

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.

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Since 1958, **MICROWAVE JOURNAL** has been the 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



51,603 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	37,213	-	37,213
b. Digital	12,787	-	12,787
1. Requested	12,787	-	12,787
2. Non-Requested	-	-	-
MICROWAVE JOURNAL WEBSITE (Monthly Users with 122,267 average Pageviews)	51,603	-	51,603

3b. QUALIFICATION SOURCE BREAKOUT OF QUALIFIED CIRCULATION FOR ISSUE OF MAY 2017

QUALIFICATION SOURCE	Qualified Within			Print	Digital	Total Qualified	Percent
	1 Year	2 Years	3 Years				
I. Direct Request:	37,545	12,432	-	37,012	12,965	49,977	100.0
II. Request from recipient's company:	14	9	-	16	7	23	-
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	37,559	12,441	-	37,028	12,972	50,000	100.0
PERCENT	75.1	24.9	-	74.1	25.9	100.0	

QUALIFICATION SOURCE BREAKOUT OF QUALIFIED CIRCULATION FOR ISSUE OF MAY 2017*

State	Print	Digital	Total Qualified	Percent	State	Print	Digital	Total Qualified	Percent
Maine	103	14	117		Kentucky	272	35	307	
New Hampshire	351	84	435		Tennessee	439	52	491	
Vermont	84	18	102		Alabama	393	75	468	
Massachusetts	1,287	381	1,668		Mississippi	164	23	187	
Rhode Island	121	16	137		EAST SO. CENTRAL	1,268	185	1,453	2.9
Connecticut	467	71	538		Arkansas	139	21	160	
NEW ENGLAND	2,413	584	2,997	6.0	Louisiana	113	25	138	
New York	1,766	340	2,106		Oklahoma	245	50	295	
New Jersey	1,020	259	1,279		Texas	2,031	489	2,520	
Pennsylvania	1,347	231	1,578		WEST SO. CENTRAL	2,528	585	3,113	6.2
MIDDLE ATLANTIC	4,133	830	4,963	10.0	Montana	75	14	89	
Ohio	1,343	223	1,566		Idaho	154	23	177	
Indiana	668	107	775		Wyoming	40	10	50	
Illinois	1,387	246	1,633		Colorado	447	198	645	
Michigan	985	164	1,149		New Mexico	282	66	348	
Wisconsin	741	76	817		Arizona	699	249	948	
EAST NO. CENTRAL	5,124	816	5,940	11.9	Utah	336	57	393	
Minnesota	724	105	829		Nevada	166	40	206	
Iowa	301	76	377		MOUNTAIN	2,199	657	2,856	5.7
Missouri	452	81	533		Alaska	77	11	88	
North Dakota	77	12	89		Washington	595	151	746	
South Dakota	104	16	120		Oregon	427	147	574	
Nebraska	200	19	219		California	5,054	1,647	6,701	
Kansas	333	51	384		Hawaii	81	23	104	
WEST NO. CENTRAL	2,191	360	2,551	5.1	PACIFIC	6,234	1,979	8,213	16.4
Delaware	54	15	69		UNITED STATES	31,601	7,232	38,833	77.7
Maryland	926	234	1,160		U.S. Territories	34	19	53	
Washington, DC	137	40	177		Canada	222	344	566	
Virginia	849	213	1,062		Mexico	20	41	61	
West Virginia	128	10	138		Other International	5,148	5,330	10,478	
North Carolina	791	183	974		APO/FPO	3	6	9	
South Carolina	342	49	391						
Georgia	705	131	836						
Florida	1,579	361	1,940		TOTAL QUALIFIED CIRCULATION	37,028	12,972	50,000	100.0
SOUTH ATLANTIC	5,511	1,236	6,747	13.5					

*See Additional Data

GEOGRAPHICAL BREAKOUT OF QUALIFIED CIRCULATION FOR ISSUE OF MAY 2017*

Region/Country	Print	Digital	Total Qualified	Percent	Region/Country	Print	Digital	Total Qualified	Percent
ASIA					Sweden	111	109	220	
Azerbaijan	-	1	1		Switzerland	81	69	150	
Bangladesh	-	4	4		Turkey	114	102	216	
Cambodia	-	1	1		Ukraine	22	42	64	
China	72	113	185		United Kingdom	1,665	716	2,381	
Hong Kong - SAR	7	22	29		Subtotal	3,980	3,386	7,366	14.7
India	290	336	626		AFRICA				
Indonesia	7	28	35		Algeria	4	7	11	
Japan	165	250	415		Botswana	-	1	1	
Kazakhstan	-	1	1		Cameroon	-	1	1	
Korea, Republic Of	139	205	344		Cape Verde	-	1	1	
Macao	1	2	3		Egypt	7	26	33	
Malaysia	58	83	141		Ethiopia	-	3	3	
Pakistan	13	47	60		Ghana	1	2	3	
Philippines	14	14	28		Kenya	1	1	2	
Singapore	53	75	128		Libyan Arab Jamahiriya	1	-	1	
Sri Lanka	6	4	10		Malawi	-	1	1	
Taiwan	48	138	186		Mauritania	-	1	1	
Thailand	5	17	22		Mauritius	1	-	1	
Vietnam	4	19	23		Morocco	6	3	9	
Subtotal	882	1,360	2,242	4.5	Namibia	-	1	1	
MIDDLE EAST					Nigeria	3	6	9	
Iran	4	51	55		Senegal	-	1	1	
Iraq	1	5	6		South Africa	10	41	51	
Israel	60	86	146		Sudan	-	2	2	
Jordan	1	2	3		Tanzania	-	1	1	
Kuwait	-	1	1		Tunisia	4	9	13	
Lebanon	1	7	8		Uganda	-	2	2	
Oman	-	1	1		Zambia	-	1	1	
Saudi Arabia	4	9	13		Zimbabwe	1	-	1	
Syrian Arab Republic	-	1	1		Subtotal	39	111	150	0.3
United Arab Emirates	1	11	12		NORTH AMERICA				
unspecified Middle East	1	-	1	-	Canada	222	344	566	
Subtotal	73	174	247	0.5	Mexico	20	41	61	
EUROPE					United States	31,601	7,232	38,833	
Albania	3	1	4		unspecified North America	37	25	62	
Austria	43	32	75		Subtotal	31,880	7,642	39,522	79.0
Belarus	9	8	17		CARIBBEAN				
Belgium	95	81	176		Antigua and Barbuda	-	1	1	
Bosnia and Herzegovina	2	2	4		Aruba	-	1	1	
Bulgaria	20	20	40		Cuba	-	1	1	
Croatia	7	9	16		Dominican Republic	-	1	1	
Cyprus	4	1	5		Virgin Islands, British	-	1	1	
Czech Republic	25	52	77		Subtotal	-	5	5	-
Denmark	53	54	107		CENTRAL AMERICA				
Estonia	4	4	8		Belize	-	1	1	
Finland	44	70	114		Costa Rica	-	2	2	
France	243	324	567		Subtotal	-	3	3	-
Germany	503	532	1,035		SOUTH AMERICA				
Greece	32	49	81		Argentina	28	33	61	
Greenland	1	1	2		Bolivia	1	3	4	
Hungary	28	30	58		Brazil	51	56	107	
Iceland	1	1	2		Chile	3	8	11	
Ireland	104	78	182		Colombia	4	14	18	
Italy	281	327	608		Ecuador	1	2	3	
Latvia	2	6	8		Peru	4	12	16	
Liechtenstein	1	-	1		Uruguay	1	1	2	
Lithuania	7	9	16		Venezuela	1	1	2	
Luxembourg	3	12	15		Subtotal	94	130	224	0.5
Macedonia	-	3	3		ASIA PACIFIC				
Malta	-	2	2		Australia	69	138	207	
Moldova	-	1	1		Fiji	-	1	1	
Monaco	-	2	2		French Polynesia	-	1	1	
Netherlands	111	106	217		New Caledonia	-	1	1	
Norway	27	33	60		New Zealand	11	20	31	
Poland	41	37	78		Subtotal	80	161	241	0.5
Portugal	31	33	64		TOTAL QUALIFIED CIRCULATION				
Romania	19	32	51			37,028	12,972	50,000	100.0
Russian Federation	77	194	271						
Serbia	12	19	31						
Slovakia	7	6	13						
Slovenia	13	12	25						
Spain	134	165	299						

*See Additional Data

WEBSITE CHANNEL

WWW.MWJOURNAL.COM

2017	PAGEVIEWS	SESSIONS	USERS	AVERAGE SESSION DURATION
January	116,407	64,348	46,448	1:32
February	119,539	68,623	51,190	1:24
March	129,757	73,625	55,677	1:18
April	117,558	65,672	49,712	1:26
May	129,975	72,376	54,909	1:44
June	120,369	68,446	51,684	1:32
AVERAGE:	122,267	68,848	51,603	1:29

January – June 2017 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.

For info on how to obtain online ad campaign performance metrics across multiple sites, visit www.adcompli.com

ADDITIONAL DATA

METHOD OF DISTRIBUTION:

All qualified circulation conforms to the field served and definition of a recipient's 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 17, 2017
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County	Norfolk
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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 and company addressed copies.

AVERAGE NON-QUALIFIED CIRCULATION

NON-QUALIFIED Not Included Elsewhere	Copies
Other Paid Circulation	145
Advertiser and Agency	946
Allocated for Trade Shows and Conventions	1,042
All Other	1,661
TOTAL	3,794

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

2017 Issue	Print	Digital	Total Qualified
January	36,853	13,147	50,000
February	37,091	12,909	50,000
March	37,305	12,695	50,000
April	37,438	12,562	50,000
May	37,028	12,972	50,000
June	37,561	12,439	50,000

3a. BUSINESS/OCCUPATION BREAKOUT OF QUALIFIED CIRCULATION FOR ISSUE OF MAY 2017
 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	10,839	21.7	7,567	3,272	3,592	2,702	2,362	1,022	174	102	523	284	78	-
TEST & MEASUREMENT EQUIPMENT	4,707	9.4	3,447	1,260	1,420	1,084	844	547	185	44	474	81	28	-
SEMICONDUCTORS & ICs	2,781	5.6	1,696	1,085	1,040	370	405	417	89	28	324	94	14	-
COMPONENTS	2,801	5.6	2,133	668	719	497	761	213	150	46	349	50	16	-
MILITARY/RADAR/WEAPONS/EW	4,255	8.5	2,779	1,476	1,967	667	425	689	148	54	170	108	27	-
SOFTWARE/EDA TOOLS	1,033	2.1	770	263	247	215	273	128	13	15	110	28	4	-
MATERIALS/SUBSTRATES/PACKAGING	1,370	2.8	1,148	222	207	308	373	147	165	24	116	22	8	-
R & D LABS/CONSULTANTS/EDUCATORS	5,217	10.4	3,716	1,501	1,012	918	906	1,331	32	19	101	873	25	-
INDUSTRIAL/PROCESSING EQUIPMENT	5,210	10.4	4,503	707	1,130	1,422	1,608	227	396	86	308	19	14	-
MEDICAL/SCIENTIFIC EQUIPMENT	1,612	3.2	1,319	293	464	355	329	238	130	21	37	31	7	-
CONSUMER ELECTRONICS	1,916	3.8	1,445	471	613	383	494	176	82	28	113	18	9	-
AUTOMOTIVE/TELEMATICS	1,842	3.7	1,491	351	564	426	418	163	139	30	72	11	19	-
LASER/ELECTRO-OPTICAL SYSTEMS, EQUIPMENT	348	0.7	273	75	85	63	78	62	18	4	28	9	1	-
OTHER	614	1.2	486	128	107	124	152	41	38	11	26	26	89	-
AEROSPACE	2,518	5.0	1,893	625	899	567	404	306	169	39	86	34	14	-
AVIONICS	641	1.3	493	148	221	149	142	50	33	9	24	5	8	-
GOVERNMENT	2,296	4.6	1,869	427	404	817	538	275	57	54	46	60	45	-
NONE OF THE ABOVE	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL QUALIFIED CIRCULATION	50,000	100.0	37,028	12,972	14,691	11,067	10,512	6,032	2,018	614	2,907	1,753	406	-
PERCENT	100.0		74.1	25.9	29.4	22.2	21.0	12.1	4.0	1.2	5.8	3.5	0.8	-