PRODUCT SUMMARY


Applications
• Quad-band cellular handsets:
  - Class 4 GSM850 / EGSM900
  - Class 1 DCS1800 / PCS1900
  - Class E2 GSM850 / EGSM900 / DCS1800 / PCS1900
  - Class 12 multi-slot EGPRS
• Multiband 3G handsets
• WCDMA/ HSDPA/ HSUPA/ LTE-modulated handsets for Bands I, II, III, IV, V, VIII

Features
• Hybrid architecture: separate GSM, WCDMA paths
• 50 ohm input and output impedences, integrated DC blocking on all ports
• Separate single-ended GSM and WCDMA inputs and outputs
• CMOS-compatible, two-wire MIPI logic inputs (SCLK, SDATA)
• VCC stages for 2.5G can attach to battery or buck DC/DC
• Low capacitance VCC interface for 3G/4G supports Envelope Tracking compatibility
• Small, low profile package:
  - 7 mm x 5 mm x 0.9 mm
  - 42-pad configuration

2.5G FEATURES:
• EGPRS Class 12 multi-slot operation
• Four RF POUT control levels using RFFE interface
• Linear PA with bias optimization for efficiency/linearity trade-off in 8-PSK mode

3G FEATURES:
• WCDMA mode supports output power, bandwidth for bands I, II, III, IV, V, VIII (and sub-bands IX, X, XVIII, IXX, XXVI) through an integrated band-select switch
• Digital bias optimization through RFFE interface for best efficiency/linearity tradeoff
• Optimized for envelope tracking system

4G FEATURES:
• Optimized for Average Power Tracking system
• LTE supports output power bandwidth bands 1, 2, 3, 4, 5, 8 (and sub-bands 9, 10, 18, 19, 20, 26)

Description
The SKY77629-21 is a hybrid, multimode multiband (MMMB) Power Amplifier Module (PAM) that supports 2.5G and 3G/4G handsets and operates efficiently in GSM, EGPRS, EDGE, WCDMA, and LTE modes. The PAM consists of a GSM 800/EGSM 900 PA block, a DCS1800/PCS1900 PA block, separate WCDMA blocks operating in low and high bands, a logic control block for multiple power control levels, and band enable functions in both cellular and UMTS. RF I/O ports are internally matched to 50 Ω to minimize the number of external components. Extremely low leakage current maximizes handset standby time. The InGaP/GaAs die and passive components are mounted on a multi-layer laminate substrate and the assembly encapsulated in plastic overmold.

GSM/ EDGE: The SKY77629-21 uses a new compact architecture supporting the GSM850, EGSM900, DCS1800 and PCS1900 bands. The PAM also supports 2.5G Class 12 Enhanced General Packet Radio Service (EGPRS) multi-slot operation and EDGE linear modulation.

WCDMA: The SKY77629-21 uses an enhanced architecture to: support WCDMA, High-Speed Downlink Packet Access (HSDPA), High-Speed Uplink Packet Access (HSUPA), and LTE modulations; cover multiple bands for 3GPP, including bands I, II, IV, V, and VIII; operate at different power modes. The module is fully controllable via MIPI interface.

LTE: The SKY77629-21 meets spectral linearity requirements of LTE modulation with QPSK/16QAM up to 20 MHz bandwidth, including various resource block allocations, with good power-added efficiency

Figure 1 is a functional block diagram of the SKY77629-21 module.
### Ordering Information

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Order Number</th>
<th>Evaluation Board Part Number</th>
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<tbody>
<tr>
<td>SKY77629-21 Multimode Multiband Power Amplifier Module</td>
<td>SKY77629-21</td>
<td>EN40-D566-003</td>
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