

**PRODUCT SUMMARY**

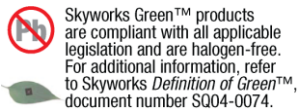
# SKY77351-13 Power Amplifier Module for Quad-Band GSM / GPRS / EDGE

**Applications**

- Quad-band cellular handsets
- GMSK Modulation
  - Class 4 GSM850/900
  - Class 1 DCS1800/PCS1900
  - Class 12 GPRS multi-slot operation
- EDGE modulation
  - Class E2 GSM850/900
  - Class E2 DCS1800/PCS1900

**Features**

- High efficiency:
  - GSM LB
    - 55% at High Power
    - 33% at Medium Power
    - 17% at Low power
    - 9% at Ultra-low Power
  - GSM HB
    - 55% at High Power
    - 32% at Medium Power
    - 22% at Low power
    - 10% at Ultra-low Power
- Small, low profile package
  - 5 x 5 mm x 1.0 mm Max.
  - 13-pad configuration



**Description**

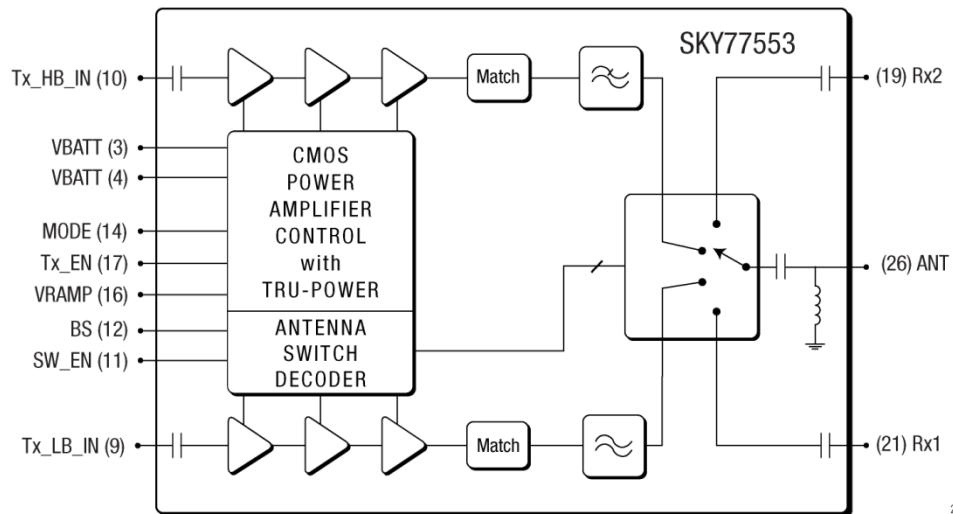
SKY77351-13 Power Amplifier Module (PAM) is designed in a compact form factor for quad-band cellular handsets comprising GSM850/900, DCS1800 and PCS1900, supporting fixed gain Gaussian Minimum-Shift Keying (GMSK) and linear Enhanced Data for GSM Evolution (EDGE) modulation. Class 12 General Packet Radio Service (GPRS) multi-slot operation is also supported.

The module consists of GSM850/900 PA and DCS1800/PCS1900 PA blocks, impedance matching circuitry for 50 Ω input and output impedances, and a Multi-function Power Amplifier Control (MFC) block. A custom BiCMOS IC provides the internal MFC function and interface circuitry.

Two separate Heterojunction Bipolar Transistor (HBT) PA blocks are fabricated onto a single InGaP die; one supports the GSM850/900 bands, the other the DCS1800/PCS1900 bands. Both PA blocks share common power supply pads to distribute current. The InGaP and silicon dies and the passive components are mounted on a multi-layer laminate substrate. The entire assembly is encapsulated with plastic overmold.

RF input and output ports of the SKY77351-13 are internally matched to a 50 Ω load to reduce the number of external components. Extremely low leakage current (15 μA, typical) of the PAM module maximizes handset standby time.

The SKY77351-13 also contains switching circuitry to select GSM or DCS/PCS bands and select high or low power modes. See Figure 1 shown below.



**Figure 1. SKY77351-13 Functional Block Diagram**

## Ordering Information

Order Number	Manufacturing Part Number	Evaluation Board Part Number
SKY77351	SKY77351-13	

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