

# Nokia Customer Care NPL-4/5 Series Transceivers

## General Information



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## NPL-4/5 Product Selection

The NPL-4/5 is a triple band transceiver unit designed for the GSM 850/1800/1900 (NPL-4, US) and EGSM900 , GSM1800/1900 (NPL-5, EU) networks . It is both GSM850/EGSM900 phase 2 power class 4 transceiver (2W) and GSM1800 / GSM1900 power class 1 (1W) transceiver.

## NPL-4/5 Product and Modules

| Name                           | Type code | Material code/<br>module type | Module code |
|--------------------------------|-----------|-------------------------------|-------------|
| Basic transceiver (US Variant) | NPL-4     | 0507659                       |             |
| Basic transceiver (EU Variant) | NPL-5     | 0511274                       |             |
| Radio module                   | NPL-4     |                               |             |
| Radio module                   | NPL-5     |                               |             |
| UI board                       | NPL-4/5   |                               |             |
| Mechanics module               | NPL-4     |                               | 0262797     |
| Mechanics module               | NPL-5     |                               | 0263083     |

Figure 1: NPL-4/5 transceiver



## Accessories List

| Batteries  | Product code: |
|--|---------------|
| Battery BL-5B 760mAH Li-ion  | 0670455       |
| Chargers   | Product code: |
| Standard Charger ACP-7E (EUR) 230 Vac (Made in country)              | 0675144       |
| Standard Charger ACP-7E (EUR) 230 Vac (Made by 'manufacturer')       | 0675171       |
| Standard Travel Charger ACP-7U (US) 120 Vac (Made in country)        | 0675143       |
| Standard Travel Charger ACP-7U (US) 120 Vac (Made by 'manufacturer') | 0675172       |
| Standard Charger ACP-7X (UK) 230 Vac (Made in country)               | 0675145       |
| Standard Charger ACP-7X (UK) 230 Vac (Made by 'manufacturer')        | 0675173       |
| Standard Charger ACP-7H (Hong Kong) 200 Vac                          | 0675146       |
| Standard Charger ACP-7C (China) 220 Vac                              | 0675212       |
| Standard Charger ACP-7C (Philippines) 220 Vac                        | 0675158       |
| Standard Charger ACP-7A (Australia) 240 Vac                          | 0675148       |
| Standard Travel Charger ACP-7AR (Argentina) 220 Vac                  | 0675244       |
| Travel Charger ACP-8E (EUR)  | 0675195       |
| Rapid Travel Charger ACP-8U (US) 90-264 Vac                          | 0675196       |
| Rapid Travel Charger ACP-8U (US) 90-264 Vac (Made by 'manuf.')       | 0675269       |
| Travel Charger ACP-8X (UK) 90-264 Vac                                | 0675197       |
| Travel Charger ACP-8J  | 0675198       |
| Travel Charger ACP-8K  | 0675199       |
| Fast & Light Charger ACP-8A (Australia) 90-264 Vac                   | 0675214       |
| Fast & Light Charger ACP-8C (China) 90-264 Vac                       | 0675211       |
| Travel Charger ACP-8UB   | 0675236       |
| Travel Charger ACP-8G  | 0675237       |
| RapidTravel Charger ACP-8AR (Argentina)                              | 0675248       |
| Travel Charger ACP-12E (Eur)   | 0675294       |
| Travel Charger ACP-12X   | 0675296       |
| Travel Charger ACP-12U   | 0675303       |
| Travel Charger ACP-12UB  | 0675293       |
| Travel Charger ACP-12G   | 0675295       |
| Travel Charger ACP-12C   | 0675297       |
| Travel Charger ACP-12A   | 0675300       |

|   |                      |
|---|----------------------|
| Travel Charger ACP-12AR                   | 0675298              |
| Retractable Charger AC-1E                 | 0675349              |
| <b>Portable and Office Accessories</b>    | <b>Product code:</b> |
| Activity Headset HS-8                     | 0694170              |
| Fashion Stereo Headset HS-3               | 0694156              |
| Boom Headset HDB-4                        | 0694094              |
| Stereo Headset HDS-3                      | 0694093              |
| Basic Headset HS-5                        | 0694121              |
| Inductive Loopset LPS-4                   | 0630443              |
| Connectivity Adapter Cable DKU-5          | 0730235              |
| Carrying Strap CP-12 (Eur/Afr inbox only) | 0720391              |
| Activity Handsfree HF-2                   | 0700097              |
| Music Stand DT-3                          | 0694203              |
| Wireless Audio Adapter AD-5B              | 0694149              |
| <b>Xpress -On shells:</b>                 |                      |
| Blue SKR-337                              | 0262919              |
| Red SKR-338                               | 0262920              |
| Orange SKR-339                            | 0262921              |
| Dark Grey SKR-343                         | 0262993              |
| Green SKR-344                             | 0262994              |
| Dark Green SKR-340                        | 0262922              |
| <b>Mobile Accessories</b>                 | <b>Product code:</b> |
| Headrest Handsfree BHF-3                  | 0694158              |
| Mobile Charger LCH-9                      | 0675120              |
| Mobile Charger LCH-12                     | 0675328              |
| <b>Other Accessories</b>                  | <b>Product code:</b> |
| Fitness Monitor LS-2                      | xxxxxxx              |
| Image Viewer SU-5                         | 0710116              |
| Image Album PD-1                          | xxxxxxx              |
| Image Frame SU-4                          | 0710004              |
| Image Frame SU-7                          | 0710011              |

## Technical Specifications

### General specifications of transceiver NPL-4/5

| Unit  | Dimensions (mm)<br>(W x H x D) | Weight<br>(g) | Volume<br>(cm <sup>3</sup> ) |
|---|--------------------------------|---------------|------------------------------|
| Transceiver with BL-4C 720mAh Li-Ion battery pack | 103 x 43 x 20                  | <93           | 86                           |

| Parameter                      | Unit and value   |
|--------------------------------|--|
| Cellular System                | GSM850/900, GSM1800 and GSM1900  |
| Modulation schemes             | GMSK, 8-PSK  |
| RX Frequency Band              | GSM850: 824...849 MHz<br>GSM900: 925 - 960 MHz<br>GSM1800: 1805 - 1880 MHz<br>GSM1900: 1930 - 1990 MHz   |
| TX Frequency Band              | GSM850: 869...894 MHz<br>GSM900: 880 - 915 MHz<br>GSM1800: 1710 - 1785 MHz<br>GSM1900: 1850 - 1910 MHz   |
| Output Power GMSK              | GSM850: +5...+33 dBm / 3.2 mW... 2 W<br>GSM900: +5...+33 dBm / 3.2 mW... 2 W<br>GSM1800: +0...+30 dBm / 1.0 mW... 1 W<br>GSM1900: +0...+30 dBm / 1.0 mW... 1 W         |
| Output Power 8-PSK             | GSM850: +5...+27 dBm / 3.2 mW... 0.5 W<br>GSM900: +5...+27 dBm / 3.2 mW... 0.5 W<br>GSM1800: +0...+26 dBm / 1.0 mW... 0.4 W<br>GSM1900: +0...+26 dBm / 1.0 mW... 0.4 W |
| Duplex Spacing                 | GSM850: 45MHz<br>GSM900: 45MHz<br>GSM1800: 95MHz<br>GSM1900: 80MHz   |
| Number of RF Channels          | GSM850: 124<br>GSM900: 174<br>GSM1800: 374<br>GSM1900: 300   |
| Channel Spacing                | 200 kHz (each band)  |
| Number of TX Power Levels GMSK | GSM850: 15<br>GSM900: 15<br>GSM1800: 16<br>GSM1900: 16   |

|                                     |  |
|-------------------------------------|--|
| Number of TX Power Levels GMSK      | GSM850: 12<br>GSM900 : 12<br>GSM1800: 14<br>GSM1900: 14                  |
| Sensitivity, static channel (+25°C) | EGSM: -102dBm<br>GSM900: -102dBm<br>GSM1800: -102dBm<br>GSM1900: -102dBm |
| Frequency Error, static channel     | < 0.1 ppm  |
| RMS Phase Error                     | < 5.0°   |
| Peak Phase Error                    | < 20.0°  |

**Battery endurance**

| Parameter                   | Hours          | Note                          |
|-----------------------------|----------------|-------------------------------|
| talk time (hours)           | up to 2-5      |                               |
| standby (hours)             | up to 150-300  | Depends on network parameters |
| standby time: radio + HDS-3 | up to 20 hours |                               |
| standby time: radio + IHF   | up to 8 hours  |                               |

**Environmental conditions**

**Table 1: Allowed Ambient Temperatures**

| Environmental condition      | Ambient temperature                        | Notes  |
|------------------------------|--|--|
| Normal operation             | -10 °C ... +55 °C                          | Specifications fulfilled   |
| Reduced performance          | +55 °C ... +65 °C                          | Operational only for short periods   |
| Intermittent operation       | -20 °C ... -10 °C and<br>+65 °C ... +85 °C | Operation not guaranteed but an attempt to operate will not damage the phone |
| No operation                 | -40 °C ... -20 °C                          | Operation not possible but an attempt to operate will not damage the phone   |
| No operation or storage      | < -40 °C and > +85 °C                      | No storage; an operation attempt may cause permanent damage                  |
| Charging allowed             | -25 °C ... +60 °C                          |  |
| Long term storage conditions | 0 °C ... +40 °C                            |  |

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## Transceiver features

### Hardware characteristics

- EDGE 850/1800/1900 and EDGE 900/1800/1900
- Codecs AMR, EFR, FR, HR
- Passive matrix color display (128 x 128 pixels, 4096k colors).
- 4-way navigation key, 3 soft keys , volume keys, PTT-key, power on/off on top
- Internal antenna.
- User changeable X'press On Shells
- Ringing volume: 105 dB from 5cm distance
- Integrated Handsfree
- Integrated Camera
- FM Radio
- Charger plug
- Headset connector Pop-port <sup>TM</sup>
- Flashlight

### UI features

- Push to talk
- MDO Persona Client
- Wireless Village
- Compass
- FCI (Functional Cover Interface)

### Data accessories

- Circuit switched (CS) data features
  - 9600, 14400 bps, non-transparent data
  - 43200 bps with HSCSD, non-transparent data



- HSCSD Multislot class 6 (max 2+2, 3+1 (rx time slots + tx time slots))
- Packet switched (PS) data features
  - Class B Mobile
  - GPRS Multislot class 10 (max 4+1, 3+2 (rx time slots + tx time slots))
  - EDGE Multislot class 6 (max 2+2, 3+1 (rx time slots + tx time slots))
- Connectivity features
  - IR Link (IrDA compliant IrComm interface) up to 1.152 Mbit/s
    - IR link between two phones
    - PC Dial-up connectivity
    - PC Suite connectivity
  - DKU-5 USB cable (connectivity via Pop-Port <tm>) up to 230.4 kbit/s
    - PC Dial-up connectivity
    - PC Suite connectivity

**Electrical characteristics****Table 2: Absolute Maximum Ratings**

| Parameter             | Min. | Typical | Max. | Unit |
|-----------------------|------|---------|------|------|
| Battery Voltage, Idle | -0.3 |         | 5.5  | V    |
| Battery Voltage, Call | -0.3 |         | 4.8  | V    |
| Charger Input Voltage | -0.3 |         | 16   | V    |
| Charging Current      |      |         | 1A   | mA   |

**Table 3: Supply Voltages**

| Parameter       | Min. | Typical | Max. | Unit / Notes         |
|-----------------|------|---------|------|----------------------|
| Battery Voltage | 3.1  | 3.7     | 4.2  | V / SW cut-off 3.1 V |

**Table 4: Current Consumption**

| Condition  | Min. | Typical           | Max. | Unit |
|--|------|-------------------|------|------|
| Call (MoU)<br>GSM 850<br>EGSM900<br>GSM1800<br>GSM1900 |      | 290<br>221<br>210 |      | mA   |
| Idle (MoU)   |      | 3-4               |      | mA   |
| Power off  |      |                   | 80   | μA   |