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Contents

Intellectual Property Rights 7

Foreword 7

Introduction 7

1 Scope 8

2 References 8

3 Definitions, symbols and abbreviations 8
3.1 Definitions 8
3.2 Symbols 8
3.3 Abbreviations 9

4 Logical model of test interface 10
4.1 Overview of logical test interface 10
4.2 Generic call set up procedures [Initial Acquisition Sequence] 10
4.2.1 Initial Conditions [Initial Acquisition] 10
4.2.2 Authentication [TBD] 10
4.2.3 Procudure [TBD] 10
4.2.4 Specific message contents [TBD] 11
4.3 Logical service model 12
4.4 List of logical service 12
4.5 Extension of logical test interface 13
4.5.1 Multiple channels(=codes) and multiple calls 13

5 Test parameters and data 13
5.1 Overview of test parameters/data 13
5.1.1 Test object and logical service for parameters/data 13
5.1.2 Setting and retrieving service sequence 15
5.2 Parameter and data group 16
5.3 Parameter list 17
5.3.1 Identification 17
5.3.2 Test mode 17
5.3.3 Frequency, chip rate and modulation configuration 18
5.3.4 Power configuration 18
5.3.5 Threshold 19
5.3.6 Loopback configuration 19
5.3.7 Timing configuration 20
5.4 Data list 20
5.4.1 Tx(Transmitter) status 20
5.4.2 Synchronization status 21
5.4.3 Forward link performance 21
5.4.4 Timing status 22
5.4.5 Traffic status 22

6. Test control operation 23
6.1 Test object and logical service for test control operation 23
6.2 List of test control operation 23
6.3 Extension of the test control operation 23
6.4 Sequence of test control operation 24
6.4.1 Tx(Transmitter) carrier on/off control 24
6.4.2 Loopback start/stop 25
6.4.3 DTX(Discontinuous transmission) on/off control 26
6.4.4 AFC(Automatic Frequency Control) on/off control 27
6.4.5 Tx(Transmitter) modulation on/off control 28

7. Underlying protocol and physical test interface 29

Annex <yy> (normative): Title of normative annex [TBD] 30

yy.1 First clause of this normative annex [TBD] 30

Bibliography 31

History 32

Intellectual Property Rights

Foreword

Introduction

1 Scope

This present document specifies the logical test interface for FDD between MS(Mobile Station) and Tester.

2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, subsequent revisions do apply.
- A non-specific reference to an ETS shall also be taken to refer to later versions published as an EN with the same number.

[1] [TBD]

3 Definitions, symbols and abbreviations

3.1 Definitions

For the purposes of the present document, the following definitions apply:

MS(Mobile station) : MS is under test process via the logical test interface.
Tester : Test system (or equipment) which drives the test process between MS, like BS(Base Station) simulator.
User : Test user, who handles the test and measurement process via the logical test interface
Logical test interface : It provides the logical service to interwork and to communicate between MS and Tester.
Logical service : Logical service is composed of message set (Set/Get/Action), which works upon test object from Tester to MS.
Test object : Each test condition and item is defined as test object logically.

3.2 Symbols

For the purposes of the present document, the following symbols apply:

[TBD]

3.3 Abbreviations

For the purposes of the present document, the following abbreviations apply:

AFC	Automatic Frequency Control
AS	Antenna Selection
BCH	Broadcast Channel
BS	Base Station
DL	Down link (forward link)
DTX	Discontinuous transmission
DCH	Dedicated Channel
DCCH	Dedicated Control Channel
DHO	Diversity Handover
DPCCH	Dedicated Physical Control Channel
DPDCH	Dedicated Physical Data Channel
DTCH	Dedicated Traffic Channel
FACH	Forward Access Channel
FDD	Frequency Division Duplexing
FER	Frame Error Rate
IMEI	International Mobile Equipment Identity
ISSI	Interference Signal Strength Indicator
LAC	Link Access Control
MS	Mobile Station
PCH	Paging Channel
PPM	Parts Per Million
RACH	Random Access Channel
RSCP	Received Signal Code Power
SCRN	Scrambling code Number
SIR	Signal to Interference ratio
TFI	Transport Format Identifier
TFCI	Transport Format Combination Identifier
TDD	Time Division Duplexing
TDTD	Time Domain Transmission Diversity
TMTI	Temporary Mobile Terminal Identity
TPC	Transmit Power Control
UE	User Equipment
UL	Up link (reverse link)

4 Logical model of test interface

4.1 Overview of logical test interface

Logical test interface provides the logical service to interwork for test purpose between MS and Tester, and is separate from test application. In a word, not depending on what to be tested, it provides the logical service for an access to MS from Tester. The service specification is shown in terms of:

- List of parameters/data, and test control operation(Loopback, etc.)
- Sequence how MS and Tester interwork each other using the logical service

About underlying protocol and physical test interface, see clause 7.

4.2 Generic call set up procedures [Initial Acquisition Sequence]

[Editor's Note : We have been discussing the initial acquisition sequence must be similar with GSM's one. But that study is still in progress. We reserved the stakeholder (subclause) for that information.]

4.2.1 Initial Conditions [Initial Acquisition]

A call is set up by [Tester] according to the generic call set up procedure.

The Mobile Terminating Speech call set-up procedure shall be as described in this section.

4.2.2 Authentication [TBD]

4.2.3 Procudure [TBD]

The Procedure for MS terminated call shown in the following is an example.

Step	Direction		Message	Comments
	MS	Tester		
1	<<<		System Info(BCCH)	
2	>>>		RRC Connection Request (CCCH)	
3	<<<		RRC Connection Setup (CCCH)	
4	>>>		UE Capability Information (DCCH)	
5	>>>		Direct Transfer (DCCH)	
6	>>>		Location Updating Request	
7	<<<		AUTHENTICATION REQUEST	
8	>>>		AUTHENTICATION RESPONSE	
9	<<<		CIPHER MODE COMMAND	
10	>>>		CIPHER MODE COMPLETE	
11	<<<		Location Updatig Accept	
12	>>>		TMSI Rellocation Complete	
13	<<<		SET UP	
14	>>>		CALL Confirmed	
15	>>>		ALERTING	

16	>>>	CONNECT	
17	<<<	Radio Access Bearer Setup	
18	>>>	Radio Access Bearer Setup Complete	
19	<<<	CONNECT ACKNOWLEDGE	

4.2.4 Specific message contents [TBD]

The Spcific message contents shown in the following is an example.

System Info(BCCH) to MS

Information Element	Value/remark

RRC Connection Setup (CCCH) to MS

Information Element	Value/remark

AUTHENTICATION REQUEST to MS

Information Element	Value/remark
Protocol Discriminator Skip Indicator Message Type Ciphering key seq. Number Authent. Parameter RAND	

CIPHERING MODE COMMAND to MS

Information Element	Value/remark
Protocol Discriminator Skip Indicator Message Type Ciphering mode setting Algorithm Identifier Cipher Response	

Location Updating Accepts to MS

Information Element	Value/remark

SETUP to MS

Information Element	Value/remark
Protocol Discriminator Call reference Message Type Called Party Number Called Party Sub-address Calling Party Number Calling Party Sub-address Narrow-band High Layer Compatibility QOS Parameter	

Repeat Indicator Mobile Bearer Capability, M-BC Information Transfer Rate Layer2 Trailer	

Radio Access Bearer Setup to MS

Information Element	Value/remark

CONNECT ACKNOWLEDGE to MS

Information Element	Value/remark
Protocol Discriminator Transaction Identifier Message Type	

4.3 Logical service model

As shown in figure 4.3, test condition and item which are handled in the test process, are model as test objects. And, logical service gets access to the test objects. For example, each logical service acts on the test objects that are parameter/data, or function(ex., Loopback, DTX, etc.) to be tested or measured on MS.
About detail of test obejcts, see 5.1.1and 6.3.
As shown figure 4.3, each service includes the service parameters, depending on service type.

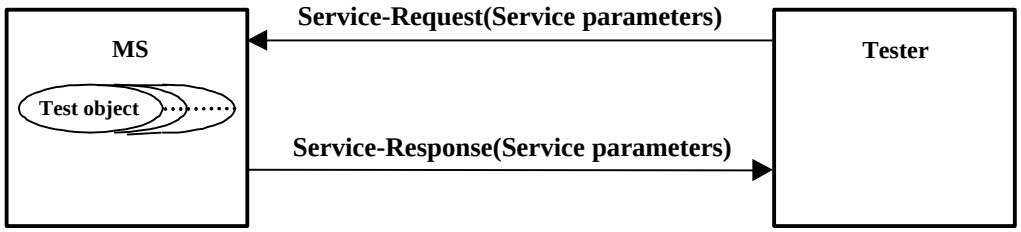

Figure 4.3 : Object model of logical service

One thing to be noticed is that the request is made only from Tester to MS, and currently no way to request (or indicate) from MS to Tester, as shown in figure 4.3.

About the request from MS to Tester, it needs further study.

4.4 List of logical service

Each service is requested and responded between Tester and MS, with each service parameters as shown in the following.

Service type	Service parameter	Description
Set	Request(Tester -> MS) a) Parameter/data type - Ex., Tx power level b) Parameter/data value - Ex., power (by dBm)	Tester requests MS to set the value of the parameters/data. - Ex., Setting the parameter of Tx power level

	Response(MS -> Tester) a) Parameter/data type b) Result [*1] - OK/NG	MS responds to Tester. Result means that the parameter/data is : - accepted and set = OK - refused and not set = NG
Get	Request(Tester -> MS) a) Parameter/data type - Ex., measured FER	Tester requests MS to get(retrieve) the value of the parameters/data. - Ex., Retrieving the configuration parameter, or accumulated/statistics, status data on MS.
	Response(MS -> Tester) a) Parameter/data type b) Result [*1] - OK/NG c) Retrieved parameter/data value - Ex., measured FER value	MS responds to Tester. Result means that retrieval of the parameter/data is : - accepted and retrieved value is valid = OK - refused and retrieved value is not valid = NG
Action	Request(Tester -> MS) a) Operation type - Ex., Loopback b) Operation parameter - Ex., Start or Stop	Tester requests MS to take an action. - Ex., starting/stopping Loopback on MS
	Response(MS -> Tester) a) Operation type b) Result [*1] - OK/NG c) Operation parameter	MS responds to Tester. Result means that the action is : - accepted and taken = OK - refused and not taken = NG
*1 …	When the illegal service parameter is requested, ex., non-existing parameter type, or the value is out of range, the service is not accepted and not executed, then the result=NG(No Good) is returned to Tester.	

Table 4.4 : List of logical service on logical test interface

4.5 Extension of logical test interface

4.5.1 Multiple channels(=codes) and multiple calls

In this document, only loopback with single DCH for DTCH channel(=code) is assumed, and to handle multiple channels(=codes) or calls or other channel type in loopback are not standardized, and it needs to define additional specification. In case of such an extension for user defined test condition, there is an additional test mode. In detail, see 5.3.2 and subsequent sections of each parameter/data and operation.

5 Test parameters and data

5.1 Overview of test parameters/data

5.1.1 Test object and logical service for parameters/data

Service “Set”/”Get” get access to the test objects “Parameters”/”Data” as shown in figure 5.1.1.

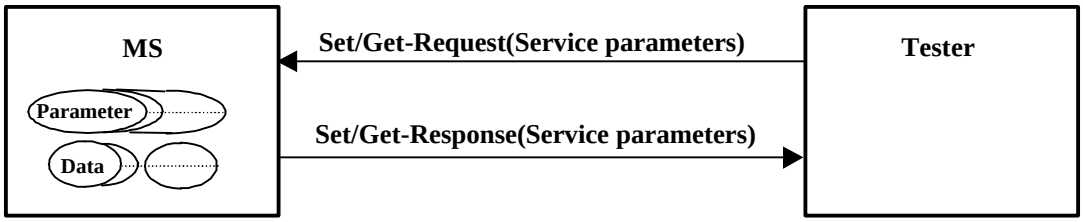

Figure 5.1.1 : Object model of parameters/data

5.1.2 Setting and retrieving service sequence

Tester sets data/parameters using service “Set”, and retrieves using service “Get”.

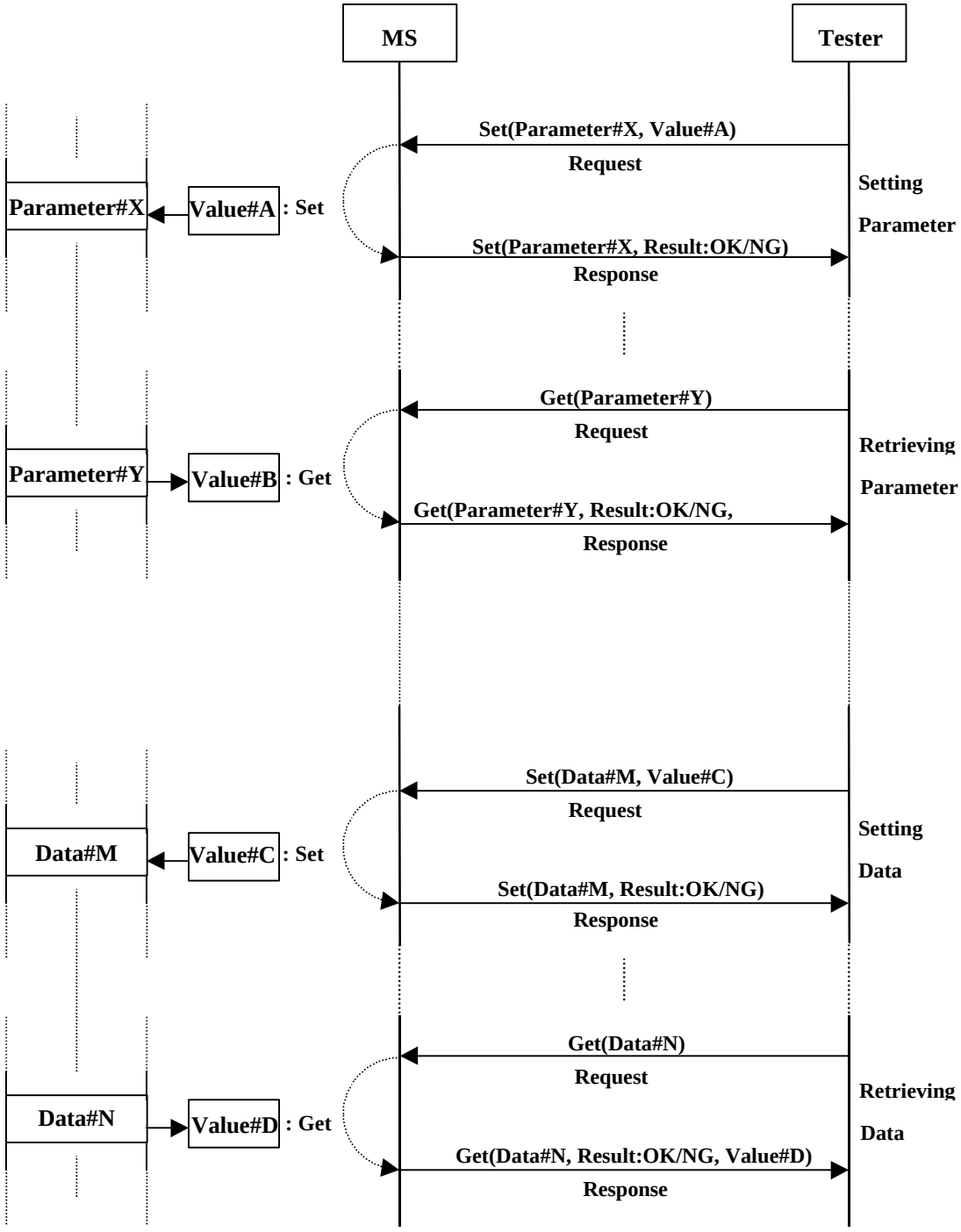

Figure 5.1.2 : Interworking of Set/Get logical service between MS and Tester

5.2 Parameter and data group

The following parameters and data are retrievable and settable (partially) using the logical service with the sequence shown in 5.1.2.

As an assumption,

- All following parameters/data are retrievable.
- For handover, maximum NO. of detecting BS(Base Station) simultaneously is 5, other than primary BS(= cell) in this document. But user can adjust this maximum NO. depending on user's specification.
- In column "Settable", "Yes" means that the parameter/data can be set, "No" means that the parameters/data can not be set, through test interface.

There are parameter/data groups as following.

NO.	Parameter/ Data	Identifier in each group	Description
1	Parameter	IDF_xxx…x	Identification
2		TST_xxx…x	Test mode
3		FRQ_xxx…x	Frequency, chip rate and modulation configuration
4		PWR_xxx…x	Power configuration
5		THR_xxx…x	Threshold
6		LBC_xxx…x	Loopback configuration
7		TMC_xxx…x	Timing configuration
8	Data	TXS_xxx…x	Transmitter status
9		SYC_xxx…x	Synchronization status
10		FPF_xxx…x	Forward link performance
11		TMS_xxx…x	Timing status
12		TRF_xxx…x	Traffic status
Note … Parameter is to make(or change) the configuration of MS, according to the test procedure(or condition). Data is to show MS status(or test result) during the test.			

Table 5.2 : List of parameter/data groups

5.3 Parameter list

5.3.1 Identification

The following 'IDF_xxx…x' show the identifications of MS.

Identifier	Settable	Unit	Note
IDF_STATION_CLASS	No [*1]	See Note.	MS(Mobile Station) Class ID = 1, 2, 3, 4, 5, 6
IDF_PWR_CLASS		See Note.	Power class ID = 1, 2, 3, 4, 5, 6
IDF_IMEI		See Note.	IMEI (International Mobile Equipment Identity)
IDF_TMTI		See Note.	TMUI (Temporary Mobile Terminal Identity)
IDF_RVS_SCRN[*2]		See Note.	Reverse link SCRN(Scrambling code Number)
IDF_PHONE_N		See Note.	Originating(=Terminating) phone number

*1 … All identifications should be secured against any illegal access, and no way to modify via test interface.

*2 … In case of TEST_MODE=51-1, to handle multiple calls, user can create additional parameters, for example IDF_RVS_SCRN#1 – IDF_RVS_SCRN#5, corresponding to each call.

Table 5.3.1 : Identification parameters

5.3.2 Test mode

The following 'TST_xxx…x' show the test mode on MS.

Identifier	Settable	Unit	Note
TST_MODE	Yes	See Note.	0 : Normal(Non test/loopback) 1 – 9 : Reserved 10 : Loopback with single code[*1] 11 – 50 : Reserved 51 – 100 : User defined test[*2]

*1 … To establish the loopback actually, it needs to take an action "Loopback"(:start). And, only 1 channel(=code) is looped in this test mode.

*2 … For example, loopback with multiple channels, or with multiple calls or with combination of both, can be defined and specified implicitly between MS and Tester(ex., BS simulator) by user.

Table 5.3.2 : Test mode parameters

5.3.3 Frequency, chip rate and modulation configuration

The following 'FRQ_xxx…x' are to handle the configuration of Tx/Rx frequency and chip rate.

Identifier	Settable	Unit	Note
FRQ_DUP_MODE	*1	See Note.	Duplex mode : FDD=1, TDD=2
FRQ_TX_CENTER	*1	N: Raster Number See Note.	N : Transmit center frequency = 2112.5+Nx0.2 MHz
FRQ_RX_CENTER			N : Receiver center frequency = 1922.5+Nx0.2 MHz
FRQ_TDD_CENTER			N : TDD center frequency = 2012.5+Nx0.2 MHz
FRQ_CHIP_RATE	*1	See Note.	Chip rate : 1.024Mcps=1, 4.096Mcps=2, 8.192Mcps=3, 16.384Mcps=4
FRQ_RATE_DETECT	*1	See Note.	Rate detection of forward link is done by : Blind rate detection = 1 TFCI = 2
*1 … Depending on MS capability, if MS supports variety of each mode/value, each parameter can be settable, if not, each parameter should not be settable.			

Table 5.3.3 : Frequency, chip rate and modulation parameters

5.3.4 Power configuration

The following 'PWR_xxx…x' are to handle the configuration of Tx(Transmitter) power level and threshold.

Identifier	Settable	Unit	Note
PWR_TPC_MODE	Yes	See Note.	Closed loop control : *1 Enabled=1, Disabled=2
PWR_EC_LBCH	Yes	dBm	Loopback channel (DPDCH) : Transmit power level *1 , *2, *3

Table 5.3.4.1 : Power parameters

*1 … The condition between 'TST_MODE' and 'PWR_TPC_MODE'/'PWR_EC_xxx…x' is as following.

TST_MODE	PWR_TPC_MODE/PWR_EC_xxx…x
0 (Normal)	'PWR_TPC_MODE', 'PWR_EC_LBCH' is not effective.
10 (Loopback with single channel)	PWR_TPC_MODE' is effective. And, 'PWR_EC_LBCH' is effective.
51 – 100 (User defined test)	User can define whether 'PWR_TPC_MODE', and 'PWR_EC_LBCH' are effective(or not).

Table 5.3.4.2 : TST_MODE and PWR_TPC_MODE/PWR_EC_xxx…x

*2 … Only in case of 'TST_MODE' = 10 (or potentially 51 – 100), 'PWR_TPC_MODE' is effective. And, the condition between 'PWR_TPC_MODE' and 'PWR_EC_LBCH' is as following.

PWR_TPC_MODE	PWR_EC_xxx…x
1 (Enabled)	The value of 'PWR_EC_LBCH' specifies the initial one, and after an initialization, Tx power level is controlled variably in the closed-loop.
2 (Disabled)	The value of 'PWR_EC_LBCH' specifies the fixed power level on each channel.

Table 5.3.4.1 : PWR_TPC_MODE and PWR_EC_xxx…x

*3 … User can additionally create the items. For example, in multiple channels/calls, 'PWR_EC_LBCH#1' – 'PWR_EC_LBCH#5', etc..

5.3.5 Threshold

The following 'THR_xxx…x' are to set the threshold value.

Identifier	Settable	Unit	Note
THR_TPC_SIR	Yes *1	dB	Reference SIR to compare and decide TPC in closed-loop power control
THR_PRI_RSCP	Yes *2	dB	Threshold RSCP of primary BS(=cell)
*1 … 'THR_TPC_SIR' is compared with 'FPF_PRI_SIR' for a decision of TPC. *2 … 'THR_PRI_RSCP' is compared with 'FPF_PRI_RSCP' for a decision of handover.			

Table 5.3.5 : Threshold parameters

5.3.6 Loopback configuration

The following 'LBC_xxx…x' are to set the Tx channel in loopback configuration.

The following parameters are effective, only in case of 'TST_MODE' = 10(or potentially 51- 100).

Identifier	Settable	Unit	Note
LBC_SYM_RATE	Yes	See Note.	Symbol rate : 8ksps=11, 16ksps=12, 32ksps=13, 64ksps=14, 128ksps=15, 256ksps=16, 512ksps=17, 1024ksps=18, 2048ksps=19
LBC_FWD_SPRN *1	Yes	See Note.	Forward link spreading code number
LBC_RVS_SPRN *1	Yes	See Note.	Reverse link spreading code number
*1 … User can additionally create the items in case of 'TST_MODE' = 51 – 100. For example, for multiple channels/calls, 'LBC_FWD_SPRN#1' – 'LBC_FWD_SPRN#5', and 'LBC_RVS_SPRN#1' – 'LBC_RVS_SPRN#5', etc..			

Table 5.3.6 : Loopback parameters

5.3.7 Timing configuration

The following 'TMC_xxx…x' are to handle timing configuration.

Identifier	Settable	Unit	Note
TMC_INIT	Yes	Second	Threshold to limit the period of initial pull in process. If no success of synchronization between BS within 'TMC_INIT', it means a fail of the initial pull-in.
TMC_T_FRAME	Yes	Slot	T_{FRAME} : Offset for radio frame timing of dedicated physical channel, the range is within the radio frame interval(0 – 15).
TMC_T_SLOT	Yes	Symbol	T_{SLOT} : Offset for radio frame timing of dedicated physical channel, the range is within the slot. *1
*1 … Number of symbols per slot depends on the symbol rate and the chip rate.			

Table 5.3.7 : Timing parameters

5.4 Data list

5.4.1 Tx(Transmitter) status

The following 'TXS_xxx…x' show the status of MS transmitter.

Identifier	Settable	Unit	Note
TXS_CARRIER	No	See Note.	Tx carrier : ON=1, OFF=2
TXS_LOOPBACK	No	See Note.	Loopback : Stopped=1, Started=2
TXS_DTX	No	See Note.	DTX : ON=1, OFF=2
TXS_AFC	No	See Note.	AFC : ON=1, OFF=2
TXS_MODULATION	No	See Note.	Tx carrier modulation : ON=1, OFF=2

Table 5.4.1 : Tx status

5.4.2 Synchronization status

The following 'SYC_xxx…x' are the status data of synchronization on MS.
"Active list" covers 'SYC_PRI_SCRN' and 'SYC_SCRN_n(n = 1,…,5)' in the following table.

Identifier	Settable	Unit	Note
SYC_N_SCRN	No	See Note.	NO. of detected forward link SCRN(Scrambling code Number)s in Active list.
SYC_PRI_SCRN	No	See Note.	Current forward link SCRN of primary BS(=cell) *1
SYC_SCRN_1	No	See Note.	Forward link SCRN of non-primary cell, if detected(active), other than primary cell. *1
SYC_SCRN_2			
SYC_SCRN_3			
SYC_SCRN_4			
SYC_SCRN_5			
SYC_DHO_DEST_SCRN	No	See Note.	SCRN of destination in DHO
SYC_N_BR	No	See Note.	NO. of branches in DHO
SYC_TDTD_MODE	No	See Note.	Current TDTD(Time Domain Transmission Diversity) mode : Non-transmission diversity = 1 Predetermined mode = 2 Feedback mode = 3
SYC_TDTD_AS_CMD	No	See Note.	Last sent AS command value (0/1)
*1 … In case of not detected, the value should be invalid SCRN.			

Table 5.4.2 : Synchronization status

5.4.3 Forward link performance

The following 'FPF_xxx…x' are the forward link performance data in terms of sensitivity and error, measured on MS.

Identifier	Settable	Unit	Note
FPF_PRI_SIR	No *1	dB	SIR of primary BS(=cell)
FPF_PRI_RSCP	No *2	dBm	RSCP of primary BS(=cell)
FPF_RSCP_1	No	dB	RSCP of other BS(='SYC_SCRN_1')
FPF_RSCP_2			RSCP of other BS(='SYC_SCRN_2')
FPF_RSCP_3			RSCP of other BS(='SYC_SCRN_3')
FPF_RSCP_4			RSCP of other BS(='SYC_SCRN_4')
FPF_RSCP_5			RSCP of other BS(='SYC_SCRN_5')
FPF_FER_BCH	No	CRC Errors /frame	BCH : FER(Frame Error Rate)
FPF_FER_PCH			PCH : Ditto
FPF_FER_FACH			FACH : Ditto
FPF_FER_DCCH *3			DCCH : Ditto
FPF_FER_DTCH *3			DTCH : Ditto
*1 … About threshold to be compared with this measured value, see 'THR_TPC_SIR'. *2 … About threshold to be compared with this measured value, see 'THR_PRI_RSCP'. *3 … In case of 'TST_MODE' = 50 – 100, user can additionally create the items of multiple channels(=codes), for example, 'FPF_FER_DTCH#1' – 'FPF_FER_DTCH#5'.			

Table 5.4.3 : Forward link performance

5.4.4 Timing status

The following 'TMS_xxx…x' are to see the timing measured on MS.

Identifier	Settable	Unit	Note
TMS_T_DHO	No	Chip	T_{DHO} : Offset for radio frame timing of dedicated physical channel and reverse link scrambling code phase, within the reverse link scrambling code phase range

Table 5.4.4 : Timing status

5.4.5 Traffic status

The following 'TRF_xxx…x' are the status data of the traffic on each channel. The traffic status = 'Active' means that :

a) Forward link channel : FER is acceptable in terms of sensitivity.

b) Reverse link channel : Channel coding is working on corresponding transport, physical channel and the transmitter carrier is on.

c) Bi-directional channel : the above both a) and b) are satisfied.

And, 'Inactive' means that both a) and b) are not satisfied. 'TRF_xxx…x' shows the physical layer traffic status on each channel. Especially in case of trouble, when testing to run the upper layer traffic, ex.,layer2(LAC) or layer3, top of layer1, to resolve the problem between layer1 and uppper, the status on each channel should be helpful.

Identifier	Settable	Unit	Note
TRF_STS_BCH	No	See Note.	'TRF_STS_xxxx' = 0 (Inactive) 'TRF_STS_xxxx' > 0 (Active) In case of 'TRF_STS_xxxx' > 0, the value shows the current symbol rate on each channel as followings. 'TRF_STS_xxxx' : 8ksps=11, 16ksps=12, 32ksps=13, 64ksps=14, 128ksps=15, 256ksps=16, 512ksps=17, 1024ksps=18, 2048ksps=19
TRF_STS_PCH			
TRF_STS_FACH			
TRF_STS_RACH			
TRF_STS_DCCH*1			
TRF_STS_DTCH*1			
*1 … In case of 'TST_MODE' = 50 – 100, user can additionally create the items of multiple channels(=codes), for example, 'TRF_STS_DTCH#1' – 'TRF_STS_DTCH#5'.			

Table 5.4.5 : Traffic status

6. Test control operation

6.1 Test object and logical service for test control operation

Service “Action” acts on the test objects(listed in table 6.2), as shown in the following figure 6.1.

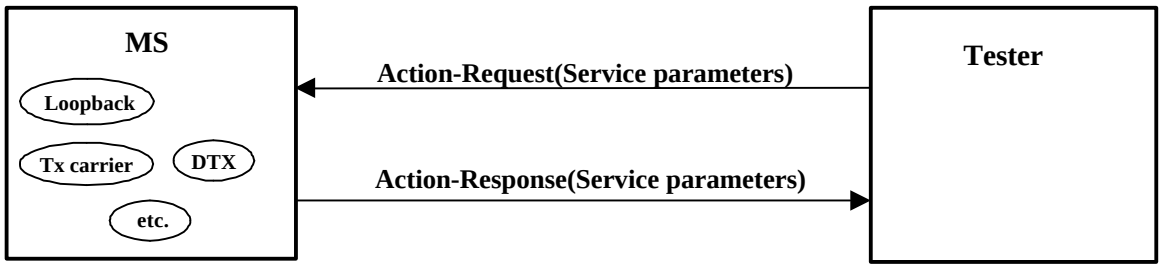

Figure 6.1 : Test object and logical service of test control operation

6.2 List of test control operation

NO.	Operation	Test object
1	Tx(Transmitter) carrier on/off control	Tx carrier
2	Loopback start/stop control	Loopback
3	DTX(Discontinuous transmission) on/off control	DTX
4	AFC(Automatic Frequency Control) on/off control	AFC
5	Tx(Transmitter) modulation on/off control	Tx modulator

Table 6.2 : List of test control operation

6.3 Extension of the test control operation

About extension of test control operation, in case of ‘TST_MODE’ = 51 – 100, user can define additional test control operation implicitly between MS and Tester.

Therefore, any extended test operation depends on the user’s implicit specification between MS and Tester.

6.4 Sequence of test control operation

6.4.1 Tx(Transmitter) carrier on/off control

Transmitter(Tx) carrier is controlled by Tester, using service “Action” as following.

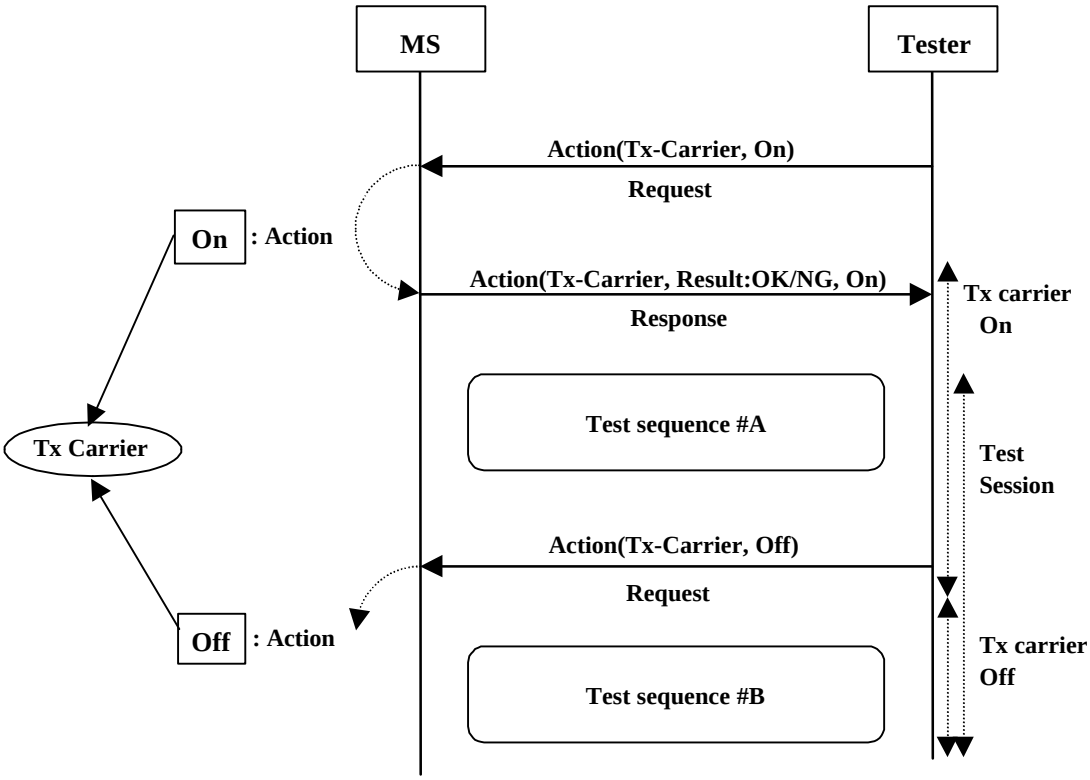

Figure 6.4.1.1 : Control of Tx carrier

“Tx carrier” test object to be specified in service “Action”(“Start”/”Stop”), works as following.

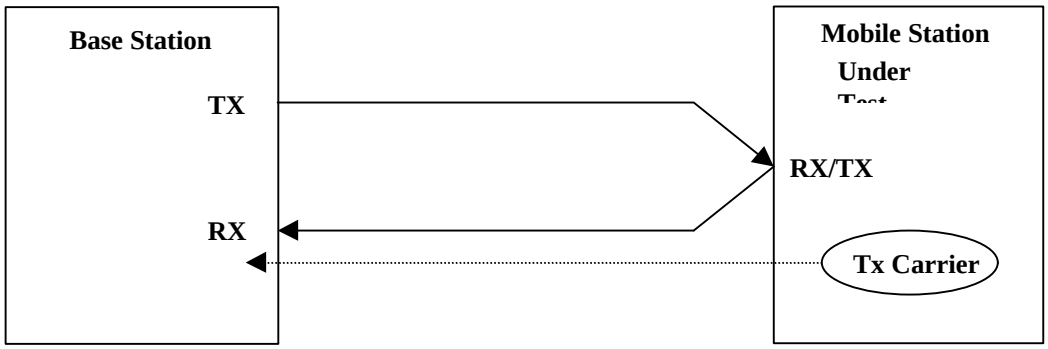

Figure 6.4.1.2 : Tx carrier test object

6.4.2 Loopback start/stop

Loopback is controlled by Tester, using service “Action” as following.

About channel configuration, the parameters ‘LBC_xxx…x’ are effective. Therefore, it needs to specify the value on each ‘LBC_xxx…x’, before starting loopback.

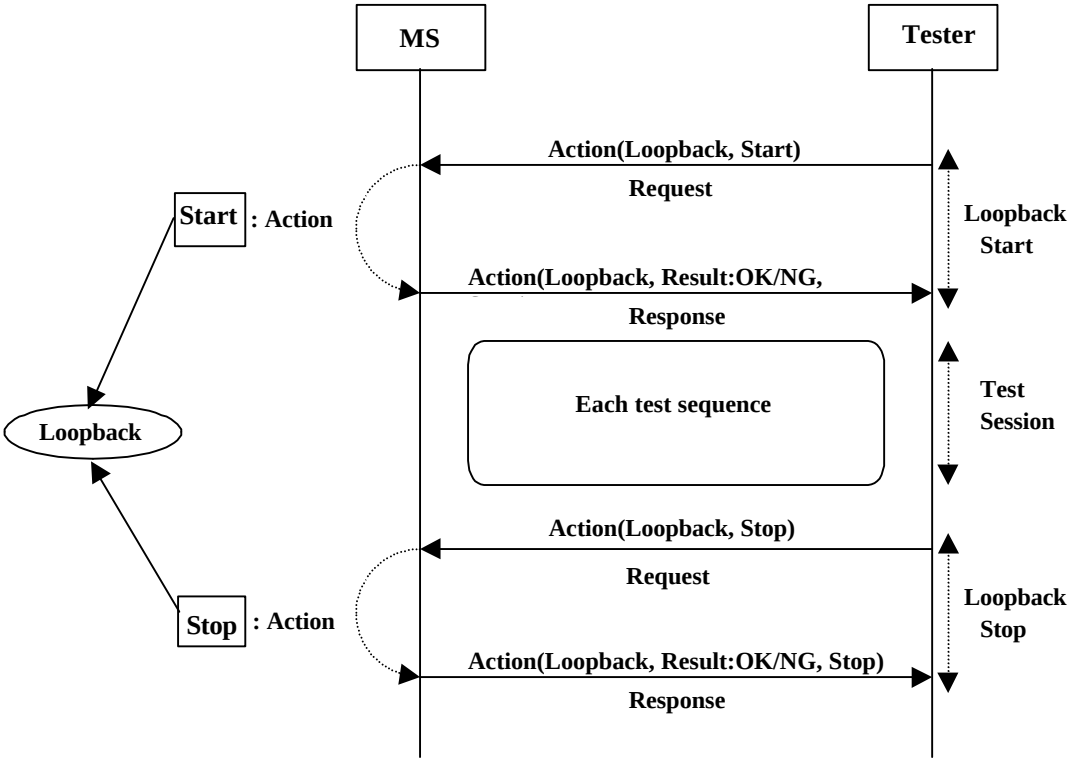

Figure 6.4.2.1 : Loopback start/stop

“Loopback” test object to be specified in service “Action”(“Start”/”Stop”), works as following.

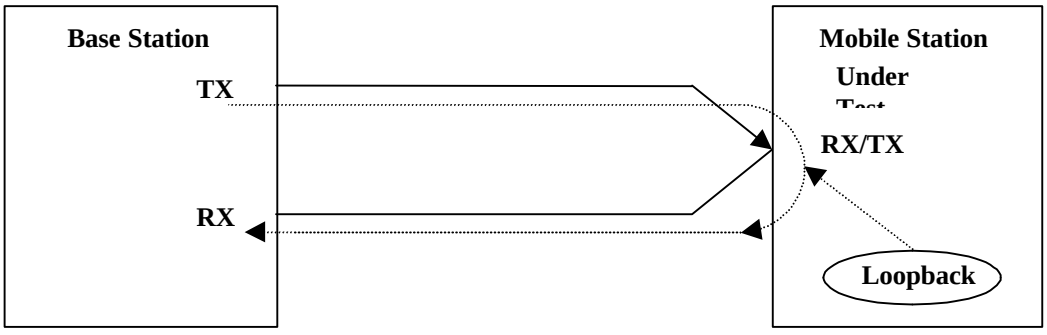

Figure 6.4.2.2 : Loopback test object

6.4.3 DTX(Discontinuous transmission) on/off control

DTX is controlled by Tester, using service “Action” as following.

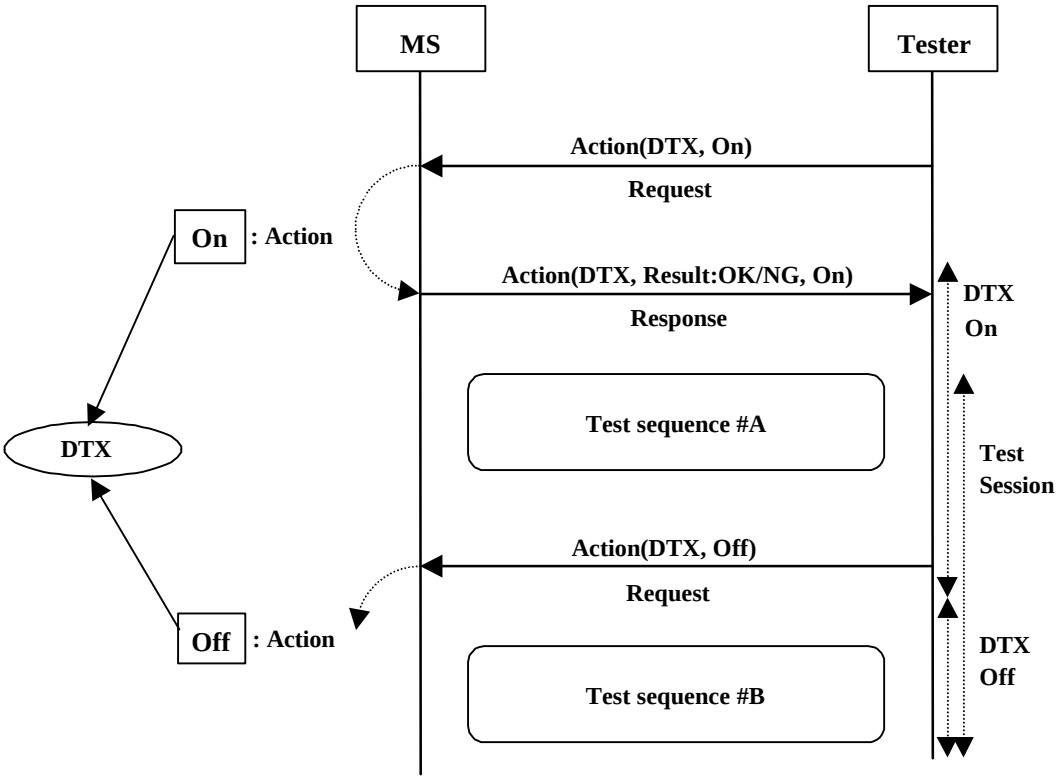

Figure 6.4.3.1 : DTX on/off control

“DTX” test object to be specified in service “Action”(“Off”/”On”), works as following.

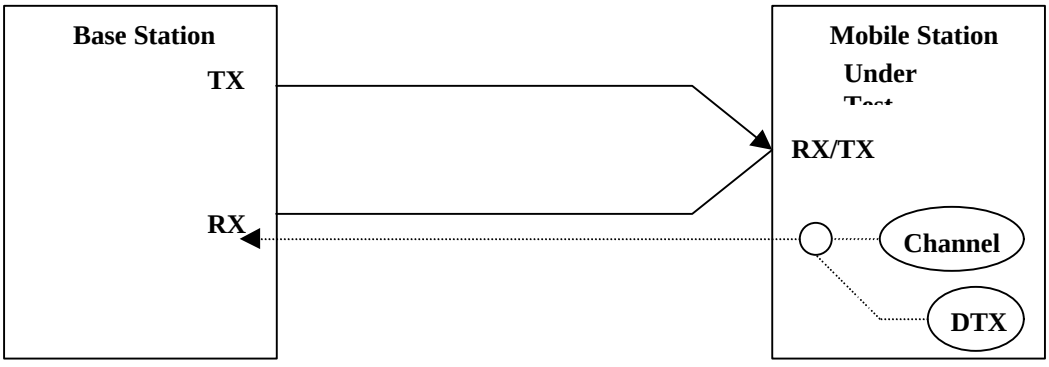

Figure 6.4.3.2 : DTX test object

6.4.4 AFC(Automatic Frequency Control) on/off control

AFC is controlled by Tester, using service “Action” as following.

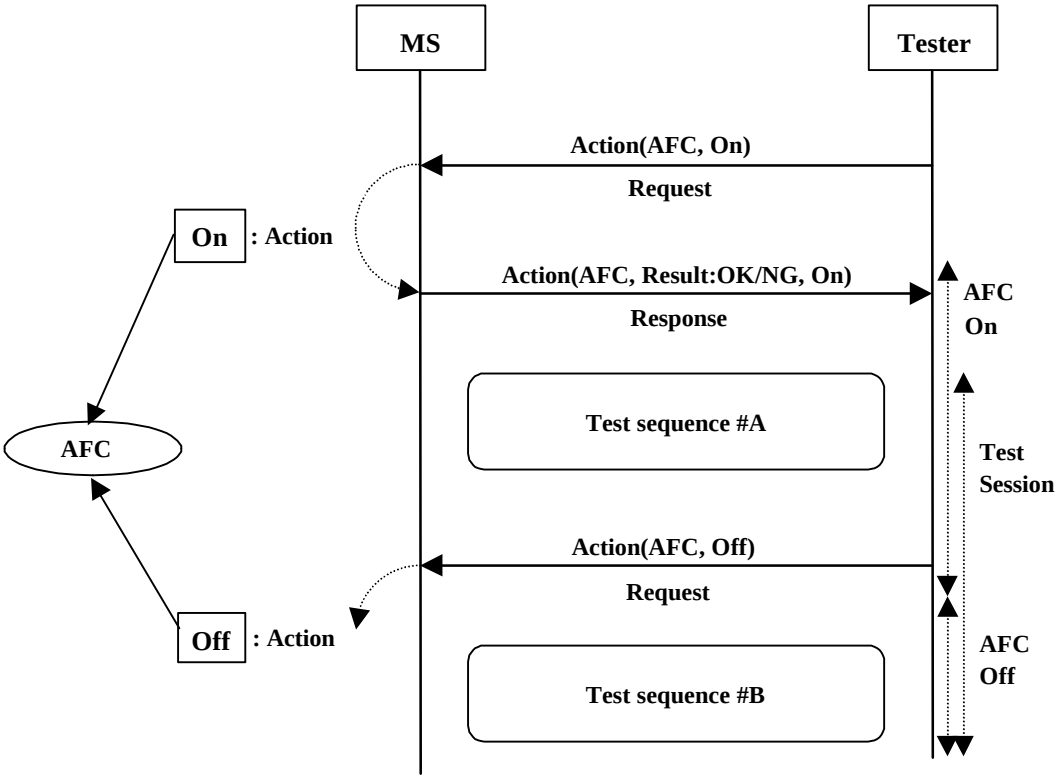

Figure 6.4.4.1 : AFC on/off control

“AFC” to be specified in service “Action”(“Off”/”On”), works as following.

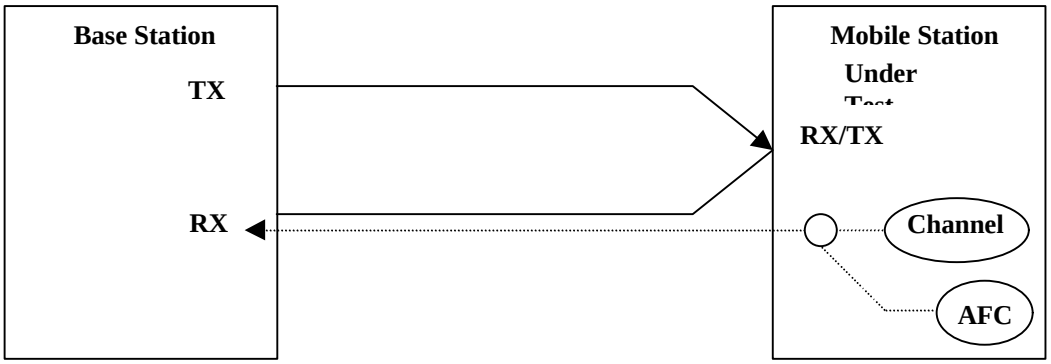

Figure 6.4.4.2 : AFC test object

6.4.5 Tx(Transmitter) modulation on/off control

Tx(Transmitter) modulation is controlled by Tester, using service “Action” as following.

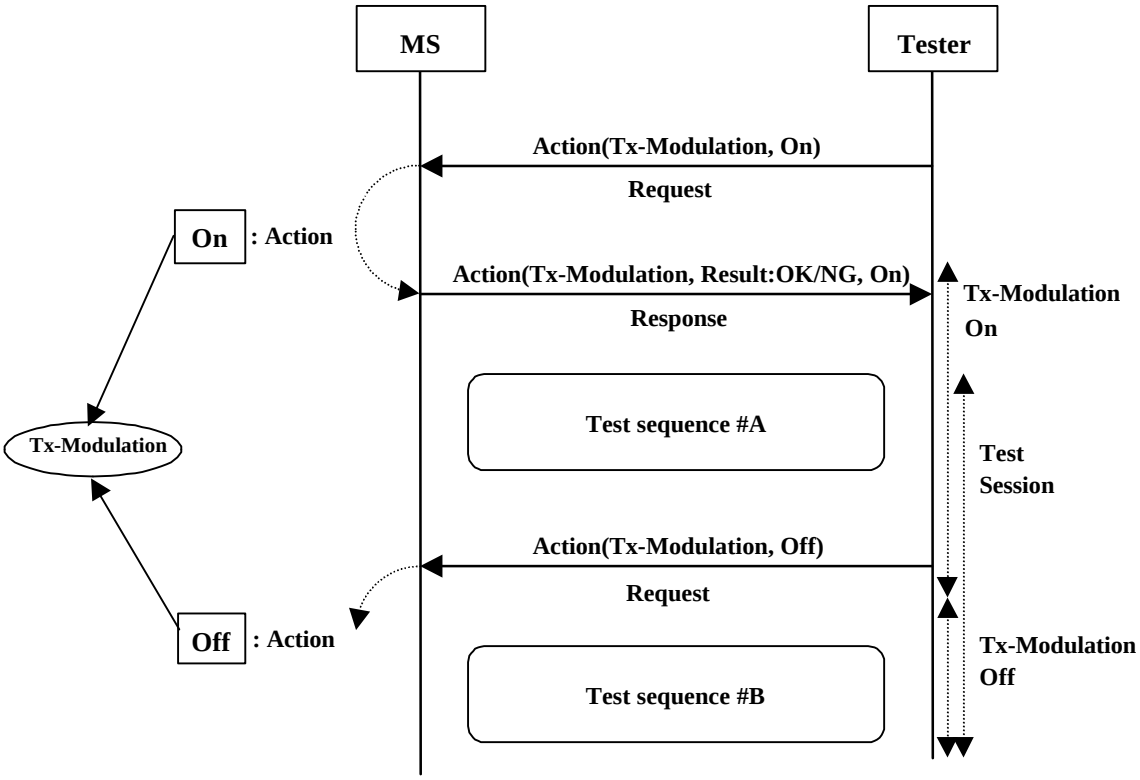

Figure 6.4.5.1 : Tx modulation on/off control

“Tx modulation” to be specified in service “Action”(“Off”/”On”), works as following.

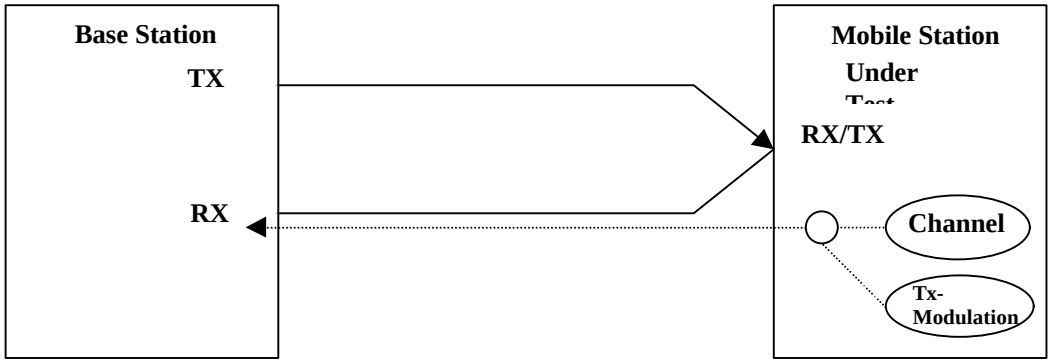

Figure 6.4.5.2 : Tx modulation test object

7. Underlying protocol and physical test interface

[TBD]

Annex <yy> (normative):
Title of normative annex [TBD]

yy.1 First clause of this normative annex [TBD]

[TBD]

Bibliography

The following material, though not specifically referenced in the body of the present document (or not publicly available), gives supporting information.

[TBD]

History

Document history		
V0.0.0	1999-02-xx	Initial document. The contents are given from ARIB “Specification of Mobile Station for 3G Mobile System” (Ver.1.0-1.0)
V0.0.1	1999-04-xx	Change requests agreed by TSG-T1 RF/SWG
V0.1.0	1999-04-13	Report to TSG-T1 #2 meeting (The contents are same as V0.0.1.)

Editors for Logical Test Interface (FDD)

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This document is written in Microsoft® Word 97.