

# DECT and CAT-iq

## OEM Products and Solutions R&D Services

Modules

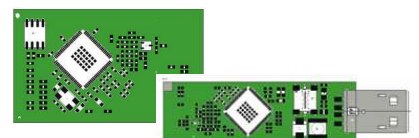
ODM design

OEM products

T&M Systems and Tools

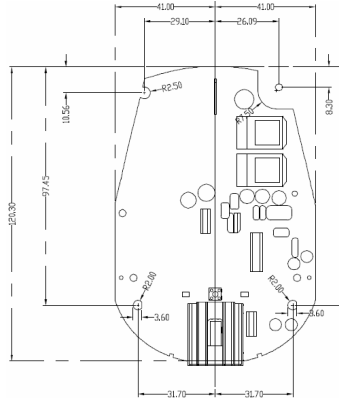


\* Base Station \* Mobile Station \* Pendant \* Repeater \* PLUG \* Modules \* .....



DOSCH&AMAND (D&A) offers professional R&D services for DECT and CAT-iq applications and products according customer specification. D&A can offer turnkey design for Hardware and Software or joint R&D project. D&A supplies ODM manufacturing service or technical assistance in customer's manufacturing plant till pilot run. Cabinet/housing can be chosen from D&A ODM designs or existing cabinets from customer.

## fully customized DECT Base (FP)



DECT/CAT-iq Software	chipsets	D&A FP DECT Stack DSPG, Lantiq, SiTel
feature set (select) a.o.	blind slot non-blind-slot integrated repeater functionality Multicell (HO/Roaming with SIP backbone)	DSPG, Lantiq, SiTel DSPG DSPG, Lantiq, SiTel DSPG, Lantiq, SiTel
	ETH/IP interface (SIP) FXO/FXS interface ISDN interface	MIPS, ARM9 Zarlink, SiLabs Infineon
precompliance test	CAT-iq2.0 DECT Security TBR06	DA1220, internal test DA1220S, internal test test house, external test
PCB	Circuitry and Layout EMC	turnkey design-in test house, external test
cabinet/plastics	existing or new design (customer or ODM)	free choice
production	ODM factory D&A or customer supplied FAB	free choice
fixed Price Offer		on request
ODM time-to-market	Software/Hardware acc. Customer Specs new ODM Cabinet	typ. 3 months <i>depending from specs and selected chipset</i> 4 months
please refer to	Code : <b>DA1510-FP</b>	

## fully customized DECT Ethernet Access Point (VoIP)



protected Trademark of DECT-Forum

DECT/CAT-iq Software	Module	D&A FP DECT Stack D&A Module DA1250S4 Multiband
feature set (select) a.o.	blind slot non-blind-slot integrated repeater functionality Multicell (HO/Roaming with SIP backbone)	DSPG, Lantiq, SiTel DSPG DSPG, Lantiq, SiTel DSPG, Lantiq, SiTel
	ETH/IP interface (SIP) optional: FXS interface optional: ISDN NT interface	MIPS, ARM9 Zarlink, SiLabs Infineon
precompliance test	CAT-iq2.0 DECT Security TBR06	DA1220, internal test DA1220S, internal test test house, external test
PCB	Circuitry and Layout EMC	turnkey design-in test house, external test
cabinet/plastics	existing or new design (customer or ODM)	free choice
production	ODM factory D&A or customer supplied FAB	free choice
fixed Price Offer		on request
ODM time-to-market	Software/Hardware acc. Customer Specs new ODM Cabinet	typ. 4 months <i>depending from specs and selected chipset</i> 4 months
please refer to	Code : <b>DA1520-FP</b>	



**OEM  
 PENDANT (PP)  
 Social Alarm  
 Tele Care**

DECT Firmware	DECT/CAT-iq	PP DECT Stack D&A D&A Module DA1250S4 Multiband
feature set	wideband Audio, handsfree, full duplex loudspeaker, MIC VoIP Alarm Button LED indication BATT Motion Sensor Vibration Alarm	7kHz G.722 Codec IP56 SIP/RTP IP56 Alarm, DECT, BATT Li-Ion 300mAh optional optional
precompliance test	DECT Security CAT-iq 2.0 EMC TBR06	pre-compliance tests via DA1220S pre-compliance tests via DA1220 test house test house
PCB	Circuitry and Layout EMC	turnkey design-in test house
Cabinet production	new design (customer or ODM) ODM factory D&A	free choice individualised supply conditions
fixed Price Offer time-to-market	customized Software/Hardware OEM branding of Pendant Cabinet	on request 4 months 2 months
please refer to	Code : <b>DA1430-Pendant</b>	



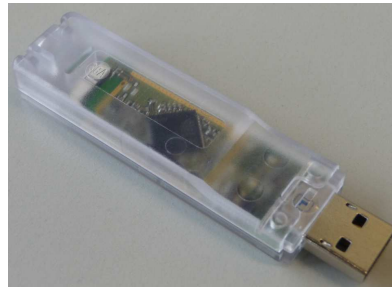
**DECT 6.0**



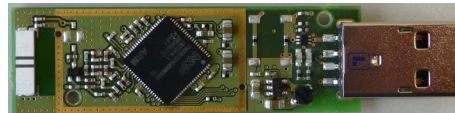
## OEM REPEATER

## GAP or CAT-iq

DECT Firmware	DECT/CAT-iq	Repeater Stack D&A D&A Module DA1260S4 Multiband
DECT Standards	CAT-iq DECT GAP	TS 102 527 EN 300 444
Security	Ciperhing	DECT Security
RF	Antenna 1 Antenna 2 RX sensitivity TX ERP	omnidirectional (internal) directional (external/option) typ -93.5dBm typ 23dBm
System Setup	max Repeater per Base FP SCAN Plug&Play configuration	6 registrations automatically USB interface
precompliance test	EMC TBR06 CAT-iq 2.0	test house test house pre-compliance tests via DA1220
Cabinet production	OEM branding ODM factory D&A	Color, Logo, EAN individualised supply conditions
fixed Price Offer time-to-market	turnkey Software/Hardware OEM branding of Repeater Cabinet	on request 2 months 1 month
please refer to	Code : <b>DA1270-Repeater</b>	

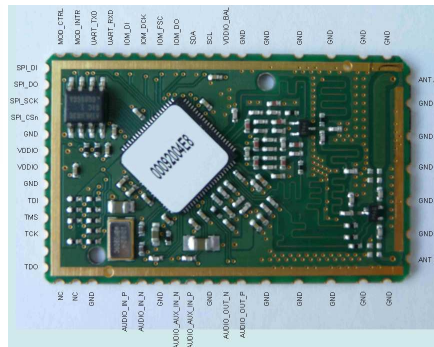


Including 2.4GHz immunity



## CPE Design-In USB Dongle PP or FP DECT and CAT-iq

DECT Firmware	DECT/CAT-iq	PP and FP DECT Stack D&A D&A Module DA1260S4 Multiband
	antenna	ceramic on board
	RX sensitivity	typ -94.0dBm
	TX ERP	typ 24dBm
	2.4GHz immunity	-45 dB
	USB classes	full speed V2.0 AUDIO, HID
Design-in Service	<b>CPE</b>	Gateway, IAD, Router, Set Top Box
Application	IP/DSL chip CAT-iq 2.0 FP optional	Lantiq, Broadcom, Mindspeed, etc.. DECT network additional Repeater functionality
Design-in Service	<b>VoIP Phone</b>	all vendors
Application	IP chip DECT/CAT-iq 2.0 FP	Lantiq/Infineon a.o. DECT Headset or Handset
full compliance test	EMC and TBR06 CAT-iq 2.0	test house pre-compliance tests via DA1220
Cabinet production	Standard ODM factory D&A	individualised supply conditions
fixed Price Offer time-to-market	Design-In Software chipset	on request 2 months
please refer to	Code : <b>DA1260-USB</b>	



*Including 2.4GHz immunity*

## CPE Design-In UART/SPI PCB PP or FP DECT and CAT-iq

<b>optimized for</b>	<b>CAT-iq FP module for CPE products</b>	
DECT Firmware	DECT/CAT-iq	PP and FP DECT Stack D&A D&A Module DA1250S4 Multiband
	RX sensitivity	typ -94.0dBm
	TX ERP	typ 24dBm
	antenna RF pads	diversity switch
	2.4GHz immunity	-45 dB
Design-in Service	<b>CPE</b> IP/DSL chip	Gateway, IAD, Router, Set Top Box Lantiq, Broadcom, Mindspeed, etc..
Application	CAT-iq 2.0 FP optional	DECT network additional Repeater functionality
full compliance test	EMC and TBR06 CAT-iq 2.0	test house pre-compliance tests via DA1220
production	ODM factory D&A	individualised supply conditions
fixed Price Offer time-to-market	Design-In Software chipset	on request 2 months
please refer to	<b>Code : DA1250-UART</b>	



**Full Compliance Test  
 acc. ETSI Standards**

## DA1220 (CAT-iq)



**DA1220** is delivered with Test Suite CAT-iq™ 2.0 feature/function set which automatically contains Test Suite CAT-iq1.0 functions. Test Suites will be released by DOSCH&AMAND and validated for public release by DECT-Forum. Updates/Upgrades will be automatically notified to DA1220 customers. Future Upgrades to Test Suite CAT-iq™ 3.0 and CAT-iq™ 4.0 will be offered by DOSCH&AMAND after official released feature set.

### CAT-iq™ 1.0

#### Voice Service

- ADPCM 32kbit/s narrow-band
- G.722 64kbit/s **wide-band**

#### Network Service Part1

- Codec negotiation per call
- Outgoing/Incoming call
- Release Call
- Calling Line Identification
- Subscription on Air
- Authentication handset
- Link Control

#### Options

- NWK Analyzer DA1220-B1
- Air Sniffer DA1220-B2

### CAT-iq™ 2.0

#### Maintenance

- List access
- Missed call,
- Line, system settings
- Easy pairing
- Handset locator

#### Network Service Part2

- Notification messages
- Missed Call, MWI, etc....
- Parallel Calls
- CW, Toggle, Conf, etc.
- Multiple Line Handling

please refer to

Code : **DA1220**

## DA1220 S (DECT Security)



**DA1220S** is delivered with Test Suite DECT enhanced Security feature/function set. Test Suites will be released by DOSCH&AMAND and validated for public release by DECT-Forum.

Updates/Upgrades will be automatically notified to DA1220S customers.

please refer to

Code : **DA1220S**



DECT EXPLORER  
 DA 1100

DECT  
 DECT US  
 CAT-iq

SIP  
 RTP  
 NWK  
 DLC  
 MAC

A-field  
 B-field  
**List Access**  
 AUDIO nb  
 AUDIO wb  
 LU10 Data  
**ULE**  
 .....

**R&D Tool**  
**DECT EXPLORER**  
**“AIR SNIFFER”**  
 DECT and CAT-iq



Richard S. (US)  
 "... AirSniffer has increased  
 our DECT R&D productivity  
 by factor 3,5 ..."  
 CA La Jolla, July11

Flow Diagram

```

    graph TD
        A[CC SETUP PORTABLE D/E FIXED D/E BASIC SERVICE] --> B[CC CONNECT]
        B --> C[CC INFO MULTIMEDIA]
        C --> D[CC RELEASE REASON]
        D --> E[CC RELEASE COM]
    
```

e.g. outgoing call

DA1100 consists of DECT/CAT-iq RF Probe (DA1220-K1) plus Air Sniffer software and the application of GPL WireShark®. This tool allows to monitor the DECT carriers and to analyze the DECT/CAT-iq™ protocol of a PP/FP Communication link. The capturing is carried out via DA1220-K1 RF probe from the air interface (“Air Sniffer”).

DA1100 provides an Ethernet interface for

- online monitoring with
- open source tool Wireshark®
- dissector for DECT/CAT-iq™ (NWK, DLC, MAC)
- **NEW:** simultaneous tracing backbone (SIP, H.323, etc) and DECT/CAT-iq protocol
- **ULE**
- **List Access**
- **DECT 6.0**

and

- configuration tool for base station locking
- DECT RF environment scan (240 carriers)
- capturing A-Field and B-Field

please refer to

Code : **DA1100-AirSniffer**