

PAMS Technical Documentation TFE-1 model C Series Transceiver

Chapter 2

GENERAL INFORMATION

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Introduction

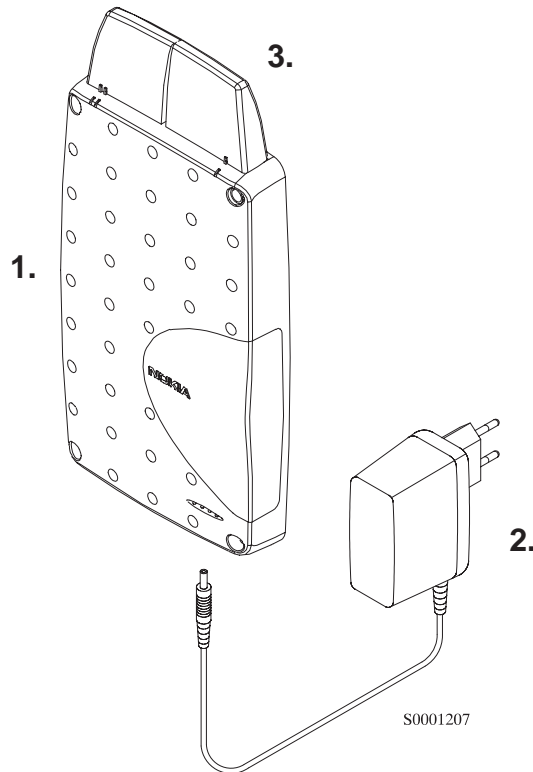
This chapter contains a list of products/modules together with their associated order codes, and details of the performance specifications for the TFE-1 model C Series Transceiver. The performance specifications are split into general, transmitter, and receiver functions.

Product Selection

Terminal

The TFE-1 model C is a radio WLL-transceiver unit for the GSM network. It is a GSM900 power class 4 transceiver providing 11 power levels with a maximum output power of 2 W.

The basic package contains the following products:



Item/name:	Type:	Product code:
1. GSM900 Terminal	TFE-1 model C	0630129
2. Power supply (Euro plug 220V AC)	ACW-2	0675123
Power supply (US plug 220V AC)	ACW-2P	0675135
Power supply (UK plug 220V AC)	ACW-2X	0675136
3. Antenna	AHA-1E	0660133

Product and Module List

Unit/type:	Product code:	Module code:
Transceiver TFE-1 model C	0630129	
Power Supply ACW-2 (Euro plug)	0675123	
Power Supply ACW-2P (US plug)	0675135	
Power Supply ACW-2X (UK plug)	0675136	

Technical Specifications

General Specifications of TFE-1 model C Series Transceiver

Temperature range	<i>+5° C to +40° C</i>
Operating time (with BBW-1)	
• talk time	<i>2 h</i>
• standby time	<i>10 h</i>
Battery voltage	<i>6.75 V</i>
Nominal current consumption	
• idle mode	<i>300 mA</i>
• call mode,	<i>800 – 1500 mA</i>
Dimensions (h x w x d)	
• transceiver	<i>213 x 121 x 28 mm</i>
Weight	
• transceiver	<i>800 g</i>

Electrical Specifications

Transceiver General Features

Cellular system	GSM-900
RX frequency band	935 ... 960 MHz
TX frequency band	890 ... 915 MHz
Output power	13-33 dBm (2 dB steps)
Duplex spacing	45 MHz
Number of RF channels	124
Channel spacing	200 kHz
Number of TX power levels	11
Sensitivity	-104 dBm
Frequency error	<+/- 0.1 ppm
RMS phase error	< +/- 5.0
Peak phase error	< +/- 20.0

Receiver Branch

RX frequency range , MHz	935...960
Type	2 IFs linear
Intermediate frequencies , MHz	71, 13
3 dB bandwidth ,kHz	+/- 100
Reference noise bandwidth ,kHz	270
Sensitivity , dBm	-104 S/N ratio > 8 dB BN=135 kHz
AGC dynamic range dB	93 typ.
Receiver gain ,dB	83 typ.
RF front end gain control range,dB	36
2nd IF gain control range, dB	57
Input dynamic range, dBm	-104 ... -10
Gain relative accuracy in receiving band dB	+/- 1.5
Gain relative accuracy on channel ,dB	+/- 0.4

Transmitter Branch

TX frequency range	890...915 MHz
Type	Upconversion
Intermediate frequency	116 MHz
Maximum output power	2 W (33 dBm)
Gain control range	20 dB
Maximum RMS phase error	5 deg.

Power class	4
Output power	0.02 2W
Power levels	11
Frequency error	$< \pm 0.1 \text{ ppm}$
Peak phase error	$< \pm 20.0^\circ$

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