

24GHz RF FRONT END FOR ISM APPLICATIONS

24GHz Multi-Channel solutions



Drones U.A.V.



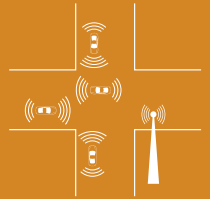
Level sensors



Security, Sport & Industrial



Car sensors

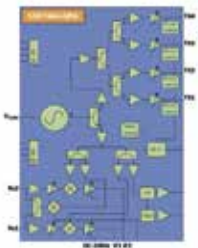


Intelligent infrastructure

Best in Class Signal/Noise Ratio offering Widest Detection Range
 High output power • Low phase noise • Low consumption
 Single Front-End • Automotive Qualified products

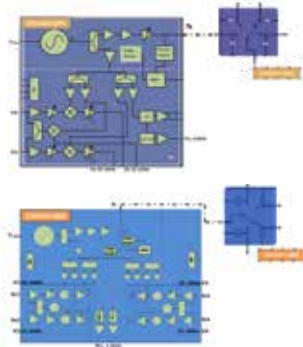
Highly Compact Front End SiP Quad Tx/Dual Rx

- Output Power 5dBm/channel
- Integrated switch SP4T
- Low NF SSB 11.5dB@100kHz
- Controlled by SPI
- Low DC: 3.3V@200mA
- -40 to +125°C operation
- QFN5x7 - MSL1



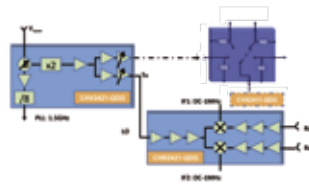
Front-End SiP Tx/Dual Rx & Tx/Quad Rx

- High Output Power 13dBm
- Low NF SSB 11.5dB@100kHz
- Controlled by SPI
- DC power: 3.3V@220/315mA
- -40 to +125°C operation
- QFN4x5 & 6x7 - MSL1



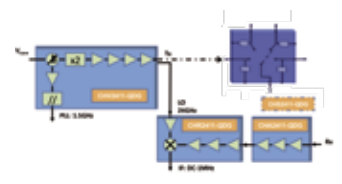
Dual Tx VCO & Dual Rx chipset

- High Output Power 16dBm
- Embedded functionality
- +5V supply voltage
- -40 to +105°C operation
- QFN4x4 - MSL1



Flexible chipset

- Tx VCO + Rx + LNA
- High Output Power 16dBm
- LNA 2dB NF in ISM band
- +5V supply Voltage
- -40 to +105°C operation
- QFN4x4 & 3x3 - MSL1



Up to 4 transmit channels with CHS2411-QDG low loss high isolation fast switching SP4T

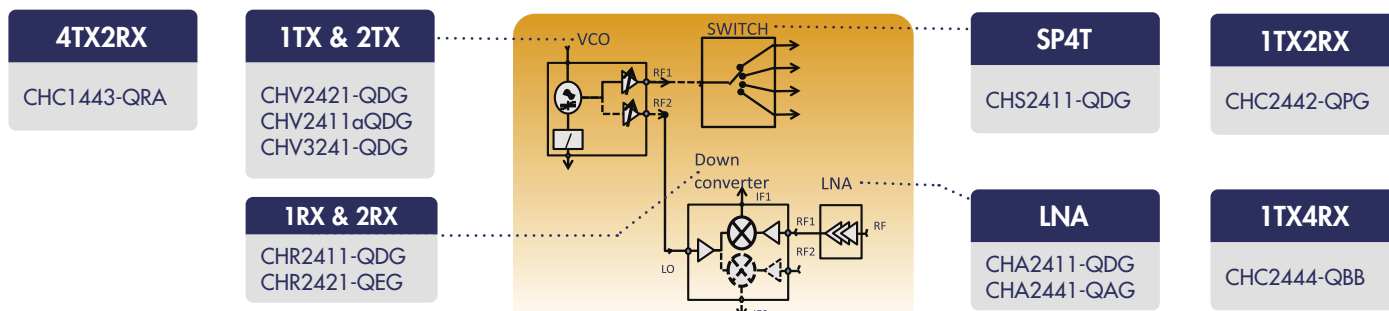


Build your own solution with UMS

www.ums-rf.com



Building blocks for Wide Detection Range



AMPLIFIER – LNA

| Part Number | RF Bandwidth (GHz) | Gain (dB) | Gain Flatness (+/-dB) | Noise Figure (dB) | P-1dB OUT (dBm) | Bias (mA) | Bias (V) | Case |
|-------------|--------------------|-----------|-----------------------|-------------------|-----------------|-----------|----------|------|
| CHA2411-QDG | 20-25 | 26 | 0.5 | 2.5 | - | 43 | 5 | QFN |
| CHA2441-QAG | 22-26 | 25.5 | +/- 0.25 | 2.5 | 12 | 50 | 3.3 | QFN |

TRANSCIVER – TRX: 4TR2

| Part Number | RF Bandwidth (GHz) | Gain RX (dB) | Gain TX (dB) | Pout TX (dBm) | NF RX (dB) | Number of Bit Atten. | Bias (mA) | Bias (V) | Case |
|-------------|--------------------|--------------|--------------|---------------|------------|----------------------|-----------|----------|------|
| CHC1443-QRA | 24.05-24.25 | 37 | VCO incl. | 5 | 11.5 | 4 | 200 | 3.3 | QFN |

TRANSCIVER – TRX: 1TR2

| Part Number | RF Bandwidth (GHz) | Gain RX (dB) | Gain TX (dB) | Pout TX (dBm) | NF RX (dB) | Number of Bit Atten. | Bias (mA) | Bias (V) | Case |
|-------------|--------------------|--------------|--------------|---------------|------------|----------------------|-----------|----------|------|
| CHC2442-QPG | 24-24.5 | 37 | VCO incl. | 13.5 | 11.5 | 5 | 225 | 3.3 | QFN |

TRANSCIVER – TRX: 1TR4

| Part Number | RF Bandwidth (GHz) | Gain RX (dB) | Gain TX (dB) | Pout TX (dBm) | NF RX (dB) | Number of Bit Atten. | Bias (mA) | Bias (V) | Case |
|-------------|--------------------|--------------|--------------|---------------|------------|----------------------|-----------|----------|------|
| CHC2444-QBB | 24-24.5 | 37 | VCO incl. | 13 | 11.5 | 5 | 315 | 3.3 | QFN |

RECEIVER – RX: R1 & R2

| Part Number | RF Bandwidth (GHz) | LO Bandwidth (GHz) | IF Bandwidth (GHz) | Conv. Gain (dB) | Noise Figure (dB) | P-1dB IN (dBm) | LO Input Power (dBm) | Bias (mA) | Bias (V) | Case |
|-------------|--------------------|--------------------|--------------------|-----------------|-------------------|----------------|----------------------|-----------|----------|------|
| CHR2411-QDG | 22-24.5 | 22-24.5 | DC-0.001 | 23 | 7 | -21 | 5 | 60 | 5 | QFN |
| CHR2421-QEG | 23.75-24.5 | 23.75-24.5 | DC-0.001 | 22 | 7 | -20 | 2 | 165 | 5 | QFN |

TRANSMITTER - TX: 1T & 2T

| Part Number | Central Output Freq (GHz) | Tuning Bandwidth (GHz) | Noise @ 100KHz (dBc/Hz) | Output Power (dBm) | Bias (mA) | Bias (V) | Case |
|-------------|---------------------------|------------------------|-------------------------|--------------------|-----------|----------|------|
| CHV2411aQDG | 24.125 | 2 | -90 | 16 | 220 | 5 | QFN |
| CHV3241-QDG | 24.125 | 2 | -94 | 16 | 225 | 5 | QFN |
| CHV2421-QDG | 24.25 | 2 | -90 | 15 | 233 | 5 | QFN |

SWITCH – SP4T

| Part Number | RF Bandwidth (GHz) | Loss (dB) | P-1dB IN (dBm) | Isolation (dB) | Type | Case |
|-------------|--------------------|-----------|----------------|----------------|------------|------|
| CHS2411-QDG | 23-26 | 2.9 | 23.5 | 35 | reflective | QFN |

Automotive qualified product



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