

**UNITED STATES DISTRICT COURT  
MIDDLE DISTRICT OF FLORIDA  
JACKSONVILLE DIVISION**

PARKERVISION, INC.,

Plaintiff,

v.

QUALCOMM INCORPORATED,

Defendant.

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Case No. 3:11-cv-719-J-37TEM

QUALCOMM INCORPORATED,

Counterclaim Plaintiff,

v.

PARKERVISION, INC., AND STERNE,  
KESSLER, GOLDSTEIN, & FOX PLLC,

Counterclaim Defendants.

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**JOINT CLAIM CONSTRUCTION STATEMENT**

Pursuant to the Court's Case Management Report (Dkt. No. 84), Plaintiff ParkerVision, Inc. ("ParkerVision") and Defendant Qualcomm Incorporated ("Qualcomm") hereby file this Joint Claim Construction Statement.

After several meet and confer telephone conferences, the parties were able to come to an agreement on constructions for the terms identified in Exhibit A. The parties, however, were unable to reach an agreement on the meaning of the disputed claim terms or phrases as specified in Exhibit B, which sets forth ParkerVision's and Qualcomm's competing, proposed constructions.

In light of the high level of technical complexity presented by the claim construction issues in this case, the parties jointly propose that the Court consider receiving a non-adversarial tutorial on the technology of the patents-in-suit prior to the claim construction hearing currently scheduled for August 6, 2012. The Court has already ordered that each side will have two hours on August 6 to present its claim construction arguments. The parties respectfully request that the Court allot an additional 90 minutes during which the parties will present a tutorial through the live testimony of an expert witness, with each party given an equal amount of time of 45 minutes. The parties have agreed not to cross-examine each other's expert. The parties will also make the expert witnesses available to answer any questions the Court may have.

Qualcomm also respectfully suggests that the Court consider appointing a technical advisor to assist the Court with respect to the technical aspects of the case. If the Court decides to appoint such a technical advisor, Qualcomm suggests that the Court consider appointing Gale R. Peterson, from Cox Smith to fulfill this role. Qualcomm understands that Mr. Peterson has acted as a technical advisor in a variety of other patent cases.<sup>1</sup> ParkerVision does not agree that a technical advisor is appropriate, and ParkerVision objects to Mr. Peterson serving in that capacity. Should the Court consider appointing a technical advisor, ParkerVision respectfully requests the Court order the parties to meet and confer to agree on a technical advisor that is agreeable to both parties.

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<sup>1</sup> See <http://www.coxsmith.com/People/GaleRPeterson>

May 29, 2012

Respectfully submitted,

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**CERTIFICATE OF SERVICE**

I HEREBY CERTIFY that on this day, May 29, 2012, I electronically filed the foregoing with the Clerk of the Court by using the CM/ECF system which will send a notice of electronic filing to all counsel of record.

/s/ Austin Curry

John Austin Curry

## Exhibit A

	Claim Term	Agreed Construction	Claims
1.	"carrier signal"	"an electromagnetic wave that is capable of carrying information via modulation"	'551 - Claims 1, 2, 3, 8, 9, 12, 16, 20, 23, 24, 25, 26, 31, 32, 39, 41, 50, 54, 55, 57, 92, 93, 108, 113, 126, 135, 149, 150, 161, 192, 193, 195, 196, 198, 202, 203;  '518 - Claims 1, 2, 3, 12, 17, 24, 27, 82;  '342 - Claim 23;  '845 - Claims 1, 3, 4, 5, 6, 7, 8, 9, 12;  '371 - Claims 1, 2, 22, 23, 25, 31.
2.	"aliasing rate"	"sampling rate that is less than or equal to twice the frequency of the carrier signal"	'551 - Claims 1, 2, 3, 8, 9, 12, 16, 20, 23, 24, 25, 26, 31, 32, 39, 41, 50, 54, 55, 57, 92, 93, 108, 113, 126, 135, 149, 150, 161, 192, 193, 195, 196, 198, 202, 203;  '518 - Claims 1, 2, 3, 12, 17, 24, 27, 82;  '371 - Claims 1, 2, 22, 23, 25, 31.
3.	"aperture periods"	"the durations of time over which energy is transferred from the carrier signal"	'551 - Claims 113, 202, 203;  '518 - Claims 1, 2, 3, 12, 17, 24, 27, 77, 81, 82, 90, 91.
4.	"electrically coupling"	"indirectly or directly connecting such that an electric signal can flow between the coupled points"	'342 - Claims 18, 19, 20, 21, 22 23.
5.	"modulated carrier signal"	"a carrier signal that is modulated by a baseband signal"	'551 - Claim 55
6.	"baseband signal"	"any generic information signal desired for transmission and/or reception"	'551 - Claims 57, 193

**Exhibit A**

	<b>Claim Term</b>	<b>Agreed Construction</b>	<b>Claims</b>
7.	"DC offset voltage"	"a DC voltage level that is added to a signal of interest by related circuitry"	"734 - Claims 6, 14



## Exhibit B

	Claim Term	ParkerVision's Proposed Construction and Intrinsic Evidence	Qualcomm's Proposed Construction and Intrinsic Evidence	Claims
1(a)	"transferring non-negligible amounts of energy from the carrier signal"	"transferring energy (i.e., voltage and current over time) in amounts that are distinguishable from noise"  '551::63:27-34; '518::62:40-57; '845::68:23-38. <sup>1</sup>	"moving sufficient energy from the carrier signal into storage to cause substantial distortion of the carrier signal"  '551 patent: Col. 22:21-28; 63:40-52; 66:36-50; 66:55-59.; 67:1-25; 67: 55-67; 68:4-13; 69:28-41; 72:41-73:7; 73:38-74:54; 82:62-84:20; 91:63-93:11; 97:30-102:20; 103:1-104:52; 106:3-56; 107:42-53; 117:30-59; Figs. 45A-45B, 46A-46D, 47A-47E, 50A-50G, 51A-51G, 52A-52G, 53A-53G, 54A-54G, 55A-55G, 56A-56D, 57A-57F, 58A-58F, 63, 64A, 64B, 65, 66A-66D, 67A-67C, 68A-68G, 69, 74, 75A-75F, 76A-76E, 77A-77C, 82a, 83, 84A-84D, 94A-94C, 95, 101.	'551 – Claims 1, 2, 3, 8, 9, 12, 16, 20, 23, 24, 25, 26, 31, 32, 39, 41, 50, 54, 55, 57, 92, 93, 108, 113, 126, 135, 149, 150, 161, 192, 193, 195, 196, 198, 202, 203;
1(b)	"sampling the carrier signal . . . to transfer energy"			'518 – Claims 1, 2, 3, 12, 17, 24, 27, 77, 81, 82, 90, 91;
1(c)	"transferring a portion of the energy . . . of the carrier signal"		'518 patent: Col. 20:63-21:3; 62: 63-63:8; 65:59-66:5; 66:11-15; 66:24-49; 67:12-21; 67:28-36; 68:57-69:5; 71:64-72:31; 72:64-74:14; 82:23-83:47; 91:25-92:43; 97:4-101:67; 102:54-104:40; 105:62-106:52;107:40-52; Figs. 45A-45B, 46A-46D, 47A-47E, 50A-50G, 51A-51G, 52A-52G, 53A-53G, 54A-54G, 55A-55G, 56A-56D, 57A-57F, 58A-58F, 63, 64A, 64B, 65, 66A-66D, 67A-67C, 68A-68G, 69, 74, 75A-75F, 76A-76E, 77A-77C, 82a, 83, 84A-84D, 94A-94C, 95, 101;	'371 – Claims 1, 2, 22, 23, 25, 31;  '845 – Claims 5, 6.

<sup>1</sup> For the Court's convenience, ParkerVision has provided citations to the patents and prosecution history that are its primary evidence in favor of its proposed constructions. ParkerVision reserves its right to use other intrinsic evidence to respond to Qualcomm's proposed constructions. Qualcomm objects to ParkerVision's reservation of rights because the Case Management and Scheduling Order states that the parties are required to include in this Joint Claim Construction Statement "all intrinsic evidence supporting [their] proposed constructions." (Dkt. 84.)

	Claim Term	ParkerVision's Proposed Construction and Intrinsic Evidence	Qualcomm's Proposed Construction and Intrinsic Evidence	Claims
			<p><b>'845 patent:</b> Col. 27:38-44; 68:44-56; 71:37-59; 72:1-26; 72:65; 73:2-11; 74:29-43; 77:37-78:2; 81:19-82:33; 87:40-88:61; 96:36-97:53; 102:12-106:67; 117:54-120:35; 121:52-123:10; 125:47-126:30; Figs. 45A-45B, 46A-46D, 47A-47E, 50A-50G, 51A-51G, 52A-52G, 53A-53G, 54A-54G, 55A-55G, 56A-56D, 57A-57F, 58A-58F, 63, 64A, 64B, 65, 66A-66D, 67A-67C, 68A-68G, 69, 74, 75A-75F, 76A-76E, 77A-77C, 82a, 83, 84A-84D, 94A-94C, 95, 135;</p> <p><b>Pros. history of U.S. Patent No. 6,687,493 (CIP of '551):</b> 2/4/2002 Amendment, pages 8-9 (cites identical specification to '551 patent, Cols. 63:12-14 and 67:55-64).</p> <p><b>'371 patent:</b> Col. 5:65-6:7; 6:37-48; 7:10-21; 7:36-49; <i>see also</i> 1:15-18; 5:18-29 (incorporating by reference the '551 Patent).</p>	
1(d)	"receives non-negligible amounts of energy transferred from a carrier signal"	<p>"receives energy (i.e., voltage and current over time) from the carrier signal in amounts that are distinguishable from noise"</p> <p><b>'551:</b>63:27-34;  <b>'518:</b>62:40-57;  <b>'845:</b>68:23-38.</p>	<p>"stores sufficient energy transferred from the carrier signal to cause substantial distortion of the carrier signal"</p> <p><b>'551 patent:</b> Col. 22:21-28; 63:40-52; 66:36-50; 66:55-59.; 67:1-25; 67: 55-67; 68:4-13; 69:28-41; 72:41-73:7; 73:38-74:54; 82:62-84:20; 91:63-93:11; 97:30-102:20; 103:1-104:52; 106:3-56; 107:42-53; 117:30-59; Figs. 45A-45B, 46A-46D, 47A-47E, 50A-50G, 51A-51G, 52A-52G, 53A-53G, 54A-54G, 55A-55G, 56A-56D, 57A-57F, 58A-58F, 63, 64A, 64B, 65, 66A-66D, 67A-67C, 68A-68G, 69, 74, 75A-75F, 76A-76E, 77A-77C, 82a, 83, 84A-84D, 94A-94C, 95, 101.</p>	

	Claim Term	ParkerVision's Proposed Construction and Intrinsic Evidence	Qualcomm's Proposed Construction and Intrinsic Evidence	Claims
			<p><b>'518 patent:</b> Col. 20:63-21:3; 62: 63-63:8; 65:59-66:5; 66:11-15; 66:24-49; 67:12-21; 67:28-36; 68:57-69:5; 71:64-72:31; 72:64-74:14; 82:23-83:47; 91:25-92:43; 97:4-101:67; 102:54-104:40; 105:62-106:52;107:40-52; Figs. 45A-45B, 46A-46D, 47A-47E, 50A-50G, 51A-51G, 52A-52G, 53A-53G, 54A-54G, 55A-55G, 56A-56D, 57A-57F, 58A-58F, 63, 64A, 64B, 65, 66A-66D, 67A-67C, 68A-68G, 69, 74, 75A-75F, 76A-76E, 77A-77C, 82a, 83, 84A-84D, 94A-94C, 95, 101;</p> <p><b>'845 patent:</b> Col. 27:38-44; 68:44-56; 71:37-59; 72:1-26; 72:65; 73:2-11; 74:29-43; 77:37-78:2; 81:19-82:33; 87:40-88:61; 96:36-97:53; 102:12-106:67; 117:54-120:35; 121:52-123:10; 125:47-126:30; Figs. 45A-45B, 46A-46D, 47A-47E, 50A-50G, 51A-51G, 52A-52G, 53A-53G, 54A-54G, 55A-55G, 56A-56D, 57A-57F, 58A-58F, 63, 64A, 64B, 65, 66A-66D, 67A-67C, 68A-68G, 69, 74, 75A-75F, 76A-76E, 77A-77C, 82a, 83, 84A-84D, 94A-94C, 95, 135;</p> <p><b>Pros. history of U.S. Patent No. 6,687,493 (CIP of '551):</b> 2/4/2002 Amendment, pages 8-9 (cites identical specification to '551 patent, Cols. 63:12-14 and 67:55-64).</p> <p><b>'371 patent:</b> Col. 5:65-6:7; 6:37-48; 7:10-21; 7:36-49; <i>see also</i> 1:15-18; 5:18-29 (incorporating by reference the '551 Patent).</p>	
1(e)	"sub-sampling the first signal . . . to transfer energy"	"transferring energy (i.e., voltage and current over time) in amounts that are distinguishable from noise"	<p>Term is indefinite.</p> <p>If construction is necessary, it should be construed as "moving sufficient energy from</p>	

	Claim Term	ParkerVision's Proposed Construction and Intrinsic Evidence	Qualcomm's Proposed Construction and Intrinsic Evidence	Claims
		<p>'551::63:27-34; '518::62:40-57; '845::68:23-38.</p>	<p>the carrier signal into storage to cause substantial distortion of the carrier signal"</p> <p><b>'551 patent:</b> Col. 22:21-28; 63:40-52; 66:36-50; 66:55-59.; 67:1-25; 67: 55-67; 68:4-13; 69:28-41; 72:41-73:7; 73:38-74:54; 82:62-84:20; 91:63-93:11; 97:30-102:20; 103:1-104:52; 106:3-56; 107:42-53; 117:30-59; Figs. 45A-45B, 46A-46D, 47A-47E, 50A-50G, 51A-51G, 52A-52G, 53A-53G, 54A-54G, 55A-55G, 56A-56D, 57A-57F, 58A-58F, 63, 64A, 64B, 65, 66A-66D, 67A-67C, 68A-68G, 69, 74, 75A-75F, 76A-76E, 77A-77C, 82a, 83, 84A-84D, 94A-94C, 95, 101.</p> <p><b>'518 patent:</b> Col. 20:63-21:3; 62: 63-63:8; 65:59-66:5; 66:11-15; 66:24-49; 67:12-21; 67:28-36; 68:57-69:5; 71:64-72:31; 72:64-74:14; 82:23-83:47; 91:25-92:43; 97:4-101:67; 102:54-104:40; 105:62-106:52;107:40-52; Figs. 45A-45B, 46A-46D, 47A-47E, 50A-50G, 51A-51G, 52A-52G, 53A-53G, 54A-54G, 55A-55G, 56A-56D, 57A-57F, 58A-58F, 63, 64A, 64B, 65, 66A-66D, 67A-67C, 68A-68G, 69, 74, 75A-75F, 76A-76E, 77A-77C, 82a, 83, 84A-84D, 94A-94C, 95, 101;</p> <p><b>'845 patent:</b> Col. 27:38-44; 68:44-56; 71:37-59; 72:1-26; 72:65; 73:2-11; 74:29-43; 77:37-78:2; 81:19-82:33; 87:40-88:61; 96:36-97:53; 102:12-106:67; 117:54-120:35; 121:52-123:10; 125:47-126:30; Figs. 45A-45B, 46A-46D, 47A-47E, 50A-50G, 51A-51G, 52A-52G, 53A-53G, 54A-54G, 55A-55G, 56A-56D, 57A-57F, 58A-58F, 63, 64A, 64B, 65, 66A-66D, 67A-67C, 68A-68G, 69, 74, 75A-75F, 76A-76E, 77A-77C, 82a, 83, 84A-84D, 94A-94C, 95, 135;</p>	

	Claim Term	ParkerVision's Proposed Construction and Intrinsic Evidence	Qualcomm's Proposed Construction and Intrinsic Evidence	Claims
			<p><b>Pros. history of U.S. Patent No. 6,687,493 (CIP of '551):</b> 2/4/2002 Amendment, pages 8-9 (cites identical specification to '551 patent, Cols. 63:12-14 and 67:55-64).</p> <p><b>'371 patent:</b> Col. 5:65-6:7; 6:37-48; 7:10-21; 7:36-49; <i>see also</i> 1:15-18; 5:18-29 (incorporating by reference the '551 Patent).</p>	
2(a)	"n represents a harmonic or subharmonic of the carrier signal"	"n is 0.5 or an integer greater than or equal to 1" <b>'551::</b> 71:31-40 <b>'518::</b> 70:55-65	"n is 0.5 or an integer greater than 1" <b>'551 patent:</b> Col. 71:42-65; <b>'518 patent:</b> Col. 70:66-71:22.	<b>'551</b> – Claims 1, 2, 3, 8, 9, 12, 16, 20, 23, 24, 25, 26, 31, 32, 39, 41, 50, 54, 55, 57, 92, 93, 108, 113, 126, 135, 149, 150, 161, 192, 193, 195, 196, 198, 202, 203;  <b>'518</b> – Claims 1, 2, 3, 12, 17, 24, 27, 82.
2(b)	"n indicates a harmonic or subharmonic of the carrier signal"			
3(a)	"generating a lower frequency signal from the transferred energy"	[no construction necessary]	"creating a lower frequency signal from the previously transferred energy" <b>'551 patent:</b> Col: 20:1-11; 31:35-40; 67:55-67; Figs. 12A, 83A-83F;  <b>'371 patent:</b> Col. 5:65-6:7; 6:37-48; 7:10-21; 7:36-49; Fig. 20A; <i>see also</i> 1:15-18; 5:18-29 (incorporating by reference the '551 Patent).	<b>'551</b> – Claims 1, 2, 3, 8, 9, 12, 16, 20, 23, 24, 25, 26, 31, 32, 39, 41, 50, 54, 55, 57, 92, 93, 108, 113, 126, 135, 149, 150, 161, 192, 193, 195, 196, 198, 202, 203;  <b>'371</b> – Claims 1, 2, 22, 23, 25, 31.
3(b)	"lower frequency signal is generated from the transferred"			

	Claim Term	ParkerVision's Proposed Construction and Intrinsic Evidence	Qualcomm's Proposed Construction and Intrinsic Evidence	Claims
3(c)	energy" "generating the lower frequency signal from the integrated energy"			
3(d)	"generates a lower frequency signal from the integrated energy"			
3(e)	"generating the baseband signal from the integrated energy"		"creating a baseband signal from the previously transferred energy"  <b>'518 patent:</b> Col. 18:40-50; 30:19-24; 67:12-24, Figs. 12A, 83A-83F.	<b>'518</b> – Claims 1, 2, 3, 12, 17, 24, 27, 82.
3(f)	"generating the second signal from the integrated energy"		"creating a second signal from the previously transferred energy"  <b>'518 patent:</b> Col. 18:40-50; 30:19-24; 67:12-24; Figs. 12A, 83A-83F.	<b>'518</b> – Claims 77, 81, 90, 91.
4(a)	"sampling"	"capturing energy of a signal at discrete times"  <b>'518:</b> 73:49-58; 74:61-75:3; 76:36-45; 77:49-58; 79:25-33; 80:39-49.	"reducing a continuous signal to a discrete signal"  <b>'518 patent:</b> Col. 20:63-21:3; 62:63-63:8; 65:59-66:5; 66:11-15; 66:24-49; 66:26-34 67:28-36; 68:57-69:5; 71:64-72:31; 72:64-74:14; 82:23-	<b>'518</b> – Claims 1, 2, 3, 12, 17, 24, 27, 82.

	Claim Term	ParkerVision's Proposed Construction and Intrinsic Evidence	Qualcomm's Proposed Construction and Intrinsic Evidence	Claims
			83:47; 91:25-92:43; 97:4-101:67; 102:54-104:40; 105:62-106:52; 107:40-52; Figs. 45A-45B, 46A-46D, 47A-47E, 50A-50G, 51A-51G, 52A-52G, 53A-53G, 54A-54G, 55A-55G, 56A-56D, 57A-57F, 58A-58F, 63, 64A, 64B, 65, 66A-66D, 67A-67C, 68A-68G, 69, 74, 75A-75F, 76A-76E, 77A-77C, Fig. 82a, 84A-84D, 94A-94C, 95, 101;  <b>Pros. history of '493 (CIP of '551) ('518 is continuation of '551):</b> 2/4/2002 Amend, p. 8-9 (cites identical specification to '551 patent, Cols. 63:12-14 and 67:55-64).	
4(b)	"sub-sampling"	"sampling at an aliasing rate"	Term is indefinite	'518 – Claims 77, 81, 90, 91;
4(c)	"sub-sample"	'518:: 18:14-39; 26:62-67; 67:5-21; 73:49-58; 74:61-75:3; 76:36-45; 77:49-58; 79:25-33; 80:39-49; 91:44-92:30.  '551:: 19:45-67; 28:1-6; 67:48-64; 92:12-65	If construction is necessary, it should be construed as "sampling at a sub-harmonic rate"  '551 patent: Col. 19:45-67; 28:1-6; 67:48-64; 92:12-65; Figs. 15B, 46A, 82A;  '371 patent: Cols. 1:15-18; 5:18-29 (incorporating by reference the '551 Patent);  '518 patent: Col. 18:14-39; 26:62-67; 67:5-21; 91:44-92:30. Figs. 15B, 46A, 82A.	'371 – Claims 1, 2, 22, 23, 25; 31.
4(d)	"under-samples"	"sampling at an aliasing rate"  '734:: 12:43-65; 13:19-60; 30:28-65; 51:66-52:22; 79:63-81:10.	"sampling at an aliasing rate using negligible apertures"  '734 patent: Col. 11:31-42 (incorporating by reference the '551 Patent); 12:43-65; 13:19-60; 30:28-65; 51:66-52:22; 79:63-81:10; Figs. 17,	'734 – Claims 5, 13.

	Claim Term	ParkerVision's Proposed Construction and Intrinsic Evidence	Qualcomm's Proposed Construction and Intrinsic Evidence	Claims
			20B-20G, 25, 91, 109, 120;  <b>'551 patent:</b> Col. 19:45-67; 28:1-6; 67:48-64; 92:12-65; Figs. 15B, 46A, 82A.	
5(a)	"integrating the . . . energy"	"accumulating the energy"  <b>'551:</b> :63:63-64:3; 103:45-51 <b>'518:</b> :63:19-26; 103:31-36	Term is indefinite.  If construction is necessary, it should be construed as "storing in a storage module the energy transferred during an aperture period"  <b>'551 patent:</b> Col. 112: 16-29; Figs. 101, 102A-102D;  <b>'518 patent:</b> Col. 112:23-32; Figs. 101, 102A-102D;  <b>'371 patent:</b> Cols. 1:15-18; 5:18-29 (incorporating by reference the '551 Patent).	<b>'551</b> – Claims 50, 108, 113, 161, 198, 202, 203;  <b>'518</b> – Claims 1, 2, 3, 12, 17, 24, 27, 77, 81, 82, 90, 91;  <b>'371</b> – Claims 1, 2, 22, 23, 25, 31.
5(b)	"energy is . . . integrated"	"energy is accumulated"  <i>intrinsic evidence is same as 5(a)</i>	Term is indefinite.  If construction is necessary, it should be construed as "the energy transferred during an aperture period is stored in a storage module"  <i>intrinsic evidence is same as 5(a)</i>	
5(c)	"integrates the . . . energy"	"accumulates the energy"  <i>intrinsic evidence is same as 5(a)</i>	Term is indefinite.  If construction is necessary, it should be construed as "stores in a storage module the	



	Claim Term	ParkerVision's Proposed Construction and Intrinsic Evidence	Qualcomm's Proposed Construction and Intrinsic Evidence	Claims
			energy transferred during an aperture period"  <i>intrinsic evidence is same as 5(a)</i>	
5(d)	"integrates . . . energy"	"accumulates energy"  <i>intrinsic evidence is same as 5(a)</i>	Term is indefinite.  If construction is necessary, it should be construed as "stores in a storage module the energy transferred during an aperture period"  <i>intrinsic evidence is same as 5(a)</i>	
5(e)	"the integrated energy"	"the accumulated energy"  <i>intrinsic evidence is same as 5(a)</i>	Term is indefinite.  If construction is necessary, it should be construed as "the transferred energy stored in a storage module during an aperture period"  <b>'551 patent:</b> Col. 112: 16-29; Figs. 101, 102A-102D.	<b>'551</b> – Claims 198, 202, 203.
5(f)	"accumulating the result"	[no construction necessary]	"storing in a storage module the energy transferred over multiple aperture periods"  <b>'845 patent:</b> Col. 128:54-129:3; 134:53-57; 140:5-21; 145:44-47; 158:36-47; 175:56-176:3; Fig. 193.	<b>'845</b> – Claims 1, 3, 4, 5, 6, 7, 8, 9, 12.
6(a)	"finite time integrating module"	"circuitry that can perform a finite time integrating operation"  <b>'845::</b> 130:35-42; 131:26-32; June 16, 2009	"a module with a switch, a pulse generator, and a storage module that stores the energy transferred during an aperture period"	<b>'845</b> – Claims 1, 3, 4, 5, 6, 7, 8, 9, 12, 13, 17, 18, 19, 20, 22, 23, 24.

	Claim Term	ParkerVision's Proposed Construction and Intrinsic Evidence	Qualcomm's Proposed Construction and Intrinsic Evidence	Claims
		Response to Office Action	<p><b>'845 patent:</b> Col. 127:26-128:51; 130:21-51; 131:26-44; 137:49-138:30; 143:46-57; 147:38-149:15; Figs. 86, 87, 88, 89, 90, 91, 92, 93, 151, 162, 163, 164A-164C, 172.</p> <p>Prosecution History of Application 11/390,153 (issued as U.S. Patent Serial No. 7,724,845) including: Application dated 3/28/2006; Preliminary Amendment dated 3/28/2006; Office Action dated 3/25/2008; Reply to Restriction Requirement dated 4/23/2008; Office Action dated 7/11/2008; Terminal Disclaimer to Obviate a Provisional Double Patenting Rejection Over a Pending Reference Application dated 8/08/2008; and Terminal Disclaimer Review Decision (approved) dated 1/6/2009.</p>	
6(b)	"finite time integrating operation"	<p>"convolving a portion of the carrier signal with an approximate representation of itself"</p> <p><b>'845:</b>129:30-40; 131:1-11; 132:9-19; 183:18-57.</p>	<p>"an operation that distorts the carrier signal and stores the energy transferred during an aperture period"</p> <p><b>'845 patent:</b> Col. 127:26-128:51; 130:21-51; 131:26-44; 137:49-138:30; 143:46-57; 147:38-149:15; Figs. 86, 87, 88, 89, 90, 91, 92, 93, 151, 162, 163, 164A-164C, 172.</p> <p>Prosecution History of Application 11/390,153 (issued as U.S. Patent Serial No. 7,724,845) including: Application dated 3/28/2006; Preliminary Amendment dated 3/28/2006; Office Action dated 3/25/2008; Reply to Restriction Requirement dated 4/23/2008; Office Action dated 7/11/2008; Terminal Disclaimer to Obviate a Provisional</p>	<b>'845</b> – Claims 1, 3, 4, 5, 6, 7, 8, 9, 12.

	Claim Term	ParkerVision's Proposed Construction and Intrinsic Evidence	Qualcomm's Proposed Construction and Intrinsic Evidence	Claims
			Double Patenting Rejection Over a Pending Reference Application dated 8/08/2008; and Terminal Disclaimer Review Decision (approved) dated 1/6/2009.	
7(a)	"substantially impedance matched input path"	"circuitry configured to transfer desired power to the input path of the energy sampling circuitry."  '551::104:61-105:29; 105:30-106:2; 107:1-41 '518:: 104:50-105:20; 105:21-61; 106:65-107:39 '734::16:32-17:43; 20:3-21:35; 18:36-46; 59:9-24; 59:30-46	"a circuit configured to maximize power transfer throughout the input path"  '551 patent: Col. 25:23-41; 104:61-105:29; 105:30-106:2; 107:1-41; Figs. 63, 68H-68K, 70, 71, 72B, 73, 76, 82A;	'551 - Claims 12, 24;  '518 - Claim 12;  '371 - Claim 23;  '734 - Claim 4.
7(b)	"input impedance match circuit"	"circuitry configured to transfer desired power to the input of the energy sampling circuitry"  <i>intrinsic evidence is same as 7(a)</i>	'518 patent: Col. 24:7-25; 104:50-105:20; 105:21-61; 106:65-107:39; Figs. 63, 68H-68K, 70, 71, 72B, 73, 76, 82A;  '371 patent: Col. 1:15-18; 5:18-29 (incorporating by reference the '551 Patent);	
7(c)	"first impedance match coupled to said . . . input terminal"	"first circuitry configured to transfer desired power to said input terminal"  <i>intrinsic evidence is same as 7(a)</i>	'734 patent: Col. 5:4-6; 16:32-17:43; 20:3-21:35; 18:36-46; 59:9-24; 59:30-46; Figs. 46A-46C; 48, 49A, 49C, 50, 51A, 60A, 64A-64F, 95.	
7(d)	"second impedance match coupled to said . . . input terminal"	"second circuitry configured to transfer desired power to said input terminal"  <i>intrinsic evidence is same as 7(a)</i>		
7(e)	"impedance matching"	"transferring desired power"  '518:: 104:50-105:20; 105:21-61; 106:65-107:39	"maximizing power transfer throughout a signal path"  '518 patent: Col. 24:7-25; 104:50-105:20;	'518 - Claims 77, 81, 90, 91.

	Claim Term	ParkerVision's Proposed Construction and Intrinsic Evidence	Qualcomm's Proposed Construction and Intrinsic Evidence	Claims
			105:21-61; 106:65-107:39; Figs. 63, 68H-68K, 70, 71, 72 B, 73, 76, 82A.	
7(f)	"output impedance match circuit"	"a circuit configured to transfer desired power from the energy sampling circuitry" <b>'551</b> ::104:61-105:29; 105:30-106:2; 107:1-41	"a circuit configured to maximize power transfer throughout the output path" <b>'551 patent</b> : Col. 25:23-41; 104:61 - 105:29; 105:30-106:2; 107:1-41 Figs. 63, 68H-68K, 70, 71, 72B, 73, 76, 82A.	<b>'551</b> - Claim 25.
8	"lower frequency signal"	"a signal with frequency below the carrier signal frequency" <b>'551</b> ::19:7-31	"a signal with frequency below the carrier signal frequency and above the baseband frequency" <b>'551 patent</b> : Col. 14:42-15:6; 19:7-20; 40:59-67; <b>'551 prosecution history</b> : 10/21/1998 Application; 3/2/1999 First Preliminary Amendment; 3/2/1999 Second Preliminary Amendment; 3/2/1999 Petition to Make Special under 37 C.F.R. § 1.102(d) and Incorporated Information Disclosure Statement; 6/24/1999 Decision on Petition to Make Special; 8/3/99 Office Action; 11/18/1999 Examiner Interview; 11/24/1999 Amendment and Reply Under 37 C.F.R. § 1.111; 12/30/1999 Notice of Allowance; <b>'371 patent</b> : Cols. 1:15-18; 5:18-29 (incorporating by reference the '551 Patent).	<b>'551</b> - Claims 1, 2, 3, 8, 9, 12, 16, 20, 23, 24, 25, 26, 31, 32, 39, 41, 50, 54, 55, 57, 92, 93, 108, 113, 126, 135, 149, 150, 161, 192, 193, 195, 196, 198, 202, 203; <b>'371</b> - Claims 1, 2, 22, 23, 25, 31.

	Claim Term	ParkerVision's Proposed Construction and Intrinsic Evidence	Qualcomm's Proposed Construction and Intrinsic Evidence	Claims
9(a)	"differential down-converted output signal"	[no construction necessary, alternatively:]  the output signal from the differential frequency down-conversion module  <b>'734</b> ::59:9-61:46.	"a signal that is the downconverted replica of the differential input-signal"  <b>'734 patent</b> : Col: 59:9-61:46; Figs. 95, 113.	<b>'734</b> – Claims 1, 4, 5, 6, 9, 12, 13, 14, 15.
9(b)	"differential frequency down-conversion module"	"circuitry for frequency down-converting a carrier signal by differentially combining positive and negative transferred energy samples"  <b>'734</b> ::59:9-61:46.	"a circuit that down-converts a differential input signal and outputs a differential down-converted replica of the input signal"  <b>'734 patent</b> : Col: 59:9-61:46; Figs. 95, 113.	<b>'734</b> – Claims 1, 4, 5, 6, 9, 12, 13, 14 15.
9(c)	"differentially down-converting"	"converting a carrier signal by differentially combining positive and negative transferred energy samples"  <b>'734</b> ::59:9-61:46.	"downconverting a differential input signal and outputting a differential down-converted replica of the input signal"  <b>'734 patent</b> : Col: 59:9-61:46 and Figs. 95, 113.	<b>'734</b> – Claims 12, 13, 14 15.
10	"controlling a charging and discharging cycle of the first and second capacitors with first and second switching devices, respectively"	[no construction necessary, alternatively:]  "using a first switch device to control the charging and discharging of a first capacitor and a second switch device to control the charging and discharging of a second capacitor"  <b>'342</b> ::49:26-38; 49:55-63; 49:64-50:35; 8:30-40; 18:42-50; 19:1-8; 19:29-39; 20:1-17; 22:35-40; 22:48-57; 42:55-61	"using the switching devices to control separately the time during which the charging of the capacitors occurs and the time during which the discharging of the capacitors occurs"  <b>'342 patent</b> : Col. 49:26-38; 49:55-63; 49:64-50:35; 8:30-40; 18:42-50; 19:1-8; 19:29-39; 20:1-17; 22:35-40; 22:48-57; 42:55-61; Figs. 3A-3G, 16A-16O, 17, 18A-18E, 59, 61, 62.	<b>'342</b> – Claims 18, 19, 20, 21, 22, 23.
11	"interpolation"	"circuitry that outputs a smoothed signal"	"a component that adds additional values"	<b>'845</b> – Claim 9.

	Claim Term	ParkerVision's Proposed Construction and Intrinsic Evidence	Qualcomm's Proposed Construction and Intrinsic Evidence	Claims
	filter"	between the input sampled values"  '845::160:1-23; 164:1-30.	between sampled values and then filters both the original samples and the added values"  '845 patent: Col. 160:1-23; 164:1-30.	
12	"asynchronous energy transfer signal"	"an energy transfer signal with a phase that varies with respect to the phase of the carrier signal"  '551, Figs. 83A-83F of '551 and associated narrative description.	Term is indefinite.  If construction is necessary, it should be construed as "non-synchronous energy transfer signal"  '551 patent: Claims 38, 84;  '518 patent: Claim 20.	'551 - Claims 20, 32; '371 - Claim 31.
13	"universal frequency down-converter (UFD)"	"circuitry that can perform frequency selectivity and frequency down conversion in a unified (i.e., integrated) manner"  '371:14:30-32	"circuitry with a switch, an integrator coupled to said switch, and a pulse generator coupled to said-switch"  '371 patent: 371 patent-col. 4:65-5:2, Fig. 1C, Claim 1.	'371 - Claim 1.
14	"means for operating said UFD to perform at least frequency translation operations"	<b>Function:</b> operating said UFD to perform at least frequency translation operations for at least one of (a)-(l)  <b>Structure:</b> a control signal of the UFD disclosed as signal 108 of Figs. 1A-1C, 2006 of Figs. 20A and 20A-1, or equivalents thereof.	Term is indefinite.  If it requires construction, it should be construed according to 35 U.S.C. § 112 ¶ 6 as follows:  <b>Function:</b> operating the UFD to perform at least frequency translation operations.  <b>Structure:</b> None disclosed.	'371 - Claim 1.

	Claim Term	ParkerVision's Proposed Construction and Intrinsic Evidence	Qualcomm's Proposed Construction and Intrinsic Evidence	Claims
			'371 patent: Col. 33:2-18; Fig. 41.	
15	"means for sampling the carrier signal over aperture periods to transfer energy from the carrier signal at an aliasing rate"	<p><b>Function:</b> sampling the carrier signal over aperture periods to transfer energy from the carrier signal at an aliasing rate, the aliasing rate determined according to a frequency of the carrier signal divided by N, wherein N indicates a harmonic or sub-harmonic of the carrier signal</p> <p><b>Structure:</b> one or more of the switch circuitry in Figs. 66A, 66, 66B, 66C, or 66D, controlled by any one of pulse generators 68H through 68K, which produce energy transfer signal 6306 (or 6826), or equivalents thereof</p>	<p><b>Function:</b> sampling the carrier signal over aperture periods to transfer energy from the carrier signal at an aliasing rate</p> <p><b>Structure:</b> the switch modules shown in Figures 67A (switch element "no 6704"), 68G ("switch module"), 82A (switch element "8206"), 82B (switch element "8206"), 95 (switch element "9504").</p> <p><b>'518 patent:</b> Col. 62:63-63:7, 65:56-66:55, 67:5-40, 68:57-69:27, 71:65-72:33; 73:1-67, 84:48-67, 86:50-87:13, 93:48-94:9, 94:45-55, 97:34-98:3; 98:14-99:35, 111:44-112:36. Figs. 13, 46A-D, 47A-E, 50A-G, 57A-F, 58A-F, 61A-F, 63, 64, 65, 67A-C, 68G, 74, 77C, 78A-B, 82A, 83A-F, 85C, 101, 102A-F.</p>	'518 – Claim 82.
16	"means for sub-sampling the first signal over aperture periods to transfer energy from the first signal"	<p><b>Function:</b> sub-sampling the first signal over aperture periods to transfer energy from the first signal</p> <p><b>Structure:</b> one or more of the switch circuitry in Figs. 66A, 66, 66B, 66C, or 66D, controlled by any one of pulse generators 68H through 68K, which produce energy transfer signal 6306 (or 6826), or equivalents thereof</p>	<p>Term is indefinite.</p> <p>If it requires construction, it should be construed according to 35 U.S.C. § 112 ¶ 6 as follows:</p> <p><b>Function:</b> sub-sampling the first signal over aperture periods to transfer energy from the first signal.</p> <p><b>Structure:</b> the switch modules shown in Figures 67A (switch element "no 6704"), 68G ("switch module"), 82A (switch element "8206"), 82B (switch element "8206"), 95 (switch element "9504").</p>	'518 – Claims 90, 91.

	Claim Term	ParkerVision's Proposed Construction and Intrinsic Evidence	Qualcomm's Proposed Construction and Intrinsic Evidence	Claims
			<p><b>'518 patent:</b> Col. 62:63-63:7, 65:56-66:55, 67:5-40, 68:57-69:27, 71:65-72:33; 73:1-67, 84:48-67, 86:50-87:13, 93:48-94:9, 94:45-55, 97:34-98:3; 98:14-99:35, 111:44-112:36. Figs. 13, 46A-D, 47A-E, 50A-G, 57A-F, 58A-F, 61A-F, 63, 64, 65, 67A-C, 68G, 74, 77C, 78A-B, 82A, 83A-F, 85C, 101, 102A-F.</p>	
17	<p>"means for integrating the energy over the aperture periods"</p>	<p><b>Function:</b> integrating the energy over the aperture periods</p> <p><b>Structure:</b> one or more of energy storage circuitry disclosed in Figs. 68C, 68F, or equivalents thereof.</p>	<p>Term is indefinite.</p> <p>If it requires construction, it should be construed according to 35 U.S.C. § 112 ¶ 6 as follows:</p> <p><b>Function:</b> integrating the energy over the aperture periods</p> <p><b>Structure:</b> the storage modules shown in Figures 67A ("storage module 6716" {capacitor storage module implementation only}), 68C ("capacitive storage module 6802"), 68G ("capacitive storage module"), 82A ("storage capacitance 8208"), 82B ("storage capacitance 8208"), 95 ("storage capacitance").</p> <p><b>'518 patent:</b> Col. 66:11-67:4; 97:34-98:3; 98:14-54; 99:36-100:9; 111:44-112:36; Figs. 65, 67A {capacitor storage module implementation only}, 67B, 67C, 68A, 68B, 68C, 68F, 68G, 82A, 85C, 101, 102A-102F, 110.</p>	'518 - Claim 82.



	Claim Term	ParkerVision’s Proposed Construction and Intrinsic Evidence	Qualcomm’s Proposed Construction and Intrinsic Evidence	Claims
18	“means for integrating the transferred energy over the aperture periods”	<p><b>Function:</b> integrating the transferred energy over the aperture periods</p> <p><b>Structure:</b> one or more of energy storage circuitry disclosed in Figs. 68C, 68F, or equivalents thereof.</p>	<p>Term is indefinite.</p> <p>If it requires construction, it should be construed according to 35 U.S.C. § 112 ¶ 6 as follows:</p> <p><b>Function:</b> integrating the transferred energy over the aperture periods.</p> <p><b>Structure:</b> the storage modules shown in Figures 67A (“storage module 6716” {capacitor storage module implementation only}), 68C (“capacitive storage module 6802”), 68G (“capacitive storage module”), 82A (“storage capacitance 8208”), 82B (“storage capacitance 8208”), 95 (“storage capacitance”).</p> <p><b>’518 patent:</b> Col. 66:11-67:4; 97:34-98:3; 98:14-54; 99:36-100:9; 111:44-112:36; Figs. 65, 67A {capacitor storage module implementation only}, 68B, 67C, 68A, 68B, 68C, 68F, 68G, 82A, 85C, 101, 102A-102F, 110.</p>	’518 - Claims 90, 91.
19	“means for generating the baseband signal from the integrated energy”	<p><b>Function:</b> generating the baseband signal from the integrated energy</p> <p><b>Structure:</b> any arrangement of (i) one or more of the switch circuitry controlled by any one of pulse generators and (ii) one or more of the energy storage circuitry disclosed or described in Figs. 63, 64A, 64B, 65, 67A, 68G, 69, 74, 76A-E, 77A-C, 82A, 82B, 86, 88, 90, 92,</p>	<p>Term is indefinite.</p> <p>If it requires construction, it should be construed according to 35 U.S.C. § 112 ¶ 6 as follows:</p> <p><b>Function:</b> generating the baseband signal from the integrated energy.</p>	’518 - Claim 82.

	Claim Term	ParkerVision's Proposed Construction and Intrinsic Evidence	Qualcomm's Proposed Construction and Intrinsic Evidence	Claims
		94A, 95, 101, 110, 111, or equivalents thereof.	<p><b>Structure:</b> the storage modules shown in Figures 67A ("storage module 6716" { capacitor storage module implementation only}), 68C ("capacitive storage module 6802"), 68G ("capacitive storage module"), 82A ("storage capacitance 8208"), 82B ("storage capacitance 8208"), 95 ("storage capacitance").</p> <p><b>'518 patent:</b> Col. 67:12-37; 73:33-58; 84:60-67; 97:34-98:3; 98:14-54; Figs. 46A-46D, 65, 67A { capacitor storage module implementation only}, 68B, 67C, 68A, 68B, 68C, 68F, 68G, 82A, 83A-83F, 86, 88, 90, 92, 94A, 101, 110, 111.</p>	
20	"means for generating the second signal from the integrated energy"	<p><b>Function:</b> generating the second signal from the integrated energy</p> <p><b>Structure:</b> any arrangement of (i) one or more of the switch circuitry controlled by any one of pulse generators and (ii) one or more of the energy storage circuitry disclosed or described in Figs. 63, 64A, 64B, 65, 67A, 68G, 69, 74, 76A-E, 77A-C, 82A, 82B, 86, 88, 90, 92, 94A, 95, 101, 110, 111, or equivalents thereof.</p>	<p>Term is indefinite.</p> <p>If it requires construction, it should be construed according to 35 U.S.C. § 112 ¶ 6 as follows:</p> <p><b>Function:</b> generating the second signal from the integrated energy.</p> <p><b>Structure:</b> the storage modules shown in Figures 67A ("storage module 6716" { capacitor storage module implementation only}), 68C ("capacitive storage module 6802"), 68G ("capacitive storage module"), 82A ("storage capacitance 8208"), 82B ("storage capacitance 8208"), 95 ("storage capacitance").</p> <p><b>'518 patent:</b> Col. 67:12-37; 73:33-58; 84:60-67;</p>	'518 – Claims 90, 91.

	Claim Term	ParkerVision's Proposed Construction and Intrinsic Evidence	Qualcomm's Proposed Construction and Intrinsic Evidence	Claims
			97:34-98:3; 98:14-54; Figs. 46A-46D, 65, 67A { capacitor storage module implementation only}, 68B, 67C, 68A, 68B, 68C, 68F, 68G, 82A, 83A-83F, 65, 86, 88, 90, 92, 94A, 101, 110, 111.	
21	"means for impedance matching at least one of said first signal and said second signal"	<b>Function:</b> impedance matching at least one of said first signal and said second signal <b>Structure:</b> impedance matching circuitry disclosed and described at 7006 of Figs. 70 and 73, 7008 of Fig. 70, 7642 of Fig. 76E, Figs. 77A-C, 9404 and 9406 of Fig. 94A, 9430 and 9432 of Fig. 94A, or equivalents thereof.	<b>Function:</b> impedance matching at least one of said first signal and said second signal. <b>Structure:</b> input impedance match module 7006 in Fig. 70 or output impedance match module 7008 in Fig. 70. <b>'518 patent:</b> Col. 24:7-25; Col. 104:50-105:61; 106:65-107:39 Figs. 70, 73, 77A, 77B.	'518 – Claims 90, 91.
22(a)	"non-negligible amounts of energy"	<i>See constructions for disputed terms 1(a)-1(e).</i>	Term is indefinite.	'551 – Claims 1, 23, 54, 195, 198, 203.
22(b)	"non-negligible portion of energy"	<i>See constructions for disputed terms 1(a)-1(e).</i>	Term is indefinite.	'551 – Claim 41.
23	"accurate voltage reproduction"	<i>See constructions for disputed terms 1(a)-1(e).</i>	Term is indefinite.	'551 – Claims 113, 202, 203;  '518 – Claims 81, 91.
24(a)	"controlled substantial amounts of energy"	<i>See constructions for disputed terms 1(a)-1(e).</i>	Term is indefinite.	'551 – Claims 113, 202, 203.
24(b)	"substantial"	<i>See constructions for disputed terms 1(a)-1(e).</i>	Term is indefinite.	'551 – Claim 161.

	Claim Term	ParkerVision's Proposed Construction and Intrinsic Evidence	Qualcomm's Proposed Construction and Intrinsic Evidence	Claims
	amounts of energy"			
25(a)	"A sin( $\phi t + N$ )"	[no construction necessary]	Term is indefinite. <b>'845 Patent:</b> Col. 153:1-23; 192:21-28; Claim 4.	<b>'845</b> – Claim 4.
25(b)	"A sin( $\omega t + \phi$ )"	[no construction necessary]	Term is indefinite. <b>'845 Patent:</b> Col. 153:1-23; 192:21-28; Claim 4.	<b>'845</b> – Claim 4.
25(c)	"E"	[no construction necessary]	Term is indefinite. <b>'845 Patent:</b> Col. 138:5-18; Col. 192:45 [Claim 7 (see formula to which "E" relates below)] $E = \left\{ \int_0^{T_A} A \cdot Si(t) \right\}^2 dt$ <b>File History of the '845 patent:</b> 2/16/10 Amendment, p. 2 6/16/09 Amendment, p. 3 9/25/08 Amendment, p. 3 3/28/06 Preliminary Amendment, p. 5	<b>'845</b> – Claim 7.