

EMI TEST REPORT

FCC CERTIFICATION

Applicant:
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Date of Receipt: March 07, 2017
Date of Issue: May 11, 2017
Test Report No. HCT-E-1705-F010
HCT FRN: 0005866421

FCC ID:

A3LWEA512I

Rule Part(s) / Standard(s): FCC CFR 47 PART 15 Subpart B Class B
FCC Classification: JBP (Part 15 B – Class B Computing Device Peripheral)
EUT Type: WLAN Access Point
Model Name: WEA512i
Date of Test: May 08, 2017 - May 10, 2017

The device bearing the trade name and model specified above, has been shown to comply with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in ANSI C63.4-2014. (See Test Report if any modifications were made for compliance)

I attest to the accuracy of data. All measurements reported herein were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them. HCT certifies that no party to application has been denied the FCC benefits pursuant to Section 5301 of the Anti-Drug Abuse Act of 1988, 21 U.S.C 862

Tested By



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DOCUMENT HISTORY

The revision history for this document is shown in table.

Version	Date	Description
HCT-E-1705-F010	May 11, 2017	Initial Release



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ATTACHMENT: TEST SETUP PHOTOGRAPHS



1. GENERAL INFORMATION

1.1 Description of EUT

The EUT is WLAN Access Point

FCC ID	A3LWEA512I
Model	WEA512i
EUT Type	WLAN Access Point
Product Specification	
Frequency Range	2.412 GHz to 2.462 GHz 5.180 GHz to 5.825 GHz
Powering Options	Local power supply: 48 V / 0.27 A

NOTE. Console port is debugging port.

1.2 Related Submittal(s) / Grant(s)

Original submittal only.



1.3 Test Facility

Test site is located at 74, SEOICHEON-RO, 578BEON-GIL, MAJANG-MYEON, ICHEON-SI, GYEONGGI-DO, SOUTH KOREA. Those measurement facilities are constructed in conformance with the requirements of ANSI C63.4-2014.

Measurement Facilities	Registration Number
Radiated Field strength measurement facility 3 m Semi Anechoic chamber	90661 (July 07, 2015)
Radiated Field strength measurement facility 10 m Semi Anechoic chamber	

1.4 Instrument Calibration

The measuring equipment, which was utilized in performing the tests documented herein, has been calibrated in accordance with the manufacturers recommendations for utilizing calibration equipments, which is traceable to recognized national standards.

Especially, all antenna for measurement is calibrated in accordance with the requirements of C63.5 (Version : 2006).



1.5 Tested System Details

All equipment descriptions used in the tested system (including inserted cards) are:

Device Type	Model Name	Serial Number	Manufacturer
EUT	WEA512i	-	SAMSUNG
Adaptor	AP36-48	-	ACT
PoE adaptor	PoE DC Power	-	PowerDsine Ltd.
Notebook PC	ProBook 6560b	5CB2053MXF	-
Notebook PC adaptor	PPP009D	WBGSV0BDD1VLC	DELTA Electronics (Jiangsu) LTD
Serial Mouse	Serial 2 button mouse	02031069	Radio Shack
Keyboard	SKG-2000UW	-	Monterey International Corp.
Phone1	LG-F470K	-	LG
Phone2	LG-F160K	-	LG



1.6 Cable Description

EUT & AC Adaptor

Product Name	Port	Power Cord Shielded (Y/N)	I/O Cable Shielded (Y/N)	Length (m)
EUT	DC IN	N	N/A	(P)1.8
	LAN	N/A	N	(D)3.0
Notebook PC	USB	N/A	Y	(D)1.8
	Serial Mouse	N/A	Y	(D)1.8
	DC IN	N	N/A	(P)1.8

EUT & PoE Adaptor

Product Name	Port	Power Cord Shielded (Y/N)	I/O Cable Shielded (Y/N)	Length (m)
EUT	LAN	N/A	N	(P,D)1.5
PoE adaptor	Data I/O	N/A	N	(D)3.0
Notebook PC	USB	N/A	Y	(D)1.8
	Serial Mouse	N/A	Y	(D)1.8
	DC IN	N	N/A	(P)1.8

* The marked "(D)" means the data cable and "(P)" means the power cable.



1.7 Noise Suppression Parts on Cable. (I/O Cable)

EUT & AC Adaptor

Product Name	Port	Ferrite Bead (Y/N)	Location	Metal Hood (Y/N)	Location
EUT	DC IN	Y	EUT End	Y	EUT End
	LAN	N	N/A	N	N/A
Notebook PC	USB	N	N/A	Y	Notebook PC End
	Serial Mouse	N	N/A	Y	Notebook PC End
	DC IN	N	N/A	Y	Notebook PC End

EUT & PoE Adaptor

Product Name	Port	Ferrite Bead (Y/N)	Location	Metal Hood (Y/N)	Location
EUT	LAN	N	N/A	N	N/A
PoE adaptor	DATA I/O	N	N/A	N	N/A
Notebook PC	USB	N	N/A	Y	Notebook PC End
	Serial Mouse	N	N/A	Y	Notebook PC End
	DC IN	N	N/A	Y	Notebook PC End



2. MEASUREMENT UNCERTAINTY

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI C63.4-2014.

All measurement uncertainty values are shown with a coverage factor of $k = 2$ to indicate a 95 % level of confidence. The measurement data shown herein meets or exceeds the U_{CISPR} measurement uncertainty values specified in CISPR 16-4-2 and, thus, can be compared directly to specified limits to determine compliance.

Parameter	Expanded Uncertainty (dB)
Conducted Emission (0.15 MHz to 30 MHz)	$\pm 1.82 \text{ dB } (k = 2)$
Radiated Emissions (30 MHz to 1 GHz)	$\pm 5.06 \text{ dB } (k = 2)$
Radiated Emissions (1 GHz to 6 GHz)	$\pm 5.0 \text{ dB } (k = 2)$
Radiated Emissions (6 GHz to 18 GHz)	$\pm 5.4 \text{ dB } (k = 2)$



3. DESCRIPTION OF TEST

3.1 Measurement of Conducted Emission

The test procedure was in accordance with ANSI C63.4-2014

- a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN).
If the EUT is connected to the PC through USB, the AC power-line adapter of the PC is directly connected to a line impedance stabilization network (LISN).
Other support units were connected to the power mains through another LISN. The two LISNs provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
- b. Both conducted lines are measured in Quasi-Peak and Average mode, including the worst-case data points for each tested configuration.
- c. The frequency range from 150 kHz to 30 MHz was searched.

[Conducted Emission Limit]

Frequency (MHz)	Resolution Bandwidth (kHz)	Quasi-Peak (dBμV)	Average (dBμV)
0.15 to 0.5	9	66 to 56*	56 to 46*
0.5 to 5	9	56	46
5 to 30	9	60	50

**Decreases with the logarithm of the frequency.*



3.2 Measurement of Radiated Emission

The test procedure was in accordance with ANSI C63.4-2014

- The EUT was placed on the top of a turn table 0.8 meters above the ground at a semi anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- The EUT was set 3 m away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- The antenna height is varied from 1 m to 4 m above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 m to 4 m and the turn table was turned from 0 degrees to 360 degrees to find the maximum reading.
- The test-receiver system was set to Quasi-Peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.
- The test-receiver system was set to Peak and Average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz.
- Place the measurement antenna away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response.(1 GHz to 40 GHz)

[Radiated Emission Limits]

Frequency (MHz)	Antenna Distance (m)	Field Strength ($\mu\text{V/m}$)	Quasi-Peak (dB $\mu\text{V/m}$)
30 to 88	3	100	40.0
88 to 216	3	150	43.5
216 to 960	3	200	46.0
Above 960	3	500	54.0
Frequency (MHz)	Antenna Distance (m)	Peak (dB $\mu\text{V/m}$)	Average (dB $\mu\text{V/m}$)
Above 1 000	3	74	54



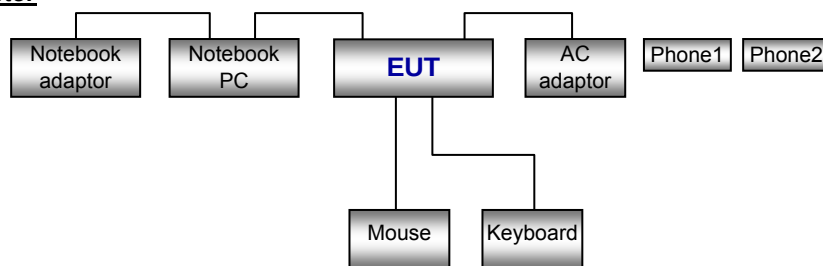
3.2.1 Frequency Range of Radiated Measurements

An unintentional radiator, including a digital device, the spectrum shall be investigated from the lowest radio frequency signal generated or used in the device, without going below the lowest frequency for which a Radiated Emission limit is specified, up to the frequency shown in the following table

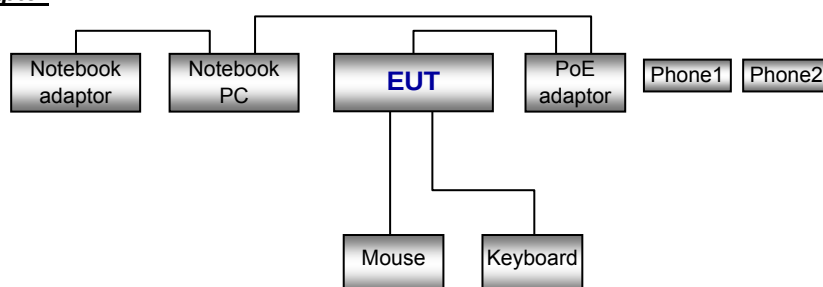
Highest frequency generated or used in the device or on which the device operates or tunes (MHz)	Upper frequency of measurement range (MHz)
Below 1.705	30
1.705 to 108	1 000
108 to 500	2 000
500 to 1 000	5 000
Above 1 000	5 th harmonic of the highest frequency or 40 GHz, whichever is lower

3.3 Configuration of Tested System

AC Adaptor



PoE Adaptor





4. PRELIMINARY TEST

4.1 Conducted Emission Test

During preliminary tests, the following operating mode was investigated:

Operation Mode: Ethernet & WLAN Idle mode (AC Adaptor / PoE Adaptor)

4.2 Radiated Emission Test

During preliminary tests, the following operating mode was investigated:

Operation Mode: Ethernet & WLAN Idle mode (AC Adaptor / PoE Adaptor)



5. CONDUCTED AND RADIATED EMISSION TEST SUMMARY

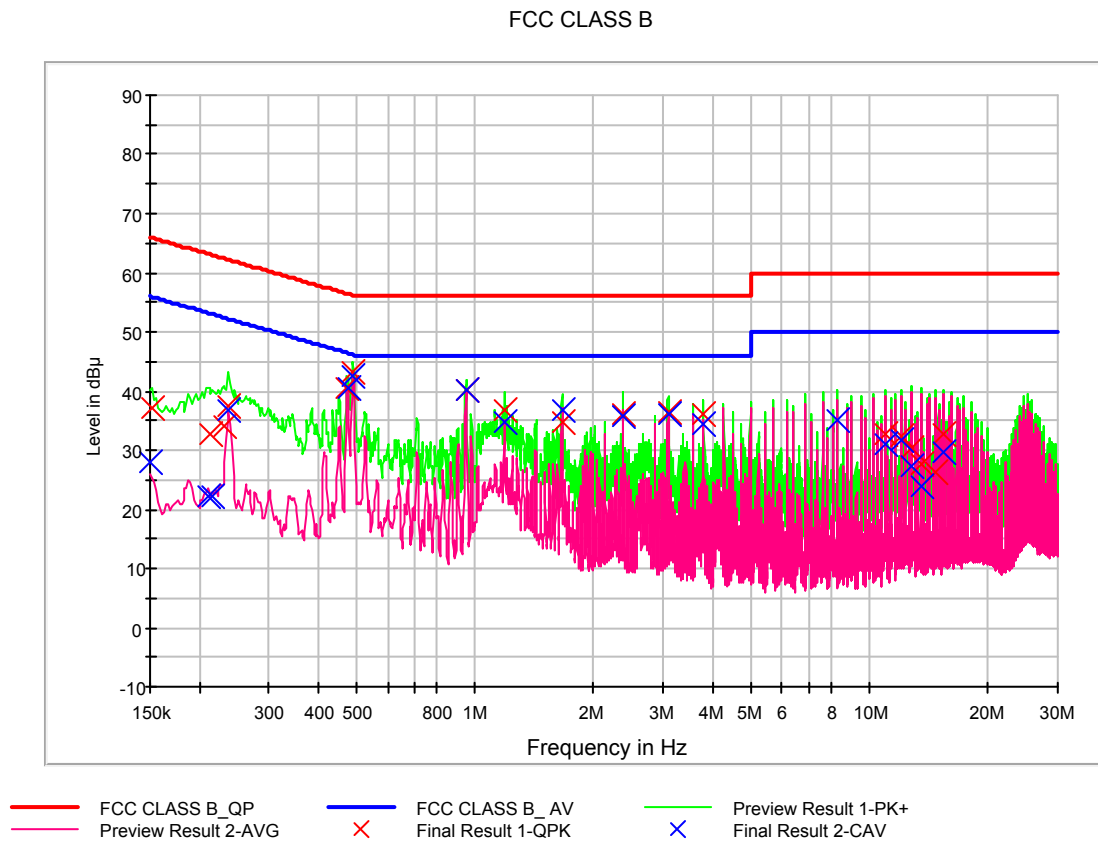
5.1 Conducted Emission Test

The test results of conducted emission at mains ports provide the following information:

Rule Part / Standard	FCC PART 15 Subpart B Class B
Detector	Quasi-Peak, CISPR-Average
Bandwidth	9 kHz (6 dB)
Operation Mode	Ethernet & WLAN Idle mode
Kind of Test Site	EMI Shielded Room
Temperature	24.9 °C
Relative Humidity	36.2 %
Test Date	May 10, 2017

✳ Calculation Formula:

1. Conductor L1 = Hot, Conductor N = Neutral
2. Corr. = LISN Factor + Cable Loss
3. QuasiPeak or CAverage= Receiver Reading + Corr.
4. Margin = Limit – QuasiPeak or CAverage

**Figure 1: Spectral Diagrams, AC Adaptor, Line (L1)**



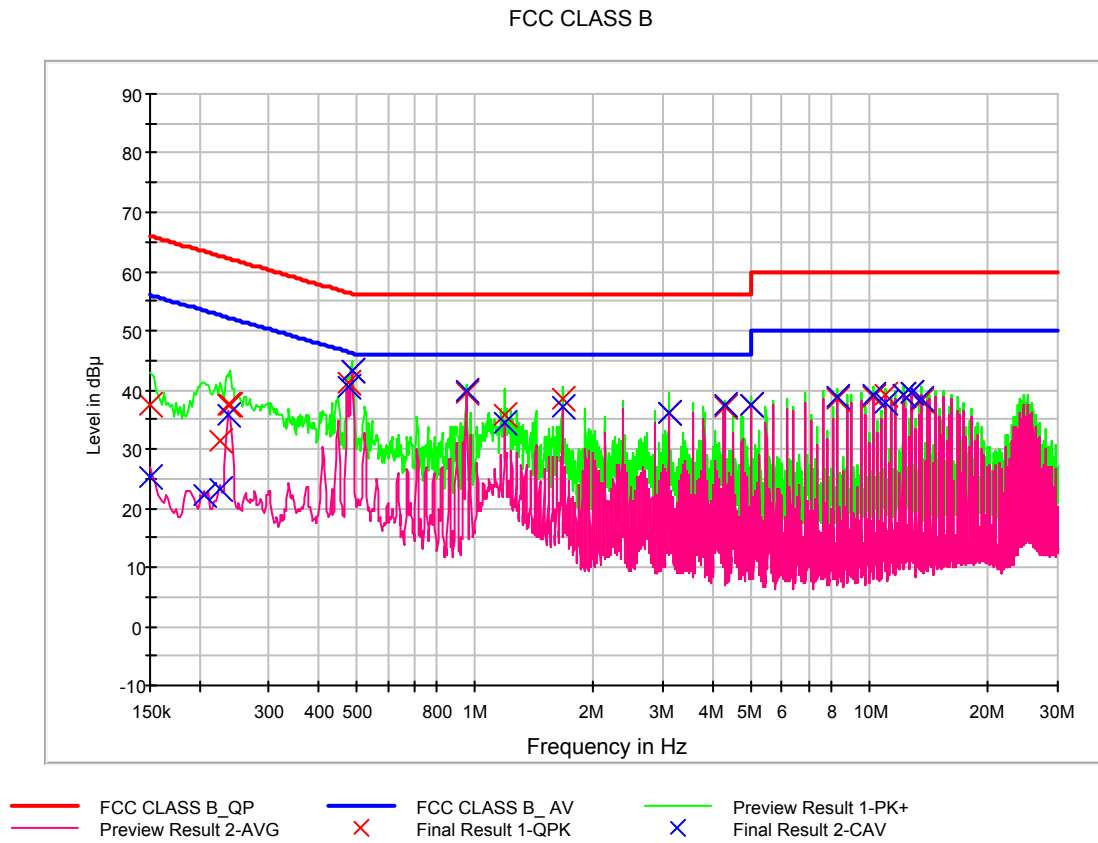
QuasiPeak Final Result, Line (L1)

Frequency (MHz)	QuasiPeak (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.152000	37.0	9.000	L1	9.6	28.9	65.9
0.212000	32.8	9.000	L1	9.6	30.3	63.1
0.230000	33.9	9.000	L1	9.6	28.5	62.4
0.236000	37.3	9.000	L1	9.6	24.9	62.2
0.474000	40.5	9.000	L1	9.7	16.0	56.4
0.488000	43.2	9.000	L1	9.7	13.0	56.2
0.950000	40.2	9.000	L1	9.7	15.8	56.0
1.188000	36.7	9.000	L1	9.7	19.3	56.0
1.660000	34.9	9.000	L1	9.8	21.1	56.0
2.374000	36.2	9.000	L1	9.8	19.8	56.0
3.088000	36.3	9.000	L1	9.8	19.7	56.0
3.800000	36.0	9.000	L1	9.9	20.0	56.0
10.924000	32.6	9.000	L1	10.1	27.4	60.0
12.112000	32.4	9.000	L1	10.2	27.6	60.0
12.824000	30.4	9.000	L1	10.2	29.6	60.0
13.536000	27.5	9.000	L1	10.2	32.5	60.0
14.724000	26.4	9.000	L1	10.3	33.6	60.0
15.438000	32.6	9.000	L1	10.3	27.4	60.0



CAverage Final Result, Line (L1)

Frequency (MHz)	CAverage (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.150000	28.1	9.000	L1	9.6	27.9	56.0
0.210000	22.4	9.000	L1	9.6	30.9	53.2
0.216000	22.3	9.000	L1	9.6	30.7	53.0
0.238000	36.8	9.000	L1	9.6	15.4	52.2
0.476000	40.4	9.000	L1	9.7	6.0	46.4
0.490000	42.4	9.000	L1	9.7	3.8	46.2
0.950000	40.3	9.000	L1	9.7	5.7	46.0
1.188000	34.8	9.000	L1	9.7	11.2	46.0
1.662000	36.9	9.000	L1	9.8	9.1	46.0
2.374000	35.8	9.000	L1	9.8	10.2	46.0
3.088000	36.0	9.000	L1	9.8	10.0	46.0
3.800000	34.6	9.000	L1	9.9	11.4	46.0
8.312000	34.9	9.000	L1	10.0	15.1	50.0
10.924000	31.0	9.000	L1	10.1	19.0	50.0
12.112000	31.7	9.000	L1	10.2	18.3	50.0
12.824000	27.2	9.000	L1	10.2	22.8	50.0
13.536000	24.0	9.000	L1	10.2	26.0	50.0
15.438000	29.7	9.000	L1	10.3	20.3	50.0

**Figure 2: Spectral Diagrams, AC Adaptor, Line (N)**



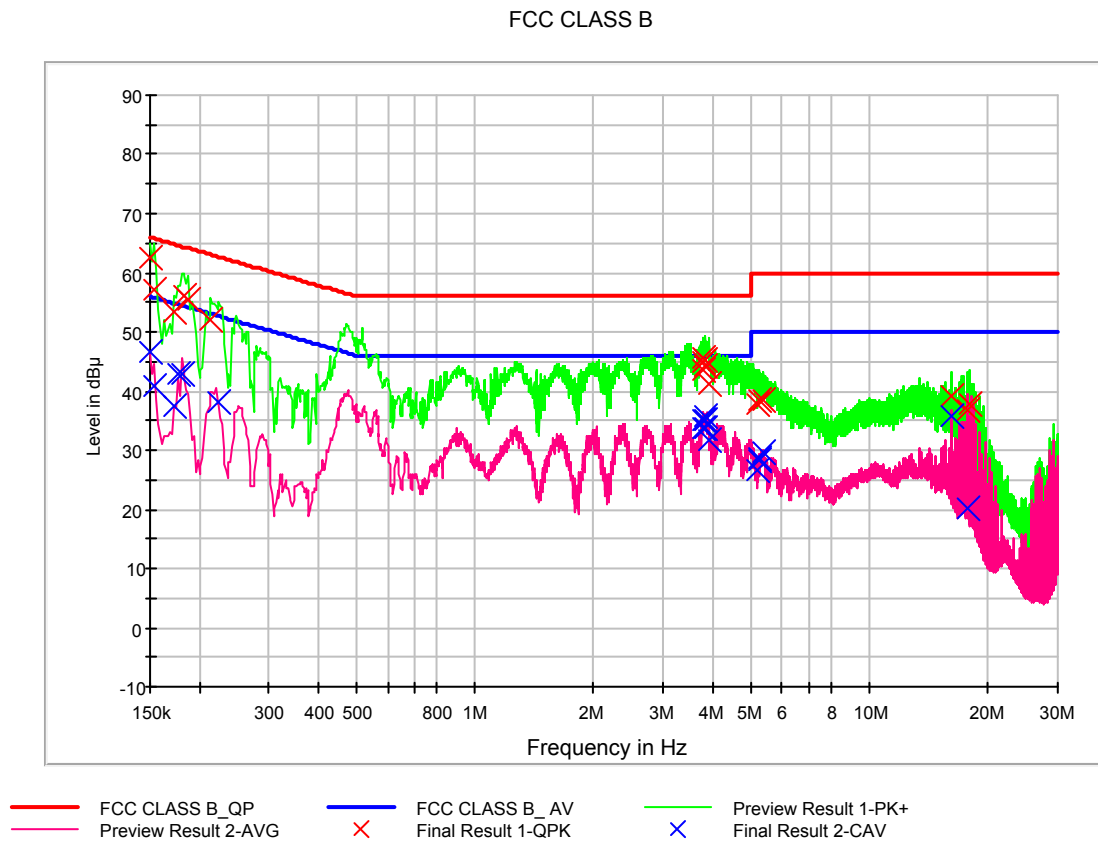
QuasiPeak Final Result, Line (N)

Frequency (MHz)	QuasiPeak (dBμV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.150000	37.5	9.000	N	9.6	28.5	66.0
0.226000	31.3	9.000	N	9.6	31.3	62.6
0.236000	37.5	9.000	N	9.6	24.7	62.2
0.240000	37.3	9.000	N	9.6	24.8	62.1
0.476000	41.1	9.000	N	9.7	15.4	56.4
0.486000	43.4	9.000	N	9.7	12.9	56.2
0.952000	39.7	9.000	N	9.7	16.3	56.0
1.188000	35.9	9.000	N	9.7	20.1	56.0
1.664000	38.5	9.000	N	9.7	17.5	56.0
3.092000	36.3	9.000	N	9.8	19.7	56.0
4.280000	37.1	9.000	N	9.9	18.9	56.0
4.994000	37.4	9.000	N	9.9	18.6	56.0
8.322000	38.6	9.000	N	10.0	21.4	60.0
10.224000	38.9	9.000	N	10.1	21.1	60.0
10.938000	39.1	9.000	N	10.1	20.9	60.0
12.126000	39.1	9.000	N	10.2	20.9	60.0
12.840000	39.4	9.000	N	10.2	20.6	60.0
13.552000	38.3	9.000	N	10.2	21.7	60.0



CAverage Final Result, Line (N)

Frequency (MHz)	CAverage (dBμV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.150000	25.4	9.000	N	9.6	30.6	56.0
0.206000	22.3	9.000	N	9.6	31.0	53.4
0.226000	23.2	9.000	N	9.6	29.4	52.6
0.238000	35.8	9.000	N	9.6	16.3	52.2
0.476000	40.5	9.000	N	9.7	5.9	46.4
0.486000	43.2	9.000	N	9.7	3.0	46.2
0.952000	39.9	9.000	N	9.7	6.1	46.0
1.188000	34.4	9.000	N	9.7	11.6	46.0
1.664000	37.3	9.000	N	9.7	8.7	46.0
3.092000	36.1	9.000	N	9.8	9.9	46.0
4.280000	37.3	9.000	N	9.9	8.7	46.0
4.994000	37.6	9.000	N	9.9	8.4	46.0
8.322000	38.8	9.000	N	10.0	11.2	50.0
10.224000	39.0	9.000	N	10.1	11.0	50.0
10.936000	37.7	9.000	N	10.1	12.3	50.0
12.126000	39.1	9.000	N	10.2	10.9	50.0
12.840000	39.5	9.000	N	10.2	10.5	50.0
13.552000	38.4	9.000	N	10.2	11.6	50.0

**Figure 3: Spectral Diagrams, PoE Adaptor, Line (L1)**



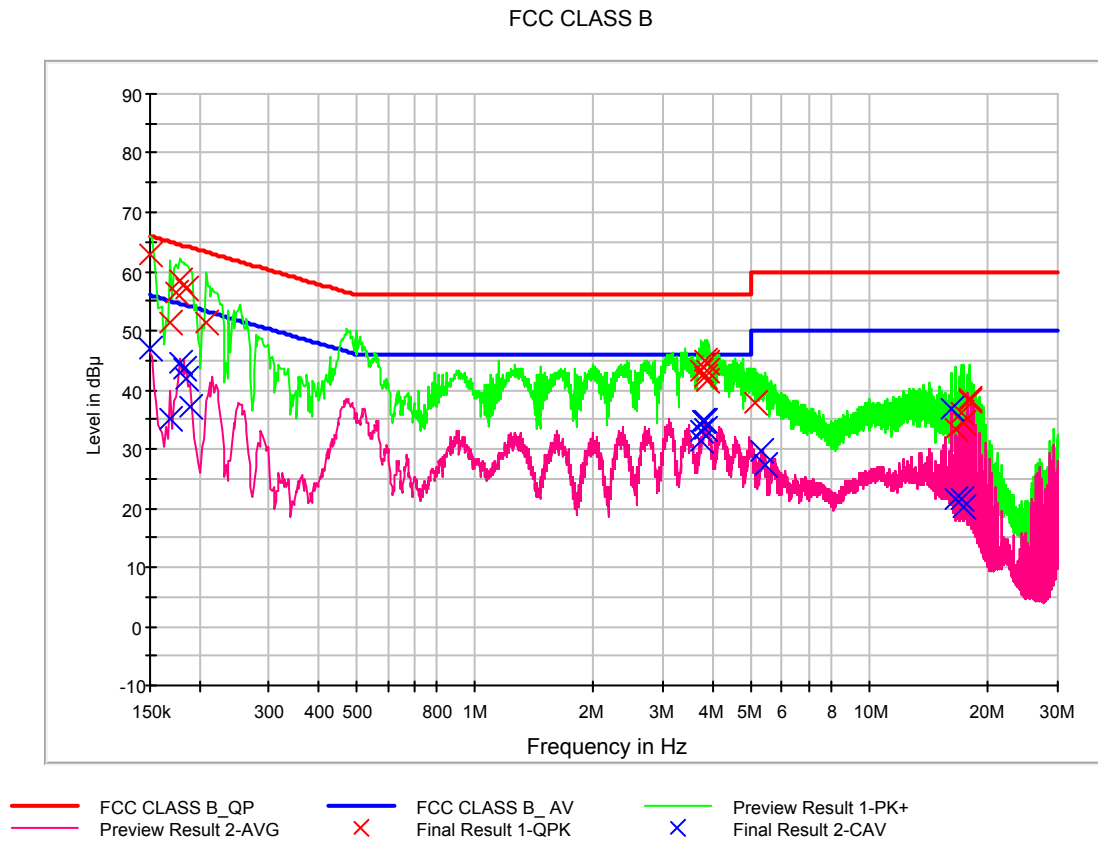
QuasiPeak Final Result, Line (L1)

Frequency (MHz)	QuasiPeak (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.150000	62.6	9.000	L1	9.6	3.4	66.0
0.154000	57.1	9.000	L1	9.6	8.7	65.8
0.172000	53.5	9.000	L1	9.6	11.4	64.9
0.182000	56.2	9.000	L1	9.6	8.2	64.4
0.188000	55.4	9.000	L1	9.6	8.7	64.1
0.214000	52.1	9.000	L1	9.6	10.9	63.0
3.768000	44.9	9.000	L1	9.8	11.1	56.0
3.778000	43.5	9.000	L1	9.8	12.5	56.0
3.782000	45.5	9.000	L1	9.8	10.5	56.0
3.814000	45.4	9.000	L1	9.9	10.6	56.0
3.830000	44.2	9.000	L1	9.9	11.8	56.0
3.940000	41.1	9.000	L1	9.9	15.0	56.0
5.164000	37.8	9.000	L1	9.9	22.2	60.0
5.280000	38.6	9.000	L1	9.9	21.4	60.0
5.358000	38.5	9.000	L1	9.9	21.5	60.0
16.166000	39.2	9.000	L1	10.3	20.8	60.0
17.768000	36.9	9.000	L1	10.3	23.1	60.0
17.832000	37.9	9.000	L1	10.3	22.1	60.0



CAverage Final Result, Line (L1)

Frequency (MHz)	CAverage (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.150000	46.7	9.000	L1	9.6	9.3	56.0
0.154000	40.8	9.000	L1	9.6	15.0	55.8
0.172000	37.6	9.000	L1	9.6	17.3	54.9
0.176000	42.9	9.000	L1	9.6	11.8	54.7
0.180000	42.9	9.000	L1	9.6	11.6	54.5
0.224000	38.0	9.000	L1	9.6	14.6	52.7
3.778000	33.6	9.000	L1	9.8	12.4	46.0
3.792000	35.0	9.000	L1	9.8	11.0	46.0
3.824000	33.7	9.000	L1	9.9	12.3	46.0
3.832000	35.8	9.000	L1	9.9	10.2	46.0
3.846000	35.0	9.000	L1	9.9	11.0	46.0
3.940000	31.7	9.000	L1	9.9	14.3	46.0
5.164000	26.5	9.000	L1	9.9	23.5	50.0
5.250000	28.2	9.000	L1	9.9	21.8	50.0
5.280000	28.6	9.000	L1	9.9	21.4	50.0
5.358000	29.7	9.000	L1	9.9	20.3	50.0
16.166000	35.8	9.000	L1	10.3	14.2	50.0
17.768000	20.3	9.000	L1	10.3	29.7	50.0

**Figure 4: Spectral Diagrams, PoE Adaptor, Line (N)**



QuasiPeak Final Result, Line (N)

Frequency (MHz)	QuasiPeak (dBμV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.150000	62.9	9.000	N	9.6	3.1	66.0
0.168000	51.5	9.000	N	9.6	13.6	65.1
0.174000	56.5	9.000	N	9.6	8.2	64.8
0.178000	58.4	9.000	N	9.6	6.2	64.6
0.186000	57.1	9.000	N	9.6	7.1	64.2
0.208000	51.5	9.000	N	9.6	11.8	63.3
3.746000	43.3	9.000	N	9.8	12.7	56.0
3.820000	42.0	9.000	N	9.8	14.0	56.0
3.832000	45.0	9.000	N	9.8	11.0	56.0
3.870000	43.4	9.000	N	9.8	12.6	56.0
3.880000	44.4	9.000	N	9.8	11.6	56.0
3.888000	41.4	9.000	N	9.8	14.6	56.0
5.132000	37.7	9.000	N	9.9	22.3	60.0
16.550000	33.4	9.000	N	10.3	26.6	60.0
17.036000	36.2	9.000	N	10.3	23.8	60.0
17.218000	34.4	9.000	N	10.3	25.6	60.0
17.830000	38.5	9.000	N	10.3	21.5	60.0
17.892000	38.1	9.000	N	10.3	21.9	60.0



CAverage Final Result, Line (N)

Frequency (MHz)	CAverage (dBμV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.150000	47.0	9.000	N	9.6	9.0	56.0
0.168000	35.2	9.000	N	9.6	19.9	55.1
0.178000	44.5	9.000	N	9.6	10.1	54.6
0.182000	43.7	9.000	N	9.6	10.7	54.4
0.186000	41.9	9.000	N	9.6	12.3	54.2
0.190000	37.0	9.000	N	9.6	17.0	54.0
3.746000	33.0	9.000	N	9.8	13.0	46.0
3.760000	31.5	9.000	N	9.8	14.5	46.0
3.784000	34.6	9.000	N	9.8	11.4	46.0
3.800000	34.8	9.000	N	9.8	11.2	46.0
3.820000	34.7	9.000	N	9.8	11.3	46.0
3.826000	33.4	9.000	N	9.8	12.6	46.0
5.340000	29.6	9.000	N	9.9	20.4	50.0
5.442000	27.4	9.000	N	9.9	22.6	50.0
16.228000	36.9	9.000	N	10.3	13.1	50.0
16.550000	21.4	9.000	N	10.3	28.6	50.0
17.096000	21.5	9.000	N	10.3	28.6	50.0
17.218000	20.3	9.000	N	10.3	29.7	50.0



5.2 Radiated Emission Test

The test results of radiated emission provide the following information:

-For Measurement Below 1 GHz

Rule Part / Standard	FCC PART 15 Subpart B Class B
Detector	Quasi-Peak
Bandwidth	120 kHz (6 dB)
Operation Mode	Ethernet & WLAN Idle mode
Kind of Test Site	3 m semi anechoic chamber
Temperature	23.2 °C
Relative Humidity	36.8 %
Test Date	May 08, 2017

※ Calculation Formula:

1. POL. H: Horizontal, POL. V: Vertical
2. Quasi Peak = Reading (Receiver Reading) + Corr.
3. Corr. (Correction Factor) = Antenna Factor + Cable Loss
4. Margin = Limit – Quasi Peak



AC Adaptor

Frequency (MHz)	Quasi Peak (dB μ V/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dB μ V/m)
50.166333	33.1	100.0	V	31.0	23.4	6.9	40.0
57.761523	33.2	100.0	V	180.0	23.0	6.8	40.0
82.651303	32.0	150.0	V	132.0	18.4	8.0	40.0
157.468938	31.5	100.0	V	296.0	23.4	12.0	43.5
441.224448	32.6	100.0	H	149.0	27.6	13.4	46.0
930.535070	34.4	238.0	V	179.0	35.5	11.6	46.0

PoE Adaptor

Frequency (MHz)	Quasi Peak (dB μ V/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dB μ V/m)
36.474950	33.9	116.0	V	30.0	22.3	6.1	40.0
48.891784	36.8	100.0	V	318.0	23.3	3.2	40.0
60.218436	37.1	133.0	V	136.0	22.8	2.9	40.0
106.707415	39.6	150.0	V	281.0	19.5	3.9	43.5
137.180361	38.6	220.0	H	32.0	22.6	4.9	43.5
172.799600	40.1	100.0	V	297.0	22.6	3.4	43.5



-For Measurement Above 1 GHz

Rule Part / Standard	FCC PART 15 Subpart B Class B
Detector	Peak mode: Peak (RBW: 1 MHz, VBW: 3 MHz) CISPR-Average mode: Peak (RBW: 1 MHz, VBW: 10 Hz)
Highest Operating Frequency	5 825 MHz
Upper Frequency of Measurement Range	1 GHz to 29.125 GHz
Operation Mode	Ethernet & WLAN Idle mode
Kind of Test Site	3 m semi anechoic chamber
Temperature	23.1 °C
Relative Humidity	38.2 %
Test Date	May 10, 2017

※ Calculation Formula:

1. POL. H: Horizontal, POL. V: Vertical
2. Peak or CAverage = Reading (Receiver Reading) + Corr.
3. Corr. (Correction Factor) = Antenna Factor+ Cable Loss –Amplifier Gain
4. Margin = Limit - Peak or CAverage



AC Adaptor

Frequency (MHz)	Peak (dBμV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
1331.312625	45.2	367.5	V	196.0	-13.0	28.8	74.0
1830.410822	44.0	367.5	V	195.0	-12.3	30.0	74.0
1997.344689	49.1	99.7	V	214.0	-12.2	24.9	74.0
2657.464930	44.5	367.5	V	2.0	-9.1	29.5	74.0
2999.549098	40.7	99.7	V	229.0	-8.1	33.3	74.0
5975.000000	42.2	99.7	V	278.0	-2.4	31.8	74.0

Frequency (MHz)	CAverage (dBμV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
1331.312625	22.4	367.5	V	196.0	-13.0	31.6	54.0
1830.410822	26.8	367.5	V	195.0	-12.3	27.2	54.0
1997.344689	29.1	99.7	V	214.0	-12.2	24.9	54.0
2657.464930	24.7	367.5	V	2.0	-9.1	29.3	54.0
2999.549098	25.0	99.7	V	229.0	-8.1	29.0	54.0
5975.000000	30.3	99.7	V	278.0	-2.4	23.7	54.0

PoE Adaptor

Frequency (MHz)	Peak (dBμV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
1329.709418	42.2	367.6	V	210.0	-13.0	31.8	74.0
1499.549098	42.7	367.7	V	161.0	-12.5	31.3	74.0
1832.214429	44.3	367.7	V	196.0	-12.3	29.7	74.0
2076.202405	48.6	99.7	V	209.0	-11.8	25.4	74.0
2657.464930	45.2	367.7	V	225.0	-9.1	28.8	74.0
4481.412826	43.1	99.8	V	172.0	-5.7	30.9	74.0

Frequency (MHz)	CAverage (dBμV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
1329.709418	20.7	367.6	V	210.0	-13.0	33.3	54.0
1499.549098	33.5	367.7	V	161.0	-12.5	20.5	54.0
1832.214429	29.4	367.7	V	196.0	-12.3	24.6	54.0
2076.202405	29.6	99.7	V	209.0	-11.8	24.4	54.0
2657.464930	25.5	367.7	V	225.0	-9.1	28.5	54.0
4481.412826	27.4	99.8	V	172.0	-5.7	26.6	54.0



6. LIST OF TEST EQUIPMENT

<u>Type</u>	<u>Manufacturer</u>	<u>Model Name</u>	<u>Serial Number</u>	<u>Calibration Cycle</u>	<u>CAL Date</u>
<u>Conducted Emission</u>					
☒ EMI Test Receiver	Rohde & Schwarz	ESCI	100584	1 year	12.23.2016
☒ LISN	Rohde & Schwarz	ESH3-Z5	100282	1 year	06.09.2016
☒ LISN	Rohde & Schwarz	ENV216	100073	1 year	12.23.2016
☒ Software	Rohde & Schwarz	EMC32	-	-	-
<u>Radiated Emission</u>					
-For measurement below 1 GHz					
☒ EMI Test Receiver	Rohde & Schwarz	ESI40	831564103	1 year	11.04.2016
☐ EMI Test Receiver	Rohde & Schwarz	ESU40	100514	1 year	10.10.2016
☒ Antenna master	HD GmbH	MA240	240/520	N/A	-
☐ Antenna master controller	HD GmbH	HD 100	100/637	N/A	-
☒ Turn Table	EMCO	1060-2M	-	N/A	-
☒ Trilog Antenna	Schwarzbeck	VULB9168	760	2 year	04.06.2017
☐ Turn Table controller	EMCO	2090	9702-1224	N/A	-
☐ EMI Test Receiver	Rohde & Schwarz	ESU 26	100241	1 year	05.27.2016
☐ Antenna master	INNCO Systems	MA4000-EP	MA4000/283	N/A	-
☐ Turn Table	INNCO Systems	DT3000-3T	DT3000/69	N/A	-
☒ Software	Rohde & Schwarz	EMC32	-	-	-
-For measurement above 1 GHz					
☒ EMI Test Receiver	Rohde & Schwarz	ESI40	831564103	1 year	11.04.2016
☐ EMI Test Receiver	Rohde & Schwarz	ESU40	100514	1 year	10.10.2016
☐ Antenna master	HD GmbH	MA240	240/520	N/A	-
☐ Antenna master controller	HD GmbH	HD 100	100/637	N/A	-
☒ Turn Table	EMCO	1060-2M	-	N/A	-
☒ Power Amplifier	CERNEX	CBLU5183530	24348	1 year	06.07.2016
☒ Horn Antenna	Schwarzbeck	BBHA 9120D	296	2 year	10.12.2016
☒ Antenna master	INNCO Systems	MA4000-XP-ET	48709515	N/A	-
☒ Antenna master controller	INNCO Systems	CO 3000	CO 3000/870/ 35990515	N/A	-
☐ Turn Table controller	EMCO	2090	9702-1224	N/A	-
☐ Power Amplifier	CERNEX	CBLU1183540	21691	1 year	07.04.2016
☒ Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170541	2 year	09.03.2015
☒ Power Amplifier	CERNEX	CBL18265035	21873	1 year	01.19.2017
☒ Power Amplifier	CERNEX	CBL26405040	19660	1 year	07.15.2016
☐ Horn Antenna	Schwarzbeck	BBHA 9120D	1300	2 year	08.25.2016
☐ EMI Test Receiver	Rohde & Schwarz	ESU 26	100241	1 year	05.27.2016
☐ Turn Table	INNCO Systems	DT3000-3T	DT3000/69	N/A	-
☒ Software	Rohde & Schwarz	EMC32	-	-	-



7. CONCLUSION

The data collected shows that the **EUT Type: WLAN Access Point, Model: WEA512i** complies with §15.107 and §15.109 of the FCC rules.