

# **TEST REPORT**

**Report Number** : 14982484-E13V2

**Applicant** : APPLE, INC.  
1 APPLE PARK WAY  
CUPERTINO, CA 95014, U.S. A

**Model** : A3081 (Parent Model)  
A3286, A3287, A3288 (Variant Models)

**FCC ID** : BCG-E8688A (Parent Model)  
BCG-E8689A, BCG-E8690A, BCG-E8691A  
(Variant Models)

**IC** : 579C-E8688A (Parent Model)  
579C-E8689A, 579C-E8690A, 579C-E8691A  
(Variant Models)

**EUT Description** : SMARTPHONE

**Test Standard(s)** : FCC 47 CFR PART 15 SUBPART C  
ISED RSS-216 ISSUE 2  
ISED RSS-GEN ISSUE 5 + A1 + A2

**Date Of Issue:**  
2024/07/17

**Prepared by:**  
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REPORT REVISION HISTORY

Rev.		Issue Date		Revisions		Revised By
V1		2024/06/25		Initial Issue		Chin Pang
V2		2024/07/17		Address TCB's question		Chin Pang

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1. ATTESTATION OF TEST RESULTS

**COMPANY NAME:** APPLE, INC.  
ONE APPLE PARK WAY  
CUPERTINO, CA 95014

**EUT DESCRIPTION:** SMARTPHONE

**MODEL:** A3081 (Parent Model)  
A3286, A3287, A3288 (Variant Models)

**FCC ID:** BCG-E8688A (Parent Model)  
BCG-E8689A, BCG-E8690A, BCG-E8691A (Variant Models)

**IC ID:** 579C-E8688A (Parent Model)  
579C-E8689A, 579C-E8690A, 579C-E8691A (Variant Models)

**BRAND:** APPLE

**SERIAL NUMBER:** MTGHY0Y3DH

**SAMPLE RECEIPT DATE:** 2024/05/24

**DATE TESTED:** 2024/05/28 TO 2024/06/14

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
FCC PART 15 SUBPART C	Complies
ISED RSS-216 Issue 2	Complies
ISED RSS-GEN Issue 5 + A1 + A2	Complies

UL Verification Services Inc. tested the above equipment in accordance with the requirements set forth in the above standards. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. It is the manufacturer's responsibility to assure that additional production units of this model are manufactured with identical electrical and mechanical components. All samples tested were in good operating condition throughout the entire test program. Measurement Uncertainties are published for informational purposes only and were not taken into account unless noted otherwise.

This document may not be altered or revised in any way unless done so by UL Verification Services Inc. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL Verification Services Inc. will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by A2LA, NIST, any agency of the Federal Government, or any agency of the U.S. government.

Approved & Released For  
UL Verification Services Inc. By:



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Chin Pang  
Senior Lab Engineer  
Consumer Technology Division  
UL Verification Services Inc

Prepared By:



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Chris Xiong  
Test Engineer  
Consumer Technology Division  
UL Verification Services Inc

2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with:

- FCC CFR 47 Part 2
- FCC CFR 47 Part 15
- ANSI C63.10-2013
- KDB 414788 D01 Radiated Test Site v01r01
- RSS-GEN Issue 5 + A1 + A2
- RSS-216 Issue 2

3. FACILITIES AND ACCREDITATION

UL Verification Services Inc. is accredited by A2LA, certification #0751.05, for all testing performed within the scope of this report. Testing was performed at the locations noted below.

	Address	ISED CABID	ISED Company Number	FCC Registration
<input type="checkbox"/>	Building 1: 47173 Benicia Street, Fremont, CA 94538, USA	US0104	2324A	550739
<input checked="" type="checkbox"/>	Building 2: 47266 Benicia Street, Fremont, CA 94538, USA			
<input type="checkbox"/>	Building 3: 843 Auburn Court, Fremont, CA 94538 USA			
<input checked="" type="checkbox"/>	Building 4: 47658 Kato Rd, Fremont, CA 94538 USA			
<input type="checkbox"/>	Building 5: 47670 Kato Rd, Fremont, CA 94538 USA			

4. DECISION RULES AND MEASUREMENT UNCERTAINTY

4.1. METROLOGICAL TRACEABILITY

All test and measuring equipment utilized to perform the tests documented in this report are calibrated on a regular basis, with a maximum time between calibrations of one year or the manufacturers’ recommendation, whichever is less, and where applicable is traceable to recognized national standards.

4.2. DECISION RULES

The Decision Rule is based on Simple Acceptance in accordance with ISO Guide 98-4:2012 Clause 8.2. (Measurement uncertainty is not taken into account when stating conformity with a specified requirement).

4.3. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

PARAMETER	UNCERTAINTY
Occupied Bandwidth	1.20%
Worst Case Conducted Disturbance, 9kHz to 0.15 MHz	3.78 dB
Worst Case Conducted Disturbance, 0.15 to 30 MHz	3.40 dB
Worst Case Radiated Disturbance, 9kHz to 30 MHz	2.87 dB
Worst Case Radiated Disturbance, 30 to 1000 MHz	6.01 dB

Uncertainty figures are valid to a confidence level of 95%.

## 5. EQUIPMENT UNDER TEST

### 5.1. DESCRIPTION OF EUT

The Apple iPhone is a smartphone with cellular GSM, GPRS, EGPRS, WCDMA, LTE, 5G NR1, 5G NR2, IEEE 802.11a/b/g/n/ac/ax/be, Bluetooth (BT), Ultra-Wideband (UWB), Global Positioning System (GPS), Near-Field Communication (NFC), Narrow-Band (NB) UNII, 802.15.4, 802.15.4ab-Narrow Band (NB), Wireless Power Transfer (WPT) and Mobile Satellite Service (MSS) technologies. The rechargeable battery is not user accessible. This device is not user-serviceable and requires special tools to disassemble.

### 5.2. MAXIMUM E-FIELD and H-FIELD

The transmitter has maximum peak radiated electric and magnetic field strength as follows:

Fundamental Frequency (kHz)	Mode	E-field (300m distance) FCC (dB $\mu$ V/m)	H-field (3m distance) IC (dB $\mu$ A/m)
360	Operating	-22.49	5.59
--	Standby	-42.25	-12.94

### 5.3. WORST-CASE CONFIGURATION AND MODE

The EUT is a smartphone which is connected to the AC/DC adapter via USB-C cable and the inductive charging coil to charge WPT accessories (Load). For the entire radiated emissions test, the EUT was investigated on the following configurations:

1. At its natural orientation with EUT on a plastic fixture set at center location on Load
2. At its natural orientation with EUT on a plastic fixture with offset from center location on Load

The fixture is used to create off-set in order to mimic worst case condition with max 7.5W Output power.

The worst case was natural orientation with EUT on the fixture with offset from center location on Load.

MODE	DESCRIPTION
Standby	EUT with USB-C to USB-C cable powered by AC/DC Adapter
Operating	EUT with USB-C to USB-C cable powered by AC/DC Adapter & Wireless Charging to the Load (360 kHz)

For below 30MHz & 1GHz tests, the EUT was connected to AC power adapter as the worst case. For AC line conducted emission, test was investigated with AC power adapter. The EUT was tested on standby and operation modes. During operational mode, EUT was tested with Load.

For below 30MHz testing, investigation was done on three antenna orientations: RX antenna Face-On, Face-Off and Horizontal (parallel to ground). The worst-case configurations were determined on RX antenna Face-On and Face-Off; therefore, all final tests were performed using these two orientations.

Although these tests were performed other than open area test site, adequate comparison measurements were confirmed against 300 m open area test site. Therefore, sufficient tests were made to demonstrate that the alternative site produces results that correlate with the ones of tests made in an open field based on KDB 414788 D01.

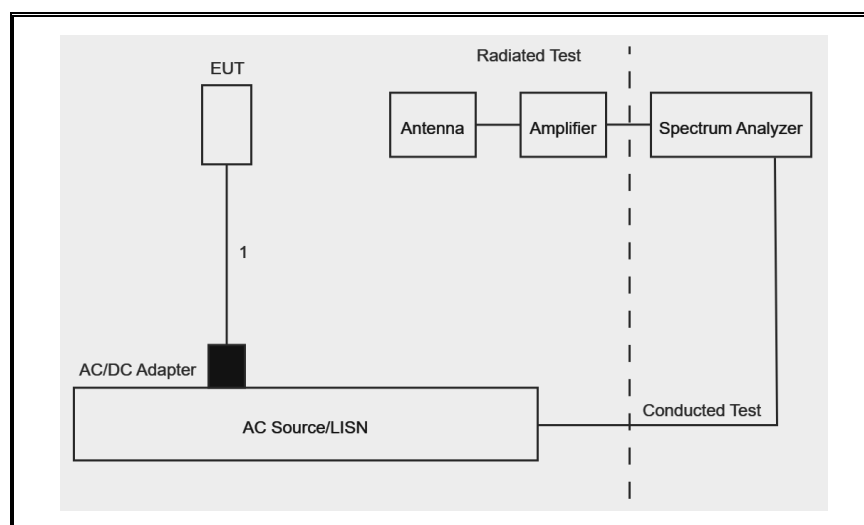


## 5.4. DESCRIPTION OF TEST SETUP

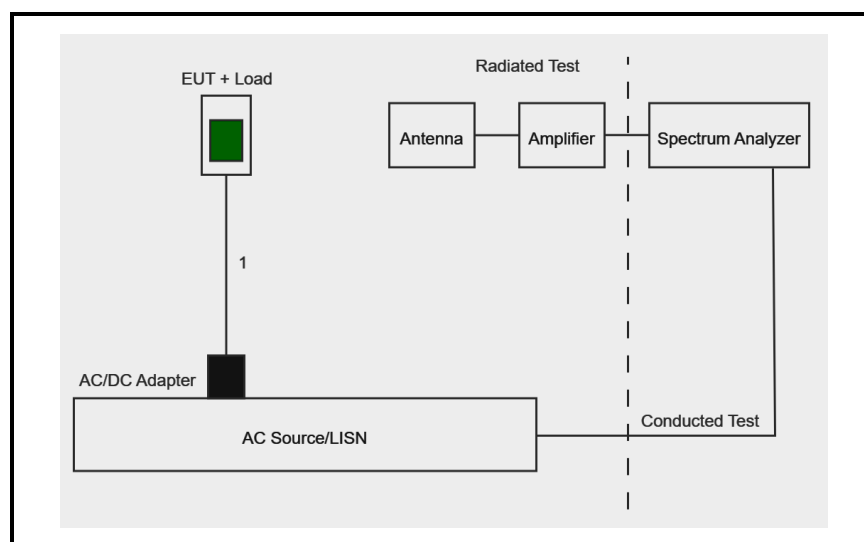
SUPPORT EQUIPMENT & PERIPHERALS LIST				
Description	Manufacturer	Model	Serial Number	FCC ID
AC/DC adapter	Apple	N/A	C4H0313063ZPF4FAZ	N/A
Charging Cable	Apple	N/A	FTL8513008Y26GV17	N/A
WPT Accessory (Load)	Apple	N/A	DND351202Y50NJM1S	N/A

I/O CABLE LIST						
Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	DC	1	USB-C	Un-Shielded	1	None

### STANDBY MODE SETUP



### OPERATING MODE SETUP



## 6. TEST AND MEASUREMENT EQUIPMENT

The following test and measurement equipment were utilized for the tests documented in this report:

TEST EQUIPMENT LIST				
Description	Manufacturer	Model	ID Num	Cal Due
Spectrum Analyzer, PXA, 3Hz to 44GHz	Keysight Technologies Inc.	N9030A	85213	2025/02/28
Antenna, Broadband Hybrid, 30MHz to 3GHz	Sunol Sciences Corp.	JB3	204044	2025/02/29
Antenna, Passive Loop 30Hz – 1MHz	Electro-Metrics	EM-6871	170014	2024/08/31
Antenna, Passive Loop 100kHz – 30MHz	Electro-Metrics	EM-6872	170016	2024/08/31
Link File, @3m, 9kHz-1000MHz Hybrid Path Loss	UL-FR1	Port 0 Factors	232001	2025/02/28
Sniffer Probe	Electro Metrics	EM-6992	N/A	N/A

AC Line Conducted				
Description	Manufacturer	Model	ID Num	Cal Due
EMI TEST RECEIVER 9kHz - 3.6GHz	Rohde & Schwarz	ESR	171646	2025/02/28
LISN for Conducted Emissions	Fischer Custom Communications, Inc	FCC-LISN-50/250-25-2-01-480V	175765	2025/01/31
Transient Limiter	TE	TBFL1	207996	2024/08/31

UL AUTOMATION SOFTWARE			
Radiated Software	UL	UL EMC	Ver 9.5, 21 May 2024
Conducted Software	UL	UL EMC	2024.2.23
AC Line Conducted Software	UL	UL EMC	Ver 9.5, 03 Mar 2023

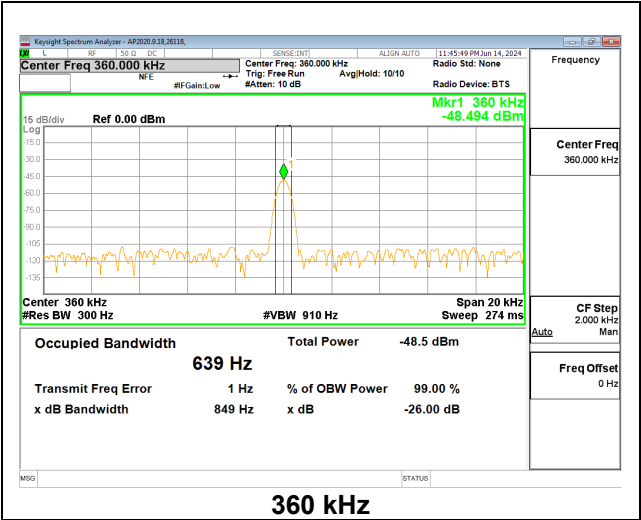
7. OCCUPIED BANDWIDTH

TEST PROCEDURE

The transmitter output is connected to the spectrum analyzer. The RBW is set to 300Hz. The VBW is set to 3 times the RBW. The sweep time is coupled. The spectrum analyzer internal 99% bandwidth function is utilized.

Note: Because the measured signal is CW-like, adjusting the RBW per C63.10 would not be practical since measured bandwidth will always follow the RBW and the result will be approximately twice the RBW.

RESULTS



8. RADIATED EMISSION TEST RESULTS

LIMITS

FCC §15.209 (a) (d)  
ICES-001 Section 3.3.4, IC RSS-216 6.2.2, and IC RSS-GEN Sections 8.9 and 8.10.

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (m)
0.009–0.490	2400/F(kHz)	300
0.490–1.705	24000/F(kHz)	30
1.705–30.0	30	30
30–88	100	3
88 to 216	150	3
216 to 960	200	3
Above 960 MHz	500	3
Note: The lower limit shall apply at the transition frequency.		

ICES-001 Issue 5 Table 2 & Table 4:

Table 2: Magnetic field strength radiated emission limits for induction cooking appliances

Frequency Range (MHz)	Quai-Peak, at 3m Distance (dBµA/m)
0.009 - 0.07	69
0.07 - 0.15	69 to 39 *
0.15 - 30	39 to 7 *
* The limit level in dBµA/m decreases linearly with the logarithm of frequency.	

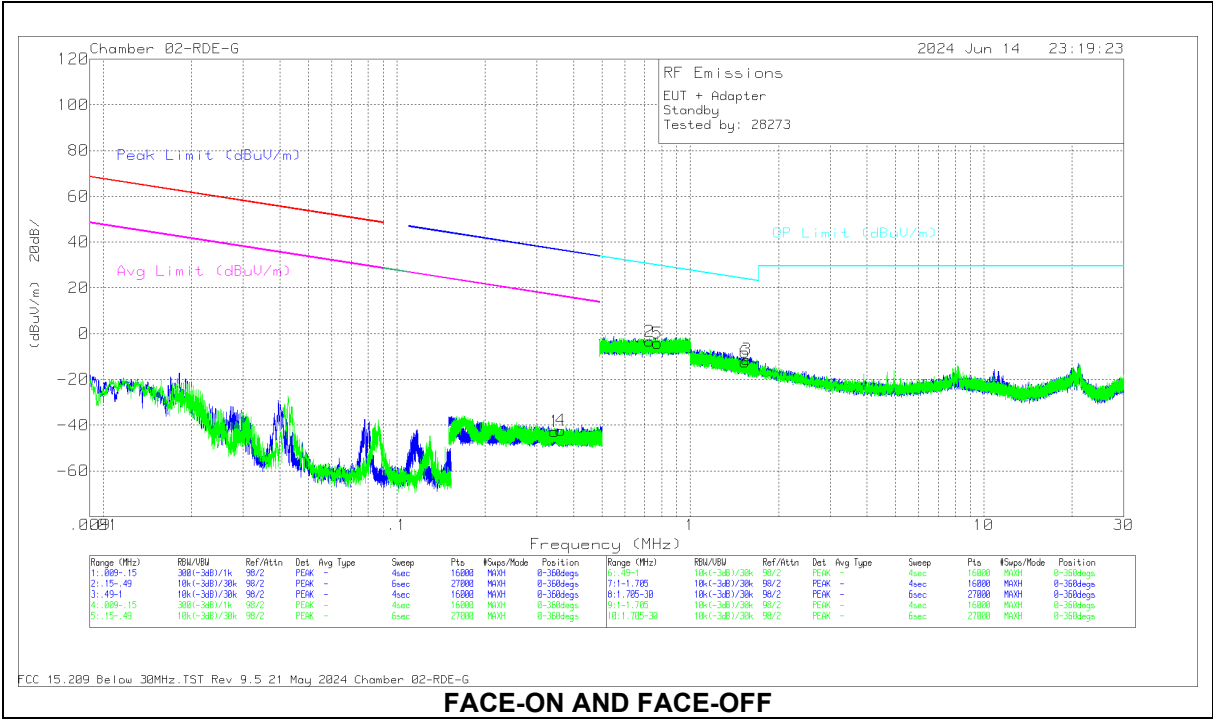
Table 4: Electric field strength radiated emission limits for induction cooking appliances

Frequency Range (MHz)	OATS or SAC * 10 m measurement distance Quasi-peak (dBµV/m)	OATS or SAC * 3 m measurement distance Quasi-peak (dBµV/m)	FAR * 3 m measurement distance Quasi-peak (dBµV/m)
30 - 230	30	40	42 to 35 **
230 - 1000	37	47	42
Note: The more stringent limit applies at the transition frequency.			
* OATS = open-area test site, SAC = semi-anechoic chamber, FAR = fully-anechoic room (see CSA CISPR 11:19).			
** The limit level in dBµV/m decreases linearly with the logarithm of frequency.			

RESULTS

8.1. STANDBY MODE

8.1.1. FCC TX FUNDAMENTAL & SPURIOUS EMISSIONS (9 kHz - 30 MHz)



FACE-ON AND FACE-OFF

DATA

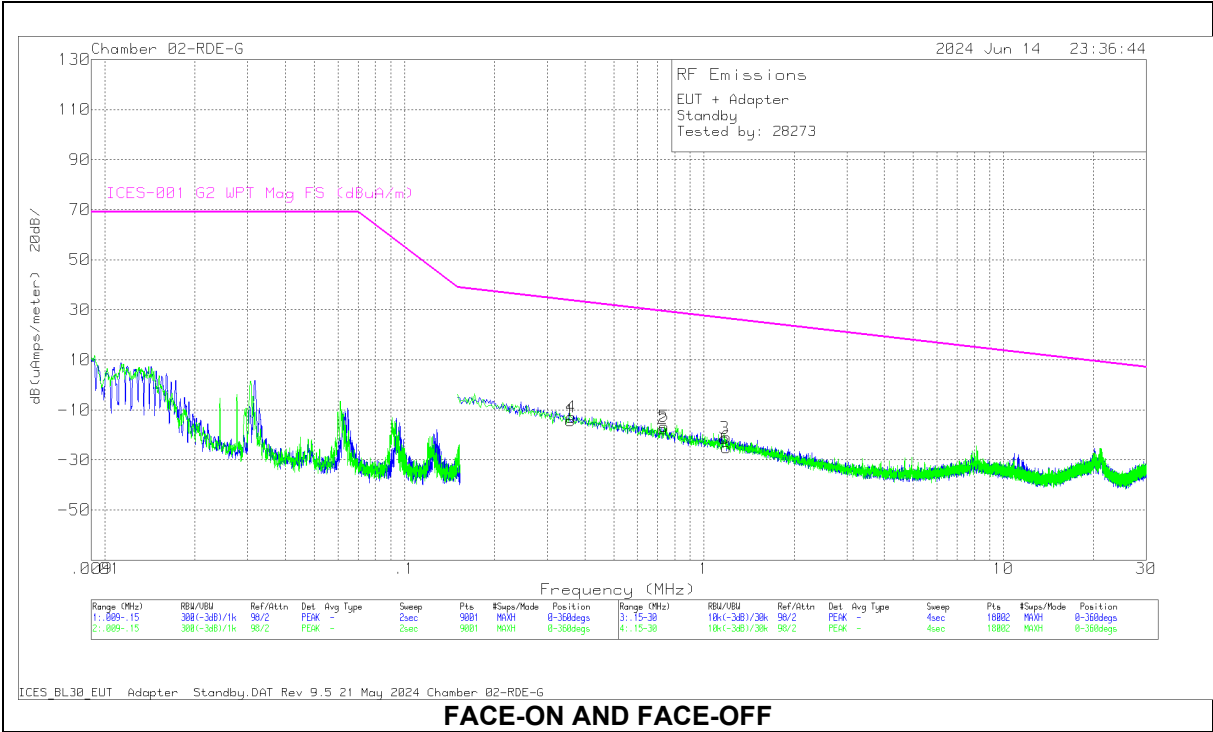
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna E ACF (dB/m)	Loop Path 30Hz-1MHz (dB)	Dist Corr 300m (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Polarity
1	.345	13.23	Pk	56	-32	-80	-42.77	36.85	-79.62	16.85	-59.62	0-360	Face-On
4	.3623	13.75	Pk	56	-32	-80	-42.25	36.43	-78.68	16.43	-58.68	0-360	Face-Off

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna E ACF (dB/m)	Loop Path 30Hz-1MHz (dB)	Dist Corr 30m (dB)	Corrected Reading (dBuV/m)	QP Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Polarity
2	.7266	12.48	Pk	56.1	-31.9	-40	-3.32	30.39	-33.71	0-360	Face-On
5	.7737	11.61	Pk	56.1	-31.9	-40	-4.19	29.84	-34.03	0-360	Face-Off

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna E ACF (dB/m)	Loop Path 100kHz-30MHz (dB)	Dist Corr 30m (dB)	Corrected Reading (dBuV/m)	QP Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Polarity
6	1.5363	15.47	Pk	44	-31.9	-40	-12.43	23.9	-36.33	0-360	Face-Off
3	1.5583	16.83	Pk	43.8	-31.9	-40	-11.27	23.78	-35.05	0-360	Face-On

Pk - Peak detector

8.1.2. IC/ICES-001 TX FUNDAMENTAL & SPURIOUS EMISSIONS (9 kHz - 30 MHz)

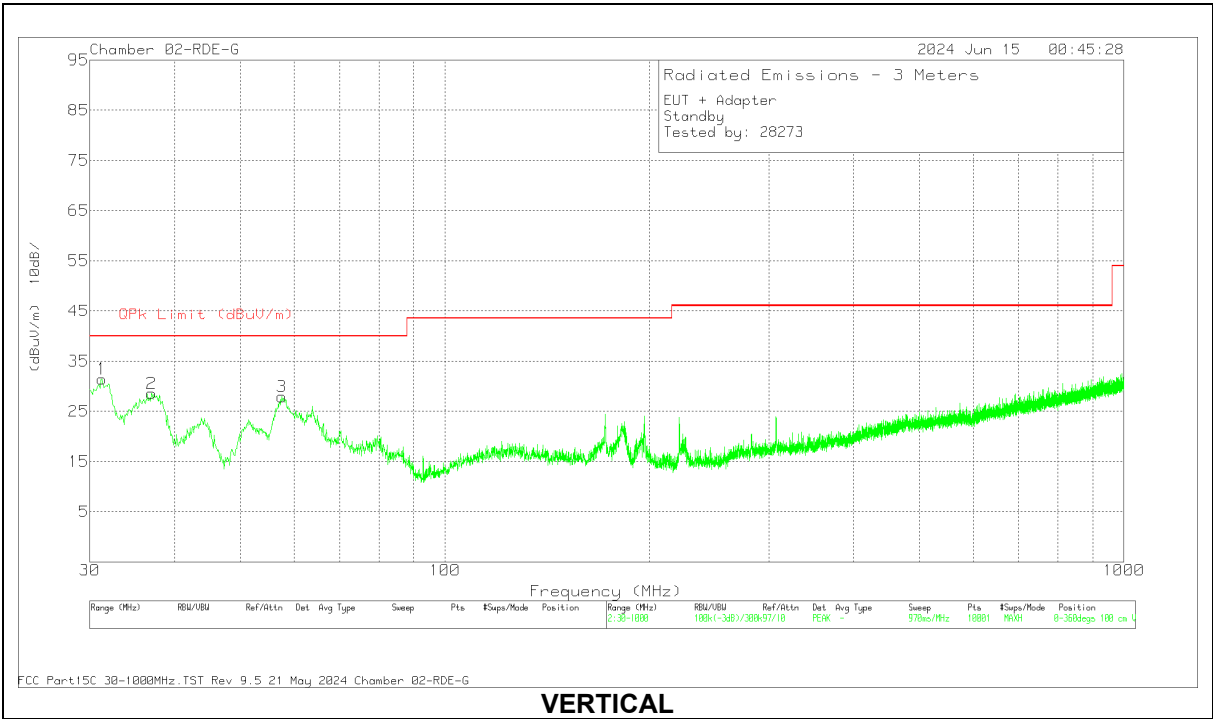
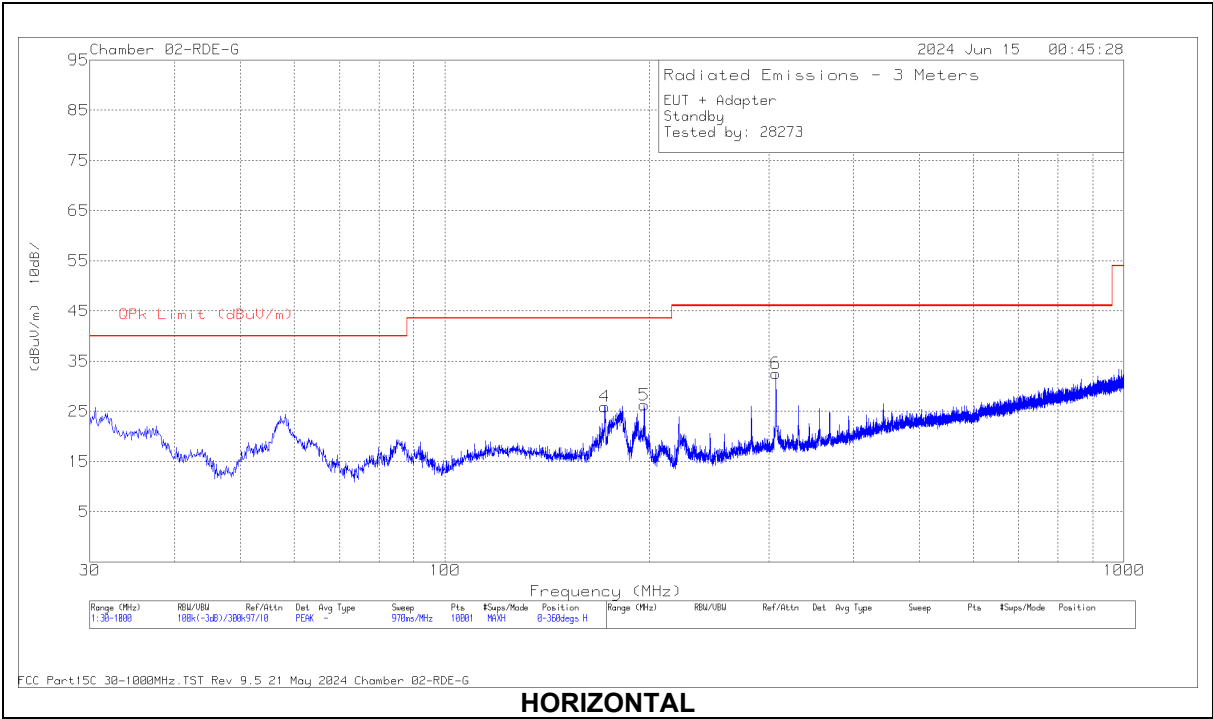


DATA

Marker	Frequency (MHz)	Meter Reading (dBUV)	Det	Loop Antenna H ACF (dB/m)	Loop Path 100kHz-30MHz (dB)	Corrected Reading dB(uAmps/meter)	ICES-001 G2 WPT Mag FS (dBUA/m)	Margin (dB)	Azimuth (Degs)	Polarity
1	.3589	14.35	Pk	3.4	-32.1	-14.35	33.73	-48.08	0-360	Face-On
4	.3606	15.76	Pk	3.4	-32.1	-12.94	33.7	-46.64	0-360	Face-Off
2	.7303	16.92	Pk	-2.4	-32	-17.48	29.44	-46.92	0-360	Face-On
5	.7369	17.87	Pk	-2.5	-32	-16.63	29.39	-46.02	0-360	Face-Off
3	1.1713	16.28	Pk	-5.6	-32	-21.32	26.59	-47.91	0-360	Face-On
6	1.1896	12.68	Pk	-5.7	-32	-25.02	26.49	-51.51	0-360	Face-Off

Pk - Peak detector

8.1.3. FCC TX SPURIOUS EMISSION (30 - 1000 MHz)



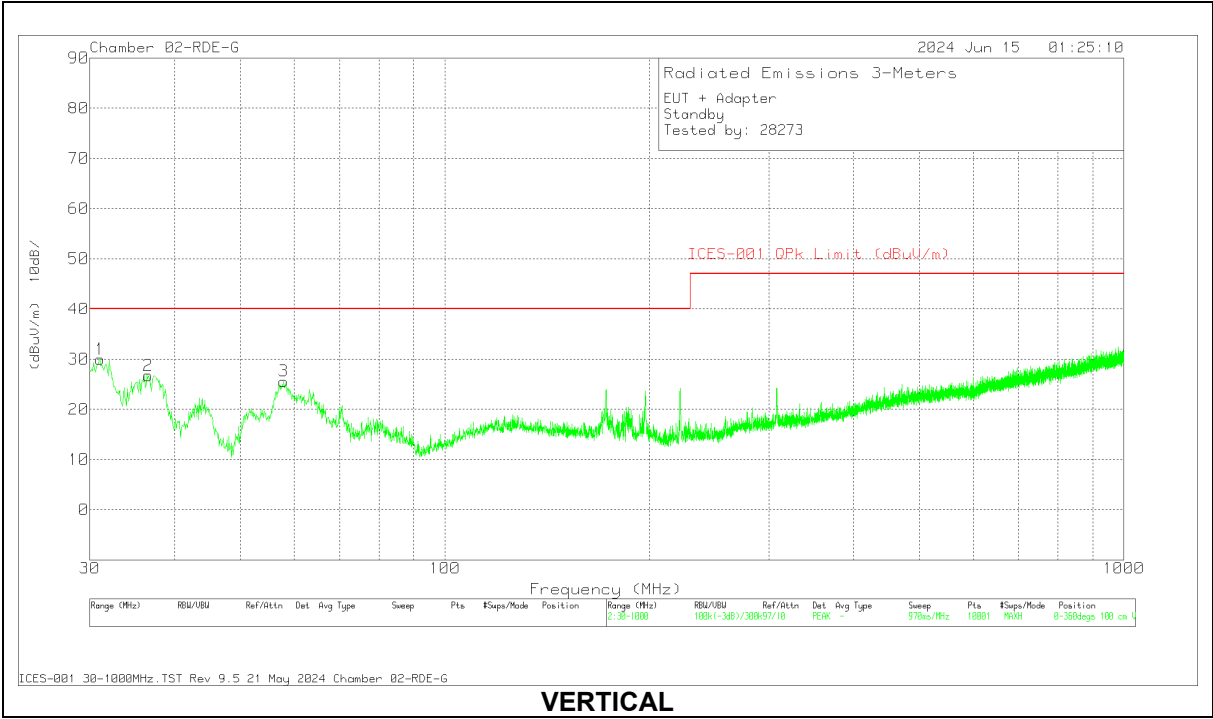
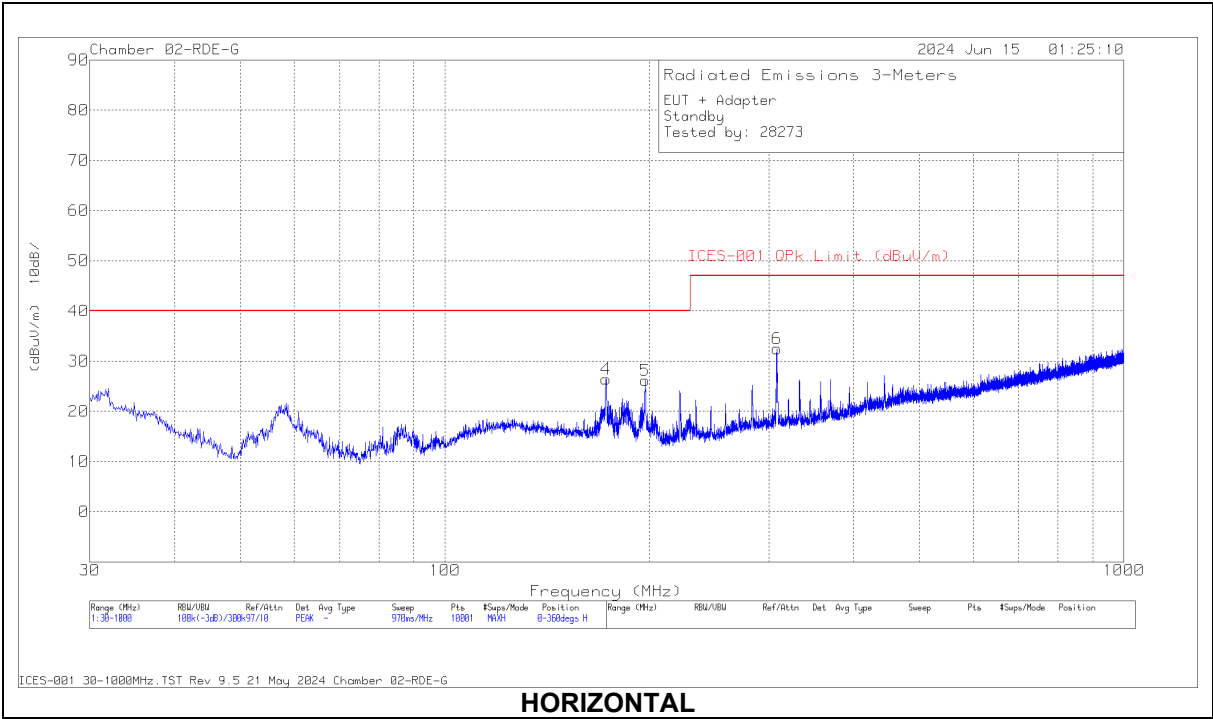
DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	204044 ACF (dB/m)	Hybrid Path 30MHz-1000MHz (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	* 172.105	37.85	Pk	17.6	-29.5	25.95	43.52	-17.57	0-360	200	H
1	31.261	37.05	Pk	25.4	-31	31.45	40	-8.55	0-360	100	V
2	36.984	37.88	Pk	21.7	-31	28.58	40	-11.42	0-360	100	V
3	57.548	45.44	Pk	13.2	-30.7	27.94	40	-12.06	0-360	100	V
5	196.646	37.59	Pk	18	-29.3	26.29	43.52	-17.23	0-360	99	H
6	307.323	41.56	Pk	19.6	-28.6	32.56	46.02	-13.46	0-360	99	H

Pk - Peak detector



8.1.4. IC/ICES-001 TX SPURIOUS EMISSION (30 - 1000 MHz)



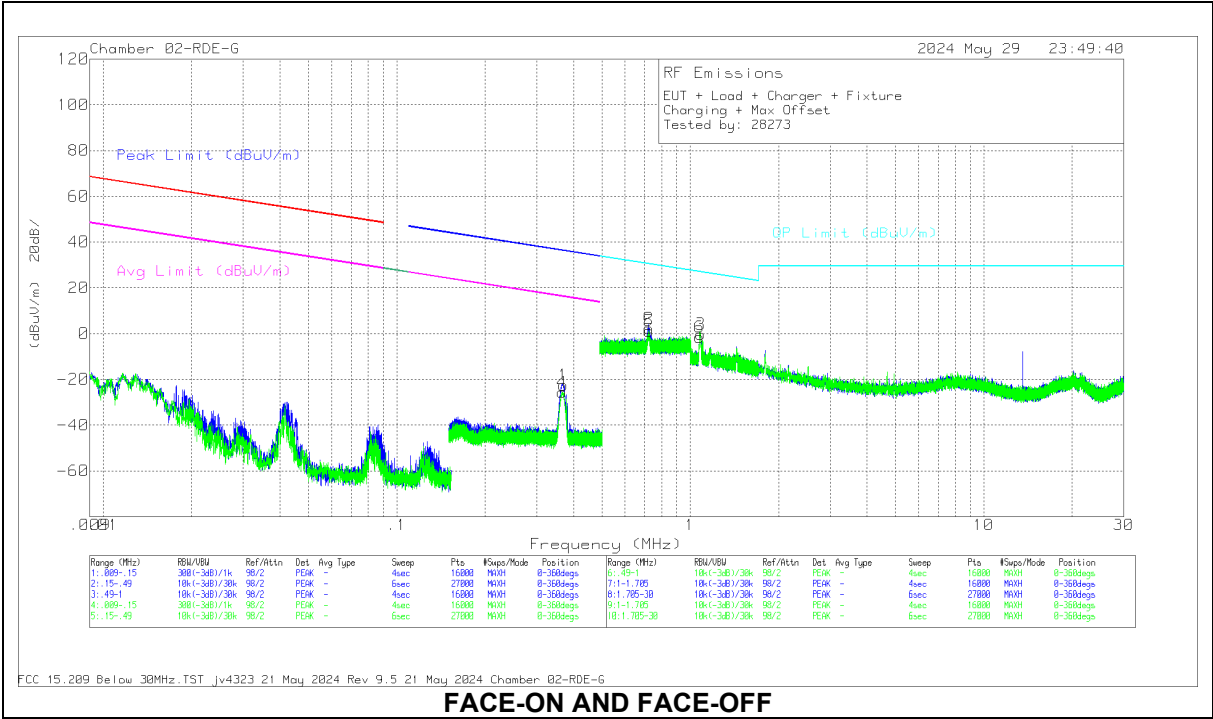
DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	204044 ACF (dB/m)	Hybrid Path 30MHz-1000MHz (dB)	Corrected Reading (dBuV/m)	ICES-001 QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	31.067	35.48	Pk	25.5	-31	29.98	40	-10.02	0-360	100	V
2	36.596	35.73	Pk	22	-31	26.73	40	-13.27	0-360	100	V
3	57.936	43.11	Pk	13.2	-30.7	25.61	40	-14.39	0-360	100	V
4	172.784	38.43	Pk	17.5	-29.5	26.43	40	-13.57	0-360	199	H
5	197.422	37.44	Pk	18	-29.3	26.14	40	-13.86	0-360	199	H
6	308.293	41.5	Pk	19.6	-28.6	32.5	47	-14.5	0-360	100	H

Pk - Peak detector

8.2. OPERATING MODE

8.2.1. FCC TX FUNDAMENTAL & SPURIOUS EMISSIONS (9 kHz - 30 MHz)



FACE-ON AND FACE-OFF

DATA

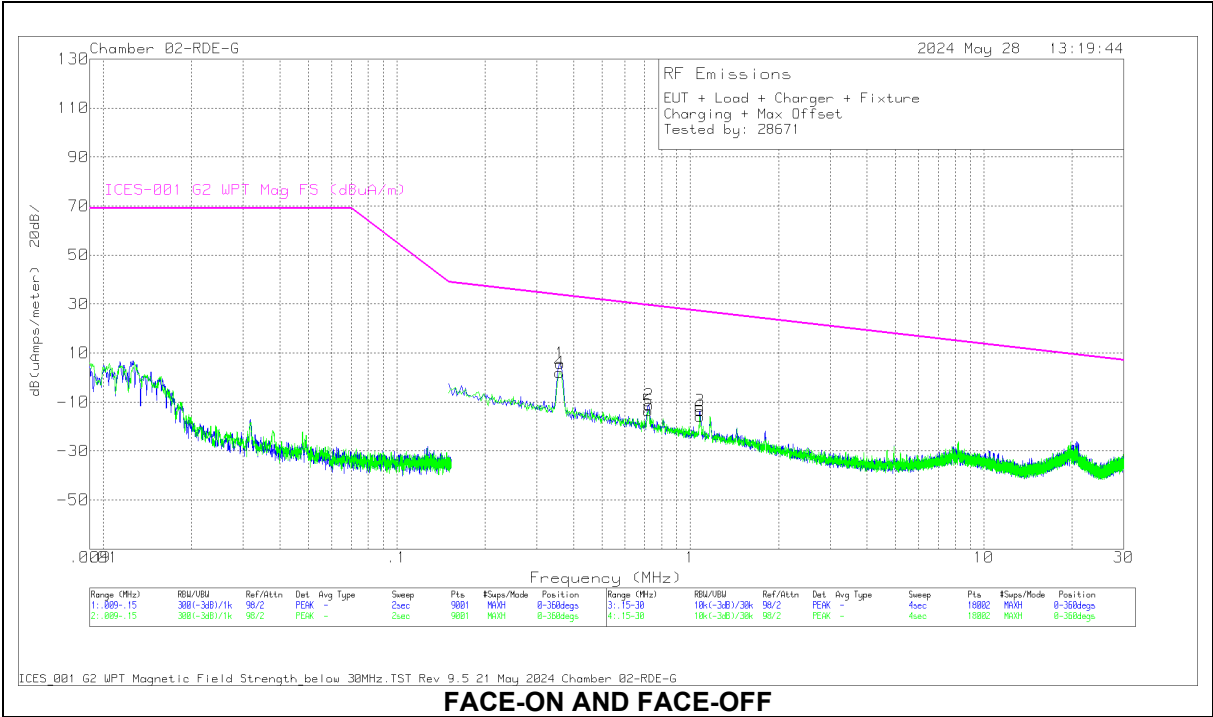
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna E ACF (dB/m)	Loop Path 30Hz-1MHz (dB)	Dist Corr 300m (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Polarity
4	.3658	30.36	Pk	56	-32	-80	-25.64	36.34	-61.98	16.34	-41.98	0-360	Face-Off
1	.3691	33.51	Pk	56	-32	-80	-22.49	36.27	-58.76	16.27	-38.76	0-360	Face-On

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna E ACF (dB/m)	Loop Path 30Hz-1MHz (dB)	Dist Corr 30m (dB)	Corrected Reading (dBuV/m)	QP Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Polarity
5	.7196	16.64	Qp	56.1	-31.9	-40	.84	30.47	-29.63	147	Face-Off
2	.7211	13.21	Qp	56.1	-31.9	-40	-2.59	30.45	-33.04	216	Face-On

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna E ACF (dB/m)	Loop Path 100kHz-30MHz (dB)	Dist Corr 30m (dB)	Corrected Reading (dBuV/m)	QP Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Polarity
6	1.0794	25.19	Qp	46.4	-32	-40	-.41	26.96	-27.37	220	Face-Off
3	1.08	25.34	Qp	46.4	-32	-40	-.26	26.96	-27.22	212	Face-On

Pk - Peak detector  
Qp - Quasi-Peak detector

8.2.2. IC/ICES-001 TX FUNDAMENTAL & SPURIOUS EMISSIONS (9 kHz - 30 MHz)



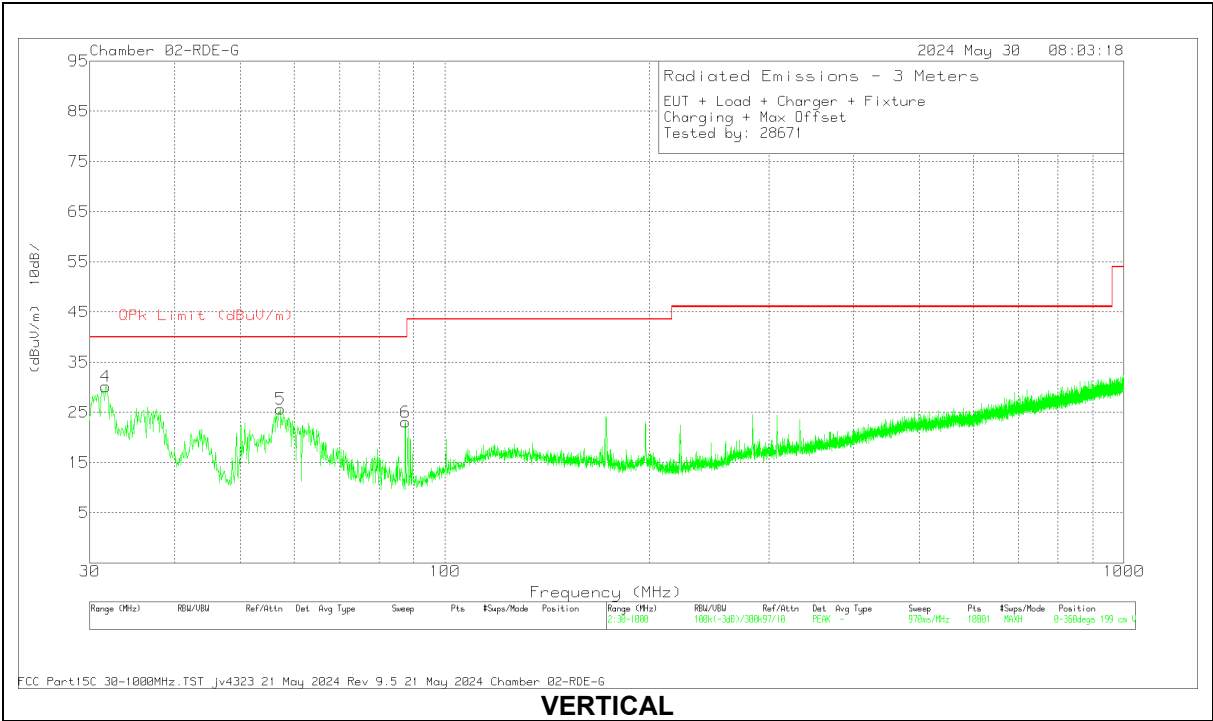
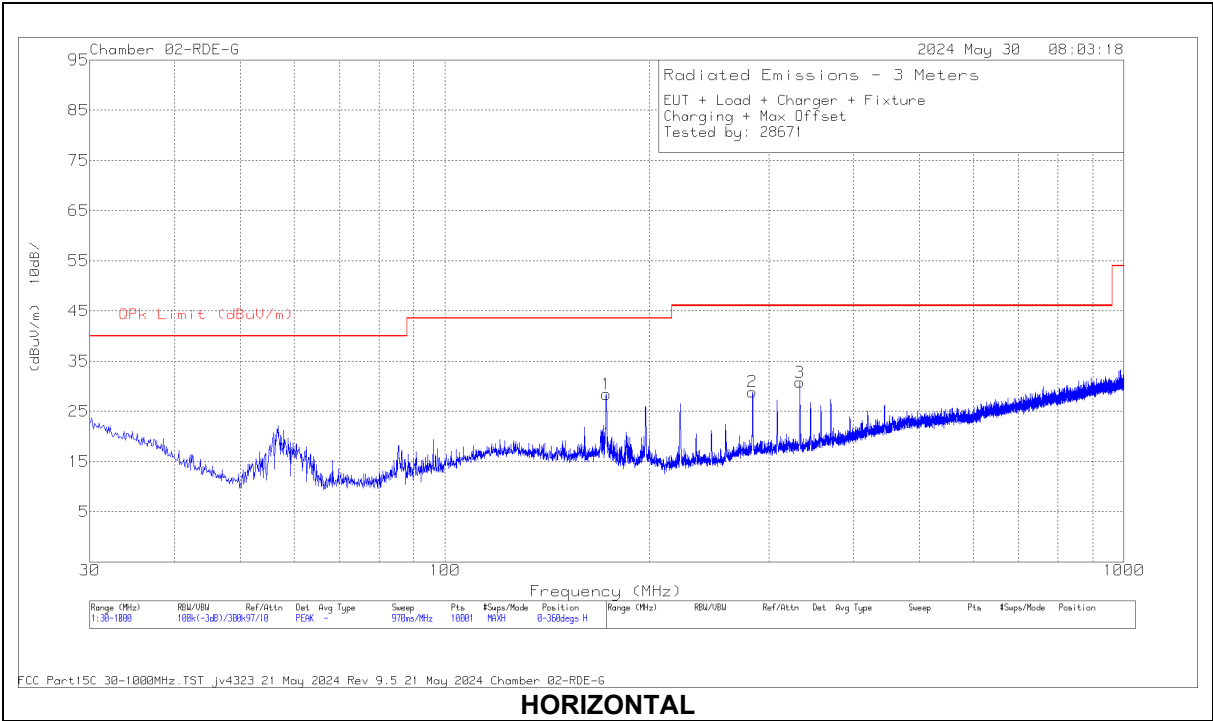
FACE-ON AND FACE-OFF

DATA

Marker	Frequency (MHz)	Meter Reading (dBUV)	Det	Loop Antenna H ACF (dB/m)	Loop Path 100kHz-30MHz (dB)	Corrected Reading dB(uAmps/meter)	ICES-001 G2 WPT Mag FS (dBUA/m)	Margin (dB)	Azimuth (Degs)	Polarity
4	.3592	30.65	Qp	3.4	-32.1	1.95	33.73	-31.78	127	Face-Off
1	.3603	34.29	Qp	3.4	-32.1	5.59	33.71	-28.12	37	Face-On
5	.719	19.94	Qp	-2.3	-32	-14.36	29.53	-43.89	116	Face-Off
2	.7193	22.8	Qp	-2.3	-32	-11.5	29.53	-41.03	21	Face-On
3	1.0801	23.15	Qp	-5.1	-32	-13.95	27.08	-41.03	46	Face-On
6	1.0801	20.27	Qp	-5.1	-32	-16.83	27.08	-43.91	129	Face-Off

Qp - Quasi-Peak detector

8.2.3. FCC TX SPURIOUS EMISSION (30 - 1000 MHz)



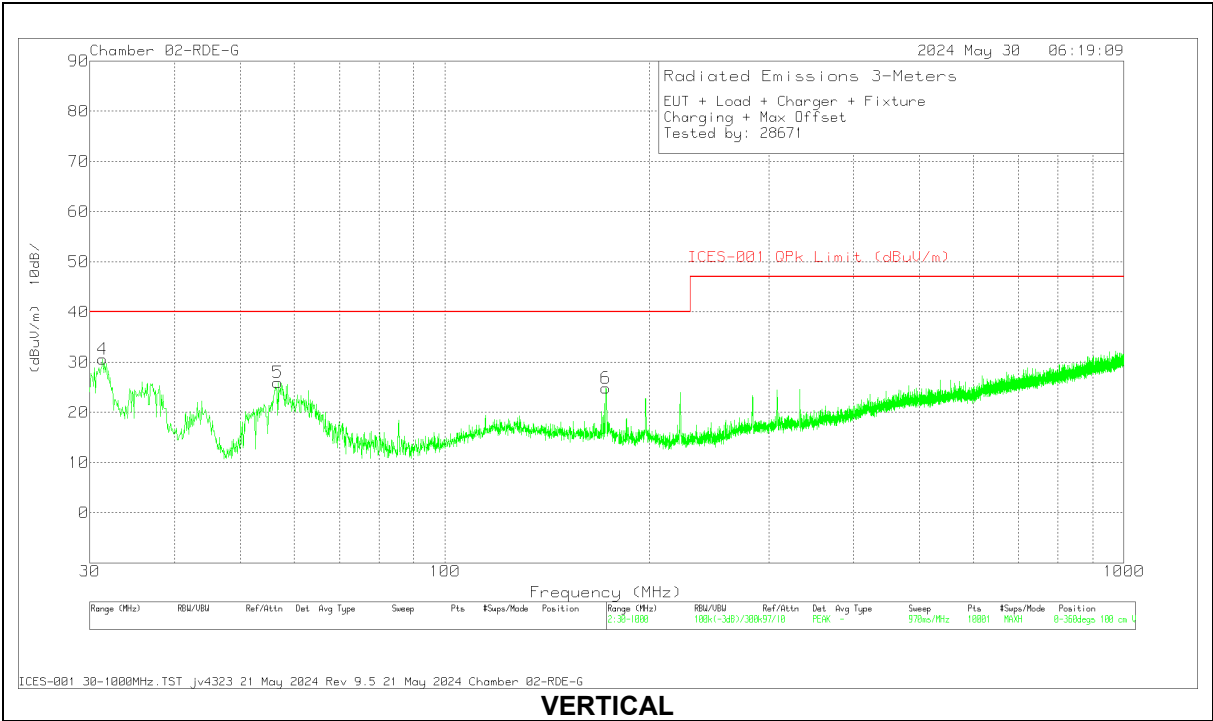
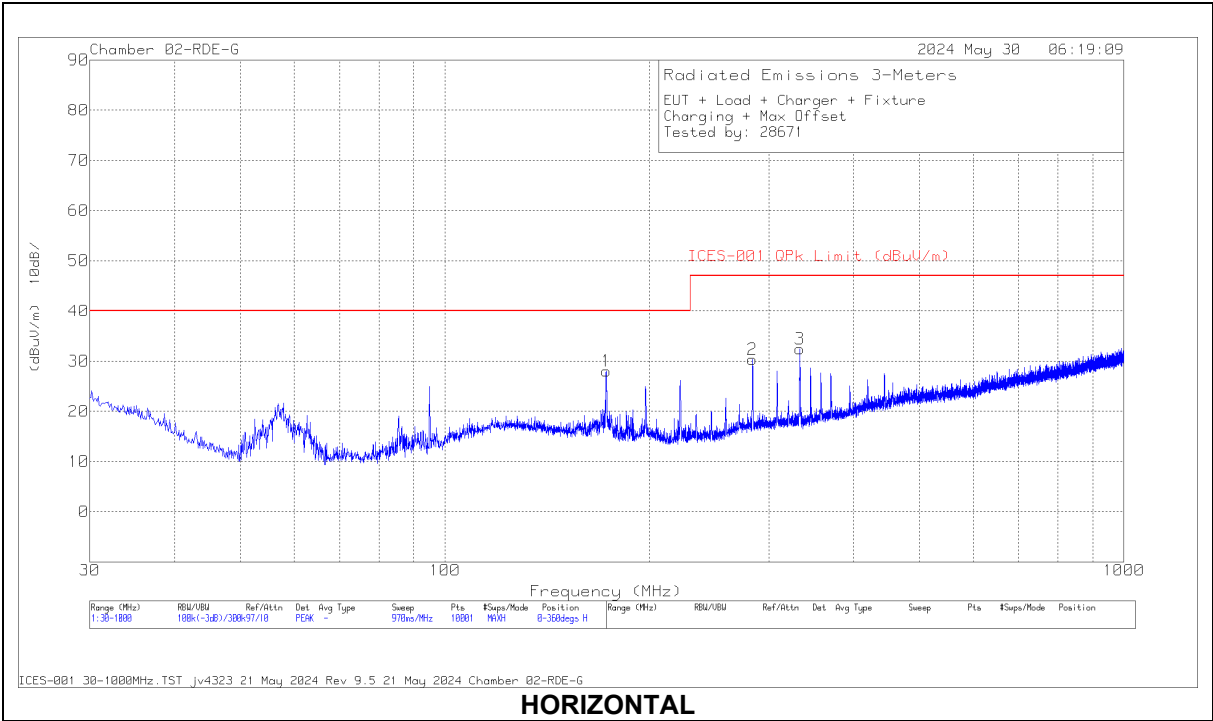
**DATA**

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	ACF (dB/m)	Hybrid Path 30MHz-1000MHz (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 172.813	39.43	Qp	17.5	-29.5	27.43	43.52	-16.09	134	152	H
2	* 283.765	37.11	Qp	19.2	-28.7	27.61	46.02	-18.41	325	104	H
3	* 333.189	38.86	Qp	19.8	-28.4	30.26	46.02	-15.76	327	100	H
4	31.4356	29.52	Qp	25.3	-31	23.82	40	-16.18	333	107	V
5	57.502	36.52	Qp	13.2	-30.7	19.02	40	-20.98	242	110	V
6	90.361	32.55	Qp	14	-30.3	16.25	43.52	-27.27	233	109	V

\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Qp - Quasi-Peak detector

8.2.4. IC/ICES-001 TX SPURIOUS EMISSION (30 - 1000 MHz)



**DATA**

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	ACF (dB/m)	Hybrid Path 30MHz-1000MHz (dB)	Corrected Reading (dBuV/m)	ICES-001 QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	31.3547	30.1	Qp	25.3	-31	24.4	40	-15.6	288	100	V
5	57.352	37.63	Qp	13.1	-30.7	20.03	40	-19.97	271	111	V
6	172.245	32.3	Qp	17.6	-29.5	20.4	40	-19.6	350	291	V
1	172.558	35.87	Qp	17.5	-29.5	23.87	40	-16.13	146	258	H
2	283.806	38.01	Qp	19.2	-28.7	28.51	47	-18.49	307	108	H
3	333.026	39.54	Qp	19.8	-28.4	30.94	47	-16.06	313	104	H

Qp - Quasi-Peak detector



## 9. AC POWER LINE CONDUCTED EMISSIONS

### LIMITS

FCC §15.207 (a)

Frequency of Emission (MHz)	Conducted Limit (dBμV)	
	Quasi-peak	Average
0.15-0.5	66 to 56 *	56 to 46 *
0.5-5	56	46
5-30	60	50

\*Decreases with the logarithm of the frequency.

### ICES-001 Issue 5 Table 1:

**Table 1: Conducted emission limits for induction cooking appliances (AC mains terminals)**

Frequency Range (MHz)	Appliances rated 100V, without an earth connection Quasi-peak (dBμV)	Appliances rated 100V, without an earth connection Average (dBμV)	All other appliances Quasi-peak (dBμV)	All other appliances Average (dBμV)
0.009 - 0.05	122	—	110	—
0.05 - 0.15	102 to 92 *	—	90 to 80 *	—
0.15 - 0.5	72 to 62 *	62 to 52 *	66 to 56 *	56 to 46 *
0.5 - 5	56	46	56	46
5 - 30	60	50	60	50

Note: The more stringent limit applies at transition frequencies.

\* The limit level in dBμV decreases linearly with the logarithm of frequency.

### TEST PROCEDURE

The EUT is placed on a non-conducting table 40 cm from the vertical ground plane and 80 cm above the horizontal ground plane. The EUT is configured in accordance with ANSI C63.10.

The receiver is set to a resolution bandwidth of 200Hz, from 9kHz to 150kHz, resolution bandwidth of 9kHz from 150kHz to 30MHz. Peak detection is used unless otherwise noted as quasi-peak or average.

Line conducted data is recorded for both NEUTRAL and HOT lines.

### RESULTS

Note: The limits on the plots from 150kHz – 30MHz cover both ICES-001 and FCC Part 15.207.

9.1.      **STANDBY MODE**

**LINE 1 RESULTS**



**DATA**

Range 1: Line-L1 .009 - .15MHz											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN (dB)	Cbl (dB)	Trns Limiter (dB)	Corrected Reading (dBuV)	ICES-001 Table 1 Issue 5 Qpk	Margin (dB)	ICES-001 Issue 5 Table 1 AVG	Margin (dB)
2	.0106	24.42	Ca	4.3	-.3	12.4	40.82	-	-	-	-
4	.0132	16.17	Ca	3.3	-.2	12	31.27	-	-	-	-
6	.0268	4.64	Ca	1.1	.1	10.8	16.64	-	-	-	-
1	.0107	26.55	Qp	4.3	-.3	12.4	42.95	122	-79.05	-	-
3	.0132	19.39	Qp	3.3	-.2	12	34.49	122	-87.51	-	-
5	.0267	6.43	Qp	1.1	.1	10.8	18.43	122	-103.57	-	-

Range 2: Line-L1 .15 - 30MHz											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN (dB)	Cbl (dB)	Trns Limiter (dB)	Corrected Reading (dBuV)	ICES-001 Table 1 Issue 5 Qpk	Margin (dB)	ICES-001 Issue 5 Table 1 AVG	Margin (dB)
8	.7035	-.44	Ca	0	.1	9.3	8.96	-	-	46	-37.04
10	5.082	2.43	Ca	0	.1	9.4	11.93	-	-	50	-38.07
12	13.56	-4.68	Ca	.1	.3	9.5	5.22	-	-	50	-44.78
7	.7035	9.43	Qp	0	.1	9.3	18.83	56	-37.17	-	-
9	5.0865	11.24	Qp	0	.1	9.4	20.74	60	-39.26	-	-
11	13.56	8.66	Qp	.1	.3	9.5	18.56	60	-41.44	-	-

Qp - Quasi-Peak detector  
Ca - CISPR average detection

LINE 2 RESULTS



DATA

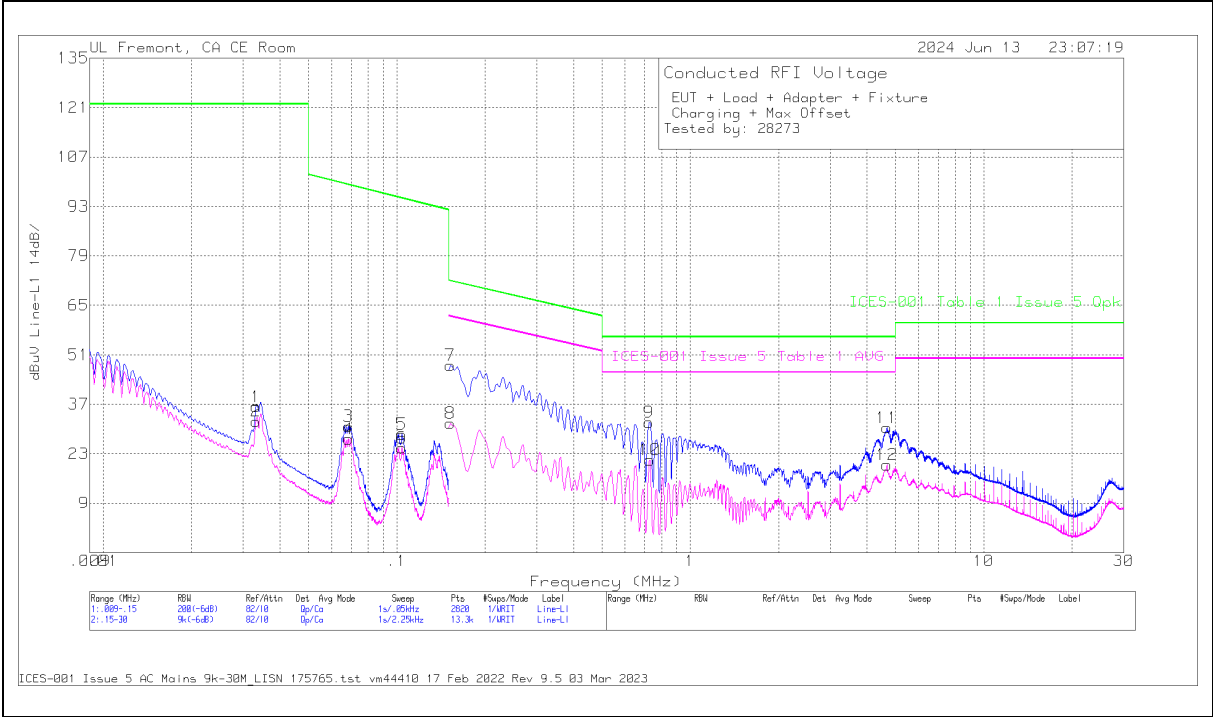
Range 3: Line-L2 .009 - .15MHz											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN (dB)	Cbl (dB)	Trns Limiter (dB)	Corrected Reading (dBuV)	ICES-001 Table 1 Issue 5 Qpk	Margin (dB)	ICES-001 Issue 5 Table 1 AVG	Margin (dB)
14	.0108	24.15	Ca	4.3	.1	12.4	40.95	-	-	-	-
16	.0132	17.75	Ca	3.3	.1	12	33.15	-	-	-	-
18	.0268	7.29	Ca	1	.1	10.8	19.19	-	-	-	-
13	.0107	26.56	Qp	4.4	.1	12.4	43.46	122	-78.54	-	-
15	.0132	20.79	Qp	3.3	.1	12	36.19	122	-85.81	-	-
17	.0267	9.23	Qp	1	.1	10.8	21.13	122	-100.87	-	-

Range 4: Line-L2 .15 - 30MHz											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN (dB)	Cbl (dB)	Trns Limiter (dB)	Corrected Reading (dBuV)	ICES-001 Table 1 Issue 5 Qpk	Margin (dB)	ICES-001 Issue 5 Table 1 AVG	Margin (dB)
20	.7148	1.69	Ca	0	0	9.3	10.99	-	-	46	-35.01
22	4.8615	2.1	Ca	0	.2	9.4	11.7	-	-	46	-34.3
24	13.56	-4.92	Ca	.1	.2	9.5	4.88	-	-	50	-45.12
19	.708	8.9	Qp	0	0	9.3	18.2	56	-37.8	-	-
21	4.8615	11.24	Qp	0	.2	9.4	20.84	56	-35.16	-	-
23	13.56	7.16	Qp	.1	.2	9.5	16.96	60	-43.04	-	-

Qp - Quasi-Peak detector  
Ca - CISPR average detection

9.2. OPERATING MODE

LINE 1 RESULTS



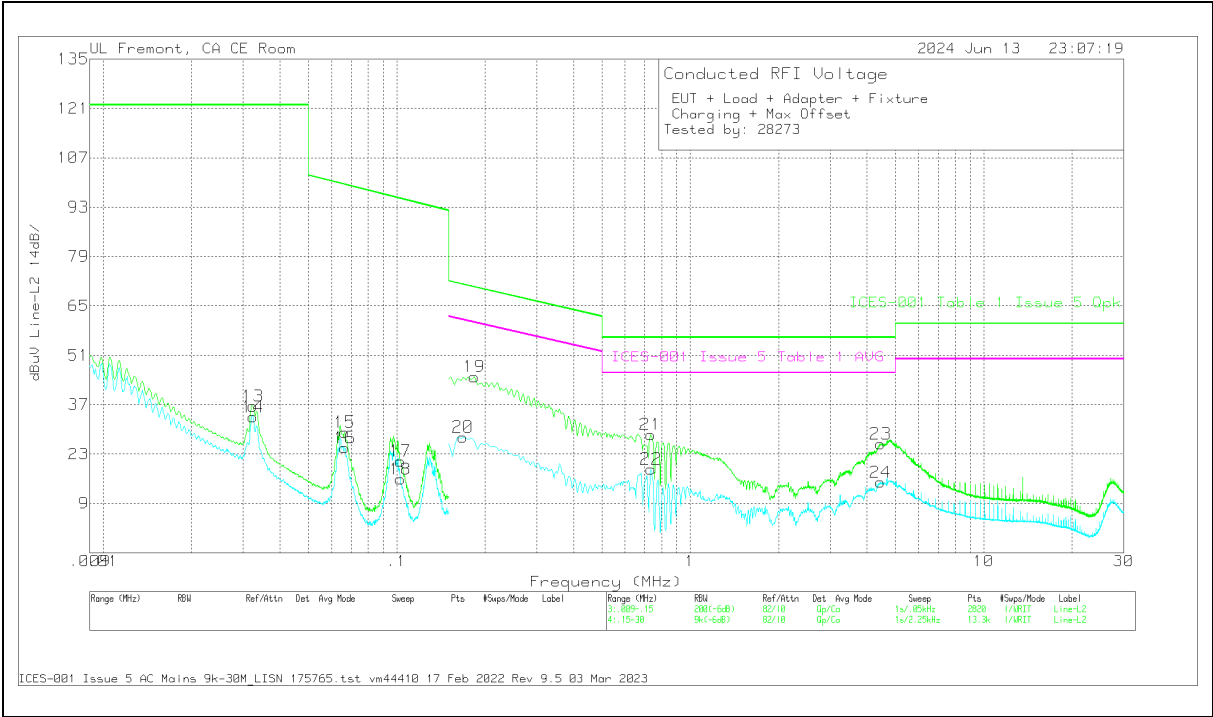
DATA

Range 1: Line-L1 .009 - .15MHz											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN (dB)	Cbl (dB)	Trns Limiter (dB)	Corrected Reading (dBuV)	ICES-001 Table 1 Issue 5 Qpk	Margin (dB)	ICES-001 Issue 5 Table 1 AVG	Margin (dB)
2	.0331	20.71	Ca	.8	.1	10.6	32.21	-	-	-	-
4	.0686	17.19	Ca	.2	0	9.8	27.19	-	-	-	-
6	.1039	14.99	Ca	.1	0	9.6	24.69	-	-	-	-
1	.0331	24.79	Qp	.8	.1	10.6	36.29	122	-85.71	-	-
3	.0685	20.78	Qp	.2	0	9.8	30.78	99.13	-68.35	-	-
5	.1039	18.8	Qp	.1	0	9.6	28.5	95.34	-66.84	-	-

Range 2: Line-L1 .15 - 30MHz											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN (dB)	Cbl (dB)	Trns Limiter (dB)	Corrected Reading (dBuV)	ICES-001 Table 1 Issue 5 Qpk	Margin (dB)	ICES-001 Issue 5 Table 1 AVG	Margin (dB)
8	.1523	22.01	Ca	.1	0	9.5	31.61	-	-	61.88	-30.27
10	.7283	11.73	Ca	0	.1	9.4	21.23	-	-	46	-24.77
12	4.6793	10.36	Ca	0	.1	9.4	19.86	-	-	46	-26.14
7	.1523	38.39	Qp	.1	0	9.5	47.99	71.88	-23.89	-	-
9	.7238	22.47	Qp	0	.1	9.3	31.87	56	-24.13	-	-
11	4.6793	20.86	Qp	0	.1	9.4	30.36	56	-25.64	-	-

Qp - Quasi-Peak detector  
Ca - CISPR average detection

LINE 2 RESULTS



DATA

Range 3: Line-L2 .009 - .15MHz											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN (dB)	Cbl (dB)	Trns Limiter (dB)	Corrected Reading dBuV	ICES-001 Table 1 Issue 5 Qpk	Margin (dB)	ICES-001 Issue 5 Table 1 AVG	Margin (dB)
14	.0324	22.05	Ca	.8	.1	10.6	33.55	-	-	-	-
16	.0666	14.81	Ca	.2	0	9.8	24.81	-	-	-	-
18	.1029	6.17	Ca	.1	0	9.6	15.87	-	-	-	-
13	.0324	25.1	Qp	.8	.1	10.6	36.6	122	-85.4	-	-
15	.0665	19.17	Qp	.2	0	9.8	29.17	99.41	-70.24	-	-
17	.1029	11.31	Qp	.1	0	9.6	21.01	95.43	-74.42	-	-

Range 4: Line-L2 .15 - 30MHz											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN (dB)	Cbl (dB)	Trns Limiter (dB)	Corrected Reading dBuV	ICES-001 Table 1 Issue 5 Qpk	Margin (dB)	ICES-001 Issue 5 Table 1 AVG	Margin (dB)
20	.168	18.21	Ca	.1	0	9.5	27.81	-	-	61.06	-33.25
22	.735	9.36	Ca	0	0	9.4	18.76	-	-	46	-27.24
24	4.452	5.41	Ca	0	.1	9.5	15.01	-	-	46	-30.99
19	.1838	35.42	Qp	0	.1	9.4	44.92	70.31	-25.39	-	-
21	.7328	19.13	Qp	0	0	9.4	28.53	56	-27.47	-	-
23	4.4543	16.29	Qp	0	.1	9.5	25.89	56	-30.11	-	-

Qp - Quasi-Peak detector  
Ca - CISPR average detection

## 10. SETUP PHOTOS

Please refer to 14982484-EP1V1 for setup photos.

**END OF TEST REPORT**