

⑤-1 Recent history of certification of Telecommunications Business Act.

— Test method of Internet Protocol mobile telephones —

Japan Approvals Institute for
Telecommunications Equipment

Yukio Hashimoto

Agenda

- Regulations for VoLTE
- Test items for IP telephone, LTE and VoLTE
- Measuring method of VoLTE
- Informational source about Certification
- JATE will be a general-incorporated foundation

LTE: Long Term Evolution

VoLTE: Voice over LTE

IP Phone: Internet Protocol Phone

Radio equipment subject to Certification in Telecommunications Business Act.

- Terminal equipment using radio waves for which user's request for connection cannot be refused
 - (Public notice of MPT No.72 of 1994)
 - Para 1: Act. 9 of Ordinance Concerning Terminal Facilities, etc.
 - Para 2: Mobile telephone terminals, terminals for private circuit facilities, etc. using radio equipment
 - http://www.soumu.go.jp/main_content/000192344.pdf

Amendment of Ordinances, etc. to institute technical regulation for VoLTE

- Ordinance Concerning Technical Standards Conformity Approval, etc. for Terminal Equipment
 - **Test method of Technical Standards Conformity Approval, etc. for Terminal Equipment***
- Ordinance Concerning Terminal Facilities, etc.
 - Mobile telephone terminals for which the application of Ordinance Concerning Terminal Facilities, etc. is extremely unreasonable
 - Electrical conditions, etc. for VoIP Phone Terminals and Terminals for private circuit facilities, etc.
- Ordinance Concerning Telecommunications Facilities for Telecommunications Business

* Public notice of MIC No.99 of 2004

Regulations about VoLTE

- LTE terminals (Act. 49-6-9 of Ordinance Regulating Radio Equipment)
 - 2010.7.22 amendment
- Internet Protocol telephone terminals
 - 2011.4.1 enforcement
- AXGP terminals (Act. 49-29 of Ordinance Regulating Radio Equipment)
 - 2011.7.12 amendment

AXGP: Advanced eXtended Global Platform
- Internet Protocol mobile telephone terminals
 - 2013.3 enforcement (schedule)
 - Public comment (2012.11.27), result presentation (2013.1.29)
 - http://www.soumu.go.jp/menu_news/s-news/01kiban05_02000035.html

Test method of LTE (Appended Table 7)

- 1 Basic functions (Originating a call)
- 2 Basic functions (Responding to a call)
- 3 Basic functions (Terminating communication)
- 4 Restriction of originating calls
- 5 Timing of transmission
- 6 Random access control
- 7 Time alignment control
- 8 Function to comply with instruction to suspend transmission
- 9 Location registration control
- 10 Function to comply with instruction to switch channel
- 11 Reception signal level notification functions
- 12 Function to automatically suspend transmission in the event of deterioration of reception level, etc.
- 13 Function to secure essential communications

Test method of IP telephone terminals*

(Appended Table 1, Para 6)

- 1 Sending message to set up, respond and disconnect a call.
originating a call, responding to a call and terminating communication.
- 2 Transmission timing of communication termination message.
non-response and busy line
- 3 Automatic redialing
- 4 Registration of identification information
- 5 Congestion notification function
- 6 Emergency call function
- 7 Electrical conditions, etc. of metallic transmission channel or optical transmission channel interface, etc.
- 8 Signal output power in the case of communications with an analog telephone terminal, etc.

* Test method of “Terminals using coaxial cable interface” is also written in appended Table 3.

Test method of VoLTE

1 Basic functions

1.1 Circuit control

- (i) Originating a call
- (ii) Responding to a call
- (iii) Terminating communication

1.2 Phone call control

- (i) Originating a call
- (ii) Responding a call
- (iii) Terminating communication

2 Call origination functions

2.1 Restriction of originating calls

2.2 Time restriction of automatic redialing

2.3 Limitation of automatic redialing

3 Timing of transmission

4 Random access control

5 Time alignment control

6 Function to comply with instruction to suspend transmission

7 Location registration control

8 Function to comply with instruction to switch channel

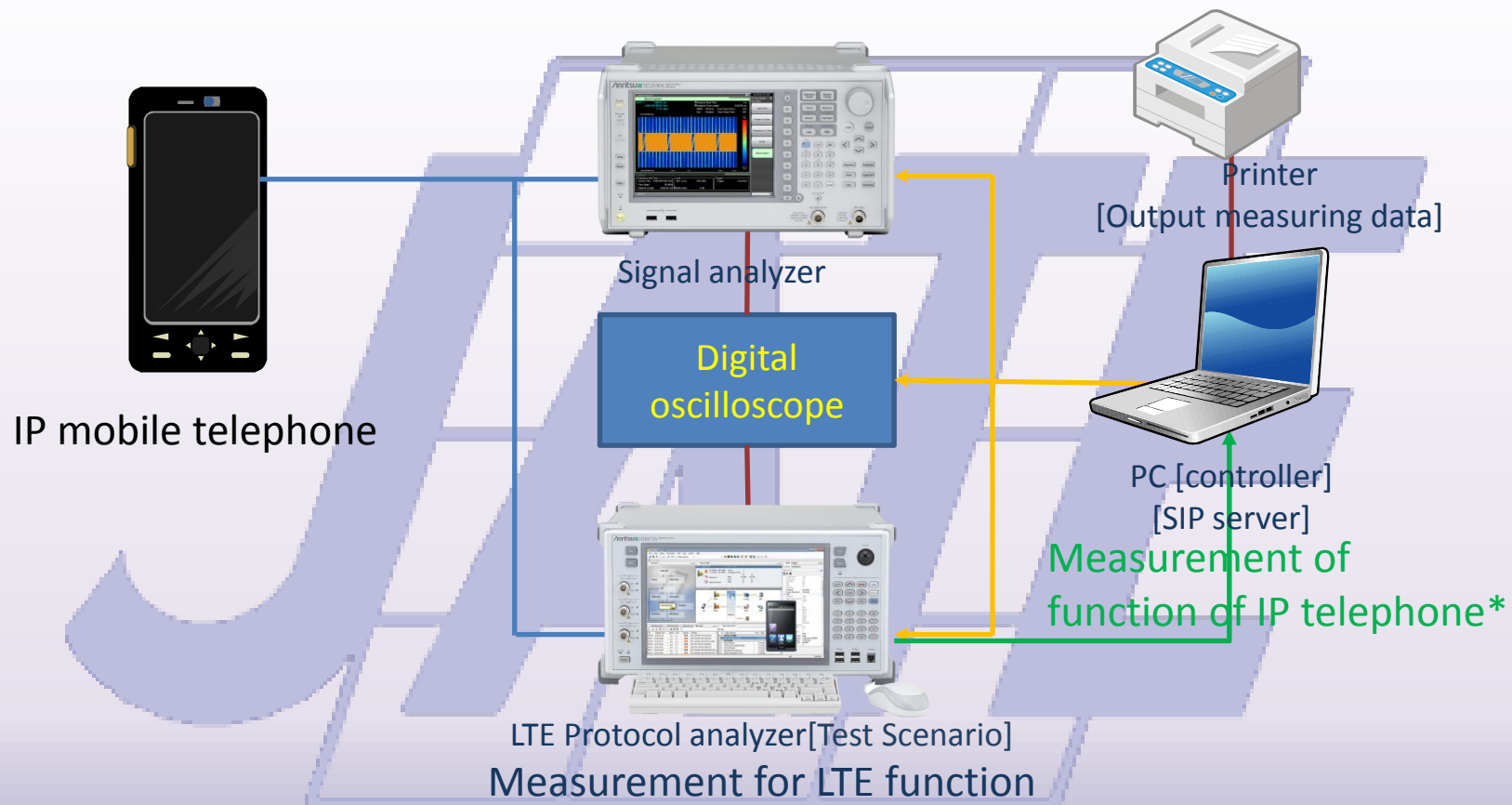
9 Reception level notification functions

10 Function to automatically suspend transmission in the event of deterioration of reception level, etc.

11 Function to secure essential communications

12 Emergency call function

Example of measurement structure



* A SIP server may function as a LTE Protocol analyzer as well

LTE Test form and measuring data

AP Form D-LTE1 (1) 第54条の8 (基本的機能)

基本的機能 (1 / 1)

第34条の8 専用通信回線設備等端末は、総務大臣が別に告示する電氣的条件及び光學的条件のいずれかの条件に適合するものでなければならない。(第2項省略)

平成23年総務省告示第87号(平成23年3月22日施行)

1 基本的機能

- (1) 発信を行う場合においては、発信を要求する信号を送出するものであること。
- (2) 応答を行う場合においては、応答を確認する信号を送出するものであること。
- (3) 通信を終了する場合においては、チャネルを切斷する信号を送出するものであること。

- (1) 該当する欄に“O印等”を記入して下さい。
- (2) 該当する項目がない場合は、() 内に記入して下さい。
- (3) 添付される測定データは、該当メッセージにマーキングして下さい。

1. 申込機器が、発信を行う場合に送出的「発信を要求する信号」を記入して下さい。

<input checked="" type="radio"/> 1. RRC Connection Request	別紙一	TRACE_34_8_1_1
2. その他 ()		

2. 応答

2. 1 申込機器が、応答を行う場合に送出的「応答を確認する信号」を記入して下さい。

<input checked="" type="radio"/> 1. RRC Connection Request RRC Connection Setup Complete : Service Request RRC : Security Mode Complete RRC Connection Reconfiguration Complete	別紙一	TRACE_34_8_1_2
2. その他 ()		

2. 2 申込機器には、文字伝送サービス機能がありますか。

<input checked="" type="radio"/> 1. あり → 第(1)項へ
2. なし

(1) 事業者名、サービス名をあげて下さい。

事業者名	サービス名
<input checked="" type="radio"/> 3 GPF仕様準拠の「ショートメッセージサービス (SMS)」を提供する事業者	

(2) 申込機器が、SMSの応答を行う場合に送出的「応答を確認する信号」を記入して下さい。

<input checked="" type="radio"/> 1. RRC Connection Request RRC Connection Setup Complete : Service Request RRC : Security Mode Complete Uplink NAS Transport (CP-REQ) Uplink NAS Transport (CP-DATA)	別紙一	TRACE_34_8_1_2
2. その他 ()	別紙一	

3. 申込機器が、通信を終了する場合に送出的「チャネルを切斷する信号」を記入して下さい。

<input checked="" type="radio"/> 1. 申込機器は通信の終了に際して「チャネルを切斷する信号」を送出しないため本条項に該当しません。		-
2. その他 ()	別紙一	

4. 測定系統図及び測定方法

<input checked="" type="radio"/> 総務大臣が告示した試験方法により、測定しました。
総務大臣が告示した試験方法と同等以上の試験方法で測定しましたので、表の資料を別紙として添付します。
①測定回路、②測定方法。

TRACE_34_8_1_1

基本の機能-発信を要求する信号	時間	メッセージ
<input checked="" type="radio"/>	00:00:21.897	RRC CONNECTION REQUEST【発信を要求する信号】
<input type="radio"/>	00:00:21.908	RRC Connection Setup
<input type="radio"/>	00:00:22.137	RRC Connection Setup Complete
<input type="radio"/>	00:00:22.215	DL Information Transfer / AUTHENTICATION REQUEST
<input type="radio"/>	00:00:22.308	UL Information Transfer / AUTHENTICATION RESPONSE
<input type="radio"/>	00:00:22.371	DL Information Transfer / SECURITY MODE COMMAND
<input type="radio"/>	00:00:22.417	UL Information Transfer / SECURITY MODE COMPLETE
<input type="radio"/>	00:00:22.433	DL Information Transfer / ESM INFORMATION REQUEST
<input type="radio"/>	00:00:22.495	UL Information Transfer / ESM INFORMATION RESPONSE
<input type="radio"/>	00:00:22.527	Security Mode Command
<input type="radio"/>	00:00:22.589	Security Mode Complete
<input type="radio"/>	00:00:22.605	UE Capability Enquiry
<input type="radio"/>	00:00:22.651	UE Capability Information
<input type="radio"/>	00:00:24.071	RRC Connection Reconfiguration
<input type="radio"/>	00:00:24.102	RRC Connection Reconfiguration Complete
<input type="radio"/>	00:00:24.180	UL Information Transfer / ATTACH COMPLETE

- Example of LTE Test Scenario and measuring data output by software.
- Development-measuring instruments for VoLTE by cooperating with measuring instrument manufacturers.

Informational source about certification of telecommunications equipment

- Japan Approvals Institute for Telecommunications Equipment
 - <http://www.jate.or.jp>
- Japan Voluntary Laboratory Association for Telecommunications Equipment
 - <http://www.jvlate.gr.jp/>
- Ministry of Internal Affairs and Communications
 - “Certification System for terminal equipment”
 - http://www.soumu.go.jp/main_sosiki/joho_tsusin/tanmatu/index.html
 - Electronic government “e-Gov” legal research system
 - <http://law.e-gov.go.jp/cgi-bin/idxsearch.cgi>
 - “Information and Communication Policy Site”
 - http://www.soumu.go.jp/main_sosiki/joho_tsusin/eng/Resources/Legislation/MRA/index.html
 - “Japanese Law Translation”
 - <http://www.japaneselawtranslation.go.jp/>
- CIAJ
 - 2011.03.10 Seminar “Function requirement and Test method for IP telephone terminals”
 - <http://www.ciaj.or.jp/jp/topics/topics2011/2011/03/16/6350/>

JATE will be a general-incorporated foundation

**Japan Approvals Institute
for Telecommunications Equipment
(JATE)**

**will become a general-incorporated foundation
on April 1, 2013.**

Summarize

- Regulations for VoLTE
- Test method of VoLTE
- Measuring method of VoLTE
 - Test scenario , development of software to output measuring data.
- Informational source about certification

Thank you for your attention!

