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TOPICS

On draft ministerial ordinances for the partial amendment of the Regulations for Enforcement of the Radio Law, the Rules for Regulating Radio Equipment and the Ordinance Concerning Technical Regulations Conformity Certification of Specified Radio Equipment (Inquiry No.31 of October 11, 2006)--Putting in place a system in conjunction with the introduction of 5GHz wireless LAN that can be used indoors and outdoors and does not require a license--

Outline of inquiry

In recent years, wireless LAN has, in addition to its use as an indoor LAN for building simple and cheap Internet connection environments in homes and offices, been used in coffee shops and as a wireless point in public places such as parks, as well as seen the expansion new types of use such as subscription lines for Internet services to the home (Last one mile).

In the midst of this, there has been a particularly noticeable increase in the use of 2.4GHz LAN which can be used indoors and outdoors and does not require a license, and there has been a demand for some time to secure new frequency bands that can be used for wireless LANs.

Against this background, the 5470 to 5725MHz band was allotted at the WRC (World Radiocommunication Conference)-03 in 2003 as a bandwidth for wireless LAN that can be used indoors and outdoors and does not require a license. In order to introduce this domestically as well, an inquiry was made to the Telecommunications Council to investigate technical conditions, and in its interim report of November 2004, the council reported on the technical standards for principal conditions for this type of wireless LAN, such as frequency distribution and antenna power.

On the other hand, in order to use the 5470 to 5725 range concurrently with the internationally

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used radar frequencies, it was made compulsory to install DFS (Dynamic Frequency Selection: a function which, when the wireless LAN detects radar, stops transmitting at that frequency and switches to another channel. in order to avoid interference from wireless LAN to radars). As for conditions for this measurement, it was decided to "respond while taking international trends into consideration" in order to insure international compliance.

Recently (June 2006), the American FCC (Federal Communications Commission), received the measurement conditions that were formulated to become actual international standards with regard to the functions of the DFS that should be installed by wireless LANs using the 5470-5725 range, and preparations were under way to put in place regulations for the domestic introduction of this type of wireless LAN.

Contents of amendments to ministerial ordinances

(1) Regulations for Enforcement of the Radio Law (related to article 6-4)
Add to radio stations that do not require licenses the frequency range (5470 to 5725 MHz) used by low-power data transmission system radio stations .

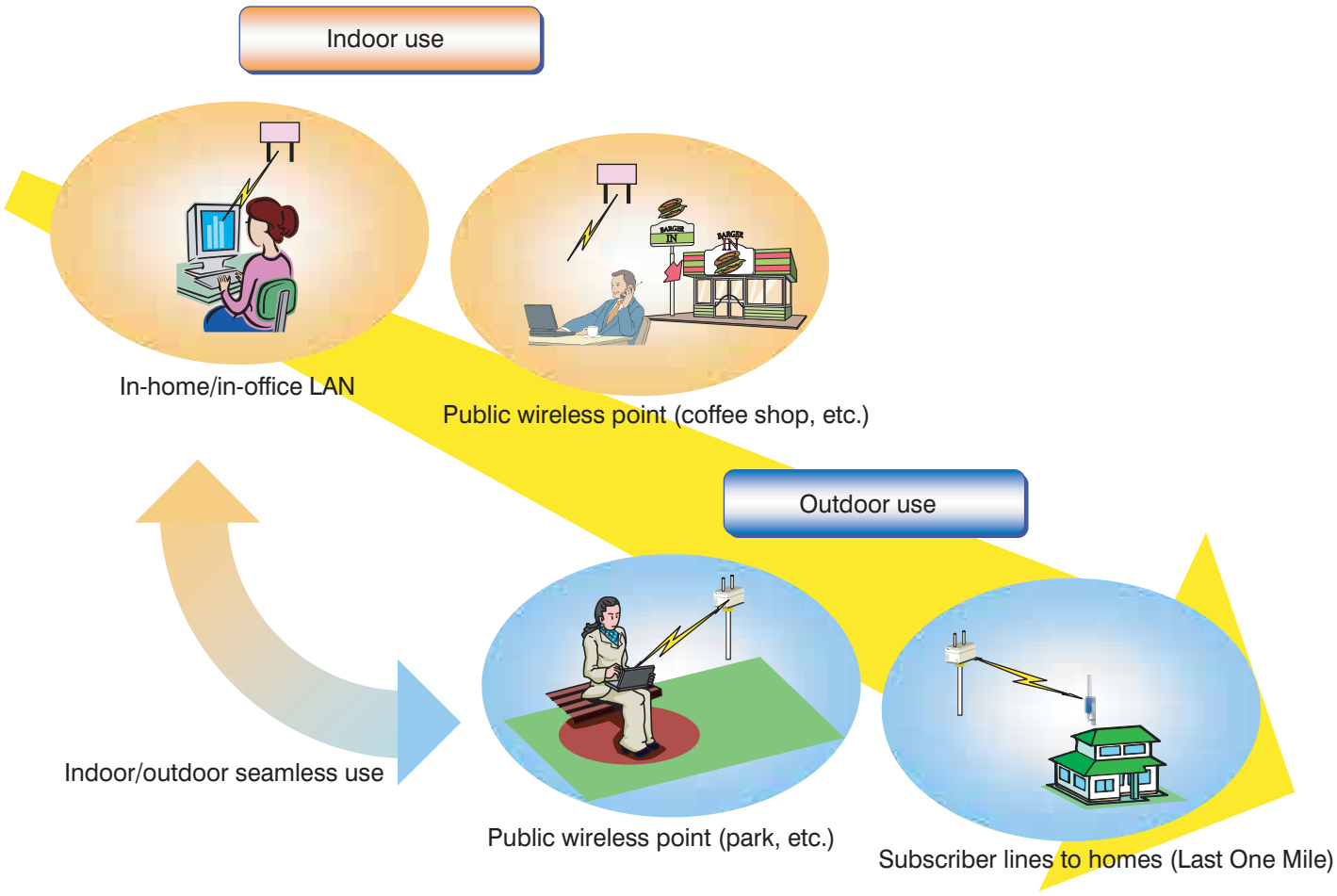
(2) Rules for Regulating Radio Equipment (related to articles 14, 49-20, annex No.1, annex No.2 and annex No.3)
Determine technical conditions for radio equipment for low-power data transmission system radio stations using the 5470 to 5725 MHz frequency range.

(3) The Ordinance Concerning Technical Regulations Conformity Certification of Specified Radio Equipment (related to article 2, annex No.1, annex No.2 and form No.7)
Determine regulations for specified radio equipment used for low-power data transmission system radio stations using the 5470 to 5725 MHz frequency range.

Date effective

Planned for January 2007 (effective following public announcement).

Expanding usage patterns for wireless LANs

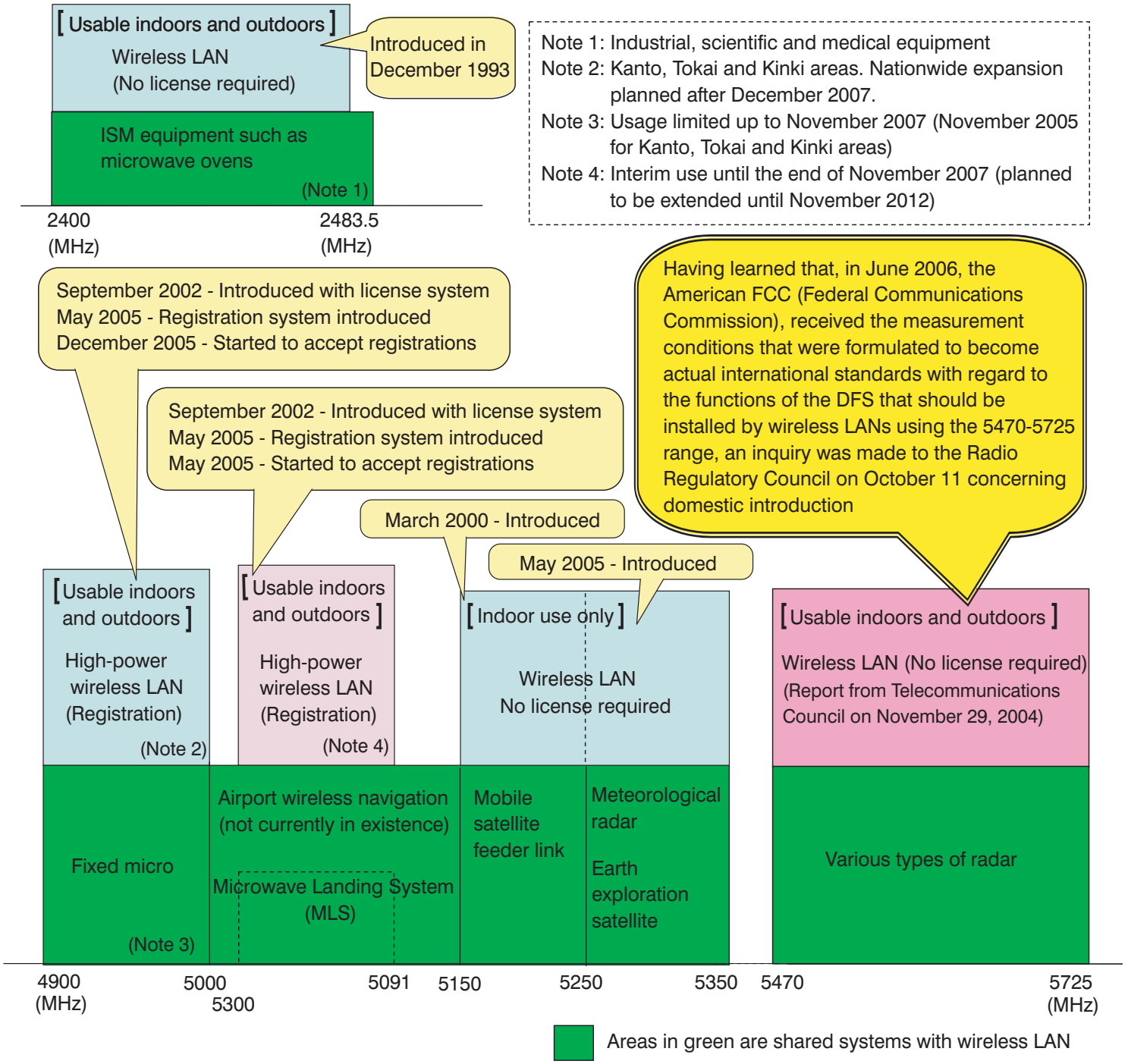


Outline of technical standards

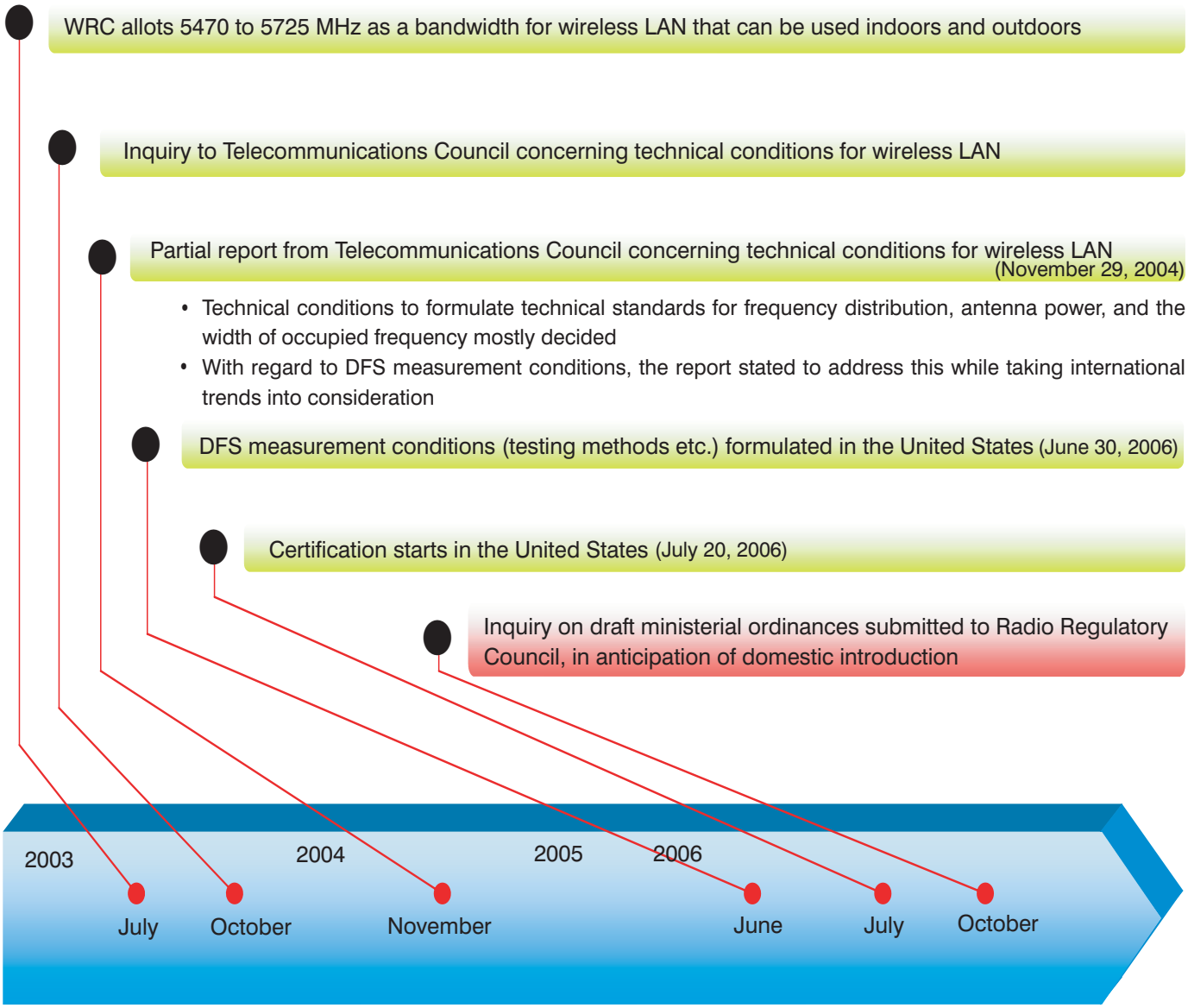
Frequency range	2.4 - 2.4835 GHz	4.9 - 5.0 GHz	5.03 - 5.091 GHz (See Note 3)	5.15 - 5.091 GHz	5.03 - 5.25 GHz	5.47 - 5.725 GHz (See Note 4)
Place of use	Indoor/outdoor			Restricted to indoor		Indoor/outdoor
Channel intervals	No regulations	5/10/20MHz		20MHz		
Maximum antenna power	In the case of the FH format using 2.427 to 2.47075 : Less than 3mW/MHz In the case of OFDM/DS formats that do not use the FH format : 10mW/MHz In the case of formats other than those above : 10mW	250mW and 50mW/MHz		In the case of OFDM/DS formats: 10mW/MHz In the case of single carrier format: 10mW		
Maximum antenna gain	12.14dBi	13dBi		No regulations		
Maximum e.i.r.p.	No regulations			10mW/MHz		50mW/MHz
DFS (See Note 1) TPC (See Note 2)	Unnecessary				Necessary (parent station only)	
Connection format	At discretion	Parent Station to mobile unit (hook-up possible)		At discretion	At discretion (mobile unit to mobile unit not possible)	
Maximum transmission speed	54 Mbps (See Note 5)					
Main international regulations	IEEE802.11b/g	IEEE802.11a/j		IEEE802.11a		
Licenses/ registration	No license required	Registration (not required for mobile units under 10mW)		No license required		
Main systems sharing frequencies	ISM equipment (microwave ovens, etc.)	Micro fixed stations	Microwave landing systems (MLS)	Mobile satellite feeder link	Meteorological radar, earth exploration satellite	Various types of radar

Note 1: DFS (Dynamic Frequency Selection): a function for shared use of frequencies by wireless LAN and radar
Note 2: TPC (Transmitter Power Control): a function to reduce wireless LAN communications related average antenna power by 3dB
Note 3: Interim use until the end of November 2007 (planned to be extended until November 2012)
Note 4: Frequency range and technical standards to be introduced this time
Note 5: Investigation under way by Telecommunications Council on technical conditions for regulations (high-speed wireless LAN) to bring about actual usage speeds of over 100Mbps

Increase in frequency range for use in wireless LANs



The approach so far for the introduction of wireless LAN to 5470 to 5725 MHz



COUNCIL REPORT

Results of the Tokyo meeting of ITU-T'S SG9

Background

The Study Group 9 of the Telecommunication Standardization Bureau of the International Telecommunications Union (ITU-T SG9) is responsible for the study of integrated broadband cable networks and television and sound transmission. In concrete terms, it handles standardization related to the transmission of programming material between cable television systems and broadcasting stations.

Whereas Japan on the one hand has had many successes in leading the world in the field of video transmission technology, the Study Group 9 was until now made up of only Europe and North America. This meeting was therefore hosted in Tokyo so as to promote standardization activities proposed by Japan as well as increase Japan's international presence.

It was the first time in 6 years that an ITU SG meeting was held in Japan.

Results of the meeting

The 3rd general meeting of the ITU-T's SG9 was held at the Keio Plaza Hotel in Tokyo's Shinjuku district from October 2 to 6, 2006.

There were 96 people in attendance from 27 organizations in 6 countries including Japan, the United States and the United Kingdom (There were 46 people attending from 12 Japanese organizations including MIC, KDDI, NHK, NTT, NEC and the Japan Cable Laboratories). The results included 30 recommendations, including the proposals from Japan, being put forward for approval.

The main results of this meeting were as follows:

o Agreement to put forward for approval the 7 recommendations submitted by Japan

There was agreement to put forward for approval procedures the three recommendations submitted by Japan relating to STBs and other equipment for FTTH bases, as well as the four recommendations relating to IPTV, including network structure for IPTV, supervision methods and programming materials transmission applications.

o Approval for topics on standardization submitted by Japan to be tackled full-scale in the future

With regard to digital cinema, a scalable encryption architecture that does not rely on the speed of transmission routes was put forward by Japan, and it was decided to continue with investigations with the aim of turning it into recommendation by 2008.

In addition, with regard to home networks, Japan proposed revisions and received agreement to add to the descriptions concerning the basic recommendations for home networks riding on top of cable networks, in (1) support for other access routes such as wireless LANs and PLC, (2) interconnection with Internet networks, and (3) private-sector standardization trends such as DLNA and ECONET.

o Implementation of related events (exhibition, study tours)

An exhibition was held of cable television related equipment by 17 Japanese and foreign companies (KDDI, J:COM, NEC and ARRIS from Japan), and was attended by a large number of related domestic visitors outside the participants, such as cable TV operators and manufacturers.

In addition, NHK Science & Technical Research Laboratories implemented study tours for foreign participants. Among these, demonstrations of Super Hi-Vision and ultra-high speed cameras were particularly well-received.

Future response

The draft recommendations that were put on the approval process at this meeting will be put through an opinion referral by member countries, after which they will be approved within the year as official recommendations.

The next meeting is planned for Geneva around June of next year. Japan plans to put forward more detailed recommendations concerning next-generation STB and IPTV, and digital cinema, as well as new proposals in fields such as large-capacity (256QAM, etc.) transmission formats for cable TV.