To: Carlos Bonilla
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Below is the response to your request for additional information.

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1) Please submit updated installation / operating instructions where appropriate

[Response] Updated installation guide is attached.

2) Please submit updated operational description,! including info about specific applicable physical channel configurations, if not in filing already

[Response] Updated operational description is attached. Specific applicable physical channel configurations are included in the test settings under Item 3.

3) If not in filing already, please explain applicable HSDPA and HSUPA UE categories, and specific test settings established therefrom

[Response]

AirCard 881 HSPA categories are as follows:

HSDPA category 8 data rate 7.2Mbps downlink
HSUPA category 5 data rate 2 Mbps uplink

Below is the specific test settings used:

UE Power Control Settings
Maximum allowable UE-Power = 24.0 dBm
UL Target Power = 24.0 dBm

Node B Settings
Primary Scrambling Code = 9
Output Channel Power = -51.7 dBm
OCNS = Off
Total Output Power (Ior+Ioc) = -51.7 dBm

RMC Settings
Reference Channel Type: 12.2 kbps Downlink/Uplink DL DTCH Transport Format: 12.2 kbps DL
Resources in Use: 100 % UL CRC (Sym. Loop Mode 2): Off
Test Mode: Loop Mode 2 Channel Data Source DTCH: PRBS9

Voice Settings
Voice Source: Echo
Loopback Type: Off

Adaptive Multirate Settings
Active Code Set: Selection A

Codec Mode: 12.2 kbps

Signaling RAB Settings
SRB Cell DCH: 3.4 kbps

BS Down Link Physical Channels Settings
Ior = -51.7 dBm
P-CPICH = -3.3 dB
P-SCH = -8.3 dB
S-SCH = -8.3 dB
P-CCPCH = -5.3 dB
S-CCPCH = -5.3 dB
S-CCPCH Channel Code = 2
PICH = -8.3 dB
PICH Channel Code = 3
AICH = -8.3 dB
AICH Channel Code = 6
DPDCH = -10.3 dB
DPDCH Channel Code = 96
Power Offset (DPCCH/DPDCH) = 0.0 dB
DL DPCH Timing Offset = 0
Secondary Scrambling Code = 0
Secondary Scrambling Code (HSDPA) = 0
HSDPA Channels = On

TPC Settings
Algorithm = 2
TPC Step Size = 1dB
TPC Pattern Setup = Set 1 (All 1, after linked to get maximum power)

HSDPA Mode Settings:

Network Settings
Packet Switched Domain = ON

HSDPA Test Mode Settings
Radiobearer Setup = RMC 12.2 kbps + HSPDA
RMC Test Loop = Loop Mode 1 RLC TM

HSDPA HS-DSCH Settings
Data Pattern = PRBS9
Force NACK = Off
CQI Feedback Cycle = 4 ms
UE Category = 8
Channel Configuration Type = Fixed Reference Channel

Fixed Reference Channel Settings
H-Set Selection = H-Set 5 QPSK
RV Coding Sequence = {0,2,5,6}

HSPA Mode Settings:

UE Power Control Settings
Maximum allowable UE-Power = 24.0 dBm
UL Target Power: Set according to each specific sub-test in table 5.2B.5 of 3GPP TS 34.121 less 5db for starting point.

UE Packet Data Gain Factors
Bc and Bd: *
ΔACK, ΔNACK,ΔCQI=8

HSUPA
E-DCH Physical Layer Category = 5
E-TFCI Table Index = 1
Minimum Set E-TFCI = 1*
Maximum Channelisation Code: 1xSF4 or 2xSF4
Initial Service Grant: *

UE Gain Factors
ΔE-DPCCH: *
Number of Reference E-TFCIs: *
Reference E-TFCI's: *
E-TFCI Power offsets: *

Node B Settings
Primary Scrambling Code = 9
Output Channel Power = -86 dBm
OCNS = Off
Total Output Power (Ior+Ioc) = -86 dBm
Paket Switched
DCH Type: HSUPA Test Mode
Data Rate: HSDPA/HSUPA
HSDPA Test Mode Settings
Radiobearer Setup = RMC 12.2kbps + HSDPA
RMC Test Loop = Loop Mode 1 RLC TM

HSDPA HS-DSCH
CQI Feedback Cycle = 4ms
CQI Repetition Factor = 2
ACK/NACK Repetition Factor = 3
UE Category = 8
Channel Configuration Type = FRC
H-Set Selection = H-Set 1 QPSK
RV Coding Sequence {0,2,5,6}

HSUPA Test Mode Settings
Radiobearer Setup = SRB 3.4 + HSPA
HSUPA Settings
TTI mode: 10ms
E-AGCH
Pattern Length: 1
AG Value: *

Downlink Physical Channels
HSUPA Channels: On
E-AGCH: -6.0db
E-AGCH Chan. Code: 6
E-RGCH/E-HICH: -5.0db
E-RGCH Active: Off
E-RGCH/E-HICH Chan. Code: 6

*Set according to each specific sub-test in table C.11.1.3 of 3GPP TS 34.121.

4) If not in filing already, please explain device MPR (Maximum Power Reduction) implementation

[Response] The Maximum Power Reduction is implemented according to the 3GPP TS 34.121-7 section 5.2B table 5.2B1 as shown below:

Table 5.2B.1: Maximum Output Power with HS-DPCCH and E-DCH

UE transmit channel configuration	CM (dB)	MPR (dB)
For all combinations of; DPDCH, DPCCH, HS-DPCCH, E-DPDCH and E-DPCCH	0 ≤ CM ≤ 3.5	MAX (CM-1, 0)
Note 1: CM = 1 for β_c/β_d =12/15, β_{hs}/β_c=24/15. For all other combinations of DPDCH, DPCCH, HS-DPCCH, E-DPDCH and E-DPCCH the MPR is based on the relative CM difference.		

A summary of our device setup corresponding to MPR is shown below:

Subtest	Mode	Call Type	3GPP Release	Loopback Mode	RMC (kbps)	HSDPA FRC	Power Class 3 Maximum Limit	Bc/Bd	Bhs	Bed	CM (db)	MPR (db)
1	HSPA	PS	Rel6	1	12.2	H-Set 1 QPSK	24 (+1.7/-5.2 db)	11 /15	22/15	209/225	1.0	0.0
2	HSPA	PS	Rel6	1	12.2	H-Set 1 QPSK	22 (+3.7/-5.2 db)	6 /15	12/15	12/15	3.0	2.0
3	HSPA	PS	Rel6	1	12.2	H-Set 1 QPSK	23 (+2.7/-5.2 db)	15 /15	30/15	30/15	2.0	1.0
4	HSPA	PS	Rel6	1	12.2	H-Set 1 QPSK	22 (+1.7/-5.2 db)	15 /9	4/15	2/15	3.0	2.0
5	HSPA	PS	Rel6	1	12.2	H-Set 1 QPSK	24 (+1.7/-5.2 db)	15/15	30/15	24/15	1.0	0.0

5) If not in filing already, please explain model and version numbers and specific 3GPP implementations in CMU200

[Response]
CMU200 FW: WCDMA 4x50.a11 with HSUPA (CMU-K56) and HSDPA (CMU-K60) installed.
3GPP implementation: Radio bearer setup according to standard 3GPP TS 34.108 for HSUPA test cases in standard 3GPP TS 34.121.