

<u>Test Technology:</u>	<u>Test Method(s) ²:</u>
Korean Radio (cont.)	Technical Requirements for Measurement and Test Procedure of Specific Absorption Rate (RRA Public Notification 2018-18, Dec 7, 2018); Technical Requirements for Measurement of Electromagnetic Field Strength (RRA Public Notification 2021-22 Nov 29, 2021); KS X 3123; KS X 3142; KS X 3270; KS X 3271
Australia/New Zealand Radio	AS/NZS 4268:2017
OTA	CTIA Test Plan for Wireless Device Over-the-Air Performance PTCRB NAPRD03; PTCRB PPMD; VZW OTA Radiated Performance for CDMA & LTE Multimode Devices; VZW LTE Over the Air Radiated Performance Test Plan VZW Location Determination Test Plan; VZW LTE-LBS Performance Test Plan; T-Mobile Radiated Performance TRD; AT&T 13340 OTA; AT&T IoT Accelerator; USCC CDMA Over The Air Radiated Test Plan; USCC LTE Over The Air Radiated Test Plan; CTIA Test Plan for RF Performance Evaluation of Wi-Fi Mobile Converged Devices (Wi-Fi Alliance); GSMA TS.24 Operator Acceptance Values for Device Antenna Performance; 3GPP TS 34.114 Technical Specification UE/MS OTA Antenna Performance; 3GPP TS 37.544 Technical Specification UTRA & E-UTRA UE OTA Antenna Performance
<i>Wired and Wireless Conformance</i>	
CTIA IoT Security	CTIA Cybersecurity Certification Test Plan for IoT Devices
SunSpec Alliance	SunSpec – CSIP (Common Smart Inverter Profile) Conformance Test Procedures; SunSpec – Advanced Function Inverter Test Lab Specification; SunSpec – UL1741 Supplement SA/Rule 21 Implementation Guide; IEEE 2030.5-2018 Smart Energy Profile Application Protocol
CBRS - OnGo/WinnForum	OnGo Alliance Certification Test Plan; WinnForum Conformance and Performance Test Technical Specification, WINNF-TS-0122

(A2LA Cert. No. 2041.01) 10/12/2022

 Page 7 of 11

FCC ID: A3LSMS928U	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2308210092-01-R1.A3L	Test Dates: 09/26-11/3/2023	EUT Type: Portable Handset	Page 204 of 213

ELEMENT MATERIALS TECHNOLOGY WASHINGTON DC LLC
 (formerly PCTEST)
 9017-F/G Mendenhall Court
 Columbia, MD 21045

Test Technology:

Test Method(s) ²:

Battery Safety

IEEE 1725 Standard for Rechargeable Batteries for Cellular Telephones;
 CTIA Certification Requirements for Battery System Compliance to IEEE 1725;
 - Exclusions: Section 6.2 (DC-DC testing only);
 Section 7 (Certified Adapters only);
 IEEE 1625 Standard for Rechargeable Batteries for Multi-Cell Mobile Computing Devices;
 CTIA Certification Requirements for Battery System Compliance to IEEE 1625;
 UL1642 Standard for Lithium Batteries;
 UL 2054 Household and Commercial Batteries;

IEC 62133-2 Secondary Cells and Batteries containing Alkaline or other Non-Acid Electrolytes – Safety Requirements for Portable Sealed Secondary Cells & Batteries made from them, for use in Portable Applications

IEC 61960-3 Secondary cells and batteries containing alkaline or other non-acid electrolytes – Secondary lithium and batteries for portable applications – Part 3: Prismatic and cylindrical lithium secondary cells, and batteries made from them

UNDOT
 Battery Transportation Safety

United Nations Document ST/SG/AC.10/11/Section 38.3 Recommendations on the Transport of Dangerous Goods; Manual of Tests and Criteria;
 IEC 62281 – Safety of Primary and Secondary Lithium Cells and Batteries During Transport

Aerospace - Battery Performance and Safety

NASA Specification for Acceptance Testing of Commercial Lithium-Ion Cell Lots Engineering Directorate Propulsion & Power Division, EP-WI-031

Hardware Reliability

CTIA Device Hardware Reliability Test Plan

Determining Battery Life

CTIA Battery Life Test Plan

ESD Immunity

EN/IEC 61000-4-2

(A2LA Cert. No. 2041.01) 10/12/2022

 Page 8 of 11

FCC ID: A3LSMS928U	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2308210092-01-R1.A3L	Test Dates: 09/26-11/3/2023	EUT Type: Portable Handset	Page 205 of 213

3801 E. Plano Parkway, Ste 150
Plano, TX 75074

<u>Test Technology:</u>	<u>Test Method(s) ²:</u>
Radiated Emissions (10 Meter Test Distance) (Frequency Range, 30 MHz – 1 GHz)	CFR 47, FCC Parts 15B (using ANSI C63.4:2014); EN55011; EN 55032; CNS 13438 (up to 6 GHz); AS/NZS CISPR 11; IEC/CISPR 11; CISPR 32; FCC OET/MP-5; ICES-003; KS C 9811; KS C 9832; VCCI V-3(2016.11); VCCI V-3 (2015.04); VCCI 32-1; VCCI-CISPR 32
EMC	ETSI EN 301 489-1; ETSI EN 301 489-3; ETSI EN 301 489-17; ETSI EN 301 489-19; ETSI EN 301 489-52; EN 55024
2.4 GHz Wi-Fi & BT RF	ETSI EN 300 328
5 GHz W-Fi	ETSI EN 301 893
GPS	ETSI EN 303 413
SRD1	ETSI EN 300 440; ETSI EN 300 330
LTE RF	ETSI EN 301 908-1; ETSI EN 301 908-13
WCDMA RF	ETSI EN 301 908-1; ETSI EN 301 908-2
GSM RF	ETSI EN 301 511

² When the date, edition, version, etc. is not identified in the scope of accreditation, laboratories may use the version that immediately precedes the current version for a period of one year from the date of publication of the standard measurement method, per part C., Section 1 of A2LA R101 - *General Requirements- Accreditation of ISO-IEC 17025 Laboratories.*

Testing Activities Performed in Support of FCC Certification in Accordance with 47 Code of Federal Regulations and FCC KDB 974614, Appendix A, Table A.³:

Rule Subpart/Technology	Test Method	Maximum Frequency
<u>Unintentional Radiators</u> Part 15B	ANSI C63.4:2014	40000 MHz
<u>Industrial, Scientific, and Medical Equipment</u> Part 18	FCC MP-5 (February 1986)	330000 MHz
<u>Intentional Radiators</u> Part 15C	ANSI C63.10:2013	330000 MHz
<u>Unlicensed Personal Communication</u>		

(A2LA Cert. No. 2041.01) 10/12/2022

 Page 9 of 11

FCC ID: A3LSMS928U	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2308210092-01-R1.A3L	Test Dates: 09/26-11/3/2023	EUT Type: Portable Handset	Page 206 of 213

Testing Activities Performed in Support of FCC Certification in Accordance with 47 Code of Federal Regulations and FCC KDB 974614, Appendix A, Table A.3:

Rule Subpart/Technology	Test Method	Maximum Frequency
<u>Systems Devices</u>		
Part 15D	ANSI C63.17:2013	20000 MHz
<u>U-NII without DFS Intentional Radiators</u>		
Part 15E	ANSI C63.10:2013	40000 MHz
<u>U-NII with DFS Intentional Radiators</u>		
Part 15E	FCC KDB 905462 D02 (v02)	40000 MHz
<u>UWB Intentional Radiators</u>		
Part 15F	ANSI C63.10:2013	200000 MHz
<u>BPL Intentional Radiators</u>		
Part 15G	ANSI C63.10:2013	40000 MHz
<u>White Space Device Intentional Radiators</u>		
Part 15H	ANSI C63.10:2013	40000 MHz
<u>Commercial Mobile Services (FCC Licensed Radio Service Equipment)</u>		
Parts 22 (cellular), 24, 25 (below 3 GHz), and 27	ANSI/TIA-603-E; TIA-102.CAAA-E; ANSI C63.26:2015	330000 MHz
<u>General Mobile Radio Services (FCC Licensed Radio Service Equipment)</u>		
Parts 22 (non-cellular), 90 (below 3 GHz), 95 (below 3 GHz), 97 (below 3 GHz), and 101 (below 3 GHz)	ANSI/TIA-603-E; TIA-102.CAAA-E; ANSI C63.26:2015	330000 MHz
<u>Citizens Broadband Radio Services (FCC Licensed Radio Service Equipment)</u>		
Part 96	ANSI/TIA-603-E; TIA-102.CAAA-E; ANSI C63.26:2015	330000 MHz
<u>Maritime and Aviation Radio Services</u>		
Parts 80 and 87	ANSI/TIA-603-E; ANSI C63.26:2015	330000 MHz
<u>Microwave and Millimeter Bands Radio Services</u>		
Parts 25, 30, 74, 90 (above 3 GHz), 95 (above 3 GHz), 97 (above 3 GHz), and 101	ANSI/TIA-603-E; TIA-102.CAAA-E; ANSI C63.26:2015	330000 MHz
<u>Broadcast Radio Services</u>		
Parts 73 and 74 (below 3 GHz)	ANSI/TIA-603-E; TIA-102.CAAA-E; ANSI C63.26:2015	330000 MHz
<u>RF Exposure</u>		

(A2LA Cert. No. 2041.01) 10/12/2022

 Page 10 of 11


FCC ID: A3LSMS928U	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2308210092-01-R1.A3L	Test Dates: 09/26-11/3/2023	EUT Type: Portable Handset	Page 207 of 213

Testing Activities Performed in Support of FCC Certification in Accordance with 47 Code of Federal Regulations and FCC KDB 974614, Appendix A, Table A.³:

Rule Subpart/Technology	Test Method	Maximum Frequency
Devices Subject to SAR Requirements	IEEE Std 1528:2013	6000 MHz
<u>Hearing Aid Compatibility</u> Part 20 (HAC for Commercial Mobile Services)	ANSI C63.19:2011	6000 MHz
<u>Signal Boosters</u> Part 20 (Wideband Consumer Signal Boosters, Provider-specific signal boosters, and Industrial Signal Boosters) Section 90.219	ANSI C63.26:2015	330000 MHz

³Accreditation does not imply acceptance to the FCC equipment authorization program. Please see the FCC website (<https://apps.fcc.gov/oetcf/eas/>) for a listing of FCC approved laboratories.

(A2LA Cert. No. 2041.01) 10/12/2022



Page 11 of 11

FCC ID: A3LSMS928U	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2308210092-01-R1.A3L	Test Dates: 09/26-11/3/2023	EUT Type: Portable Handset	Page 208 of 213



Accredited Laboratory

A2LA has accredited

ELEMENT MATERIALS TECHNOLOGY WASHINGTON DC LLC

Columbia, MD

for technical competence in the field of

Electrical Testing

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories*. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated April 2017).



Presented this 12th day of October 2022.



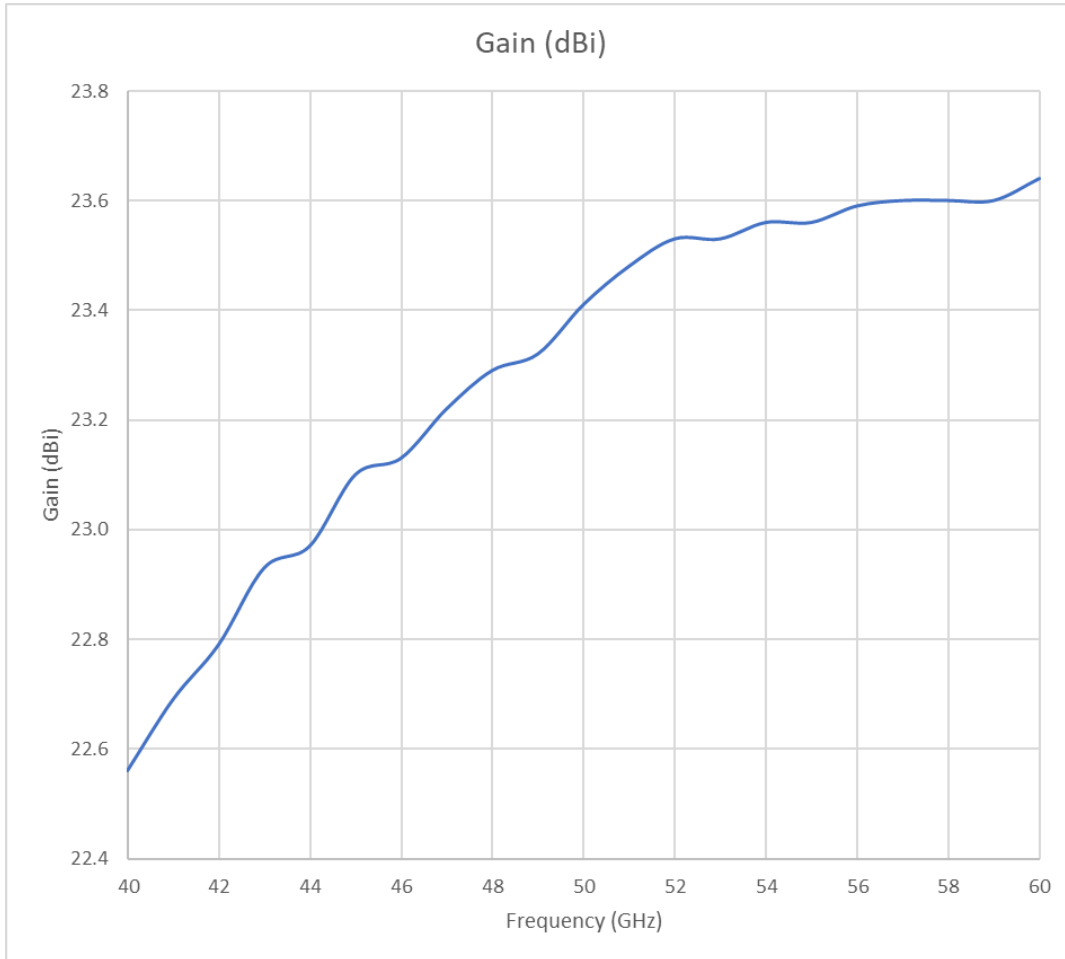
Mr. Trace McInturff, Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 2041.01
Valid to May 31, 2024

For the tests to which this accreditation applies, please refer to the laboratory's Electrical Scope of Accreditation.

FCC ID: A3LSMS928U	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2308210092-01-R1.A3L	Test Dates: 09/26-11/3/2023	EUT Type: Portable Handset	Page 209 of 213

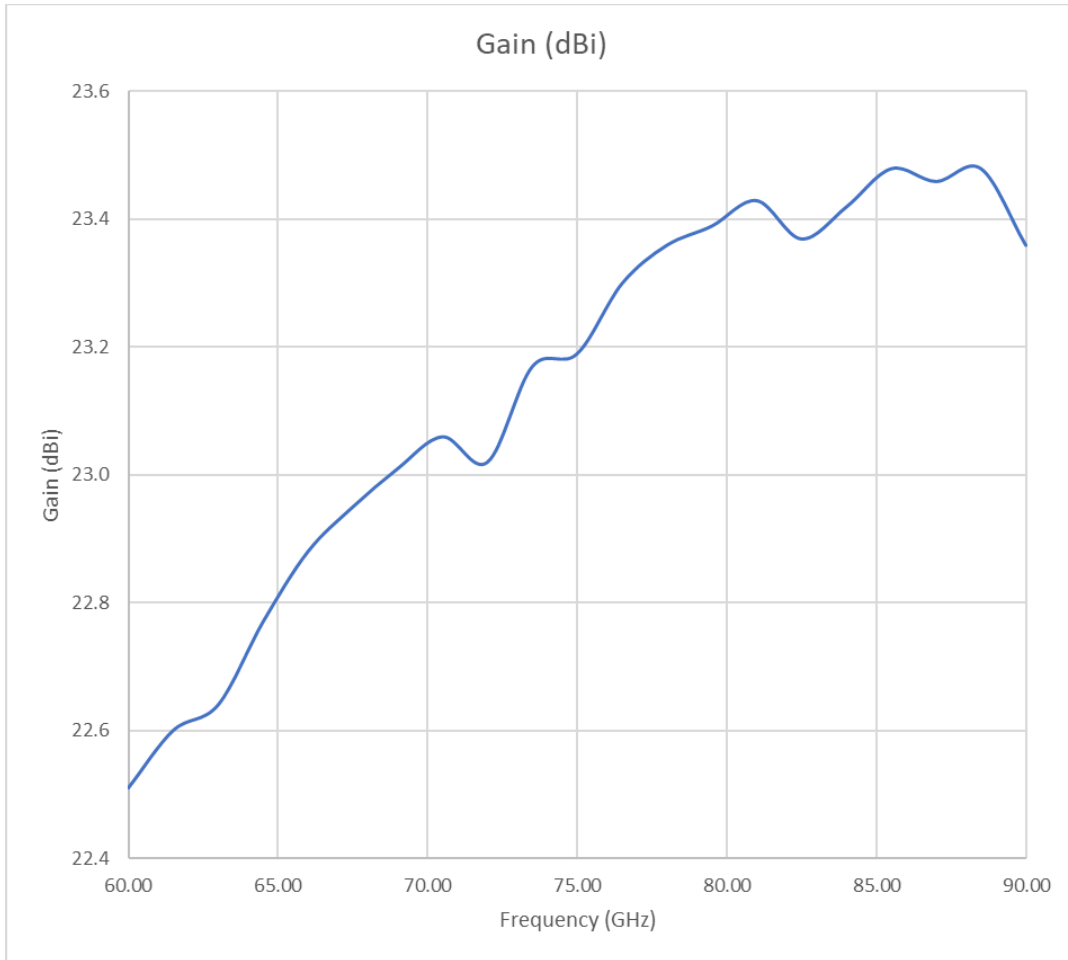
APPENDIX C – HORN ANTENNA GAIN CURVES

OML M19RH Horn Antenna Gain (40 – 60GHz)



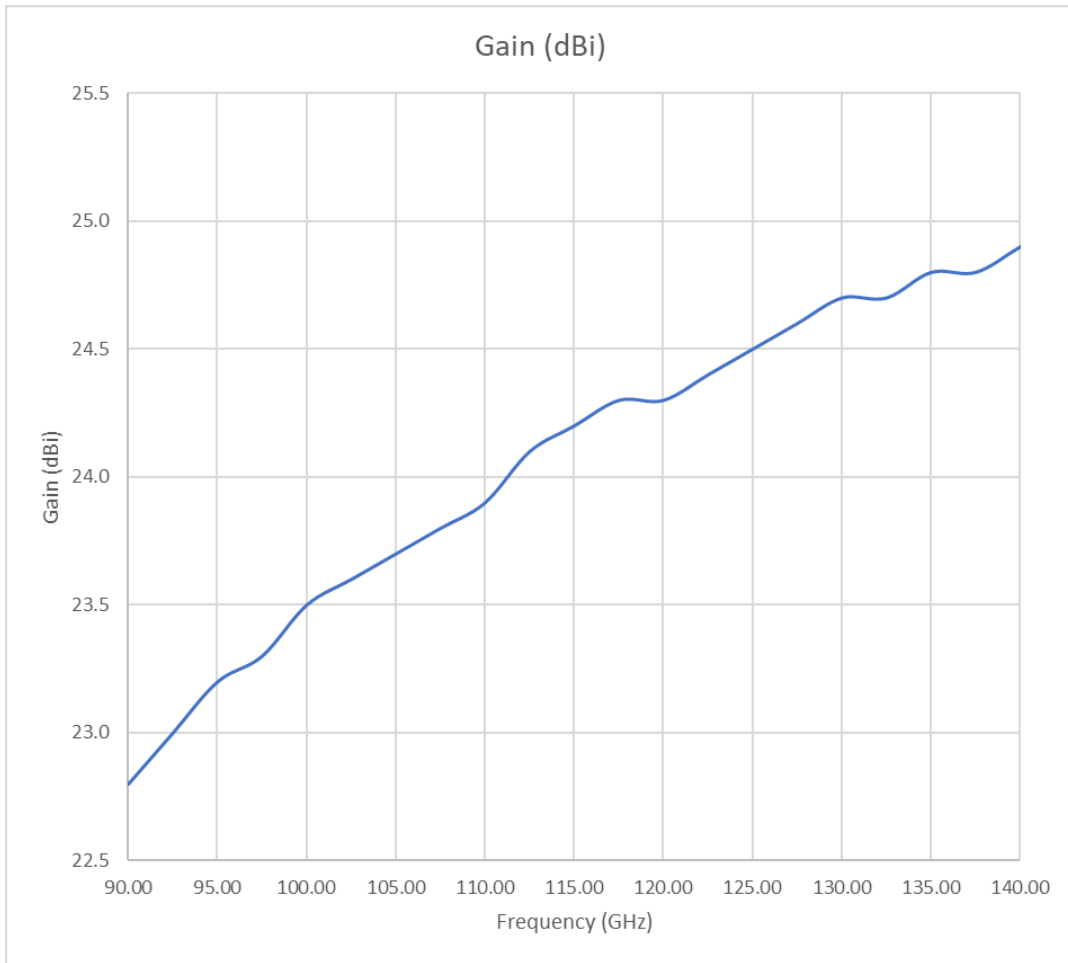
FCC ID: A3LSMS928U	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2308210092-01-R1.A3L	Test Dates: 09/26-11/3/2023	EUT Type: Portable Handset	Page 210 of 213

OML M12RH Horn Antenna Gain (60 – 90GHz)



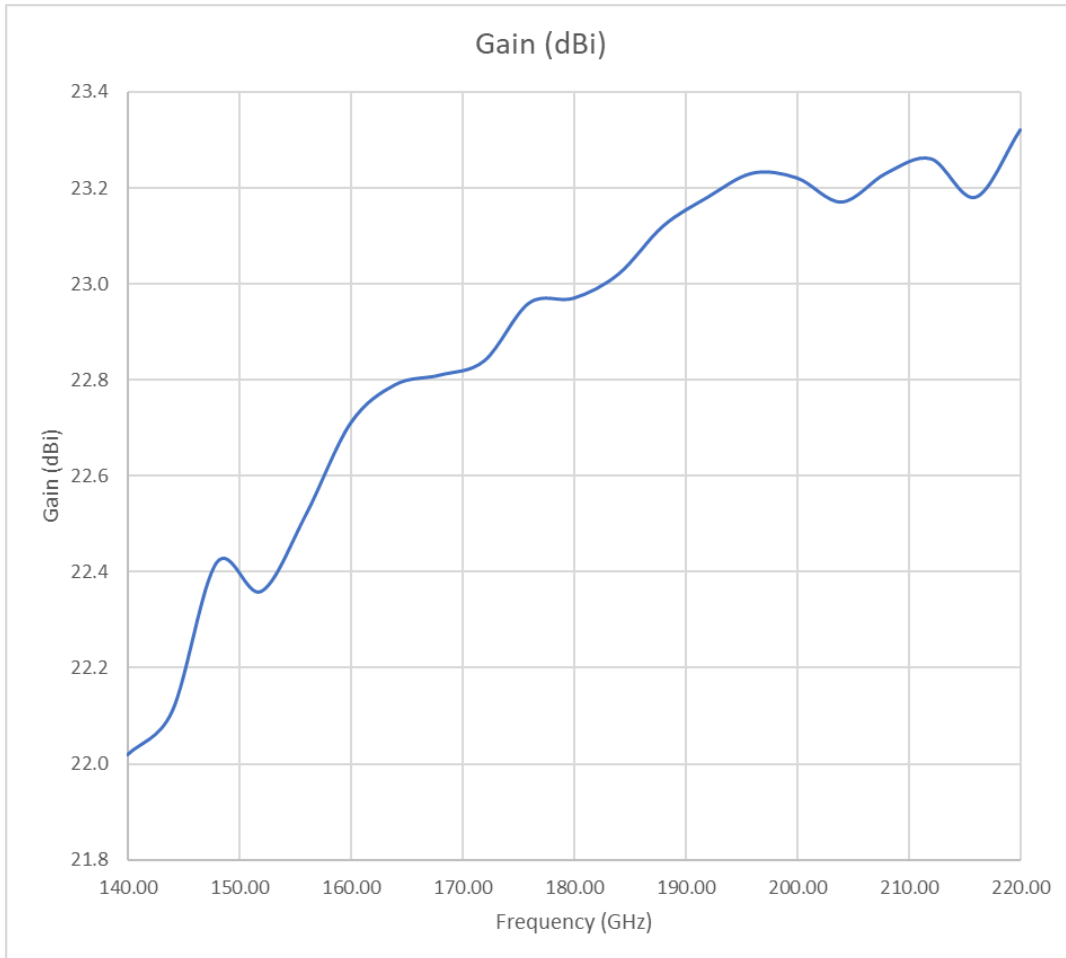
FCC ID: A3LSMS928U	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2308210092-01-R1.A3L	Test Dates: 09/26-11/3/2023	EUT Type: Portable Handset	Page 211 of 213

OML M08RH Horn Antenna Gain (90 – 140GHz)



FCC ID: A3LSMS928U	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2308210092-01-R1.A3L	Test Dates: 09/26-11/3/2023	EUT Type: Portable Handset	Page 212 of 213

OML M05RH Horn Antenna Gain (140 – 220GHz)



FCC ID: A3LSMS928U	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2308210092-01-R1.A3L	Test Dates: 09/26-11/3/2023	EUT Type: Portable Handset	Page 213 of 213