American Certification Body, Inc.

2016年11月期

News Letter

1. 测试实验室需要的是什么？

Question: Earlier this year when we were discussing our short-term and long-term testing plans with our long-time test lab, we were advised that we would need to find a new test lab for any testing to be done after July. Then during our search for a new test lab, they advised us that they could continue testing for us until July 2017, and perhaps beyond, but didn't provide any explanation. What could have changed?

Answer: It sounds as though your long-time test lab may currently be a "2.948-listed" facility, with hopes of obtaining accreditation, and is working within the new rules for test laboratories set out in the Report and Order issued in December 2014; the July 13, 2016 implementation deadline was extended to July 13, 2017.

Prior to the Report and Order, based on the type of device and the equipment authorization being sought, the FCC allowed testing to be done at accredited facilities, meaning they were assessed to ISO/IEC 17025 and recognized by the Office of Engineering and Technology (OET), or at facilities with qualifications acknowledged by the OET, known as 2.948-listed facilities.

The Report and Order "requires accreditation of all laboratories that test equipment subject to any of the certification procedures under Part 2 of the Commission's rules and codify a procedure through which the Commission currently recognizes new laboratory accreditation bodies", which effectively brings to an end the 2.948-listing program for unaccredited labs.

A transition period was provided and the implementation date was set for July 13, 2016. From that point forward, a test facility would no longer be able to perform testing as outlined in the Report and Order without an ISO/IEC 17025 accreditation.

However, this summer it was determined that the July 13, 2016 deadline was too soon to allow the test facilities to schedule and receive an ISO/IEC 17025 assessment, so in June 2016, the FCC announced that it would extend the time during which it will recognize 2.948-listed test facilities to July 13, 2017, so as not to disrupt the approval, sale and distribution of RF equipment in the U.S.

Per the transition period rules, if a device was tested in a 2.948-listed test laboratory, the certification application must be submitted before October 12, 2017 to be considered.

Effective October 13, 2017, the FCC sunset period ends, and data from 2.948-listed laboratories will not be accepted.

2.948-listed test facilities/laboratories:

- May continue to submit test data in support of certification applications through October 12, 2017.
- Will remain 2.948-listed until the expiration of their listed date, or through July 13, 2017, whichever comes first.
- May request that the FCC extend their expiration date through July 13, 2017, if their expiration date precedes that date.

If devices are tested at an accredited ISO/IEC 17025 laboratory, the Report and Order changes do not impact your products or processes.

2. 认可实验室和2.948-listed的实验室的区别是什么？

Question: How can I determine if the test lab we utilize is accredited to ISO/IEC 17025, or if it is 2.948-listed?

Answer: You can determine the current status of your test laboratory as it relates to this issue by going to https://apps.fcc.gov/oetcf/eas/reports/TestFirmSearch.cfm, Equipment Authorization System Test Firm Search, which permits you to find a test laboratory which is authorized by the FCC to perform compliance testing. You may either follow the prompts on the screen, or you may download files of 2.948-listed and accredited test firms.

Please note that a test facility currently 2.948-listed may be in the process of obtaining ISO/IEC 17025 accreditation, or scheduling an assessment, neither of which are reflected on this site, so we recommend you contact the facility directly to confirm their status.

The accreditation and recognition of a test site applies to a specific test facility. All testing, including testing by external resources and subcontracted testing, must be performed at an accredited test facility that is recognized by the FCC.

If your device is tested at more than one site, the test report should specify what tests were performed at which locations.

After October 12, 2017, if testing is performed at a non-accredited site, the test results and test report will not be accepted, even if an FCC accredited testing laboratory reviewed and deemed the results acceptable.

3. 有关模块认证的的问题。

Question : We have a module that we would like to certify and have the following questions:

- To qualify as a stand-alone module, must the shield enclose the entire module or just the RF circuitry?
- If the module can meet the technical standards in a stand-alone configuration without shielding, is this acceptable to qualify the module as a stand-alone module?

Answer : To qualify as a stand-alone module, the RF circuitry must be shielded even if the module meets the limits in a standalone configuration without any shielding. The shielding design must fully enfold the RF circuitry - that includes shielding the top, all sides, and the bottom. The bottom may be a shielding ground plane, and must be expressly designed as an effective shield made of materials such as sheet metal, metal mesh, or a metallic ink coated material.

Any holes in the shield must be significantly smaller than the wavelength of the radiation that is being blocked, to effectively approximate an unbroken conducting surface. The shielding of the RF section is to help prevent RF coupling when installed in a host. It is therefore not sufficient for the module to meet only the stand-alone configuration requirement.

Other circuitry such as flash memory, a temperature sensor, input voltage regulators, input data buffering circuits, etc., may not be RF, and therefore need not be shielded. However, the grantee must use good engineering judgment to reduce any possible RF coupling that might affect a host.

4. CE部分法规的更新。

- ETSI EN 301 908-10 V4.2.2 - (November 2016) - Electromagnetic compatibility and Radio spectrum Matters (ERM); Base Stations (BS), Repeaters and User Equipment (UE) for IMT-2000 Third-Generation cellular networks; Part 10: Harmonised Standard for IMT-2000, FDMA/TDMA (DECT) covering the essential requirements of article 3.2 of the Directive 2014/53/EU
- ETSI EN 302 208 V3.1.1 - (November 2016) - Radio Frequency Identification Equipment operating in the band 865 MHz to 868 MHz with power levels up to 2 W and in the band 915 MHz to 921 MHz with power levels up to 4 W; Harmonised Standard covering the essential requirements of article 3.2 of the Directive 2014/53/EU
- ETSI EN 301 489-5 V2.1.1 - (November 2016) - ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 5: Specific conditions for Private land Mobile Radio (PMR) and ancillary equipment (speech and non-speech) and Terrestrial Trunked Radio (TETRA) Harmonised Standard covering the essential requirements of article 3.1(b) of the Directive 2014/53/EU
- ETSI EN 301 489-6 V2.1.1 - (November 2016) - ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 6: Specific conditions for Digital Enhanced Cordless Telecommunications (DECT) equipment; Harmonised Standard covering the essential requirements of article 3.1(b) of the Directive 2014/53/EU

5. 2016年10月TCB Workshop的重要信息。

ACB Newsletter Items
November 2016
Important Information from the TCB Workshop

The TCB Workshop was held during the week of October 10, 2016 in Baltimore Maryland. Over 200 of our Wireless Industry colleagues attended the three days of training, which featured presentations from the FCC, ISED, EMC Technologies (Australia), REDCA and other organizations.

Our industry is exciting because of all the technology changes that occur. The following is a just a few items that were presented.

For more information on this or other wireless regulations, contact http://acbcert.com/contact.asp

1. Modular Approvals

The FCC introduced suggestions for change to their modular approvals policy; specifically with regard to the installation of a certified module. Recent years have seen the FCC emphasize the responsibility of the installer of certified modules and not just the responsibilities of the module manufacturer. The FCC introduced the idea that the installer should be re-testing the transmitter-radiated emissions of the composite system, of the host product and the certified module.

Historically, the installer would test their 'digital device' emissions with the module present; without any obligation to retest the 'intentional radiator' (transmitter) emissions of the final system. The FCC suggested that it would be wise for the installer to perform the transmitter radiated emissions tests on the final product; and warned that this could soon become part of the FCC's modular approvals policy as a module installation requirement.

2. SAR Testing Guidance

SAR Test Distance: The FCC made a comment in response to the recent clarification in the EU regarding Body SAR test distances. In the EU, a device such as a mobile phone or smartphone must be tested at a distance of 5mm (or less) for body worn operations. The FCC acknowledged this but stand by their policy that the manufacturer may test at greater distances, if the product is intended to be used with a holster or similar accessory which is used to provide greater separation from the body.

The FCC reminded us that the product should be marketed for use with that accessory, and the accessory must be available for use with that product. If that situation does not exist, then the 5mm distance would still apply in the USA, as before. Therefore, based on intended use and accessory availability, the manufacturer still has the choice to select test distances greater than 5mm for the USA. The FCC did note that testing at 5mm for EU and USA regions might be the most efficient way to complete all testing in the least time.

SAR Test Fixture: Depending on the physical design of a device, the measured SAR can be influenced by the relative positions of the device holder- as a result, SAR measurement standards include protocols to evaluate SAR perturbations due to the device holder. When reported SAR is > 1.2 W/kg, holder perturbation verification is required using the highest SAR configuration among all applicable frequency bands. A KDB Inquiry is required if the highest reported SAR, adjusted for increases in holder perturbation, would introduce non-compliance.

3. Internet of Things

A presentation on the Internet of Things was provided by Adam Drobot with the IEEE Communications Society. The IEEE is pushing an initiative to be the leader in the IoT space, combining several societies' expertise. The IoT represents an enormous opportunity for the Wireless Community as billions of devices connect to the Internet. This pushes into the 5G Communications area as well as massive connectivity is required to reduce latency and realize the enormous opportunities. More information on IEEE's initiative is here: http://iot.ieee.org/.

4. FCC Requirements for LTE Bands

The FCC only has regulatory jurisdiction over U.S. (non-Federal) spectrum, so for devices intended to be marketed and/or operated in the U.S., compliance must be addressed for transmit modes in operating bands that overlap with and fit within FCC allocations and radio service rules, regardless of whether any commercial networks are deployed in the U.S. Addressing compliance for LTE bands that overlap FCC allocations means that filings must include test data and operational details for such band-specific modes. The following tables, ***for informational purposes only***, list the international LTE uplink and downlink bands, showing which are within the FCC bands and services, and may obtain FCC authorization.

LTE in FCC Bands and Services

E-UTRA Operating Band	Uplink (UL) operating band BS receive UE transmit F_{UL_low} – F_{UL_high}	Downlink (DL) operating band BS transmit UE receive F_{DL_low} – F_{DL_high}	Duplex Mode	Remarks about FCC rule overlaps, etc. – FOR INFO ONLY Refer to 47 CFR for specific allowed US operations.
2	1850 MHz – 1910 MHz	1930 MHz – 1990 MHz	FDD	24.229(a), 24.229(b); blocks A-F; subset of band 25
4	1710 MHz – 1755 MHz	2110 MHz – 2155 MHz	FDD	27.5(h); subset of band 66
5	824 MHz – 849 MHz	869 MHz – 894MHz	FDD	22.905(a), 22.905(b); subset of band 26
7	2500 MHz – 2570 MHz	2620 MHz – 2690 MHz	FDD	27.5(i)(2)
10	1710 MHz – 1770 MHz	2110 MHz – 2170 MHz	FDD	blocks A-I; superset of band 4; subset of band 66 [a]
12	699 MHz – 716 MHz	729 MHz – 746 MHz	FDD	27.5(c) Blocks A, B, C (Lower 700 MHz Band); SMH=seven hundred MHz
13	777 MHz – 787 MHz	746 MHz – 756 MHz	FDD	27.5(b) Block C (Upper 700 MHz Band)
14	788 MHz – 798 MHz	758 MHz – 768 MHz	FDD	90.531(g) PS BB, 90.19
17	704 MHz – 716 MHz	734 MHz – 746 MHz	FDD	27.5(c) Blocks B, C (Lower 700 MHz Band); subset of band 12 [a]
18	815 MHz – 830 MHz	860 MHz – 875 MHz	FDD	non-US allocation pair; subset of band 26
19	830 MHz – 845 MHz	875 MHz – 890 MHz	FDD	non-US allocation pair; superset of band 6; subset of band 26 [a]
23	2000 MHz – 2020 MHz	2180 MHz – 2200 MHz	FDD	NOTE 1: Band ... 23 is not applicable (superseded by band 70); 27.5(j)
25	1850 MHz – 1915 MHz	1930 MHz – 1995 MHz	FDD	24.229(c), 24.229(a), 24.229(b); blocks A-G; superset of band 2 [a]
26 [b]	814 MHz – 849 MHz	859 MHz – 894 MHz	FDD	90.614(c) contiguous 22 H; superset of bands 5, 6, 18 and 19 [a]; ESMR; 817-824/862-869; 90.614, 90.635, 90.691
29	N/A	717 MHz – 728 MHz	FDD	27.5(c)(2) Blocks D, E (Lower 700 MHz Band) See also 3GPP TS 36.101 V14.0.0 Table 5.5-1 NOTE 2.
30	2305 MHz – 2315 MHz	2350 MHz – 2360 MHz	FDD	27.5(a)(1) Blocks A, B
35	1850 MHz – 1910 MHz	1850 MHz – 1910 MHz	TDD	24.229(a), 24.229(b)
36	1930 MHz – 1990 MHz	1930 MHz – 1990 MHz	TDD	24.229(a), 24.229(b)
38	2570 MHz – 2620 MHz	2570 MHz – 2620 MHz	TDD	(China); 27.5(i)(2); subset of band 41
40	2300 MHz – 2400 MHz	2300 MHz – 2400 MHz	TDD	maybe 27.5(a) for 2305-2320 & 2345-2360 (2305-2315/2350-2360 paired; 2315-2320 & 2345-2350 unpaired)
41	2496 MHz 2690 MHz	2496 MHz 2690 MHz	TDD	27.5(i)(2)
42	3400 MHz – 3600 MHz	3400 MHz – 3600 MHz	TDD	maybe 96.11 for 3550-3600 (Part 90 Radiolocation 3300-3550 MHz)
43	3600 MHz – 3800 MHz	3600 MHz – 3800 MHz	TDD	maybe 96.11 for 3600-3700 (former 90 subpart Z 3650-3700) [FIXED 101.147(a) 3700-4200; probably not available for MOBILE LTE]
46	5150 MHz – 5925 MHz	5150 MHz – 5925 MHz	TDD	15.407; 90 & 95 for 5850-5925 See also 3GPP TS 36.101 V14.0.0 Table 5.5-1 NOTES 8, 9.
66	1710 MHz – 1780 MHz	2110 MHz – 2200 MHz	FDD	27.5(h)(1) 1710-1780/2110-2180, 27.5(j) 2180-2200 See also 3GPP TS 36.101 V14.0.0 Table 5.5-1 NOTES 4, 5, 6, 7.
70	1695 MHz – 1710 MHz	1995 MHz – 2020 MHz	FDD	27.5(h)(3) 1695-1710, 27.5(k) 1995-2000, 27.5(j) 2000-2020 See also 3GPP TS 36.101 V14.0.0 Table 5.5-1 NOTE 10.

LTE not in FCC Bands and Services

E-UTRA Operating Band	Uplink (UL) operating band BS receive UE transmit F_{UL_low} – F_{UL_high}	Downlink (DL) operating band BS transmit UE receive F_{DL_low} – F_{DL_high}	Duplex Mode	Remarks about FCC rule overlaps, etc. – FOR INFO ONLY Refer to 47 CFR for specific allowed US operations.
1	1920 MHz – 1980 MHz	2110 MHz – 2170 MHz	FDD	non-US allocation pair (Europe/Asia); subset of band 65
3	1710 MHz – 1785 MHz	1805 MHz – 1880 MHz	FDD	non-US allocation pair
6	830 MHz – 840 MHz	875 MHz – 885 MHz	FDD	NOTE 1: Band 6 … is not applicable; replaced by band 19 *
8	880 MHz – 915 MHz	925 MHz – 960 MHz	FDD	non-US allocation pair
9	1749.9 MHz – 1784.9 MHz	1844.9 MHz – 1879.9 MHz	FDD	non-US allocation pair; subset of band 3 *
11	1427.9 MHz – 1447.9 MHz	1475.9 MHz – 1495.9 MHz	FDD	non-US allocation pair
15	Reserved	Reserved	FDD	ETSI
16	Reserved	Reserved	FDD	ETSI
20	832 MHz – 862 MHz	791 MHz – 821 MHz	FDD	non-US allocation pair (Europe); UL & DL reversed compared to 90.613
21	1447.9 MHz – 1462.9 MHz	1495.9 MHz – 1510.9 MHz	FDD	non-US allocation pair
22	3410 MHz – 3490 MHz	3510 MHz – 3590 MHz	FDD	non-US allocation pair (Part 90 Radiolocation 3300-3550 MHz)
24	1626.5 MHz – 1660.5 MHz	1525 MHz – 1559 MHz	FDD	25.202(a)(4)(iii) allocation, only for L-band MSS
27	807 MHz – 824 MHz	852 MHz – 869 MHz	FDD	non-US; 90.614(a) prohibits cellular systems below 817 MHz / 862 MHz
28	703 MHz – 748 MHz	758 MHz – 803 MHz	FDD	non-US allocation pair
31	452.5 MHz – 457.5 MHz	462.5 MHz – 467.5 MHz	FDD	non-US (Europe, Central/South America)
32	N/A	1452 MHz – 1496 MHz	FDD	non-US (Europe)
33	1900 MHz – 1920 MHz	1900 MHz – 1920 MHz	TDD	non-US (Europe); subset of band 39
34	2010 MHz – 2025 MHz	2010 MHz – 2025 MHz	TDD	non-US (Europe); 2000-2020 is part 25
37	1910 MHz – 1930 MHz	1910 MHz – 1930 MHz	TDD	mix of part 24, 15 D, AWS-2; probably not available for eqpt. auth.; no deployments *
39	1880 MHz – 1920 MHz	1880 MHz – 1920 MHz	TDD	non-US (mix of several FCC rules) (China)
44	703 MHz – 803 MHz	703 MHz – 803 MHz	TDD	non-US
45	1447 MHz – 1467 MHz	1447 MHz – 1467 MHz	TDD	non-US
64	Reserved	Reserved		
65	1920 MHz – 2010 MHz	2110 MHz – 2200 MHz	FDD	non-US
67	N/A	738 MHz – 758 MHz	FDD	non-US
68	698 MHz – 728 MHz	753 MHz – 783 MHz	FDD	non-US; 700MHz band for Arab Region
69	N/A	2570 MHz – 2620 MHz	FDD	Supplemental DL band (2570-2620 MHz) and LTE CA (2DL/1UL) with Band 3 for region 1. See also 3GPP TS 36.101 V14.0.0 Table 5.5-1 NOTE 3.

5. UNII Device Certification

The FCC requires that all applications for NII master devices that operate in the 5250-5350 MHz and 5470-5725 MHz bands be pre-grant tested at the FCC Lab, before the TCB is permitted to issue the grant of certification. The turnaround time for NII master device DFS testing at the FCC Lab runs 4 weeks or more, however, an alternative exists in certain situations. Under the proper conditions, an Ex-pedited Review may be requested of the FCC, potentially eliminating the required pre-grant testing (note that this is not guaranteed) .

Expedited Review
- Reduce burden of FCC Lab verification tests
- Submit request for PAG
- Must include FCC ID of Granted master device that uses the same DFS chip set, DFS software, and operational modes (BWs, etc.)
  - Software security required for new application
    - Are the GUIs the same?
  - FCC will review and compare data between new application and previously approved application
  - FCC approval not guaranteed

6. Wireless Power Transfer Approvals

As a reminder, Wireless Power Transfer devices typically requires **Pre-Approval Guidance** from the FCC before they may be authorized by a TCB. Wireless power transfer devices operating at frequencies above 9 kHz are intentional radiators and are subject to either Part 15 and/or Part 18 of the FCC rules. The specific applicable rule part depends on how the device operates, and if there is communication between the charger and device being charged. Devices specifically intended for use for wireless power transfer, or inductive charging, require FCC guidance for frequency exposure review. This includes Part 18 devices. The responsible party or manufacturer must seek guidance from the FCC by submitting a wireless charging application inquiry at http://www.fcc.gov/labhelp. The initial inquiry shall include the following… (https://apps.fcc.gov/oetcf/kdb/forms/FTSSearchResultPage.cfm?switch=P&id=41701)