



**Title:** PVG60\_0016\_13\_Status\_Report\_Devices\_Not\_Supporting\_Speech.doc  
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**Subject to PVG#:** PVG#60 meeting

## 1. Introduction

PTCRB has raised an issue of Device Not Supporting Speech again in PVG#48 meeting in Feb, 2010. TTA volunteered to be a rapporteur on this issue to report PTCRB and PVG by collecting information from PVG members.

## 2. Status

There have been many discussions and modifications in 3GPP meetings for few years. Now there's nothing to be on discussion in 3G part. But, there are several discussions ongoing in 2G part.

In detail, GERAN WG3 had started investigating the 51.0101 test cases applicability in regard to DNSS (e.g. GPRS only devices) in GERAN3# 50 meeting. This action was allocated to many GERAN members and is ongoing now. According to the recent GERAN3 report, the status of this action is as follows.

Action ID	Action	Responsible	Relevant Tdoc	Deadline	Status
AP#50.06	To investigate the 51.010 Test cases applicability in regard to devices not supporting CS (e.g. GPRS only devices) See table below for TC allocation to companies	Sierra Wireless, R&S, Samsung, RIM, Qualcomm, Anite, Agilent, Renesas, ST Ericsson		G3#56 See Table below for completion	Open

Company	Section	Status
R&S	11	
ST Ericsson, R&S	12	
ST Ericsson, R&S	13-14	
R&S	15-19	Completed
Qualcomm, R&S	20	
Anite, Agilen	21-22	Completed
Sierra Wireless	27	
Sierra Wireless	33(?), 34	
Renesas, Cetecom	40-43, 50-53	Completed
Sierra Wireless	44-46	Completed
RIM	58a-58d	
Samsung	60	
FFS	80-84	
Samsung	Not applicable to GPRS only devices: 25, 26, 28, 29, 30, 31, 32, 47, 57, 70, 90	

Through this kind of action, there have been many changes in the related specifications. The below table shows what were discussed and changed for DNSS.

3GPP meeting	Doc #	Summary	Specification affected
GERAN#45	GP-100487	Test cases applicability in Table B.1 changed to "MS supporting CC protocol for at least one bearer capability" and status to "C43". Applicability of TC 33.6 in Table B.1 is changed to "MS supporting Subscription identity management and supporting CC protocol for at least one Bearer Capability" and status "C202" is modified to add the additional PICS parameter.	51.010-2
GERAN#46	GP-100661	Test case applicability in Table B.1 is changed to "MS supporting Repeated SACCH and supporting CC protocol for at least one Bearer Capability".	51.010-2
	GP-100684	New Generic call setup procedures introduced in section 10.1a and 10.2a: Generic call set-up procedure for mobile terminating signaling only connection Generic call set-up procedure for mobile originating signaling only connection	51.010-1
	GP-100685	Test procedure adapted: For signaling only connection the SS simulates a base station with DTX off	51.010-1
GERAN#49	GP-110403	TCH (signaling only) specified as the only channel type to be used for setting up the signaling only connection by Generic call setup procedures. A PIXIT declaration added to describe the way how to avoid the disconnect of the RR connection during the TCH (signaling only) connection.	51.010-1
	GP-110404	TCH loop on FACCH in Signaling Only mode isn't available and can't be used. SS commands TCH loop removed from initial conditions	51.010-1
	GP-110406	To test signaling only devices the TCH setup should not be restricted to speech or data channels. Restriction to TCH/FS or TCH (F9.6, F4.8, F2.4) removed from initial conditions	51.010-1
	GP-110442	Applicability for data only devices unclear. Unused Specific PICS references removed from applicability table for test cases in section 31.9	51.0101-2
GERAN#51	GP-111016	Test Case Applicability for GPRS-only Devices is defined	51.010-2
	GP-111036	Section 70 changes for devices not supporting speech - The option of using the procedure in sub clause 10.1a is added for devices not supporting speech. - The signaling call-flow to be used is changed from "TBD" to point to the procedure in sub clause 10.1a.	51.010-1
GERAN#52	GP-111508	A new applicability condition for test case 26.6.11.3 for DNSS is proposed	51.010-2
GERAN#53	GP-120359	Introduction of an additional power cycle for an MS that does not support any MO circuit switched basic service, in order to start the subsequent location update procedure.	51.010-1

	GP-120362	Removal of MO CM connection attempt and subsequent verification of timer T3212 for MS that does not support at least one MO circuit switched basic service	51.010-1
	GP-120367	MO generic call setup procedure for Signaling Only devices may be limited and causes implementation problems to run the scenario of radio link timeout. Correction of RADIO_LINK_TIMEOUT handling for SACCH and BCCH to better cover the test purpose.	51.010-1
	GP-120088	MO generic call setup procedure for Signaling Only devices may be limited and causes implementation problems to run the scenario of Repeated SACCH. MO generic call setup procedure changed to MT call setup procedure	51.010-1
	GP-120090	To test signaling only devices the TCH setup should not be restricted to speech or data channels Restriction to TCH/FS or TCH (F9.6, F4.8, F2.4) removed from initial conditions	51.010-1
	GP-120373	Some specific conformance requirement testing the Combined GPRS/IMSI attachment are not applicable for GPRS only devices. The applicability of these tests is then changed to include the GPRS Only devices	51.010-1
	GP-120374	Applicability of these tests is then changed to include the GPRS Only devices.	51.010-2
GERAN#54	GP-120460	Modification of TC 41.1.5.x.x for GPRS only MS	51.010-1
	GP-120463	Modification of TC 42.4.2.3.5 for GPRS only MS	51.010-1
	GP-120465	Modification of TC 42.4.8.7 for GPRS only MS	51.010-1
	GP-120470	Modification of TC 51.1.5.x.x for GPRS only MS	51.010-1
	GP-120478	Small updates on some GMM GPRS Only TC	51.010-1
	GP-120479	Small updates after GMM GPRS Only modification	51.010-2
GERAN#55	GP-121046	The contents for GPRS Only devices was added in Initial conditions and procedures of TC21.1 and 21.2	51.010-1
	GP-120888	Update the 'Applicability' of 22.1 not applicable for GPRS only device	51.010-2
GERAN#56	GP-121188	Clarifications for packet switched only (GPRS Class C) MS	51.010-1
	GP-121189	Clarifications for packet switched only (GPRS Class C) MS	51.010-1

### 3. Discussion

At the PVG#59 meeting, PTCRB suggested that PVG verifies the current PICS to define PS-only devices or not.

Regarding verifying PICS or other conditions to define PS-only devices,

As mentioned above, a modification of the related specifications in 3G had been already done but, it's still ongoing in 2G. The reason of not completing in 2G might be related to the different developing way btw two technologies.

As you know, the concept of divided CS and PS domains had been introduced since starting of 3G technologies and this concept was reflected in the specifications. Therefore, it's not difficult to find some common PICS to define PS-only devices in all test cases.

However, there was no concept of a PS domain at the starting of 2G. 2G Circuit switched service (GSM) had started first and then Packet switched services (GPRS and EDGE) were added. Due to this original or historical characteristic, there was no full consideration on the way of making applicability to identify PS-only devices in most test cases of GSM. For example, even though a GPRS only device, most GSM test cases should be tested because current PICS of most GSM test cases can't identify PS-only devices.

If we particularly modify the specifications to identify PS-only devices in 2G, the below cases should be considered and reflected in the related specifications.

- Case 1. GSM test cases using call procedure
  - ➔ The condition such as PICS should be modified and added to exclude PS-only devices from all GSM test cases (except for regulatory test cases)
- Case 2. regulatory test cases of GSM
  - ➔ The call procedure should refer to the generic call setup for signaling only connection.
- Case 3. test cases in which a usage of keypad or display is necessary
  - ➔ New condition should be considered to exclude PS-only devices from test cases in which a usage of key pad or display is necessary because most PS-only devices have no or limited interfaces.

As Case 1, test cases which need to be modified are as below.

Clause	Title	Applicability	Status
15.1	Timing advance and absolute delay	IF A.25/26 THEN A ELSE N/A	C43
17.1	Intra cell channel change	IF A.25/26 THEN A ELSE N/A	C43
17.2	Inter cell handover	IF A.25/26 THEN A ELSE N/A	C43
18.1	Temporary reception gaps, single slot	IF NOT A.25/50 THEN A ELSE N/A	C1
19.1	Channel release after unrecoverable errors -1	IF NOT A.25/50 THEN A ELSE N/A	C1
19.2	Channel release after unrecoverable errors - 2	IF NOT A.25/50 THEN A ELSE N/A	C1
19.3	Channel release after unrecoverable errors - 3	IF NOT A.25/50 THEN A ELSE N/A	C1
26.7.2.2	Authentication rejected	All MS	A
26.7.4.3.4	Location updating / abnormal cases / attempt counter less or equal to 4, stored LAI equal to broadcast LAI	All MS	A
26.7.4.5.2	Location updating / periodic normal / test 1	All MS	A
26.7.5.2	MM connection/establishment with cipher and repeated FACCH	All MS	A
26.7.5.3	MM connection / establishment without cipher	All MS	A
70.7.4.1 (note1)	Network Induced Location Request Emergency Call on TCH for mobiles supporting MS-Based GPS	All MSs supporting LCS MS-Based GPS and not supporting MS-Based A-GANSS	C283
70.7.4.2 (note1)	Network Induced Location Request Emergency Call on TCH for mobiles supporting MS-Assisted GPS	All MSs supporting LCS MS-Assisted GPS and not supporting MS-Assisted A-GANSS	C284
70.7.4.3 (note1)	Network Induced Location Request Emergency Call on TCH Radio Channel, no IMSI for Mobiles Supporting MS-Based GPS	All MSs supporting LCS MS-Based GPS and not supporting MS-Based A-GANSS	C283
70.7.4.4 (note1)	Network Induced Location Request Emergency Call on TCH, no IMSI for mobiles supporting MS-Assisted GPS	All MSs supporting LCS MS-Assisted GPS and not supporting MS-Assisted A-GANSS	C284

note1: Modification CR will be submitted by Spirent next GERAN meeting

As Case 3, the test cases which need to be modified in their applicability are as below.

- 31.x supplementary services
- 27.14.x Secret code usage
- 27.18.x Fixed dialling number(FDN)
- 27.22.x SIM application toolkit

Anyway, as mentioned above, various conditions depending on test cases should be considered to verify PICS for PS-only devices across the all 2G test cases. Also, GERAN3 was already aware of it and keeps the related action open now. Therefore we need to wait for their discussion rather than PVG tries to do directly something like defining PICS.

At this meeting, I would like to ask you whether our today's discussion needs to be sent to GERAN3 through LS. On the purpose of letting GERAN3 to know industry's situation and accelerating their action, sending a LS might be good.

#### 4. Actions

- Rapporteur
  - a) To monitor specification development status and report to meetings
  - b) To do a role of contact with other meetings
- Test platform vendors: to ensure that their test case implementation will cover the changed 3GPP test specifications for devices not supporting speech.
- PVG members : to report to a rapporteur which test cases have a problem for DNSS (including Packet Switched only devices).

#### 5. History

Meeting	Date	Source	Discussion/Decision
PVG#59	Oct. 2012	TTA	The result on discussion about DNSS in GERAN3#55 was reported [17] The Discussion about PTCRB's input was reported
PVG#57	May 2012	TTA	The result on discussion about DNSS in GERAN3#53 and GERAN3#54 was reported [16]
PVG#56	Mar. 2012	TTA	The result on discussion about DNSS in GERAN3#52 was reported [15]
PVG#55	Nov. 2011	TTA	The result on discussion about DNSS in GERAN3#51 was reported [14]
PVG#54	Aug. 2011	TTA	The result on discussion about DNSS in GERAN3#50 was reported The status of discussion on Classmark Check test case related Device not supporting speech was reported [13]
PVG#53	Jun. 2011	TTA	There were some modifications in GERAN3# 49 and those were reported[12]
PVG#52	Mar. 2011	TTA	The results of GERAN WG3 #48 meeting is reported and It is still ongoing in GERAN WG3 on modifying the related specifications[11]
PVG#51	Nov. 2010	TTA	It is still ongoing in GERAN WG3 side on developing new generic call procedure for Signaling only MS[10]
PVG#50 / Post meeting	Sep. 2010	TTA	The question about specific scenario called SDCCH only device that do not support TCH/F was raised and discussion was started[9]
PVG#50	Aug. 2010	PVG	It seems like it would be required to have more discussions in SDO side PTCRB would like to keep this issue open until all test cases have been resolved, implemented and validated on test equipment[8] An action was given to test platform vendors to ensure that their test case implementation will cover the changed 3GPP test specifications for devices not supporting speech[8]
PVG#49 / Post meeting	May 2010	TTA <i>et al.</i>	In the aspect of specification, all the test cases that were reported by test platform vendors(Aeroflex, Anite, Anritsu, Comprion, R&S and Spirent) and test laboratories(Motorola ADR, MTCC, PTL, RFI, Segal, Sporton, and TTA) are corrected and updated[7]
PTCRB# 59 PVG Adhoc	Mar. 2010	PVG Chair	It needs to be clarified that test cases can be executed for Non-speech terminals when the test case is applicable to either "non-speech devices" or even "all MS/UE/devices". If a test case is applicable to all MS/UE, it must be possible to establish a call either on basis of a Speech Channel or Data Channel
PVG#48	Feb. 2010	PTCRB/ PVG Chair	PTCRB chair and PVG chair called all members' attention to Device not supporting speech To report status information to TTA about identified issues with data-only devices(test specification problems, test cases not

			validated for devices not supporting speech) and inform PVG regarding the identified issues when testing data-only devices[6]
PVG#47	Nov. 2009	PVG Chair/R&S, Comprion	Two new GERAN WG3 CR were reported[5] Issues for terminals not supporting speech call for TS 51.010-4 and TS 31.124 are solved[4]
PVG#45	Jun. 2009	Ericsson	New GERAN WG3, RAN5 CRs were reported[3]
PVG#42 / Post meeting	Sep. 2008	Ericsson	List of 3GPP RAN5 and PVG documents that related to Non-speech terminals were presented[2]
PVG#42	Aug. 2008	PVG Chair	Agenda Item "Devices not supporting speech" opened and maintained
		RFI	Some test cases within TS51.010-2 have applicability statements that are not suitable for a packet data device not supporting any circuit switched speech or data services which means that these tests cases cannot be executed using the method in TS51.010-1[1]

## 6. Reference

- [1] PVG42\_2156\_08\_GERAN\_PACKET\_DATA\_ONLY\_DEVICE\_R2
- [2] PVG42\_2266\_08\_Non\_speech\_terminals\_3GPP\_CRs\_r1
- [3] PVG45\_0123\_09\_report\_rev1
- [4] PVG47\_0183\_09\_C6-090319
- [5] PVG47\_0227\_09\_report\_rev2
- [6] PVG48\_0001\_10\_agenda\_rev4
- [7] PVG49\_0130\_10\_Status\_Report\_Devices\_Not\_Supporting\_Speech\_rev3
- [8] PVG50\_0200\_10\_report\_rev0
- [9] PVG50\_0199\_10\_Status\_Report\_Devices\_Not\_Supporting\_Speech\_r1
- [10] PVG51\_0265\_10\_Status\_Report\_Devices\_Not\_Supporting\_Speech
- [11] PVG52\_0008\_11\_Status\_Report\_Devices\_Not\_Supporting\_Speech
- [12] PVG53\_0090\_11\_Status\_Report\_Devices\_Not\_Supporting\_Speech
- [13] PVG54\_0156\_11\_Status\_Report\_Devices\_Not\_Supporting\_Speech\_r1
- [14] PVG55\_0207\_11\_Status\_Report\_Devices\_Not\_Supporting\_Speech\_r1
- [15] PVG56\_0297\_12\_Status\_Report\_Devices\_Not\_Supporting\_Speech\_r1
- [16] PVG57\_0358\_12\_Status\_Report\_Devices\_Not\_Supporting\_Speech
- [17] PVG59\_0520\_12\_Status\_Report\_Devices\_Not\_Supporting\_Speech\_r1