# PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT3069922

SUBMISSION TYPE:	CORRECTIVE ASSIGNMENT
NATURE OF CONVEYANCE:	Corrective Assignment to correct the LIST OF PATENTS ASSIGNED TO EXCLUDE US PATENT NO. 6617817 previously recorded on Reel 031871 Frame 0293. Assignor(s) hereby confirms the ASSIGNMENT OF RIGHTS TO THE NAMED ASSIGNEE FOR ALL OF THE OTHER ITEMS SUBMITTED HEREWITH.

#### **CONVEYING PARTY DATA**

Name	Execution Date
POWERWAVE FINLAND OY	05/07/2013

#### **RECEIVING PARTY DATA**

Name:	POWERWAVE TECHNOLOGIES, INC.	
Street Address:	1801 E. ST. ANDREW PLACE	
City:	SANTA ANA	
State/Country:	CALIFORNIA	
Postal Code:	92705	

#### **PROPERTY NUMBERS Total: 26**

Property Type	Number
Application Number:	13478018
Application Number:	13293831
Application Number:	13293817
Application Number:	13163530
Application Number:	12594259
Patent Number:	8150353
Patent Number:	7821354
Patent Number:	8149074
Patent Number:	8188934
Patent Number:	7567146
Patent Number:	8130874
Patent Number:	7864111
Patent Number:	8125296
Patent Number:	7236069
Patent Number:	7482897
Patent Number:	7466970
Patent Number:	7526263
Patent Number:	7180391

**PATENT** 

REEL: 034038 FRAME: 0851

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Property Type	Number
Patent Number:	6927646
Patent Number:	6710684
Patent Number:	6570472
Patent Number:	6366184
Patent Number:	6329889
Patent Number:	6566984
Patent Number:	5304968
Patent Number:	5047739

#### **CORRESPONDENCE DATA**

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Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent

using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

**Phone:** 2072198418

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ATTORNEY DOCKET NUMBER:	PWH_PWV_CORRECT_RF031871
NAME OF SUBMITTER:	CHRIS A. CASEIRO
SIGNATURE:	/Chris A. Caseiro/
DATE SIGNED:	10/17/2014

#### **Total Attachments: 10**

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## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

#### CONVEYING PARTY DATA

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Name	Execution Date
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POWERWAYE FINLAND OY	05/07/2013

## RECEIVING PARTY DATA

Name:	POWERWAVE TECHNOLOGIES, INC.
	1801 E. ST. ANDREW PLACE
City:	SANTA ANA
State/Country:	CALIFORNIA
Postal Code:	92705

## PROPERTY NUMBERS Total: 27

Property Type	Number
Application Number:	13478018
Application Number:	13293831
Application Number:	13293817
Application Number:	13613530
Application Number:	12594259
Patent Number:	8150353
Patent Number:	7821354
Patent Number:	8149074
Patent Number:	8188934
Patent Number:	7567146
Patent Number:	8130874
Patent Number:	7864111
Patent Number:	8125296
Patent Number:	7236069
Patent Number:	7482897
Patent Number:	7466970

PATENT

REEL: 034038 FRAME: 0853:014

Patent Number:	7526263
Patent Number:	7180391
Patent Number:	6927646
Patent Number:	6617817
Patent Number:	6710684
Patent Number:	6570472
Patent Number:	6366184
Patent Number:	6329889
Patent Number:	6566984
Patent Number:	5304968
Patent Number:	5047739

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Address Line 1: Address Line 2: VERRILL DANA, LLP ONE PORTLAND SQUARE

Address Line 4:

PORTLAND, MAINE 04101

	PWH-PWV_ASSIGNS
NAME OF SUBMITTER:	CHRIS A. CASEIRO
Signature:	/Chris A. Caseiro/
Dute:	01/05/2014

#### Total Attachments: 8

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#### RECEIPT INFORMATION

EPAS ID:

PAT2667518

Receipt Date:

01/05/2014

#### PATENT ASSIGNMENT

This Patent Assignment (this "Assignment") is made as of May \_\_\_\_\_, 2013, between POWERWAVE FINLAND OY, with an address of c/o Talenom, Nuottasaarentie 5, 90400 Oulu ("Assignor"), and POWERWAVE TECHNOLOGIES, INC., a Delaware corporation with an address of 1801 E. St. Andrew Place, Santa Ana, California 92705 ("Assignee").

WHEREAS, Assignor was formerly named Powerwave Oy, and is a successor by way of merger to Powerwave Comtek Oy, which was formerly named Filtronic Comtek Oy, Filtronic LK Oy and LK Products Oy;

WHEREAS, Assignor entered into that certain Technology License Agreement with Assignee effective as of November 3, 2008, pursuant to which Assignor exclusively licensed to Assignee all of its Intellectual Property and Marketing Intangibles (as defined therein) to Assignee;

WHEREAS, Assignor entered into that certain Research and Development Services Agreement effective as of November 8, 2008 ("R&D Agreement") pursuant to which Assignor assigned to Assignee all of its right, title and interest in and to any invention, discovery, process, method, design, know how or any applications, copyrights or patents thereof with respect to any work performed by Assignor for Assignee under the R&D Agreement;

WHEREAS, the Assignor is the owner of all right, title and interest in and to the patents and patent applications listed on the attached <u>Schedule A and Schedule B</u> and one or more inventions described in the patents and patent applications listed on the attached <u>Schedule A and Schedule B</u> (collectively, the "<u>Patent and Patent Applications</u>"); and

WHEREAS, Assignor is desirous of assigning, and Assignee is desirous of obtaining, all right, title and interest in and to the Patent and Patent Applications.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which hereby are acknowledged:

1. Assignor hereby sells, assigns and transfers to Assignee, its successors, assigns and legal representatives, its entire right, title and interest in and to the Patent and Patent Applications, including but not limited to worldwide patent rights, any and all registrations and applications relating thereto, and any renewals, reissues, extensions, continuations and divisionals thereof, and in and to all income, royalties, damages, claims and payments now or hereafter due or payable with respect thereto, the underlying inventions claimed therein, and all priority rights, convention rights and other benefits accruing or to accrue with respect to the filing of applications for patents or the issuance of patents in all countries in respect of the Patent and Patent Applications, and in and to all causes of action, either in law or in equity for past, present or future infringement, and in and to all rights corresponding to the foregoing throughout the world.

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- 2. Assignor agrees to execute all documents and assist in all proceedings (at the sole cost and expense of Assignee) to perfect, register or record the rights of the Assignee to the Patent and Patent Applications as Assignee may reasonably deem necessary or appropriate. To the extent that Assignor learns after the execution of the Assignment that it is the owner of other patents or patent applications, it will promptly execute such documents as requested by Assignee to transfer title to Assignee. If Assignor does not, within 15 days of presentment, return the requested executed documents, then Assignee is hereby granted a limited power of attorney to execute all such documents on behalf of Assignor. This power of attorney is coupled with an interest and is irrevocable.
- 3. Assignor hereby authorizes and requests the Director of the United States Patent and Trademark Office, and the corresponding entities or agencies in any applicable countries outside the United States, to issue such letters patent as shall be granted upon the Patent and Patent Applications, or applications based thereon, to Assignee, its successors, assigns and legal representatives.
- 4. This Assignment shall be governed by, construed and enforced in accordance with the laws of the State of Delaware without regard to any applicable conflicts of law rules or principles.
- 5. This Assignment may be executed (including by facsimile or other electronic transmission (e.g., portable data format)) with counterpart signature pages or in multiple counterparts, all of which shall be considered one and the same agreement.
- 6. This Assignment shall not be amended or otherwise modified except by a written agreement dated subsequent to the date of this Assignment and signed on behalf of Assignor and Assignee by their respective duly authorized representatives.
- 7. Should any part of this Assignment for any reason be declared invalid by a court of competent jurisdiction, such decision or determination shall not affect the validity of any remaining portion, and such remaining portion shall remain in force and effect as if this Agreement had been executed with the invalid portion eliminated; provided, that in the event of a declaration of invalidity the provision, declared invalid shall not invalidate in its entirety, but shall be observed and performed by the parties to the extent such provision is valid and enforceable.

[SIGNATURES APPEAR ON FOLLOWING PAGE]

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IN WITNESS WHEREOF, Assignor and Assignee have caused this Assignment to be executed by its duly authorized representatives on the day and year first above written.

ASSIGNOR:

POWERWAVE FINLAND OY

By: Pur Tur
Name: Perry Tarnofsky
Title: Director

ASSIGNEE:

POWERWAVE TECHNOLOGIES, INC.

By:

Name:

Title:

CRO

# Schedule A - Patents

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ILEANO-2003   LICHROUGES OV FIT)   Resonator films     32-May-2005   LICHROUGES OV FIT)   Resonator films     15-Jul-2006   ST MICROBELECTROVISS, INC.   Reconstant compensation method for switched, voltage-mode driver circuit     15-Jul-2006   ST MICROBELECTROVISS, INC.   Reconstant films     15-Jul-2006   LICHROUGES OV FIT)   Speass arrangement for low-noise amplifier     29-Jul-2007   FILTRONIC COMTEK COV   Resonator filler     20-Jul-2012   LICHROUGES OV FIT)   Resonator filler     20-Jul-2012   LICHROUGES OV FIT)   Resonator filler     21-Jul-2019   LICHROUGES OV FIT)   Arrangement for dwining a filler output signal     16-Dec-2008   FILTRONIC COMTEK COV   Resonator filler     28-Jul-2019   LICHROUGES OV FIT)   Arrangement for dwining a filler output signal     16-Dec-2008   FILTRONIC COMTEK COV   Resonator filler     16-Jul-2019   LICHROUGES OV FIT)   Arrangement for dwining a filler output signal     17-Jul-2019   LICHROUGES OV FIT)   Arrangement for dwining a filler output signal     18-Jul-2019   LICHROUGES OV FIT)   Arrangement for dwining a filler output signal     18-Jul-2019   LICHROUGES OV FIT)   Arrangement for dwining a filler output signal     18-Jul-2019   LICHROUGES OV FIT)   Arrangement for dwining a filler output signal     18-Jul-2019   LICHROUGES OV FIT)   Arrangement for dwining a filler output signal     18-Jul-2019   LICHROUGES OV FIT)   Arrangement for dwining a filler output signal     18-Jul-2019   LICHROUGES OV FIT)   Arrangement for dwining a filler output signal     18-Jul-2019   LICHROUGES OV FIT)   Arrangement for dwining a filler output signal     18-Jul-2019   LICHROUGES OV FIT)   Arrangement for severing rangement of ambiting and     18-Jul-2019   LICHROUGES OV FIT)   Arrangement for severing rangement of a born noise amplifier     18-Jul-2019   LICHROUGES OV FIT)   Arrangement for severing rangement of a born noise amplifier     18-Jul-2019   LICHROUGES OV FIT)   Arrangement for severing rangement of a born noise amplifier     18-Jul-2019   LICHROUGES OV FIT)   Arrangement	European Patent Convent.  Germany  United States of America India India India United States of America India United States of America India	EP1964425 5.0020432 2005-0212623 1718402 2007-0213258 735883 2007-0213458 735883 2007-0213458 735883 2007-0213458 7368970 2006-0252400 7485897 EP1764276 1754276 EP1764276 1754276 EP1764276 1754276 EP1764276 1754276 EP1764276 1754276 EP1764276 1754276 EP186330 175804 2006-007656 117584 2006-007657 7864111 F1200456292 117777 2006-007656 117694 EP1889754 6020070 EP1889754 6020070 EP1889754 18188544 US2009004687 7867146 US2009004687 7867147 2009-015502 18189544 US2009004687 7867146 US2009004687 7867146 US2009004687 7867146 US2009004687 7867146 US2009004687 7867146 US2009004472 18188544 US2009004687 7867146 US2009004687 7867146 US2009004478 18188544 US2009004687 7867146 US2009004687 7867146 US2009004478 18188544 US2009004687 7867146 US2009004688 7867146 US2009004688 7867146 US2009004688 7867146 US200900468 7867146	772.1210.5 772.1210.5
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23-Mar-2004 FILTRONIC COMTEK OY Method for attaching a resonator part	United States of America	2002-0005768 6710684	9/9/03 8/52
15-Apr-2004 LK PRODUCTS OY (FI)	Finland	113353	676
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11.Dac-2001 FILTRONIC COMTEK OY COUPLING ELEMENT AND HIGH-F	Inited States of America	F1961362 113078	
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90-May-2003 FILTRONIC COMTEK OY	I hited States of America	F1970020	
19700 1994 : IX PRODUCTS OY (FI) High-frequency filter	Cities of Alleria	1	
16 And took SEIL TRONIC COMPEX OV	Finland	901016	10005156
of Marchael K oppositions (FI) Temperature Compensated Resona	Cializa carco or Pariorica	015450	11371,034
10-Sep-1991 EK PRODUCTS OY (FI)	I hited States of America	50477	7077 854
A TRANSMISSION LINE RESONAT	Tinland.	1	Ponter to
Issue Date (Original assignee)	Patent Number Country came	Publication Number Pate (US/PTO)	Applic.#

Schedule B - Patent Applications

2272/59849-011 current/36368453v3

ophise a	(US/PTO)	Patent Number	Country name	(Original assignee)	1 etic or inc backur
CT/FI88/00163	WO 89/05046		Patent Cooperation Treaty LK PRODUCTS OY (F)	LK PRODUCTS OY (FI)	A TRANSMISSION LINE RESONATOR
96067.5 04Bi05416	EP1381762		European Patent Conventio	LX PRODUCTS OY (FI)	Resonator filter
	CN1717838		(Peoples Republic)	LK PRODUCTS OY (FI)	Resonator filter
			India	LK PRODUCTS OY (FI)	Resonator filter
000152	WO2004084340		Patent Cooperation (really	LK PRODUCTS OY (FI)	Arrangement for dividing a filter output signal
058000084	CN1774832		(Peoples Republic)	LK PRODUCTS DY (FI)	Arrangement for dividing a filter output signal
CT/F 2005/050060	WO2005/091426		Patent Cooperation Treaty	LK PRODUCTS OY (FI)	Arrangement for dividing a filter output signal
040433	F120040433		Finland	LK PRODUCTS OY (FI)	inputarrangement for a low-noise amplifier pair
ኔ 	P10508116		Brazil	LK PRODUCTS OY (FI)	Input arrangement for a low-noise amplifier pair
	CN1938898		China (Peoples Republic)   LK PRODUCTS OY (F)	LK PRODUCTS OY (FI)	input arrangement for a low-noise amplifier pair
- 1	EP372825		European Patent Convenio	EX PRODUCTS OY (FIX	input arrancement for a low-noise amplifier pair
	אכאוםהאחקרוייי		Datest Connection Treaty	LK PRODUCTS OY (FI)	input arrangement for a low-noise amplifier pair
040450	F120040450		Finland	LK PRODUCTS OY (FI)	Directional coupler
02005FI50066	WO2005093896		Patent Cooperation Treaty	LK PRODUCTS OY (FI)	Directional coupler
1040672	F120040672		Finland	LK PRODUCTS OY (FI)	Bandstop filter
0509428-3	PI0509428-3		Brazil LK PRODUCTS OY (FI)	LK PRODUCTS OY (FI)	Bandstop filter
0058E+11	CN1950971		China (Peoples Republic)	LK PRODUCTS OY (FI)	Bandstop titler
38049.5	EP1/5690/		European Patent Convento	LA PRODUCTS OF (F)	Bandeho filer
T/EIDOGGOGOGO	WC200510855		Patent Conneration Treaty	LK PRODUCTS OY (FI)	Bandstop filter
040786	F120040786		Finland	LK PRODUCTS OY (FI)	Adjustable resonator filter
0504405-7	PI0504405-7	***************************************	Brazil	LK PRODUCTS OY (FI)	Adjustable resonator filter
0058E+11	CN1820390		(Peoples Republic)	LK PRODUCTS OY (FI)	Adjustable resonator filter
CT/F12005/050170	T/FI2005/050170 WO2005122323		Patent Cooperation Treaty LK PRODUCTS OF (FI)	LK PRODUCTS OV (FI)	Adjustable resolution likes
0580041668.x	CN101076948		China (Peoples Republic) LK PRODUCTS OY (FI)	LK PRODUCTS OY (FI)	Filtering arrangement of antenna end
	EP1817845		European Patent Convention	LK PRODUCTS OY (FI)	Filtering arrangement of antenne end
72/DELNP/2007	į		India	LK PRODUCTS OY (FI)	Filtering amangement of antenna end
T/F12005/050400	/F12005/050400 W/O2006058964		Patent Cooperation Treaty	LK PRODUCTS OY (FI)	Filtering arrangement of antenna end
055285	FI20055285		0	LX PRODUCTS OY (FI)	Arrangement for steering radiation lobe of antenna
070073200	CN401190758		China (Pannias Rannhlin)	LY BRODILICTS OV (E)	Arrangement for steering radiation lobe of antenna
25956.4	EP1886380		European Patent Conventio	LK PRODUCTS OY (FI)	Arrangement for steering radiation lobe of antenna
DELNP/2008	1		India	LK PRODUCTS OY (FI)	Arrangement for steering radiation tobe of antenna
71/F12006/050199	;/FI2006/050199:WO2006128962		t Cooperation Treat	LK PRODUCTS OY (FI)	Arrangement for steering radiation lobe of antenna
DARE+11	CN101194431		China (Paonles Regulation)	LK PRODUCTS OY (FI)	By-pass arrangement of a low noise amplifiar
25961.4	EP1889373		European Patent Conventio LK PRODUCTS OY (FI)	LK PRODUCTS OY (FI)	By-pass arrangement of a low noise amplifier
77/DELNP/2007			India	LK PRODUCTS OY (FI)	By-pass arrangement of a low noise amplifier
21/12006/050204	EISONEEE11		Patent Cooperation Treaty	LX PRODUCTS OV (FI)	Dypass attengerient of a low toos artiputed
U55571	/E(200501)		Datent Concention Treaty   K PRODUCTS OY (E)	K PRODUCTS OY/FII	TRANSMISSION LINE STRUCTURE
055597	F120055597		Finland	I K PRODUCTS OY (FI)	Arbitrary-length linear movement sliding-dielectric (loaded line) phase shifter
065144	FI20065144			LK PRODUCTS OY (FI)	Directional Coulpler
8080051244				LK PRODUCTS OY (FI)	MCoulpler and tuning method for the directivity
0078E+11			(Peoples Republic)	LK PRODUCTS OY (FI)	MCoulpier and tuning method for the directivity
04849,4	EP1989/54	-	European Fatent Convento	EX PRODUCTS DV (FI)	Directorial Couples
CT/F12007/050079	W02007099202		Pafent Cooperation Treaty	LK PRODUCTS OY (FI)	MCoulpier and tuning method for the directivity
)060211			Finland	LK PRODUCTS OY (FI)	A new antenna structure and a method for its manufacture
0621217-4			Brazil ;LK PRODUCTS QY (FI)	LK PRODUCTS OY (FI)	A new antenna structure and a method for its manufacture
			China (Peoples Republic)	LK PRODUCTS OY (FI)	A new antenna structure and a method for its manufacture
764415.3	F120060000211		European Patent Convention	XLK PRODUCTS OY (FI)	A new antenna structure and a method for its manufacture
6/000189			Patent Cooperation Treaty LK PRODUCTS OY (FI)	LK PRODUCTS OY (FI)	A new antenna structure and a method for its manufacture
0652/2			rinand	- FX TX CUCCIO CT (TI)	Missociacon element for resonant mind
200	F120065272			יייייייייייייייייייייייייייייייייייייי	Disample stop and for some the time

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20065317	FI20065317		Finland	LK PRODUCTS OY (FI)	DIRECTIONAL COUPLER (Suuntakytkin ripustetulla liuskajohtimella)
2.00785+11	101443951		China (Peoples Republic)	China (Peoples Republic) POWERWAVE COMTEK OY	DIRECTIONAL COUPLER
7730703.1	EP2022130		European Patent Conventio	European Patent Conventio POWERWAVE COMTEX OY	DIRECTIONAL COUPLER
PCT/F12007/050216 W/O2007132061	WO2007132061		Patent Cooperation Treaty   LK PRODUCTS OY (FI)	LK PRODUCTS OY (FI)	DIRECTIONAL COUPLER
20075309			Finland	POWERWAVE COMTEK OY	Masthead Amplifier
8736851	EP2151065		European Patent Conventio	European Patent Conventio POWERWAVE COMTEK OY	Masthead Amplifier Unit
PCT/FI2008/050202 WO2008/135630	WO2008/135630		Patent Cooperation Treaty	Patent Cooperation Treaty   POWERWAVE COMTEX DY	Masthead Amplifier Unit
12/594,259	US20100149066 :		United States of America	POWERWAVE COMTEK OY	Masthead Amplifier Unit
20105772			Finland	POWERWAVE COMTEX OY	Resonator coupling tuning arrangement
11170340.1	EP2405531		European Patent Conventio	European Patent Conventio POWERWAVE FINLAND OY	Resonator coupling tuning arrangement
13/163,530	US20120007697		United States of America	FILTRONIC COMTEK OY	Resonator coupling tuning arrangement
201006188			Finland	POWERWAVE FINLAND OY	Adaptable resonator filter
11187667.8	EP2453517		European Patent Conventio	European Patent Conventio POWERWAVE FINLAND OY	Adjustable resonator filter
13/293,817	US20120119850		United States of America	POWERWAVE FINLAND OY	Adaptable resonator filter
20106189			Finland	POWERWAVE COMTEK OY	Adaptable resonator filter
11187668.6	EP2453518		European Patent Conventio	European Patent Conventio POWERWAVE COMTEK OY	Adaptable resonator filter
13/293,831	US20120119851		United States of America	POWERWAVE COMTEK OY	Adaptable resonator filter
20115557			Finland	POWERWAVE COMTEK OY	Wide band adjustable coaxial resonator
12169907.8			European Patent Conventio	European Patent Conventio POWERWAVE FINLAND OY	Adjustable Resonator
13/478,018	US20120313735		United States of America	POWERWAVE FINLAND OY	Wilde band adjustable coaxial resonator
20115721			Finland	POWERWAVE FINLAND OY	Tunable resonator filter and method for tuning coupling between resonator ca
12171289.7			European Patent Conventio	European Patent Conventio POWERWAVE FINLAND CY	Tunable inductive coupling between resonators
20125682			Finland	POWERWAVE COMTEK OY	An improved resonator structure for a cavity filter arrangement
61/663.962			United States of America	POWERWAVE COMTEK OY	An improved resonator structure for a cavity filter arrangement

PATENT REEL: 034038 FRAME: 0862

**RECORDED: 10/17/2014**