



April 2008

EMC Regulatory Update

Dear Colleague,

We have provided typical questions and answers that represent in most cases technical opinions with justification in FCC and CE requirements. The particulars of the product for certification must be considered with respect to the applicability of these questions and answers. We hope you find our update valuable and welcome your feedback if you have any special needs or questions. Call at 703-689-0368 or view archived issues of MultiPoint at our [web site](#).

CE Mark and CCC Mark

QUESTION: We have tested our all our products for the CE mark and would now like the Chinese CCC mark. Is there any relation between having met the CE standards and the CCC mark? I am aware that many of the CCC tests are based on IEC standards.

ANSWER: The China Compulsory Certificate mark (CCC) is administered by the CNCA (Certification and Accreditation Administration). The China Quality Certification Centre (CQC) is designated by the CNCA to process CCC mark applications and define the products that need CCC. It has been in existence since May 1st, 2002.

CE reports or FCC reports cannot transfer into a CCC mark. In China, there are four major approvals now; the CCC mark is for EMC and safety. EMC testing must occur in China, typically referred to as "in-country" testing. Through the CB scheme, CB safety reports are acceptable. The main difference in the CB scheme safety report is that major components in a system, such as a power supply or monitor, must also be CCC Certified or must have the component evaluated separately by a CNCA-designated test laboratory in China. This can be done by submitting an IEC CB Test Report with China deviations on the component or have the product tested in China.

You are correct that for many product categories, the Chinese (Guo Biao) GB standards are equivalent to their IEC equivalent standards. Unlike the CE mark, which is a self-declaration by the manufacturer, obtaining a CCC mark also involves an initial inspection at the factory and annual follow-up inspections. For RF devices, China requires radio type approval with "in-country testing." Overseas reports are unacceptable and testing and approvals are completed by SRMTC in Beijing. Network access approval for PSTN-terminal or public communication devices such as cell phones is required. China ROHS is also required for most electronic products.

FCC Policy Documents

QUESTION: We have been looking for pertinent FCC policy documents such as "TCB Exclusion List", "Permissive Change Guidelines", "DoC Verification", "Permit but Ask", and "Post Market Surveillance." Do you know of a convenient location, with noted updates, where these documents are?

ANSWER: We created the list below so our clients may download these documents from the FCC's Knowledge Data Base (KDB) or view them. We have listed the appropriate KDB#, document type, and last noted update for your convenience. Click on the link of the document that you are interested in from the table and it should take you to it.

- KDB# 628591: [TCB Equipment Exclusion List](#), Publication Date: 04/09/08, Attachments: 04/9/08 - V11
- KDB# 178919: [Permissive Change \(PC\) Guidelines](#), Publication Date: 01/14/08, Attachments: 01/14/08 - V3
- KDB# 349827: [DoC Verification](#), Publication Date: 2/15/08
- KDB# 852134: [Authorized Individual Policy for 731](#), Publication Date 1/10/08, Attachments: 01/10/08 - V2
- KDB# 388624: [Permit but Ask](#), Publication Date: 04/09/08, Attachments: 01/15/08 - V4, R1
- KDB# 610077: [Post Market Surveillance](#), Publication Date: 01/14/08, Attachments: 01/14/08 - V4
- KDB# N/A: [TCB Roles and Responsibilities Paper](#), Publication Date: 02/14/08

Peripheral vs. Load During Test

QUESTION: We are testing our product to ANSI C63.4: 2003. The standard states that when testing a computer, the interface I/O is to be terminated by a peripheral or load. I would like to know the load impedance for parallel, serial, USB, and other ports commonly found on a personal computer. My intention is to terminate the ports with a load rather than actual peripherals to save cost. Is this acceptable or do you have a better alternative?

ANSWER: Historically, the position of the FCC has been for the port to have a "load" that is representative of the device. Not just in impedance, but it is to also represent the electrical and mechanical characteristics of the device. This is also the intent of ANSI C63.4. Consequently, a simple resistive load would not be appropriate. Furthermore, the only way to "load" a port is to put a real device on the port (i.e. a parallel port, serial port, and USB port device etc.). Please note that the ITE section of ANSI C63.4 states, "When a PC is the EUT and also the host, the minimum functional interface (I/O) ports that shall be populated by attaching cables, which are terminated in a typical load of actual usage, including serial, parallel, and USB, where such ports are available." This is true only if it is demonstrated that the addition of like ports loaded with a representative device does not increase the emissions.

FCC Modular Rules

QUESTION: Our firm manufactures modular transmitters. Can you tell us when the new FCC modular rules are effective?

ANSWER: The new modular rule FCC Part 15.212 has been in effect since April 15th, 2008. The revised rule part provides more efficient equipment authorization for existing modular transmitters, and allows the new emerging partitioned or "split" modular transmitters. The revision sets conditions on partitioned or "split" modular transmitters as follows:

- The interface between the partitioned modules must be digital with a minimum amplitude of 150mV peak-to-peak.
- The transmitter front end must be shielded.
- Tuning elements such as capacitors and crystals can be located outside the shielded front-end area.

New FCC certification would no longer be required when the same transmitter is installed in different final products. The FCC hopes this new revision, providing increased flexibility to manufactures would

spur more advanced unlicensed transmitter technologies now and in the future.

The new modular transmitter rule part revision is included below for your review. Please note that TCBs are not allowed to approve partitioned modular transmitters. Partitioned modular transmitters are listed the FCC's most recent TCB exclusion list.

FCC Rule Part 15.212 Modular transmitters

(a) Single modular transmitters consist of a completely self-contained radiofrequency transmitter device that is typically incorporated into another product, host, or device. Split modular transmitters consist of two components: a radio front end with antenna (or radio devices) and a transmitter control element (or specific hardware on which the software that controls the radio operation resides). All single or split modular transmitters are approved with an antenna. All of the following requirements apply, except as provided in paragraph (b) of this section.

(1) Single modular transmitters must meet the following requirements to obtain a modular transmitter approval.

(i) The radio elements of the modular transmitter must have their own shielding. The physical crystal and tuning capacitors may be located external to the shielded radio elements.

(ii) The modular transmitter must have buffered modulation/data inputs (if such inputs are provided) to ensure that the module will comply with Part 15 requirements under conditions of excessive data rates or over-modulation.

(iii) The modular transmitter must have its own power supply regulation.

(iv) The modular transmitter must comply with the antenna and transmission system requirements of §§15.203, 15.204(b) and 15.204(c). The antenna must either be permanently attached or employ a "unique" antenna coupler (at all connections between the module and the antenna, including the cable). The "professional installation" provision of §15.203 is not applicable to modules but can apply to limited modular approvals under paragraph (b) of this section.

(v) The modular transmitter must be tested in a stand-alone configuration, i.e., the module must not be inside another device during testing for compliance with part 15 requirements. Unless the transmitter module will be battery powered, it must comply with the AC line conducted requirements found in §15.207. AC or DC power lines and data input/output lines connected to the module must not contain ferrites, unless they will be marketed with the module (see §15.27(a)). The length of these lines shall be the length typical of actual use or, if that length is unknown, at least 10 centimeters to insure that there is no coupling between the case of the module and supporting equipment. Any accessories, peripherals, or support equipment connected to the module during testing shall be unmodified and commercially available (see §15.31(i)).

(vi) The modular transmitter must be equipped with either a permanently affixed label or must be capable of electronically displaying its FCC identification number.

- (A) If using a permanently affixed label, the modular transmitter must be labeled with its own FCC identification number, and, if the FCC identification number is not visible when the module is installed inside another device, then the outside of the device into which the module is installed must also display a label referring to the enclosed module. This exterior label can use wording such as the following: "Contains Transmitter Module FCC ID: XYZMODEL1" or "Contains FCC ID: XYZMODEL1." Any similar wording that expresses the same meaning may be used. The Grantee may either provide such a label, an example of which must be included in the application for equipment authorization, or, must provide adequate instructions along with the module which explain this requirement. In the latter case, a copy of these instructions must be included in the application for equipment authorization.

- (B) If the modular transmitter uses an electronic display of the FCC identification number, the information must be readily accessible and visible on the modular transmitter or on the device in which it is installed. If the module is installed inside another device, then the outside of the device into which the module is installed must display a label referring to the enclosed module. This exterior label can use wording such as the following: "Contains FCC certified transmitter module(s)." Any similar wording that expresses the same meaning may be used. The user manual must include instructions on how to access the electronic display. A copy of these instructions must be included in the application for equipment authorization.

(vii) The modular transmitter must comply with any specific rules or operating requirements that ordinarily apply to a complete transmitter and the manufacturer must provide adequate instructions along with the module to explain any such requirements. A copy of these instructions must be included in the application for equipment authorization.

(viii) The modular transmitter must comply with any applicable RF exposure requirements in its final configuration.

(2) Split modular transmitters must meet the requirements in paragraph (a)(1) of this section, excluding paragraphs (a)(1)(i) and (a)(1)(v), and the following additional requirements to obtain a modular transmitter approval.

(i) Only the radio front end must be shielded. The physical crystal and tuning capacitors may be located external to the shielded radio elements. The interface between the split sections of the modular system must be digital with a minimum signaling amplitude of 150 mV peak-to-peak.

(ii) Control information and other data may be exchanged between the transmitter control elements and radio front end.

(iii) The sections of a split modular transmitter must be tested installed in a host device(s) similar to that which is representative of the platform(s) intended for use.

(iv) Manufacturers must ensure that only transmitter control elements and radio front end components that have been approved together are capable of operating together. The transmitter module must not operate unless it has verified that the installed transmitter control elements and radio front end have been authorized together.

Manufacturers may use means including, but not limited to, coding in hardware and electronic signatures in software to meet these requirements, and must describe the methods in their application for equipment authorization.

(b) A limited modular approval may be granted for single or split modular transmitters that do not comply with all of the above requirements, e.g. , shielding, minimum signaling amplitude, buffered modulation/data inputs, or power supply regulation, if the manufacturer can demonstrate by alternative means in the application for equipment authorization that the modular transmitter meets all the applicable part 15 requirements under the operating conditions in which the transmitter will be used. Limited modular approval also may be granted in those instances where compliance with RF exposure rules is demonstrated only for particular product configurations. The applicant for certification must state how control of the end product into which the module will be installed will be maintained such that full compliance of the end product is always ensured.

INTERNATIONAL UPDATE

EU: NEW CENELEC STANDARDS RELEASED THIS MONTH

This is a shortened list of the CENELEC standards published during the past month:

- **EN 62388:2008** (3/28/2008) Maritime navigation and radiocommunication equipment and systems - Shipborne radar - Performance requirements, methods of testing and required test results
- **EN 62233:2008**(4/4/2008) Measurement methods for electromagnetic fields of household appliances and similar apparatus with regard to human exposure
- **EN 61347-1:2001/A1:2008** (4/10/2008) Lamp controlgear -- Part 1: General and safety requirements
- **EN 61010-031:2002/A1:2008** (4/11/2008) Safety requirements for electrical equipment for measurement, control and laboratory use -- Part 031: Safety requirements for hand-held probe assemblies for electrical measurement and test
- **EN 60335-2-13:2003/A2:2008** (4/17/2008) Household and similar electrical appliances - Safety -- Part 2-13: Particular requirements for deep fat fryers, frying pans and similar appliances
- **EN 50505:2008** (4/18/2008) Basic standard for the evaluation of human exposure to electromagnetic fields from equipment for resistance welding and allied processes
- **EN 60601-1-10:2008 (4/24/2008)** Medical electrical equipment -- Part 1-10: General requirements for basic safety and essential performance - Collateral Standard: Requirements for the development of physiologic closed-loop controllers
- **EN 60601-1-3:2008**(4/24/2008) Medical electrical equipment -- Part 1-3: General requirements for basic safety and essential performance - Collateral Standard: Radiation protection in diagnostic X-ray equipment

See www.cenelec.org for additional information.

EU: NEW IEC STANDARDS RECENTLY RELEASED This is a shortened list of the new IEC standards published during the past month:

- **IEC 62153-4-9** (3/18/2008) Metallic communication cable test methods - Part 4-9: Electromagnetic compatibility (EMC) - Coupling attenuation of screened balanced cables, triaxial method
- **IEC 60601-2-31** (3/26/2008) Medical electrical equipment - Part 2-31: Particular requirements for the basic safety and essential performance of external cardiac pacemakers with internal power source
- **CISPR 25** (3/26/2008) Vehicles, boats and internal combustion engines - Radio disturbance characteristics - Limits and methods of measurement for the protection of on-board receivers
- **IEC 60335-2-64** (3/26/2008) Household and similar electrical appliances - Safety - Part 2-64: Particular requirements for commercial electric kitchen machines
- **IEC 60335-2-13** (3/27/2008) Household and similar electrical appliances - Safety - Part 2-13: Particular requirements for deep fat fryers, frying pans and similar appliances
- **IEC 60255-22-2** (4/14/2008) Measuring relays and protection equipment - Part 22-2: Electrical disturbance tests - Electrostatic discharge tests
- **IEC 60255-22-4** (4/14/2008) Measuring relays and protection equipment - Part 22-4: Electrical disturbance tests - Electrical fast transient/burst immunity test
- **IEC 60730-2-7** (4/14/2008) Automatic electrical controls for household and similar use - Part 2-7: Particular requirements for timers and time switches
- **IEC 60945 Corr.1** (4/14/2008) Corrigendum 1 - Maritime navigation and radiocommunication equipment and systems - General requirements - Methods of testing and required test results
- **IEC 60598-1** (4/16/2008) Luminaires - Part 1: General requirements and tests

See [IEC](http://www.iec.ch) for additional information.

EU: NEW ETSI STANDARDS RELEASED THIS MONTH This is a shortened list of the new ETSI standards published during the past month:

- [ETSI EN 300 422-2 V1.2.2](#) (March 2008) Electromagnetic compatibility and Radio spectrum Matters (ERM); Wireless microphones in the 25 MHz to 3 GHz frequency range; Part 2: Harmonized EN covering essential requirements of article 3.2 of the R&TTE Directive
- [ETSI EN 302 208-1 V1.2.1](#) (April 2008) Electromagnetic compatibility and Radio spectrum Matters (ERM); Radio Frequency Identification Equipment operating in the band 865 MHz to 868 MHz with power levels up to 2 W; Part 1: Technical requirements and methods of measurement
- [ETSI EN 302 208-2 V1.2.1](#) (April 2008) Electromagnetic compatibility and Radio spectrum Matters (ERM); Radio Frequency Identification Equipment operating in the band 865 MHz to 868 MHz with power levels up to 2 W; Part 2: Harmonized EN covering essential requirements of Article 3.2 of the R&TTE Directive
- [ETSI TS 125 113 V8.1.0](#) (April 2008) Universal Mobile Telecommunications System (UMTS); Base station and repeater electromagnetic compatibility (EMC) (3GPP TS 25.113 version 8.1.0 Release 8)
- [ETSI EN 301 489-1 V1.8.1](#) (April 2008) Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 1: Common technical requirements
- [ETSI EN 301 489-17 V1.3.2](#) (April 2008) Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment; Part 17: Specific conditions for 2,4 GHz wideband transmission systems, 5 GHz high performance RLAN equipment and 5,8 GHz Broadband Data Transmitting Systems
- [ETSI TS 134 124 V8.1.0](#) (April 2008) Universal Mobile Telecommunications System (UMTS); Electromagnetic compatibility (EMC) requirements for mobile terminals and ancillary equipment (3GPP TS 34.124 version 8.1.0 Release 8)

See new [ETSI website](#) for additional information.

FCC: 731 FORM SUPPORT SOFTWARE MODIFIED

Effective April 15, 2008, the software supporting a new FCC Form 731 that incorporates improvements related to the implementation of modular approval rules, as announced in Public Notice DA-08-672, was upgraded. Changes include the addition of a modular "type" field; additional questions related to associated equipment authorization waivers; additional instances of FCC ID Related Fields; greater flexibility in requesting short term confidentiality periods; additional fields to associate Knowledge DataBase (KDB) inquiries with equipment authorization applications, and streamlining of exhibit / attachment submissions by limiting files to .pdf and .jpg file formats and allowing file uploads of up to 6 MB.

CANADA: NEW REVISIONS RSS-191 and SRSP-338.6

On April 12, 2008, Industry Canada released the following two documents:

- [Radio Standards Specification 191 \(RSS-191\), Issue 3](#): Local Multipoint Communication Systems in the Band 25.35- 28.35 GHz; Point-to-Point and Point-to- Multipoint Broadband Communication Systems in the Bands 24.25-24.45 GHz and 25.05-25.25 GHz; and Point-to-Multipoint Broadband Communications in the Band 38.6-40.0 GHz, which sets out certification requirements for local multipoint communication systems (LMCS), point-to- point and point-to-multipoint broadband communication systems in these bands. RSS-191, Issue 3 replaces Issue 2 and removes certification requirements for point- to-point broadband communication systems in the band 38.6-40.0 GHz. These requirements have been transferred to SRSP-338.6, Issue 3.
- [Standard Radio System Plan 338.6 \(SRSP-338.6\), Issue 3](#): Technical Requirements for Fixed Radio Systems Operating in the Band 38.6-40.0 GHz, which sets out technical requirements for licensing digital equipment in the fixed service for broadband wireless applications, including both point-to-point and point-to-multipoint systems in the band 38.6-40.0 GHz.

MEXICO: NEW VERSION OF NATIONAL FREQUENCY TABLE

On March 28th, 2008, the Mexican Communications Authority, Comision Federal de Telecomunicaciones (COFETEL), published a new version of its National Frequency Allocation Table. [Link](#)

The main changes with respect to the previous 1999 table are as follows:

- The use of the 5150-5350 MHz and 5470- 5725 MHz bands will be in accordance to the Resolution 229.
- IMT-2000 is allowed use of the 806-960 MHz band.
- Mobile services are now allowed in the 2500-2690 MHz band.
- Mobile services are now allowed in the 3400-3700 MHz band.
- The 2360-2450 and 3300-3400 MHz bands are still under study for the allocation of broadband access services.

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RTL has provided EMC compliance engineering & testing services since 1988 and has a superior reputation with both the Federal Communications Commission and others in the industry. RTL provides testing services to meet the emissions, immunity, and safety requirements of the European EMC Directive and the EU R&TTE Directive, all FCC rules and regulations, VCCI (Japan), ACMA (Australia), and other international standards.

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