

[RED] consulting



With increasing demands for functionality, connectivity and clock speeds, today's products more than ever need RF expertise throughout the design cycle. With our class-leading technologists and extensive design for manufacture experience, Red Embedded is perfectly placed to provide the specialist RF skills you need.

Electronic products increasingly feature multiple high speed wired and wireless technologies which must coexist in a cost effective design; RF and broader system skills are essential for a successful product. With a background in the development of digital TV, video telephony and telemedicine products, our RF skills and design for manufacture experience are second to none.

Whatever the nature of your product, we can bring our RF system expertise to bear at any stage, from initial design studies to troubleshooting RF performance. We bring most value when involved from the outset, taking your initial product from concept through the complete development cycle - ensuring that your product is an RF design success story.

RF Consulting

- Assess technologies & designs
- Design and development: de-risk by building in our RF expertise from the start
- Product validation: identify, assess and rectify your RF performance issues
- Troubleshooting: use our expertise to solve your RF performance issues.

Case Study: RF Consulting

Working with Red Embedded brings many benefits. Here are some case studies showing just how our experience and skills help bring success to our clients.

Complex design. A product with an unusual RF configuration and tight performance specifications? No problem: designed and developed to pre-production stage for our client entirely by Red Embedded.

Read more inside...

Practical solution. Our client needed a wireless system to carry high quality audio and coexist with WLAN components. Our practical solution: a custom protocol based on a very low cost transceiver.

Read more inside...

Product validation. Having found a major problem, we worked with the product and silicon vendors to ensure our broadcaster client was not compromised by delays or extra costs.

Read more inside...

Design study. Our client's product concept included 3 radio systems sharing the same band. We showed how this could be made to work, avoiding a costly rethink.

Read more inside...

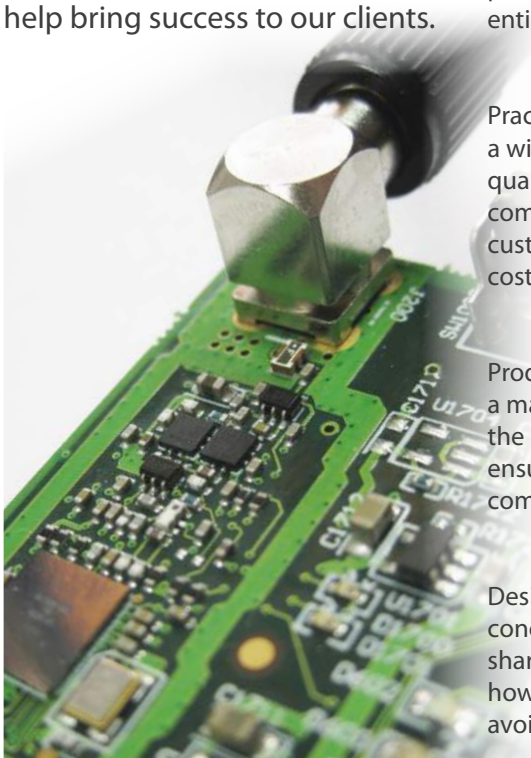
RF design: a system view

RF design is no longer just about analogue radios, and does not stop at IF or even baseband sections. A strong understanding of the complete system end-to-end is vital to a successful RF design. Red Embedded has the depth and breadth of experience to provide this critical overview.

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where **experience** delivers



Case Study: RF Consulting

Red Embedded Consulting meets your needs through practical, technology-led solutions backed by in-depth industry experience. With our background in design for manufacture, you can be sure that we have the specialist RF technical skills and the strong system overview to solve the complex problems of today's products. Here are some examples of how our team of class-leading technologists made an impact for clients.

Complex design

Our client was an established set top box manufacturer faced with the need to develop a 4 tuner DVBS2 receiver module. Unusually, the specification required an analogue switch matrix, routing any of the 4 satellite inputs to any of the 4 tuners, yet giving an overall performance as good as a single channel receiver.

Red Embedded performed all stages of the hardware design from initial concept to pre-production including: device selection, schematic capture, simulation, PCB layout, sourcing and assembly of prototype boards and development of an automated test environment to comprehensively verify performance. The result: a complex RF product success for a delighted client.

Practical solution

Another client needed a remote wireless mic and speaker for a STB-style videophone, with a particularly high audio bandwidth and which had to co-exist with a WLAN transceiver in the STB. Red Embedded developed a proprietary protocol based on a very low cost 2.4GHz GMSK transceiver - a practical solution to our client's needs.

Product Validation

Red Embedded's capability for rigorous RF testing proved beneficial to a broadcaster client when we uncovered a design deficiency in the LNA/tuner sections of a multi-channel DVBS2 receiver. We worked with the receiver manufacturer and silicon vendor to reach an acceptable performance improvement, allowing the product to go into production without the cost and delay to our client of a major redesign - or of a recall from the field.

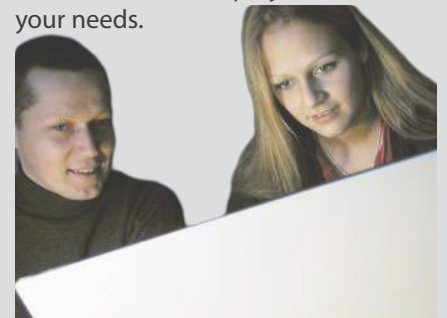
Design study

Our client was developing a product which included 3 different radio technologies: 802.11n, Bluetooth, and a proprietary remote control protocol. All 3 radios operated in the same band, and the client was rightly concerned that this could give a significant loss of performance. Red Embedded evaluated the design in detail, allowing us to propose a strategy for the best performance from the combined system, avoiding the need for our client to face an expensive rethink.

RF Project Success

Our RF system design skills and design for manufacture experience, are a key part of the success of our projects, allowing us to quickly identify and resolve issues.

Over and above this, we bring project management and communication skills to offer you a complete turnkey service. With our plain speaking, practical approach, we work well with you and, if necessary, your suppliers to deliver a successful project that meets your needs.



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[RED] EMBEDDED consulting

High calibre technologists

Success breeds success. We started out with five of the key players in the field of digital technologies and we've built our team by finding innovative, creative, talented engineers with solid industry experience and highly developed technical skills. Working with Red Embedded means working with the best - which means more value added for you.

To see our team profiles, visit our website at www.redembedded.com.

Working with you

We bring our specialist experience and technical capability to work on your projects - this technical edge is the key to your project's success. We work in a flexible way - allocating the right skills mix of directors, consultants, project managers and hardware/software developers to your project. We provide a project based service, ranging from complete turnkey product development to individual work packages tailored to your specific needs.



At key stages, we place our class-leading staff within your company. You'll find us practical and plain speaking, thorough and innovative, with the capacity and skills to help deliver your project, right first time.

About us

Red Embedded Consulting is part of the Red Embedded Group which was formed in 2003 to bring a range of practical, innovative and technology-led consultancy services to the digital technologies market.

We've built a strong reputation in the industry for our practical, thorough, value for money consultancy services. We work closely with you and your partners around the world to realise your technological goals.

Founded by five senior engineers with extensive experience in defining, developing and launching new products in the high volume digital consumer market, the group has gone from strength to strength. Based in Bradford, Yorkshire, UK, the company is privately owned and now employs approaching fifty best-in-class engineers.

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