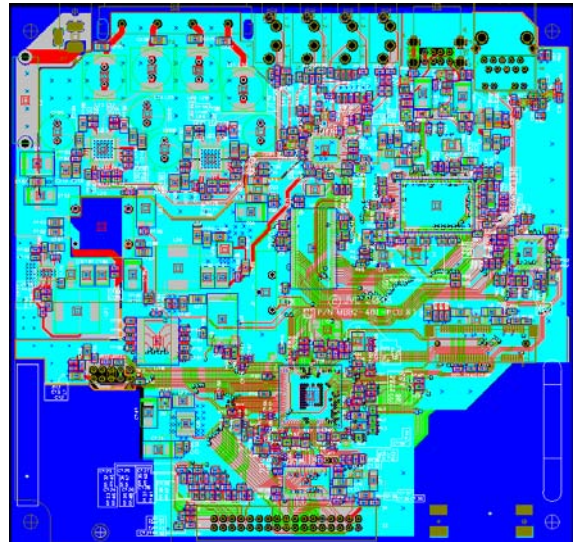


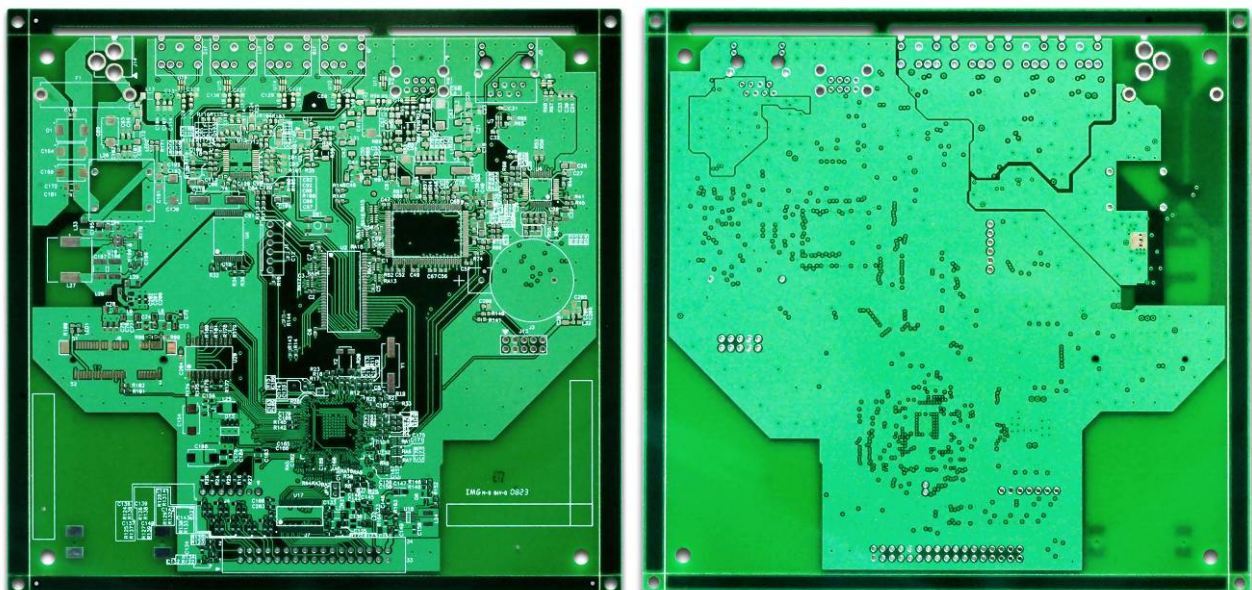
Solution

PCB for universal audio streaming player was designed on the basis of ADSP-BF537 processor in BGA208 case from Analog Devices, Inc.

The board is required to be assembled by one-sided packaging. At the same time board dimensions were fixed, both digital and analogue parts were presented on the board and a great number of edge connectors existed. Developers took into account peculiarities of position and layout of controlling WiFi and RF interfaces, including electromagnetic compatibility of RF-part with other components. Our specialists made PCB layout by considering requirements of minimization of lengths of analog routing, calculating differential resistance for differential pairs, considering allowable lengths and skews of system bus signals and applying digital signal modeling tools on the basis of IBIS-models.



Developers paid attention to dividing and filtering analog and digital power supplies, in particular, on the board section under audio codec. They used manufacturer's recommendations to reach maximal quality of sound transmission when making layout of audio codec.





Characteristics

PCB type	Analog-digital
Number of layers	4
BGA case	1 (BGA208)
Dimensions, mm	169x163
Number of foils	1812
Differential pairs	USB, Ethernet
Number of components	462
Features	<ul style="list-style-type: none">• ADSP-BF537 processor• MT48LC32M16A2 memory• 133 MHz system frequency• Analog audio• Ethernet 10/100• High-speed USB host• WiFi• RF• LCD-interfaces
Development tools	PCAD 2002, HyperLinx 7.7
Project completion period	1 month