

No attempt has been made to rank the information contained in this report in order of importance, since BPA Worldwide believes this is a judgment which must be made by the user of the report.

Horizon House Publications Inc
685 Canton Street
Norwood, MA 02062
Tel. No.: (781) 769-9750
Fax No.: (781) 769-5037
www.mwjournal.com

Since 1958, **MICROWAVE JOURNAL** has been a leading source for information about RF and Microwave technology, design techniques, news, events and educational information.

BRAND REPORT PURPOSE

The Brand Report provides a deeper understanding and identification of all audited touch points with customers that have interest in the brand. It is designed to present analysis of all communication channels, including a brand's unique users within each channel of, but not across, multiple media platforms. This non-integrated report contains data for each separate media channel as indicated in the Executive Summary. No attempt has been made to identify or eliminate duplication that may exist across media channels.

CHANNELS

MICROWAVE JOURNAL



6 issues in the period
50,000 average circulation

MICROWAVE JOURNAL WEBSITE



66,856 average users

EXECUTIVE SUMMARY

Below are the average contacts per occurrence, including frequency per period reported

	Non-Paid	Paid	Average
MICROWAVE JOURNAL (6 issues in the period)	50,000	-	50,000
a. Print	37,868	-	37,868
b. Digital	12,132	-	12,132
1. Requested	12,132	-	12,132
2. Non-Requested	-	-	-
MICROWAVE JOURNAL WEBSITE (Monthly Users with 158,946 average Pageviews)	66,856	-	66,856

3b. QUALIFICATION SOURCE BREAKOUT OF QUALIFIED CIRCULATION FOR ISSUE OF JUNE 2018

Qualification Source	Qualified Within			Print	Digital	Total Qualified	Percent
	1 Year	2 Years	3 Years				
I. Direct Request:	37,761	12,239	-	35,590	14,410	50,000	100.0
II. Request from recipient's company:	-	-	-	-	-	-	-
III. Membership Benefit:	-	-	-	-	-	-	-
IV. Communication from recipient or recipient's company (other than request):	-	-	-	-	-	-	-
V. Sources other than above, including: Association rosters and directories; Business directories; Manufacturer's, distributor's and wholesaler's lists; and Other sources:	-	-	-	-	-	-	-
VI. Single Copy Sales:	-	-	-	-	-	-	-
TOTAL QUALIFIED CIRCULATION	37,761	12,239	-	35,590	14,410	50,000	100.0
PERCENT	75.5	24.5	-	71.2	28.8	100.0	

QUALIFICATION SOURCE BREAKOUT OF QUALIFIED CIRCULATION FOR ISSUE OF JUNE 2018*

State	Print	Digital	Total Qualified	Percent	State	Print	Digital	Total Qualified	Percent
Maine	103	13	116		Kentucky	246	50	296	
New Hampshire	330	96	426		Tennessee	373	84	457	
Vermont	71	22	93		Alabama	389	118	507	
Massachusetts	1,247	469	1,716		Mississippi	153	46	199	
Rhode Island	118	31	149		EAST SO. CENTRAL	1,161	298	1,459	2.9
Connecticut	400	95	495		Arkansas	120	27	147	
NEW ENGLAND	2,269	726	2,995	6.0	Louisiana	101	34	135	
New York	1,618	419	2,037		Oklahoma	247	73	320	
New Jersey	995	308	1,303		Texas	1,929	633	2,562	
Pennsylvania	1,230	295	1,525		WEST SO. CENTRAL	2,397	767	3,164	6.3
MIDDLE ATLANTIC	3,843	1,022	4,865	9.7	Montana	77	17	94	
Ohio	1,222	269	1,491		Idaho	164	45	209	
Indiana	598	146	744		Wyoming	52	12	64	
Illinois	1,336	345	1,681		Colorado	533	241	774	
Michigan	898	242	1,140		New Mexico	280	76	356	
Wisconsin	668	119	787		Arizona	645	307	952	
EAST NO. CENTRAL	4,722	1,121	5,843	11.7	Utah	333	95	428	
Minnesota	640	134	774		Nevada	160	49	209	
Iowa	239	90	329		MOUNTAIN	2,244	842	3,086	6.2
Missouri	428	113	541		Alaska	58	10	68	
North Dakota	66	9	75		Washington	598	216	814	
South Dakota	89	17	106		Oregon	394	172	566	
Nebraska	200	28	228		California	4,807	1,812	6,619	
Kansas	305	91	396		Hawaii	82	25	107	
WEST NO. CENTRAL	1,967	482	2,449	4.9	PACIFIC	5,939	2,235	8,174	16.3
Delaware	53	20	73		UNITED STATES	29,811	8,960	38,771	77.5
Maryland	905	269	1,174		U.S. Territories	34	15	49	
Washington, DC	114	36	150		Canada	258	224	482	
Virginia	814	248	1,062		Mexico	28	30	58	
West Virginia	137	15	152		Other International	5,452	5,178	10,630	
North Carolina	715	202	917		APO/FPO	7	3	10	
South Carolina	316	80	396		TOTAL QUALIFIED CIRCULATION	35,590	14,410	50,000	100.0
Georgia	687	168	855						
Florida	1,528	429	1,957						
SOUTH ATLANTIC	5,269	1,467	6,736	13.5					

*See Additional Data

GEOGRAPHICAL BREAKOUT OF QUALIFIED CIRCULATION FOR ISSUE OF JUNE 2018*

Region/Country	Print	Digital	Total Qualified	Percent	Region/Country	Print	Digital	Total Qualified	Percent
ASIA					AFRICA				
Afghanistan	1	2	3		Spain	152	149	301	
Armenia	-	3	3		Sweden	116	107	223	
Azerbaijan	1	1	2		Switzerland	79	67	146	
Bangladesh	1	6	7		Turkey	92	462	154	
Cambodia	-	2	2		Ukraine	17	28	45	
China	88	164	252		United Kingdom	1,924	847	2,771	
Georgia	1	-	1		unspecified Europe	1	4	5	
Hong Kong - SAR	11	33	44		Subtotal	4,329	3,475	7,804	15.6
India	276	384	660		AFRICA				
Indonesia	5	29	34		Algeria	5	10	15	
Japan	157	191	348		Angola	-	1	1	
Kazakhstan	-	1	1		Benin	-	1	1	
Korea, Republic Of	80	73	153		Botswana	2	1	3	
Malaysia	39	35	74		Cameroon	-	1	1	
Pakistan	12	21	33		Cape Verde	-	1	1	
Philippines	15	6	21		Egypt	7	22	29	
Singapore	43	53	96		Ethiopia	-	4	4	
Sri Lanka	4	3	7		Ghana	-	1	1	
Taiwan	54	95	149		Kenya	2	-	2	
Thailand	-	9	9		Libyan Arab Jamahiriya	-	1	1	
Tibet	7	-	7		Mauritius	-	1	1	
Vietnam	4	7	11		Morocco	4	4	8	
Subtotal	799	1,118	1,917	3.9	Namibia	-	1	1	
MIDDLE EAST					Niger	1	-	1	
Iran	13	47	60		Nigeria	2	4	6	
Iraq	2	3	5		South Africa	24	29	53	
Israel	74	99	173		Sudan	-	2	2	
Jordan	1	-	1		Tanzania	-	2	2	
Kuwait	-	1	1		Tunisia	9	3	12	
Lebanon	1	1	2		Uganda	-	1	1	
Oman	-	1	1		Western Sahara	-	1	1	
Saudi Arabia	4	8	12		Zambia	-	2	2	
Syrian Arab Republic	-	3	3		Subtotal	56	93	149	0.3
United Arab Emirates	2	8	10		NORTH AMERICA				
Subtotal	97	171	268	0.5	Canada	258	224	482	
EUROPE					Mexico	28	30	58	
Albania	1	-	1		United States	29,852	8,978	38,830	
Austria	32	43	75		Subtotal	30,138	9,232	39,370	78.8
Azores	2	5	7		CARIBBEAN				
Balearic Islands	2	-	2		Antigua and Barbuda	-	1	1	
Belarus	6	4	10		Aruba	-	1	1	
Belgium	106	92	198		Cayman Islands	-	1	1	
Bosnia and Herzegovina	1	2	3		Cuba	1	3	4	
Bulgaria	24	24	48		Dominican Republic	-	1	1	
Croatia	9	16	25		unspecified Caribbean	-	1	1	
Cyprus	6	4	10		Subtotal	1	8	9	-
Czech Republic	38	52	90		CENTRAL AMERICA				
Denmark	57	62	119		Belize	-	1	1	
Estonia	9	10	19		Costa Rica	-	1	1	
Faroe Islands	-	1	1		Guatemala	-	1	1	
Finland	52	72	124		Subtotal	-	3	3	-
France	263	359	622		SOUTH AMERICA				
Germany	450	464	914		Argentina	19	34	53	
Greece	50	57	107		Bolivia	2	3	5	
Greenland	-	2	2		Brazil	64	77	141	
Hungary	29	29	58		Chile	4	15	19	
Iceland	4	2	6		Colombia	1	20	21	
Ireland	121	83	204		Ecuador	2	4	6	
Italy	260	290	550		Peru	5	8	13	
Latvia	4	7	11		Uruguay	2	-	2	
Lithuania	15	12	27		Venezuela	3	1	4	
Luxembourg	8	13	21		Subtotal	102	162	264	0.5
Macedonia	-	3	3		ASIA PACIFIC				
Malta	2	2	4		Australia	54	130	184	
Moldova	-	1	1		Fiji	-	1	1	
Montenegro	1	2	3		French Polynesia	-	1	1	
Netherlands	125	140	265		New Caledonia	-	1	1	
Norway	24	31	55		New Zealand	13	15	28	
Poland	56	56	112		Papua New Guinea	1	-	1	
Portugal	33	33	66		Subtotal	68	148	216	0.4
Romania	24	42	66		TOTAL QUALIFIED CIRCULATION				
Russian Federation	102	167	269			35,590	14,410	50,000	100.0
Serbia	13	14	27						
Slovakia	7	5	12						
Slovenia	12	10	22						

*See Additional Data

WEBSITE CHANNEL

WWW.MWJOURNAL.COM

2018	Pageviews	Sessions	Users	Average Session Duration
January	150,678	81,851	63,015	1:58
February	160,251	84,451	63,823	1:34
March	172,125	93,348	70,042	1:36
April	157,761	90,209	68,797	1:33
May	165,688	95,183	72,306	1:31
June	147,175	84,245	63,153	1:33
AVERAGE:	158,946	88,214	66,856	1:37

January – June 2018 data was provided by Google Analytics. All website activity is audited by BPA Worldwide.

WEBSITE GLOSSARY

Pageviews: A Pageview is recorded each time a page implanted with the JavaScript code (tag) is displayed in a browser window. This will occur whether the page is served directly from the web server, from a proxy, or from the browser's cache.

Sessions: A single continuous set of activity attributable to a cookie browser resulting in one or more pulled text and/or graphics downloads from a site. A period of 30 minutes of inactivity will terminate the session.

Users: An identified and unduplicated Cookie Browser that accesses Internet content or advertising during a measurement period.

Average Session Duration: The time visitors remain on a site per session.

ADDITIONAL DATA

METHOD OF DISTRIBUTION:

All qualified circulation conforms to the field served and definition of recipient qualification, as reported. Print copies are distributed via postal services or other carriers. Recipients of the digital version are notified via email when the version is available.

STATEMENT OF CONTENT PLATFORM:

Editorial Replica – If a print edition exists, editorial and design are unchanged from the original print edition. Each issue's content and design are identical to the original edition. Apart from minor updates, the content cannot change once the issue is made available.

GEOGRAPHIC DISTRIBUTION:

Geographic data for Website is not reported at the media owner's option.

PUBLISHER'S AFFIDAVIT

We hereby make oath and say that all data set forth in this statement are true.

Ivar Bazzy, President

Carl Sheffres, Publisher

(At least one of the above signatures must be that of an officer of the publishing company or its authorized representative.)

IMPORTANT NOTE:

This unaudited brand report has been checked against the previous audit report. It will be included in the annual audit made by BPA Worldwide.

Date signed	July 16, 2018
State	Massachusetts
County	Norfolk
Received by BPA Worldwide	July 16, 2018
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About BPA Worldwide:

A not-for-profit organization since 1931, BPA Worldwide is governed by a tripartite board comprised of media owners, advertising agencies and advertisers. Headquartered in Shelton, Connecticut, USA, BPA has the largest membership of any media-auditing organization in the world, spanning more than 30 countries. Globally, BPA audits media properties including consumer magazines, newspapers, web sites, events, email newsletters, databases, wireless, social media and other advertiser-supported media—as well as advertiser and agency members. Visit www.bpaww.com for the latest audit reports, membership information and publishing and advertising industry news.

FIELD SERVED
MICROWAVE JOURNAL serves the field of Communications/Cellular/Broadcast/ Networks, Test & Measurement Equipment, Semiconductors & IC's, Components, Military/Radar/Weapons/EW, Software/EDA Tools, Materials/Substrates/ Packaging, R & D Labs/ Consultants/Educators, Industrial/Processing Equipment, Medical/Scientific Equipment, Consumer Electronics, Automotive/Telematics, Laser/Electro-Optical Systems/Equipment, Aerospace, Avionics, Government and All Others Allied to the Field.

DEFINITION OF RECIPIENT QUALIFICATION
 Qualified recipients are personnel of design and development, engineering services/support, research and development and manufacturing and production. Also qualified are executive or operating management, purchasing and procurement, applications engineering, sales and marketing personnel, academia and other personnel.

AVERAGE NON-QUALIFIED CIRCULATION

Non-Qualified Not Included Elsewhere	Copies
Other Paid Circulation	119
Advertiser and Agency	804
Allocated for Trade Shows and Conventions	1,157
All Other	1,177
TOTAL	3,257

1. AVERAGE QUALIFIED CIRCULATION BREAKOUT FOR THE PERIOD

Qualified Circulation	Total Qualified		Qualified Non-Paid		Qualified Paid	
	Copies	Percent	Copies	Percent	Copies	Percent
Individual	50,000	100.0	50,000	100.0	-	-
Sponsored Individually Addressed	-	-	-	-	-	-
Membership Benefit	-	-	-	-	-	-
Multi-Copy Same Addressee	-	-	-	-	-	-
Single Copy Sales	-	-	-	-	-	-
TOTAL QUALIFIED CIRCULATION	50,000	100.0	50,000	100.0	-	-

2. QUALIFIED CIRCULATION BY ISSUES FOR PERIOD

2018 Issue	Print	Digital	Total Qualified
January	38,442	11,558	50,000
February	38,608	11,392	50,000
March	38,651	11,349	50,000
April	37,941	12,059	50,000
May	37,974	12,026	50,000
June	35,590	14,410	50,000

3a. BUSINESS/OCCUPATION BREAKOUT OF QUALIFIED CIRCULATION FOR ISSUE OF JUNE 2018
 This issue is equal to the average of the other 5 issues reported in Paragraph 2.

Business and Industry	Total Qualified	Percent of Total	Print	Digital	Design & Development	Engineering Services\ Support	Executive or Operating Management	Research & Development	Manufacturing & Production	Purchasing & Procurement	Applications Engineering, Sales & Marketing	Academia	Other	None of the Above
Communications/Cellular/Broadcast/Networks	11,995	24.0	8,359	3,636	3,743	2,635	3,104	1,102	250	127	697	256	81	-
Test & Measurement Equipment	4,523	9.0	3,216	1,307	1,422	948	796	490	196	53	499	92	27	-
Semiconductors & ICS	2,686	5.4	1,633	1,053	1,001	322	378	417	105	26	334	88	15	-
Components	2,386	4.8	1,757	629	638	350	629	191	142	41	333	46	16	-
Military/Radar/Weapons/EW	4,220	8.4	2,831	1,389	1,938	627	451	678	157	51	191	104	23	-
Software/EDA Tools	1,065	2.1	763	302	279	197	290	116	15	20	118	24	6	-
Materials/Substrates/Packaging	1,438	2.9	1,132	306	231	264	402	154	193	33	135	16	10	-
R & D Labs/Consultants/Educators	4,927	9.9	3,410	1,517	1,083	781	825	1,232	49	25	117	790	25	-
Industrial/Processing Equipment	4,844	9.7	3,794	1,050	1,237	1,103	1,329	229	506	94	303	26	17	-
Medical/Scientific Equipment	1,594	3.2	1,137	457	495	291	340	235	118	21	51	36	7	-
Consumer Electronics	2,061	4.1	1,430	631	645	352	563	174	99	38	156	26	8	-
Automotive/Telematics	1,807	3.6	1,349	458	595	350	421	165	149	28	75	11	13	-
Laser/Electro-Optical Systems, Equipment	376	0.8	279	97	104	63	72	62	25	3	36	9	2	-
Other	603	1.2	495	108	111	99	139	56	55	14	31	32	66	-
Aerospace	2,690	5.4	1,910	780	1,016	565	414	316	191	50	103	24	11	-
Avionics	567	1.1	422	145	206	121	116	41	28	11	33	7	4	-
Government	2,218	4.4	1,673	545	453	704	484	302	49	52	63	69	42	-
None of the Above	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL QUALIFIED CIRCULATION	50,000	100.0	35,590	14,410	15,197	9,772	10,753	5,960	2,327	687	3,275	1,656	373	-
PERCENT	100.0		71.2	28.8	30.4	19.5	21.5	11.9	4.7	1.4	6.6	3.3	0.7	-