EVALUATION REPORT

for Certification of Conformity

FCC Part 18

Applicant: LG Electronics USA, Inc.
111 Sylvan Avenue North Building
Englewood Cliffs New Jersey United States 07632,
Attn: David Kim / Team leader

Date of Issue: Mar. 28, 2024
Order Number: GETEC-C1-24-167
Test Report Number: GETEC-E3-24-042
Test Site: GUMI UNIVERSITY EMC CENTER
CAB Designation Number: KR0033

FCC ID. : BEJQ40A41IA

Applicant: LG Electronics USA, Inc.

Rule Part(s)	**: FCC Part 18**
Test Method	**: FCC/OET MP-5**
EUT Type	**: HOUSEHOLD COOKTOP**
Equipment Class	**: Part 18 Consumer Device(8CC)**
Type of Authority	**: Certification**
Model Name	**: CBIH3017BE**
Trade Mark	**: LG**

This equipment has been shown to be in compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in FCC/OET MP-5 (1986)

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 vest 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.

Tested by,

Tak Dong Kim, Associate Engineer
GUMI UNIVERSITY EMC CENTER

Reviewed by,

Sung-Joo Park, Technical Manager
GUMI UNIVERSITY EMC CENTER

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Revision list

Test Report No.	Issue Date	Description
GETEC-E3-24-042	Mar. 28, 2024	First Approval Test Report

※ This test report is not related to the accredited test result by ISO/IEC 17025 and KOLAS

CONTENTS

Scope: *Measurement and determination of electromagnetic emissions (EME) of radio frequency devices including intentional and / or unintentional radiators for compliance with technical rules and regulations of the Federal Communications Commission.*

1. General Information

Applicant: LG Electronics USA, Inc.
Applicant Address: 111 Sylvan Avenue North Building
Englewood Cliffs New Jersey United States 07632
Manufacturer: LG Electronics Inc.
Manufacturer Address: 170, Sungsanpaechong-ro, Seongsan-gu, Changwon-si,
Gyeongsangnam-do, 51533, Korea
Contact Person: David Kim / Team leader
Telephone Number: 1-201-266-2443

- **FCC ID.** BEJQ40A41IA
- **EUT Type** HOUSEHOLD COOKTOP
- **Model Name** CBIH3017BE
- **Rule Part(s)** FCC Part 18
- **Test Method** FCC/OET MP-5
- **Type of Authority** Certification
- **Test Procedure(s)** FCC/OET MP-5
- **Dates of Test** Mar. 21, 2024 ~ Mar. 25, 2024
- **Place of Test** **GUMI UNIVERSITY EMC CENTER**
(FCC Test Firm Registration Number: 269701)
37 Yaeun-ro, Gumi-si, Gyeongsangbuk-do, 39213, Republic of Korea.
- **Test Report Number** GETEC-E3-24-042
- **Dates of Issue** Mar. 28, 2024

2. Introduction

The measurement procedure described in American National Standard for Methods of Measurement of Radio-Nose Emissions From Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz (ANSI C63.4-2017) was used in determining radiated and conducted emissions emanating from **HOUSEHOLD COOKTOP (Model name: CBIH3017BE).**

These measurement tests were conducted at **GUMI UNIVERSITY EMC CENTER**
The site address is 37 Yaeun-ro, Gumi-si, Gyeongsangbuk-do, 39213, Republic of Korea.
This test site is one of the highest point of Gumi UNIVERSITY at about 200 km away from Seoul city and 40 km away from Daegu city. It is located in the valley surrounded by mountains in all directions where ambient radio signal conditions are quiet and a favorable area to measure the radio frequency interference on open field test site for the computing and ISM devices manufactures. The detailed description of the measurement facility was found to be in compliance with the requirements of §2.948 according to ANSI C63.4 (2017)

GUMI UNIVERSITY EMC CENTER
37 Yaeun-ro, Gumi-si,
Gyeongsangbuk-do, 39213,
Republic of Korea
Tel: +82-54-440-1195
Fax: +82-54-440-1199

Fig 1. The map above shows the GUMI UNIVERSITY in vicinity area.

3. Product Information

3.1 Description of EUT

The Equipment under Test (EUT) is the **HOUSEHOLD COOKTOP (Model Name: CBIH3017BE)**
FCC ID.: BEJQ40A41IA

Models		CBIH3017BE
Description		Induction Cooktop
Electrical Specifications	Connection voltage	240/208 VAC 60 Hz., 36.7 A / 34.6 A
	Maximum connected power load	8800 W / 7197 W
Cooktop Dimensions		30 11/16" (781 mm) (W) × 4 1/8" (105mm) (H) × 21 1/16" (534 mm) (D)
Countertop Cutout Dimensions		Standard Installation 28 1/2" (724 mm) (W) × 5 7/8" (149 mm) (H) × 19 5/8" (498 mm) (D)

Models	CBIH3017BE		
Cooking Zones	Position	Size	Power (Level 9 / Boost)
	Front Left	8 1/2" x 7 1/4" (216.2 x 185 mm)	1513/3026 W (208 V) 1850/3700 W (240 V)
	Front Right	6 1/2" (165 mm)	1145/1472 W (208 V) 1400/1800 W (240 V)
	Flex Left	8 1/2" x 14 9/16" (216.2 x 370 mm)	2699/3026 W (208 V) 3300/3700 W (240 V)
	Rear Left	8 1/2" x 7 1/4" (216.2 x 185 mm)	1513/3026 W (208 V) 1850/3700 W (240 V)
	Center	11 1/8", 7 1/16" (283, 180 mm)	Inner Burner: 1513/3026 W (208 V) 1850/3700 W (240 V) Dual Burner: 3026/4089 W (208 V) 3700/5000 W (240 V)

RF Module Specifications

Type	Frequency Range	Output Power (Max)
Wi-Fi	2412 MHz - 2462 MHz	< 30 dBm
Bluetooth	2402 MHz - 2480 MHz	

Induction heating mode

Cooking Element	Low frequency (Maximum power)	High frequency (Minimum power)
#1 Front Left Hob	30 kHz	65 kHz
#2 Rear Left Hob	30 kHz	65 kHz
#3 Center	30 kHz	65 kHz
#4 Right Hob	30 kHz	65 kHz

3.2 Support Equipment / Cables used

3.3.1 Used Support Equipment

Description	Manufacturer	Model Name	S/N & FCC ID.
None	-	-	S/N: - FCC ID.: -

See "Appendix D – Test Setup Photographs" for actual system test set-up

3.3.2 System configuration

Description	Manufacturer	Model Name	S/N & FCC ID.
WLAN module	LG Electronics Inc.	LCWB-001	S/N: -. FCC ID.: BEJ-LCWB001

3.3.3 Used Cable(s)

Cable Name	Condition	Description
Power cable	Connected to the EUT and AC power	1.80 m Unshielded.

3.3 Modification Item(s)

-. None

4. Description of tests

4.1 Test Condition

The EUT was installed, arranged and operated in a manner that is most representative of equipment as typically used.

The measurements were carried out while varying operating modes and cable positions within typically arrangement to determine maximum emission level.

The representative and worst test mode(s) were noted in the test report.

- Test Voltage / Frequency: AC 208V/ 60 Hz, AC 240 V / 60 Hz
- Operating condition during the test(s) :
  This device has been tested in the configurations of Induction mode with WLAN module operating.
  Induction mode: This device has been operated (boost mode) with an enameled steel vessel filled with tap water up to 80 % of its maximum capacity.

Cooking element “1”= front left hob ,”2”= rear left hob, “3”= Center hob, “4”= right hob
Cooking vessels
“1” ,“2”= 215 mm
“3”= 300 mm
“4”= 180 mm

4.2 General Test Procedures

Conducted Emissions

The EUT is placed on the turntable, which is 0.8 m above ground plane. According to the requirements in Section 13.1.4.1 of ANSI C63.4 (2017) Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30MHz using CISPR Quasi-peak and average detector modes.

Radiated Emissions

The EUT is placed on a turn table, which is 0.8 m above ground plane. The turntable shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3 m away from the receiving antenna, which Fixed at 2 m above the ground plane to find out the highest emission.

And also, each emission was to be maximized by the table was turned from 0 degrees to 360 degrees. In order to find out the max emission, the relative positions of this hand-held transmitter (EUT) was rotated through three orthogonal axes according to the requirements in Section 13.1.4.1 of ANSI C63.4 (2017).

5. Summary of Test Results

FCC Part Section(s)	Test Description	Test Result
§18.305	Radiated Emission	Pass
§18.307	Conducted Emission	Pass

6. Conducted Emission

-Test Description

The Line conducted emission test facility is inside a 4 m × 8 m × 2.5 m shielded enclosure.
(FCC Test Firm Registration No.: 269701)
The EUT was placed on a non-conducting 1.0 m by 1.5 m table, which is 0.8 m in height and 0.4 m away from the vertical wall of the shielded enclosure.
The EUT is powered from the Rohde & Schwarz LISN and the support equipment is powered from the Rohde & Schwarz LISN Powers to the LISN are filtered by high-current high insertion loss power line filter.
Sufficient time for EUT, support equipment, and test equipment was allowed in order for them to warm up to their normal operating condition.
The RF output of the LISN was connected to the EMI test receiver
Exploratory measurements were conducted to identify the highest emission by operating the EUT in a range of typical modes of operation, cable positions, system configuration and arrangement.
Based on exploratory measurements, the final measurements were conducted at the worst test conditions.

Exploratory measurements were scanned using Peak mode of EMI Test receiver from 150 kHz to 30 MHz with 20 ms sweep time. The final measurements were measured with Quasi-Peak and Average mode.
The bandwidth of EMI Test Receiver was set to 9 kHz. Interface cables were connected to the available interface ports of the test unit. Excess cable lengths were bundled at center with 30 cm ~ 40 cm.

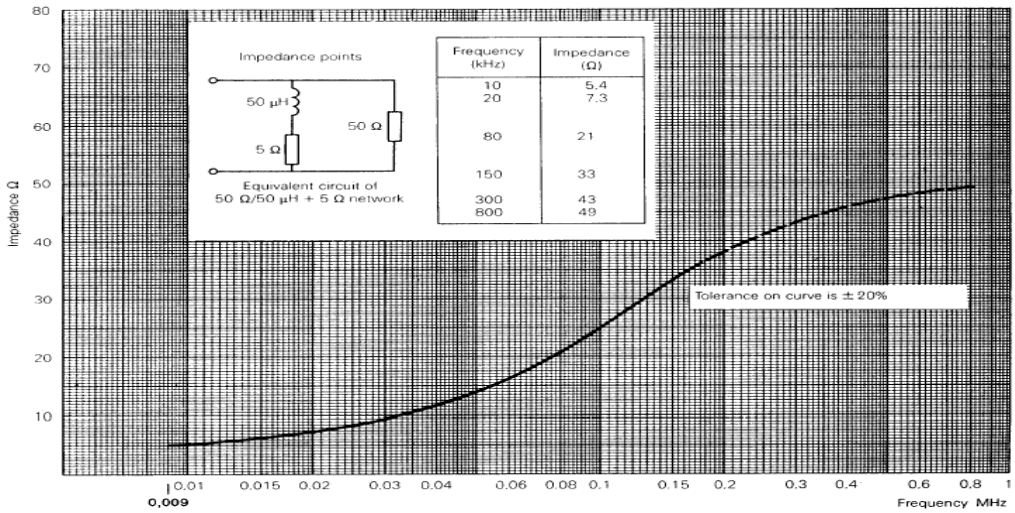


Fig 2. Impedance of LISN

6.1 Operating Environment

Temperature	:	28.1 ℃
Relative Humidity	:	16.8 %
Air Pressure	:	101.1 kPa

6.2 Test Set-up

The conducted emission measurements were performed in the shielded room.
The EUT was placed on wooden table, 0.8 m heights above the floor, 0.4 m from the reference ground plane (GRP) wall and 0.8 m from AMN & ISN.
AMN is bonded on horizontal reference ground plane.
The ground plane, which was electrically bonded to the shield room, ground system and all power lines entering the shield room, were filtered.

6.3 Measurement Uncertainty

The measurement uncertainty was calculated in accordance with ISO “Guide to the expression of uncertainty in measurement.”
The measurement uncertainty was given with a confidence of 95 %.

Test Items	Uncertainty	Remark
Conducted emission (9 kHz ~ 150 kHz)	3.69 dB	Confidence level of approximately 95 % (k = 2)
Conducted emission (150 kHz ~ 30 MHz)	3.32 dB	Confidence level of approximately 95 % (k = 2)

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2.
The listed uncertainties are the worst case uncertainty for the entire range of measurement. please note that the uncertainty values are provided for informational purposes only are not used in determining the PASS/FAIL results

6.4 Limit

RFI Conducted	FCC Limit(dBμV/m)	
Freq. Range	Quasi-Peak	Average
0.009 MHz ~ 0.05 MHz	110	-
0.05 MHz ~ 0.15 MHz	90 ~ 80*	-
0.15 MHz ~ 0.5 MHz	66 ~ 56*	56 ~ 46*
0.5 MHz ~ 5 MHz	56	46
5 MHz ~ 30 MHz	60	50
*Limits decreases linearly with the logarithm of frequency.		

6.5 Test Equipment used

	Model Name	Manufacturer	Description	Serial Number	Calibration Date
■ -	ESCI	Rohde & Schwarz	EMI Test Receiver	100237	Apr. 05, 2023
☐ -	ENV216	Rohde & Schwarz	LISN	100173	Apr. 05, 2023
☐ -	ENV216	Rohde & Schwarz	LISN	100172	Apr. 05, 2023
■ -	ESH2-Z5	Rohde & Schwarz	LISN	829991/009	Apr. 06, 2023
■ -	VTSD 9561-D	SCHWARZBECK	Pulse Limiter	32	Apr. 06, 2023
■ -	EMC 32	Rohde & Schwarz	Software	Ver.8.53	N/A

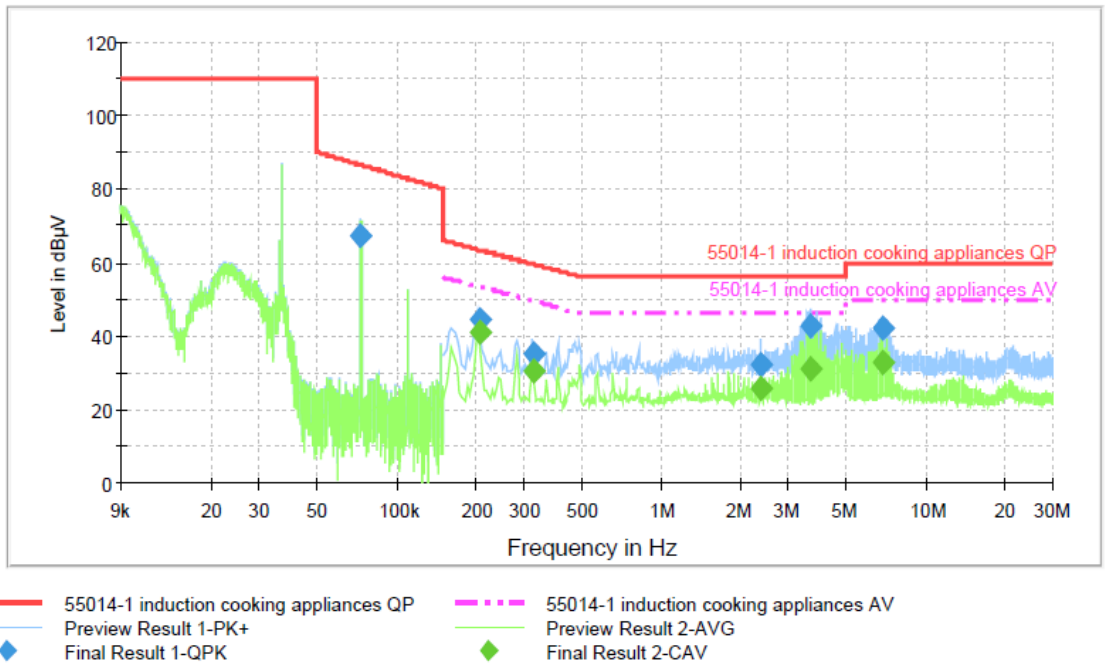
6.6 Test data for Conducted Emission

-. Test Date : Mar. 21, 2024 ~ Mar. 22, 2024
-. Resolution Bandwidth : 200 Hz (9 kHz ~ 0.15 MHz) / 9 kHz (0.15 MHz ~ 30 MHz)
-. Frequency Range : 9 kHz ~ 30 MHz
-. Line : L1: Live, N: Neutral
-. Comment : None

▪ Operating condition: Induction mode with WLAN

AC 208 V / 60 Hz

Cooking element #1



55014-1 induction cooking appliances QP
Preview Result 1-PK+
Final Result 1-QPK
55014-1 induction cooking appliances AV
Preview Result 2-AVG
Final Result 2-CAV

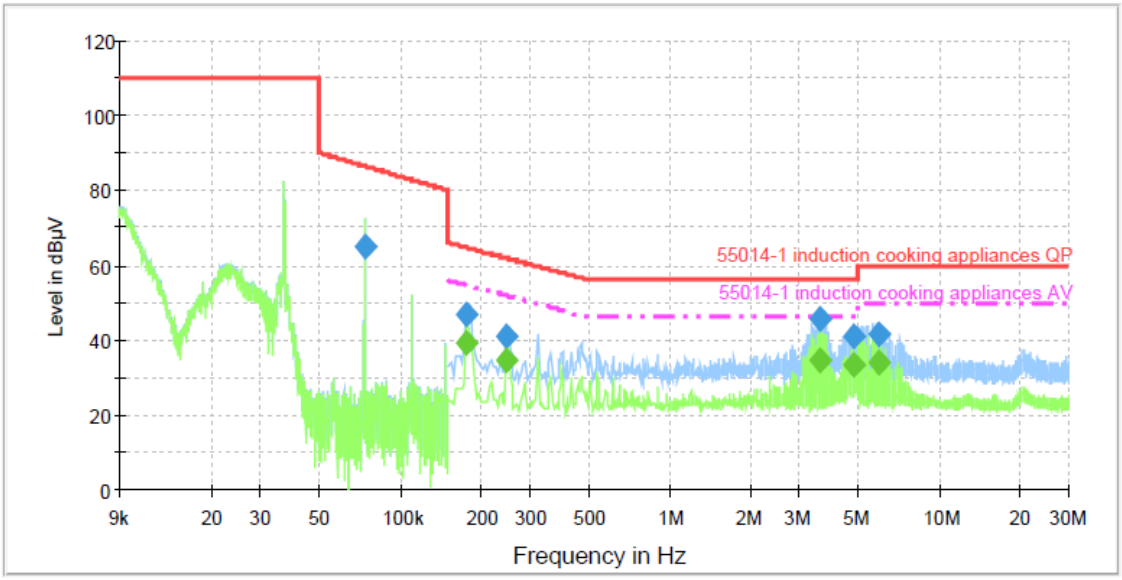
Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.072978	67.6	1000.0	0.200	GND	L2	20.1	19.0	86.6	
0.205238	44.7	1000.0	9.000	GND	L1	20.6	18.7	63.4	
0.328369	34.9	1000.0	9.000	GND	L2	20.6	24.6	59.5	
2.372825	32.4	1000.0	9.000	GND	L1	20.7	23.6	56.0	
3.687031	42.7	1000.0	9.000	GND	L2	20.7	13.3	56.0	
6.914294	42.2	1000.0	9.000	GND	L1	20.8	17.8	60.0	

Final Result 2

Frequency (MHz)	CAverage (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.205238	41.2	1000.0	9.000	GND	L1	20.6	12.2	53.4	
0.328369	30.7	1000.0	9.000	GND	L2	20.6	18.8	49.5	
2.372825	26.0	1000.0	9.000	GND	L1	20.7	20.0	46.0	
3.687031	31.1	1000.0	9.000	GND	L2	20.7	14.9	46.0	
6.914294	33.0	1000.0	9.000	GND	L1	20.8	17.0	50.0	

Cooking element #2



55014-1 induction cooking appliances QP
Preview Result 1-PK+
Final Result 1-QPK
55014-1 induction cooking appliances AV
Preview Result 2-AVG
Final Result 2-CAV

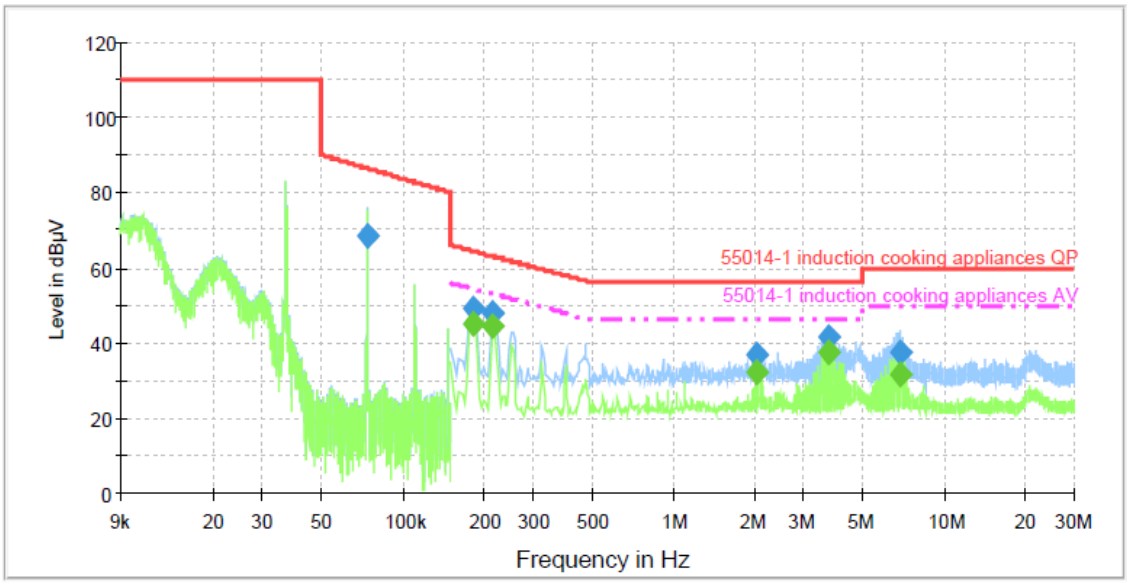
Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.073437	65.1	1000.0	0.200	GND	L2	20.1	21.5	86.5	
0.176119	46.8	1000.0	9.000	GND	L1	20.6	17.7	64.5	
0.247012	40.7	1000.0	9.000	GND	L2	20.6	21.1	61.8	
3.590019	45.4	1000.0	9.000	GND	L1	20.7	10.6	56.0	
4.830138	40.9	1000.0	9.000	GND	L1	20.7	15.1	56.0	
5.904200	41.3	1000.0	9.000	GND	L1	20.8	18.7	60.0	

Final Result 2

Frequency (MHz)	CAverage (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.176119	39.2	1000.0	9.000	GND	L1	20.6	15.3	54.5	
0.247012	34.4	1000.0	9.000	GND	L2	20.6	17.4	51.8	
3.590019	34.7	1000.0	9.000	GND	L1	20.7	11.3	46.0	
4.830138	33.5	1000.0	9.000	GND	L1	20.7	12.5	46.0	
5.904200	34.2	1000.0	9.000	GND	L1	20.8	15.8	50.0	

Cooking element #3



55014-1 induction cooking appliances QP
Preview Result 1-PK+
Final Result 1-QPK
55014-1 induction cooking appliances AV
Preview Result 2-AVG
Final Result 2-CAV

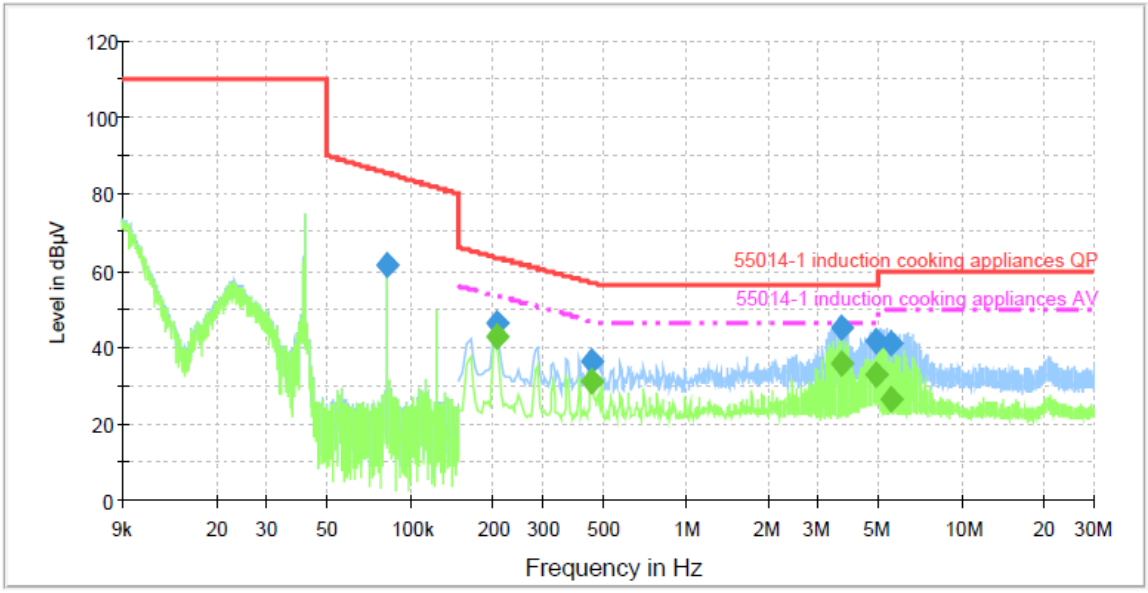
Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.073507	68.5	1000.0	0.200	GND	L1	20.1	18.0	86.5	
0.179850	49.1	1000.0	9.000	GND	L1	20.6	15.5	64.6	
0.213431	48.2	1000.0	9.000	GND	L1	20.6	14.8	63.0	
2.025012	36.6	1000.0	9.000	GND	L2	20.6	19.4	56.0	
3.728344	41.7	1000.0	9.000	GND	L2	20.7	14.3	56.0	
6.875638	37.5	1000.0	9.000	GND	L2	20.8	22.5	60.0	

Final Result 2

Frequency (MHz)	CAverage (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.179850	45.4	1000.0	9.000	GND	L1	20.6	9.2	54.6	
0.213431	44.4	1000.0	9.000	GND	L1	20.6	8.6	53.0	
2.025012	32.1	1000.0	9.000	GND	L2	20.6	13.9	46.0	
3.728344	37.2	1000.0	9.000	GND	L2	20.7	8.8	46.0	
6.875638	31.8	1000.0	9.000	GND	L2	20.8	18.2	50.0	

Cooking element #4



55014-1 induction cooking appliances QP
Preview Result 1-PK+
Final Result 1-QPK
55014-1 induction cooking appliances AV
Preview Result 2-AVG
Final Result 2-CAV

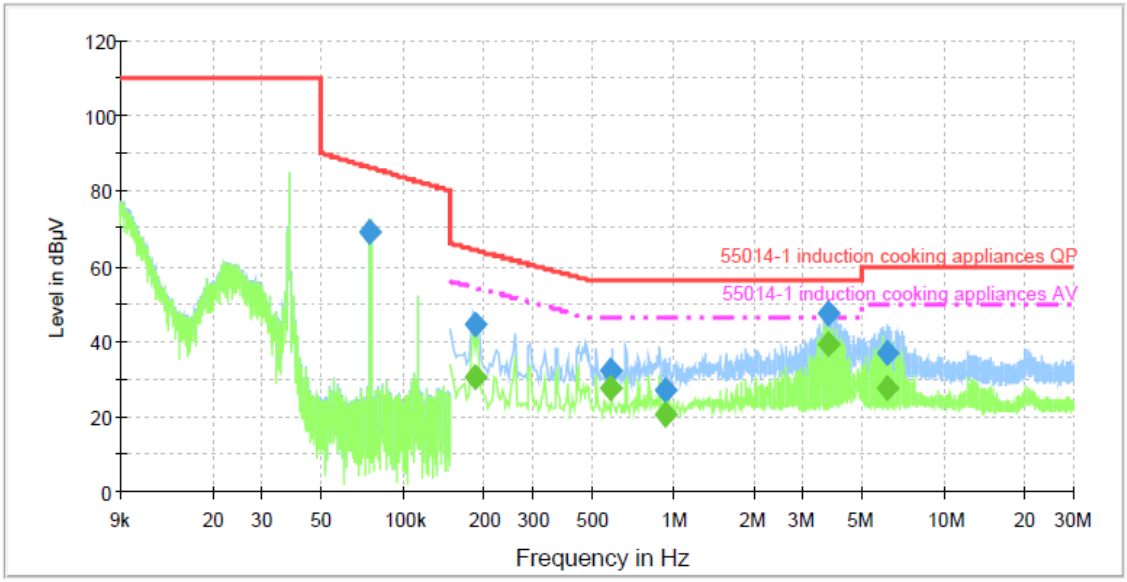
Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.082566	61.2	1000.0	0.200	GND	L2	20.2	23.8	85.0	
0.205238	46.1	1000.0	9.000	GND	L2	20.6	17.3	63.4	
0.455500	36.2	1000.0	9.000	GND	L1	20.6	20.6	56.8	
3.671031	45.3	1000.0	9.000	GND	L1	20.7	10.7	56.0	
4.835181	41.6	1000.0	9.000	GND	L1	20.7	14.4	56.0	
5.484150	41.0	1000.0	9.000	GND	L2	20.7	19.0	60.0	

Final Result 2

Frequency (MHz)	CAverage (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.205238	42.7	1000.0	9.000	GND	L2	20.6	10.7	53.4	
0.455500	31.0	1000.0	9.000	GND	L1	20.6	15.8	46.8	
3.671031	35.4	1000.0	9.000	GND	L1	20.7	10.6	46.0	
4.835181	32.8	1000.0	9.000	GND	L1	20.7	13.2	46.0	
5.484150	26.6	1000.0	9.000	GND	L2	20.7	23.4	50.0	

AC 240 V / 60 Hz
Cooking element #1



55014-1 induction cooking appliances QP
Preview Result 1-PK+
Final Result 1-QPK
55014-1 induction cooking appliances AV
Preview Result 2-AVG
Final Result 2-CAV

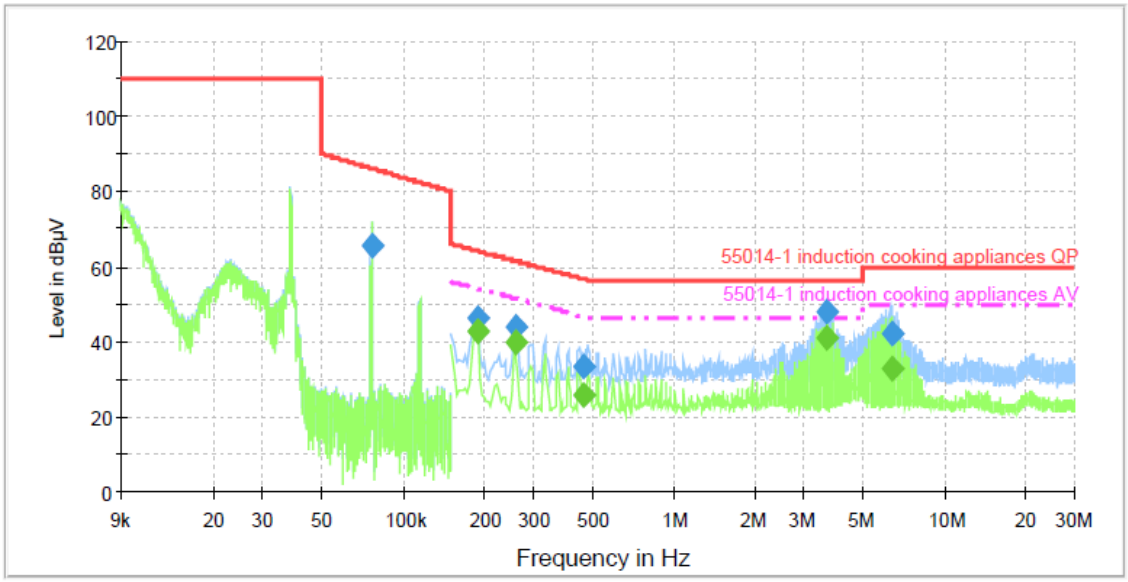
Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.075569	69.1	1000.0	0.200	GND	L1	20.1	17.2	86.3	
0.186000	44.6	1000.0	9.000	GND	L1	20.6	19.6	64.2	
0.585019	32.1	1000.0	9.000	GND	L1	20.6	23.9	56.0	
0.927788	26.9	1000.0	9.000	GND	L2	20.6	29.1	56.0	
3.725388	47.4	1000.0	9.000	GND	L1	20.7	8.6	56.0	
6.166194	37.1	1000.0	9.000	GND	L1	20.8	22.9	60.0	

Final Result 2

Frequency (MHz)	CAverage (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.186000	30.4	1000.0	9.000	GND	L1	20.6	23.8	54.2	
0.585019	27.4	1000.0	9.000	GND	L1	20.6	18.6	46.0	
0.927788	20.8	1000.0	9.000	GND	L2	20.6	25.2	46.0	
3.725388	39.5	1000.0	9.000	GND	L1	20.7	6.5	46.0	
6.166194	27.7	1000.0	9.000	GND	L1	20.8	22.3	50.0	

Cooking element #2



55014-1 induction cooking appliances QP
Preview Result 1-PK+
Final Result 1-QPK
55014-1 induction cooking appliances AV
Preview Result 2-AVG
Final Result 2-CAV

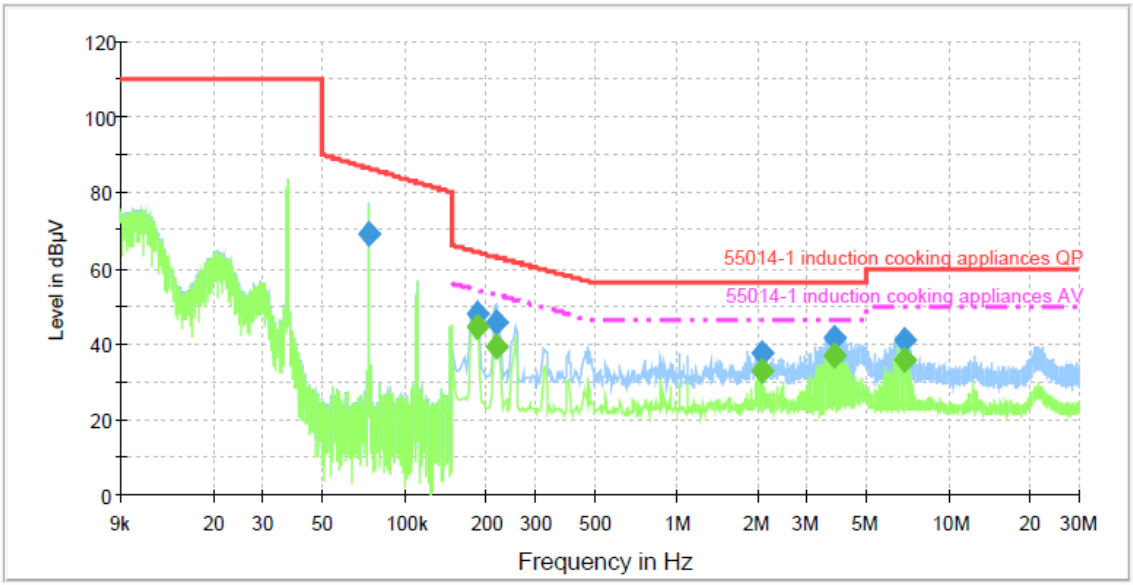
Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.075957	65.4	1000.0	0.200	GND	L1	20.1	20.7	86.1	
0.187312	46.2	1000.0	9.000	GND	L2	20.6	18.1	64.3	
0.258206	43.7	1000.0	9.000	GND	L1	20.6	17.8	61.5	
0.461350	33.5	1000.0	9.000	GND	L2	20.6	23.2	56.7	
3.686225	48.1	1000.0	9.000	GND	L1	20.7	7.9	56.0	
6.400456	42.0	1000.0	9.000	GND	L1	20.8	18.0	60.0	

Final Result 2

Frequency (MHz)	CAverage (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.187312	42.9	1000.0	9.000	GND	L2	20.6	10.4	53.3	
0.258206	40.1	1000.0	9.000	GND	L1	20.6	11.4	51.5	
0.461350	25.5	1000.0	9.000	GND	L2	20.6	21.2	46.7	
3.686225	41.2	1000.0	9.000	GND	L1	20.7	4.8	46.0	
6.400456	33.0	1000.0	9.000	GND	L1	20.8	17.0	50.0	

Cooking element #3



55014-1 induction cooking appliances QP
Preview Result 1-PK+
Final Result 1-QPK
55014-1 induction cooking appliances AV
Preview Result 2-AVG
Final Result 2-CAV

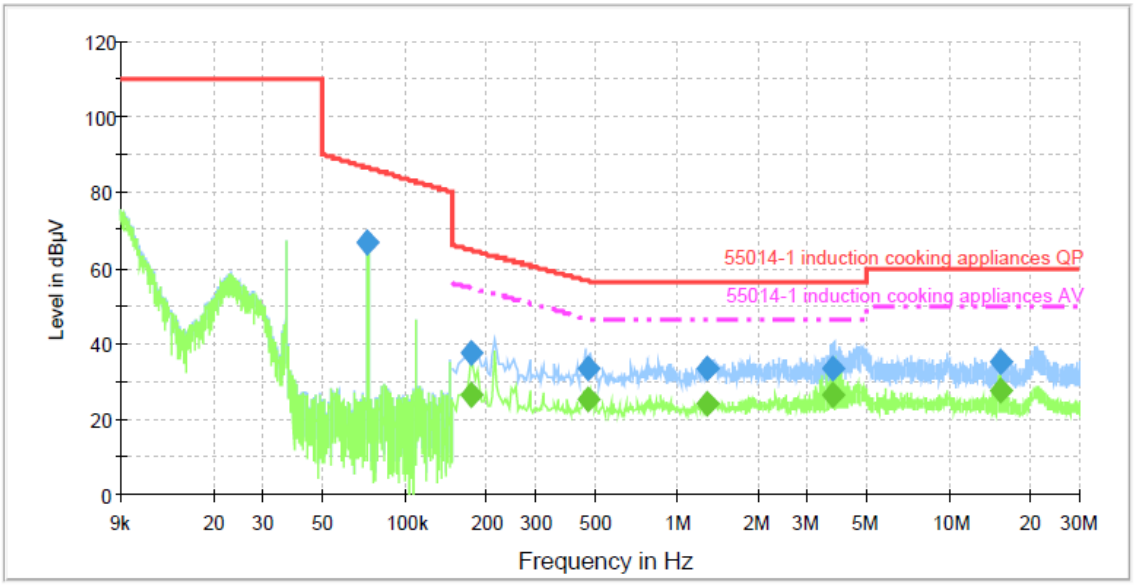
Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.073807	69.3	1000.0	0.200	GND	L1	20.1	17.3	86.3	
0.183581	48.2	1000.0	9.000	GND	L2	20.6	16.3	64.5	
0.217162	45.6	1000.0	9.000	GND	L1	20.6	17.6	63.2	
2.040744	37.5	1000.0	9.000	GND	L2	20.6	18.5	56.0	
3.771000	41.6	1000.0	9.000	GND	L1	20.7	14.4	56.0	
6.872175	41.0	1000.0	9.000	GND	L2	20.8	19.0	60.0	

Final Result 2

Frequency (MHz)	CAverage (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.183581	44.6	1000.0	9.000	GND	L2	20.6	9.9	54.5	
0.218162	39.1	1000.0	9.000	GND	L1	20.6	14.1	53.2	
2.040744	33.0	1000.0	9.000	GND	L2	20.6	13.0	46.0	
3.771000	37.0	1000.0	9.000	GND	L1	20.7	9.0	46.0	
6.872175	35.5	1000.0	9.000	GND	L2	20.8	14.5	50.0	

Cooking element #4



55014-1 induction cooking appliances QP
Preview Result 1-PK+
Final Result 1-QPK
55014-1 induction cooking appliances AV
Preview Result 2-AVG
Final Result 2-CAV

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.072820	66.7	1000.0	0.200	GND	L2	20.1	19.8	86.5	
0.176431	37.3	1000.0	9.000	GND	L2	20.6	36.4	64.7	
0.466694	33.5	1000.0	9.000	GND	L2	20.6	23.1	56.6	
1.278525	33.1	1000.0	9.000	GND	L2	20.6	22.9	56.0	
3.725119	33.3	1000.0	9.000	GND	L2	20.7	22.7	56.0	
15.375456	35.2	1000.0	9.000	GND	L2	20.9	24.8	60.0	

Final Result 2

Frequency (MHz)	CAverage (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.176431	26.2	1000.0	9.000	GND	L2	20.6	28.5	54.7	
0.466694	25.0	1000.0	9.000	GND	L2	20.6	21.6	46.6	
1.278525	23.9	1000.0	9.000	GND	L2	20.6	22.1	46.0	
3.725119	26.5	1000.0	9.000	GND	L2	20.7	19.5	46.0	
15.375456	27.6	1000.0	9.000	GND	L2	20.9	22.4	50.0	

7. Radiated Emission

7.1 Operating Environment

Temperature	:	19.8 ℃
Relative Humidity	:	30.4 %
Air Pressure	:	101.0 kPa

7.2 Test Set-up

The Radiated emission measurements were conducted at the worst test conditions.

The measurements of below 1 GHz were made at 3 m Semi Anechoic Chamber or 10 m Semi Anechoic Chamber (FCC Test Firm Registration No.: 269701) that complies with CISPR 16 / ANSI C63.4.

The frequency range of 9 kHz to 30 MHz, The EUT was placed on a non-conductive turntable approximately 0.8 m above the ground plane. The turntable with EUT was rotated 360° and the receive antenna was fixed 2.0 m on the ground plane.

The frequency range of 30 MHz to 1 000 MHz, The EUT was placed on a non-conductive turntable approximately 0.8 m above the ground plane. The turntable with EUT was rotated 360° and adjusting the receive antenna height from 1.0 m to 4.0 m. All frequencies were investigated in both horizontal and vertical antenna polarity.

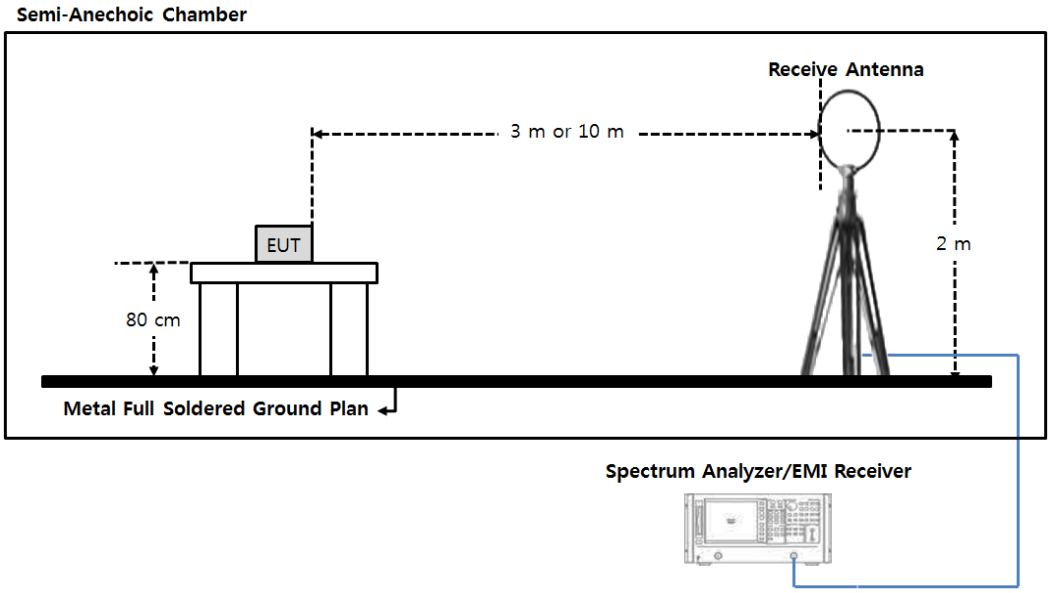


Fig 3. Configurations of Radiated emission test (9 kHz to 30 MHz)

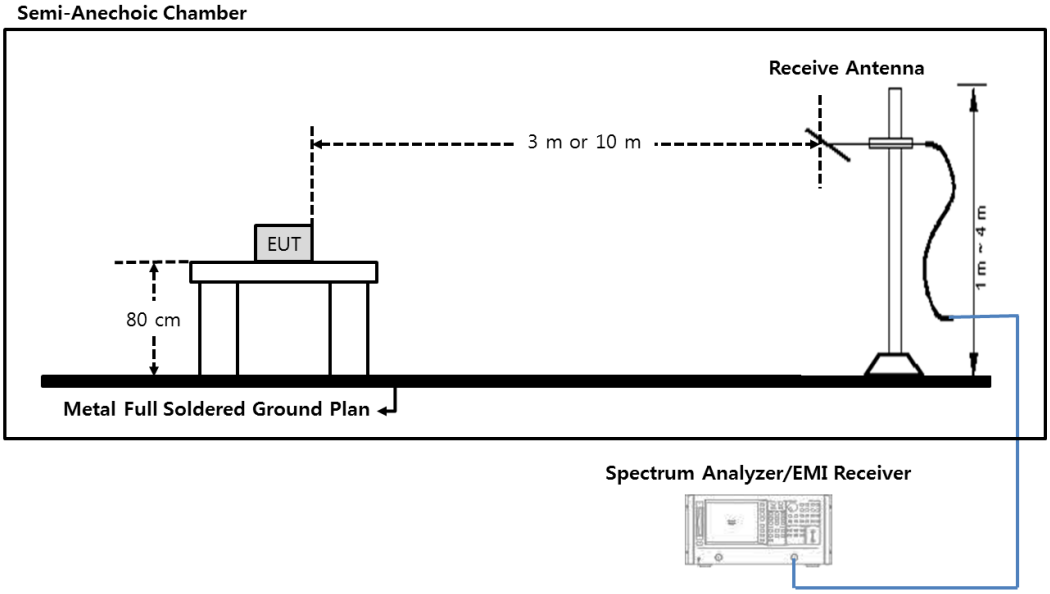


Fig 4. Configurations of Radiated emission test (30 MHz to 1 000 MHz)

7.3 Measurement Uncertainty

The measurement uncertainty was calculated in accordance with ISO “Guide to the expression of uncertainty in measurement”.

The measurement uncertainty was given with a confidence of 95 %.

Test Items(10 m Anechoic Chamber)	Uncertainty	Remark
Radiated emission (30 MHz ~ 300 MHz, 10 m, Vertical)	4.77 dB	Confidence level of approximately 95 % (k = 2)
Radiated emission (30 MHz ~ 300 MHz, 10 m, Horizontal)	4.79 dB	Confidence level of approximately 95 % (k = 2)
Radiated emission (300 MHz ~ 1 000 MHz, 10 m, Vertical)	4.91 dB	Confidence level of approximately 95 % (k = 2)
Radiated emission (300 MHz ~ 1 000 MHz, 10 m, Horizontal)	4.90 dB	Confidence level of approximately 95 % (k = 2)
Radiated emission (1 000 MHz ~ 6 000 MHz, 3 m)	4.63 dB	Confidence level of approximately 95 % (k = 2)
Test items (3 m Anechoic Chamber)	Uncertainty	Remark
Radiated emission (30 MHz ~ 300 MHz, 3 m, Vertical)	4.90 dB	Confidence level of approximately 95 % (k = 2)
Radiated emission (30 MHz ~ 300 MHz, 3 m, Horizontal)	4.79 dB	Confidence level of approximately 95 % (k = 2)
Radiated emission (300 MHz ~ 1 000 MHz, 3 m, Vertical)	6.23 dB	Confidence level of approximately 95 % (k = 2)
Radiated emission (300 MHz ~ 1 000 MHz, 3 m, Horizontal)	5.16 dB	Confidence level of approximately 95 % (k = 2)
Radiated emission (1 GHz ~ 6 GHz, 3 m)	4.56 dB	Confidence level of approximately 95 % (k = 2)
Radiated emission (6 GHz ~ 18 GHz, 3 m)	4.88 dB	Confidence level of approximately 95 % (k = 2)
Radiated emission (18 GHz ~ 26 GHz, 3 m)	5.16 dB	Confidence level of approximately 95 % (k = 2)

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2.

The listed uncertainties are the worst case uncertainty for the entire range of measurement. please note that the uncertainty values are provided for informational purposes only are not used in determining the PASS/FAIL results

7.4 Limit

Equipment	Operating frequency	RF Power generated by equipment (watts)	Field strength limit (uV/m)	Distance (meters)
Any type unless otherwise specified (miscellaneous)	Any ISM frequency	Below 500 500 or more	25 25×SQRT(power/500)	300 [1]300
	Any non-ISM frequency	Below 500 500 or more	15 15×SQRT(power/500)	300 [1]300
Industrial heaters and RF stabilized arc welders	On or below 5,725 MHz Above 5,725 MHz	Any Any	10 (2)	1,600 (2)
Medical diathermy	Any ISM frequency Any non-ISM frequency	Any Any	25 15	300 300
Ultrasonic	Below 490 kHz	Below 500 500 or more	2,400/F(kHz) 2,400/F(kHz)×SQRT(power/500)	300 [3]300
	490 to 1,600 kHz Above 1,600 kHz	Any Any	24,000/F(kHz) 15	30 30
Induction cooking ranges	Below 90 kHz On or above 90 kHz	Any Any	1,500 300	[4]30 [4]30

Note.

1) Field strength may not exceed 10 μV/m at 1600 meters. Consumer equipment operating below 1000 MHz is not permitted the increase in field strength otherwise permitted here for power over 500 watts.
2) Reduced to the greatest extent possible.
3) Field strength may not exceed 10 μV/m at 1600 meters. Consumer equipment is not permitted the increase in field strength otherwise permitted here for over 500 watts.
4) Induction cooking ranges manufactured prior to February 1, 1980, shall be subject to the field strength limits for miscellaneous ISM equipment.

7.5 Test Equipment used

	Model Name	Manufacturer	Description	Serial Number	Calibration Date
■	ESR7	Rohde & Schwarz	EMI Test Receiver	101382	Apr. 05, 2023
■	HFH2-Z2	Rohde & Schwarz	Loop ANT	100041	Apr. 15, 2022
■	CO3000	Innco system GmbH	Position Controller	CO3000/779/330 50314/L	N/A
■	DT3000	Innco system GmbH	Turntable	1280314	N/A
□	MA4000-EP	Innco system GmbH	Antenna Mast	4420314	N/A
□	MA4640-XP-ET	Innco system GmbH	Antenna Mast	MA4640/558	N/A
■	EMC 32	Rohde & Schwarz	Software	Ver.10.40.10	N/A

All test equipment used is calibrated on a regular basis.

7.6 Test data for Radiated Emission

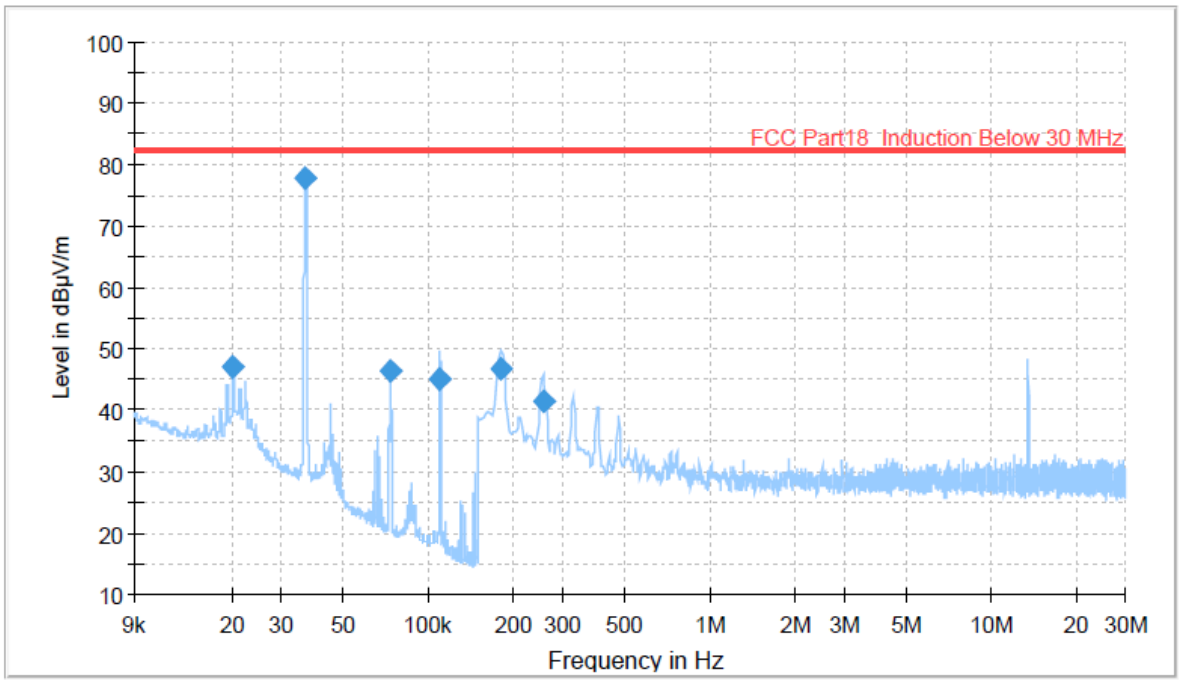
-. Test Date : Mar. 22, 2024 ~ Mar, 25, 2024
-. Measurement Distance : 10 m
-. Note : frequency range to be scanned up to 30 MHz, because the frequency band in which the EUT operates less than 1.705 MHz

-. Measurement setting

Frequency range	9 kHz ~ 150 kHz	0.15 MHz ~ 30 MHz
Detector mode	Average	Average
Resolution bandwidth	200 Hz	9 kHz

-. Measurement Data: Induction mode with WLAN
[AC 208V, 60 Hz]

Cooking Element #1_H

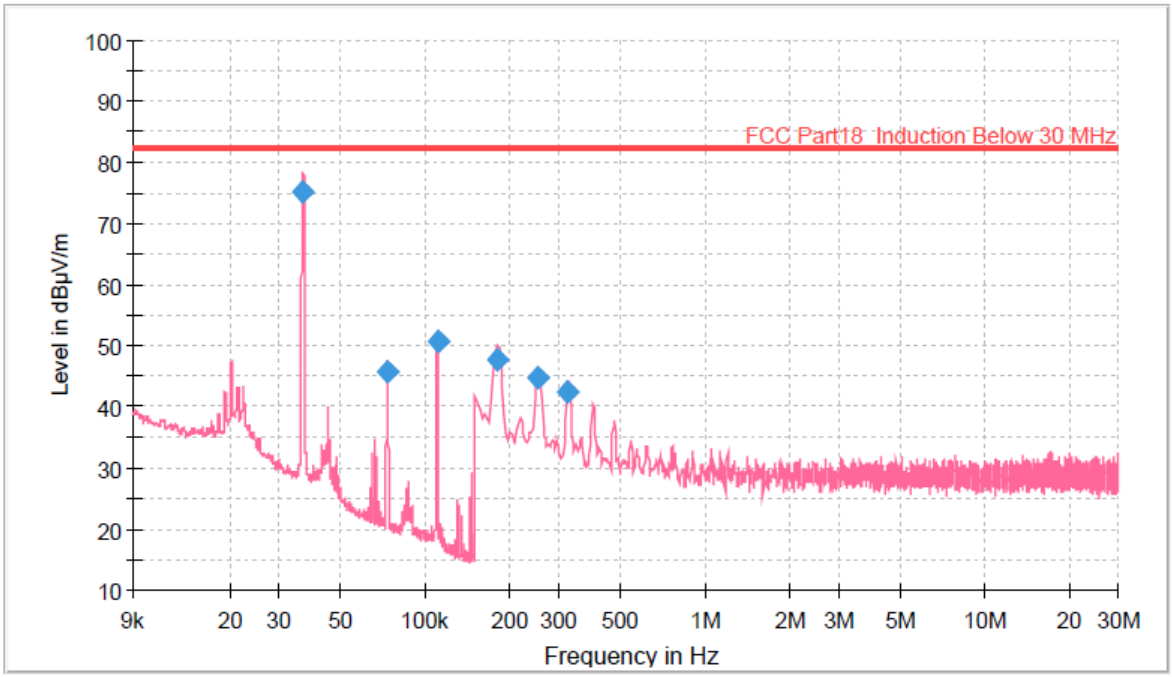


Preview Result 1H-AVG — FCC Part18_Induction Below 30 MHz — Final_Result AVG

Final_Result

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Azimuth (deg)	Corr. (dB/m)
0.020240	47.13	82.60	35.47	1000.0	0.200	H	341.0	20.0
0.036566	77.70	82.60	4.90	1000.0	0.200	H	62.0	19.8
0.073211	46.29	82.60	36.31	1000.0	0.200	H	121.0	19.7
0.109815	45.00	82.60	37.60	1000.0	0.200	H	78.0	19.7
0.179850	46.81	82.60	35.79	1000.0	9.000	H	84.0	19.7
0.254475	41.40	82.60	41.20	1000.0	9.000	H	88.0	19.7

Cooking Element #1_V

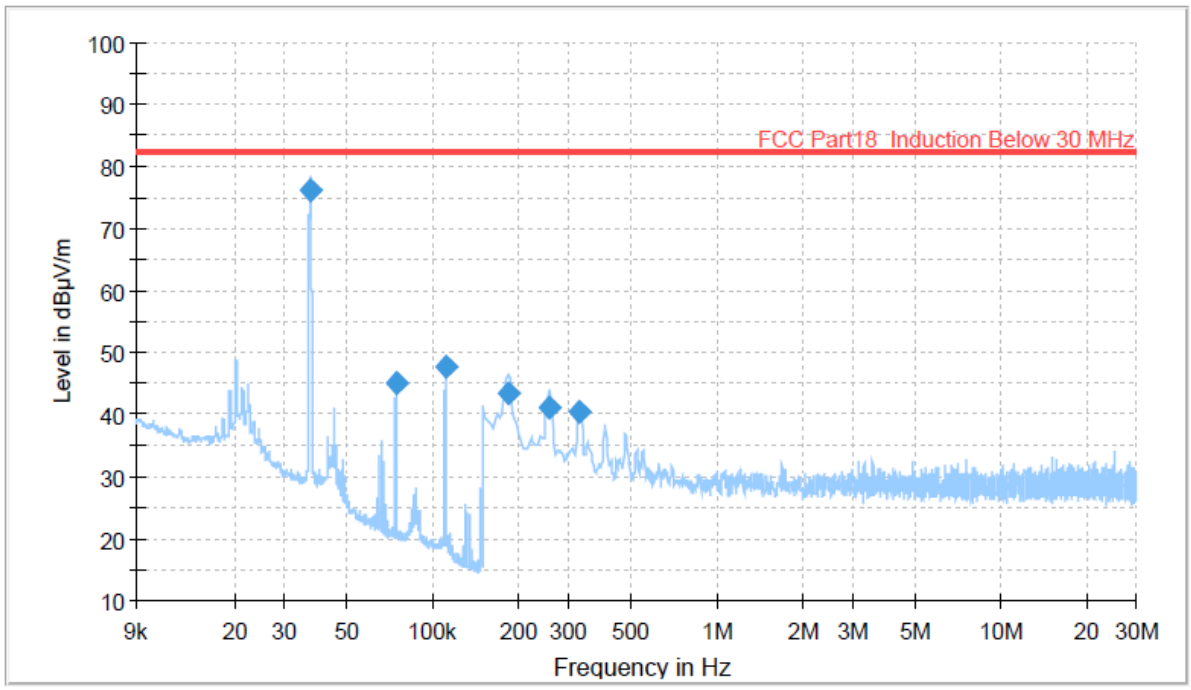


Preview Result 1V-AVG FCC Part18_Induction Below 30 MHz Final_Result AVG

Final_Result

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Azimuth (deg)	Corr. (dB/m)
0.036551	75.03	82.60	7.57	1000.0	0.200	V	137.0	19.8
0.073169	45.69	82.60	36.91	1000.0	0.200	V	46.0	19.7
0.110083	50.65	82.60	31.95	1000.0	0.200	V	7.0	19.7
0.179850	47.59	82.60	35.01	1000.0	9.000	V	182.0	19.7
0.251490	44.74	82.60	37.86	1000.0	9.000	V	0.0	19.7
0.323130	42.26	82.60	40.34	1000.0	9.000	V	325.0	19.7

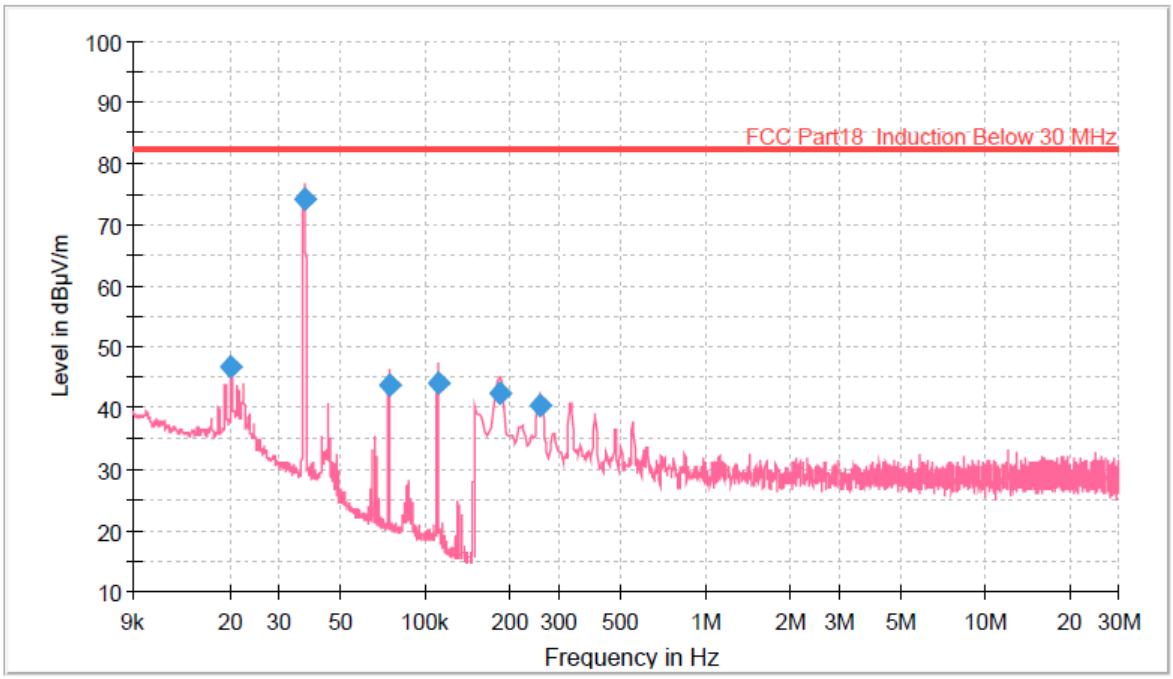
Cooking Element #2_H



Final_Result

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Azimuth (deg)	Corr. (dB/m)
0.036989	76.24	82.60	6.36	1000.0	0.200	H	75.0	19.8
0.073832	44.99	82.60	37.61	1000.0	0.200	H	139.0	19.7
0.110774	47.63	82.60	34.97	1000.0	0.200	H	57.0	19.7
0.182835	43.58	82.60	39.02	1000.0	9.000	H	75.0	19.7
0.257460	41.09	82.60	41.51	1000.0	9.000	H	48.0	19.7
0.329100	40.38	82.60	42.22	1000.0	9.000	H	48.0	19.7

Cooking Element #2_V

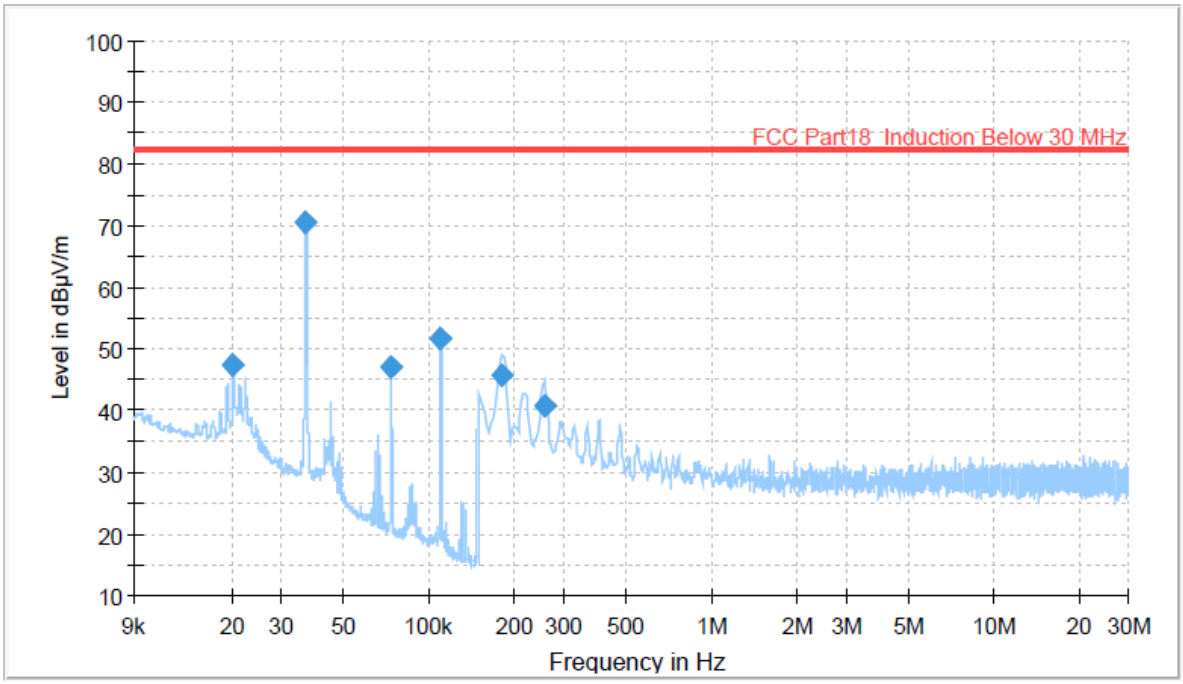


Preview Result 1V-AVG FCC Part18_Induction Below 30 MHz Final_Result AVG

Final_Result

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Azimuth (deg)	Corr. (dB/m)
0.020198	46.69	82.60	35.91	1000.0	0.200	V	198.0	20.0
0.036918	74.06	82.60	8.54	1000.0	0.200	V	156.0	19.8
0.074015	43.75	82.60	38.85	1000.0	0.200	V	45.0	19.7
0.110971	44.00	82.60	38.60	1000.0	0.200	V	156.0	19.7
0.182835	42.42	82.60	40.18	1000.0	9.000	V	165.0	19.7
0.257460	40.32	82.60	42.28	1000.0	9.000	V	138.0	19.7

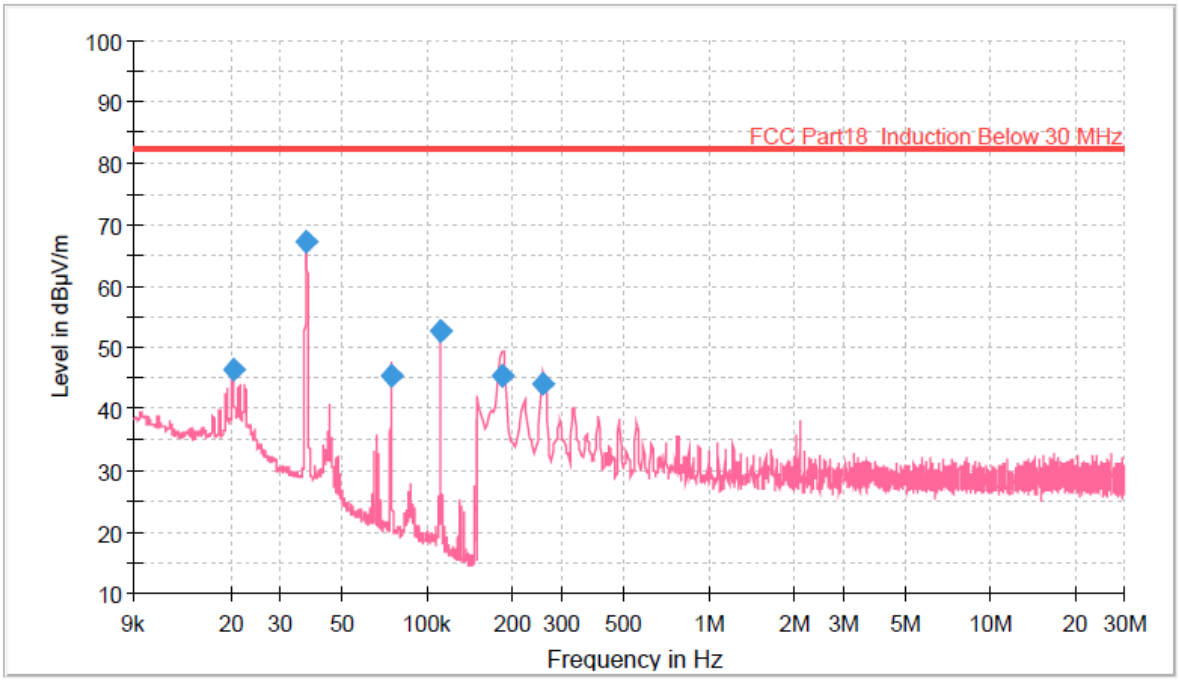
Cooking Element #3_H



Final_Result

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Azimuth (deg)	Corr. (dB/m)
0.020254	47.50	82.60	35.10	1000.0	0.200	H	9.0	20.0
0.036523	70.57	82.60	12.03	1000.0	0.200	H	0.0	19.8
0.073138	46.92	82.60	35.68	1000.0	0.200	H	123.0	19.7
0.109773	51.56	82.60	31.04	1000.0	0.200	H	236.0	19.7
0.179850	45.68	82.60	36.92	1000.0	9.000	H	48.0	19.7
0.254475	40.91	82.60	41.69	1000.0	9.000	H	191.0	19.7

Cooking Element #3_V

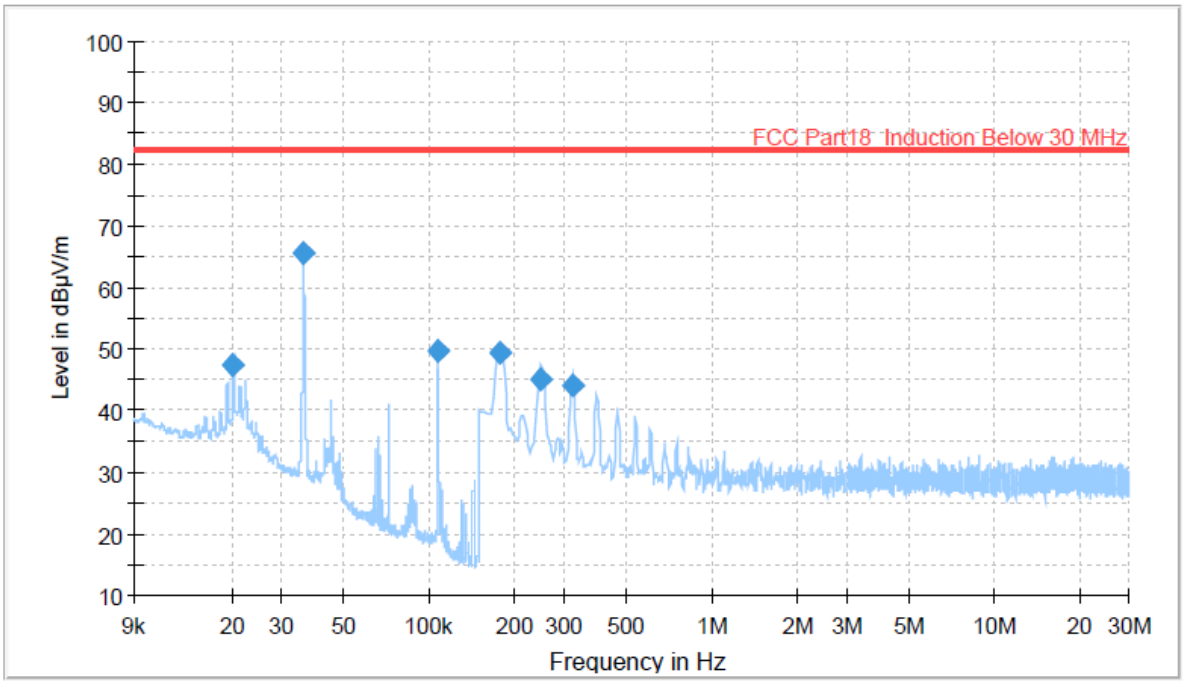


Preview Result 1V-AVG FCC Part18_Induction Below 30 MHz Final_Result AVG

Final_Result

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Azimuth (deg)	Corr. (dB/m)
0.020336	46.46	82.60	36.14	1000.0	0.200	V	159.0	20.0
0.037087	67.33	82.60	15.27	1000.0	0.200	V	123.0	19.8
0.074184	45.37	82.60	37.23	1000.0	0.200	V	250.0	19.7
0.111267	52.83	82.60	29.77	1000.0	0.200	V	154.0	19.7
0.182835	45.40	82.60	37.20	1000.0	9.000	V	100.0	19.7
0.254746	44.18	82.60	38.42	1000.0	9.000	V	115.0	19.7

Cooking Element #4_H

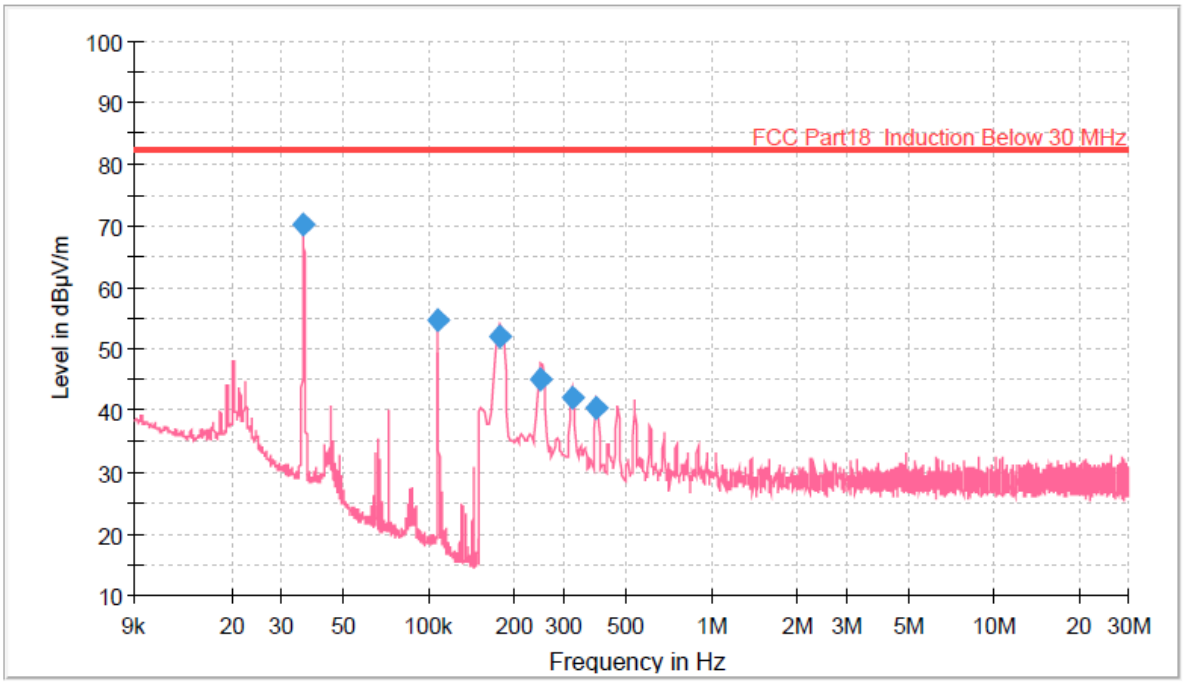


Preview Result 1H-AVG FCC Part18_Induction Below 30 MHz Final_Result AVG

Final_Result

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Azimuth (deg)	Corr. (dB/m)
0.020226	47.37	82.60	35.23	1000.0	0.200	H	152.0	20.0
0.035720	65.75	82.60	16.85	1000.0	0.200	H	247.0	19.8
0.107432	49.65	82.60	32.95	1000.0	0.200	H	264.0	19.7
0.176865	49.47	82.60	33.13	1000.0	9.000	H	264.0	19.7
0.248505	44.91	82.60	37.69	1000.0	9.000	H	256.0	19.7
0.320145	44.08	82.60	38.52	1000.0	9.000	H	247.0	19.7

Cooking Element #4_V



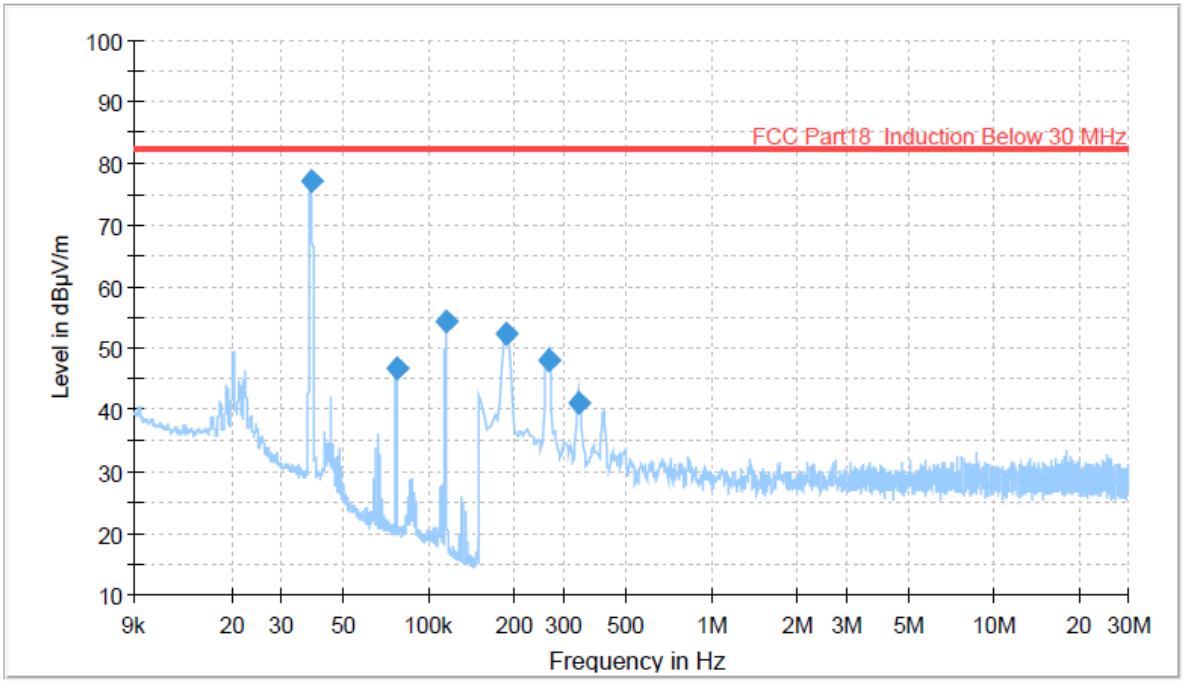
Preview Result 1V-AVG FCC Part18_Induction Below 30 MHz Final_Result AVG

Final_Result

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Azimuth (deg)	Corr. (dB/m)
0.035720	70.23	82.60	12.37	1000.0	0.200	V	109.0	19.8
0.107348	54.52	82.60	28.08	1000.0	0.200	V	109.0	19.7
0.176865	52.15	82.60	30.45	1000.0	9.000	V	76.0	19.7
0.248505	44.98	82.60	37.62	1000.0	9.000	V	218.0	19.7
0.320145	41.97	82.60	40.63	1000.0	9.000	V	52.0	19.7
0.391785	40.58	82.60	41.02	1000.0	9.000	V	52.0	19.7

[AC 240V, 60 Hz]

Cooking Element #1_H

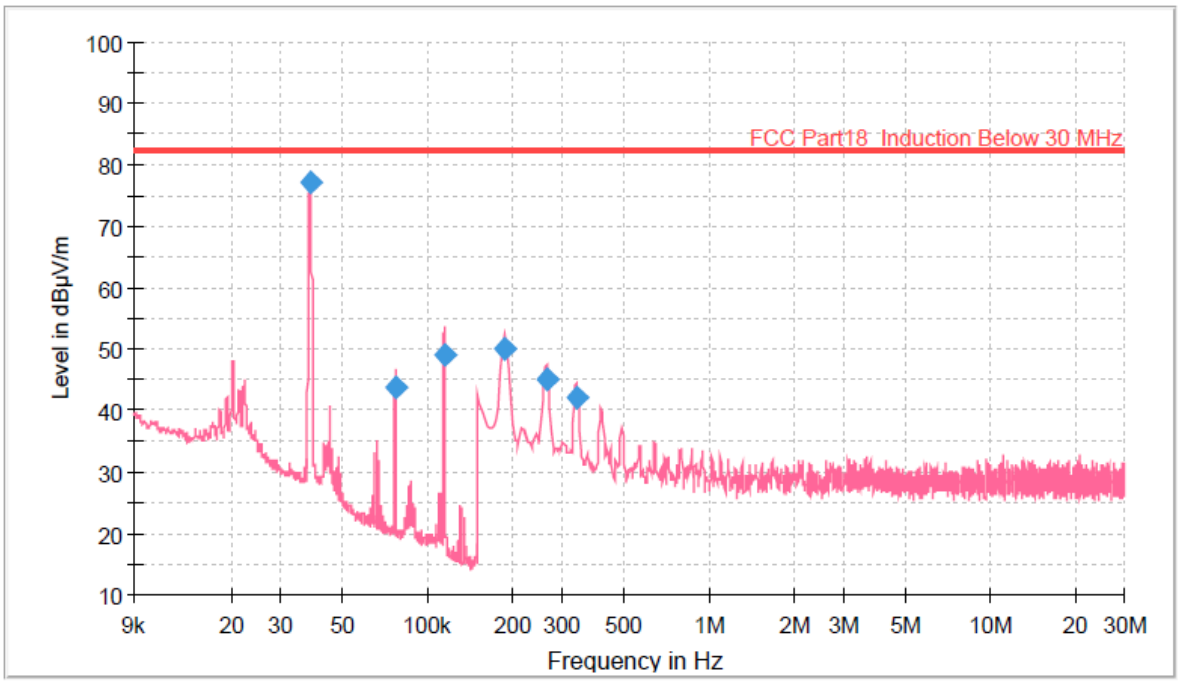


Preview Result 1H-AVG FCC Part18_Induction Below 30 MHz Final_Result AVG

Final_Result

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Azimuth (deg)	Corr. (dB/m)
0.038328	77.22	82.60	5.38	1000.0	0.200	H	72.0	19.8
0.076722	46.57	82.60	36.03	1000.0	0.200	H	129.0	19.7
0.115088	54.18	82.60	28.42	1000.0	0.200	H	101.0	19.7
0.188805	52.47	82.60	30.13	1000.0	9.000	H	114.0	19.7
0.263430	47.90	82.60	34.70	1000.0	9.000	H	114.0	19.7
0.338055	41.13	82.60	41.47	1000.0	9.000	H	109.0	19.7

Cooking Element #1_V

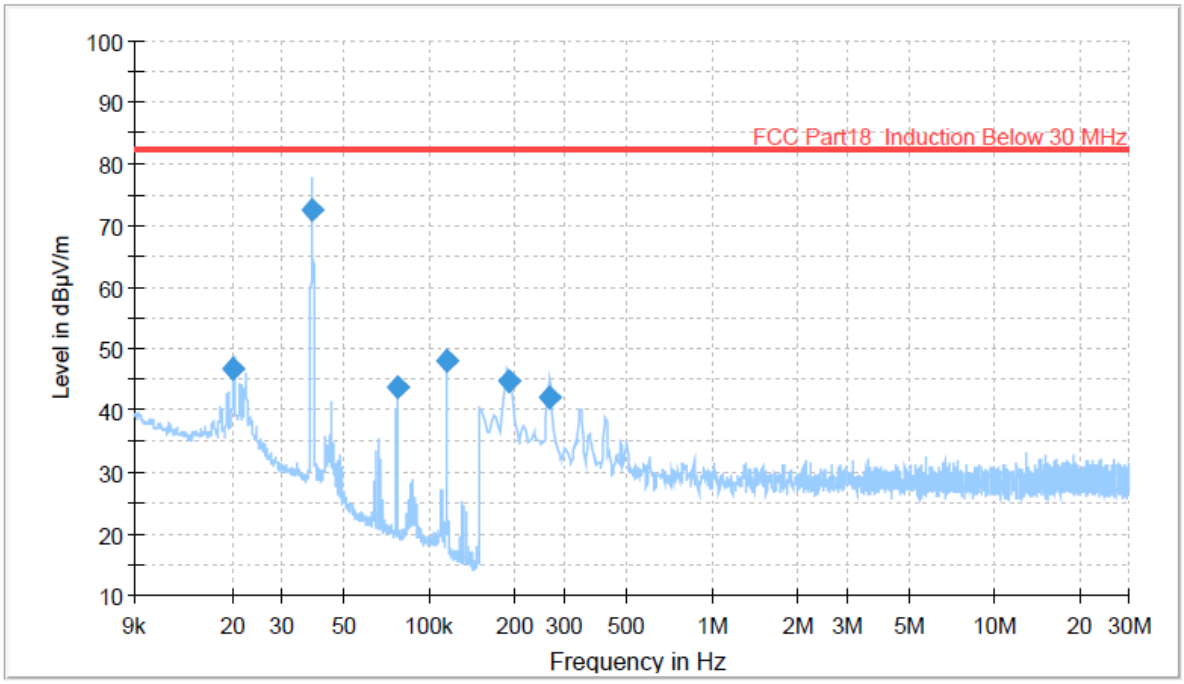


Preview Result 1V-AVG FCC Part18_Induction Below 30 MHz Final_Result AVG

Final_Result

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Azimuth (deg)	Corr. (dB/m)
0.038272	77.28	82.60	5.32	1000.0	0.200	V	128.0	19.8
0.076483	43.78	82.60	38.82	1000.0	0.200	V	50.0	19.7
0.114821	48.94	82.60	33.66	1000.0	0.200	V	154.0	19.7
0.188805	49.92	82.60	32.68	1000.0	9.000	V	167.0	19.7
0.263430	45.15	82.60	37.45	1000.0	9.000	V	154.0	19.7
0.338055	42.15	82.60	40.45	1000.0	9.000	V	0.0	19.7

Cooking Element #2_H

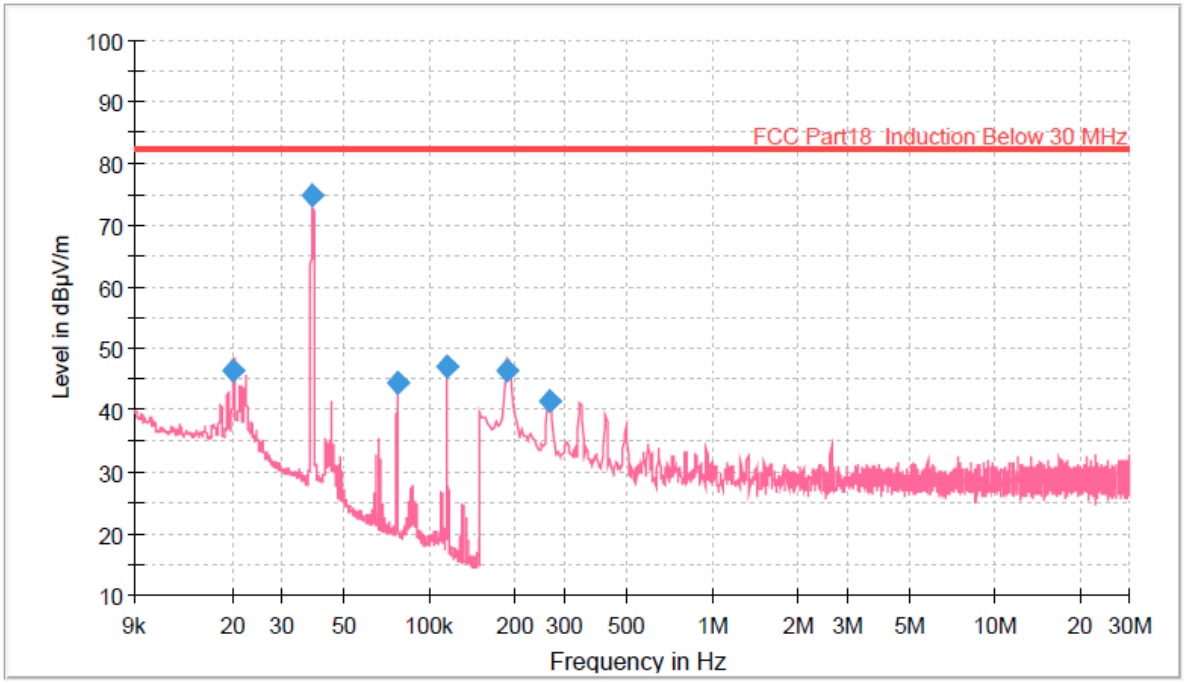


Preview Result 1H-AVG FCC Part18_Induction Below 30 MHz Final_Result AVG

Final_Result

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Azimuth (deg)	Corr. (dB/m)
0.020146	46.80	82.60	35.80	1000.0	0.200	H	231.0	20.0
0.038286	72.37	82.60	10.23	1000.0	0.200	H	87.0	19.8
0.076638	43.61	82.60	38.99	1000.0	0.200	H	130.0	19.7
0.115046	47.99	82.60	34.61	1000.0	0.200	H	82.0	19.7
0.190000	44.73	82.60	37.87	1000.0	9.000	H	67.0	19.7
0.265415	41.95	82.60	40.65	1000.0	9.000	H	82.0	19.7

Cooking Element #2_V

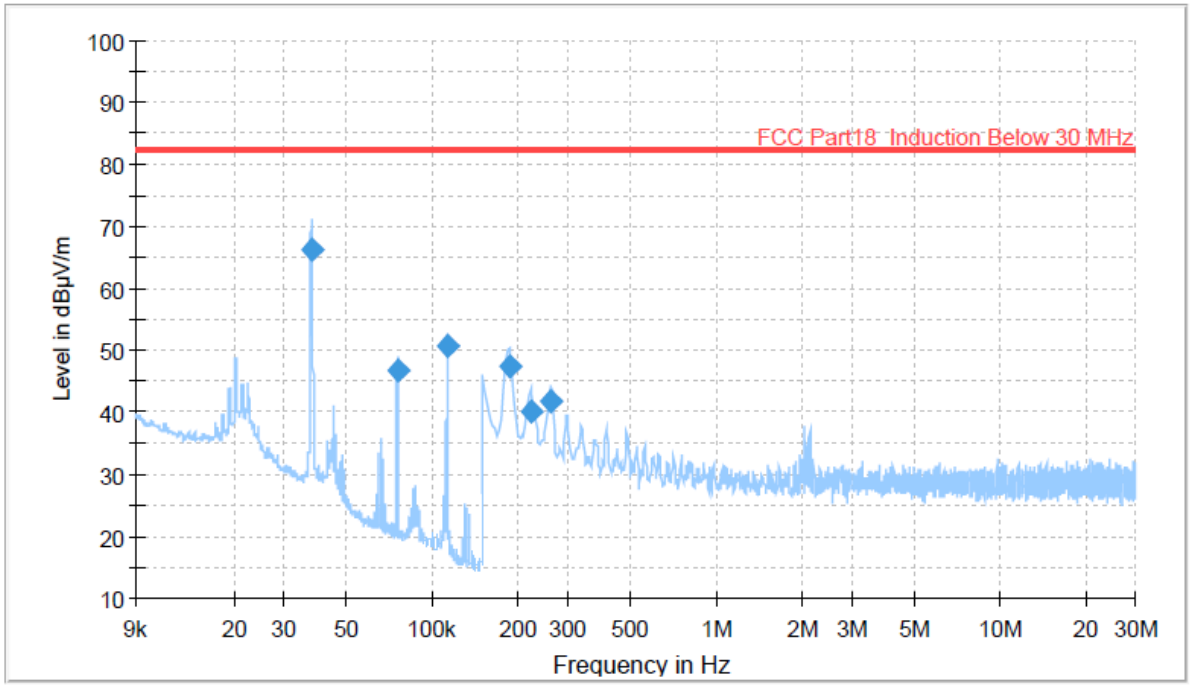


Preview Result 1V-AVG FCC Part18_Induction Below 30 MHz Final_Result AVG

Final_Result

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Azimuth (deg)	Corr. (dB/m)
0.020146	46.48	82.60	36.12	1000.0	0.200	V	42.0	20.0
0.038384	74.82	82.60	7.78	1000.0	0.200	V	149.0	19.8
0.076329	44.33	82.60	38.27	1000.0	0.200	V	42.0	19.7
0.115187	47.09	82.60	35.51	1000.0	0.200	V	137.0	19.7
0.188805	46.49	82.60	36.11	1000.0	9.000	V	141.0	19.7
0.266415	41.46	82.60	41.14	1000.0	9.000	V	141.0	19.7

Cooking Element #3_H

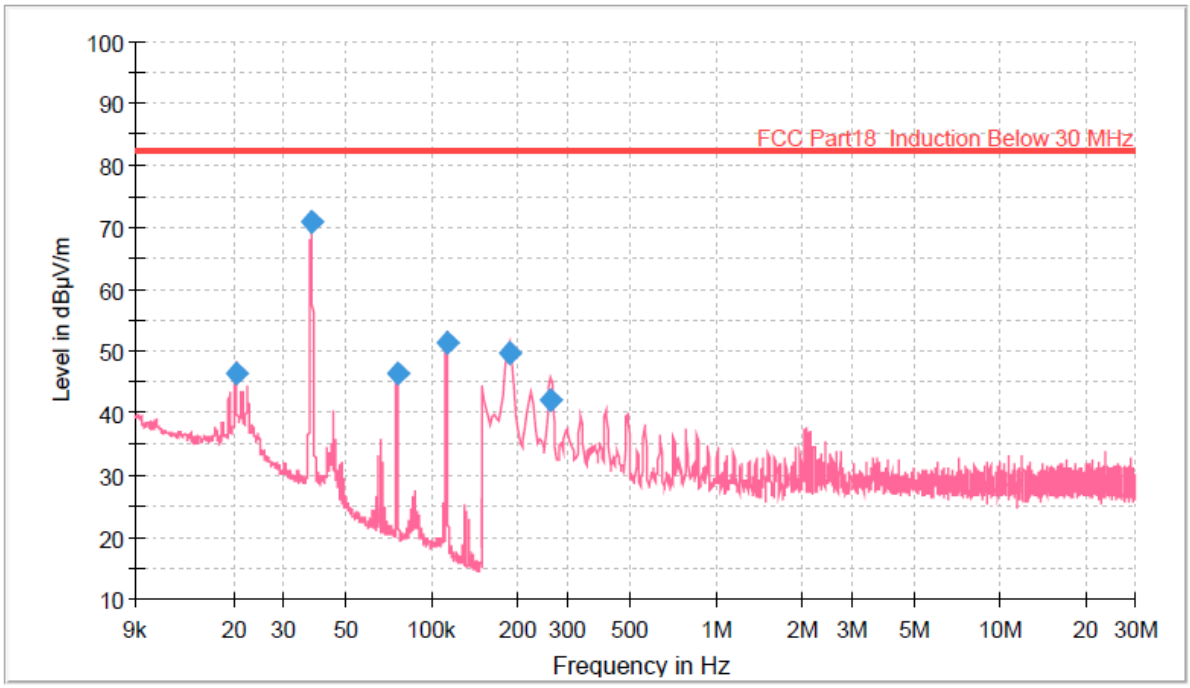


Preview Result 1H-AVG FCC Part18_Induction Below 30 MHz Final_Result AVG

Final_Result

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Azimuth (deg)	Corr. (dB/m)
0.037538	66.34	82.60	16.26	1000.0	0.200	H	0.0	19.8
0.075016	46.66	82.60	35.94	1000.0	0.200	H	126.0	19.7
0.112536	50.54	82.60	32.06	1000.0	0.200	H	74.0	19.7
0.185820	47.36	82.60	35.24	1000.0	9.000	H	210.0	19.7
0.221640	40.19	82.60	42.41	1000.0	9.000	H	138.0	19.7
0.260445	41.73	82.60	40.87	1000.0	9.000	H	210.0	19.7

Cooking Element #3_V

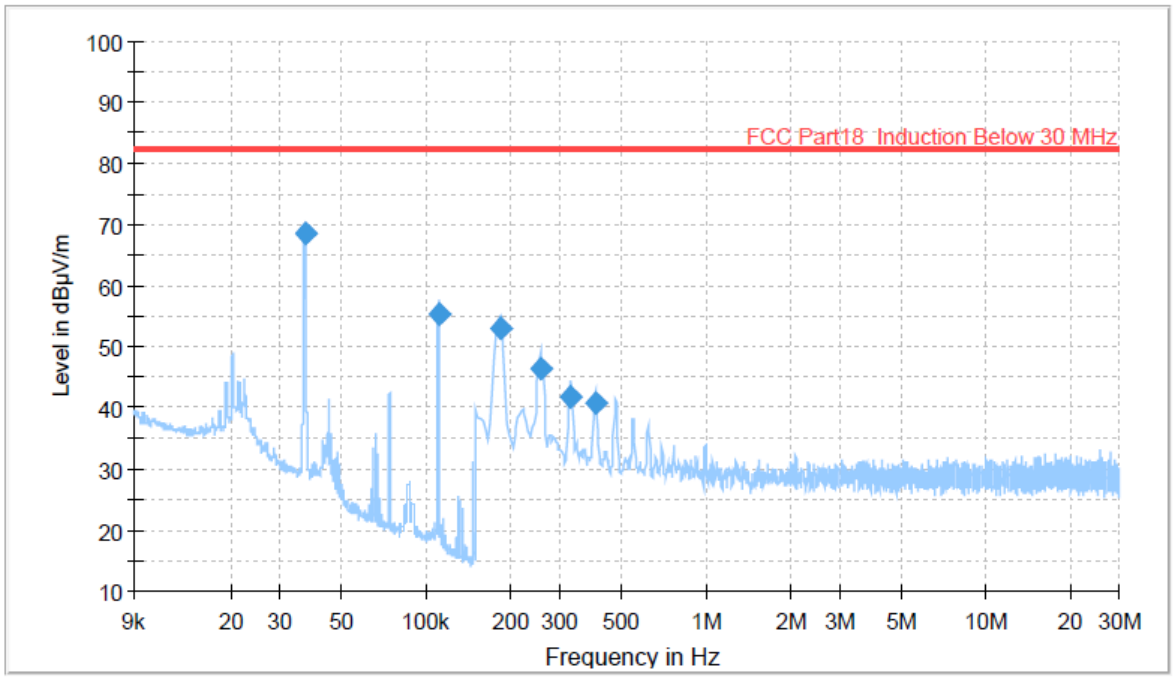


Preview Result 1V-AVG FCC Part18_Induction Below 30 MHz Final_Result AVG

Final_Result

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Azimuth (deg)	Corr. (dB/m)
0.020322	46.38	82.60	36.22	1000.0	0.200	V	111.0	20.0
0.037623	70.75	82.60	11.85	1000.0	0.200	V	111.0	19.8
0.075185	46.41	82.60	35.19	1000.0	0.200	V	248.0	19.7
0.112734	51.51	82.60	31.09	1000.0	0.200	V	144.0	19.7
0.185820	49.54	82.60	33.06	1000.0	9.000	V	104.0	19.7
0.260445	42.08	82.60	39.52	1000.0	9.000	V	144.0	19.7

Cooking Element #4_H

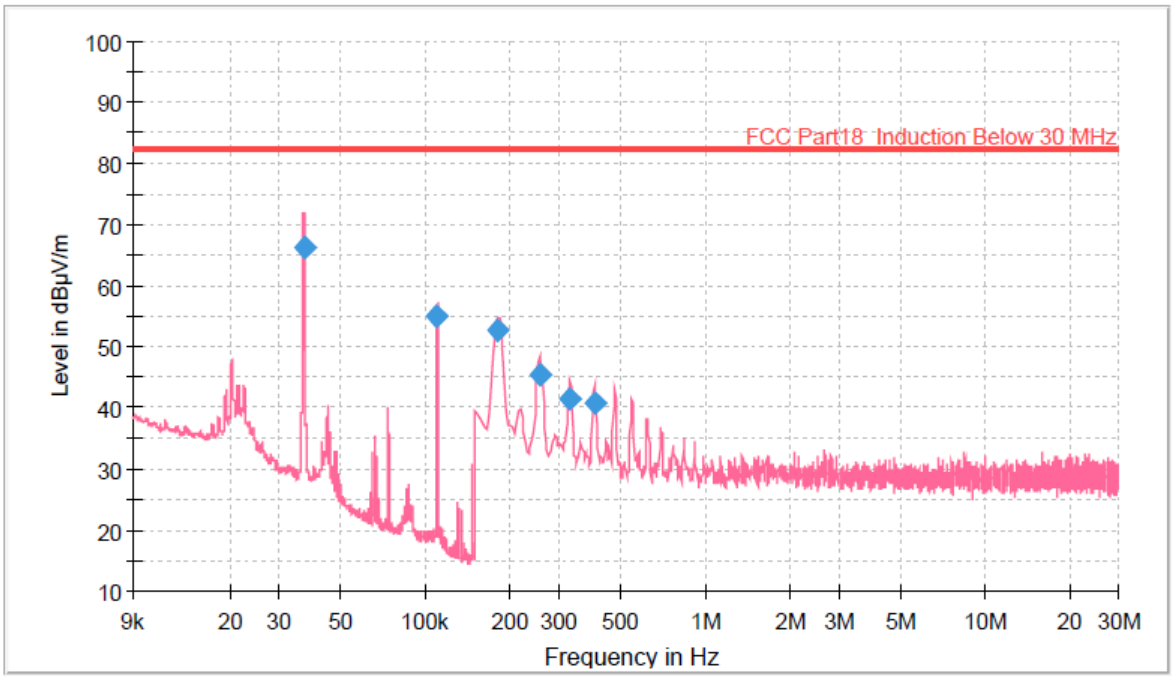


Preview Result 1H-AVG FCC Part18_Induction Below 30 MHz Final_Result AVG

Final_Result

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Azimuth (deg)	Corr. (dB/m)
0.036749	68.71	82.60	13.89	1000.0	0.200	H	192.0	19.8
0.110294	55.19	82.60	27.41	1000.0	0.200	H	192.0	19.7
0.182835	53.10	82.60	29.50	1000.0	9.000	H	196.0	19.7
0.254475	46.47	82.60	36.13	1000.0	9.000	H	161.0	19.7
0.329100	41.81	82.60	40.79	1000.0	9.000	H	161.0	19.7
0.403725	40.87	82.60	41.73	1000.0	9.000	H	161.0	19.7

Cooking Element #4_V



Preview Result 1V-AVG FCC Part18_Induction Below 30 MHz Final_Result AVG

Final_Result

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Azimuth (deg)	Corr. (dB/m)
0.036678	66.33	82.60	16.27	1000.0	0.200	V	119.0	19.8
0.109657	54.84	82.60	27.76	1000.0	0.200	V	111.0	19.7
0.182000	52.69	82.60	29.91	1000.0	9.000	V	105.0	19.7
0.254475	45.49	82.60	37.11	1000.0	9.000	V	289.0	19.7
0.328100	41.57	82.60	41.03	1000.0	9.000	V	89.0	19.7
0.400740	40.93	82.60	41.67	1000.0	9.000	V	105.0	19.7

Note.1 The worst case data were reported
And no other spurious and harmonic emissions were reported greater than listed emission above table
Note.2 “F”=Fundamental / “S”=Spurious / “*” = Noise Floor
Note.3 All measurements were recorded using a spectrum analyzer employing a Average detector for below 30 MHz
Note.4 Distance Correction Factor (D.C.F.)
For 30 m: 40log(30/10) = 19.08 dB
Note.5 Sample calculation
Field Strength = Reading – D.C.F
Margin = Limit – Field Strength
Where, D.C.F = Distance Correction Factor
Note.6 “V1”= Vertical and perpendicular to the centerline / “V2”=vertical and parallel to the centerline
“H” = horizontal (parallel to the ground)
Note.7 Cooking element
“1”= front left hob ,”2”= rear left hob, “3”= Center hob, “4”= right hob

8. Sample Calculations

dBµV = 20 Log $_{10}$(µV/m)
dBµV = dBm + 107
µV = 10 $^{(dB\mu V/20)}$

8.1 Example 1 :

■ **20.3 MHz**

Class B Limit **= 250 µV = 48 dBµV**

Reading **= 39.2 dBµV**

10 $^{(39.2dB\mu V/20)}$ **= 91.2 µV**

Margin **= 48 dBµV - 39.2 dBµV**

= 8.8 dB

8.2 Example 2 :

■ **66.7 MHz**

Class B Limit **= 100 µV/m = 40.0 dBµV/m**

Reading **= 31.0 dBµV**

Antenna Factor + Cable Loss = 5.8 dB

Total **= 36.8 dBµV/m**

Margin **= 40.0 dBµV/m – 36.8 dBµV/m**

= 3.2 dB

9. Recommendation & Conclusion

The data collected shows that the **HOUSEHOLD COOKTOP (Model Name: CBIH3017BE)** was complies with § 18.305 and 18.307 of the FCC Rules.

- The end -