

TEST REPORT

Report Number : 15457332-E4V3

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

Model : A3408, A3409, A3410

Brand : APPLE

FCC ID: BCG-E8726A, BCG-E8727A, BCG-E8728A

EUT Description : SMARTPHONE

Test Standard(s) : FCC 47 CFR Part 2, Part 22, Part 27, and Part 96

Date Of Issue:
2025-01-22

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Revision History

Rev.	Issue Date	Revisions	Revised By
V1	2024-10-31	Initial Review	--
V2	2025-01-14	Addressed TCB questions and updated Section 4.3, 5.4, 5.5, 5.6 & 5.7	Binod Sitaula
V3	2025-01-22	Addressed TCB questions and updated Section 4.3 & 5.9	Mengistu Mekuria

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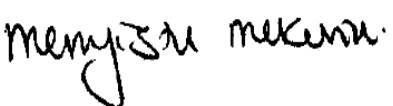


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1. ATTESTATION OF TEST RESULTS

Applicant Name and Address	APPLE, INC 1 APPLE PARK WAY CUPERTINO, CA 95014, U.S.A.	
Model	A3408, A3409, A3410	
Brand	APPLE	
FCC ID	BCG-E8726A, BCG-E8727A, BCG-E8728A	
EUT Description	SMARTPHONE	
Serial Number	MODEL (A3408): C07H9K000K60000J57 (CONDUCTED) MODEL (A3409):C07H910005L0000N6H (CONDUCTED) MODEL (A3410): C07H9A000G20000N6N(CONDUCTED)	
Sample Receipt Date	2024-06-15	
Date Tested	2024-06-15 TO 2024-10-24	
Applicable Standards	FCC CFR 47 Part 2, Part 22, Part 27, and Part 96	
Test Results	COMPLIES	
<p>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.</p> <p>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.</p> <p>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.</p>		
Approved & Released By:	Reviewed By:	Prepared By:
		
Mengistu Mekuria Staff Engineer UL Verification Services Inc.	Binod Sitaula Laboratory Engineer Associate UL Verification Services Inc.	Tewodros Woldemichael Laboratory Engineer UL Verification Services Inc.

2. TEST METHODOLOGY

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

- ANSI C63.26:2015
- FCC 47 CFR Part 2, Part 22, Part 27 and Part 96
- [FCC KDB 971168 D01](#): Power Meas License Digital Systems
- [FCC KDB 971168 D02](#): Misc Rev Approv License Devices
- [FCC KDB 412172 D01](#): Determining ERP and EIRP
- [FCC KDB 484596 D01](#): Referencing Test Data

3. FACILITIES AND ACCREDITATION

UL LLC 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 type="checkbox"/>	Building 4: 47658 Kato Rd, Fremont, CA 94538, USA			
<input checked="" 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	U _{Lab}
Conducted Antenna Port Emission Measurement	1.940 dB
Power Spectral Density	2.466 dB
Time Domain Measurements Using SA	3.39 %
RF Power Measurement Direct Method Using Power Meter	0.450 dB (Peak); 1.300 dB (Ave).
Radio Frequency (Spectrum Analyzer)	141.16 Hz
Occupied Bandwidth	1.22%
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
Worst Case Radiated Disturbance, 1000 to 18000 MHz	4.73 dB
Worst Case Radiated Disturbance, 18000 to 26000 MHz	4.51 dB
Worst Case Radiated Disturbance, 26000 to 40000 MHz	5.29 dB

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

4.4. SAMPLE CALCULATION

RADIATED EMISSIONS

Where relevant, the following sample calculation is provided:

Field Strength (dBuV/m) = Measured Voltage (dBuV) + Antenna Factor (dB/m) + Cable Loss (dB) – Preamp Gain (dB)
36.5 dBuV + 18.7 dB/m + 0.6 dB – 26.9 dB = 28.9 dBuV/m

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The Apple iPhone is a smartphone with cellular GSM, GPRS, EGPRS, WCDMA, LTE, 5GNR1, IEEE 802.11a/b/g/n/ac/ax, Bluetooth (BT), Global Positioning System (GPS), Near-Field Communication (NFC), 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.

Testing was performed on the parent model and is used to support the application for the parent and variants identified in this report based on the test plan submitted and approved via KDB inquiry by the FCC.

5.2. INTRODUCTION

This application for certification is leveraging the data reuse procedures from KDB 484596 D01 based on reference FCC ID: BCG-E8725A to cover variant models FCC ID: BCG-E8726A, BCG-E8727A, BCG-E8728A. The major difference between the parent/reference model and the variant model is the depopulation of some LTE and 5G NR Bands. All other circuitry and features are identical. The data reuse test plan was approved via manufacturer KDB inquiry.

5.3. MODEL DIFFERENCES

The manufacturer hereby declares the following for models A3212, A3408, A3409, and A3410.

These models are highly similar, with the only differences being listed on the table below:

Model	FCC ID	Model Changes
A3212	BCG-E8725A	Reference Model
A3408	BCG-E8726A	Variant model Same as the reference model
A3409	BCG-E8727A	Variant model Removed LTE B14/29/71 and 5G NR n14/n71/n29 from the reference model
A3410	BCG-E8728A	Variant model Removed LTE B14/29/53/71 and 5G NR n14/n53/n71/n29 from the reference model

*Note:

They have the same PCB layout, design, common components, antennas, antenna locations and housing cases.

More specifically, their cellular modem, Wi-Fi, BT, NFC, WPT and UWB transmitters are identical, and removal of cellular bands is done by software and depopulation of band-specific components associated with the removed bands.

Spot check verification has been done on models A3408, A3409 and A3410 in accordance with the test plan approved via KDB inquiry. Comparison of the models, upper deviation is within 0.5dB range of antenna port data, and all tests are under FCC Technical Limits. The results documented for model A3212 may be applied as representative to models A3408, A3409, and A3410.

5.4. SPOT CHECK VERIFICATION RESULTS SUMMARY FOR A3408

A3408 Antenna Port Spot Check Results							
Technology	Worst Mode	Test Item	Measured Frequency (MHz)	Original Model: A3212	Sub Model: A3408	Delta (dB)	Remarks
				FCC ID: BCG-E8725A (dBm)	FCC ID: BCG-E8726A (dBm)		
LTE 5CA	QPSK @ 10MHz+10MHz BW	Cond Power	834.1/844	25.70	25.70	0.00	
LTE 7CA	QPSK @ 20MHz+20MHz BW	Cond Power	2510.0/2529.8	25.70	25.70	0.00	
LTE 41CA	QPSK @ 20MHz+20MHz BW	Cond Power	2583.1/2602.9	28.70	28.70	0.00	
LTE 48CA	QPSK @ 20MHz+20MHz BW	Cond Power	3615.1/3634.9	22.90	22.90	0.00	

5.5. SPOT CHECK VERIFICATION RESULTS SUMMARY FOR A3409

A3409 Antenna Port Spot Check Results							
Technology	Worst Mode	Test Item	Measured Frequency (MHz)	Original Model: A3212	Sub Model: A3409	Delta (dB)	Remarks
				FCC ID: BCG-E8725A (dBm)	FCC ID: BCG-E8727A (dBm)		
LTE 5CA	QPSK @ 10MHz+10MHz BW	Cond Power	834.1/844.0	25.70	25.70	0.00	
LTE 7CA	QPSK @ 20MHz+20MHz BW	Cond Power	2510.0/2529.8	25.70	25.70	0.00	
LTE 41CA	QPSK @ 20MHz+20MHz BW	Cond Power	2583.1/2602.9	28.70	28.70	0.00	
LTE 48CA	QPSK @ 20MHz+20MHz BW	Cond Power	3615.1/3634.9	22.90	22.90	0.00	

5.6. SPOT CHECK VERIFICATION RESULTS SUMMARY FOR A3410

A3410 Antenna Port Spot Check Results							
Technology	Worst Mode	Test Item	Measured Frequency (MHz)	Original Model: A3212	Sub Model: A3410	Delta (dB)	Remarks
				FCC ID: BCG-E8725A (dBm)	FCC ID: BCG-E8728A (dBm)		
LTE 5CA	QPSK @ 10MHz+10MHz BW	Cond Power	834.1/844.0	25.70	25.70	0.00	
LTE 7CA	QPSK @ 20MHz+20MHz BW	Cond Power	2510.0/2529.8	25.70	25.70	0.00	
LTE 41CA	QPSK @ 20MHz+20MHz BW	Cond Power	2583.1/2602.9	28.70	28.70	0.00	
LTE 48CA	QPSK @ 20MHz+20MHz BW	Cond Power	3615.1/3634.9	22.90	22.90	0.00	

5.7. REFERENCE DETAIL

Reference application that contains the reused reference data.

Reference FCC ID	Variant model FCC ID	Reference Test Report / Data Referencing Section	Equipment Class
BCG-E8725A	BCG-E8726A	15175342-E8 / All Sections of ULCA	PCE
	BCG-E8727A BCG-E8728A	15175342-E12 / All Sections	CBE

5.8. SOFTWARE AND FIRMWARE

The EUT firmware installed during testing was version 1.0.23.

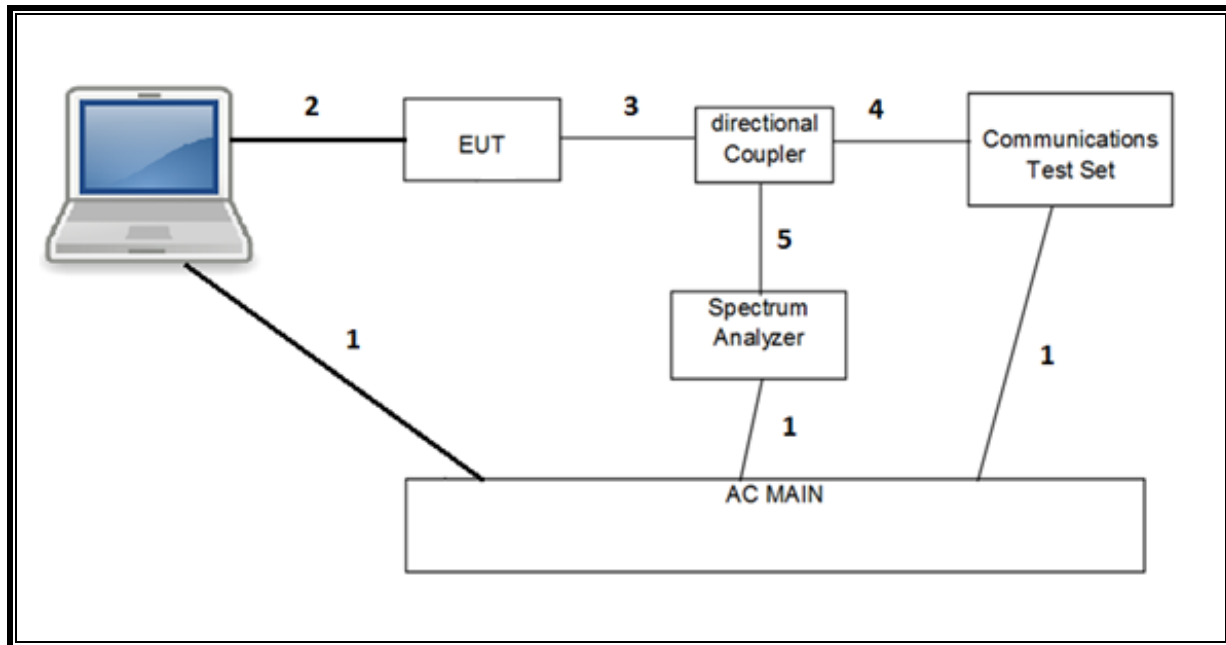
5.9. WORST-CASE CONFIGURATION AND MODE

The spot checks conducted output power were performed on the antenna port that has highest output power based on the parent model of reference report.

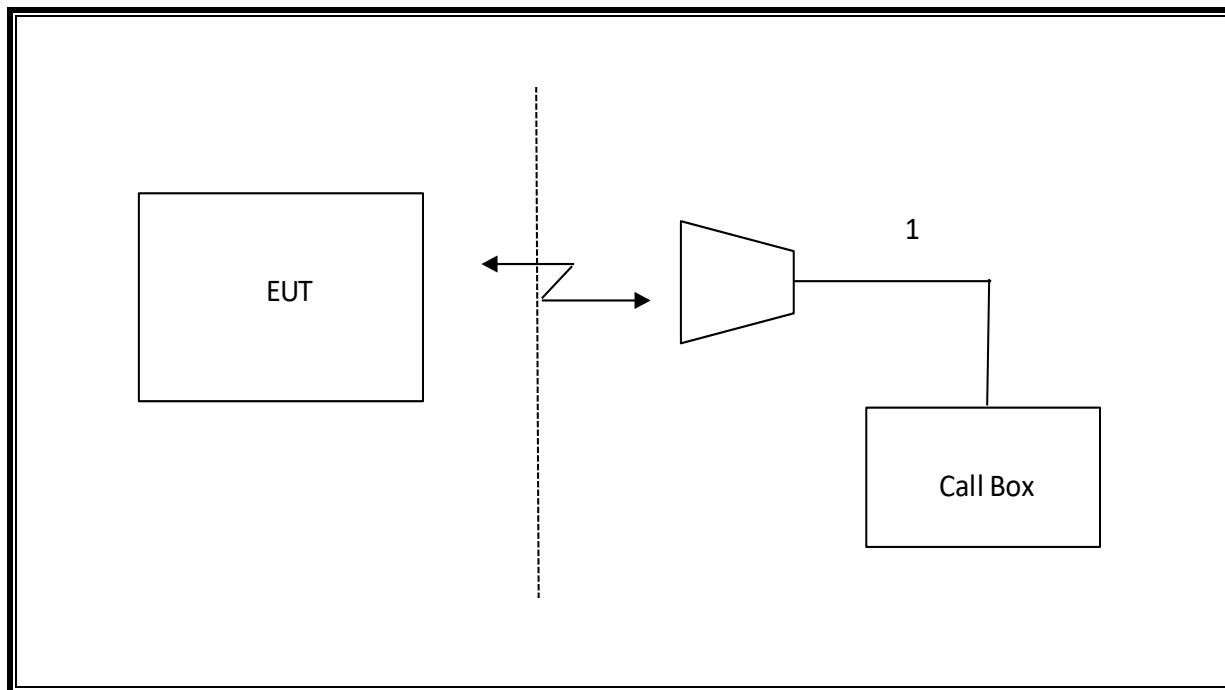
5.10. DESCRIPTION OF TEST SETUP

SUPPORT TEST EQUIPMENT						
Description		Manufacturer	Model	Serial Number		FCC ID/ DoC
Laptop		Apple	MacBook Pro	HRP082673		BCGA1708
AC/DC adapter		Apple	A1718	C4H64450HH3GN8RA6		--
I/O CABLES (RF CONDUCTED TEST)						
Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	AC	3	US 115V	Un-shielded	2.0	N/A
2	USB	1	DC	Un-shielded	1.0	N/A
3	RF In/Out	1	EUT	Un-shielded	0.6	N/A
4	RF In/Out	1	Communication Test Set	Un-shielded	1.2	N/A
5	RF In/Out	1	Barrel	N/A	N/A	N/A
I/O CABLES (RF RADIATED TEST)						
Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	RF In/Out	1	Antenna	Un-shielded	5.0	N/A

CONDUCTED SETUP



RADIATED SETUP



6. TEST AND MEASUREMENT EQUIPMENT

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

TEST EQUIPMENT LIST				
Description	Manufacturer	Model	Asset	Cal Due
Wideband Communication Test Set, Call Box	R&S GmbH & Co. KG	CMW500	85943	2025-02-28
Directional Coupler	KRYTAR	152610	198816	2024-10-31
Directional Coupler	KRYTAR	152610	231664	2025-01-22
Power Meter, P-series single channel	Keysight	N1912A	90719	2025-01-31
Power Sensor, P - series, 50MHz to 18GHz, Wideband	Keysight	N1921A	81319	2025-01-31
Spectrum Analyzer, PXA, 2Hz to 44GHz	Keysight	N9030B	231739	2025-01-31
Spectrum Analyzer, PXA, 2Hz to 44GHz	Keysight	N9030B	245120	2025-02-28
Spectrum Analyzer, PXA, 3Hz to 44GHz	Keysight	N9030A	85212	2025-02-28
Wideband Communication Test Set, Call Box	R&S GmbH & Co. KG	CMW500	222793	2025-02-28
Wideband Communication Test Set, Call Box	R&S GmbH & Co. KG	CMW500	222797	2025-02-28
DC Power Supply	GWINSTEK	GPS18500	N/A	C.N.R.
UL AUTOMATION SOFTWARE				
CLT Software	UL	UL RF	V2023.11.21.0	
Power Measurement Software	UL	UL RF	V2023.08.14.0	
Radiated test software	UL	UL RF	Ver 9.5 2023-05-01	

NOTES:

- * Testing is completed before equipment expiration date.

Appendix A – Reference Test Report

Attached is the test report (15175342-E8, 15175342- E12) containing the reference data from the parent model as detailed in section 5.7.