviations?	
Y	N		33. Is the rationale for arranging the EUT clearly stated, and are the components of the EUT system clearly identified?	
Y	N		34. Does each of the test reports include photographs or detailed sketches of the EUT configuration?	
Y	N	N/A	35. Does the measurement report include a sample calculation with all conversion and correction factors used?	
Y	N	N/A	36. Does the testing laboratory use external resources/subcontractors to perform testing?	

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Y	N		37a. If external resources/subcontractors are used to perform testing, are there procedures in place to ensure that the external resources/subcontractors are properly accredited and ISED-recognized?	If you answered N or N/A to Q36, skip this question
Y	N		37b. 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?	If you answered N or N/A to Q36, skip this question

VI. Personnel competency

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.

Only fill in the set of personnel questions applicable to the lab being assessed:

- A) Radio lab
- B) RF exposure lab
- C) RF exposure simulation

A) Radio laboratory personnel

Yes	No	N/A	Question	Comments
Y	N		38. Are laboratory personnel able to obtain recent ISED standards and appropriate test procedures?	
Y	N		39. Have all laboratory personnel responsible for testing been able to demonstrate performing a measurement of an applicable device?	
Y	N	N/A	40a. Do the test personnel know how to determine if an emission is from the EUT or is an ambient signal? (Note that ambient signals can also exist inside a semi-anechoic chamber, for example from a faulty bulkhead or a noisy LED lighting fixture.)	
Y	N	N/A	40b. Do the test personnel know how to handle an emission that is close to, or coincident with, an ambient signal?	
Y	N	N/A	<i>If the test site validation is performed by the testing laboratory, arrange for one of the laboratory personnel, at each type of site, to replicate at least three frequency points for normalized site attenuation (NSA) and at least three test points for the S_{VSWR} (or $TD-S_{VSWR}$). Select frequencies from previous data that have both low and high deviations from the NSA and S_{VSWR} (or $TD-S_{VSWR}$).</i> 41a. Arrangements have been made for one of the laboratory personnel, at each type of site, to replicate at least three frequency points for NSA and at least three test points for the S_{VSWR} (or $TD-S_{VSWR}$)?	

Y	N	N/A	<p><i>This question only applies when the test site validation is not performed by the testing laboratory and an external party is hired to perform site validation.</i></p> <p>41b. Have the test site validation measurements and report been performed by a third party that is ISO-accredited?</p>	
B) NS/SAR/APD/IPD measurement personnel				
Yes	No	N/A	Question	Comments
Y	N	N/A	<p>42. Have the laboratory personnel responsible for testing been able to demonstrate performing a NS, SAR, APD and/or IPD measurement on an applicable device?</p> <p>Identify which measurements have been demonstrated:</p>	
Y	N	N/A	<p>43. Are the test personnel knowledgeable about the measurement procedures and requirements in RSS-102 and referenced standards, DRS Notices and FCC KDBs?</p>	
Y	N	N/A	<p>44. Are the test personnel knowledgeable about the NS and SAR exemption limits and test reduction requirements in RSS-102 and referenced standards, DRS Notices and FCC KDBs?</p>	
C) NS/SAR/APD/IPD simulation personnel				
Yes	No	N/A	Question	Comments
Y	N	N/A	<p>45a. Have the simulation personnel responsible for simulations been able to demonstrate performing a NS, SAR, APD and/or IPD simulations on an applicable device?</p> <p>Identify which measurements have been demonstrated:</p>	
Y	N	N/A	<p>45b. Are the simulation personnel knowledgeable about the simulation procedures and requirements in RSS-102, related documents, referenced standards, DRS Notices and FCC KDBs?</p>	

Acronyms

- ANSI American National Standards Institute
- APD Absorbed power density
- BETS Broadcasting Equipment Technical Standards
- IEC International Electrotechnical Commission
- IEEE Institute of Electrical and Electronics Engineers (IEC/IEEE)
- IPD Incident power density
- NS Nerve stimulation
- RSS Radio Standards Specification
- SAR Specific absorption rate