

Enforcement of **SAR** requirements (The multiple radio wave transmission)

December 1, 2015, "SAR" requirements were promulgated and enforced by the partial revision of Ordinance of the Ministry of Internal Affairs and Communications (MIC) No.100 for Radio Equipment and related notifications. According to this revision, **SAR measurement is** a mandatory, "in case of the test radio equipment which are housed in a radio equipment to be received SAR certification with the function of multiple radio waves transmission simultaneously."

*The test radio equipment for SAR certification should be...

- A: Mobile phones (CDMA, W-CDMA, LTE, etc.)
- B: Broadband Wireless Access Systems (WiMAX, AXGP, TD-LTE)
- C: Satellite phone (Iridium)
- D: Satellite phone (Thuraya)
- E: Satellite phone (Inmarsat *GSPS type)

*The test radio equipment to be required SAR measurement are equipment with the function of multiple radio waves transmission simultaneously and.....

- F: Digital Cordless Telephone
- G: PHS
- H: Low Power Data Communication System (Wireless LAN except 60GHz & Quasi-millimeter band)

Normal use condition	Radio Equipment			
	A/B/C/D/E only	F/G/H only	A/B/C/D/E and F/G/H (housed in the equipment to receive SAR certification)	
			A/B/C/D/E	F/G/H
Human head (*1,*2)	SAR	No SAR	SAR	No SAR → SAR (Issued on 1 st December 2015)
Human body (*3)	SAR	No SAR	SAR	SAR

It is the responsibility of end product manufacturer or certified dealer to obtain SAR, in case any certified embedded module which will be used in the proximity of the human head (*1,*2) and/or the body(*3).

*1 Transmission information of the module should be the telephone -included acoustic broadcast- and the combination of telephone and others.

*2 The module should emit radio wave in the proximity of human head.

*3 Transmitting antenna should be distanced from the human body-except the head and hands- within 20cm.

FAQ

Q1: What is SAR?

A1: SAR (Specific Absorption Rate) is the measurement to regulate radio waves strength to see if it stimulate the human body. The stimulation means some radio waves raise the whole or part of body's temperature as the resolution of induced current generation after the radio waves were absorbed into human body.

The radio waves protection guideline of the MIC is equivalent for "The International Guideline" supported by the World Health Organization (WHO) that indicate the factor rate (1/50) as the sufficient safe strength of radio waves.

Q2: Why has the measurement range for SAR been widened?

A2: The reason of measurement methods and tolerances for SAR (Body SAR) has been systemized is that in response to the rapid spread of radio equipment that emit radio waves in the proximity of human body, SAR measurement methods have been standardized internationally. This standardization aims to secure the safety of radio equipment those will be used in close proximity to human body normally, in case radio waves are emitted simultaneously from a numbers of radio equipment.

Q3: How do I determine if our product is subject to Body SAR or not?

Our equipment is a digital photo frame equipped with 3G function. We assume the product will be used more than 20cm away from human body normally, however it might be touched by the end user body when they handle it.

A3: It's considered that the product is not subject of the Head SAR due to "your equipment's transmit information is not telephone" or "it will be not used in the proximity of human head".

As for Body-SAR subject, please refer to the ICCJ (Information and communication Certification Conference of Japan) guidelines.(Japanese version only) It's mentioned the determination criteria for Body-SAR as below....

Source:" The definition standard for Body-SAR control of ICCJ Guide line"

* Devices are subject of Body SAR control when the distance between antennas and the human body falls within 20cm under "Normal Use" regardless of the length of using time. However, it is not required the 0 % occasion when the radio equipment are not be used within 20cm in "Normal Use". The irregular condition is considered that users, inspectors, and passers might approach within 20cm sometimes*

*The Human body also be considered an excluded subject, therefor it is highly recommended to verify the instruction manual for more details.

NEWS TOPICS

Q4: Will a product composed with the module that had obtained antenna filings before this revision be subject to SAR after this enforcement is issued?

We are developing a new product that will be composed the 3G/4G certified module.

A4: Final products installed a wireless module which had certified before this partial revision and those are assumed to be use in close proximity to the head and the human body are subject of SAR and required to get certification.

Also "Certified dealers" are required to obtain "the Certification of Manufacturing and Construction Type", and redeem the following obligations as below

"Obligations to Conform to Construction Types (Article 38-25, Paragraph 1 of the Radio Law)"

"Prepare and maintain the examination records (Article 38-25, Paragraph 2 of the Radio Law)"

"Mark of Specified Radio Equipment Based on Certified Construction Type (Article 38-26 of the Radio Law)"

Please contact our sales division for further questions.

Reference materials

Official Gazette No. 6667, December 1st, 2015

<Ordinance>

Partial revision of the Ordinance Regulating Radio Equipment (MIC ordinance No.100)

<Notification>

*Radio equipment specified separately in notification by the MIC (MIC notification No.423)

*Measurement method of SAR at human body (except head and hands) and Measurement method of SAR at human head (MIC notification No.424)

*ICCJ Guideline for System Operations related to Body-SAR (Japanese ONLY)

<http://www.tele.soumu.go.jp/resource/j/equ/tech/faq/260401.pdf>

*About ICCJ (Japanese ONLY)

<http://www.tele.soumu.go.jp/j/sys/equ/tech/iccj/iccj1/index.htm>

Contact to :

DSP Research, Inc.

Phone: +81-78-940-0377

Facsimile: +81-78-940-0378

E-mail: sch_rf@dspir.co.jp