TSG-RAN Meeting #23 **RP-040091**
Phoenix, USA, 10-12 March 2004

Title: **Introduction of UMTS850 (Band V)**

Source: **TSG-RAN WG2**

Agenda item: **8.10**

Spec	CR	Rev	Phase	Subject	Cat	Version-Current	Version-New	Doc-2nd-Level	Workitem
25.307	024	-	R99	Introduction of UMTS850 (Band V)	F	3.2.0	3.3.0	R2-040629	Rinimp-UMTS850
25.307	025	-	Rel-4	Introduction of UMTS850 (Band V)	A	4.2.0	4.3.0	R2-040630	Rinimp-UMTS850
25.307	026	-	Rel-5	Introduction of UMTS850 (Band V)	A	5.1.0	5.2.0	R2-040631	Rinimp-UMTS850
25.307	027	-	Rel-6	Introduction of UMTS850 (Band V)	A	6.0.0	6.1.0	R2-040632	Rinimp-UMTS850
25.331	2254	-	Rel-6	Introduction of UMTS850 (Band V)	B	6.0.1	6.1.0	R2-040628	RinImp-UMTS850

3GPP TSG-RAN WG2 Meeting #41
Malaga, Spain, 16-20 February 2004

Tdoc ⌘R2-040629

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CHANGE REQUEST

⌘ **25.307** **CR** **24** ⌘**rev** ⌘ Current version: **3.2.0** ⌘

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Proposed change affects: UICC apps⌘ ☐ ME ☒ Radio Access Network ☒ Core Network ☐

Title:	⌘	Introduction of UMTS850(Band V)
Source:	⌘	RAN WG2
Work item code:	⌘	RinImp-UMTS850
Date:	⌘	16/02/04
Category:	⌘	**B**
Release:	⌘	R99

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*

Reason for change:	⌘	- Introduction of UMTS850
Summary of change:	⌘	- Description regarding the requirement to R99 UE that supports UMTS850 is added. - Description regarding frequency band indicator is added to Signalling Requirement. The necessity is described in R2-032630(R4-031086) LS on Frequency band indicator.
Consequences if not approved:	⌘	- UMTS850 cannot be supported

Clauses affected:	⌘	New section X

		Y	N			
Other specs affected:	⌘	X		Other core specifications	⌘	25.331
			X	Test specifications		
			X	O&M Specifications		

Other comments: ⌘

How to create CRs using this form:
Comprehensive information and tips about how to create CRs can be found at http://www.3gpp.org/specs/CR.htm.
Below is a brief summary:

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.
2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be

downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to

X Band V Independent of Release

Band V is specified in Release 6 but is defined as a release-independent frequency band. This approach aligns the Band V band with other frequency bands when considering features that have to be supported in different releases.

X.1 Band V UE

UEs that conform to Release '99 and support band V shall support the following requirements in Release 6

X.1.1 RF Requirements

The UE shall comply with the RF requirements for band V specified in [9]. These requirements are:

Section 5: Frequency bands and channel arrangement;

Section 6: Transmitter characteristics;

Section 7: Receiver characteristics.

Other requirements for radio reception and transmission requirements are defined in [5].

The UE shall comply with the Radio Resource Management requirements for band V specified in [10]. These requirements are:

Section 9.1: Measurement Performances for UE.

Other requirements for radio resource management are defined in [6].

X.1.2 Signalling Requirements

The UE shall support the following RRC extensions specified in [8]:

- The parameter value "Band V" for the IE "FDD frequency band" contained within the IEs "UE radio access capability extension" and "Measurement capability extension". The UE shall use this parameter value in order to signal its radio access capabilities relating to band V.

- The IE "Frequency band indicator" contained within the IEs "System Information Block type 5" and "System Information Block type 6". The UE shall use this IE to determine whether it is compliant with the RF requirement in the indicated frequency band, in case the UE is in the frequency that belongs to multiple frequency bands.

The UE shall be able to at least decode any unrelated RRC extensions that can be included in between the release it supports, and the IE "Frequency band indicator".

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CHANGE REQUEST

⌘ **25.307** **CR** **25** ⌘**rev** ⌘ Current version: **4.2.0** ⌘

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Proposed change affects: UICC apps⌘ ☐ ME ☒ Radio Access Network ☒ Core Network ☐

Title:	⌘	Introduction of UMTS850(Band V)
Source:	⌘	RAN WG2
Work item code:	⌘	RinImp-UMTS850
Date:	⌘	16/02/04
Category:	⌘	**B**
Release:	⌘	Rel-4

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*

Reason for change:	⌘	- Introduction of UMTS850
Summary of change:	⌘	- Description regarding the requirement to R4 UE that supports UMTS850 is added. - Description regarding frequency band indicator is added to Signalling Requirement. The necessity is described in R2-032630(R4-031086) LS on Frequency band indicator.
Consequences if not approved:	⌘	- UMTS850 cannot be supported

Clauses affected:	⌘	New section X			
Other specs affected:	⌘	**Y** / **N**	Other core specifications	⌘	25.331
		X /	Test specifications		
		/ **X**	O&M Specifications		
Other comments:	⌘				

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3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to

X Band V Independent of Release

Band V is specified in Release 6 but is defined as a release-independent frequency band. This approach aligns Band V with other frequency bands when considering features that have to be supported in different releases.

X.1 Band V UE

UEs that conform to Release 4 and support band V shall support the following requirements in Release 6

X.1.1 RF Requirements

The UE shall comply with the RF requirements for band V specified in [9]. These requirements are:

Section 5: Frequency bands and channel arrangement;

Section 6: Transmitter characteristics;

Section 7: Receiver characteristics.

Other requirements for radio reception and transmission requirements are defined in [5].

The UE shall comply with the Radio Resource Management requirements for band V specified in [10]. These requirements are:

Section 9.1: Measurement Performances for UE.

Other requirements for radio resource management are defined in [6].

X.1.2 Signalling Requirements

The UE shall support the following RRC extensions specified in [8]:

- The parameter value "Band V" for the IE "FDD frequency band" contained within the IEs "UE radio access capability extension" and "Measurement capability extension". The UE shall use this parameter value in order to signal its radio access capabilities relating to band V.

- The IE "Frequency band indicator" contained within the IEs "System Information Block type 5" and "System Information Block type 6". The UE shall use this IE to determine whether it is compliant with the RF requirement in the indicated frequency band, in case the UE is in the frequency that belongs to multiple frequency bands.

The UE shall be able to at least decode any unrelated RRC extensions that can be included in between the release it supports, and the IE "Frequency band indicator".

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CHANGE REQUEST

⌘ **25.307** **CR** **26** ⌘**rev** ⌘ Current version: **5.1.0** ⌘

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Proposed change affects: UICC apps⌘ ☐ ME ☒ Radio Access Network ☒ Core Network ☐

Title:	⌘	Introduction of UMTS850(Band V)
Source:	⌘	RAN WG2
Work item code:	⌘	RinImp-UMTS850
Date:	⌘	16/02/04
Category:	⌘	**B**
Release:	⌘	Rel-5

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*

Reason for change:	⌘	- Introduction of UMTS850
Summary of change:	⌘	- Description regarding the requirement to R5 UE that supports UMTS850 is added. - Description regarding frequency band indicator is added to Signalling Requirement. The necessity is described in R2-032630(R4-031086) LS on Frequency band indicator.
Consequences if not approved:	⌘	- UMTS850 cannot be supported

Clauses affected:	⌘	New section X			
Other specs affected:	⌘	**Y** / **N**	Other core specifications	⌘	25.331
		X /	Test specifications		
		/ **X**	O&M Specifications		
Other comments:	⌘				

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3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to

X Band V Independent of Release

Band V is specified in Release 6 but is defined as a release-independent frequency band. This approach aligns Band V with other frequency bands when considering features that have to be supported in different releases.

X.1 Band V UE

UEs that conform to Release 5 and support band V shall support the following requirements in Release 6

X.1.1 RF Requirements

The UE shall comply with the RF requirements for band V specified in [9]. These requirements are:

Section 5: Frequency bands and channel arrangement;

Section 6: Transmitter characteristics;

Section 7: Receiver characteristics.

Other requirements for radio reception and transmission requirements are defined in [2].

The UE shall comply with the Radio Resource Management requirements for band V specified in [10]. These requirements are:

Section 9.1: Measurement Performances for UE.

Other requirements for radio resource management are defined in [7].

X.1.2 Signalling Requirements

The UE shall support the following RRC extensions specified in [8]:

- The parameter value "Band V" for the IE "FDD frequency band" contained within the IEs "UE radio access capability extension" and "Measurement capability extension". The UE shall use this parameter value in order to signal its radio access capabilities relating to band V.

- The IE "Frequency band indicator" contained within the IEs "System Information Block type 5" and "System Information Block type 6". The UE shall use this IE to determine whether it is compliant with the RF requirement in the indicated frequency band, in case the UE is in the frequency that belongs to multiple frequency bands.

The UE shall be able to at least decode any unrelated RRC extensions that can be included in between the release it supports, and the IE "Frequency band indicator".

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CHANGE REQUEST

⌘ **25.307** **CR** **27** ⌘**rev** ⌘ Current version: **6.0.0** ⌘

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Proposed change affects: UICC apps⌘ ☐ ME ☒ Radio Access Network ☒ Core Network ☐

Title:	⌘	Introduction of UMTS850 (Band V)
Source:	⌘	RAN WG2
Work item code:	⌘	RinImp-UMTS850
Date:	⌘	16/02/04
Category:	⌘	**B**
Release:	⌘	Rel-6

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*

Reason for change:	⌘	- Introduction of UMTS850
Summary of change:	⌘	- The section X is added. The section "X. Band V Independent of Release" that describes the requirement to R99, R4 and R5 UEs that support UMTS 850 is added by three CRs to the R99, R4 and R5 specifications respectively. Since UMTS 850 is specified in Release 6, the description of the section X becomes unnecessary in the Rel-6 specification. Therefore the section is replaced with Void.
Consequences if not approved:	⌘	- UMTS850 cannot be supported

Clauses affected:	⌘	New section X

		Y	N			
Other specs affected:	⌘	X		Other core specifications	⌘	25.331
			X	Test specifications		
			X	O&M Specifications		

Other comments:	⌘	

How to create CRs using this form:
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3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to

X Void

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CHANGE REQUEST

⌘ **25.331** **CR** **2254** ⌘**rev** ⌘ Current version: **6.0.1** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: UICC apps⌘ ☐ ME ☒ Radio Access Network ☒ Core Network ☐

Title:	⌘	Introduction of UMTS850 (Band V)
Source:	⌘	RAN WG2
Work item code:	⌘	RinImp-UMTS850
Date:	⌘	16/02/04
Category:	⌘	**B**
Release:	⌘	Rel-6

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*

Reason for change:	⌘	- Introduction of UMTS850
Summary of change:	⌘	- UMTS850, ie. Band V is added in the UE capability and in the IE “Frequency band indicator” in SIB5 and SIB6.
Consequences if not approved:	⌘	- UMTS850 cannot be supported

Clauses affected:	⌘	8.1.1.6.5, 10.3.3.21a, 10.3.3.42a, 10.3.6.35b, 11.3

	Y	N			
Other specs affected: ⌘	X		Other core specifications	⌘	25.307
		X	Test specifications		
		X	O&M Specifications		

Other comments:	⌘	

How to create CRs using this form:
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1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to

8.1.1.6.5 System Information Block type 5

The UE should store all relevant IEs included in this system information block. The UE shall:

1> if the IE "Frequency band indicator" is included:

2> if the frequency band indicated in the IE is not part of the frequency bands supported in the UE radio access capability:

3> consider the cell to be barred according to [4]; and

3> consider the barred cell as using the value "not allowed" in the IE "Intra-frequency cell~~clel~~ re-selection indicator", and the maximum value in the IE "T_{barred}".

1> if in connected mode, and System Information Block type 6 is indicated as used in the cell:

2> read and act on information sent in System Information Block type 6.

1> replace the TFS of the RACH with the one stored in the UE if any;

1> let the physical channel(s) of type PRACH given by the IE(s) "PRACH info" be the default in uplink for the PRACH if UE is in CELL_FACH state;

1> start to receive the physical channel of type AICH using the parameters given by the IE "AICH info" (FDD only) when given allocated PRACH is used;

1> use the first instance of the list of transport formats as in the IE "RACH TFS" for the used RACH received in the IE "PRACH system information list" when using the CCCH;

1> replace the TFS of the FACH/PCH with the one stored in the UE if any;

1> select a Secondary CCPCH as specified in [4] and in subclause 8.5.19, and start to receive the physical channel of type PICH associated with the PCH carried by the selected Secondary CCPCH using the parameters given by the IE "PICH info" if UE is in Idle mode or in CELL_PCH or URA_PCH state;

1> start to monitor its paging occasions on the selected PICH if UE is in Idle mode or in CELL_PCH or URA_PCH state;

1> start to receive the selected physical channel of type Secondary CCPCH using the parameters given by the IE(s) "Secondary CCPCH info" if UE is in CELL_FACH state;

1> in 3.84 Mcps TDD:

2> use the IE "TDD open loop power control" as defined in subclause 8.5.7 when allocated PRACH is used.

1> in TDD:

2> if the IE "PDSCH system information" and/or the IE "PUSCH system information" is included:

3> store each of the configurations given there with the associated identity given in the IE "PDSCH Identity" and/or "PUSCH Identity" respectively. For every configuration, for which the IE "SFN Time info" is included, the information shall be stored for the duration given there.

If a UE is a 12 kbps class UE according to [35] and the UE has a lower capability than required to support all transport channel configurations mapped on a specific Secondary CCPCH, the UE shall at a certain time instant still be able to decode those transport channels mapped on this Secondary CCPCH that do match the capability supported by the UE. The UE shall use the TFCI bits for that Secondary CCPCH, to distinguish a transport channel configuration that is supported by the UE from a transport channel configuration that is not supported by the UE.

In particular if the UE is a 12 kbps class UE according to [35] and it does not support the processing requirement at a given point in time for a Secondary CCPCH, it shall still be able to decode the same Secondary CCPCH when the processing requirement is consistent with the UE capability. Or if the UE does not support the number of TFs or the coding of a certain transport channel on a Secondary CCPCH, it shall still be able to decode other transport channels mapped on the same Secondary CCPCH that is consistent with what is supported by the UE.

8.1.1.6.6 System Information Block type 6

If in connected mode, the UE should store all relevant IEs included in this system information block. The UE shall:

1> if the IE "Frequency band indicator" is included:

2> if the frequency band indicated in the IE is not part of the frequency bands supported in the UE radio access capability:

3> consider the cell to be barred according to [4]; and

3> consider the barred cell as using the value "not allowed" in the IE "Intra-frequency cell re-selection indicator", and the maximum value in the IE "T_{barred}".

1> replace the TFS of the RACH with the one stored in the UE if any;

1> let the physical channel(s) of type PRACH given by the IE(s) "PRACH info" be the default in uplink if UE is in CELL_FACH state. If the IE "PRACH info" is not included, the UE shall read the corresponding IE(s) in System Information Block type 5 and use that information to configure the PRACH;

1> start to receive the physical channel of type AICH using the parameters given by the IE "AICH info" when associated PRACH is used. If the IE "AICH info" is not included, the UE shall read the corresponding IE in System Information Block type 5 and use that information (FDD only);

1> replace the TFS of the FACH/PCH with the one stored in the UE if any;

1> select a Secondary CCPCH as specified in [4] and in subclause 8.5.19, and start to receive the physical channel of type PICH associated with the PCH carried by the selected Secondary CCPCH using the parameters given by the IE "PICH info" if the UE is in CELL_PCH or URA_PCH state. If the IE "PICH info" is not included, the UE shall read the corresponding IE in System Information Block type 5 and use that information;

1> start to monitor its paging occasions on the selected PICH if the UE is in CELL_PCH or URA_PCH state;

1> start to receive the selected physical channel of type Secondary CCPCH using the parameters given by the IE(s) "Secondary CCPCH info" if the UE is in CELL_FACH state. If the IE "Secondary CCPCH info" is not included, the UE shall read the corresponding IE(s) in System Information Block type 5 and use that information;

1> in 3.84 Mcps TDD: use the IE "TDD open loop power control" as defined in subclause 8.5.7;

1> in TDD: if the IE "PDSCH system information" and/or the IE "PUSCH system information" is included, store each of the configurations given there with the associated identity given in the IE "PDSCH Identity" and/or "PUSCH Identity" respectively. For every configuration, for which the IE "SFN Time info" is included, the information shall be stored for the duration given there.

If in idle mode, the UE shall not use the values of the IEs in this system information block.

If a UE is a 12 kbps class UE according to [35] and the UE has a lower capability than required to support all transport channel configurations mapped on a specific Secondary CCPCH, the UE shall at a certain time instant still be able to decode those transport channels mapped on this Secondary CCPCH that do match the capability supported by the UE. The UE shall use the TFCI bits for that Secondary CCPCH, to distinguish a transport channel configuration that is supported by the UE from a transport channel configuration that is not supported by the UE.

In particular if the UE is a 12 kbps class UE according to [35] and it does not support the processing requirement at a given point in time for a Secondary CCPCH, it shall still be able to decode the same Secondary CCPCH when the processing requirement is consistent with the UE capability. Or if the UE does not support the number of TFs or the coding of a certain transport channel on a Secondary CCPCH, it shall still be able to decode other transport channels mapped on the same Secondary CCPCH that is consistent with what is supported by the UE.

10.3.3.21a Measurement capability extension

This IE may be used to replace the measurement capability information provided within IE "Measurement capability".

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
FDD measurements	MP	1 to <maxFreqBands FDD>			
>FDD Frequency band	MD		Enumerated(FDD2100, FDD1900,	The default value is the same as indicated in the IE "Frequency band" included in the IE " UE radio access capability extension". Three~~Four~~ spare values are needed	
			FDD1800		REL-5
			Band VI, Band V ~~FDD800~~)		REL-6
>Need for DL compressed mode	MP		Boolean	TRUE means that the UE requires DL compressed mode in order to perform measurements on the FDD frequency band indicated by the IE "FDD Frequency band"	
>Need for UL compressed mode	MP		Boolean	TRUE means that the UE requires UL compressed mode in order to perform measurements on the FDD frequency band indicated by the IE "FDD Frequency band"	
TDD measurements	CV-*tdd_sup*	1 to <maxFreqBands TDD>			
>TDD Frequency band	MP		Enumerated(a, b, c)		
>Need for DL compressed mode	MP		Boolean	TRUE means that the UE requires DL compressed mode in order to perform measurements on TDD frequency band indicated by the IE "TDD Frequency band"	
>Need for UL compressed mode	MP		Boolean	TRUE means that the UE requires UL compressed mode in order to perform measurements on TDD frequency band indicated by the IE "TDD Frequency band"	
GSM measurements	CV-*gsm_sup*	1 to <maxFreqBands GSM>			

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
>GSM Frequency band	MP		Enumerated(GSM450, GSM480, GSM850, GSM900P, GSM900E, GSM1800, GSM1900)	as defined in [45]. Nine spare values are needed.	
>Need for DL compressed mode	MP		Boolean	TRUE means that the UE requires DL compressed mode in order to perform measurements on GSM frequency band indicated by the IE "GSM Frequency band"	
>Need for UL compressed mode	MP		Boolean	TRUE means that the UE requires UL compressed mode in order to perform measurements on GSM frequency band indicated by the IE "GSM Frequency band"	
Multi-carrier measurement	CV-*mc_sup*				
>Need for DL compressed mode	MP		Boolean	TRUE means that the UE requires DL compressed mode in order to perform measurements on multi-carrier	
>Need for UL compressed mode	MP		Boolean	TRUE means that the UE requires UL compressed mode in order to perform measurements on multi-carrier	

Condition	Explanation
tdd_sup	The IE is mandatory present if the IE "Multi-mode capability" has the value "TDD" or "FDD/TDD". Otherwise this field is not needed in the message.
gsm_sup	The IE is mandatory present if the IE "Support of GSM" has the value TRUE. Otherwise this field is not needed in the message.
mc_sup	The IE is mandatory present if the IE "Support of multi-carrier" has the value TRUE. Otherwise this field is not needed in the message.

10.3.3.42a UE radio access capability extension

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
Frequency band specific capability list	MP	1 to <maxFreqbandsFDD>			
>Frequency band	MP		Enumerated(FDD2100, FDD1900,	Three~~Four~~ spare values are needed	
			FDD1800		REL-5
			Band VI, Band V ~~FDD800~~)		REL-6
>RF capability FDD extension	MD		RF capability FDD extension 10.3.3.33a	the default values are the same values as in the immediately preceding IE "RF capability FDD extension"; the first occurrence is MP	
>Measurement capability extension	MP		Measurement capability extension 10.3.3.21a		

10.3.6.35b Frequency band indicator

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
Frequency band indicator	MP		Enumerated(Band I, Band II, Band III, Band VI, Band V ~~FDD2100, FDD1900, FDD1800, FDD800~~)	Three~~Four~~ spare values are needed	REL-6

11.3 Information element definitions

```
-- **************************************************
--
--     USER EQUIPMENT INFORMATION ELEMENTS (10.3.3)
--
-- **************************************************

RadioFrequencyBandFDD ::=           ENUMERATED {
                                        fdd2100,
                                        fdd1900,
                                        fdd1800,
                                        bandVI,
                                        bandV,
                                        fdd800, spare4, spare3, spare2, spare1 }
```