



# Reference Point 4 Specification

Version 1.1

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35 addressed to:

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1 **1 Summary of Changes**

2

<b>Version</b>	<b>Approved by</b>	<b>Date</b>
0.01	Draft	16 April 2004
0.02	Draft	11 May 2004
0.03	Draft	19 May 2004
0.04	Draft	17 June 2004
0.05	Draft	7 October 2004
1.0	Management Board	11 October 2004
1.1	Management Board	4 May 2006

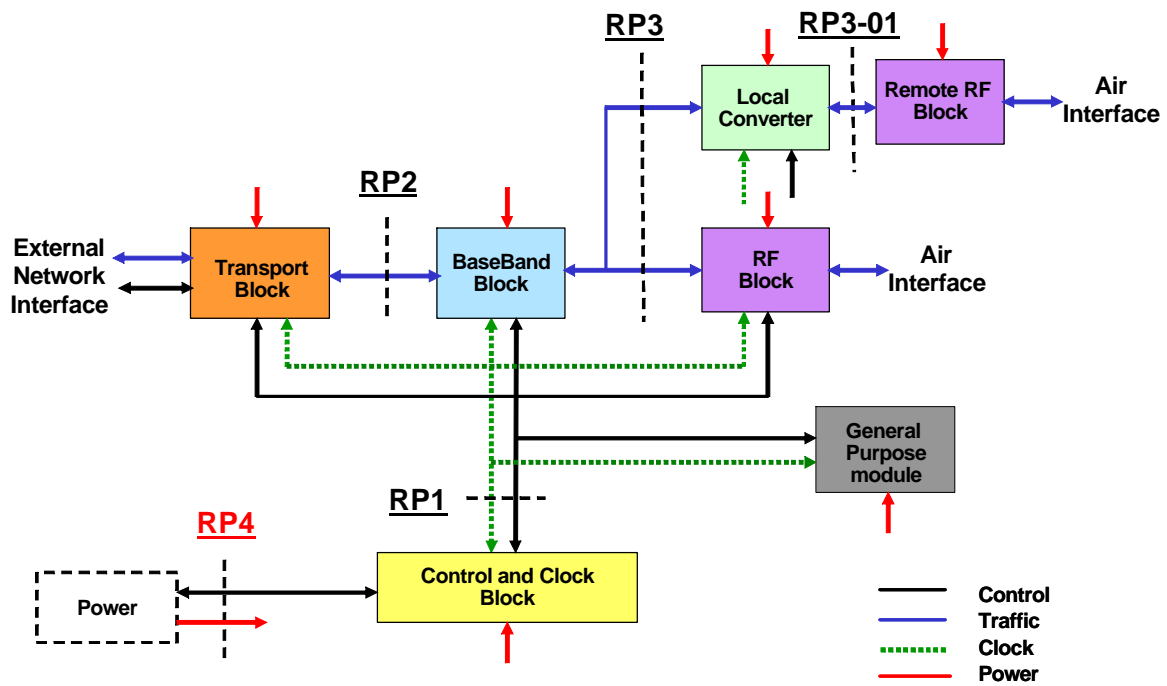
3

1

## 2 Scope

3 This document specifies the BTS Power System interface between Power Module and other  
4 BTS modules as presented in the following figure.

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Figure 2-1 BTS Reference Architecture

## 1   **3 General**

### 2   **3.1 Power Interface Description**

3   The main function of Power Interface is to provide the following:

- 4       • DC power to the BTS modules
- 5       • Provide a communication channel to the Control and Clock Module (CCM)

6   Note: RP4 does not cover the internal specification of the power module.

## 7   **4 Communications with the BTS**

### 8   **4.1 General**

9   The power interface shall provide communication capabilities to the CCM as  
10 described in the RP1 specification.

### 11   **4.2 Power System RP1 Interconnection Specifications**

12   The power system interconnection to the CCM shall be based upon the Ethernet  
13 standard, with a TCP/IP transport protocol using XML/SOAP, and will support IPv6  
14 addressing.

### 15   **4.3 Power System Start Up Communications**

16   These will be as defined in the RP1 specification.

### 17   **4.4 Power System - Module Property File (MPF)**

18   These will be as defined in the RP1 specification. Vendor specific.

## 1 5 DC Power Interface Specification (Informative)

	Notes	Nominal Voltage	
		+24V	-48V
<b>Operational</b>		20 to 29V	-40.5 to -58V
<b>Over Voltage Protection</b>		< 32V	< 60V
<b>Noise (External Power Systems)</b>	P-P Narrow Band (3.4kHz...10MHz)	10mV	10mV
	P-P Wide Band (10kHz...100MHz)	150mV	150mV
<b>Output EMI</b>		ETS 300 386 - v 1.3.2, EN 55022 Class B for external Power Systems and Class A for integrated Power Systems	ETS 300 386 - v 1.3.2, EN 55022 Class B for external Power Systems and Class A for integrated Power Systems
<b>Hold up</b>	Max load	≥10ms (from 27V)	≥10ms (from 56V)

2

3 Table 5-1: Power interface specifications (informative)

4 The above table (Table 5-1) provides information about the voltage and  
5 supply noise levels which should be provided by a typical OBSAI power  
6 supply. Since OBSAI does not specify or limit cable lengths for the  
7 power supply, nor the minimum or maximum losses on that cable (or  
8 cables), these values are provided purely for information and do not  
9 constitute a mandatory part of the OBSAI specification.



## 1 6 Glossary

### 2 6.1 Abbreviations

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

ABBREVIATION	DESIGNATION
BBM	Base Band Module
BTS	Base Transceiver Station
CCM	Clock and Control Module
ESD	Electrostatic Discharge
GND	Ground
LVDS	Low Voltage Differential Signaling
OBSAI	Open Base Station Architecture Initiative
PM	Proprietary Module
RFM	Radio Frequency Module
RP1	Reference Point 1
RP2	Reference Point 2
RP3	Reference Point 3
TM	Transport Module

5

### 6 6.2 Definition of Terms

7 For the purposes of the present document, the following terms and  
8 definitions apply:

9 **Power System:** Power System can be a power rack, shelf or external  
10 cabinet with or without batteries.

11 **External Power System:** Power System is located outside of BTS  
12 cabinet.

13 **Integrated Power System:** Power System is located inside of BTS  
14 cabinet.

1 **6.3 References**

2 **6.3.1 OBSAI**

3	[OBSAI System]	OBSAI System Reference Document V1.0
4	[OBSAI RP1]	OBSAI Reference Point 1 Specification V1.0
5	[OBSAI RP2]	OBSAI Reference Point 2 Specification V1.0

6 **6.3.2 IEEE**

7	[IEEE 802.3]	IEEE Std, 802.3, Local and Metropolitan Area
8		Networks, 2002.

9 **6.3.2 ANSI**

10	[ANSI1]	ANSI/TIA/EIA-644-A, Electrical Characteristics of
11		Low Voltage Differential Signaling (LVDS) Interface
12		Circuits
13		
14		
15		