



**telecom<sup>nz</sup>**

## **SPECIFICATION PTC 257:2013**

REQUIREMENTS FOR  
CONNECTION OF WCDMA  
DEVICES TO THE TELECOM  
NEW ZEALAND WCDMA  
NETWORK

Telecom New Zealand  
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## **TELECOM DISCLAIMER**

While every care has been taken, Telecom makes no representation or warranty, express or implied, with respect to the sufficiency, accuracy, or utility of any information contained in this Specification. Telecom expressly advises that the use of or reliance on such information is at the risk of the person concerned.

Telecom shall not be liable for any loss (including consequential loss), damage, or injury incurred by any person or organization arising out of the sufficiency, accuracy, or utility of any such information or opinion.

In particular, it must be recognised that the standards for WCDMA may be subject to change. At least some change is also expected in Telecom's network equipment as a result of standards developments. In view of these factors Telecom reserves the right to amend this specification.

The grant of a Telepermit for any item of terminal equipment indicates only that Telecom has accepted that the item complies with minimum conditions for connection to its network. Above all, it provides no assurance that any item will work correctly in all respects with another item of Telepermitted equipment of a different make or model, nor does it imply that any product is compatible with all of Telecom's network services.

## 1. SCOPE

This document covers the requirements which a WCDMA device must meet to qualify for a Telepermit.

Devices covered by this specification include:

- Mobile handsets
- Stand alone Mobile Data Adaptors
- Embedded WCDMA data modules (e.g. in laptops)
- Analogue Terminal Adaptors
- Special purpose data devices such as remote data loggers/ surveillance systems

This specification covers two sets of requirements which together make up the completed submission for a Telepermit application.

Firstly there is documentary evidence of compliance with appropriate international standards, and secondly a test report to a set of detailed requirements which are specific to the Telecom New Zealand WCDMA network. These requirements are documented in this specification.

## 2 GENERAL

### 2.1 General Information

This document is intended to assist Telepermit applicants to comply with Telecom's requirements and to more fully understand their purpose. These requirements are in line with the Telecommunications Act which states that in order to gain Telecom's agreement for connection to the Telecom network, CPE shall comply with Telecom's requirements.

All WCDMA devices must undergo certification testing before they can be granted a Telecom New Zealand Telepermit. Only devices that comply with those requirements for connection are granted a Telepermit and they should be labelled accordingly.

Telecom will accept the relevant WCDMA test reports from approved test laboratories. These will be analysed and processed by Telecom before the Telepermit can be granted.

Wherever practicable, Telecom endeavours to harmonise Telepermit requirements with equivalent overseas specifications. This particularly applies to ITU, ETSI and 3GPP requirements. Reference is made as appropriate to specific Recommendations throughout this Specification.

### 2.2 Specification Format

(1) General background information and requirements forming part of this Specification are printed in plain text in numbered clauses. Comments and notes intended for explanatory purposes are printed in italics and in a smaller font size, in unnumbered clauses, preceded with a “•” symbol.

(2) The word “shall” indicates a mandatory requirement, all of which must be met in order to qualify for a Telepermit. Mandatory requirements are shaded for ease of reference. The word “should” indicates a non-mandatory recommendation. The word “may” indicates an option having no consequence to Telecom.

### 2.3 Applications

This specification covers the basic network applications such as voice/video calling, SMS, and the ability to establish Packet switch data connections. Application which use this connectivity in general are not covered by this Specification, and should be assessed separately by the vendor before marketing a product.

### 2.4 WCDMA NETWORK OVERVIEW

WCDMA (Wideband Code Division Multiple Access) is the radio access technology used for third generation cellular systems. The WCDMA standard was evolved through the Third Generation Partnership Project (3GPP) which aims to ensure interoperability between different 3G networks. The standard is based on ETSI's Universal Mobile Telecommunication System (UMTS).

The operating WCDMA bands on Telecom Network are 850 MHz and 2100 MHz. It is mandatory that all devices be able to operate on both bands.

Telecom WCDMA Network default parameters are specified in Table - A1, Appendix 1.

### 3. GLOSSARY AND REFERENCES

3GPP	3 <sup>rd</sup> Generation Partnership Project
A2DP	Advanced Audio
AAC	Advance Audio Coding
ADC	Analogue To Digital Converter
AGPS	Assisted Global Positioning System
AMR	Adaptive Multi Rate
AMR-NB	Adaptive Multi Rate – Narrow Band
ANR	Ambient Noise Rejection
API	Application Programming Interface
APN	Access Point Name
ARL	Acoustic Reference Level
BES	Blackberry Enterprise Services
BPP	Basic Printing Profile
BT	Blue Tooth
CDMA	Code Division Multiple Access
Cell_DCH	Cell Dedicated Channel
Cell_FACH	Cell Forward Access Channel
Cell_PCH	Cell Paging Channel
CPC	Continuous Packet Connectivity
CPE	Customer Premises Equipment
CS	Circuit Switched
CSV Format	Comma-Separated Value Format
DAC	Digital To Analogue Converter
DL	Down Link
DPCCH	Dedicated Physical Control Channel
DPCH	Dedicated Physical Channel
DTMF	Dual Tone Multi Frequency
DUN	Dial Up Networking
DUT	Device Under Test
EEC	Electrical Echo Control
EF	Elementary File
EGPRS	Enhanced General Packet Radio Service
EL	Echo Loss
EMC	Electromagnetic Compatibility
EMS	Enhanced Messaging Service
ERP	Ear Reference Point
e.r.p.	Effective Radiated Power
EUL	Enhanced Up Link
FDD	Frequency Division Duplex
FDN	Fixed Dialling Number
FPLMN	Future Public Land Mobile Network
EUL	Enhanced Up Link
GCF	Global Certification Forum
GPS	Global Positioning System
GPRS	General Packet Radio Service (used synonymously as PS)
GSM	Global System for Mobile Communication
HATS	Head and Torso Simulator
HPLMN	Home Public Land Mobile Network
HS-DPA	High Speed Download Packet Access
HS-PDSCH	High Speed – Physical Downlink Shared Channel
HSPA	High Speed Packet Access
IM	Instant Messaging
IMEI	International Mobile Equipment Identifier
IMS	IP Multimedia Subsystem
IMSI	International Mobile Subscriber Identity
IOT	Interoperability Testing

ITU	International Telecommunications Union
JMX	Java Management Extensions
JSR	Java Specification Request
LAI	Location Area Identification
LAC	Local Area Code
LSTR	Listener Sidetone Rating
MCC	Mobile Country Code
MD	Mobile Device
MDM	Mobile Device Management
ME	Mobile Equipment
MED	Ministry of Economic Development
MIME	Multipurpose Internet Mail Extensions
MMS	Multi-Media Message Service
MNC	Mobile Network Code
MNO	Network Mode of Operation
MO	Mobile Originating
MT	Mobile Terminating
MRP	Mouth Reference Point
MS	Mobile Station
MS file	Mobile Station File
MVNO	Mobile Virtual Network Operator
NCK	Network Control Key (SIM unlock code)
OEM	Original Equipment Manufacturer
OLR	Overall Loudness Rating
OOS	Out of Service
OTA	Over the Air
P2P	Peer-to-Peer
PCS	Personal Communications Service
PS	Packet Switched
PTCRB	PCS Type Certification Review Board
PDA	Personal Data Assistant
PDP	Packet Data Protocol
PIM	Personal Information Manager
PIN	Personal Identification Number
PLMN	Public Land Mobile Network
PoC	Proof of Compliance
POI	Point of Interconnection (with PSTN)
PRACH	Physical Random Access Channel
PSTN	Public Switched Telecom Network
PTC	Permit To Connect
PTCRB	PCS Type Certification Review Board
PTT	Push To Talk
PUK	PIN Unlock Key
RAC	Routing Area Code
RAB	Radio Access Bearer
RACH	Random Access Channel
RAT	Radio Access Technology
RF	Radio Frequency
RLR	Receive Loudness Rating
RRC	Radio Resource Control
RSS	Really Simple Syndication
SAR	Specific Absorption Rate
SDN	Service Dialling Number
SIM	Subscriber Identity Module
SLR	Send Loudness Rating
SMS	Short Message Service
SMSC	Short Message Service Centre
SoC	Statement of Compliance
SPN	Service Provider Name



SS	System Simulator
STMR	Sidetone Masking Rating
TCLw	Terminal Coupling Loss
TNZ	Telecom New Zealand
UE	User Equipment
UICC	Universal Integrated Circuit Card
UL	Up Link
UMTS	Universal Mobile Telecommunications System
USAT	USIM Application Toolkit
USIM	Universal Subscriber Identity Module
VPLMN	Visited Public Land Mobile Network
VPN	Virtual Private Network
WCDMA	Wideband Code Division Multiple Access
WLAN	Wireless Local Area Network

## REFERENCES

3GPP TS 11.14 Rel5: Specification of the SIM Application Toolkit (SAT)  
 3GPP TS 21.11-5.2.0: USIM and IC card requirements  
 3GPP TS 22.022-5.0.0: Personalisation of Mobile Equipment (ME); Mobile functionality specification  
 3GPP TS 23.048-5.8.0: Security mechanisms for the (U)SIM application toolkit;  
 3GPP TS 25.214: "Physical layer procedures (FDD)".  
 3GPP TS 25.331: "Radio Resource Control (RRC); Protocol Specification".  
 3GPP TS 26.131: "Terminal Acoustic Characteristics for Telephony; Requirements".  
 3GPP TS 26.132: "Narrow-band speech telephony terminal acoustic characteristics - test methods".  
 3GPP TS 31.101-5.2.1: UICC-terminal interface; Physical and logical characteristics  
 3GPP TS 31.102-5.14.0: UMTS Characteristics of the USIM Application  
 3GPP TS 31.111-5.11.0: Universal Subscriber Identity Module (USIM) Application Toolkit (USAT)  
 3GPP TR 31.900-5.5.0: SIM/USIM internal and external inter-working aspects  
 3GPP TS 51.011: Specification of the Subscriber Identity Module - Mobile Equipment (SIM - ME) interface

ETSI Global Multimedia Mobility (GMM) report  
 ETSI TS 102 223-7.10.0: Card Application Toolkit (CAT)

ITU-T Recommendation G.121 "Loudness ratings (LRs) of national systems".  
 ITU-T Recommendation G.122 "Influence of national systems on stability, talker echo, and listener echo in international connections".  
 ITU-T Recommendation P.50 "Artificial voices".  
 ITU-T Recommendation P.51 "Artificial mouth".  
 ITU-T Recommendation P.57 "Artificial ears".  
 ITU-T Recommendation P.58 "Head and torso simulator for telephonometry."  
 ITU-T Recommendation P.64 "Determination of sensitivity/frequency characteristics of local telephone systems".  
 ITU-T Recommendation P.79 with Annex A: "Calculation of loudness ratings for telephone sets."  
 ITU-T Recommendation O.132: "Quantizing distortion measuring equipment using a sinusoidal test signal"

## 4. TELEPERMIT REQUIREMENTS

(1) The device shall comply with the listed requirements. The Telepermit Applicant shall also provide the relevant test reports, including product colour photographs, together with completed check list as stated in Appendix 5 of this specification.

(2) The mobile device shall meet New Zealand Health and Safety Standards, Radio Frequency (RF) performance parameters set by Telecom New Zealand and those imposed by New Zealand Ministry of Economic Development (MED).

(3) Telecom New Zealand leases the Spectrum Management Rights to operate a mobile phone system from MED. The Management Rights (MR) contain conditions that all radio transmitting equipment must comply with. The Management Rights owner is responsible for the sub-licensing of radio transmitting equipment for operation within those Management Rights.

(4) A mobile handset device shall comply with the spectrum mask associated with the Telecom Management Rights. The Telecom Permit to Connect (PTC) process effectively sub-licenses mobile handset devices for compliance and operation within Telecom owned Management Rights.

### 4.1 Health and Safety Requirements

#### 4.1.1 Electrical Safety

The device shall meet the Electrical Safety requirements of AS/NZS 60950 specification.

#### 4.1.2 Specific Absorption Rate ( SAR )

##### 4.1.2.1

The device must comply with the New Zealand Standard for RF field exposure (AS/NZS 2772). In particular, the Telepermit Applicant shall provide SAR test measurement data carried in accordance with:

- (1) ETSI EN 50361 or
- (2) ETSI EN 62209-1 or
- (3) ACMA Radio communications (Electromagnetic Radiation – Human Exposure) Standard 2003 or
- (4) FCC/OET Bulletin 65 Supplement C

##### 4.1.2.2

A full report from an accredited laboratory must be submitted which shows:

- (1) Head and body results for handsets
- (2) Body results for data cards and laptops
- (3) Results for WCDMA and GSM and for all supported bands

Limits: 1.8 W/Kg averaged over 1 g or 2.0 W/Kg averaged over 10 g.

### 4.1.3 Ear Protection - Acoustic Shock

(1) The steady-state A-weighted sound pressure level at the receiver (ERP) for a mobile handset shall be below +31 dBPa(A) or 125 dB SPL(A) "slow" response, as per the ITU -T Rec. P.360 recommendations.

(2) The telephone set should also be checked for self-generated acoustic disturbances, such as tone dialling signals fed back to the receiver.

- *"The "peak" level of 140 dB SPL (A) can cause an instant hearing damage. The damage may occur before a person has a chance to move away or protect themselves in other ways. Regulation 11 of the Health and Safety in Employment Regulations 1995 New Zealand state the levels of noise exposure that should not be exceeded".*

### 4.1.4 Battery Safety

The device shall meet the Certification Requirements for Battery System Compliance to IEEE 1725 ; Standard for Rechargeable Batteries in Cellular Telephones.

- *"As a result of consumer concern regarding battery safety, IEEE 1725 is intended to standardize the evaluation of lithium-ion batteries for cell phone applications. Primary adopters will include manufacturers of battery cells, battery packs, cell phones, chargers/adapters, and carriers. Compliance is granted on a system basis so all system components (cell, battery pack, charger, or phone) must be compliant to this standard before the integrated system is granted the approval".*

## 4.2 Radio Frequency Requirements

### 4.2.1 WCDMA

(1) If the device supports WCDMA operation, it shall comply with the latest core Universal Mobile Telecommunications System (UMTS); User Equipment (UE) radio transmission and reception (FDD) specifications including 3GPP TS 25.101.

(2) The WCDMA RF Requirements and Compliance Specifications are listed in Table- 4.2.1.

**Table - 4.2.1 WCDMA RF Requirements and Compliance Specifications**

Item	WCDMA Requirements	Compliance Specifications
1.	WCDMA Required Band	850 MHz and 2100 MHz
2.	Maximum output power	- ETSI EN 301 908-2 Sec 5.3.1 (Band I). - FCC Part 22 Sec 22.913 (a) (e.r.p.), CFR 47 part 2.1046 (Band V). - 3GPP TS 34.121-1 Sec 5.2 (Band I & V).
3.	Radiated Spurious Emissions	- ETSI EN 301 908-1 Sec 4.2.2 (Band I). - FCC Part 22 Sec 22.917 CFR 47 part 2.1053 (Band V).
4.	Conducted Spurious Emissions	- ETSI EN 301 908-2 Sec 5.3.3 (Band I). - FCC Part 22 Sec 22.917, CFR 47 part 2.1051 (Band V). - 3GPP TS 34.121-1 section 5.11 (Band I & V).

- *Band I – 2100 (Euro) and Band V – 850 (US)*

#### 4.2.2 GSM

(1) Telecom does not support a GSM Network, however where multimode operation is possible, the conformance to GSM requirements is mandatory for a grant of Telecom Telepermit. The GSM capability is required for Emergency 111 calls in the event of the WCDMA network being unavailable.

(2) It is applicant's responsibility to ensure that the mobile device performs GSM operation within the guidelines set by the Ministry of Economic Development, the Radio Spectrum Management Section.

(3) The GSM operation shall comply with the latest core Technical Specification Group GSM/EDGE Radio Access Network; Radio transmission and reception including 3GPP TS 45.005.

(4) The GSM RF Requirement and Compliance Specifications are listed in Table - 4.2.2.

**Table - 4.2.2 GSM RF Requirement and Compliance Specifications**

Item	GSM Requirements	Compliance Specifications
1.	GSM Required Bands	900 and 1800 MHz
2.	GSM Recommended Bands	850 and 1900 MHz
3.	Maximum output power	- ETSI EN 301 511 Sec 5.2.5 (GSM) - ETSI EN 301 511 Sec 5.2.10 (GPRS) - ETSI EN 301 511 Sec 5.2.24 (EGPRS) - FCC Part 22 & 24 Sec 22.913 (maximum e.r.p.) - 3GPP TS 51.010-1 Sec 13.3 (GSM) - 3GPP TS 51.010-1 Sec 13.16.2 (GPRS) - 3GPP TS 51.010-1 Sec 13.17.3 (EGPRS)
4.	Radiated Spurious Emissions	- ETSI EN 301 511 Sec 5.2.16 and Sec 5.2.17 - FCC Part 22 Sec 22.917 (850 Band), CFR 47 part 2.1053. - FCC Part 24 Sec 24.238 (1900 Band), CFR 47 part 2.1053. - 3GPP TS 51.010-1 Sec 12.2.1 & 12.2.2
5.	Conducted Spurious Emissions	- ETSI EN 301 511 Sec 5.2.12 and Sec 5.2.13 - FCC Part 22 Sec 22.917 (850 Band), CFR 47 part 2.1051. - FCC Part 24 Sec 24.238 (1900 Band), CFR 47 part 2.1051. - 3GPP TS 51.010-1 Sec 12.1.1 & 12.1.2

- *it is encouraged for a mobile device to implement the recommended GSM Bands (item2). This is to facilitate Global Roaming capability.*

#### 4.2.3 Electromagnetic Compatibility (EMC)

Electronic equipment (e.g. laptop housing an Embedded WCDMA module/device) shall meet the Electromagnetic Compatibility requirements of AS/NZS CISPR 22 or EM55022 specification.

- *A mobile device compliant with 3GPP TS 34.121-1 & 3GPP TS 51.010-1 specifications is deemed to automatically comply with EMC AS/NZS CISPR 22 requirements.*

#### 4.2.4 WLAN

(1) If the device supports WLAN operation, it is applicant's responsibility to ensure that it operates within the guidelines set by the Ministry of Economic Development, the Radio Spectrum Management Section.

(2) If the device supports (WLAN) operation, the Telepermit Applicant shall provide evidence that the device has been tested and certified for conformance to ETSI EN 300 328-2.

#### 4.2.5 Bluetooth

If the device supports Bluetooth, the device vendor shall provide Bluetooth SIG Certification and one of the following reports/certificates illustrating compliance;

(1) Wideband data transmission compliance and test report as per EN 300 328 or

(2) Data transmission equipment operating in 900MHz, 2.4 GHz & 5.8GHz compliance as per AS/NZS 4771 (Australia/New Zealand), or

(3) Intentional Radiator compliance and test report as per FCC Parts 15C or

(4) Other standard or specification advised by the device vendor and reviewed by Telecom New Zealand.

### 4.3 Radio Protocol Requirements

#### 4.3.1 3GPP Compliance

(1) A UMTS mobile device shall comply with 3GPP UMTS Radio Protocol Specifications TS 24.008, 25.101, 25.214, 25.304, 25.321, 25.322, and 25.331.

(2) A UMTS mobile device which supports GSM shall comply with 3GPP GSM Radio Protocol Specifications TS 24.008, 44.006, 44.018, 45.005, and 45.008.

(3) A UMTS mobile device which supports GPRS or EDGE shall comply with 3GPP GPRS Radio Protocol Specifications TS 44.060, and 44.064.

(4) A UMTS mobile device shall support NMO-II. The device should also support NMO-I. Although NMO-I is not used by Telecom New Zealand, NMO-I support is needed for roaming on foreign network where NMO1 is used.

#### 4.3.2 Registration

(1) A UMTS mobile device shall successfully perform IMSI attach and detach procedures as specified in 3GPP TS 24.008 4.3.4 (IMSI detach procedure) and 3GPP TS 24.008 4.4.3 (IMSI attach procedure).

(2) A WCDMA mobile device shall successfully perform the GPRS attach and detach procedures under default network conditions as specified in 3GPP TS 24.008 4.7.3 (GPRS attach procedure) and 3GPP TS 24.008 4.7.4 (GPRS detach procedure).

- (3) A mobile device shall successfully perform the combined attach and detach procedures as per 3GPP TS 24.008 4.7.3 (GPRS attach procedure) and 3GPP TS 24.008 4.7.4 (GPRS detach procedure).
- 4) A mobile device shall successfully perform a normal location update after camping onto a serving cell with a different LAI as per 3GPP TS 24.008 4.4.1 (Location updating procedure).
- 5) A mobile device shall successfully perform a periodic location update 3GPP TS 24.008 4.4.2 (Periodic updating).
- 6) A mobile device shall successfully perform a normal Routing Area Update after camping onto a serving cell with a different RAC as per 3GPP TS 24.008 4.7.5 (Routing area updating procedure).
- 7) A mobile device shall successfully perform the combined Routing Area and Location Area Update procedures as per 3GPP TS 24.008 4.7.5.2 (Combined routing area updating procedure).
- 8) A mobile device shall successfully perform a Periodic Routing Area Update after the expiry of the T3312 timer as per 3GPP TS 24.008 4.7.5 (Routing area updating procedure).

#### 4.3.3 Security Mode

A mobile device shall correctly respond to a Security Mode Command Message as per 3GPP TS 25.331 (Security Mode Command in Signalling Connection Establish request(CS/PS))

#### 4.3.4 Power Control

- (1) A mobile device shall calculate and apply the correct power for the first preamble when user tries to establish a dedicated channel (e.g. Open loop power control to PRACH) as per TS 25.331 (section 8.5.7), TS 25.214 (section 5.1.1).
- (2) A mobile device shall use the UL open loop power control at the beginning of the DPCH transmission (e.g. Open loop power control upon establishment of DPCH ) as per TS 25.331 (section 8.5.3), TS 25.214 (section 5.1.2).
- (3) A mobile device shall manage correctly mode 1 and mode 2 of closed loop transmit diversity for DPCH as well as mode 1 of closed loop transmit diversity for HS-PDSCH as per TS 25.214 (section 7).

#### 4.4 Network Selection

- (1) A mobile device shall correctly select a designated and prioritised network as per 3GPP TS 23.122.
- (2) A mobile device shall correctly select / reselect the strongest cell in the HPLMN coverage area including the following as per TS 23.122:
  - (a) Cell Selection/reselection

- (b) Attach on power up
  - (c) PS attach/detach
  - (d) Dual Band support (e.g. 850 MHz and if 2100 MHz is implemented)
- (3) A mobile device shall correctly select a prioritised network, after having lost the old VPLMN due to loss of coverage as per TS 23.122 :
- (4) A mobile device shall correctly re-select a higher prioritised network when camping on a prioritised or a non prioritised network as per TS 23.122.
- (5) A mobile device shall correctly re-select a higher prioritised network after an ongoing voice call release as per TS 23.122.
- (6) A mobile device shall correctly re-select a higher prioritised network after releasing a PDP context or an ongoing data connection (GPRS) as per TS 23.122.
- (7) A mobile device, in manual network selection mode, shall correctly list all available PLMNs.
- (8) A mobile device shall retain its configuration of automatic and manual network selection modes when switched off as per TS 22.011, sub-clause 3.2.2.2.
- (9) A mobile device capable of different modes for Network selection shall be able to camp onto a Network including the following:
- (a) Successful Network Selection in Manual and Automatic Selection Mode
  - (b) Successful Network Band selection
  - (c) Successful Network Mode Selection to 3G/UMTS/Both in Telecom Network
- (10) A mobile device shall support the procedure for correct display of PLMN Network Name stored in the USIM as per 3GPP TS 31.102
- (11) A mobile device shall support the procedure for correct display of PLMN Network Name and Operator PLMN List stored in the USIM as per 3GPP TS 31.102.
- (12) A mobile device shall support the procedure for correct display of Service Provider Name stored on the USIM as per 3GPP TS 31.102.
- (13) A mobile device shall support the procedure to ensure that the MCC and MNC are removed from the forbidden PLMN list during roaming if a successful Location Update is completed using that network as per 3GPP TS 31.102 sub clause 4.2.16, 3GPP TS 24.008, ETSI TS 102,221.



#### 4.4.1 Channel Control

- (1) A mobile device shall be successful in channel type switching from CELL\_DCH to CELL\_FACH and back to CELL\_DCH as per 3GPP TS 25.331.
- (2) A mobile device shall be successful in channel type switching from CELL\_FACH to CELL\_PCH and back to CELL\_DCH as per 3GPP TS 25.331.
- (3) A mobile device shall be successful in channel type switching from CELL\_FACH to CELL\_PCH and back to CELL\_DCH in HSDPA cells corresponding test case for non HSDPA cells (e.g. stated in 1) as per 3GPP TS 25.331.
- (4) A mobile device shall be successful in channel type switching from CELL\_FACH to CELL\_PCH and back to CELL\_DCH in HSDPA cells corresponding test case for non HSDPA cells (e.g. stated in 2) as per 3GPP TS 25.331.
- (5) A mobile device shall be successful in channel type switching from CELL\_FACH to CELL\_PCH and back to CELL\_DCH in EUL cells corresponding test case for non EUL cells (e.g. stated in 1) as per 3GPP TS 25.331.
- (6) A mobile device shall be successful in channel type switching from CELL\_FACH to CELL\_PCH and back to CELL\_DCH in EUL cells corresponding test case for non EUL cells (e.g. stated in 2) as per 3GPP TS 25.331.

#### 4.4.2 Multi RAB Establishment

- (1) A mobile device shall be successful in Call handling for MO data calls for different Radio Access Bearer as per 3GPP TS 22.002, section 3.1 (General bearer service user data characteristics). The RABs use depends of subscriber profile, UE configuration and network configuration for service - ( CS MO data call ).
- (2) A mobile device shall be successful in Call handling for MT data calls for different Radio Access Bearer as per 3GPP TS 22.002, section 3.1 (General bearer service user data characteristics). The RABs use depends of subscriber profile, UE configuration and network configuration for service - ( CS MT data call ).
- (3) A mobile device shall successfully perform a PS RABs services as per TS 22.135, including Multi-RAB throughput Measurement - (e.g. PS-data call & PS services).
- (4) A mobile device shall successfully perform a HSPDA PS RABs services as per TS 22.135, including Multi-RAB throughput Measurement - (e.g. HSPDA PS-data call & PS services).
- (5) A mobile device shall successfully perform a EUL PS RABs services as per TS 22.135, including Multi-RAB throughput Measurement - (e.g. EUL PS-data call & PS services).

#### 4.4.3 Handover (Inter Band / Intra Band)

A mobile device capable of voice/data calling functionality shall successfully perform Inter-Band/Intra-Band Handover during a CS, PS and CS+PS session including the following:



- (1) Voice call handover (Intra/Inter Band)
- (2) Video call handover (Intra/Inter Band)
- (3) Voice call + PS handover (Intra/Inter Band)
- (4) Video call + PS handover (Intra/Inter Band)

#### 4.4.4 CS and PS Multi Calls

A mobile device capable of voice/data calling functionality shall successfully perform multi-calls with continuous speech (undisturbed voice quality) and data call (uninterrupted data stream) as per TS 22.135 including the following:

- (1) Voice call & CS-data call
- (2) Voice call & PS-data call
- (3) Voice call & Continuous Ping
- (4) CS data call & PS-data call
- (5) Video call & PS-data call
- (6) Video call & Continuous Ping
- (7) Voice call & HSDPA PS data call
- (8) Video call & HSDPA PS data call
- (9) Voice call & EUL PS data call
- (10) Video call & EUL PS data call

### 4.5 Voice & Video Call Requirements

#### 4.5.1 Voice Call

The device offering voice communications function shall successfully originate and terminate mobile voice calls including:

- (1) Call Establishment to 2G/3G/CDMA/PSTN networks
- (2) Supplementary Services like Call Forwarding/Call Waiting/ Call Barring / Call Conferencing
- (3) Caller Line Identification

#### 4.5.2 Voice Quality

A mobile device offering a voice communications function, upon successfully establishing a mobile voice call, shall produce an acceptable degree of voice quality so that the voice is clear, audible and intelligible including the following:

- (1) Voice quality for MO/MT Voice established to/from GSM/UMTS/CDMA/PSTN numbers from a noisy congested area
- (2) Voice quality for MO/MT Voice established to/from GSM/UMTS/CDMA/PSTN numbers from a quiet area
- (3) Voice quality when user uses Handset/Speaker/Headset

### 4.5.3 Emergency Call

- (1) A mobile device shall successfully perform an outgoing emergency call as per Up to R98: 3GPP TS 02.30 clause 8 and From R99 upwards: 3GPP TS 22.101 R99 clause 8 - (e.g. Emergency calls, with SIM/USIM, emergency numbers stored on EFEC).
- (2) A mobile handset or terminal adapter shall successfully call the emergency numbers (111, 911 and 112) under the following conditions:
  - (a) In Limited Service
  - (b) When Keypad / touchpad is locked
  - (c) Emergency Number stored/not stored in SIM card
  - (d) FDN ON/OFF
- (3) In the event Telecom WCDMA Network is unavailable, the mobile handset shall support the Handover of Emergency 111 Calls to GSM and other Networks.

### 4.5.4 Supplementary Services

- (1) A mobile device shall permit interrogation of CLIP status as per TS 24.081 clause 1.2
- (2) A mobile device shall correctly indicate its CLIR status in response to a command from the user as per TS 24.081 clause 5.
- (3) A mobile device capable of interworking with Network Services shall successfully register supplementary services including the following:
  - (a) CLIP/CLIR activation
  - (b) Call Forward
  - (c) Call Waiting

### 4.5.5 Voicemail Notification

A mobile device capable of Voicemail Notification functionality shall receive Voice messages correctly including the following:

- (1) Voicemail indication on device
- (2) Voicemail Retrieval

### 4.5.6 Video Call

A mobile device capable of a Video Call functionality shall successfully establish a Mobile Originating / Mobile Terminating (MO / MT) Video Call including the following:

- (1) Video Screen Initialisation and Near/Far Window Display
- (2) Quality of Service Parameters for Video Streaming to ensure device maintains high quality and reliable video session

- (3) Call Establishment to other 3G networks
- (4) Supplementary Services like Call Forwarding/Call Waiting/ Call Barring / Call Conferencing
- (5) Caller Line Identification
- (6) SMS/MMS/Email during Video Call

## 4.6 SMS and MMS Requirements

### 4.6.1 SMS

- (1) A mobile device shall successfully read the Short Message Service Parameters already stored on the UICC with USIM as per 3GPP TS 31.102, ETSI TS 102,221.
- (2) A mobile device capable of SMS functionality shall receive/deliver text messages to the destination correctly including the following:
  - (a) MO/MT SMS to 2G/3G/CDMA/International numbers
  - (b) MO/MT SMS to Multiple destinations
  - (c) Full text display for MO/MT Concatenated SMS
  - (d) Delivery Report Indication for MO SMS

- *For credibility of data delivered by network, test coverage should include delivery of MT SMS with correct date and time stamp*

### 4.6.2 MMS

A mobile device capable of delivery of MMS shall establish the PS connection successfully and shall send / receive MMS to the destination correctly including the following:

- (1) MO/MT MMS to 2G/3G/CDMA/International numbers
- (2) MMS to Multiple destinations
- (3) Full content including attachments are sent/received successfully
- (4) Automatic/Manual Retrieval of Email
- (5) Graceful Interrupt handling during MMS download (e.g. Incoming call establishment during MMS download)
- (6) Delivery Report Indication for MO MMS

- *For credibility of data delivered by network, test coverage should include delivery of MT MMS/EMS/Email with correct date and time stamp.*

## 4.7 Data Connection Requirements

### 4.7.1 PDP Context

- (1) A mobile device shall successfully activate a primary PDP context as per 3GPP TS 24.008 6.1.3.1.1 (Successful PDP context activation initiated by the mobile station e.g. MO).
- (2) A mobile device shall successfully deactivate a PDP context as per 3GPP TS 24.008 6.1.3.4.1 (Successful PDP context deactivation initiated by the MS, e.g. MO).
- (3) A mobile device shall successfully accept a PDP context deactivation as per 3GPP TS 24.008 6.1.3.4.2 (PDP context deactivation initiated by the Network).
- (4) A mobile device shall successfully activate a second Primary PDP Context as per 3GPP TS 24.008 6.1.3.2.1 (Simultaneous Primary PDP Context Activation Procedure Initiated by the MS).
- (5) A mobile device shall successfully deactivate a second Primary PDP Context as per 3GPP TS 24.008 6.1.3.4.1 (PDP context deactivation initiated by the MS).
- (6) A mobile device shall successfully deactivate a second Primary PDP Context when a first Primary PDP context is activated. Applicable to UEs supporting multiple PDP context activation and at least two packet switched services as per 3GPP TS 24.008.
- (7) A mobile device shall successfully activate a secondary PDP Context. Applicable to UEs supporting secondary PDP context activation and at least one packet switched service as per 3GPP TS 24.008 6.1.3.2.1 (Successful Secondary PDP Context Activation Procedure Initiated by the MS), 3GPP TS 23.107 - (Secondary MO PDP Context activation during a PS call).
- (8) A mobile device shall successfully deactivate a secondary PDP Context. Applicable to UEs supporting secondary PDP context activation and at least one packet switched service as per 3GPP TS 24.008 6.1.3.4.1 ( PDP context deactivation initiated by the MS) 3GPP TS 23.107.
- (9) A mobile device shall successfully activate a primary PDP context for modem application for other PLMN than home PLMN with a reasonable delay. Applicable to UEs supporting at least one packet switched service as per 3GPP TS 24.008 6.1.3.1.1 (Successful PDP context activation initiated by the mobile station) - PDP context activation in roaming.
- (10) A mobile device shall successfully originate a speech call with ciphering and authentication as per 3GPP TS 31.102, 3GPP TS 33.102, 3GPP TS 24.008, 3GPP TS 25.331, ETSI TS 102,221 - (Authentication / Ciphering ).

- *Packet Data Protocol Context is one of the most important concepts for the UMTS Packet Data Architecture. A Packet Data Protocol (PDP) context provides a packet data connection over which the mobile device and the network can exchange IP packets.*

*PDP Context is designed to allocate a Packet Data Protocol (PDP) address, either IP version 4 or IP version 6 type of address, to the mobile terminal. It is also used to make a logical connection with QoS profiles, the set of QoS attributes negotiated for and utilized by one PDP context, through the UMTS network.*

## 4.7.2 Data Rate

(1) A mobile device shall successfully establish PS data call using a 64/64 RAB. The throughput is verified by means of a FTP download as per 3GPP TS 25.331 - ( e.g. PS call using 64/64 RB - ftp UL / ftp DL ).

(2) A mobile device shall successfully establish PS data call using a 64/128 RAB. The throughput is verified by means of a FTP download as per 3GPP TS 25.331 - ( e.g. PS call using 64/128 RB - ftp UL / ftp DL ).

(3) A mobile device shall successfully establish PS data call using a 64/384 RAB. The throughput is verified by means of a FTP download as per 3GPP TS 25.331 - ( e.g. PS call using 64/384 RB - ftp UL / ftp DL ).

## 4.8 Requirements for Specific Device Types

### 4.8.1 Data Cards

#### 4.8.1.1 Connection Manager - PC User Interface

A mobile device such as a Data Card and its Connection Manager (e.g. Watcher) shall successfully launch a PC User Interface including the following:

- (1) Auto launch
- (2) Radio turned off
- (3) Device connection /disconnection
- (4) Device in idle state
- (5) SMS to destination numbers/email ids/short codes
- (6) Behaviour after editing settings

#### 4.8.1.2 Data Card Interoperability with various Operating Systems

A mobile device such as a Data Card and its Connection Manager shall function successfully over various OS including the following:

- (1) Application connecting / disconnecting device with network
- (2) Speed test
- (3) Sending / receiving SMS

## 4.8.2 Embedded WCDMA Module, Integrated End Product Compatibility

A product that integrates an Embedded WCDMA module (e.g. a laptop) shall be compliant for its functions and features with the appropriate requirements of this specification.

### 4.8.3 Mobile Terminal Adapters Requirements

A Mobile Terminal Adapter equipped with an FXS function with analogue ports for connection to a PTC200 series Telepermitted phone shall be compliant with the requirements of PTC220, section 5 in addition to the appropriate requirements of this specification.

## 4.9 Acoustic Requirements

(1) Devices offering voice communications function shall comply with the requirements of 3GPP TS 26.131 Specification, taking into account that, if the receiving volume control is provided, the receiving volume control range shall extend as far as possible towards stated limits of -13 dB (loud) and +18 dB (quiet).

(2) Where a user controlled receiving volume control is provided, the recommended RLR Minimum (loudest) of a handset should be  $-6 \pm 3$  dB (limits: -3 dB to -9 dB).

(3) Where a user controlled receiving volume control is provided, the recommended RLR Maximum (quietest) of a handset should be  $15 \pm 3$  dB (limits: 12 dB to 18 dB).

(4) Compliance shall be checked by the relevant tests described in TS 26.132.

(5) The Telepermit Applicant must provide the relevant test reports together with completed check list as stated in Appendix 5.

- *it is encouraged for a mobile device to implement the recommended 3GPP TS 26.131 limits which extend beyond the nominal values. Telecom NZ Ltd. recommends wider range for the receive volume control in order to give the user an option to cater for noisy environments such as a street traffic etc.*

## 4.10 DTMF Requirements

(1) A mobile device shall correctly send DTMF digits when engaged in a call as per TS 24.008 sub-clause 5.5.7.

## 4.11 USIM and USAT Requirements

### 4.11.1 USIM

(1) A mobile device shall support USIM application for both 3G and GSM communication. In particular service 27 and service 38 in the USIM Service Table shall be supported as per 3GPP TS 31.102. The device shall comply with USAT requirements as per 3GPP TS 31.111.

(2) Table - A2 (Appendix 2) specifies the Telecom New Zealand mandatory UICC / USIM and USAT requirements.

(3) A mobile device shall support the 3GPP specifications listed in Table - 4.11

**Table – 4.11 UICC / USIM and USAT Compliance Specifications ( Additional )**

3GPP TS 11.14	Specification of the SIM Application Toolkit (SAT) for the Subscriber Identity Module - Mobile Equipment (SIM - ME) interface
3GPP TS 21.111	USIM and IC card requirements
3GPP TS 22.022	Personalisation of Mobile Equipment (ME); Mobile functionality specification
3GPP TS 22.038	USIM Application Toolkit (USAT); Service description
3GPP TS 23.048	Security mechanisms for the (U)SIM application toolkit
3GPP TS 31.101	UICC-terminal interface; Physical and logical characteristics
3GPP TS 31.102	Characteristics of the Universal Subscriber Identity Module (USIM) application
3GPP TS 31.102	Procedure for testing support of SDN entries – ( SDN saved on USIM)
3GPP TS 31.111	Universal Subscriber Identity Module (USIM) Application Toolkit (USAT)
3GPP TS 31.111	Procedure for testing all USAT Applications on the USIM – (General USAT Function)
3GPP TS 31.111	Procedure for testing all USAT Applications on the USIM – ( USAT features )
3GPP TS 51.011	Specification of the Subscriber Identity Module - Mobile Equipment (SIM - ME) interface
3GPP TR 31.900	SIM/USIM internal and external inter-working aspects
ETSI TS 102 223	Smart Cards; Card Application Toolkit (CAT)

(4) The Telepermit Applicant shall provide the compliance statement that the mobile handset is compatible with the USIM application located on the UICC and that the mandatory features associated with Telecom UICC have been deemed to work properly on Telecom WCDMA network.

- **Universal Integrated Circuit Card (UICC)** is the name given to the smart card used in GSM and UMTS networks. It provides a secure storage space for the applications and varied pieces of information required to access the UMTS network.
- **Universal Subscriber Identity Module (USIM)** is the UMTS version of the GSM SIM card. It is an application that sits on the UICC. The USIM application provides the necessary interaction with the ME and the UMTS network to enable the services of the UMTS network. It provides the necessary functionality to uniquely identify a subscriber on a UMTS network. The USIM application is absolutely mandatory for interoperability between the mobile handset and the 3G network.
- **USIM Application Toolkit (USAT) provides** the mechanisms for the applications contained within the UICC to communicate with the ME.

## 4.11.2 USIM Security

### 4.11.2.1 PIN1 / PIN2 Handling

A mobile device shall be able to handle SIM card security using PIN including the following:

- (1) Activation/deactivation of PIN1
- (2) Change of PIN1, PIN2
- (3) Unblocking of blocked PIN1
- (4) PUK1/PUK2 verification

### 4.11.2.2 Calls and SMS with PIN1 Activated / Deactivated

The device offering voice communications and SMS function shall successfully originate mobile voice calls and send SMS when PIN1 is activated/deactivated including the following:

- (1) MO call with PIN1 activated/deactivated
- (2) MO call with PIN2 activated/deactivated
- (3) Emergency calls when SIM blocked
- (4) MO SMS when SIM memory full

#### **4.11.3 USIM Application - Dual IMSI**

A mobile device shall successfully perform IMSI refresh while using a dual IMSI SIM card (TNZ IMSI and O2 IMSI) including the following:

- (1) IMSI refresh from TNZ to O2 and vice versa while in OOS/Limited service area and in TNZ coverage area respectively.
- (2) SMSC number change from TNZ SMSC number to O2 SMSC number and vice versa while in OOS/Limited service area and TNZ coverage area respectively.



## APPENDIX 1

## TELECOM NZ WCDMA DEFAULT NETWORK PARAMETERS

Table - A1 WCDMA Default Network Parameters

Item	Network Parameter	Value	Description
A1.1	Network	Rel5, Rel6, Rel7.	WCDMA850MHz, WCDMA2100MHz,
A1.2	RF Band	Dual Band	850/2100 MHz Mandatory.
A1.3	Channel Selection	Inter-band Intra-band	Able to perform (850<->850) and (850<->2100) RF multi channel transitions and handovers.
A1.4	Circuit Switched Data (CSD)		14.4 Kbps Data Rate
A1.5	Packet Data	Rel5 minimum	WCDMA Rel5 minimum compliant with both Mobile IP and Simple IP supported with ability to use a proxy server.
A1.6	Network mode	Dual mode	Type of network the handset can lock onto e.g. Dual Mode (WCDMA and GSM), WCDMA Only and GSM Only.
A1.7	Network selection	Automatic	
A1.8	Cell information	No	Whether the handset displays cell information by default.
A1.8	Flight mode	Disabled	Flight mode is enabled/disabled by default.
A1.9	HPLMN	Read from USIM	The home network
A1.10	Preferred PLMN list	Read from USIM	The list of preferred roaming network partners.
A1.11	FPLMN list	Read from USIM	List of forbidden networks.
A1.12	Codec (Voice)		WCDMA AMR-NB 12.2k / AMR- NB Variable Rate

Item	Radio Parameter	Value	Description
A1.1.1.1	Ciphering	Enabled	
A1.2.1.2	Secondary PDP context	Required	
A1.2.1.3	Streaming over GPRS (PS)	Required	
A1.2.1.4	GPRS (PS) Attach on power up	Enabled	Registration should be done for both CS and PS domains.
A1.2.1.5	Always on PDP context setting	Disabled	PDP context should be activated when needed, and deactivated when not in use.

Item	Voice Call Parameter	Value	Description
A1.3.1.1	Voicemail centre	Read from USIM	Telecom voicemail retrieval functionality is achieved via Abbreviated Dial and number string populated within EFADN.
A1.3.1.2	Voicemail retrieval number	+6483083210	This number should be used for the customer to retrieve voicemails.
A1.3.1.3	Voicemail deposit number	+6483200000	This number should be used for the calling party to leave voicemail for the customer and it should be the default call forwarding number if one exists.

A1.3.1.4	Emergency Call Number	111, 112, 911	Emergency numbers recognised to invoke priority call setup for the user.
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Item	SMS Parameter	Value	Description
A1.4.1.1	Message Centre (SMSC)	Read from USIM	
A1.4.1.2	Access type	Circuit switched	
A1.4.1.3	Reply SMSC	Same as Message Centre	

Item	Data Parameter	Telecom Default	Telecom Data
A1.5.1.1	Access Point	wap.telecom.co.nz	internet.telecom.co.nz
A1.5.1.2	Data Bearer	Packet Data	Packet Data
A1.5.1.3	Network Type	IPv4	IPv4
A1.5.1.4	IP Address	Automatic	Automatic
A1.5.1.5	DNS Address	Automatic	Automatic
A1.5.1.6	Home Page	N/A	http://pdportal.telecom.co.nz
A1.5.1.7	Use Proxy	No	No
A1.5.1.8	Proxy IP Address	N/A	N/A
A1.5.1.9	Proxy Port	N/A	N/A
A1.5.1.10	Proxy Secure Port	N/A	N/A
A1.5.1.11	Username	N/A	N/A
A1.5.1.12	Password	N/A	N/A
A1.5.1.13	Applications	Default Connection (e.g. email, AGPS, ActiveSync, Java)	Data card, tethered data, RTSP streaming, non-WAP browser

## APPENDIX 2

## UICC / USIM AND USAT MANDATORY REQUIREMENTS

**Table A2(a) - UICC / USIM Mandatory Requirement**  
(3GPP TS 31.102, section 4 extract)

Parameter Description	Clause
EFLI (Language Indication)	4.2.1
EFIMSI (IMSI)	4.2.2
EFKeys (Ciphering and Integrity Keys)	4.2.3
EFKeysPS (Ciphering and Integrity Keys for Packet Switched domain)	4.2.4
EFPLMNwAcT (User controlled PLMN selector with Access Technology)	4.2.5
EFHPPLMN (Higher Priority PLMN search period)	4.2.6
EFUST (USIM Service Table)	4.2.8
EFSPN (Service Provider Name)	4.2.12
EFACC (Access Control Class)	4.2.15
EFFPLMN (Forbidden PLMNs)	4.2.16
EFLOCI (Location Information)	4.2.17
EFAD (Administrative Data)	4.2.18
EFEC (Emergency Call Codes)	4.2.21
EFPSLOCI (Packet Switched location information)	4.2.23
EFFDN (Fixed Dialling Numbers)	4.2.24
EFMS (Short messages)	4.2.25
EFMSISDN (MSISDN)	4.2.26
EFMSMP (Short message service parameters)	4.2.27
EFMS (SMS status)	4.2.28
EFSDN (Service Dialling Numbers)	4.2.29
EFEXT2 (Extension2)	4.2.30
EFEXT3 (Extension3)	4.2.31
EFMSR (Short message status reports)	4.2.32
EFEST (Enabled Services Table)	4.2.47
EFACL (Access Point Name Control List)	4.2.48
EFDC (Depersonalisation Control Keys)	4.2.49
EFNL (Co-operative Network List)	4.2.50
EFSTART-HFN (Initialisation values for Hyperframe number)	4.2.51
EFTHRESHOLD (Maximum value of START)	4.2.52
EFOPLMNwACT (Operator controlled PLMN selector with Access Technology)	4.2.53
EFHPLMNwAcT (HPLMN selector with Access Technology)	4.2.54

EFARR (Access Rule Reference)	4.2.55
EFNETPAR (Network Parameters)	4.2.57
EFPNN (PLMN Network Name)	4.2.58
EFOPL (Operator PLMN List)	4.2.59
EFEHPLMN (Equivalent HPLMN)	4.2.84
EFEHPLMNPI (Equivalent HPLMN Presentation Indication)	4.2.85
EFPBR (Phone Book Reference file)	4.4.2.1
EFIAP (Index Administration Phone book)	4.4.2.2
EFPBC (Phone Book Control)	4.4.2.5
EFKc (GSM Ciphering key Kc)	4.4.3.1
EFKcGPRS (GPRS Ciphering key KcGPRS)	4.4.3.2
EFEXT1 (Extension1)	4.5.2
EFARR (Access Rule Reference)	4.5.5
EFICE_DN (In Case of Emergency – Dialling Number)	4.5.6
EFICE_FF (In Case of Emergency – Free Format)	4.5.7
Timer Expiration	4.10

**Table A2(b); UICC / USAT Mandatory Requirement**  
(3GPP TS 31.111, section 4-7 extract)

<b>Parameter Description</b>	<b>Clause</b>
Profile download	5
- Procedure	5.1
- Structure and coding of TERMINAL PROFILE	5.2
- Definition of display parameters in Profile download	5.3
Proactive UICC commands and procedure	6.4
- DISPLAY TEXT	6.4.1
- MORE TIME	6.4.4
- POLL INTERVAL	6.4.6
REFRESH	6.4.7
- EFIMSI changing procedure	6.4.7.1
- Generic Bootstrapping Procedure Request	6.4.7.2
SEND SHORT MESSAGE	6.4.10
PROVIDE LOCAL INFORMATION	6.4.15
SET UP EVENT LIST	6.4.16
TIMER MANAGEMENT	6.4.21

**APPENDIX 3**

**WCDMA DATA SERVICES AND ASSOCIATED FEATURES LIST**

Telepermit Applicant shall provide the list of WCDMA data services and associated features. These should be specified in Table A3.

**Table A3 - WCDMA data services and associated features**

Data Services ( to be listed )	Associated Features ( to be listed )	Comments

V  
V  
V  
V  
V  
V  
V

**APPENDIX 4**

**PROTOCOL COMPLIANCE AND INTEROPERABILITY REQUIREMENTS**  
**( OPTIONAL )**

**Table A4 – Protocol compliance and interoperability requirements**

Item	Description	Comments
Global Certification Forum (GCF)	GCF certificate of the submitted hardware and software to be provided if the device supports GSM in 900/1800 MHz bands or WCDMA in 2100 MHz band	
PCS Type Certification Review Board (PTCRB)	PTCRB certificate of the submitted hardware and software to be provided if the device supports GSM or WCDMA in 850/1900 MHz bands	
Interoperability Testing (IOT)	Test reports to be supplied as follows: <ul style="list-style-type: none"> <li>• GSM/EDGE (2G) from Alcatel</li> <li>• WCDMA/HSPA (3G) from Nortel</li> </ul>	
Bluetooth	Bluetooth test reports (if available) should be provided for compliance to the Bluetooth Qualification Program.	
Java	Java test reports (if available) should be provided for conformance to JSR technology Compatibility Kit (TCK) and Sun Microsystem Java Test Suite (JDTS).	

## APPENDIX 5

## WCDMA TELEPERMIT APPLICATION CHECK LIST

Table A5 – WCDMA Telepermit Application Check List

Item	Required Test Reports	PTC Applicant's acknowledgement of compliance (Yes / No)	TNZ Comments
Power Supply Compliance Certificate	AS/NZS 60950		
SAR Compliance Certificate & Test Report	ETSI EN 50361		
Ear Protection or Acoustic Shock Compliance	ITU-T Rec. P.360		
Battery Safety Compliance	IEEE 1725 - 2006		
WCDMA RF Compliance Certificate & Test Report	-3GPP TS 25.101 ----- <u>Maximum output power:</u> -ETSI EN 301 908-2, Sec 5.3.1 -FCC Part 22 Sec 22.913 (a) (max e.r.p.) -3GPP TS 34.121-1, Sec 5.2 ----- <u>Radiated Spurious Emissions:</u> -ETSI EN 301 908-1, Sec 4.2.2 - FCC Part 22 Sec 22.917 ----- <u>Conducted Spurious Emissions:</u> - ETSI EN 301 908-2 Sec 5.3.3 - FCC Part 22 Sec 22.917 -3GPP TS 34.121-1, Sec 5.11		
GSM RF Compliance Certificate & Test Report	-3GPP TS 45.005 ----- <u>Maximum output power:</u> -3GPP TS 51.010-1, Sec 13.3 (GSM) -3GPP TS 51.010-1, Sec 13.16.2 (GPRS) -3GPP TS 51.010-1, Sec 13.17.3 (EGPRS) - ETSI EN 301 511 Sec 5.2.5 (GSM) - ETSI EN 301 511 Sec 5.2.10 (GPRS) - ETSI EN 301 511 Sec 5.2.24 (EGPRS) - FCC Part 22 & 24 Sec 22.913 (max e.r.p.) ----- <u>Radiated Spurious Emissions:</u> - ETSI EN 301 511 Sec 5.2.16 and Sec 5.2.17 - FCC Part 22 Sec 22.917 (850 Band) - FCC Part 24 Sec 24.238 (1900 Band) - 3GPP TS 51.010-1 Sec 12.2.1 & 12.2.2 ----- <u>Conducted Spurious Emissions:</u> - ETSI EN 301 511 Sec 5.2.12 and Sec 5.2.13 - FCC Part 22 Sec 22.917 (850 Band) - FCC Part 24 Sec 24.238 (1900 Band) - 3GPP TS 51.010-1 Sec 12.1.1 & 12.1.2		
UICC / USIM Compliance Test Report	- PTC 257 section 4.11 - PTC 257 Appendix 2, Table-A2(a)(b)		
Data Connection Requirements	- PTC 257 section 4.7		
WCDMA Data services and Associated Features List	- PTC 257 Appendix 3, Table-A3		
Acoustic Requirements	PTC 257 section 4.9		
DTMF Requirements	PTC 257 section 4.10		

<b>OPTIONAL REQUIREMENTS</b>			
<b>WLAN Compliance Test Report</b>	ETSI EN 300 328-2		
<b>Global Certification (GCF) Forum Certification</b>	GCF Certificate		
<b>PCS Type Certification Review Board (PTCRB) Certification</b>	PTCRB certificate		
<b>Interoperability Test (IOT) Reports</b>	- GSM/EDGE (2G) from Alcatel - WCDMA/HSPA (3G) from Nortel		
<b>Bluetooth Test Reports</b>	Statement of Compliance to Bluetooth Qualification Program		
<b>Java Test Reports</b>	Statement of Compliance to Sun Microsystems TCK and JDTS		