



element

Starkey Laboratories, Inc.

Genesis AI RIC 312

FCC 15.209:2023

Inductive Radio

Report: STAK0288.4 Rev. 1, Issue Date: June 7, 2023



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CERTIFICATE OF TEST

Last Date of Test: April 4, 2023
Starkey Laboratories, Inc.
EUT: Genesis AI RIC 312

Radio Equipment Testing

Standards

Specification	Method
FCC 15.209:2023	ANSI C63.10:2013

Results

Test Description	Result	Specification Section(s)	Method Section(s)	Comments
Powerline Conducted Emissions	N/A	15.207	6.2	Not required for a battery powered EUT.
Field Strength of Fundamental	Pass	15.209	6.4	
Spurious Radiated Emissions	Pass	15.209	6.4, 6.5	

Deviations From Test Standards

None

Approved By:

Eric Brandon, Department Manager

Product compliance is the responsibility of the client; therefore, the tests and equipment modes of operation represented in this report were agreed upon by the client, prior to testing. The results of this test pertain only to the sample(s) tested. The specific description is noted in each of the individual sections of the test report supporting this certificate of test. This report reflects only those tests from the referenced standards shown in the certificate of test. It does not include inspection or verification of labels, identification, marking or user information. As indicated in the Statement of Work sent with the quotation, Element's standard process is to always use the latest published version of the test methods even when earlier versions are cited in the test specification. Issuance of a purchase order was de facto acceptance of this approach. Otherwise, the client would have advised Element in writing of the specific version of the test methods they wanted applied to the subject testing.

REVISION HISTORY



Revision Number	Description	Date (yyyy-mm-dd)	Page Number
01	Updated power settings table.	2023-06-07	11
	Changed to cfg 11, with 2 EUTs. No other support equipment used during these tests.	2023-06-07	12
	Adjusted graph, removed >1GHz equipment	2023-06-07	19-22
	Corrected test distances in headers	2023-06-07	24-27

ACCREDITATIONS AND AUTHORIZATIONS



United States

FCC - Designated by the FCC as a Telecommunications Certification Body (TCB). Certification chambers, Open Area Test Sites, and conducted measurement facilities are listed with the FCC.

A2LA - Each laboratory is accredited by A2LA to ISO / IEC 17025, and as a product certifier to ISO / IEC 17065 which allows Element to certify transmitters to FCC and IC specifications.

Canada

ISED - Recognized by Innovation, Science and Economic Development Canada as a Certification Body (CB) and as a CAB for the acceptance of test data.

European Union

European Commission – Recognized as an EU Notified Body validated for the EMCD and RED Directives.

United Kingdom

BEIS – Recognized by the UK as an Approved Body under the UK Radio Equipment and UK EMC Regulations.

Australia/New Zealand

ACMA - Recognized by ACMA as a CAB for the acceptance of test data.

Korea

MSIT / RRA - Recognized by KCC's RRA as a CAB for the acceptance of test data.

Japan

VCCI - Associate Member of the VCCI. Conducted and radiated measurement facilities are registered.

Taiwan

BSMI – Recognized by BSMI as a CAB for the acceptance of test data.

NCC - Recognized by NCC as a CAB for the acceptance of test data.

Singapore

IDA – Recognized by IDA as a CAB for the acceptance of test data.

Israel

MOC – Recognized by MOC as a CAB for the acceptance of test data.

Hong Kong

OFCA – Recognized by OFCA as a CAB for the acceptance of test data.

Vietnam

MIC – Recognized by MIC as a CAB for the acceptance of test data.

SCOPE

For details on the Scopes of our Accreditations, please visit:

[California](#)

[Minnesota](#)

[Oregon](#)

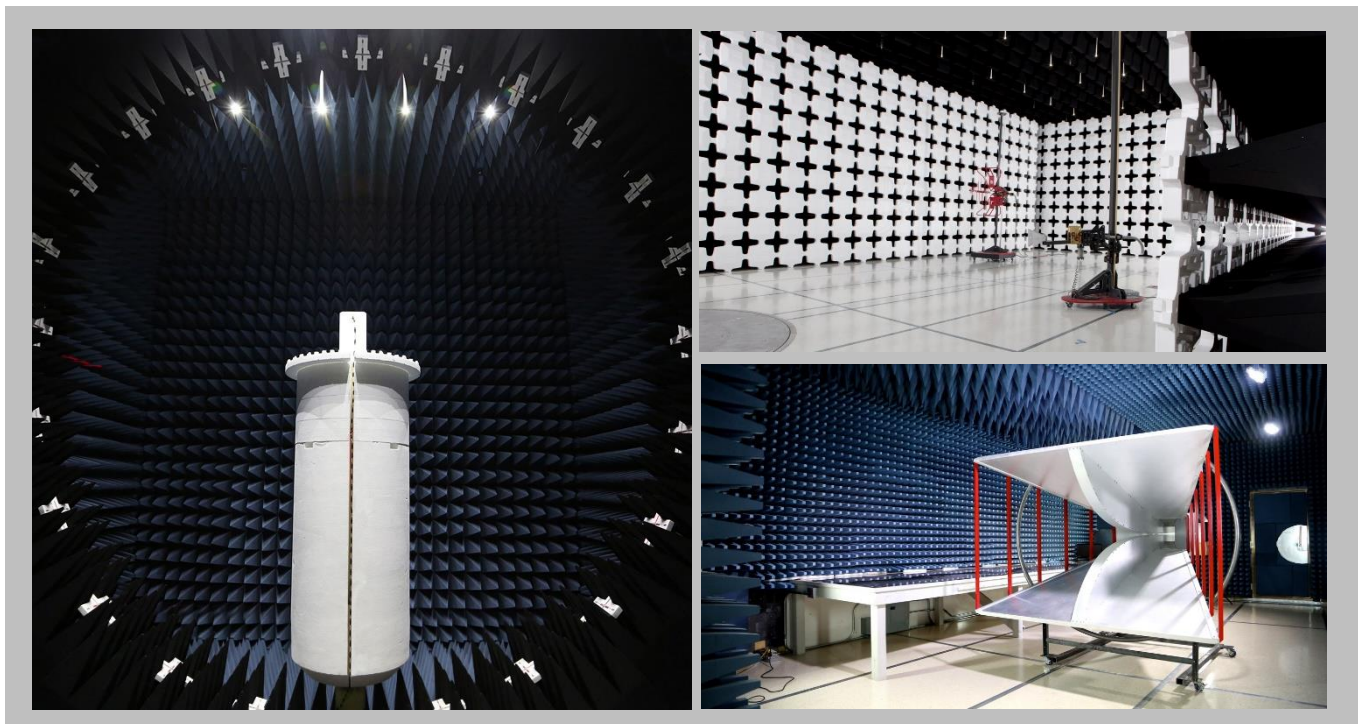
[Texas](#)

[Washington](#)

FACILITIES



California Labs OC01-17 41 Tesla Irvine, CA 92618 (949) 861-8918	Minnesota Labs MN01-11 9349 W Broadway Ave. Brooklyn Park, MN 55445 (612)-638-5136	Oregon Labs EV01-12 6775 NE Evergreen Pkwy #400 Hillsboro, OR 97124 (503) 844-4066	Texas Labs TX01-09 3801 E Plano Pkwy Plano, TX 75074 (469) 304-5255	Washington Labs NC01-05 19201 120 th Ave NE Bothell, WA 98011 (425)984-6600
A2LA				
Lab Code: 3310.04	Lab Code: 3310.05	Lab Code: 3310.02	Lab Code: 3310.03	Lab Code: 3310.06
Innovation, Science and Economic Development Canada				
2834B-1, 2834B-3	2834E-1, 2834E-3	2834D-1	2834G-1	2834F-1
BSMI				
SL2-IN-E-1154R	SL2-IN-E-1152R	SL2-IN-E-1017	SL2-IN-E-1158R	SL2-IN-E-1153R
VCCI				
A-0029	A-0109	A-0108	A-0201	A-0110
Recognized Phase I CAB for ISED, ACMA, BSMI, IDA, KCC/RRA, MIC, MOC, NCC, OFCA				
US0158	US0175	US0017	US0191	US0157



MEASUREMENT UNCERTAINTY



Measurement Uncertainty

When a measurement is made, the result will be different from the true or theoretically correct value. The difference is the result of tolerances in the measurement system that cannot be completely eliminated. To the extent that technology allows us, it has been our aim to minimize this error. Measurement uncertainty is a statistical expression of measurement error qualified by a probability distribution.

A measurement uncertainty estimation has been performed for each test per our internal quality document QM205.4.6. The estimation is used to compare the measured result with its "true" or theoretically correct value. The expanded measurement uncertainty (K=2) can be found in the table below. A lab specific value may also be found in the applicable test description section. Our measurement data meets or exceeds the measurement uncertainty requirements of the applicable specification; therefore, the test data can be compared directly to the specification limit to determine compliance. The calculations for estimating measurement uncertainty are based upon ETSI TR 100 028 (or CISPR 16-4-2 as applicable), and are available upon request.

The following table represents the Measurement Uncertainty (MU) budgets for each of the tests that may be contained in this report.

Test	+ MU	- MU
Frequency Accuracy	0.0007%	-0.0007%
Amplitude Accuracy (dB)	1.2 dB	-1.2 dB
Conducted Power (dB)	1.2 dB	-1.2 dB
Radiated Power via Substitution (dB)	0.7 dB	-0.7 dB
Temperature (degrees C)	0.7°C	-0.7°C
Humidity (% RH)	2.5% RH	-2.5% RH
Voltage (AC)	1.0%	-1.0%
Voltage (DC)	0.7%	-0.7%
Field Strength (dB)	5.2 dB	-5.2 dB
AC Powerline Conducted Emissions (dB)	3.2 dB	-3.2 dB

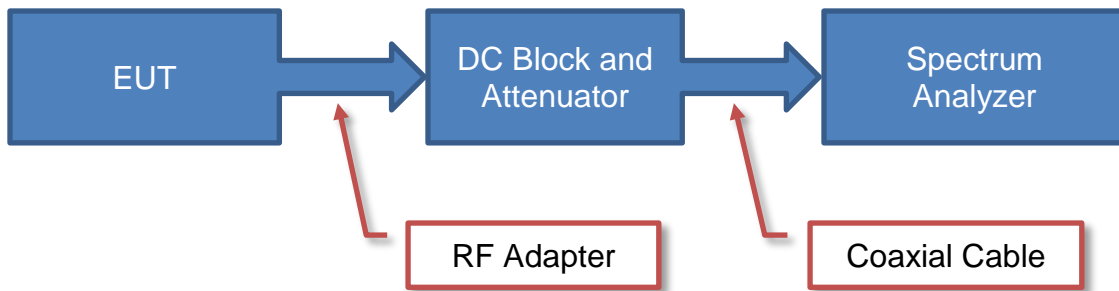
TEST SETUP BLOCK DIAGRAMS

Measurement Bandwidths

Frequency Range (MHz)	Peak Data (kHz)	Quasi-Peak Data (kHz)	Average Data (kHz)
0.01 - 0.15	1.0	0.2	0.2
0.15 - 30.0	10.0	9.0	9.0
30.0 - 1000	100.0	120.0	120.0
Above 1000	1000.0	N/A	1000.0

Unless otherwise stated, measurements were made using the bandwidths and detectors specified. No video filter was used.

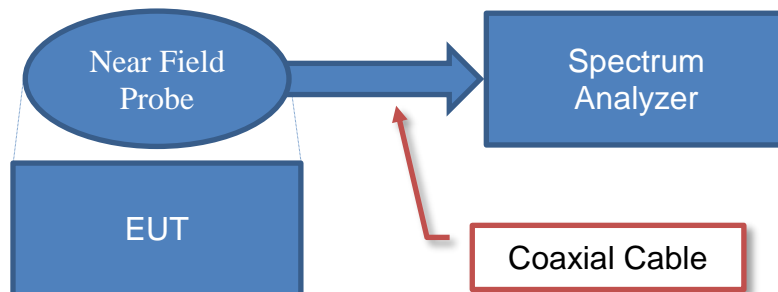
Antenna Port Conducted Measurements



Sample Calculation (logarithmic units)

$$\begin{array}{r}
 \text{Measured Value} \\
 71.2
 \end{array}
 =
 \begin{array}{r}
 \text{Measured Level} \\
 42.6
 \end{array}
 +
 \begin{array}{r}
 \text{Reference Level Offset} \\
 28.6
 \end{array}$$

Near Field Test Fixture Measurements

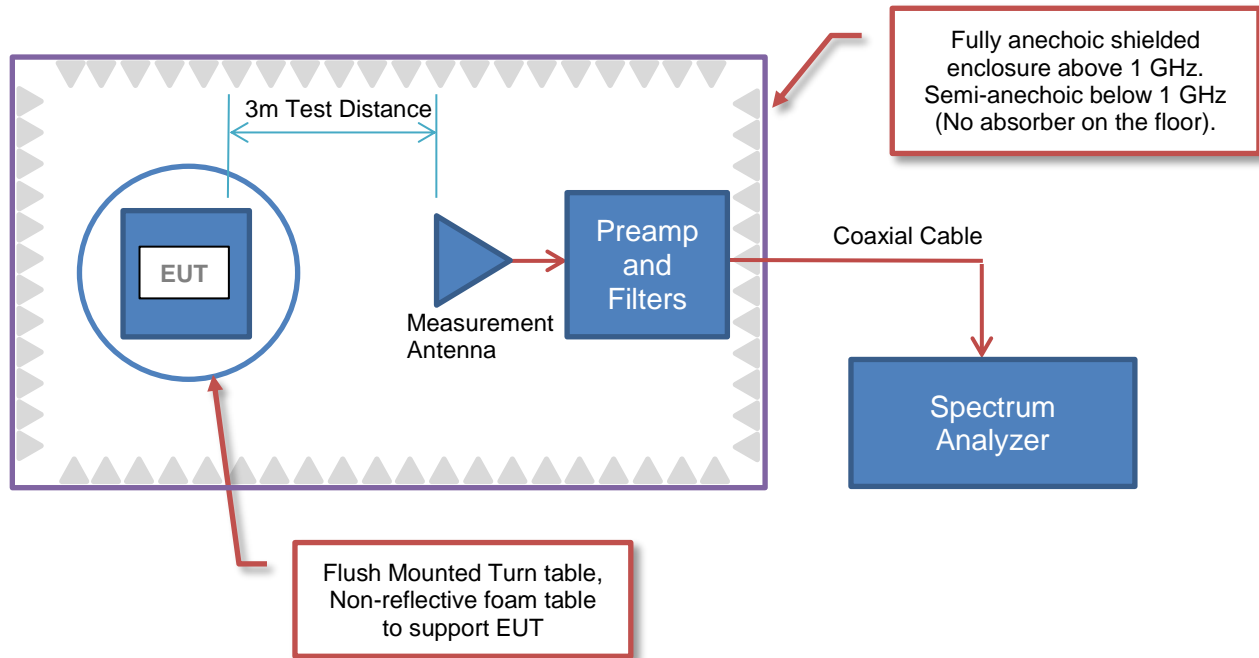


Sample Calculation (logarithmic units)

$$\begin{array}{r}
 \text{Measured Value} \\
 71.2
 \end{array}
 =
 \begin{array}{r}
 \text{Measured Level} \\
 42.6
 \end{array}
 +
 \begin{array}{r}
 \text{Reference Level Offset} \\
 28.6
 \end{array}$$

TEST SETUP BLOCK DIAGRAMS

Emissions Measurements



Sample Calculation (logarithmic units)

Radiated Emissions:

Measured Level (Amplitude)	Factor			Distance Adjustment Factor	External Attenuation	Field Strength
	Antenna Factor	Cable Factor	Amplifier Gain			
42.6	28.6	3.1	40.8	0.0	0.0	33.5

42.6 + 28.6 + 3.1 - 40.8 + 0.0 + 0.0 = 33.5

Conducted Emissions:

Measured Level (Amplitude)	Factor		External Attenuation	Adjusted Level
	Transducer Factor	Cable Factor		
26.7	0.3	0.1	20.0	47.1

26.7 + 0.3 + 0.1 + 20.0 = 47.1

Radiated Power (ERP/EIRP) – Substitution Method:

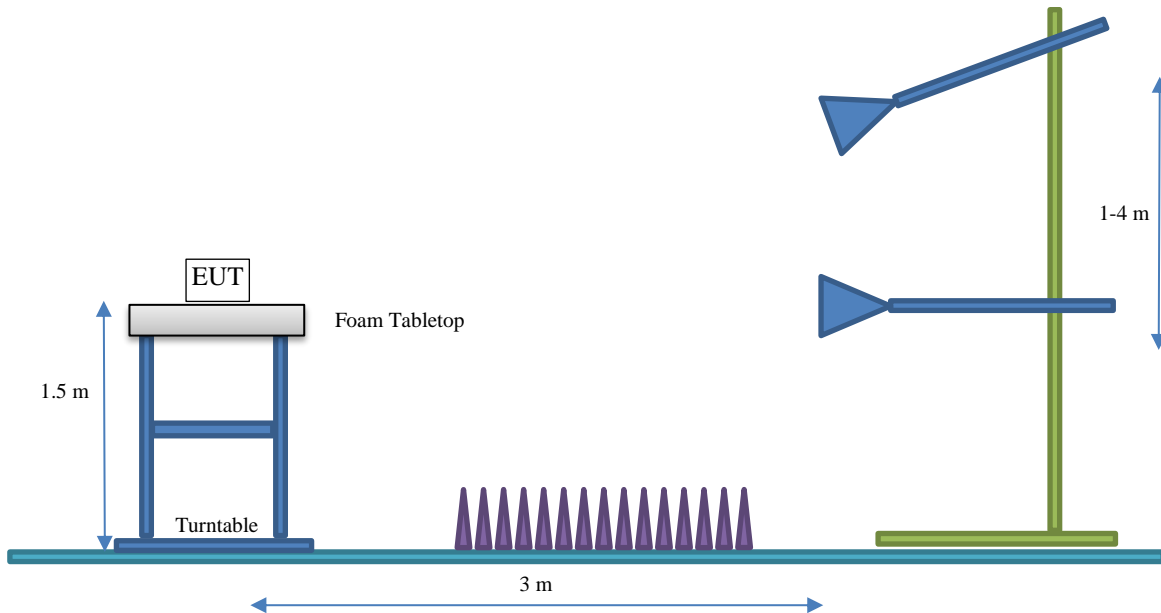
Measured Level into Substitution Antenna (Amplitude dBm)	Substitution Antenna Factor (dBi)	EIRP to ERP (if applicable)	Measured power (dBm ERP/EIRP)
10.0	6.0	2.15	13.9/16.0

10.0 + 6.0 - 2.15 = 13.9/16.0

TEST SETUP BLOCK DIAGRAMS

Bore Sighting (>1GHz)

The diameter of the illumination area is the dimension of the line tangent to the EUT formed by 3 dB beamwidth of the measurement antenna at the measurement distance. At a 3 meter test distance, the diameter of the illumination area was 3.8 meters at 1 GHz and greater than 2.1 meters up to 6 GHz. Above 1 GHz, when required by the measurement standard, the antenna is pointed for both azimuth and elevation to maintain the receive antenna within the cone of radiation from the EUT. The specified measurement detectors were used for comparison of the emissions to the peak and average specification limits.



PRODUCT DESCRIPTION



Client and Equipment under Test (EUT) Information

Company Name:	Starkey Laboratories, Inc.
Address:	6600 Washington Ave S
City, State, Zip:	Eden Prairie, MN 55344-3404
Test Requested By:	Bill Mitchell
EUT:	Genesis AI RIC 312
First Date of Test:	April 3, 2023
Last Date of Test:	April 4, 2023
Receipt Date of Samples:	February 27, 2023
Equipment Design Stage:	Preproduction
Equipment Condition:	No Damage
Purchase Authorization:	Verified

Information Provided by the Party Requesting the Test

Functional Description of the EUT:

Hearing aid with near field manetic induction and Bluetooth LE.

Testing Objective:

To demonstrate compliance of the inductive portion of the device to FCC Part 15.209 specifications.

POWER SETTINGS AND ANTENNAS



The power settings, antenna gain value(s) and cable loss (if applicable) used for the testing contained in this report were provided by the customer and will affect the validity of the results. Element assumes no responsibility for the accuracy of this information. The power settings below reflect the maximum power that the EUT is allowed to transmit at during normal operation.

ANTENNA GAIN (dBi)

Type	Provided by:	Frequency Range (MHz)
Coil	Starkey Laboratories, Inc	10.281

The NFMI antenna coil is a cylinder of nominal radius 1.125 mm and length 4.2 mm. There are 21 turns going down the coil, and 3 turns coming back, which are needed because the wire feed is only along one end of the coil.

The EUT was tested using the power settings provided by the manufacturer which were based upon:

- Test software settings
- Rated power settings

Test firmware installed on EUT 8.3.0.6

Test software: Monaco 6.2.1.0

SETTINGS FOR ALL TESTS IN THIS REPORT

Modulation Types	Frequency Range (MHz)	Power Setting *
Single Data Rate / Modulation Data Rate - 894 kbps, Modulation - 8-DPSK	10.281 MHz	3.4 mW

* power value was obtained from the NXH2281 (NFMI Radio) datasheet.

CONFIGURATIONS



Configuration STAK0288-11

EUT			
Description	Manufacturer	Model/Part Number	Serial Number
Genesis AI RIC 312	Starkey Laboratories, Inc.	Genesis AI RIC 312	230160490
Genesis AI RIC 312	Starkey Laboratories, Inc.	Genesis AI RIC 312	230160530

MODIFICATIONS



Equipment Modifications

Item	Date	Test	Modification	Note	Disposition of EUT
1	2023-04-03	Field Strength of Fundamental	Tested as delivered to test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
2	2023-04-03	Spurious Radiated Emissions (below 30MHz)	Tested as delivered to test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
3	2023-04-04	Spurious Radiated Emissions (above 30MHz)	Tested as delivered to test Station.	No EMI suppression devices were added or modified during this test.	Scheduled testing was completed.

FIELD STRENGTH OF FUNDAMENTAL

TEST DESCRIPTION

The antennas to be used with the EUT were tested. The EUT was continuously transmitting while set to the channel specified.

The fundamental carrier of the EUT was maximized by rotating the EUT on a turntable, adjusting the position of the EUT and EUT antenna in three orthogonal axis, and adjusting the measurement antenna polarization (per ANSI C63.10). A calibrated active loop antenna was used for this test in order to provide sufficient measurement sensitivity. The reference point of the loop antenna was maintained at 1m above the ground plane during the testing.

Measurements were made with the required detectors and annotated on the data for each individual point using the following annotation:

QP = Quasi-Peak Detector
PK = Peak Detector
AV = CISPR Average Detector

As outlined in 15.209(e), 15.31(f)(2), and RSS-GEN, 6.5, measurements may be performed at a distance closer than what is specified with the limit. The limit at the specified distance is shown on the data sheet. Measurements are made at a closer distance and the data is adjusted using a distance correction factor of 40dB/decade for comparison to the limit.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Antenna - Loop	ETS Lindgren	6502	AOB	2021-06-01	2023-06-01
Cable	ESM Cable Corp.	Antenna Loop Cable	MNE	2023-01-30	2024-01-30
Receiver	Rohde & Schwarz	ESR26	ARP	2022-04-20	2023-04-20

MEASUREMENT UNCERTAINTY

Description		
Expanded k=2	1.8 dB	-1.8 dB

FREQUENCY RANGE INVESTIGATED

9 kHz TO 30 MHz

POWER INVESTIGATED

Battery

CONFIGURATIONS INVESTIGATED

STAK0288-11

MODES INVESTIGATED

NFMI Transmitting 10.281 MHz

FIELD STRENGTH OF FUNDAMENTAL



EUT:	Genesis AI RIC 312	Work Order:	STAK0288
Serial Number:	230160490, 230160530	Date:	2023-04-03
Customer:	Starkey Laboratories, Inc.	Temperature:	21.7°C
Attendees:	John Quach	Relative Humidity:	28.9%
Customer Project:	None	Bar. Pressure (PMSL):	1007 mb
Tested By:	Marcelo Aguayo	Job Site:	MN04
Power:	Battery	Configuration:	STAK0288-11

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.209:2023	ANSI C63.10:2013

TEST PARAMETERS

Run #:	7	Test Distance (m):	1	Ant. Height(s) (m):	1(m)
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COMMENTS

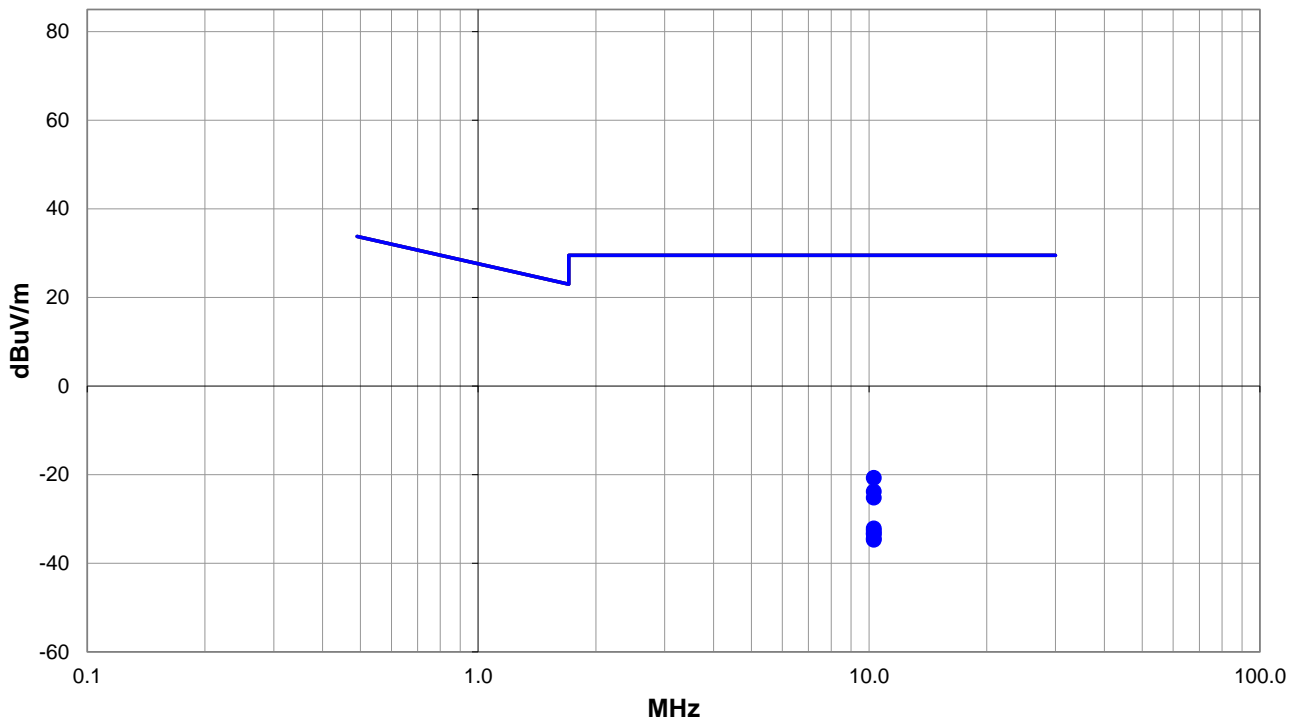
None

EUT OPERATING MODES

NFMI Transmitting 10.281 MHz

DEVIATIONS FROM TEST STANDARD

None



Run #: 7

PK AV QP

FIELD STRENGTH OF FUNDAMENTAL

RESULTS - Run #7

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
10.285	27.2	11.2	1.0	161.0	1.0	0.0	Perp to GND	QP	-59.1	-20.7	29.5	-50.2	EUT On Side
10.285	24.1	11.2	1.0	97.0	1.0	0.0	Perp to GND	QP	-59.1	-23.8	29.5	-53.3	EUT Horz
10.285	22.7	11.2	1.0	151.0	1.0	0.0	Perp to GND	QP	-59.1	-25.2	29.5	-54.7	EUT Vert
10.285	15.8	11.2	1.0	295.0	1.0	0.0	Para to EUT	QP	-59.1	-32.1	29.5	-61.6	EUT Horz
10.285	15.3	11.2	1.0	294.0	1.0	0.0	Perp to EUT	QP	-59.1	-32.6	29.5	-62.1	EUT On Side
10.285	14.7	11.2	1.0	193.0	1.0	0.0	Perp to EUT	QP	-59.1	-33.2	29.5	-62.7	EUT Vert
10.285	14.5	11.2	1.0	197.0	1.0	0.0	Perp to EUT	QP	-59.1	-33.4	29.5	-62.9	EUT Horz
10.285	13.5	11.2	1.0	187.0	1.0	0.0	Para to EUT	QP	-59.1	-34.4	29.5	-63.9	EUT On Side
10.285	13.2	11.2	1.0	360.0	1.0	0.0	Para to EUT	QP	-59.1	-34.7	29.5	-64.2	EUT Vert

CONCLUSION

Pass



Tested By

FIELD STRENGTH OF FUNDAMENTAL



EUT:	Genesis AI RIC 312	Work Order:	STAK0288
Serial Number:	230160490, 230160530	Date:	2023-04-03
Customer:	Starkey Laboratories, Inc.	Temperature:	21.7°C
Attendees:	John Quach	Relative Humidity:	28.9%
Customer Project:	None	Bar. Pressure (PMSL):	1007 mb
Tested By:	Marcelo Aguayo	Job Site:	MN04
Power:	Battery	Configuration:	STAK0288-11

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.209:2023	ANSI C63.10:2013

TEST PARAMETERS

Run #:	8	Test Distance (m):	10	Ant. Height(s) (m):	1(m)
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COMMENTS

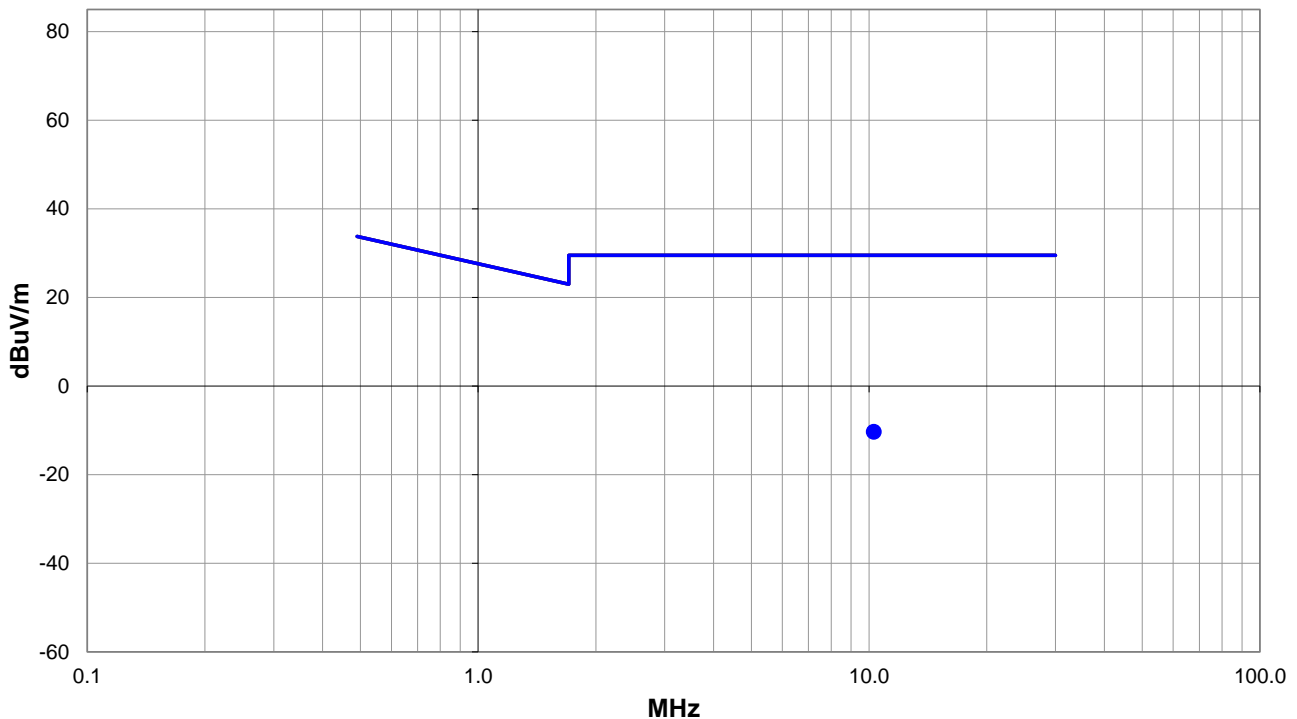
None

EUT OPERATING MODES

NFMI Transmitting 10.281 MHz

DEVIATIONS FROM TEST STANDARD

None



Run #: 8

■ PK ◆ AV ● QP

FIELD STRENGTH OF FUNDAMENTAL

RESULTS - Run #8

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
10.280	-2.4	11.2	1.0	82.0	10.0	0.0	Perp to GND	QP	-19.1	-10.3	29.5	-39.8	EUT On Side

CONCLUSION

Pass



Tested By

SPURIOUS RADIATED EMISSIONS (ABOVE 30MHz)



TEST DESCRIPTION

The antennas to be used with the EUT were tested. The EUT was continuously transmitting while set to the channel specified.

For each configuration, the spectrum was scanned throughout the specified range as part of the exploratory investigation of the emissions. These "pre-scans" are not included in the report. Final measurements on individual emissions were then made and included in this test report.

The individual emissions from the EUT were maximized by rotating the EUT on a turntable, adjusting the position of the EUT and EUT antenna in three orthogonal axis, and adjusting the measurement antenna height (where applicable) and polarization (per ANSI C63.10). A calibrated active loop antenna was used for this test in order to provide sufficient measurement sensitivity. The reference point of the loop antenna was maintained at 1m above the ground plane during the testing.

Measurements were made with the required detectors and annotated on the data for each individual point using the following annotation:

- QP = Quasi-Peak Detector
- PK = Peak Detector
- AV = CISPR Average Detector

If there are no detectable emissions above the noise floor, the data included may show noise floor measurements for reference only.

As outlined in 15.209(e), 15.31(f)(2), and RSS-GEN, 6.5, measurements may be performed at a distance closer than what is specified with the limit. The limit at the specified distance is shown on the data sheet. Measurements are made at a closer distance and the data is adjusted using a distance correction factor of 40dB/decade for comparison to the limit.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Analyzer - Spectrum Analyzer	Agilent	E4446A	AAQ	2023-02-06	2024-02-06
Filter - High Pass	Micro-Tronics	HPM50111	LFN	2022-08-27	2023-08-27
Antenna - Biconilog	ETS Lindgren	3142D	AXO	2021-09-14	2023-09-14
Cable	ESM Cable Corp.	Bilog Cables	MNH	2022-10-08	2023-10-08
Amplifier - Pre-Amplifier	Miteq	AM-1616-1000	AVO	2022-10-08	2023-10-08

MEASUREMENT UNCERTAINTY

Description		
Expanded k=2	5.2 dB	-5.2 dB

FREQUENCY RANGE INVESTIGATED

30 MHz TO 1000 MHz

POWER INVESTIGATED

Battery

CONFIGURATIONS INVESTIGATED

STAK0288-11

MODES INVESTIGATED

NFMI Transmitting 10.281 MHz

SPURIOUS RADIATED EMISSIONS (ABOVE 30MHz)



EUT:	Genesis AI RIC 312	Work Order:	STAK0288
Serial Number:	230160490, 230160530	Date:	2023-04-04
Customer:	Starkey Laboratories, Inc.	Temperature:	21.6°C
Attendees:	John Quach	Relative Humidity:	31.2%
Customer Project:	None	Bar. Pressure (PMSL):	1003 mb
Tested By:	Marcelo Aguayo	Job Site:	MN05
Power:	Battery	Configuration:	STAK0288-11

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.209:2023	ANSI C63.10:2013

TEST PARAMETERS

Run #:	55	Test Distance (m):	3	Ant. Height(s) (m):	1 to 4(m)
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COMMENTS

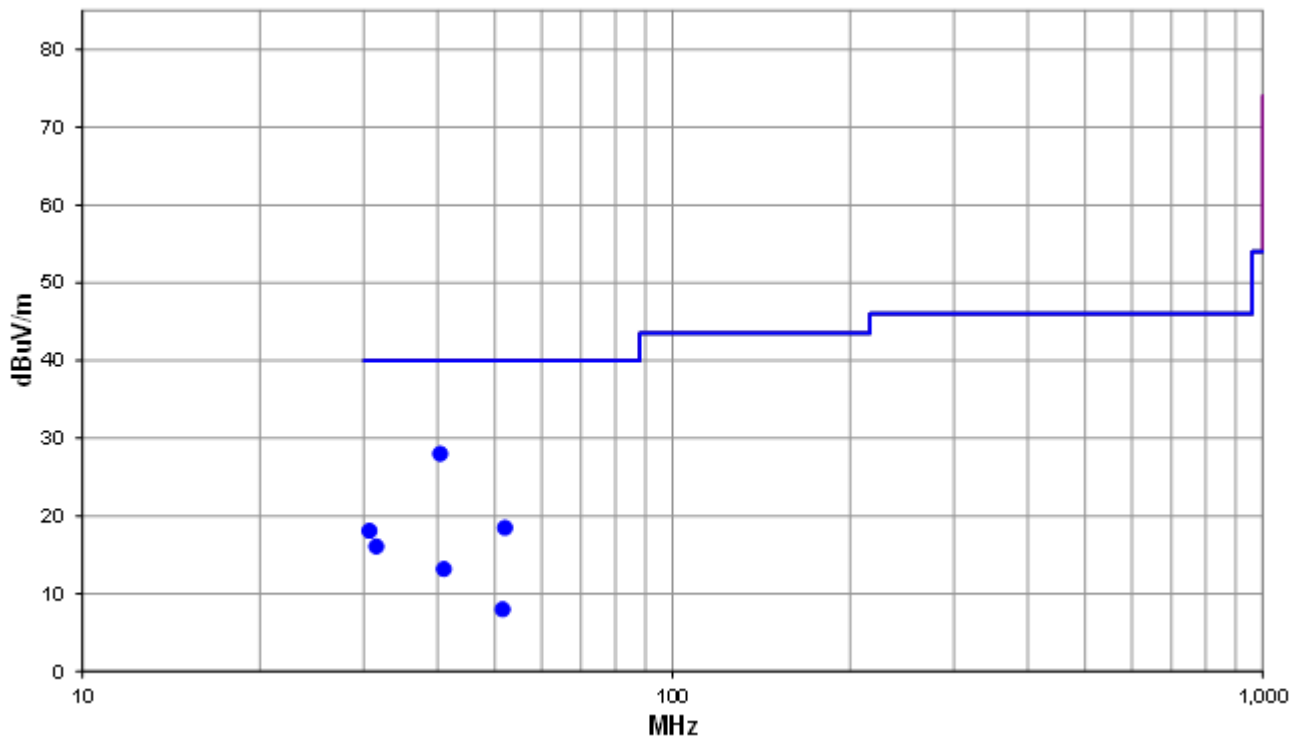
None

EUT OPERATING MODES

NFMI Transmitting 10.281 MHz

DEVIATIONS FROM TEST STANDARD

None



Run #: 55

■ PK ◆ AV ● QP

SPURIOUS RADIATED EMISSIONS (ABOVE 30MHz)



RESULTS - Run #55

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
40.381	34.1	-6.1	1.1	12.9	3.0	0.0	Vert	QP	0.0	28.0	40.0	-12.0	EUT Horz
51.994	28.1	-9.6	1.0	52.0	3.0	0.0	Vert	QP	0.0	18.5	40.0	-21.5	EUT Horz
30.652	19.3	-1.2	1.0	343.9	3.0	0.0	Vert	QP	0.0	18.1	40.0	-21.9	EUT Horz
31.492	17.7	-1.6	3.0	319.9	3.0	0.0	Horz	QP	0.0	16.1	40.0	-23.9	EUT Horz
40.979	19.5	-6.3	1.0	8.0	3.0	0.0	Horz	QP	0.0	13.2	40.0	-26.8	EUT Horz
51.528	17.5	-9.5	1.0	49.9	3.0	0.0	Horz	QP	0.0	8.0	40.0	-32.0	EUT Horz

CONCLUSION

Pass

Tested By

SPURIOUS RADIATED EMISSIONS (BELOW 30MHz)



TEST DESCRIPTION

The antennas to be used with the EUT were tested. The EUT was continuously transmitting while set to the channel specified.

For each configuration, the spectrum was scanned throughout the specified range as part of the exploratory investigation of the emissions. These “pre-scans” are not included in the report. Final measurements on individual emissions were then made and included in this test report.

The individual emissions from the EUT were maximized by rotating the EUT on a turntable, adjusting the position of the EUT and EUT antenna in three orthogonal axis, and adjusting the measurement antenna height (where applicable) and polarization (per ANSI C63.10). A calibrated active loop antenna was used for this test in order to provide sufficient measurement sensitivity. The reference point of the loop antenna was maintained at 1m above the ground plane during the testing.

Measurements were made with the required detectors and annotated on the data for each individual point using the following annotation:

- QP = Quasi-Peak Detector
- PK = Peak Detector
- AV = CISPR Average Detector

If there are no detectable emissions above the noise floor, the data included may show noise floor measurements for reference only.

As outlined in 15.209(e), 15.31(f)(2), and RSS-GEN, 6.5, measurements may be performed at a distance closer than what is specified with the limit. The limit at the specified distance is shown on the data sheet. Measurements are made at a closer distance and the data is adjusted using a distance correction factor of 40dB/decade for comparison to the limit.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Antenna - Loop	ETS Lindgren	6502	AOB	2021-06-01	2023-06-01
Cable	ESM Cable Corp.	Antenna Loop Cable	MNE	2023-01-30	2024-01-30
Receiver	Rohde & Schwarz	ESR26	ARP	2022-04-20	2023-04-20

MEASUREMENT UNCERTAINTY

Description		
Expanded k=2	1.8 dB	-1.8 dB

FREQUENCY RANGE INVESTIGATED

10 kHz TO 30 MHz

POWER INVESTIGATED

Battery

CONFIGURATIONS INVESTIGATED

STAK0288-11

MODES INVESTIGATED

NFMI Transmitting 10.281 MHz

SPURIOUS RADIATED EMISSIONS (BELOW 30MHz)



EUT:	Genesis AI RIC 312	Work Order:	STAK0288
Serial Number:	230160490, 230160530	Date:	2023-04-03
Customer:	Starkey Laboratories, Inc.	Temperature:	22°C
Attendees:	John Quach	Relative Humidity:	28.5%
Customer Project:	None	Bar. Pressure (PMSL):	1009 mb
Tested By:	Marcelo Aguayo	Job Site:	MN04
Power:	Battery	Configuration:	STAK0288-11

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.209:2023	ANSI C63.10:2013

TEST PARAMETERS

Run #:	9	Test Distance (m):	1	Ant. Height(s) (m):	1(m)
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COMMENTS

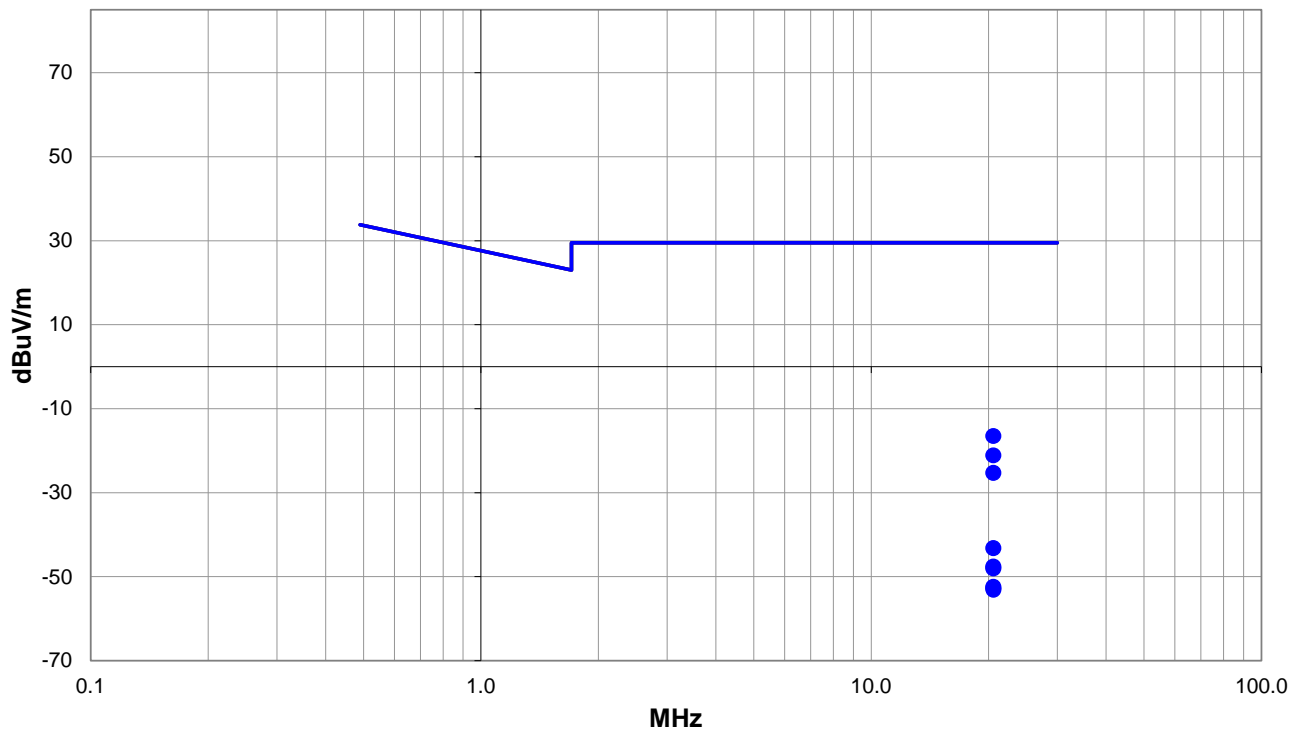
None

EUT OPERATING MODES

NFMI Transmitting 10.281 MHz

DEVIATIONS FROM TEST STANDARD

None



Run #: 11

■ PK ◆ AV ● QP

SPURIOUS RADIATED EMISSIONS (BELOW 30MHz)



RESULTS - Run #11

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
20.562	31.9	10.7	1.0	109.0	1.0	0.0	Perp to GND	QP	-59.1	-16.5	29.5	-46.0	EUT Horz
20.562	27.3	10.7	1.0	180.0	1.0	0.0	Perp to GND	QP	-59.1	-21.1	29.5	-50.6	EUT Vert
20.562	23.1	10.7	1.0	126.0	1.0	0.0	Perp to GND	QP	-59.1	-25.3	29.5	-54.8	EUT On Side
20.563	5.2	10.7	1.0	166.0	1.0	0.0	Para to EUT	QP	-59.1	-43.2	29.5	-72.7	EUT On Side
20.562	0.8	10.7	1.0	143.0	1.0	0.0	Para to EUT	QP	-59.1	-47.6	29.5	-77.1	EUT Vert
20.563	0.4	10.7	1.0	149.0	1.0	0.0	Perp to EUT	QP	-59.1	-48.0	29.5	-77.5	EUT Vert
20.563	-4.0	10.7	1.0	357.0	1.0	0.0	Perp to EUT	QP	-59.1	-52.4	29.5	-81.9	EUT On Side
20.561	-4.4	10.7	1.0	293.0	1.0	0.0	Perp to EUT	QP	-59.1	-52.8	29.5	-82.3	EUT Horz
20.566	-4.7	10.7	1.0	4.0	1.0	0.0	Para to EUT	QP	-59.1	-53.1	29.5	-82.6	EUT Horz

CONCLUSION

Pass

Tested By

SPURIOUS RADIATED EMISSIONS (BELOW 30MHz)



EUT:	Genesis AI RIC 312	Work Order:	STAK0288
Serial Number:	230160490, 230160530	Date:	2023-04-03
Customer:	Starkey Laboratories, Inc.	Temperature:	22°C
Attendees:	John Quach	Relative Humidity:	28.5%
Customer Project:	None	Bar. Pressure (PMSL):	1009 mb
Tested By:	Marcelo Aguayo	Job Site:	MN04
Power:	Battery	Configuration:	STAK0288-11

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.209:2023	ANSI C63.10:2013

TEST PARAMETERS

Run #:	11	Test Distance (m):	10	Ant. Height(s) (m):	1(m)
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COMMENTS

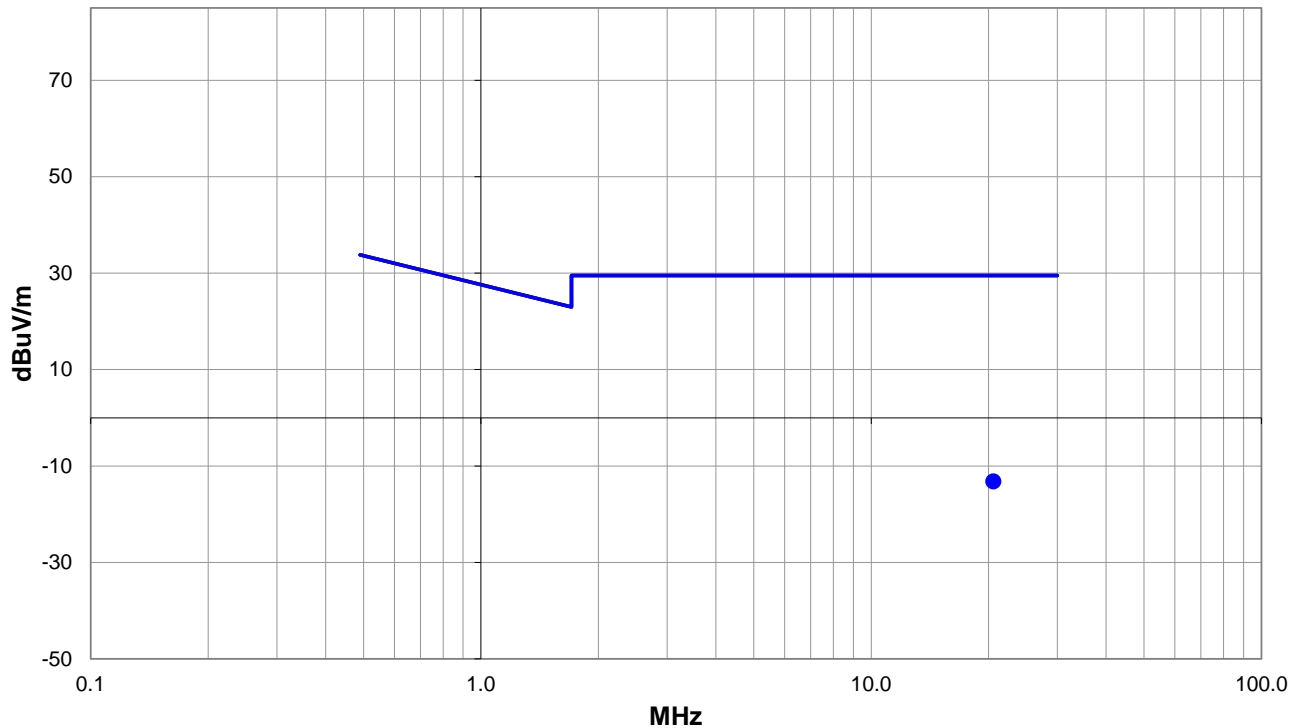
None

EUT OPERATING MODES

NFMI Transmitting 10.281 MHz

DEVIATIONS FROM TEST STANDARD

None



Run #: 9

■ PK ◆ AV ● QP

SPURIOUS RADIATED EMISSIONS (BELOW 30MHz)

RESULTS - Run #9

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
20.564	-4.8	10.7	1.0	245.0	10.0	0.0	Perp to GND	QP	-19.1	-13.2	29.5	-42.7	EUT On Side

CONCLUSION

Pass



Tested By

End of Test Report