



**AMPAK Technologies**

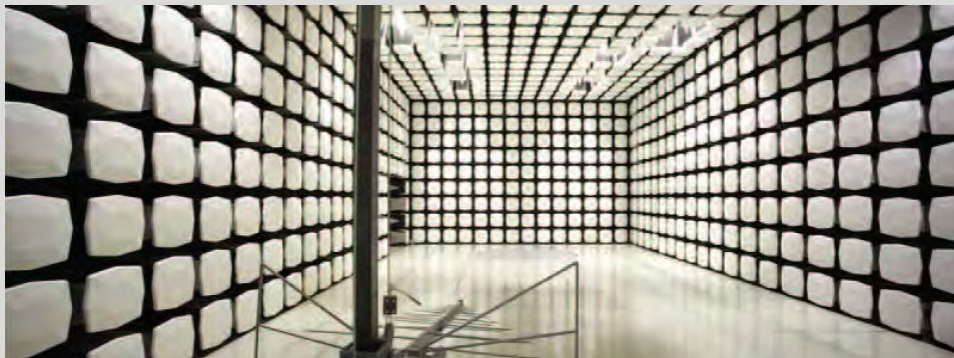
**GT9664A1**

**FCC ID: ZQ6-GT966X**

**FCC 15.247:2013**

**FCC 15.407:2013**

**Report #: INTE5406**



Report Prepared By Northwest EMC Inc.

NORTHWEST EMC – (888) 364-2378 – [www.nwemc.com](http://www.nwemc.com)

California – Minnesota – Oregon – New York – Washington

# CERTIFICATE OF TEST

**Last Date of Test: July 26, 2013**  
**AMPAK Technologies**  
**Model: GT9664A1**

## Emissions

Test Description	Specification	Test Method	Pass/Fail
Spurious Radiated Emissions	FCC 15.247:2013	ANSI C63.10:2009	Pass
Spurious Radiated Emissions	FCC 15.407:2013	ANSI C63.10:2009	Pass

## Deviations From Test Standards

None

### Approved By:



Don Facteau, IS Manager



NVLAP Lab Code: 200630-0

*This report must not be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government of the United States of America.*

*Product compliance is the responsibility of the client, therefore the tests and equipment modes of operation represented in this report were agreed upon by the client, prior to testing. This Report may only be duplicated in its entirety. The results of this test pertain only to the sample(s) tested. The specific description is noted in each of the individual sections of the test report supporting this certificate of test.*

# REVISION HISTORY

Revision Number	Description	Date	Page Number
00	None		

## Barometric Pressure

The recorded barometric pressure has been normalized to sea level.

## Measurement Uncertainty

When a measurement is made, the result will be different from the true or theoretically correct value. The difference is the result of tolerances in the measurement system that cannot be completely eliminated. To the extent that technology allows us, it has been our aim to minimize this error. Measurement uncertainty is a statistical expression of measurement error qualified by a probability distribution.

A measurement uncertainty estimation has been performed for each test per our internal quality document WP 342. The estimation is used to compare the measured result with its "true" or theoretically correct value. The expanded measurement uncertainty (K=2) for each test is listed below. Our measurement data meets or exceeds the measurement uncertainty requirements of the applicable specification; therefore, the test data can be compared directly to the specification limit to determine compliance. The calculations for estimating measurement uncertainty are based upon ETSI TR 100 028 (or CISPR 16-4-1 as applicable), and are available upon request.

The following table represents the Measurement Uncertainty (MU) budgets for each of the tests that may be contained in this report.

<b>Test</b>	<b>+ MU</b>	<b>- MU</b>
Frequency Accuracy (Hz)	0.12	-0.01
Amplitude Accuracy (dB)	0.49	-0.49
Conducted Power (dB)	0.41	-0.41
Radiated Power via Substitution (dB)	0.69	-0.68
Temperature (degrees C)	0.81	-0.81
Humidity (% RH)	2.89	-2.89
Field Strength (dB)	3.80	-3.80
AC Powerline Conducted Emissions (dB)	2.94	-2.94

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## United States

**FCC** - Designated by the FCC as a Telecommunications Certification Body (TCB). Certification chambers, Open Area Test Sites, and conducted measurement facilities are listed with the FCC.

**A2LA** - Accredited by A2LA to ISO / IEC Guide 65 as a product certifier. This allows Northwest EMC to certify transmitters to FCC and IC specifications.

**NVLAP** - Each laboratory is accredited by NVLAP to ISO 17025

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## Canada

**IC** - Recognized by Industry Canada as a Certification Body (CB). Certification chambers and Open Area Test Sites are filed with IC.

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## European Union

**European Commission** – Validated by the European Commission as a Conformity Assessment Body (CAB) under the EMC directive and as a Notified Body under the R&TTE Directive.

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## Australia/New Zealand

**ACMA** - Recognized by ACMA as a CAB for the acceptance of test data.

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## Korea

**KCC / RRA** - Recognized by KCC's RRA as a CAB for the acceptance of test data.

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## Japan

**VCCI** - Associate Member of the VCCI. Conducted and radiated measurement facilities are registered.

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## Taiwan

**BSMI** – Recognized by BSMI as a CAB for the acceptance of test data.

**NCC** - Recognized by NCC as a CAB for the acceptance of test data.

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## Singapore

**IDA** – Recognized by IDA as a CAB for the acceptance of test data.

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## Hong Kong

**OFTA** – Recognized by OFTA as a CAB for the acceptance of test data.

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## Vietnam

**MIC** – Recognized by MIC as a CAB for the acceptance of test data.

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## Russia

**GOST** – Accredited by Certinform VNIINMASH, CERTINFO, SAMTES, and Federal CHEC to perform EMC and Hygienic testing for Information Technology products to GOST standards.

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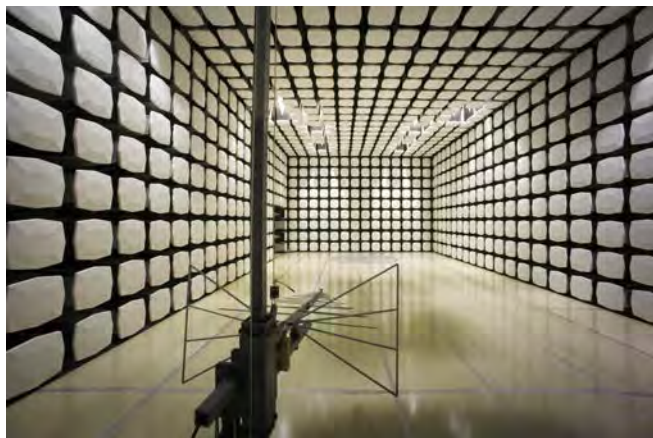
## SCOPE

For details on the Scopes of our Accreditations, please visit:

<http://www.nwemc.com/accreditations/>



<b>Oregon</b> Labs EV01-12 22975 NW Evergreen Pkwy Hillsboro, OR 97124 (503) 844-4066	<b>California</b> Labs OC01-13 41 Tesla Irvine, CA 92618 (949) 861-8918	<b>New York</b> Labs NY01-04 4939 Jordan Rd. Elbridge, NY 13060 (315) 685-0796	<b>Minnesota</b> Labs MN01-08 9349 W Broadway Ave. Brooklyn Park, MN 55445 (763) 425-2281	<b>Washington</b> Labs NC01-05, SU02, SU07 19201 120 <sup>th</sup> Ave. NE Bothell, WA 98011 (425) 984-6600
<b>VCCI</b>				
A-0108	A-0029		A-0109	A-0110
<b>Industry Canada</b>				
2834D-1, 2834D-2	2834B-1, 2834B-2, 2834B-3		2834E-1	2834C-1
<b>NVLAP</b>				
NVLAP Lab Code: 200630-0	NVLAP Lab Code: 200676-0	NVLAP Lab Code: 200761-0	NVLAP Lab Code: 200881-0	NVLAP Lab Code: 200629-0







# PRODUCT DESCRIPTION

## Client and Equipment Under Test (EUT) Information

<b>Company Name:</b>	AMPAK Technologies
<b>Address:</b>	NO. 1 Jen Ai Road Hsinchu Industrial Park
<b>City, State, Zip:</b>	Hukou, Hsinchu, Taiwan 30352
<b>Test Requested By:</b>	Robert Paxman
<b>Model:</b>	GT9664A1
<b>First Date of Test:</b>	July 26, 2013
<b>Last Date of Test:</b>	July 26, 2013
<b>Receipt Date of Samples:</b>	July 26, 2013
<b>Equipment Design Stage:</b>	Production
<b>Equipment Condition:</b>	No Damage

## Information Provided by the Party Requesting the Test

### Functional Description of the EUT (Equipment Under Test):

Ampak Bluetooth radio module, FCC ID: ZQ6-GT966X, co-located with Intel Wi-Fi radio module, FCC ID: PD97260H.

### Testing Objective:

To demonstrate that the Bluetooth radio module, FCC ID: ZQ6-GT966X when co-located with the Intel Wi-Fi radio module, continues to comply with the spurious emissions requirements of FCC 15.247 and FCC 15.407.

## Configuration INTE5406- 1

EUT			
Description	Manufacturer	Model/Part Number	Serial Number
Bluetooth radio module	AMPAK Technologies	GT9664A1	IMCNFZ321R590557GE
Wifi radio module	Intel Corporation	7260HMW	None
Power Supply	None	W12-024N1A	None

Peripherals in test setup boundary			
Description	Manufacturer	Model/Part Number	Serial Number
TV	Dynex	DX-24L200A12	112469058571

Remote Equipment Outside of Test Setup Boundary			
Description	Manufacturer	Model/Part Number	Serial Number
Wireless Router	Cisco	Linksys E2500	10A10C68234624

Cables					
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
DC Power	PA	1.5m	Yes	Power Supply	EUT
AC Power	No	1.4m	No	AC Mains	TV
HDMI Video	Yes	1.3m	No	EUT	TV
PA = Cable is permanently attached to the device. Shielding and/or presence of ferrite may be unknown.					



## Equipment Modifications

Item	Date	Test	Modification	Note	Disposition of EUT
1	7/26/2013	Spurious Radiated Emissions	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	Scheduled testing was completed.

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data. The test data represents the configuration / operating mode/ model that produced the highest emission levels as compared to the specification limit.

## MODES OF OPERATION

Wifi Streaming, Bluetooth Continuous Tx, See comments below for 802.11 and Bluetooth channels.

## POWER SETTINGS INVESTIGATED

110VAC/60Hz

## CONFIGURATIONS INVESTIGATED

INTE5406 - 1

## FREQUENCY RANGE INVESTIGATED

Start Frequency	30 MHz	Stop Frequency	40000 MHz
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## SAMPLE CALCULATIONS

Radiated Emissions: Field Strength = Measured Level + Antenna Factor + Cable Factor - Amplifier Gain + Distance Adjustment Factor + External Attenuation

## TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval
Spectrum Analyzer	Agilent	E4446A	AAQ	2/7/2012	24 mo
LP Filter	Micro-Tronics	LPM50004	LFD	7/6/2012	24 mo
HP Filter	Micro-Tronics	HPM50111	HFO	7/6/2013	24 mo
BP Filter	K&L Microwave	8N50-5250/X200-0/0	HFK	3/21/2012	36 mo
5.725-5.875 Notch Filter	Micro-Tronics	BRC50705	HGJ	3/21/2012	24 mo
HP Filter	Micro-Tronics	HPM50112	HGA	10/4/2012	36 mo
OC Cable	ESM Cable Corp.	KMKM-72	OCV	6/24/2013	12 mo
Cable	ESM Cable Corp.	KMKM-72	EVY	9/11/2012	12 mo
EV01 Cables	N/A	Standard Gain Horns Cables	EVF	2/27/2013	12 mo
EV01 Cables	N/A	Double Ridge Horn Cables	EVB	6/20/2013	12 mo
EV01 Cables	N/A	Bilog Cables	EVA	6/20/2013	12 mo
Pre-Amplifier	Miteq	JSW45-26004000-40-5P	AVR	6/24/2013	12 mo
Pre-Amplifier	Miteq	AMF-6F-18002650-25-10P	AVU	9/11/2012	12 mo
Pre-Amplifier	Miteq	AMF-6F-12001800-30-10P	AVD	2/27/2013	12 mo
Pre-Amplifier	Miteq	AMF-6F-08001200-30-10P	AVC	2/27/2013	12 mo
Pre-Amplifier	Miteq	AMF-4D-010100-24-10P	APW	6/20/2013	12 mo
Pre-Amplifier	Miteq	AM-1616-1000	AOL	6/20/2013	12 mo
Antenna, Horn	ETS Lindgren	3160-10	AIW	NCR	0 mo
Antenna, Horn	ETS Lindgren	3160-09	AIV	NCR	0 mo
Antenna, Horn	ETS	3160-08	AHV	NCR	0 mo
Antenna, Horn	ETS	3160-07	AHU	NCR	0 mo
Antenna, Horn	ETS	3115	AIZ	1/24/2011	36 mo
Antenna, Biconilog	EMCO	3141	AXG	4/10/2012	36 mo

## MEASUREMENT BANDWIDTHS

Frequency Range (MHz)	Peak Data (kHz)	Quasi-Peak Data (kHz)	Average Data (kHz)
0.01 - 0.15	1.0	0.2	0.2
0.15 - 30.0	10.0	9.0	9.0
30.0 - 1000	100.0	120.0	120.0
Above 1000	1000.0	N/A	1000.0

## TEST DESCRIPTION

The highest gain of each type of antenna to be used with the EUT was tested. The EUT was configured for low, mid, and high band transmit frequencies. For each configuration, the spectrum was scanned throughout the specified range. In addition, measurements were made in the restricted bands to verify compliance. While scanning, emissions from the EUT were maximized by rotating the EUT on a turntable, adjusting the position of the EUT and the EUT antenna in three orthogonal axis, and adjusting measurement antenna height and polarization, and manipulating the EUT antenna in 3 orthogonal planes (per ANSI C63.10:2009). A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.



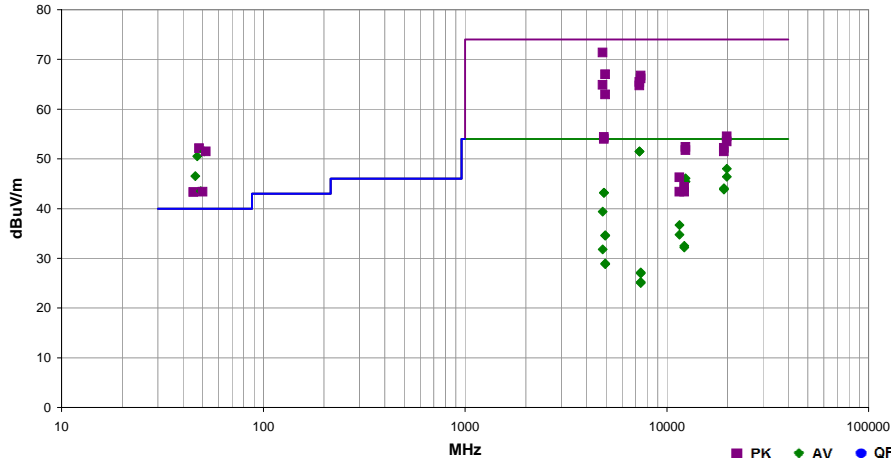
## SPURIOUS RADIATED EMISSIONS

PSA-ESCI 2012.12.14  
PSA-ESCI Version 2013.2.20

Work Order:	INTE5406	Date:	07/26/13	
Project:	None	Temperature:	22.9 °C	
Job Site:	EV01	Humidity:	42.2% RH	
Serial Number:	IMCNFZ321R590557GE	Barometric Pres.:	1020.1 mbar	
EUT:	GT9664A1	Tested by:	Dan Haas	
Configuration:	1			
Customer:	AMPAK Technologies			
Attendees:	Jeff Spencer			
EUT Power:	110VAC/60Hz			
Operating Mode:	Wifi Streaming, Bluetooth Continuous Tx, See comments below for 802.11 and Bluetooth channels.			
Deviations:	None			
Comments:	Colocation. EUT horizontal, Normal operating orientation.			

Test Specifications	Test Method
FCC 15.247.2013	ANSI C63.10:2009

Run #	13	Test Distance (m)	3	Antenna Height(s)	1-4m	Results	Pass
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Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Antenna Height (meters)	Azimuth (degrees)	Duty Cycle Correction Factor (meters)	External Attenuation (dB)	Polarity/Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
4804.340	61.2	10.2	1.3	11.0	0.0	0.0	Horz	PK	0.0	71.4	74.0	-2.6	Mode 1. 802.11 Ch. 6, (2437MHz), Bluetooth Low Ch. 0, (2402MHz)
19832.970	51.8	-3.8	1.2	347.0	0.0	0.0	Horz	AV	0.0	48.0	54.0	-6.0	Mode 3. 802.11 Ch. 157, (5785MHz), Bluetooth High Ch. 78, (2479MHz)
4957.780	56.3	10.7	1.5	340.0	0.0	0.0	Horz	PK	0.0	67.0	74.0	-7.0	Mode 3. 802.11 Ch. 157, (5785MHz), Bluetooth High Ch. 78, (2479MHz)
7437.287	47.3	19.5	2.1	32.0	0.0	0.0	Horz	PK	0.0	66.8	74.0	-7.2	Mode 3. 802.11 Ch. 157, (5785MHz), Bluetooth High Ch. 78, (2479MHz)
19830.680	50.2	-3.8	1.2	146.0	0.0	0.0	Vert	AV	0.0	46.4	54.0	-7.6	Mode 3. 802.11 Ch. 157, (5785MHz), Bluetooth High Ch. 78, (2479MHz)
7437.447	46.7	19.5	2.5	230.0	0.0	0.0	Vert	PK	0.0	66.2	74.0	-7.8	Mode 3. 802.11 Ch. 157, (5785MHz), Bluetooth High Ch. 78, (2479MHz)
12395.510	49.2	-3.1	1.3	287.0	0.0	0.0	Horz	AV	0.0	46.1	54.0	-7.9	Mode 3. 802.11 Ch. 157, (5785MHz), Bluetooth High Ch. 78, (2479MHz)
12395.380	48.6	-3.1	1.2	165.0	0.0	0.0	Vert	AV	0.0	45.5	54.0	-8.5	Mode 3. 802.11 Ch. 157, (5785MHz), Bluetooth High Ch. 78, (2479MHz)
7310.033	46.5	19.0	1.0	224.0	0.0	0.0	Vert	PK	0.0	65.5	74.0	-8.5	Mode 1. 802.11 Ch. 6, (2437MHz), Bluetooth Low Ch. 0, (2402MHz)
4804.220	54.7	10.2	1.5	334.0	0.0	0.0	Vert	PK	0.0	64.9	74.0	-9.1	Mode 1. 802.11 Ch. 6, (2437MHz), Bluetooth Low Ch. 0, (2402MHz)
7310.153	45.8	19.0	1.7	123.0	0.0	0.0	Horz	PK	0.0	64.8	74.0	-9.2	Mode 1. 802.11 Ch. 6, (2437MHz), Bluetooth Low Ch. 0, (2402MHz)
19216.790	48.2	-4.1	1.1	206.0	0.0	0.0	Vert	AV	0.0	44.1	54.0	-9.9	Mode 1. 802.11 Ch. 6, (2437MHz), Bluetooth Low Ch. 0, (2402MHz)
19214.630	47.9	-4.1	1.2	285.0	0.0	0.0	Horz	AV	0.0	43.8	54.0	-10.2	Mode 1. 802.11 Ch. 6, (2437MHz), Bluetooth Low Ch. 0, (2402MHz)
4957.667	52.2	10.7	1.0	266.0	0.0	0.0	Vert	PK	0.0	62.9	74.0	-11.1	Mode 3. 802.11 Ch. 157, (5785MHz), Bluetooth High Ch. 78, (2479MHz)
4803.980	59.3	10.2	1.3	11.0	-30.1	0.0	Horz	AV	0.0	39.4	54.0	-14.6	Mode 1. 802.11 Ch. 6, (2437MHz), Bluetooth Low Ch. 0, (2402MHz)
11570.000	43.8	-7.1	1.1	188.0	0.0	0.0	Vert	AV	0.0	36.7	54.0	-17.3	Mode 3. 802.11 Ch. 157, (5785MHz), Bluetooth High Ch. 78, (2479MHz)
11569.950	41.9	-7.1	1.0	178.0	0.0	0.0	Horz	AV	0.0	34.8	54.0	-19.2	Mode 3. 802.11 Ch. 157, (5785MHz), Bluetooth High Ch. 78, (2479MHz)
4957.967	54.0	10.7	1.5	340.0	-30.1	0.0	Horz	AV	0.0	34.6	54.0	-19.4	Mode 3. 802.11 Ch. 157, (5785MHz), Bluetooth High Ch. 78, (2479MHz)
4957.993	53.9	10.7	1.5	340.0	-30.1	0.0	Horz	AV	0.0	34.5	54.0	-19.5	Mode 3. 802.11 Ch. 157, (5785MHz), Bluetooth High Ch. 78, (2479MHz) 10Hz VBW
19833.250	58.3	-3.8	1.2	347.0	0.0	0.0	Horz	PK	0.0	54.5	74.0	-19.5	Mode 3. 802.11 Ch. 157, (5785MHz), Bluetooth High Ch. 78, (2479MHz)
4873.800	44.0	10.4	1.0	24.0	0.0	0.0	Horz	PK	0.0	54.4	74.0	-19.6	Mode 1. 802.11 Ch. 6, (2437MHz), Bluetooth Low Ch. 0, (2402MHz)
4872.527	43.6	10.4	1.1	28.0	0.0	0.0	Vert	PK	0.0	54.0	74.0	-20.0	Mode 1. 802.11 Ch. 6, (2437MHz), Bluetooth Low Ch. 0, (2402MHz)
19830.570	57.3	-3.8	1.2	146.0	0.0	0.0	Vert	PK	0.0	53.5	74.0	-20.5	Mode 3. 802.11 Ch. 157, (5785MHz), Bluetooth High Ch. 78, (2479MHz)
12184.160	36.3	-3.8	1.2	233.0	0.0	0.0	Vert	AV	0.0	32.5	54.0	-21.5	Mode 1. 802.11 Ch. 6, (2437MHz), Bluetooth Low Ch. 0, (2402MHz)
12395.650	55.5	-3.1	1.3	287.0	0.0	0.0	Horz	PK	0.0	52.4	74.0	-21.6	Mode 3. 802.11 Ch. 157, (5785MHz), Bluetooth High Ch. 78, (2479MHz)
19217.160	56.3	-4.1	1.1	206.0	0.0	0.0	Vert	PK	0.0	52.2	74.0	-21.8	Mode 1. 802.11 Ch. 6, (2437MHz), Bluetooth Low Ch. 0, (2402MHz)
12184.960	36.0	-3.8	1.1	4.0	0.0	0.0	Horz	AV	0.0	32.2	54.0	-21.8	Mode 1. 802.11 Ch. 6, (2437MHz), Bluetooth Low Ch. 0, (2402MHz)
4803.920	51.7	10.2	1.5	334.0	-30.1	0.0	Vert	AV	0.0	31.8	54.0	-22.2	Mode 1. 802.11 Ch. 6, (2437MHz), Bluetooth Low Ch. 0, (2402MHz)
12395.560	54.9	-3.1	1.2	165.0	0.0	0.0	Vert	PK	0.0	51.8	74.0	-22.2	Mode 3. 802.11 Ch. 157, (5785MHz), Bluetooth High Ch. 78, (2479MHz)
19216.950	55.6	-4.1	1.2	285.0	0.0	0.0	Horz	PK	0.0	51.5	74.0	-22.5	Mode 1. 802.11 Ch. 6, (2437MHz), Bluetooth Low Ch. 0, (2402MHz)
7312.760	32.5	19.0	1.0	224.0	0.0	0.0	Vert	AV	0.0	51.5	74.0	-22.5	Mode 1. 802.11 Ch. 6, (2437MHz), Bluetooth Low Ch. 0, (2402MHz), 10Hz VBW
7312.000	32.5	19.0	1.7	123.0	0.0	0.0	Horz	AV	0.0	51.5	74.0	-22.5	Mode 1. 802.11 Ch. 6, (2437MHz), Bluetooth Low Ch. 0, (2402MHz), 10Hz VBW
4957.980	48.3	10.7	1.0	266.0	-30.1	0.0	Vert	AV	0.0	28.9	54.0	-25.1	Mode 3. 802.11 Ch. 157, (5785MHz), Bluetooth High Ch. 78, (2479MHz)
4957.987	48.2	10.7	1.0	266.0	-30.1	0.0	Vert	AV	0.0	28.8	54.0	-25.2	Mode 3. 802.11 Ch. 157, (5785MHz), Bluetooth High Ch. 78, (2479MHz)
7436.900	37.8	19.5	2.5	230.0	-30.1	0.0	Vert	AV	0.0	27.2	54.0	-26.8	Mode 3. 802.11 Ch. 157, (5785MHz), Bluetooth High Ch. 78, (2479MHz) 10Hz VBW
7436.960	37.6	19.5	2.1	32.0	-30.1	0.0	Horz	AV	0.0	27.0	54.0	-27.0	Mode 3. 802.11 Ch. 157, (5785MHz), Bluetooth High Ch. 78, (2479MHz)
11570.380	53.4	-7.1	1.1	188.0	0.0	0.0	Vert	PK	0.0	46.3	74.0	-27.7	Mode 3. 802.11 Ch. 157, (5785MHz), Bluetooth High Ch. 78, (2479MHz)
7436.980	35.9	19.5	2.5	230.0	-30.1	0.0	Vert	AV	0.0	25.3	54.0	-28.7	Mode 3. 802.11 Ch. 157, (5785MHz), Bluetooth High Ch. 78, (2479MHz) 10Hz VBW
7436.980	35.7	19.5	2.1	32.0	-30.1	0.0	Horz	AV	0.0	25.1	54.0	-28.9	Mode 3. 802.11 Ch. 157, (5785MHz), Bluetooth High Ch. 78, (2479MHz) 10Hz VBW
12182.670	48.2	-3.8	1.2	233.0	0.0	0.0	Vert	PK	0.0	44.4	74.0	-29.6	Mode 1. 802.11 Ch. 6, (2437MHz), Bluetooth Low Ch. 0, (2402MHz)
11570.250	50.5	-7.1	1.0	178.0	0.0	0.0	Horz	PK	0.0	43.4	74.0	-30.6	Mode 3. 802.11 Ch. 157, (5785MHz), Bluetooth High Ch. 78, (2479MHz)
12184.060	47.2	-3.8	1.1	4.0	0.0	0.0	Horz	PK	0.0	43.4	74.0	-30.6	Mode 1. 802.11 Ch. 6, (2437MHz), Bluetooth Low Ch. 0, (2402MHz)
4874.547	32.8	10.4	1.1	28.0	0.0	0.0	Vert	AV	0.0	43.2	74.0	-30.8	Mode 1. 802.11 Ch. 6, (2437MHz), Bluetooth Low Ch. 0, (2402MHz)
4873.433	32.9	10.4	1.0	24.0	0.0	0.0	Horz	AV	0.0	43.2	74.0	-30.8	Mode 1. 802.11 Ch. 6, (2437MHz), Bluetooth Low Ch. 0, (2402MHz)
12009.290	47.7	-4.4	1.3	33.0	0.0	0.0	Horz	AV	0.0	43.3	54.0	-10.7	Mode 2. 802.11 Ch. 48, (5240MHz), Bluetooth Low Ch. 0, (2402MHz)
12010.510	50.9	-4.4	1.0	206.0	0.0	0.0	Vert	AV	0.0	46.5	54.0	-7.5	Mode 2. 802.11 Ch. 48, (5240MHz), Bluetooth Low Ch. 0, (2402MHz)
12010.760	54.9	-4.4	1.3	33.0	0.0	0.0	Horz	PK	0.0	50.5	74.0	-23.5	Mode 2. 802.11 Ch. 48, (5240MHz), Bluetooth Low Ch. 0, (2402MHz)
12010.820	56.5	-4.4	1.0	206.0	0.0	0.0	Vert	PK	0.0	52.1	74.0	-21.9	Mode 2. 802.11 Ch. 48, (5240MHz), Bluetooth Low Ch. 0, (2402MHz)
19214.710	47.6	-4.1	1.2	286.0	0.0	0.0	Horz	AV	0.0	43.5	54.0	-10.5	Mode 2. 802.11 Ch. 48, (5240MHz), Bluetooth Low Ch. 0, (2402MHz)
19214.720	47.5	-4.1	1.1	207.0	0.0	0.0	Vert	AV	0.0	43.4	54.0	-10.6	Mode 2. 802.11 Ch. 48, (5240MHz), Bluetooth Low Ch. 0, (2402MHz)
19214.930	55.6	-4.1	1.1	207.0	0.0	0.0	Vert	PK	0.0	51.5	74.0	-22.5	Mode 2. 802.11 Ch. 48, (5240MHz), Bluetooth Low Ch. 0, (2402MHz)
19217.080	55.6	-4.1	1.2	286.0	0.0	0.0	Horz	PK	0.0	51.5	74.0	-22.5	Mode 2. 802.11 Ch. 48, (5240MHz), Bluetooth Low Ch. 0, (2402MHz)



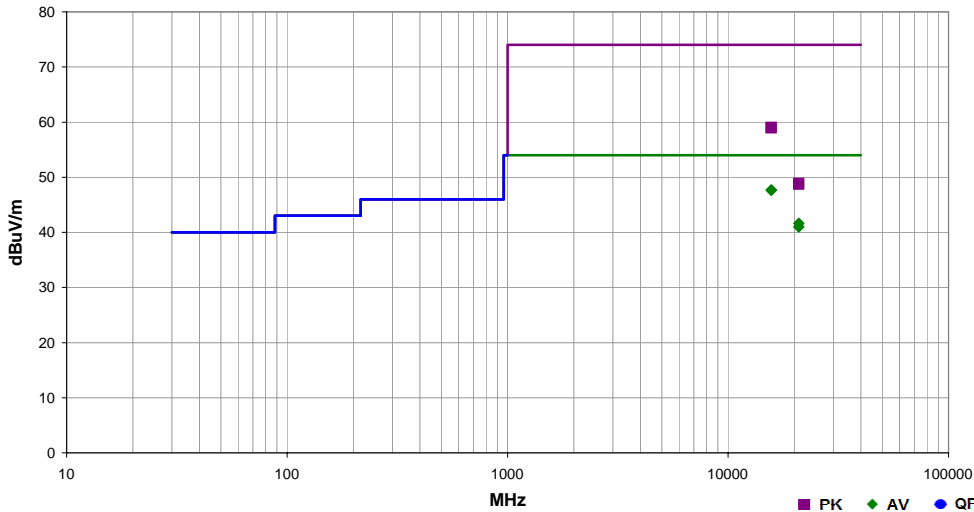
## SPURIOUS RADIATED EMISSIONS

PSA-ESCI 2012.12.14  
PSA-ESCI Version 2013.2.20

Work Order:	INTE5406	Date:	07/26/13	
Project:	None	Temperature:	22.9 °C	
Job Site:	EV01	Humidity:	42.2% RH	
Serial Number:	IMCNFZ321R590557GE	Barometric Pres.:	1020.1 mbar	
EUT:		GT9664A1		
Configuration:	1			
Customer:	AMPAK Technologies			
Attendees:	Jeff Spencer			
EUT Power:	110VAC/60Hz			
Operating Mode:	Wifi Streaming, Bluetooth Continuous Tx, See comments below for 802.11 and Bluetooth channels.			
Deviations:	None			
Comments:	Colocation. EUT horizontal, Normal operating orientation.			

Test Specifications	Test Method
FCC 15.407:2013	ANSI C63.10:2009

Run #	13	Test Distance (m)	3	Antenna Height(s)	1-4m	Results	Pass
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Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Antenna Height (meters)	Azimuth (degrees)	Duty Cycle Correction Factor (meters)	External Attenuation (dB)	Polarity/Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
15720.590	37.4	10.2	1.0	175.0	0.0	0.0	Vert	AV	0.0	47.6	54.0	-6.4	Mode 2. 802.11 Ch. 48, (5240MHz), Bluetooth Low Ch. 0, (2402MHz)
15720.130	37.4	10.2	1.0	155.0	0.0	0.0	Horz	AV	0.0	47.6	54.0	-6.4	Mode 2. 802.11 Ch. 48, (5240MHz), Bluetooth Low Ch. 0, (2402MHz)
20959.990	45.6	-4.0	1.2	207.0	0.0	0.0	Vert	AV	0.0	41.6	54.0	-12.4	Mode 2. 802.11 Ch. 48, (5240MHz), Bluetooth Low Ch. 0, (2402MHz)
20960.070	45.0	-4.0	1.2	178.0	0.0	0.0	Horz	AV	0.0	41.0	54.0	-13.0	Mode 2. 802.11 Ch. 48, (5240MHz), Bluetooth Low Ch. 0, (2402MHz)
15719.580	48.8	10.2	1.0	175.0	0.0	0.0	Vert	PK	0.0	59.0	74.0	-15.0	Mode 2. 802.11 Ch. 48, (5240MHz), Bluetooth Low Ch. 0, (2402MHz)
15721.030	48.7	10.2	1.0	155.0	0.0	0.0	Horz	PK	0.0	58.9	74.0	-15.1	Mode 2. 802.11 Ch. 48, (5240MHz), Bluetooth Low Ch. 0, (2402MHz)
20959.620	52.9	-4.0	1.2	178.0	0.0	0.0	Horz	PK	0.0	48.9	74.0	-25.1	Mode 2. 802.11 Ch. 48, (5240MHz), Bluetooth Low Ch. 0, (2402MHz)
20959.910	52.7	-4.0	1.2	207.0	0.0	0.0	Vert	PK	0.0	48.7	74.0	-25.3	Mode 2. 802.11 Ch. 48, (5240MHz), Bluetooth Low Ch. 0, (2402MHz)



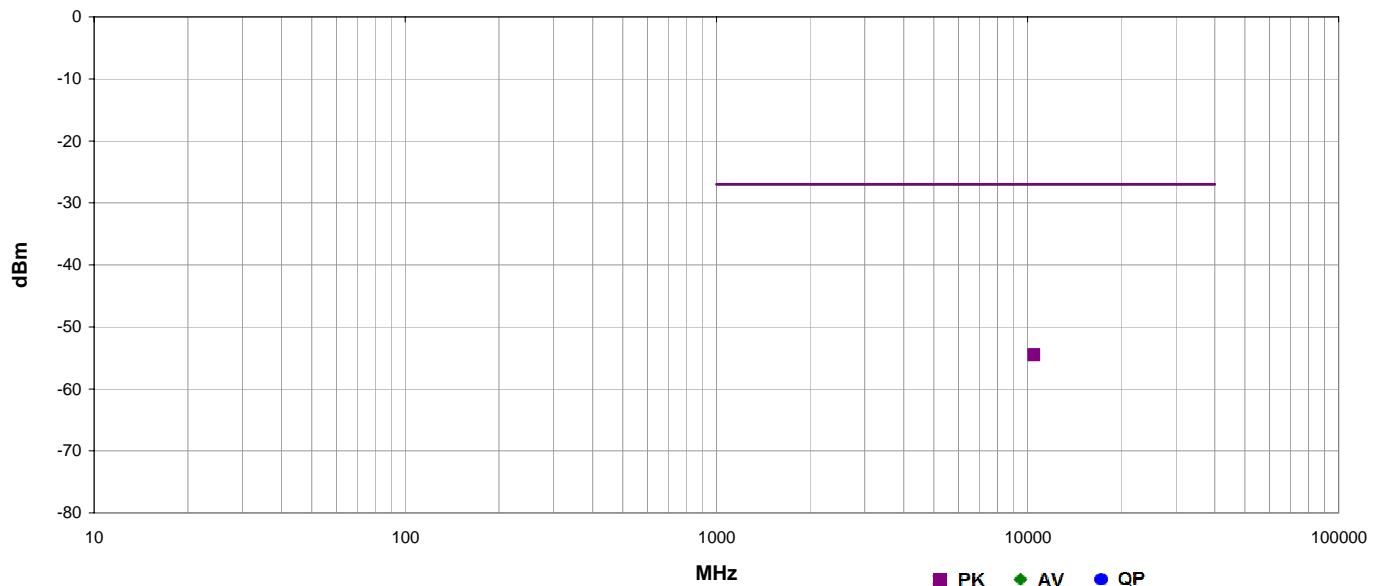
## SPURIOUS RADIATED EMISSIONS

PSA-ESCI 2012.12.14  
PSA-ESCI Version 2013.2.20

Work Order:	INTE5406	Date:	07/26/13	
Project:	None	Temperature:	22.9 °C	
Job Site:	EV01	Humidity:	42.2% RH	
Serial Number:	IMCNFZ321R590557GE	Barometric Pres.:	1020.1 mbar	
EUT:	GT9664A1			
Configuration:	1			
Customer:	AMPAK Technologies			
Attendees:	Jeff Spencer			
EUT Power:	110VAC/60Hz			
Operating Mode:	Wifi Streaming, Bluetooth Continuous Tx, See comments below for 802.11 and Bluetooth channels.			
Deviations:	None			
Comments:	Colocation. EUT horizontal, Normal operating orientation.			

Test Specifications	Test Method
FCC 15.407:2013	ANSI C63.10:2009

Run #	13	Test Distance (m)	3	Antenna Height(s)	1-4m	Results	Pass
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Freq (MHz)	Antenna Height (meters)	Azimuth (degrees)	Polarity/Transducer Type	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
10479.540	1.4	152.0	Vert	PK	3.50E-09	-54.6	-27.0	-27.6	Mode 2. 802.11 Ch. 48, (5240MHz), Bluetooth Low Ch. 0, (2402MHz)
10479.720	1.4	0.0	Horz	PK	3.59E-09	-54.5	-27.0	-27.5	Mode 2. 802.11 Ch. 48, (5240MHz), Bluetooth Low Ch. 0, (2402MHz)