CYW4334: WLCSP Daisy-Chain Package

About this document

Scope and purpose

This application note is for the daisy chain package version of the CYW4334. The daisy chain package can be used to assess the surface mount process and board-level reliability. This document is intended for hardware design, application, and OEM engineers.

Table of contents

1 Introduction

The CYW4334 daisy-chain package consists of various pin-to-pin connections that, when attached to a compatible daisy-chain board, module, or substrate, form a continuously connected loop through all critical package and/or package-to-board interconnects. This loop can be electrically tested or monitored to verify the integrity of the interconnects after the component mounting process and the under board-level reliability (BLR) testing.

The daisy-chain package is designed to match the form and fit of the corresponding product; the same manufacturing processes, materials, and dimensions are used for the associated product. Where minor exceptions occur, they are described in this document.

There are no construction, geometry, processes, or material differences between the CYW4334 daisy-chain package and the CYW4334 product.

1.1 Part Numbering Scheme

The IoT part numbers have been converted from Broadcom to the Cypress part numbering scheme. Due to this conversion, there is no change in form, fit, or function as a result of offering the device with Cypress part number marking. This table provides Cypress ordering part number that matches an existing IoT part number

Table 1 Mapping Table for Part Number between Broadcom and Cypress

Broadcom Part Number	Cypress Part Number
BCM4334	CYW4334
BCM4334KWBDCG	CYW4334KWBDCG

2 IoT Resources

A wealth of data is available at **www.cypress.com/internet-things-iot** to help you to select the right IoT device for your design, and quickly and effectively integrate the device into your design. Customers can access a wide range of information, including technical documentation, schematic diagrams, product bill of materials, PCB layout information, and software updates. Customers can acquire technical documentation and software from the Cypress Support Community website (**http://community.cypress.com/**).

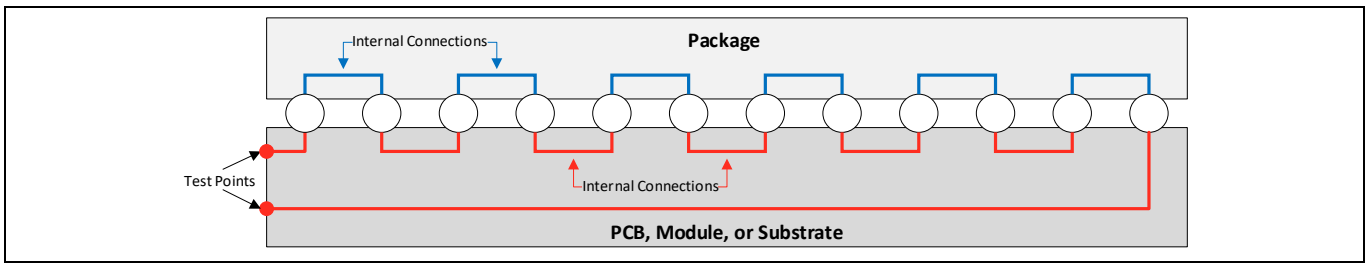

Figure 1 High-Level Overall Daisy-Chain Package and PCB Connectivity

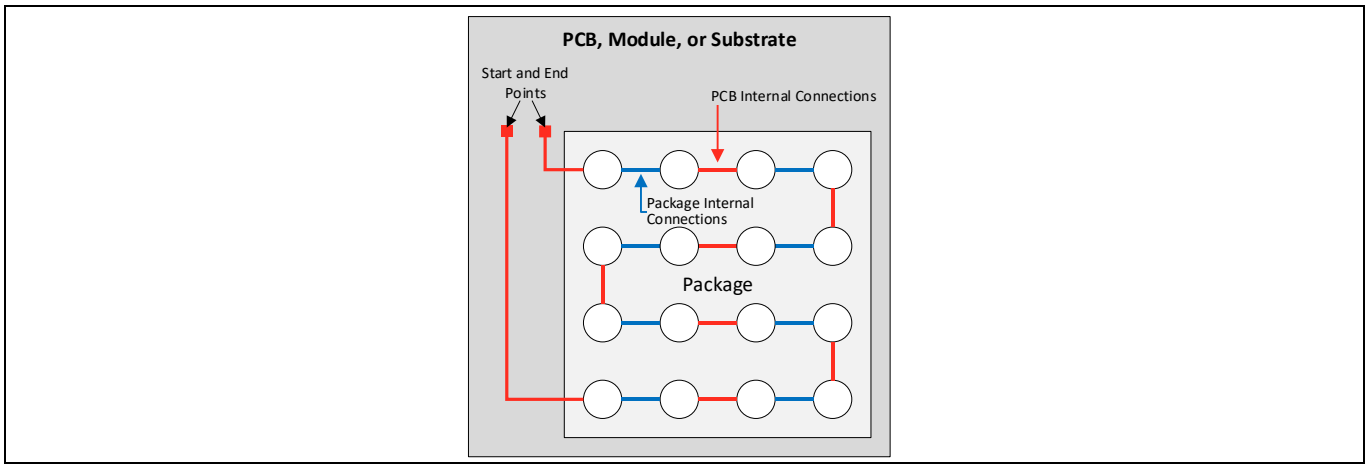

Figure 2 High-Level Schematic: Daisy-Chain Package and PCB Connectivity

Table 2 Daisy-Chain Package

Body Size	Pin Count	Pin Pitch	Thickness
4.08 x 4.48 mm	208	0.2 mm	0.41 mm maximum

3 Daisy-Chain Netlist, PCB Netlist, and No Connects (208-WLCSP)

Table 3 contains the daisy-chain package netlist and connectivity for the 208-WLCSP. The bump origin [0,0] is in the component center. X and Y pin coordinates are in microns.

Table 4 contains the recommended printed circuit board netlists for the 208-WLCSP. When combined with the package netlist, the connections result in a continuous daisy chain.

A different PCB netlist can be implemented to achieve the same overall continuous loop; however, subsequent changes to the component daisy-chain netlist are based on the PCB netlist in **Table 4**. If this PCB netlist is not followed, then these component daisy chain changes may lead to compatibility problems with a differently designed PCB.

Table 3 208-WLCSP Daisy-Chain Netlist and Connectivity002-14944_New

Bump		Coordinates Bottom View (0, 0 Center of Package)			Connected to Bump		Coordinates Bottom View (0, 0 Center of Package)	
No.	Name	X	Y		No.	Name	X	Y
56	SR_PVSS	– 1875.008	2074.964	>>	57	SR_PVSS	– 1875.008	1874.966
58	SR_PVSS	– 1875.008	1674.968	>>	59	SR_PVSS	– 1875.008	1474.970
60	SR_PVSS	– 1875.008	1274.972	>>	90	HSIC_STROBE	– 1862.633	1030.190
61	SR_VLX	– 1675.010	2074.964	>>	62	SR_VLX	– 1675.010	1874.966
65	SR_VLX	– 1475.012	1874.966	>>	69	SR_VDDBATP5V	– 1475.012	2074.964
70	SR_VDDBATP5V	– 1275.014	2074.964	>>	71	SR_VDDBATP5V	– 1275.014	1874.966
76	VOUT_3P3	– 1075.016	2074.964	>>	77	VOUT_CLDO	– 1075.016	1874.966
79	LDO_VDD1P5	– 875.018	2074.964	>>	80	LDO_VDD1P5	– 875.018	1874.966
82	VOUT_LNLDO	– 675.020	2074.964	>>	83	VOUT_HSICLDO	– 675.020	1874.966
84	BT_REG_ON	– 675.020	1674.968	>>	85	WL_REG_ON	– 675.020	1474.970
75	SR_VDDBATA5V	– 875.018	1474.970	>>	81	LDO_VDD1P5	– 875.018	1674.968
74	SR_VDDBATA5V	– 1075.016	1474.970	>>	78	VOUT_CLDO	– 1075.016	1674.968
72	SR_VDDBATP5V	– 1275.014	1674.968	>>	73	SR_VDDBATP5V	– 1275.014	1474.970
66	SR_VLX	– 1475.012	1674.968	>>	67	PMU_AVSS	– 1475.012	1474.970
63	SR_VLX	– 1675.010	1674.968	>>	64	SR_VLX	– 1675.010	1474.970
68	PMU_AVSS	– 1675.010	1274.972	>>	91	RREFHSIC	– 1610.156	1031.486
86	VDDIO_PMU	– 1075.016	1274.972	>>	87	HSIC_AGND1p2PLL	– 1316.882	1044.986
89	HSIC_DATA	– 1863.839	772.520	>>	177	WL_VDDC	– 1860.833	518.837
130	SDIO_DATA_3	– 1854.857	228.992	>>	132	VDDIO_SD	– 1781.903	– 18.103
121	RF_SW_CTRL_9	– 1539.218	– 372.262	>>	131	VDDIO_SD	– 1601.183	– 125.806
179	WL_VDDC	– 1413.830	651.497	>>	190	VSSC	– 1610.579	770.702
128	SDIO_DATA_1	– 1351.442	407.444	>>	129	SDIO_DATA_2	– 1643.717	368.906
126	SDIO_CMD	– 1223.291	159.818	>>	127	SDIO_DATA_0	– 1474.841	184.226
180	WL_VDDC	– 1209.557	651.497	>>	192	VSSC	– 1210.106	858.245
120	RF_SW_CTRL_8	– 964.010	178.520	>>	125	SDIO_CLK	– 1100.288	394.079
116	RF_SW_CTRL_4	– 1317.755	– 87.493	>>	117	RF_SW_CTRL_5	– 1287.470	– 343.642
115	RF_SW_CTRL_3	– 1045.982	– 419.512	>>	124	OTP_VDD33	– 1049.186	– 166.324
112	RF_SW_CTRL_0	– 1281.395	– 848.002	>>	113	RF_SW_CTRL_1	– 1278.011	– 595.192
114	RF_SW_CTRL_2	– 1534.160	– 881.041	>>	118	RF_SW_CTRL_6	– 1556.822	– 623.596
111	PA_LIN_CTRL	– 952.895	– 652.936	>>	165	WL_VDDIO	– 954.407	– 906.439
122	VDDIO_RF	– 791.804	– 459.184	>>	164	WL_VDDIO	– 748.091	– 887.233

Daisy-Chain Netlist, PCB Netlist, and No Connects (208-WLCSP)

Bump		Coordinates Bottom View (0, 0 Center of Package)			Connected to Bump		Coordinates Bottom View (0, 0 Center of Package)	
No.	Name	X	Y		No.	Name	X	Y
189	VSSC	– 1698.581	– 1188.112	>>	191	VSSC	– 1496.486	– 1135.102
134	PACKAGEOPTION_0	– 1867.196	– 1395.688	>>	137	PACKAGEOPTION_3	– 1782.461	– 1635.583
109	GPIO_15	– 1514.225	– 1590.493	>>	135	PACKAGEOPTION_1	– 1665.758	– 1391.620
107	GPIO_13	– 1278.317	– 1618.699	>>	136	PACKAGEOPTION_2	– 1421.669	– 1385.581
175	WL_VDDC	– 1863.614	– 2072.695	>>	176	WL_VDDC	– 1863.614	– 1872.652
110	JTAG_SEL	– 1581.032	– 1834.312	>>	178	WL_VDDC	– 1660.403	– 2072.695
106	GPIO_12	– 1094.258	– 1792.165	>>	108	GPIO_14	– 1332.434	– 1868.710
99	GPIO_5	– 842.636	– 1839.190	>>	103	GPIO_9	– 921.809	– 1600.906
105	GPIO_11	– 1173.548	– 1389.424	>>	166	WL_VDDIO	– 1292.078	– 1169.455
102	GPIO_8	– 914.546	– 1347.826	>>	104	GPIO_10	– 1045.496	– 1141.960
100	GPIO_6	– 658.334	– 1363.018	>>	101	GPIO_7	– 776.783	– 1138.450
96	GPIO_2	– 592.121	– 1861.474	>>	97	GPIO_3	– 670.385	– 1621.309
95	GPIO_1	– 338.672	– 1742.170	>>	98	GPIO_4	– 441.200	– 1509.376
48	WRF_TCXO_CKIN2V	– 86.744	– 2006.775	>>	94	GPIO_0	– 377.957	– 1991.074
54	WRF_XTAL_CAB_XON	113.254	– 2006.775	>>	55	WRF_XTAL_CAB_XOP	313.252	– 2006.775
47	WRF_SYNTH_VDD1P2	532.600	– 1948.594	>>	51	WRF_VCO_GND1P2	774.273	– 2060.194
46	WRF_SYNTH_GND1P2	532.600	– 1748.596	>>	52	WRF_XTAL_CAB_GND1P2	313.252	– 1806.777
49	WRF_TCXO_VDD1P8	– 86.744	– 1806.777	>>	53	WRF_XTAL_CAB_VDD1P2	113.254	– 1806.777
185	WL_VDDC	– 542.135	– 657.796	>>	196	VSSC	– 497.342	– 976.405
183	WL_VDDC	– 542.135	– 453.685	>>	184	WL_VDDC	– 542.135	– 250.618
119	RF_SW_CTRL_7	– 800.687	– 10.327	>>	123	VDDIO_RF	– 791.804	– 256.891
133	VDD_ISO	– 562.799	52.322	>>	181	WL_VDDC	– 676.541	289.013
188	WL_VDDC	– 309.035	140.576	>>	198	VSSC	– 381.647	– 102.262
201	VSSC	– 92.378	187.115	>>	203	VSSC	65.266	321.719
186	WL_VDDC	– 469.037	289.013	>>	187	WL_VDDC	– 469.037	489.578
182	WL_VDDC	– 676.541	489.578	>>	195	VSSC	– 576.137	718.529
193	VSSC	– 955.703	603.374	>>	194	VSSC	– 781.427	718.529
138	PAD_VDDC_ISO_1	– 69.626	1956.956	>>	160	PAD_CLK_REQ	– 312.509	2045.219
150	LPO_IN	– 29.936	1693.643	>>	151	BT_PCM_OUT	– 15.473	1440.320
146	BT_I2S_DI	– 250.544	1541.453	>>	149	BT_PCM_CLK	– 269.444	1793.471
145	BT_I2S_CLK	201.877	1571.432	>>	157	BT_UART_TXD	205.819	1307.444
158	BT_PCM_IN	– 298.154	1286.816	>>	199	VSSC	– 271.244	1079.807
88	HSIC_AVDD1p2PLL_OUT	– 308.288	881.600	>>	197	VSSC	– 483.086	1079.807
167	BT_VDDC	– 87.635	1200.083	>>	168	BT_VDDC	90.997	1083.056
92	HSIC_PADVDD1p2	97.000	881.600	>>	93	HSIC_DVDD1p2_OUT	– 105.725	881.600
147	BT_I2S_DO	190.033	1823.603	>>	159	PAD_VDDC_ISO_2	422.089	1969.871
142	BT_GPIO_4	613.663	1808.663	>>	155	BT_UART_RTS_N	451.735	1616.144
9	FM_PLLVSS	1409.718	2074.856	>>	148	BT_HOST_WAKE	833.011	1933.061
2	FM_IFVDD	1216.447	1569.799	>>	7	FM_PLLVDD	1283.146	1918.864
3	FM_LNAVSS	1661.515	1397.597	>>	4	FM_LNAVDD	1661.515	1597.595
1	FM_RFIN	1861.513	1556.690	>>	5	FM_RFAUX	1874.896	1279.868

Daisy-Chain Netlist, PCB Netlist, and No Connects (208-WLCSP)

Bump		Coordinates Bottom View (0, 0 Center of Package)			Connected to Bump		Coordinates Bottom View (0, 0 Center of Package)	
No.	Name	X	Y		No.	Name	X	Y
8	FM_VCOVDD	1773.021	2061.473	>>	10	FM_VCOVSS	1874.896	1880.785
144	BT_I2S_WS	831.301	1679.396	>>	208	VSSC	887.785	1413.095
140	BT_GPIO_2	667.627	1486.517	>>	154	BT_UART_CTS_N	457.252	1349.708
156	BT_UART_RXD	333.871	1013.531	>>	172	BT_VDDC	568.312	1108.571
174	BT_VDDC	762.991	970.286	>>	207	VSSC	815.848	1210.613
161	BT_VDDO	74.500	639.500	>>	200	VSSC	– 98.903	530.618
162	BT_VDDO	317.680	291.452	>>	163	BT_VDDO	203.560	476.600
27	WRF_AFE_GND1P2	243.196	– 342.040	>>	202	VSSC	32.146	– 102.262
169	BT_VDDC	137.473	82.526	>>	204	VSSC	245.671	– 102.262
170	BT_VDDC	351.295	82.526	>>	205	VSSC	453.949	– 102.262
173	BT_VDDC	719.233	103.703	>>	206	VSSC	663.469	– 102.262
153	BT_TM1	690.802	393.845	>>	171	BT_VDDC	551.356	223.304
143	BT_GPIO_5	361.771	733.820	>>	152	BT_PCM_SYNC	463.066	504.365
139	BT_DEV_WAKE	715.183	651.326	>>	141	BT_GPIO_3	567.844	855.824
6	FM_IFVSS	1216.447	1369.801	>>	20	BT_PLLVSS	1170.412	974.458
19	BT_PLLVDD	1370.410	974.458	>>	24	BT_VCOVSS	1569.112	1152.599
15	BT_LNAVDD	1829.676	805.285	>>	23	BT_VCOVDD	1828.501	1008.356
18	BT_PAVSS	1819.443	461.507	>>	21	BT_RF	1853.890	261.509
11	BT_LDO_OUT	1634.866	– 84.600	>>	17	BT_PAVDD	1750.971	81.864
22	BT_VBAT	1851.654	– 100.021	>>	40	WRF_RFIN_2G	1799.998	– 400.018
12	BT_PALDO_VSS	1406.896	99.977	>>	16	BT_LNAVSS	1445.092	673.187
13	BT_IFVDD	1370.410	– 100.021	>>	36	WRF_LNA_2G_GND1P2	1454.916	– 400.018
14	BT_IFVSS	1170.412	– 100.021	>>	44	WRF_RX2G_GND1P2	983.604	– 373.869
25	WRF_AFE_GND1P2	243.196	– 742.036	>>	26	WRF_AFE_GND1P2	243.196	– 542.038
28	WRF_BUCK_AFE_VDD1P5	693.565	– 660.924	>>	31	WRF_BUCK_VCO_VDD1P5	693.565	– 860.922
29	WRF_BUCK_RX_VDD1P5	893.563	– 660.924	>>	30	WRF_BUCK_TX_VDD1P5	893.563	– 860.922
35	WRF_LDO_GND1P5	793.564	– 1060.920	>>	45	WRF_RX5G_GND1P2	1082.388	– 1510.618
34	WRF_G_TSSI_IN	1648.830	– 1650.915	>>	37	WRF_LNA_5G_GND1P2	1447.441	– 2014.947
33	WRF_G_TSSI_IN	1842.033	– 1877.481	>>	41	WRF_RFIN_5G	1775.266	– 2066.746
39	WRF_PADRV_VBAT_VDD5P0	1873.996	– 1253.731	>>	43	WRF_RFOUT_5G	1873.996	– 1616.116
38	WRF_PADRV_VBAT_GND5P0	1673.998	– 1234.102	>>	42	WRF_RFOUT_2G	1827.547	– 769.585
32	WRF_GPIO_OUT	1378.222	– 774.355	>>	50	WRF_TX_GND1P2	1381.939	– 1236.406

Daisy-Chain Netlist, PCB Netlist, and No Connects (208-WLCSP)

Table 4 208-WLCSP Recommended PCB Netlist002-14944_New

Bump		Coordinates Bottom View (0, 0 Center of Package)		Connected to Bump		Coordinates Bottom View (0, 0 Center of Package)	
No.	Name	X	Y	No.	Name	X	Y
8	FM_VCOVDD	1773.021	2061.473	External daisy-chain START			
56	SR_PVSS	-1875.008	2074.964	External daisy-chain END			
57	SR_PVSS	-1875.008	1874.966	58	SR_PVSS	– 1875.008	1674.968
61	SR_VLX	– 1675.010	2074.964	69	SR_VDDBATP5V	– 1475.012	2074.964
62	SR_VLX	– 1675.010	1874.966	63	SR_VLX	– 1675.010	1674.968
65	SR_VLX	– 1475.012	1874.966	66	SR_VLX	– 1475.012	1674.968
71	SR_VDDBATP5V	– 1275.014	1874.966	72	SR_VDDBATP5V	– 1275.014	1674.968
77	VOUT_CLDO	– 1075.016	1874.966	78	VOUT_CLDO	– 1075.016	1674.968
80	LDO_VDD1P5	– 875.018	1874.966	81	LDO_VDD1P5	– 875.018	1674.968
83	VOUT_HSICLDO	– 675.020	1874.966	84	BT_REG_ON	– 675.020	1674.968
70	SR_VDDBATP5V	– 1275.014	2074.964	76	VOUT_3P3	– 1075.016	2074.964
79	LDO_VDD1P5	– 875.018	2074.964	82	VOUT_LNLDO	– 675.020	2074.964
149	BT_PCM_CLK	– 269.444	1793.471	160	PAD_CLK_REQ	– 312.509	2045.219
138	PAD_VDDC_ISO_1	– 69.626	1956.956	150	LPO_IN	– 29.936	1693.643
146	BT_I2S_DI	– 250.544	1541.453	158	BT_PCM_IN	– 298.154	1286.816
151	BT_PCM_OUT	– 15.473	1440.320	167	BT_VDDC	– 87.635	1200.083
85	WL_REG_ON	– 675.020	1474.970	197	VSSC	– 483.086	1079.807
67	PMU_AVSS	– 1475.012	1474.970	73	SR_VDDBATP5V	– 1275.014	1474.970
64	SR_VLX	– 1675.010	1474.970	68	PMU_AVSS	– 1675.010	1274.972
59	SR_PVSS	– 1875.008	1474.970	60	SR_PVSS	– 1875.008	1274.972
74	SR_VDDBATA5V	– 1075.016	1474.970	86	VDDIO_PMU	– 1075.016	1274.972
89	HSIC_DATA	– 1863.839	772.520	90	HSIC_STROBE	– 1862.633	1030.190
91	RREFHSIC	– 1610.156	1031.486	190	VSSC	– 1610.579	770.702
87	HSIC_AGND1p2PLL	– 1316.882	1044.986	192	VSSC	– 1210.106	858.245
75	SR_VDDBATA5V	– 875.018	1474.970	194	VSSC	– 781.427	718.529
187	WL_VDDC	– 469.037	489.578	195	VSSC	– 576.137	718.529
130	SDIO_DATA_3	– 1854.857	228.992	177	WL_VDDC	– 1860.833	518.837
127	SDIO_DATA_0	– 1474.841	184.226	129	SDIO_DATA_2	– 1643.717	368.906
131	VDDIO_SD	– 1601.183	– 125.806	132	VDDIO_SD	– 1781.903	– 18.103
118	RF_SW_CTRL_6	– 1556.822	– 623.596	121	RF_SW_CTRL_9	– 1539.218	– 372.262
113	RF_SW_CTRL_1	– 1278.011	– 595.192	117	RF_SW_CTRL_5	– 1287.470	– 343.642
114	RF_SW_CTRL_2	– 1534.160	– 881.041	191	VSSC	– 1496.486	– 1135.102
112	RF_SW_CTRL_0	– 1281.395	– 848.002	166	WL_VDDIO	– 1292.078	– 1169.455
104	GPIO_10	– 1045.496	– 1141.960	165	WL_VDDIO	– 954.407	– 906.439
101	GPIO_7	– 776.783	– 1138.450	164	WL_VDDIO	– 748.091	– 887.233
134	PACKAGEOPTION_0	– 1867.196	– 1395.688	189	VSSC	– 1698.581	– 1188.112
135	PACKAGEOPTION_1	– 1665.758	– 1391.620	136	PACKAGEOPTION_2	– 1421.669	– 1385.581
109	GPIO_15	– 1514.225	– 1590.493	110	JTAG_SEL	– 1581.032	– 1834.312
137	PACKAGEOPTION_3	– 1782.461	– 1635.583	176	WL_VDDC	– 1863.614	– 1872.652
175	WL_VDDC	– 1863.614	– 2072.695	178	WL_VDDC	– 1660.403	– 2072.695
107	GPIO_13	– 1278.317	– 1618.699	108	GPIO_14	– 1332.434	– 1868.710
99	GPIO_5	– 842.636	– 1839.190	106	GPIO_12	– 1094.258	– 1792.165

Daisy-Chain Netlist, PCB Netlist, and No Connects (208-WLCSP)

Bump		Coordinates Bottom View (0, 0 Center of Package)		Connected to Bump		Coordinates Bottom View (0, 0 Center of Package)	
No.	Name	X	Y	No.	Name	X	Y
103	GPIO_9	– 921.809	– 1600.906	105	GPIO_11	– 1173.548	– 1389.424
97	GPIO_3	– 670.385	– 1621.309	102	GPIO_8	– 914.546	– 1347.826
98	GPIO_4	– 441.200	– 1509.376	100	GPIO_6	– 658.334	– 1363.018
94	GPIO_0	– 377.957	– 1991.074	96	GPIO_2	– 592.121	– 1861.474
48	WRF_TCXO_CKIN2V	– 86.744	– 2006.775	54	WRF_XTAL_CAB_XON	113.254	– 2006.775
47	WRF_SYNTH_VDD1P2	532.600	– 1948.594	55	WRF_XTAL_CAB_XOP	313.252	– 2006.775
46	WRF_SYNTH_GND1P2	532.600	– 1748.596	51	WRF_VCO_GND1P2	774.273	– 2060.194
52	WRF_XTAL_CAB_GND1P2	313.252	– 1806.777	53	WRF_XTAL_CAB_VDD1P2	113.254	– 1806.777
49	WRF_TCXO_VDD1P8	– 86.744	– 1806.777	95	GPIO_1	– 338.672	– 1742.170
111	PA_LIN_CTRL	– 952.895	– 652.936	115	RF_SW_CTRL_3	– 1045.982	– 419.512
122	VDDIO_RF	– 791.804	– 459.184	123	VDDIO_RF	– 791.804	– 256.891
183	WL_VDDC	– 542.135	– 453.685	185	WL_VDDC	– 542.135	– 657.796
184	WL_VDDC	– 542.135	– 250.618	198	VSSC	– 381.647	– 102.262
116	RF_SW_CTRL_4	– 1317.755	– 87.493	126	SDIO_CMD	– 1223.291	159.818
128	SDIO_DATA_1	– 1351.442	407.444	179	WL_VDDC	– 1413.830	651.497
125	SDIO_CLK	– 1100.288	394.079	180	WL_VDDC	– 1209.557	651.497
182	WL_VDDC	– 676.541	489.578	193	VSSC	– 955.703	603.374
181	WL_VDDC	– 676.541	289.013	186	WL_VDDC	– 469.037	289.013
119	RF_SW_CTRL_7	– 800.687	– 10.327	133	VDD_ISO	– 562.799	52.322
120	RF_SW_CTRL_8	– 964.010	178.520	124	OTP_VDD33	– 1049.186	– 166.324
188	WL_VDDC	– 309.035	140.576	201	VSSC	– 92.378	187.115
169	BT_VDDC	137.473	82.526	203	VSSC	65.266	321.719
204	VSSC	245.671	– 102.262	205	VSSC	453.949	– 102.262
26	WRF_AFE_GND1P2	243.196	– 542.038	27	WRF_AFE_GND1P2	243.196	– 342.040
25	WRF_AFE_GND1P2	243.196	– 742.036	28	WRF_BUCK_AFE_VDD1P5	693.565	– 660.924
196	VSSC	– 497.342	– 976.405	202	VSSC	32.146	– 102.262
31	WRF_BUCK_VCO_VDD1P5	693.565	– 860.922	35	WRF_LDO_GND1P5	793.564	– 1060.920
30	WRF_BUCK_TX_VDD1P5	893.563	– 860.922	45	WRF_RX5G_GND1P2	1082.388	– 1510.618
29	WRF_BUCK_RX_VDD1P5	893.563	– 660.924	44	WRF_RX2G_GND1P2	983.604	– 373.869
14	BT_IFVSS	1170.412	– 100.021	206	VSSC	663.469	– 102.262
12	BT_PALDO_VSS	1406.896	99.977	13	BT_IFVDD	1370.410	– 100.021
11	BT_LDO_OUT	1634.866	– 84.600	22	BT_VBAT	1851.654	– 100.021
40	WRF_RFIN_2G	1799.998	– 400.018	42	WRF_RFOUT_2G	1827.547	– 769.585
32	WRF_GPIO_OUT	1378.222	– 774.355	36	WRF_LNA_2G_GND1P2	1454.916	– 400.018
38	WRF_PADRV_VBAT_GND5P0	1673.998	– 1234.102	39	WRF_PADRV_VBAT_VDD5P0	1873.996	– 1253.731
34	WRF_G_TSSI_IN	1648.830	– 1650.915	50	WRF_TX_GND1P2	1381.939	– 1236.406
37	WRF_LNA_5G_GND1P2	1447.441	– 2014.947	41	WRF_RFIN_5G	1775.266	– 2066.746
33	WRF_G_TSSI_IN	1842.033	– 1877.481	43	WRF_RFOUT_5G	1873.996	– 1616.116
17	BT_PAVDD	1750.971	81.864	21	BT_RF	1853.890	261.509
15	BT_LNAVDD	1829.676	805.285	18	BT_PAVSS	1819.443	461.507

Daisy-Chain Netlist, PCB Netlist, and No Connects (208-WLCSP)

Bump		Coordinates Bottom View (0, 0 Center of Package)		Connected to Bump		Coordinates Bottom View (0, 0 Center of Package)	
No.	**Name**	**X**	**Y**	**No.**	**Name**	**X**	**Y**
19	BT_PLLVDD	1370.410	974.458	23	BT_VCOVDD	1828.501	1008.356
5	FM_RFAUX	1874.896	1279.868	24	BT_VCOVSS	1569.112	1152.599
16	BT_LNAVSS	1445.092	673.187	20	BT_PLLVSS	1170.412	974.458
4	FM_LNAVDD	1661.515	1597.595	10	FM_VCOVSS	1874.896	1880.785
1	FM_RFIN	1861.513	1556.690	3	FM_LNAVSS	1661.515	1397.597
7	FM_PLLVDD	1283.146	1918.864	9	FM_PLLVSS	1409.718	2074.856
2	FM_IFVDD	1216.447	1569.799	6	FM_IFVSS	1216.447	1369.801
144	BT_I2S_WS	831.301	1679.396	148	BT_HOST_WAKE	833.011	1933.061
140	BT_GPIO_2	667.627	1486.517	208	VSSC	887.785	1413.095
154	BT_UART_CTS_N	457.252	1349.708	155	BT_UART_RTS_N	451.735	1616.144
142	BT_GPIO_4	613.663	1808.663	159	PAD_VDDC_ISO_2	422.089	1969.871
145	BT_I2S_CLK	201.877	1571.432	147	BT_I2S_DO	190.033	1823.603
156	BT_UART_RXD	333.871	1013.531	157	BT_UART_TXD	205.819	1307.444
172	BT_VDDC	568.312	1108.571	207	VSSC	815.848	1210.613
141	BT_GPIO_3	567.844	855.824	174	BT_VDDC	762.991	970.286
139	BT_DEV_WAKE	715.183	651.326	143	BT_GPIO_5	361.771	733.820
152	BT_PCM_SYNC	463.066	504.365	153	BT_TM1	690.802	393.845
171	BT_VDDC	551.356	223.304	173	BT_VDDC	719.233	103.703
162	BT_VDDO	317.680	291.452	170	BT_VDDC	351.295	82.526
161	BT_VDDO	74.500	639.500	163	BT_VDDO	203.560	476.600
93	HSIC_DVDD1p2_OUT	– 105.725	881.600	200	VSSC	– 98.903	530.618
92	HSIC_PADVDD1p2	97.000	881.600	168	BT_VDDC	90.997	1083.056
88	HSIC_AVDD1p2PLL_OUT	– 308.288	881.600	199	VSSC	-271.244	1079.807

4 Package Drawing

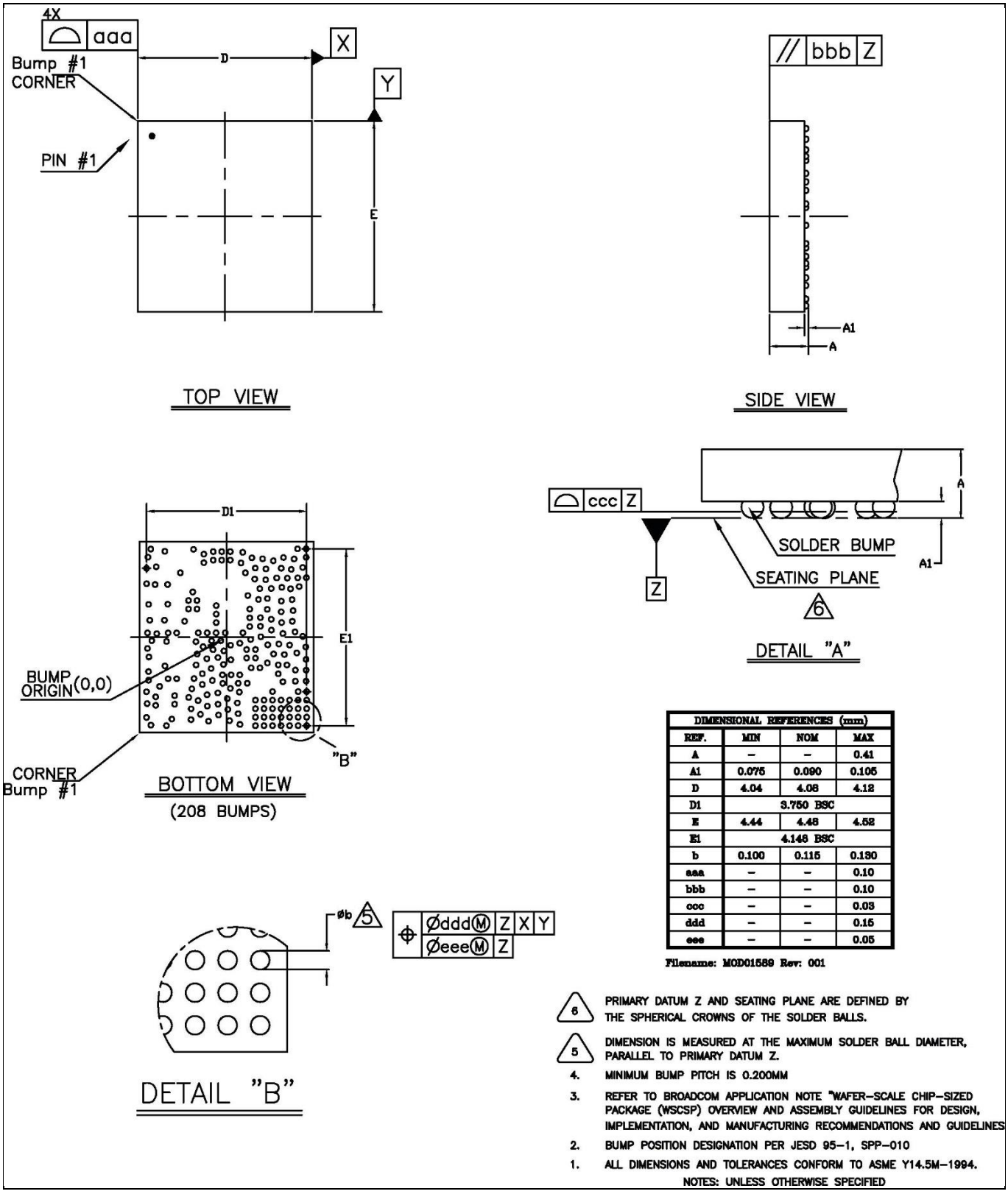

Figure 3 208-WLCSP Daisy-Chain Package Outline Drawing Recommended Connections

Package Drawing

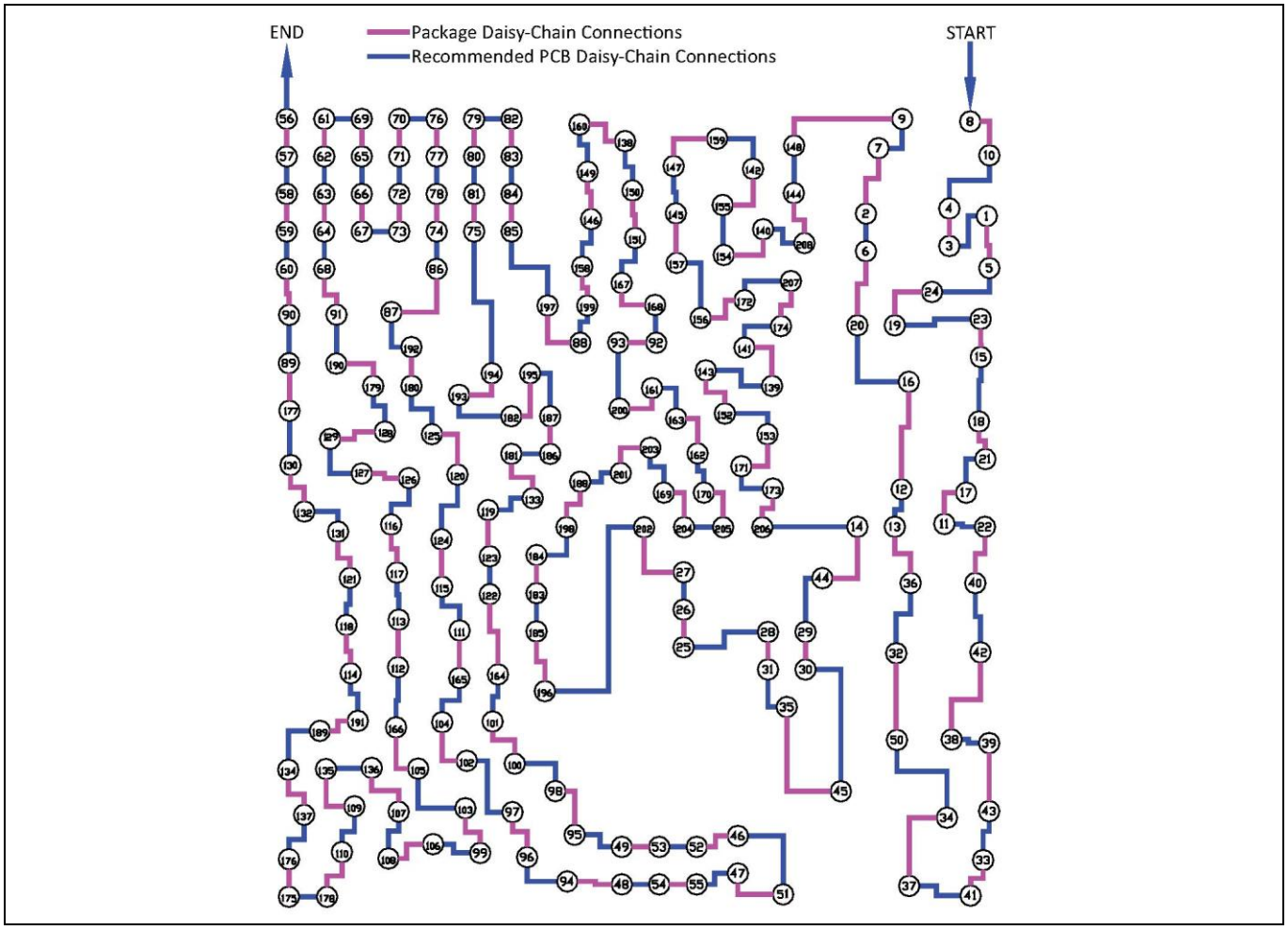

Figure 4 208-WLCSP Daisy-Chain, Bottom View, Bumps Facing Up

5 Package Marking

208-WLCSP Daisy-Chain Package Marking shows the package marking for the CYW4334KWBDCG.

Figure 5 208-WLCSP Daisy-Chain Package Marking

5.1 Field Description

Package and Supplier Codes lists the suppliers.

Table 5 Package and Supplier Codes

Field	Field Meaning	Supplier	Supplier Code
F	Wafer foundry	TSMC	T
		CHRT	C
		SMIC	H
		UMC	U
		N/A	Z[1]
A	T/R supplier	UTAC	D
		STATS	T
		ASE	E
		SPIL	N
		Unisem	M
YYWW	Date code	N/A	YY = Year: WW = Work Week
P20	Internal code	N/A	N/A
B	Bumping supplier	TSMC	T
		SPIL	N
		ASE	E
		Nepes	F
		SMIC	H
		STATS	S
		Amkor	A
Z	Internal code	N/A	N/A

[1] In many daisy-chain components, there is no fab-dependent content. If the fab code = Z, then the daisy-chain component is fully manufactured by the assembly/bumping supplier.

Package Marking

5.2 Part Variations

Table 6 Daisy-Chain Part Variations

Part Number	Package	Notes
CYW4334KWBDCG	208 ball WLCSP (4.08 x 4.48 mm, 0.2 mm pitch)	Solder = 98.2Sn/1.8Ag

6 References

The references in this section may be used in conjunction with this document.

Note: Customers can access technical documentation and software through the Customer Support Portal (CSP) and Downloads & Support site.

Replace the “xx” in the document number with the largest number available in the repository to ensure that you have the most current version of the document.

Document (or Item) Name002-14944_New	Number	Source
CYW4334 Data Sheet	4334-DS102-R	CSP
Wafer-Scale Chip-Sized Package Overview and Assembly Guidelines Application Note	PACKAGING-AN3xx-R	CSP
Wafer-Level Ball Grid Array Overview and Assembly Guidelines Application Note	PACKAGING-AN6xx-R	CSP
Pkg Reflow Process Guidelines for Surface Mount Assemblies Application Note	PACKAGING-AN1xx-R	CSP
Printed Circuit Board Land Pattern Recommendations for Ball Grid Array Application Note	PACKAGING-AN5xx-R	CSP

Revision history

Document version	Date of release	Description of changes
**	2011-09-22	4334-AN100-R: Initial release
*A	2016-10-06	Updated in Cypress template
*B	2017-09-11	Updated logo and copyright information.
*C	2021-03-17	Updated in Infineon template

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