



August 2008

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](#).

FCC's SAR Orientation Requirement

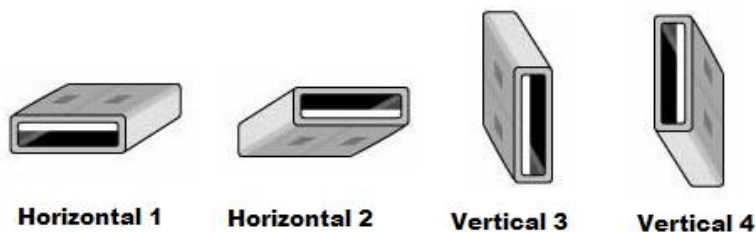
QUESTION: I work for a manufacturer of USB dongle devices and our Telecommunication Certification Body (TCB) indicated that we did not test our device completely for Specific Absorption Rate (SAR) in four orientations. Can you comment on the FCC's four position SAR orientation requirement?

ANSWER: The FCC's recent [Mobile and Portable Device RF Exposure Procedures and Equipment Authorization Policies, 447498 D01 Mobile Portable RF Exposure v03r02](#) provides clarification pertaining to RF exposure requirements for mobile and portable device equipment authorizations. Specifically, for dongle devices, it states the following:

Section 2(b)(i)1: Devices that can be connected to a host through a cable must be tested with the device positioned in all applicable orientations against the flat phantom.(11)

Note 11: A separation distance ≤ 0.5 cm is required for USB-dongle transmitters. Contact the FCC Laboratory concerning requirements for other device form factors and interfaces.

Since your USB dongle device has an attached cable, it should be tested for SAR in four USB receptacle orientation positions. The FCC determined that four USB slot positions exists on computers in the industry, hence the four-orientation test requirement. The USB slot figures below should help explain the testing. Your final SAR report should indicate results with all 4 device-face positions.



For further information on mobile and portable device RF exposure and equipment authorization requirements, please see FCC Rule Sections 1.1307, 2.1091, 2.1093. Also we suggest that you review the most recent TCB Exclusion List for equipment that cannot be certified by a TCB for SAR RF exposure evaluations, [KDB 628591 D02 TCB Exclusion List 1 V11r02](#), published 08- 21-2008.

Additionally, the FCC has issued a [Mobile Multi-transmitter MPE Estimation \[XLS\] MPE spreadsheet](#) for estimating MPE limits for multiple antennas.

Part 15 Transmitter System

QUESTION: We have a client that is proposing a Part 15 transmitter system in which the range would be extended by stringing along multiple transmitters. Will the FCC allow this type of configuration?

ANSWER: In our opinion, the answer is NO. We feel the FCC would not allow such transmitter system; you cannot extend the range of a Part 15 device based on our experience dealing with the FCC over the last 20 years. The FCC will say no to extend the range of any Part 15 transmitter system since all transmitters in the system would essentially be sending the same information. Years ago the FCC said no to a similar Part 15 type range extending device in which multiple transmitters were strung together to send the same information. This interpretation was the basis for the Multiple Input Multiple Output (MIMO) devices, which must send different information to different users rather than sending the same information to each user. However, you may wish to contact the FCC directly using the Knowledge Data Base (KDB) inquiry, on the question of whether this system can operate under Part 15 of the FCC Rules.

Issuance of LoO and CoC

QUESTION: Question 2: We are a manufacturer of wireless devices and would like to know whether a Letter of Opinion (LoO) or a Certificate of Opinion/Certificate of Conformity (CoC) should be issued by our Notified Body (NB) or Conformity Assessment Body (CAB). We have been told that some NBs and CABs issue Certificate of Opinion/Certificate of Conformity.

ANSWER: The term "Certificate of Conformity", "Certificate of Opinion" or any other such terminology when referencing an NB or CAB opinion is most definitely misleading. The current legal framework within the EU for Notified Bodies/Conformity Assessment Bodies is clear on this matter. NBs/CABs issue their opinions on the technical file, without that being a certification that the product complies. Notified Bodies/Conformity Assessment Bodies cannot certify products under the R&TTE directives. In certain economic areas the term "certificate" is highly preferred than opinion, leading some NBs/CABs to advertise their services by 'stressing' that the 'certificate' is for the opinion not for the product. This further exacerbates misunderstanding about LoO in the industry. Again, the RTTED does not call for certification (i.e. certificate) nor does it allow the NBs/CABs to certify any product. We have included TGN 10 guidance from the R&TTE Compliance Association to further explain this issue.

Guidance on the Minimum Content of a Notified Body Opinion Document

Introduction

Annex IV of Directive 1999/5/EC provides for a notified body to give an opinion on a technical construction file but without guidance on the format and content of such an opinion. In practice, some opinions have been found to be misleading.

Guidance

The table below sets out minimum criteria for a notified body opinion. In all other respects, a notified body is free to choose its own format and may include additional information such as the manufacturer's details, conformity assessment procedure, reference standards, intended purpose & other remarks/observations.

Title	"Directive 1999/5/EC – Notified Body Statement of Opinion" or similar text using the word "opinion" and avoiding use of words such as "certificate" and "declaration".
Notified body details	Name, address etc, logo. NB number
Opinion number	Unique number of opinion. Revision number and / or copy number if applicable.
Date	Date of issue.
Applicant details	Name, address etc of the party seeking the opinion.
Scope of opinion	Whether the opinion is in respect of health & safety ¹ (Article 3.1a), EMC (Article 3.1b), radio spectrum use (Article 3.2) and/or special features (Article 3.3a-f).
Identification of apparatus	The goal is to give the minimum information from the following list such that a third party would be able to uniquely identify the item in question. Description of apparatus including brand/trade name, model/type designation, software revision. Serial number if opinion was based on test/examination of a specific physical sample. Reference of any build status / design documentation taken into account. For TTE, network interface compatibility. For radio equipment (as appropriate): ○ Frequency band(s)/range ○ Transmit power / power range ○ Modulation type ...etc.
TCF Identification	Unique identification of the documentation etc. taken into consideration irrespective of the actual physical format of the TCF.
Opinion text	The text stating whether the apparatus complies or not. (See example.)
Authorised signatory	Signature block including printed name of the signatory.

Example of opinion text:

Our opinion in accordance with Annex IV of Council Directive 1999/5/EC on radio equipment and telecommunications equipment and the mutual recognition of their conformity is that the apparatus identified above complies / does not comply with the requirements of that directive stated in the above scope.

Disclaimer

This guidance document does not replace the text of the R&TTE Directive and is for guidance only. In legal disputes the text of the Directive, or its implementation in National legislation, takes precedence.

¹ Note that "health & safety" includes EMF as well as electric shock and other hazards. The opinion should be clear about which hazards are included if Article 3.1a is referenced in its scope.

FCC RF Exposure Procedures and Policies

QUESTION: We are a manufacturer of wireless devices and request a quick overview of the FCC's recent [Mobile and Portable Device RF Exposure Procedures and Equipment Authorization Policies 447498 D01 Mobile Portable RF Exposure v03r02](#) regarding mobile and portable devices.

ANSWER: Please note the following to help clarify the possible confusion using the FCC's Mobile and Portable Device RF Exposure Procedures and Equipment Authorization Policies 447498 D02 Mobile Portable RF Exposure v03r02.

First KDB447498 IS NOT a handset KDB only, it is for ALL portable and mobile devices. Please note the very first sentence in the KDB is "This document identifies certain RF exposure evaluation procedures and requirements and equipment authorization policies for **mobile and portable devices**."

If you examine the document you will note that while it includes some specific references to certain types of handsets it IS NOT a handset specific Knowledge Data Base (KDB) policy and in fact includes ALL types of devices including MODULES, Push to Talk, Maximum Permissible Exposure (MPE) in mobile devices with multiple transmitters, including PDAs etc. Also, note that KDB447498 is used for many reasons and in conjunction with a number of other SAR KDBs. For example, one primary use is for determining when a TCB can certify host devices with multiple transmitters.

Section 1 is the "General use" section, the only real addition to information in this section deals with when you have to test more than one channel for SAR.

Section 2 is for single transmitter SAR evaluation that may include devices that have multiple transmitters, but they do not transmit at the same time. Section 2 is for standalone transmitters whereby SAR is not done in each host or in a minimum of 3-hosts of the same platform. This section removes the previous requirement of three host testing. Here in section 2 there are various levels of SAR that have to be addressed in a progressively more stringent manner. Again, this is not limited to handsets but applies to any portable device configuration. If you want to certify a device using a single SAR evaluation in a particular platform instead of testing three hosts in that platform, then you use section 2. The limitation to section 2 is that, while you may no longer have to test in three hosts of each platform you desire, you do have to perform an additional test in which you actually move the transmitter in 5mm steps away from the phantom to determine if > 25% of the measured value at the initial position exists. If it does, then you have other SAR considerations to do, of which three host testing may be part. This test removes the 3-host minimum testing per platform.

Section 3 of KDB447498 deals with multiple transmitters that are transmitting at the same time. Note that this section does **not limit the type device to handsets** but actually includes modules and just about ANY transmitter placed in any portable host configuration. Prior to the last training session a TCB could not certify any device in which two transmitters, each requiring individual SAR evaluation, transmitted at the same time (i.e. co- transmission or simultaneous transmission). In fact, a TCB could not certify two simultaneously transmitting devices unless one of them was under 5mW (i.e. a BT and a WLAN or a BT and a cell phone). This changed due to KDB section 3 allowing each individual SAR value to be added together. The FCC basically said that if two transmitters did transmit at the same time but if the sum of the individual SAR levels was less than 1.6W/kg a TCB could certify or if the output power for each transmitter is less than 60/f (GHz).

Section 4 deals with LAPTOPS and TABLET computers. In section 4 you are told that, tablets with antennas in the base are to be tested in laptop mode (i.e. like a laptop with the LCD 90 degrees to the base). It is assumed then that this also applies to actual laptops with antennas in the same location. This section specifically states that for transmitters that co-transmit you are to use section 3) b) ii) (1) (i.e. sum of SAR less than 1.6W/kg etc). Section 4 also deals with tablets with antennas located in the edges of the LCD and PDA/UMPC type devices that can be used next to the ear. Section 4 is also, where you find out when extremity SAR is required for handheld type devices (for example, a 2.4GHz handheld PDA would require extremity SAR when conducted or radiated power is greater than 416mW or 1000/f(GHz).)

Section 5, 6, 7, and 8 are almost self-explanatory.

We hope this alleviates some of the confusion and shows that KDB447498 is NOT a handset specific KDB but is to be used as appropriate for ALL types of portable devices where SAR may be required.

INTERNATIONAL UPDATE

EU: NEW CENELEC STANDARDS RELEASED THIS MONTH

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

- **CLC/TS 50502:2008** (7/30/2008) Railway applications - Rolling stock - Electric equipment in trolley buses - Safety requirements and connection systems
- **EN 1041:2008** (8/6/2008) Information supplied by the manufacturer of medical devices
- **EN 50164-1:2008** (8/7/2008) Lightning Protection Components (LPC) - Part 1: Requirements for connection components
- **EN 50164-2:2008** (8/7/2008) Lightning Protection Components (LPC) - Part 2: Requirements for conductors and earth electrodes
- **EN 50490:2008** (8/14/2008) Electrical installations for lighting and beaconing of aerodromes - Technical requirements for aeronautical ground lighting control and monitoring systems - Units for selective switching and monitoring of individual lamps
- **EN 62002-1:2008** (8/22/2008) Mobile and portable DVB-T/H radio access - Part 1: Interface specification
- **EN 62002-2:2008** (8/22/2008) Mobile and portable DVB-T/H radio access - Part 2: Interface conformance testing

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 60851-5** (7/25/2008) Winding wires - Test methods - Part 5: Electrical properties
- **IEC 61857-22** (7/25/2008) Electrical insulation systems - Procedures for thermal evaluation - Part 22: Specific requirements for encapsulated-coil model - Wire- wound electrical insulation system (EIS)
- **IEC 60335-2-9** (7/25/2008) Household and similar electrical appliances - Safety - Part 2-9: Particular requirements for grills, toasters and similar portable cooking appliances
- **IEC 60745-2-6** (8/12/2008) Hand- held motor-operated electric tools - Safety - Part 2-6: Particular requirements for hammers
- **IEC/PAS 60704-2-15** (8/12/2008) Household and similar electrical appliances - Test code for the determination of airborne acoustical noise - Part 2-15: Particular requirements for household food waste disposers
- **IEC 61157 Corr.1** (8/12/2008) Corrigendum 1 - Standard means for the reporting of the acoustic output of medical diagnostic ultrasonic equipment
- **IEC 60825-1 Corr.1** (8/12/2008) Corrigendum 1 - Safety of laser products - Part 1: Equipment classification and requirements
- **IEC 60745-2-21** (8/13/2008) Hand- held motor-operated electric tools - Safety - Part 2-21: Particular requirements for drain cleaners
- **IEC 60364-4-43** (8/13/2008) Low- voltage electrical installations - Part 4-43: Protection for safety - Protection against overcurrent
- **IEC 62494-1** (8/13/2008) Medical electrical equipment - Exposure index of digital X-ray imaging systems - Part 1: Definitions and requirements for general radiography

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 TS 102 587-5 V1.2.1](#) (July 2008) Electromagnetic compatibility and Radio spectrum Matters (ERM); Interoperability testing for the Peer-to-Peer Digital Private Mobile Radio; Part 5: Interoperability Test Suite Structure and Test Purposes (TSS&TP) specification
- [ETSI TS 102 587-4 V1.1.1](#) (July 2008) Electromagnetic compatibility and Radio spectrum Matters (ERM); Conformance testing for the Peer-to-Peer Digital Private Mobile Radio; Part 4: Abstract Test Suite (ATS)

- [ETSI TS 102 587-3 V1.2.1](#) (July 2008) Electromagnetic compatibility and Radio spectrum Matters (ERM); Peer-to-Peer Digital Private Mobile Radio; Part 3: Requirements catalogue
- [ETSI TS 102 587-2 V1.2.1](#) (July 2008) Electromagnetic compatibility and Radio spectrum Matters (ERM); Conformance testing for the Peer-to-Peer Digital Private Mobile Radio; Part 2: Test Suite Structure and Test Purposes (TSS&TP) specification
- [ETSI TS 102 587-1 V1.2.1](#) (July 2008) Electromagnetic compatibility and Radio spectrum Matters (ERM); Conformance testing for the Peer-to-Peer Digital Private Mobile Radio; Part 1: Protocol Conformance Implementation Statement (PICS) proforma
- [ETSI TS 102 490 V1.4.1](#) (July 2008) Electromagnetic compatibility and Radio spectrum Matters (ERM); Peer-to-Peer Digital Private Mobile Radio using FDMA with a channel spacing of 6,25 kHz with e.r.p. of up to 500 mW
- [ETSI TR 102 750 V1.1.1](#) (July 2008) Electromagnetic compatibility and Radio spectrum Matters (ERM); Radar level gauging applications in still pipes
- [ETSI EN 301 489-6 V1.3.1](#) (August 2008) Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 6: Specific conditions for Digital Enhanced Cordless Telecommunications (DECT) equipment
- [ETSI EN 301 166-2 V1.2.2](#) (August 2008) Electromagnetic compatibility and Radio spectrum Matters (ERM); Land Mobile Service; Radio equipment for analogue and/or digital communication (speech and/or data) and operating on narrow band channels and having an antenna connector; Part 2: Harmonized EN covering essential requirements of article 3.2 of the R&TTE Directive
- [ETSI EN 301 166-1 V1.3.1](#) (August 2008) Electromagnetic compatibility and Radio spectrum Matters (ERM); Land Mobile Service; Radio equipment for analogue and/or digital communication (speech and/or data) and operating on narrow band channels and having an antenna connector; Part 1: Technical characteristics and methods of measurement

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

KOREA: NEW KCC LOGO AND LABELING REQUIREMENT

On July 23, 2008, the Korea Communications Commission (KCC) announced a new KCC logo design. The logo should be more than 7mm and the Korean name (KCC) should be included on the device in order to indicate KCC certification. The new logo should be used from 11/1/2008 on all KCC approved devices. However, products with MIC mark, which are produced and sold before 11/1/2008 can still use the MIC mark. Additionally, any product certified before the November 1st date can continue to use the MIC mark, but it is recommended to implement the new logo and the product as soon as possible. [Link](#)

FCC: PROHIBITION OF LOW POWER AUXILIARY STATIONS IN THE 700 MHz BAND

Effective August 20, 2008, as announced in Notice of Proposed Rulemaking and Order FCC 08-188 and the associated press release, the FCC imposed a freeze on granting any equipment authorization requests for low power auxiliary station devices that would operate in any of the 700 MHz Band frequencies. This freeze applies to Part 74 devices in the frequency range 698-806 MHz. Applications for these devices may be filed with the FCC but will not be acted upon until the conclusion of the proceeding. [Link](#)

EU: PUBLICATION OF THE ECC REPORT 120

On July 10, 2008, the EU published ECC Report 120, *"Technical requirements for UWB DAA (Detect And Avoid) devices to ensure the protection of radiolocation services in the bands 3.1-3.4 GHz and 8.5-9 GHz and BWA terminals in the band 3.4-4.2 GHz."*

The report defines a specific 'Detect And Avoid' (DAA) based interference mitigation architecture for UWB devices to protect BWA application such as WiMAX systems operating in the band 3.4-4.2 GHz and radiolocation services operating in the band 3.1-3.4 GHz and 8.5-9 GHz. The report describes the main technical requirements for the DAA mechanism (proposes values for DAA technical parameters), and it presents results of some measurements performed to characterize and study the effects of DAA on BWA.

These conclusions are relevant for radars in the band 3.1- 3.4 GHz and 8.5-9 GHz but cannot be expanded to the band 2.7-3.1 GHz band in which different radar types are operated (aeronautical and meteorological radars in particular). It has furthermore to be emphasized that, especially for radiolocation services, DAA technical parameters alone given in the report do not ensure protection of radio services by themselves. This has to be completed with adequate DAA measurement procedures and test pattern in the related ETSI standard. [Link](#)

AUSTRALIA: PROPOSED VARIATION TO CORDLESS TELECOMMUNICATIONS DEVICES

The Australian Communications Media Authority (ACMA) proposes to vary the Radiocommunications (Cordless Telecommunications Devices) Class License 2001 (the Cordless Telecommunications Class License) and the Radiocommunications Miscellaneous Devices Class License 1999 (the Miscellaneous Devices Class License) and revoke the Radiocommunications (861-865 MHz Land Stations and Handsets) Class License 1996 (the Land Stations and Handsets Class License). Pursuant to section 136 of the Radiocommunications Act 1992 (the Act). The proposed variations and revocation will group a number of similar devices into a single class license. The goal is to help ACMA to make the licensing regime more accessible to industry and the community. [Link](#)

CONTACT RHEIN TECH FOR YOUR INTERNATIONAL REGULATORY APPROVALS

Rhein Tech Laboratories' worldwide homologation services offer the best strategy for gaining product approval in a large number of target countries. In addition, we reduce the number of emissions, immunity, and product safety tests required by defining the minimum subset of regulatory standards at the onset, thus reducing the time and cost to enter multiple target countries. We offer research and approvals in over 50 countries.

ABOUT US

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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