

Insight SiP

It's **all** in the **package**

System-in-Package (SiP) approach

DESIGN SUCCESSES

ULTRA MINIATURE WIRELESS MODULES FOR VARIOUS APPLICATIONS

WIFI MODULE



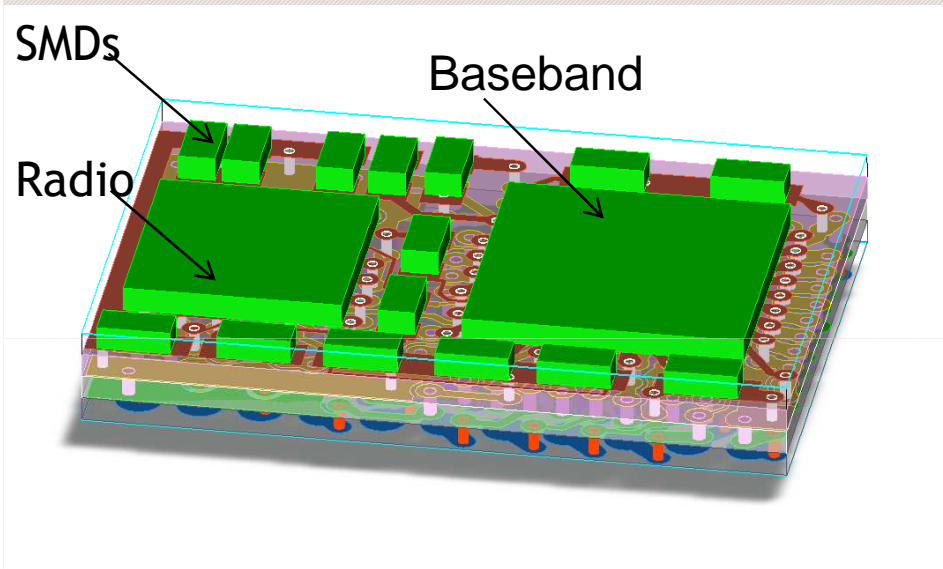
RF SIP BASED ON LTCC SUBSTRATE

- CMOS BASEBAND
- SIGE TRANSCEIVER
- GAAS ANTENNA SWITCH
- QUARTZ CLOCK
- PASSIVES EMBEDDED IN SUBSTRATE
- 7X7 MM²

APPLICATIONS

- CELLULAR PHONE
- DIGITAL CAMERA

GPS MODULE



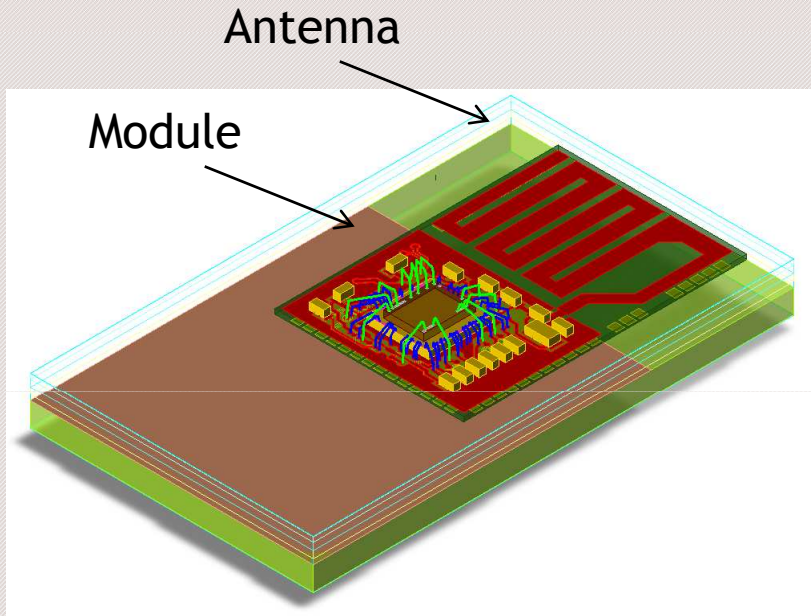
RF SIP BASED ON LAMINATE SUBSTRATE

- BASEBAND, TRANSCEIVER, SMDs
- 6X4 MM² HIGH COUNT VFBGA PACKAGE

APPLICATION

- CELLULAR PHONE

ANTENNA IN PACKAGE



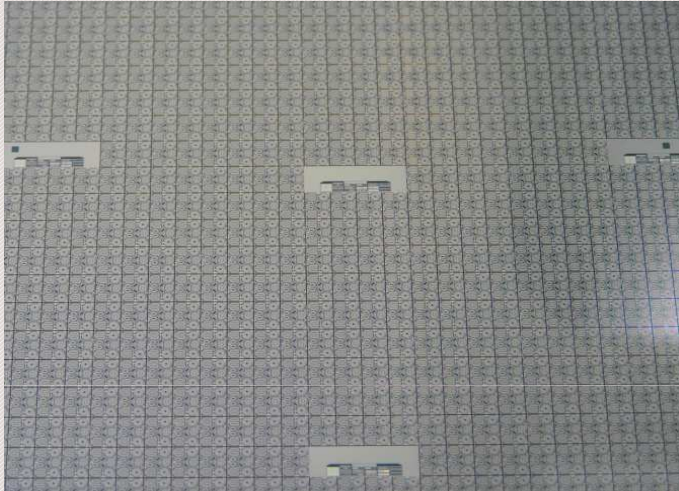
RF SIP BASED ON LAMINATE SUBSTRATE

- MCU & RF TRANSCEIVER
- EMBEDDED ANTENNA
- 8X12 MM² QFN

APPLICATION:

- WIRELESS USB

ISM IQ MIXER

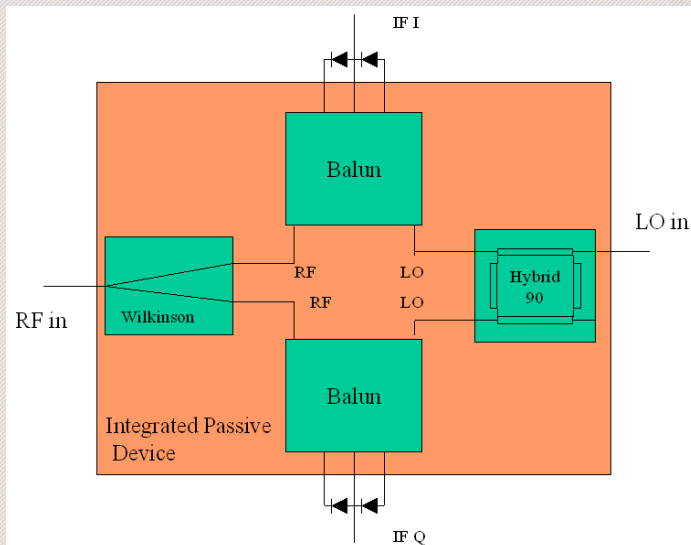


SILICON BASED IPD

- PASSIVES ON IPD
- CO-DESIGN WITH SUBSTRATE
- 3.5x4.5 MM² IPD

APPLICATION:

- TELEMETERING



5 BAND GSM/W-CDMA MODULE



Mold cap

WB Active Die

FC Passive die = IPD

Dummy (stand-off)

Substrate

FC Bumps

Solder Balls

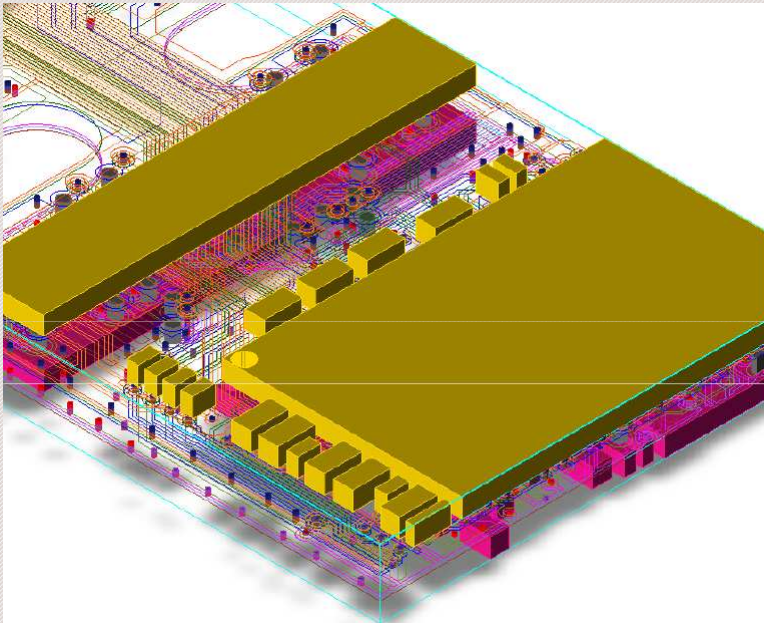
RF SIP BASED ON SILICON IPD WITH LAMINATE SUBSTRATE

- TRANSCEIVER
- PASSIVES ON IPD
- CO-DESIGN WITH SUBSTRATE

APPLICATION:

- MOBILE HANDSETS

7 BAND GSM/W-CDMA MODULE



COMPLEX RF MODULE

- 7 BAND MODEM
- MEMORY
- POWER MANAGEMENT
- TRANSCEIVER W/ DIVERSITY
- POWER AMPLIFIERS
- FRONT ENDS

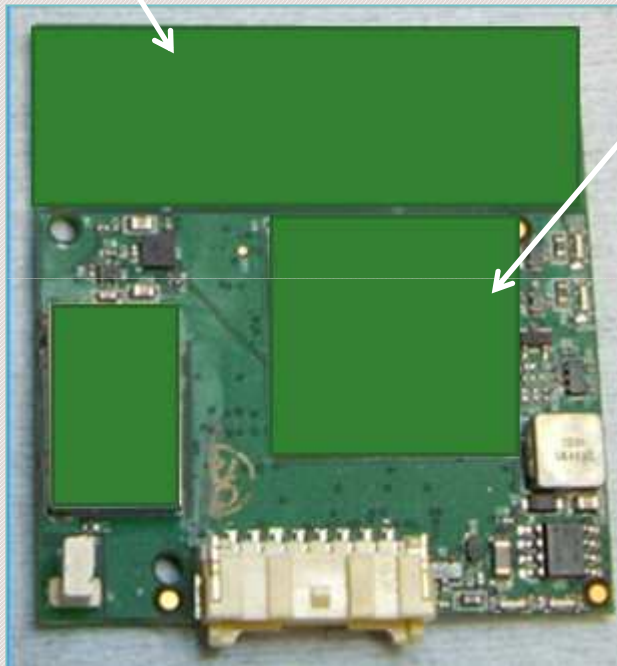
APPLICATION

- MOBILE INTERNET DEVICES
- ULTRA MOBILE PC

QUAD BAND GSM INTEGRATED ANTENNA MODULE

Antenna

GSM Module



RETURN LOSS MEASUREMENT WITH AND WITHOUT PLASTIC CASE
(RANDOM)



APPLICATION: M2M