



Broadband data converters product guide

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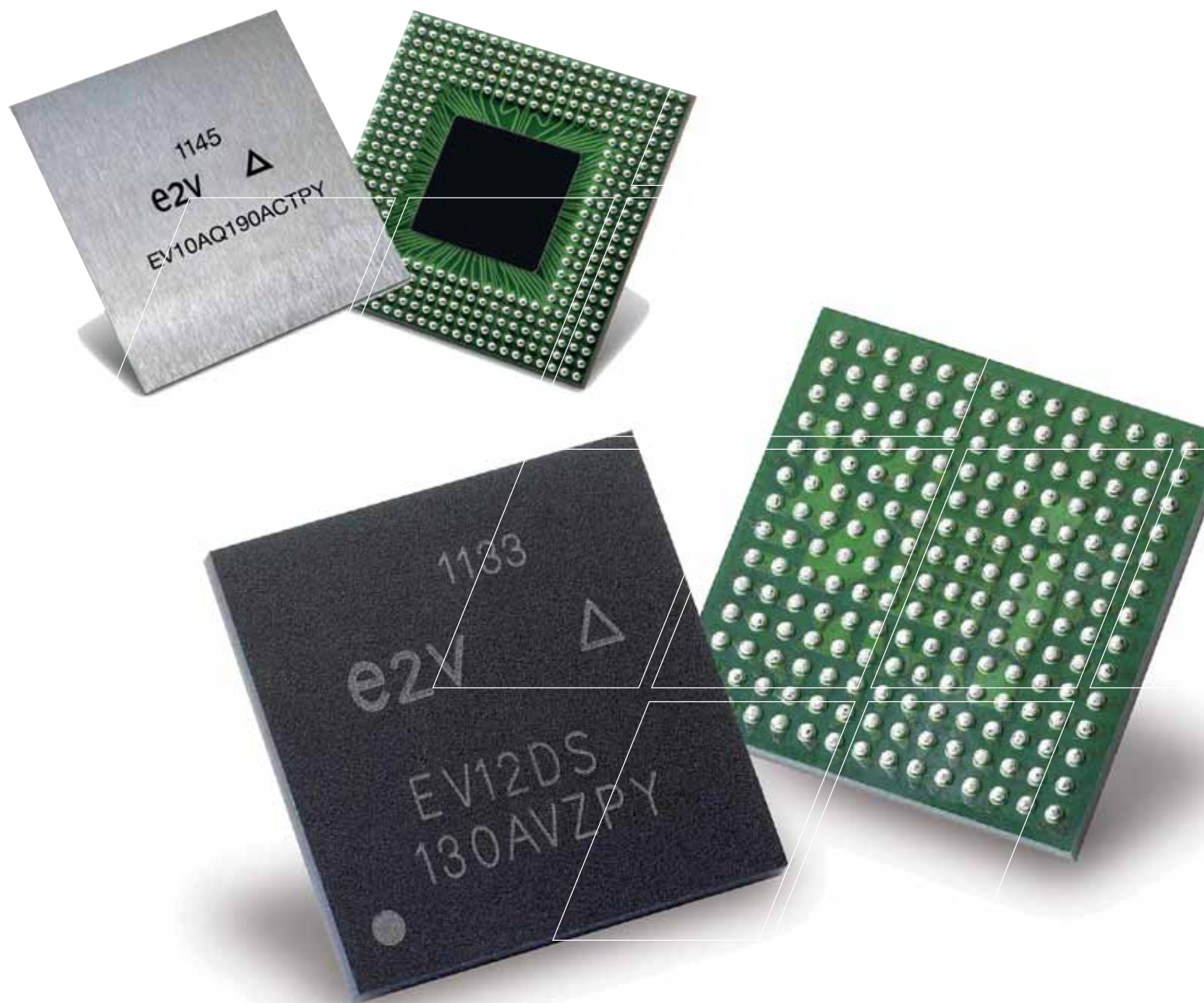
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Broadband data converters

Quick reference selection table

12 bit ADC family

Typical parameters																												
12 bit 1.5 Gsps single core L band ADC	Nb. Input chan.	0.5dB BW	3dB BW	Power	Energy *	Input voltage	Input type	Supply voltages	Latency	ENOB @ Fin...			SNR @ Fin...			SFDR @ Fin...			Xtalk	BER	Output type	DMUX	SPI adjustments: 1024 steps within...			Available	Package	
					at Nyquist	Range		Vcca / Vccd / Vcco	@ Max sampling	100MHz	1.0GHz	1.5GHz	100MHz	1.0GHz	1.5GHz	100MHz	1.0GHz	1.5GHz	Isolation			Ratio	Gain range	Offset range	Clk Skew	Grades		
EV12AS200A	Fs 1.5 Gsps	1	750MHz	2.3GHz	3.2W	3.15pJ/Conv.	500mV _{p-p}	SE/Diff.	5V / 3.3V / 2.5V	3.3ns	9.4	9.0	8.8	59dB	57dB	56dB	-65dBFS	-61dBFS	-60dBFS	-	10 ⁻¹²	LVDS	1:1 / 1:2	±10%	±100LSB	±48ps	C, V	fpBGA196

10 bit ADC family

Typical parameters																											
QUAD 10 BIT 1.25 GSPS / 5 GSPS ADC	Nb. Input chan.	0.5dB BW	3dB BW	Power	Energy *	Input voltage	Input type	Supply voltages	Latency	ENOB @ Fin...			SNR @ Fin...			SFDR @ Fin...			Xtalk	BER	Output type	DMUX	SPI adjustments: 1024 steps within...			Available	Package
EV10AQ190A					at Nyquist	Range		Vcca / Vccd / Vcco	(max speed)	100MHz	620MHz	1.2GHz	100MHz	620MHz	1.2GHz	100MHz	620MHz	1.2GHz	Isolation			Ratio	Gain range	Offset range	Clk Skew	Grades	
4 Ch. Mode - Fs = 1.25G - Max BW	4	1GHz	3.2GHz	1.4W/Ch	3.0pJ/Conv.	500mV _{p-p}	Diff.	3.3V / 1.8V	5.6ns	8.8	8.5	7.8	56dB	54dB	50dB	65dBc	63dBc	57dBc	> 60dB	10 ⁻¹⁶	LVDS	1:1	±10%	±40LSB	±15ps	C, V	EBGA380
2 Ch. Mode - Fs = 2.5G - Max BW	2	1GHz	3.2GHz	2.8W/Ch	5.4pJ/Conv.	500mV _{p-p}	Diff.	3.3V / 1.8V	6.4ns	8.7	8.4	7.7	56dB	54dB	50dB	63dBc	61dBc	55dBc	> 60dB	10 ⁻¹⁶	LVDS	1:1	±10%	±40LSB	±15ps	-	
1 Ch. Mode - Fs = 5G	1	1GHz	3.2GHz	5.6W	6.2pJ/Conv.	500mV _{p-p}	Diff.	3.3V / 1.8V	6.4ns	8.7	8.4	7.7	56dB	54dB	50dB	63dBc	61dBc	55dBc	> 60dB	10 ⁻¹⁶	LVDS	1:1	±10%	±40LSB	±15ps	-	

10 BIT 1.5 GSPS SINGLE CORE L-BAND ADC			Nb. Input chan.	0.5dB BW	3dB BW	Power	Energy *	Input voltage	Input type	Supply voltages	Latency	ENOB @ Fin...			SNR @ Fin...			SFDR @ Fin...			Xtalk	BER	Output type	DMUX	Analogue adjustments:			Available	Package
							at Nyquist	Range		Vcca / Vccd / Vcco	(max speed)	100MHz	750MHz	1800MHz	100MHz	750MHz	1800MHz	100MHz	750MHz	1800MHz	Isolation			Ratio	Gain range	Offset range	Clk Skew	Grades	
EV10AS180A	SPACE GRADE	Fs 1.5 Gsps	1	750MHz	2.25GHz	1.7W	3.1pJ/Conv.	500mV _{p-p}	SE/Diff.	5.2V / 3.3V / 2.5V	2.3ns	8.0	7.9	8.0	55dB	54dB	52dB	-57dBFS	-57dBFS	-59dBFS	-	-	LVDS	1:1 / 1:2 / 1:4	±10%	±40LSB	±40ps	M, S	CICGA255

10 BIT 2.6 GSPS SINGLE CORE L- AND S-BAND ADC	Nb. Input chan.	0.5dB BW	3dB BW	Power	Energy *	Input voltage	Input type	Supply voltages	Latency	ENOB @ Fin...			SNR @ Fin...			SFDR @ Fin...			Xtalk	BER	Output type	DMUX	SPI adjustments: 256 steps within...			Available	Package	
					at Nyquist	Range		Vcca / Vccd / Vcco	(max speed)	500MHz	1245MHz	2495MHz	500MHz	1245MHz	2495MHz	500MHz	1245MHz	2495MHz	Isolation			Ratio	Gain range	Offset range	Clk Skew	Grades		
EV10AS150B	Fs 2.6 Gsps	1	2GHz	5GHz	5.9W	7.7pJ/Conv.	500mV _{p-p}	SE/Diff.	5V / 3.3V / 2.5V	2.1ns	8.3	8.1	7.8	53dB	52dB	50dB	-62dBFS	-60dBFS	-57dBFS	-	10 ⁻¹²	LVDS	1:2 / 1:4	+/- 6%	+/-40LSB	±60ps	C, V	EBGA317

10 BIT 3 GSPS SINGLE CORE L-AND S-BAND ADC	Nb. Input chan.	0.5dB BW	3dB BW	Power	Energy *	Input voltage	Input type	Supply voltages	Latency	ENOB @ Fin...			SNR @ Fin...			SFDR @ Fin...			Xtalk	BER	Output type	DMUX	SPI adjustments: 256 steps within...			Available	Package	
					at Nyquist	Range		Vcca / Vccd / Vcco	(max speed)	500MHz	1245MHz	2495MHz	500MHz	1245MHz	2495MHz	500MHz	1245MHz	2495MHz	Isolation			Ratio	Gain range	Offset range	Clk Skew	Grades		
EV10AS152	Fs 3 Gsps	1	2GHz	5GHz	5.9W	7.7pJ/Conv.	500mV _{p-p}	SE/Diff.	5V / 3.3V / 2.5V	2.1ns	7.8	7.6	7.5	49dB	47.5dB	47dB	-55dBFS	-56dBFS	-54dBFS	-	10 ⁻¹⁰	LVDS	1:2 / 1:4	+/- 6%	+/-40LSB	±60ps	C, V	EBGA317

8 bit ADC family

Typical parameters																											
QUAD 8 BIT 1.25 GSPS / 5 GSPS ADC HIGH BANDWIDTH	Nb. Input chan.	0.5dB BW	3dB BW	Power	Energy *	Input voltage	Input type	Supply voltages	Latency	ENOB @ Fin...			SNR @ Fin...			SFDR @ Fin...			Xtalk	BER	Output type	DMUX	SPI adjustments: 256 steps within...			Available	Package
EV8AQ165A					at Nyquist	Range		Vcca / Vccd / Vcco	(max speed)	100MHz	620MHz	1.2GHz	100MHz	620MHz	1.2GHz	100MHz	620MHz	1.2GHz	Isolation			Ratio	Gain range	Offset range	Clk Skew	Grades	
4 Ch. Mode - Fs = 1.25G - Max BW	4	1GHz	3.2GHz	1.4W/Ch	7.1pJ/Conv.	250mV _{p-p}	Diff.	3.3V / 1.8V	5.6ns	7.3	7.0	6.9	46dB	44dB	43dB	62dBc	59dBc	55dBc	> 60dB	10 ⁻¹⁶	LVDS	1:1	±10%	±40LSB	±15ps	C	EBGA380
2 Ch. Mode - Fs = 2.5G - Max BW	2	1GHz	3.2GHz	2.8W/Ch	7.6pJ/Conv.	250mV _{p-p}	Diff.	3.3V / 1.8V	6.4ns	7.3	7.0	6.9	46dB	43dB	43dB	-	57dBc	55dBc	> 60dB	10 ⁻¹⁶	LVDS	1:1	±10%	±40LSB	±15ps	-	-
1 Ch. Mode - Fs = 5G	1	1GHz	3.2GHz	5.6W	8.1pJ/Conv.	250mV _{p-p}	Diff.	3.3 V / 1.8V	6.4ns	7.3	7.0	6.9	46 dB	43dB	43dB	-	57dBc	55dBc	> 60dB	10 ⁻¹⁶	LVDS	1:1	±10%	±40LSB	±15ps	-	-

QUAD 8 BIT 1.25 GSPS / 5 GSPS ADC	Nb. Input chan.	0.5dB BW	3dB BW	Power	Energy *	Input voltage	Input type	Supply voltages	Latency	ENOB @ Fin...			SNR @ Fin...			SFDR @ Fin...			Xtalk	BER	Output type	DMUX	SPI adjustments: 256 steps within...			Available	Package
					at Nyquist	Range		Vcca / Vccd / Vcco	(max speed)	10MHz	100MHz	620MHz	10MHz	100MHz	620MHz	10MHz	100MHz	620MHz	Isolation			Ratio	Gain range	Offset range	Clk Skew	Grades	
4 Ch. Mode - Fs = 1.25 Gsps - Max BW	4	650MHz	2GHz	1.05W/Ch	5.3pJ/Conv.	500 / 625mV _{p-p}	Diff.	3.3V / 1.8V	7.2ns	7.5	7.5	7.3	46.5dB	46.5dB	45dB	59dBc	58dBc	56dBc	> 60dB	10 ⁻¹⁶	LVDS	1:1 / 1:2	±18%	±25LSB	±14ps	C	EBGA380
2 Ch. Mode - Fs = 2.5 Gsps - Max BW	2	650MHz	2GHz	2.1W/Ch	6.56pJ/Conv.	500 / 625mV _{p-p}	Diff.	3.3V / 1.8V	8.0ns	7.5	7.5	7.2	46dB	46dB	44.5dB	59dBc	58dBc	56dBc	> 60dB	10 ⁻¹⁶	LVDS	1:1 / 1:2	±18%	±25LSB	±14ps	-	
1 Ch. Mode - Fs = 5 Gsps	1	650MHz	2GHz	4.2W	8pJ/Conv.	500 / 625mV _{p-p}	Diff.	3.3V / 1.8V	8.0ns	7.4	7.4	7.1	46dB	46dB	44dB	59dBc	58dBc	56dBc	-	10 ⁻¹⁶	LVDS	1:1 / 1:2	±18%	±25LSB	±14ps	-	

DUAL 8 BIT 1 GSPS ADC	Nb. Input chan.	0.5dB BW	3dB BW	Power	Energy *	Input voltage	Input type	Supply voltages	Latency	ENOB @ Fin...			SNR @ Fin...			SFDR @ Fin...			Xtalk	BER	Output type	DMUX	SPI adjustments: 256 steps within...			Available	Package
					at Nyquist	Range		Vcca / Vccd / Vcco	(max speed)	20MHz	500MHz	1GHz	20MHz	500MHz	1GHz	20MHz	500MHz	1GHz	Isolation			Ratio	Gain range	Offset range	Clk Skew	Grades	
2 Ch. Independent at 1 Gsps each	2	500MHz	1.5GHz	0.7W/Ch	6.3pJ/Conv.	500mV _{p-p}	Diff.	3.3V / 2.5V	3ns to 4ns	7.2	6.8	6.4	45dB	42dB	41dB	56dBc	54dBc	50dBc	-	10 ⁻¹³	LVDS	1:1 / 1:2	-	-	-	C, V	LQFP144
2 Ch. Interleaved to 2 Gsps	1	500MHz	1.5GHz	1.4W	8.9pJ/Conv.	500mV _{p-p}	Diff.	3.3V / 2.5V	3ns to 4ns	7.1	6.8	-	42dB	40dB	-	54dBc	52dBc	-	-	10 ⁻¹³	LVDS	1:1 / 1:2	-	-	-	C, V	-

12 bit MuxDAC family

Typical parameters																										
12 BIT 3 GSPS MUXDAC	Nb. Input chan.	3dB BW	Power	Energy *	Output voltage	Output type	Supply voltages	Latency	NPR at optimum loading factor			ENOB (bits)			SFDR @ Fin...(-3dBfs out.)			Xtalk	BER	Input type	MUX	Settings adjustments			Available	Package
				at Nyquist	Range		Vcca / Vccd / Vcco	(max speed)	1 st Nyquist Zone	2 nd Nyquist Zone	3 rd Nyquist Zone	1 st Nyquist	2 nd Nyquist	3 rd Nyquist	1 st Nyquist	2 nd Nyquist	3 rd Nyquist	Isolation			Ratio	Gain range	Input timing adj.	Output clk div.	Grades	
EV12DS130A Clock 3 Gsps	SPACE GRADE	7GHz (fpBGA) 6GHz (CICGA)	1.3W	0.4pJ/Conv.	1V _{p-p}	Diff.	3.3V / 5V	1ns	50dB @ 3G 56dB @ 1.5G	44dB @ 3G	42dB @ 3G	10 @ 3G 10.8 @ 1.5G	9 @ 3G	8.2 @ 3G	70dBc	61dBc	53dBc	-	-	LVDS	4:1 / 2:1	±11%	8 steps of interface clock	Yes	C, V M, S	fpBGA196 CICGA255

10 bit MuxDAC family

Typical parameters																										
10 BIT 3 GSPS MUXDAC	Nb. Input chan.	3dB BW	Power	Energy *	Output voltage	Output type	Supply voltages	Latency	NPR at optimum loading factor			ENOB (bits)			SFDR @ Fin...(-3DBFs out.)			Xtalk	BER	Input type	MUX	Settings adjustments			Available	Package
				at Nyquist	Range		Vcca / Vccd / Vcco	(max speed)	1 st Nyquist Zone	2 nd Nyquist Zone	3 rd Nyquist Zone	1 st Nyquist	2 nd Nyquist	3 rd Nyquist	1 st Nyquist	2 nd Nyquist	3 rd Nyquist	Isolation			Ratio	Gain range	Input timing adj.	Output clk div.	Grades	
EV10DS130A Clock 3 Gsps	SPACE GRADE	7GHz (fpBGA) 6GHz (CICGA)	1.3W	0.6pJ/Conv.	1V _{p-p}	Diff.	3.3V / 5V	1ns	45dB @ 3G 51dB @ 1.5G	40dB @ 3G	38dB @ 3G	9.2 @ 3G 9.6 @ 1.5G	8.0 @ 3G	7.8 @ 3G	65 dBc	58 dBc	51 dBc	-	-	LVDS	4:1 / 2:1	±11	8 steps of interface clock	Yes	C, V M, S	fpBGA196 CICGA255

* Data converter Energy consumption (pJ / Conv) = (Power consumption) / (2ⁿENOB x Fs x Nb of Channels) DISCLAIMER: The specifications enclosed are typical values only. Users are advised to refer to the official datasheet for a comprehensive description of features, ordering code and detailed performance specifications. For confirmed status of the product, please refer to ezv sales. ezv technologies reserves the right to modify, make corrections, improvements and other changes to its products and services at any time and to discontinue any product without notice. Customers are advised to obtain the latest relevant information prior to placing orders and should verify that such information is current and complete. Users of ezv products are responsible for their own products and applications. In order to minimise quality risks customers should plan for adequate design and operating margins.

Demo kits

Family	Ordering code
QUAD ADC 8-bit 1.25 Gsps	EV8AQ160TPY-A-DK
QUAD ADC 10-bit 1.25 Gsps	EV10AQ190ATPY-DK
ADC L-Band 12-bit 1.5 Gsps	EV12AS200ZPY-DK

Evaluation test kits

Family	Ordering code
ADC L-Band 10-bit 1.5 Gsps	EV10AS180AGS-EB
ADC 10-bit 2.6 Gsps	EV10AS150BTP-EB
MUXDAC 10-bit 3 Gsps	EV10DS130AZPY-EB EV10DS130AGS-EB
MUXDAC 12-bit 3 Gsps	EV12DS130AZPY-EB EV12DS130AGS-EB
ADC L-Band 12-bit 1.5 Gsps	EV12AS200ZPY-EB EV12AS200GS-EB