Radio Testing of the
Silvus Technologies, Inc.
MIMO Radio
Model:
SC44KGE-235467-SBST / SC44KGE-235467F-SBST
SC44KGE-235467-LBST / SC44KGE-235467F-LBST

America

Add value.
Inspire trust.

In accordance with FCC Part 15 Subpart C §15.247

Silvus Technologies, Inc.
10990 Wilshire Blvd. #1500
Los Angeles, CA 90024 USA

COMMERCIAL-IN-CONFIDENCE

Date: November 2024
Document Number: 721001456F Issue 04 | Version Number: 01

RESPONSIBLE FOR	NAME	DATE	SIGNATURE
Authorized Signatory	Omar Castillo	November 22, 2024	

Signatures in this approval box have checked this document in line with the requirements of TÜV SÜD document control rules.

EXECUTIVE SUMMARY
A sample of this product was tested and found to be in compliance with FCC Part 15 Subpart C §15.247

A2LA Cert. No. 2955.13

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REPORT ON	Radio Testing of the Silvus Technologies, Inc. Model: SC44KGE-235467-SBST / SC44KGE-235467F-SBST SC44KGE-235467-LBST / SC44KGE-235467F-LBST
TEST REPORT NUMBER	721001456F
TEST REPORT DATE	November 2024
PREPARED FOR	Silvus Technologies, Inc. 10990 Wilshire Blvd. #1500 Los Angeles, CA 90024 USA
CONTACT PERSON	Dang Kha Sr. Compliance RF Test Engineer dang.kha@silvustechnologies.com +1 (310) 479-3333
PREPARED BY	Miguel Angel Rabago Garcia **Name** Authorized Signatory Title: Wireless Test Engineer
APPROVED BY	Omar Castillo **Name** Authorized Signatory Title: Senior EMC/Wireless Test Engineer
DATED	November 22, 2024

Revision History

721001456F Silvus Technologies, Inc. Model: SC44KGE-235467-SBST / SC44KGE-235467F-SBST SC44KGE-235467-LBST / SC44KGE-235467F-LBST					
DATE	OLD REVISION	NEW REVISION	REASON	PAGES AFFECTED	APPROVED BY
07/12/2024	—	Initial Release			Omar Castillo
08/14/2024	Initial Release	Issue 02	Wrong Antenna Gain Listed	8	Omar Castillo
08/16/2024	Issue 02	Issue 03	Different Antenna Gain Listed	27, 34	Omar Castillo
11/22/2024	Issue 03	04	Adding SC44KGE-235467-LBST and SC44KGE-235467F-LBST to model list	1,5,6,13	Omar Castillo

CONTENTS

SECTION 1

REPORT SUMMARY

Radio Testing of the
Silvus Technologies, Inc.
SC44KGE-235467-SBST / SC44KGE-235467F-SBST
SC44KGE-235467-LBST / SC44KGE-235467F-LBST

1.1 INTRODUCTION

The information contained in this report is intended to show verification of the SC44KGE-235467-SBST / SC44KGE-235467F-SBST SC44KGE-235467-LBST / SC44KGE-235467F-LBST MIMO Radio to the requirements of FCC Part 15 Subpart C §15.247.

Objective	To perform Radio Testing to determine the Equipment Under Test's (EUT's) compliance with the Test Specification, for the series of tests carried out.
Manufacturer	Silvus Technologies, Inc.
Model Number	SC44KGE-235467-SBST / SC44KGE-235467F-SBST SC44KGE-235467-LBST / SC44KGE-235467F-LBST
Trade Name	StreamCaster
FCC ID	N2S-SC44KG-235467
FCC Classification	Low power Communications Device Transmitter (DTS)
Serial Number(s)	SC44-106123
Number of Sample Tested	1
Test Specification/Issue/Date	FCC Part 15 Subpart C §15.247 (October 1, 2023)
Start of Test	June 25, 2024
Finish of Test	July 03, 2024
Name of Engineer(s)	Ferdinand Custodio Miguel Rabago Joe Salvador
Related Document(s)	• ANSI C63.10-2013. American National Standard of Procedures for Compliance testing of Unlicensed Wireless Devices. • RSS-Gen — General Requirements for Compliance of Radio Apparatus Issue 5 with A2 February 2021 • KDB 558074 D01 15.247 v05r02 Guidance for compliance measurements on Digital Transmission System, Frequency Hopping Spread Spectrum System, and Hybrid System Devices operating under Section 15.247 of the FCC rules. • KDB 662911 D01 Multiple Transmitter Output v02r01 • TE-P24-008 SC42 SC44C part15 EMC DUT setup procedure • Supporting documents for EUT certification are separate exhibits. • Models Differences Letter for FCC cert (adding 4 model #s).pdf (Letter of Similarity)

1.2 BRIEF SUMMARY OF RESULTS

A brief summary of the tests carried out in accordance with FCC Part 15 Subpart C §15.247 are shown below.

Section	§15.247 Spec Clause	Test Description	Result	Comments/Base Standard
2.1	§15.247(b)(3)	Peak Output Power	Compliant	
2.2	§15.207(a)	Conducted Emissions	Compliant	
2.3	-	99% Emission Bandwidth	Compliant	For reference only / RSS-Gen Clause 6.7
2.4	§15.247(a)(2)	Minimum 6 dB RF Bandwidth	Compliant	
2.5	§15.247(d)	Out-of-Band Emissions - Conducted	Compliant	
2.6	§15.247(d)	Band-edge Compliance of RF Conducted Emissions	Compliant	
2.7	§15.247(d)	Radiated Spurious Emissions	Compliant	
2.8	§15.247(e)	Power Spectral Density for Digitally Modulated Device	Compliant	

N/A Not applicable. EUT is battery powered.

1.3 PRODUCT INFORMATION

1.3.1 Technical Description

The Equipment Under Test (EUT) is a Silvus Technologies, Inc. StreamCaster 4X4 MIMO Radio. The EUT operates in 2.4GHz ISM band at 2440MHz with 10MHz BW. All models share identical hardware, the only difference is the external fin size. See Letter of Similarity for details.

1.3.2 EUT General Description

1.3.3 EUT General Description

EUT Description	MIMO Radio
Model Name	StreamCaster
Model Numbers	SC44KGE-235467-SBST / SC44KGE-235467F-SBST SC44KGE-235467-LBST / SC44KGE-235467F-LBST
Rated Voltage	9-20 VDC
Mode Verified	2.4GHz ISM
Capability	2.4GHz ISM
Rated Power	37dBm per chain (limited to 17dBm per chain)
Primary Unit (EUT)	☒ Production
	☐ Pre-Production
	☐ Engineering (same as Production)
Antenna Type	Dual-Band Omni Antenna, Half Wave Dipole
Manufacturer	Southwest Antennas
Antenna Model	Part # 1001-071 (AOV2D230515G-TM)
Antenna Gain	2.1 dBi

1.3.4 Maximum Conducted Output Power

Configuration	Frequency Range (MHz)	Gated RMS total (dBm)	Gated RMS/chain (dBm)	Duty Cycle (%)
4x4 MIMO	2440 MHz	22.9	16.87	97.594

1.4 EUT TEST CONFIGURATION

1.4.1 Test Configuration Description

Test Configuration	Description
A	Antenna Conducted Port test setup. The EUT was connected to a support laptop where the EUT GUI was accessed using a web browser. The GUI will enable switching the EUT to Diagnostic mode. PuTTY was used to put the EUT in continuous TX mode (17dBm/chain, 2440MHz @ 10MHz BW).
B	Cabinet Spurious Emissions test setup. Identical configuration as above with the antenna ports terminated with 50Ω load.

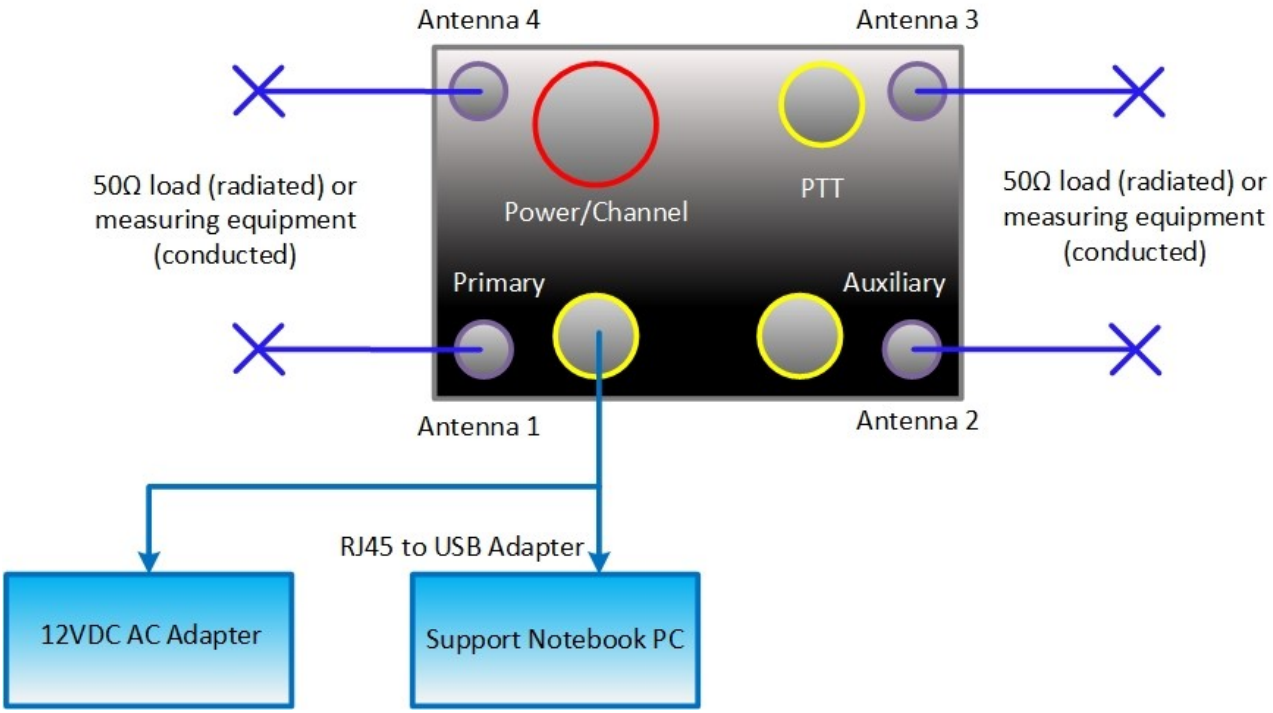
1.4.2 EUT Exercise Software

PuTTY for Windows Release 0.81 (2024-04-15)

1.4.3 Support Equipment and I/O cables

Manufacturer	Equipment/Cable	Description
ASUS	Support Laptop with AC Adapter	UX303U Silvus #96
Anker	USB-Ethernet Dongle	USB 3.0 to Gigabit Ethernet Adapter
INMET	Attenuator	18B10W-10DB
-	Adapter	TNC-SMA adapter
Pasternack	TNC Terminator	PE6104
Silvus	120W AC/DC Power Supply	SC-AC-PWR-RGD-120
Silvus	Regular Primary Cable	SC-PRICBL-M-6H

1.4.1 Simplified Test Configuration Diagram



1.5 DEVIATIONS FROM THE STANDARD

No deviations from the applicable test standards or test plan were made during testing.

1.6 MODIFICATION RECORD

Description of Modification	Modification Fitted By	Date Modification Fitted
Serial Number: No modifications		
N/A	-	-

The table above details modifications made to the EUT during the test programme. The modifications incorporated during each test (if relevant) are recorded on the appropriate test pages.

1.7 TEST METHODOLOGY

All measurements contained in this report were conducted with ANSI C63.10-2013, American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices

For conducted and radiated emissions, the equipment under test (EUT) was configured to measure its highest possible emission level. This level was based on the maximized cable configuration from exploratory testing per ANSI C63.10-2013. The test modes were adapted according to the Operating Instructions provided by the manufacturer/client.

1.8 TEST FACILITY LOCATION

1.8.1 TÜV SÜD America Inc. (Mira Mesa)

10040 Mesa Rim Road, San Diego, CA 92121-2912 (32.901268,-117.177681). Phone: (858) 678-1400 FAX: (858) 546-0364

1.8.2 TÜV SÜD America Inc. (Rancho Bernardo)

16936 Via Del Campo, San Diego, CA 92127-1708 (33.018644,-117.092409). Phone: (858) 678-1400 FAX: (858) 546-0364.

1.9 TEST FACILITY REGISTRATION

1.9.1 FCC – Designation No.: US1146

TÜV SÜD America Inc. (San Diego), is an accredited test facility with the site description report on file and has met all the requirements specified in §2.948 of the FCC rules. The acceptance letter from the FCC is maintained in our files and the Designation is US1146.

1.9.2 Innovation, Science and Economic Development Canada (ISED) Registration No.: 3067A-1 & 22806-1

The 10m Semi-anechoic chamber of TÜV SÜD America Inc. (San Diego Rancho Bernardo) has been registered by Certification and Engineering Bureau of Innovation, Science and Economic Development Canada for radio equipment testing with Registration No. 3067A-1.

The 3m Semi-anechoic chamber of TÜV SÜD America Inc. (San Diego Mira Mesa) has been registered by Certification and Engineering Bureau of Innovation, Science and Economic Development Canada for radio equipment testing with Registration No. 22806-1.

1.9.3 BSMI – Laboratory Code: SL2-IN-E-028R (US0102)

TÜV Product Service Inc. (San Diego) is a recognized EMC testing laboratory by the BSMI under the MRA (Mutual Recognition Arrangement) with the United States. Accreditation includes CNS 13438 up to 6GHz.

1.9.4 NCC (National Communications Commission - US0102)

TÜV SÜD America Inc. (San Diego) is listed as a Foreign Recognized Telecommunication Equipment Testing Laboratory and is accredited to ISO/IEC 17025 (A2LA Certificate No.2955.13) which under APEC TEL MRA Phase 1 was designated as a Conformity Assessment Body competent to perform testing of equipment subject to the Technical Regulations covered under its scope of accreditation including RTTE01, PLMN01 and PLMN08 for TTE type of testing and LP0002 for Low-Power RF Device type of testing.

1.9.5 VCCI – Registration No. A-0412 and A-0413

TÜV SÜD America Inc. (San Diego) is a VCCI registered measurement facility which includes radiated field strength measurement, radiated field strength measurement above 1GHz, mains port interference measurement and telecommunication port interference measurement.

1.9.6 RRA – Identification No. US0102

TÜV SÜD America Inc. (San Diego) is National Radio Research Agency (RRA) recognized laboratory under Phase I of the APEC Tel MRA.

1.9.7 OFCA – U.S. Identification No. US0102

TÜV SÜD America Inc. (San Diego) is recognized by Office of the Communications Authority (OFCA) under Appendix B, Phase I of the APEC Tel MRA.

SECTION 2

TEST DETAILS

Radio Testing of the
Silvus Technologies, Inc.
SC44KGE-235467-SBST / SC44KGE-235467F-SBST
SC44KGE-235467-LBST / SC44KGE-235467F-LBST

2.1 PEAK OUTPUT POWER

2.1.1 Specification Reference

FCC 47 CFR Part 15, Clause 15.247(b)(3)

2.1.2 Standard Applicable

For systems using digital modulation in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands, the maximum peak conducted output shall not exceed 1 Watt. As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power. Maximum Conducted Output Power is defined as the total transmit power delivered to all antennas and antenna elements averaged across all symbols in the signaling alphabet when the transmitter is operating at its maximum power control level. Power must be summed across all antennas and antenna elements. The average must not include any time intervals during which the transmitter is off or is transmitting at a reduced power level. If multiple modes of operation are possible (e.g., alternative modulation methods), the maximum conducted output power is the highest total transmit power occurring in any mode.

2.1.3 Equipment Under Test and Modification State

Serial No: SC44-106123 / Test Configuration A

2.1.4 Date of Test/Initial of test personnel who performed the test

June 25, 2024 / FSC

2.1.5 Test Equipment Used

The major items of test equipment used for the above tests are identified in Section 3.1.

2.1.6 Environmental Conditions (Rancho Bernardo Satellite Facility)

Ambient Temperature	24.5 °C
Relative Humidity	49.8 %
ATM Pressure	99.9 kPa

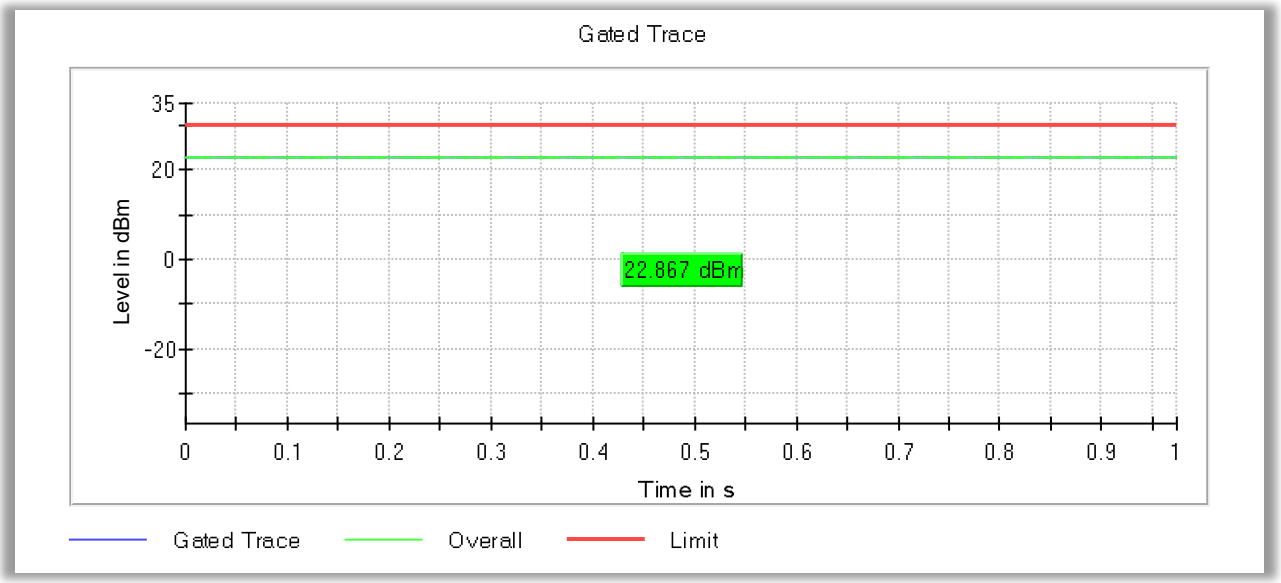
2.1.7 Additional Observations

- This is a conducted test using direct connection to the TS8997 Test System.
- All chains are measured at the same time. Measured power is the total for all RF chains.
- The path loss was all accounted for with the test system calibration.
- Test methodology is per FCC title 47 part 15 §15.247(b), KDB 558074 D01 DTS Meas Guidance v05 and ANSI C63.10-2013 11.9.2.3.2.

2.1.8 Test Results

DUT Frequency (MHz)	Configuration	Gated RMS* (dBm)	Limit Max (dBm)	DutyCycle (%)	Result
2440.000000	4X4 MIMO	22.9	30	97.594	PASS
Calculated Gated RMS per chain is 16.87 dBm					

2.1.9 Test Plots



2440 MHz

2.1.10 Power Meter Settings

Setting	Instrument Value	Target Value
Measurement Time	1.000 s	1.000 s
Points	1000000	1000000
Time resolution	1.000 µs	1.000 µs

2.2 AC CONDUCTED EMISSIONS

2.2.1 Specification Reference

FCC 47 CFR Part 15, Clause 15.207(a)

2.2.2 Standard Applicable

An intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50 µH/50 ohms line impedance stabilization network (LISN).

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.*

2.2.3 Equipment Under Test and Modification State

Serial No: SC44-106123 / Test Configuration B

2.2.4 Date of Test/Initial of test personnel who performed the test

July 03, 2024 / MARG

2.2.5 Test Equipment Used

The major items of test equipment used for the above tests are identified in Section 3.1.

2.2.6 Environmental Conditions (Rancho Bernardo Satellite Facility)

Ambient Temperature	24.7 °C
Relative Humidity	58.2 %
ATM Pressure	98.6 kPa

2.2.7 Additional Observations

Measurement was done using EMC32 automated software. Reported level is the actual level with all the correction factors factored in. Correction Factor column is for informational purposes only. See Section 2.2.8 for sample computation.

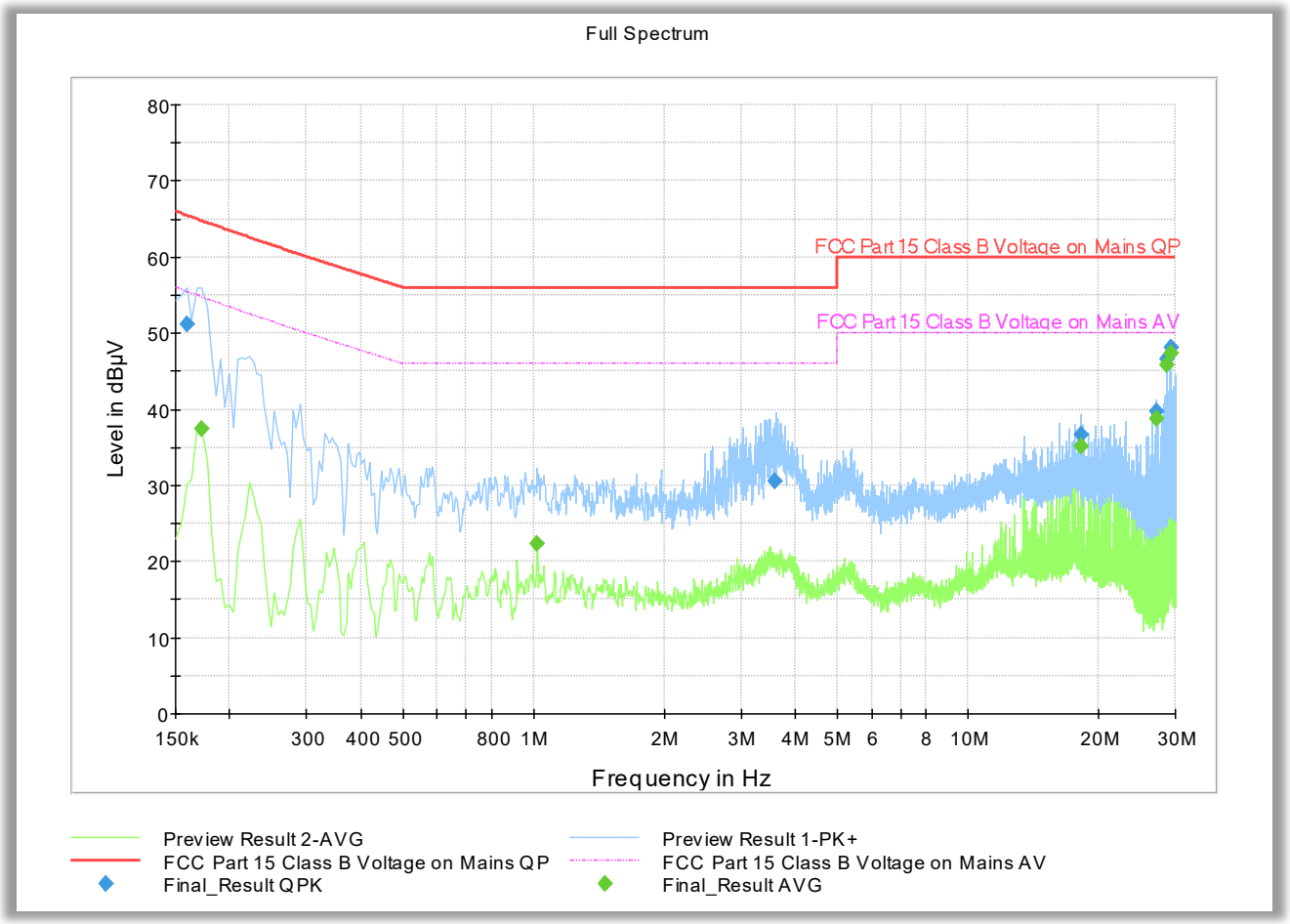
2.2.8 Sample Computation (Conducted Emission – Quasi Peak)

Measuring equipment raw measurement (dbµV) @ 150kHz			5.5
Correction Factor (dB)	Asset# 8607 (20 dB attenuator)	19.9	20.7
	Asset# 1177 (cable)	0.15	
	Asset# 1176 (cable)	0.35	
	Asset# 7568 (LISN)	0.30	
Reported QuasiPeak Final Measurement (dbµV) @ 150kHz			**26.2**

2.2.9 Test Results

Compliant. See attached plots and tables.

2.2.10 TX Mode (120V-60Hz SC-AC-PWR AC/DC Adapter) Line 1



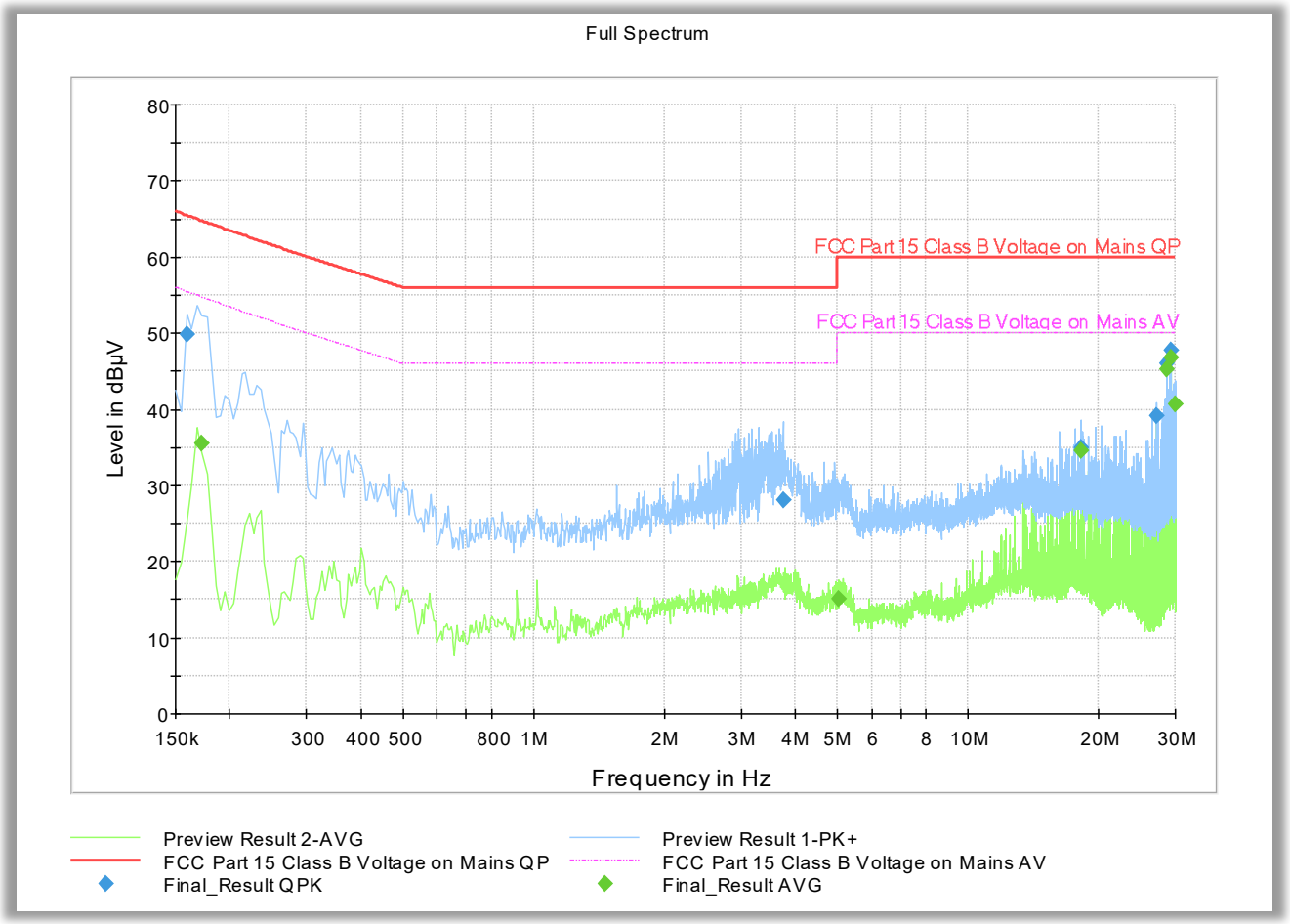
Quasi Peak Data

Frequency (MHz)	QuasiPeak (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Filter	Corr. (dB)
0.159000	51.23	65.48	14.25	1000.0	9.000	L1	OFF	20.1
3.606000	30.64	56.00	25.36	1000.0	9.000	L1	OFF	20.2
18.244500	36.58	60.00	23.42	1000.0	9.000	L1	OFF	20.4
27.159000	39.67	60.00	20.33	1000.0	9.000	L1	OFF	20.5
28.684500	46.56	60.00	13.44	1000.0	9.000	L1	OFF	20.5
29.233500	48.13	60.00	11.87	1000.0	9.000	L1	OFF	20.5

Average Data

Frequency (MHz)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Filter	Corr. (dB)
0.172500	37.51	54.74	17.23	1000.0	9.000	L1	OFF	20.1
1.018500	22.31	46.00	23.69	1000.0	9.000	L1	OFF	20.1
18.244500	35.17	50.00	14.83	1000.0	9.000	L1	OFF	20.4
27.159000	38.83	50.00	11.17	1000.0	9.000	L1	OFF	20.5
28.684500	45.74	50.00	4.26	1000.0	9.000	L1	OFF	20.5
29.233500	47.31	50.00	2.69	1000.0	9.000	L1	OFF	20.5

2.2.11 TX Mode (120V-60Hz SC-AC-PWR AC/DC Adapter) Line 2



Quasi Peak Data

Frequency (MHz)	QuasiPeak (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Filter	Corr. (dB)
0.159000	49.80	65.48	15.68	1000.0	9.000	N	OFF	20.1
3.759000	27.99	56.00	28.01	1000.0	9.000	N	OFF	20.1
18.240000	34.87	60.00	25.13	1000.0	9.000	N	OFF	20.3
27.159000	39.16	60.00	20.84	1000.0	9.000	N	OFF	20.5
28.684500	46.09	60.00	13.91	1000.0	9.000	N	OFF	20.5
29.233500	47.66	60.00	12.34	1000.0	9.000	N	OFF	20.5

Average Data

Frequency (MHz)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Filter	Corr. (dB)
0.172500	35.42	54.74	19.31	1000.0	9.000	N	OFF	20.1
5.037000	15.11	50.00	34.89	1000.0	9.000	N	OFF	20.2
18.244500	34.52	50.00	15.48	1000.0	9.000	N	OFF	20.3
28.684500	45.27	50.00	4.73	1000.0	9.000	N	OFF	20.5
29.233500	46.82	50.00	3.18	1000.0	9.000	N	OFF	20.5
29.967000	40.62	50.00	9.38	1000.0	9.000	N	OFF	20.5

2.3 99% EMISSION BANDWIDTH

2.3.1 Specification Reference

RSS-Gen Clause 6.7

2.3.2 Standard Applicable

The emission bandwidth (x dB) is defined as the frequency range between two points, one above and one below the carrier frequency, at which the spectral density of the emission is attenuated x dB below the maximum in-band spectral density of the modulated signal. Spectral density (power per unit bandwidth) is to be measured with a detector of resolution bandwidth in the range of 1% to 5% of the anticipated emission bandwidth, and a video bandwidth at least 3x the resolution bandwidth.
When the occupied bandwidth limit is not stated in the applicable RSS or reference measurement method, the transmitted signal bandwidth shall be reported as the 99% emission bandwidth, as calculated or measured.

- The transmitter shall be operated at its maximum carrier power measured under normal test conditions.
- The span of the analyzer shall be set to capture all products of the modulation process, including the emission skirts.
- The resolution bandwidth (RBW) shall be in the range of 1% to 5% of the occupied bandwidth (OBW) and video bandwidth (VBW) shall be approximately 3x RBW.

Note: Video averaging is not permitted.
A peak, or peak hold, may be used in place of the sampling detector as this may produce a wider bandwidth than the actual bandwidth (worst-case measurement). Use of a peak hold may be necessary to determine the occupied bandwidth if the device is not transmitting continuously.
The trace data points are recovered and are directly summed in linear power level terms. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5% of the total is reached and that frequency recorded. The process is repeated for the highest frequency data points (starting at the highest frequency, at the right side of the span, and going down in frequency). This frequency is then recorded.
The difference between the two recorded frequencies is the 99% occupied bandwidth.

2.3.3 Equipment Under Test and Modification State

Serial No: SC44-106123 / Test Configuration A

2.3.4 Date of Test/Initial of test personnel who performed the test

June 25, 2024 / FSC

2.3.5 Test Equipment Used

The major items of test equipment used for the above tests are identified in Section 3.1.

2.3.6 Environmental Conditions (Rancho Bernardo Satellite Facility)

Ambient Temperature	24.5 °C
Relative Humidity	49.8 %
ATM Pressure	99.9 kPa

2.3.7 Additional Observations

- This is a conducted test using direct connection to the TS8997 Test System.

- The path loss was all accounted for with the test system calibration.
- Only the worst-case RF chain BW presented.
- Test methodology is per Test according to FCC title 47 part 15 §15.247(a), KDB 558074 D01 DTS Meas Guidance v05 and ANSI C63.10-2013 11.8.1.

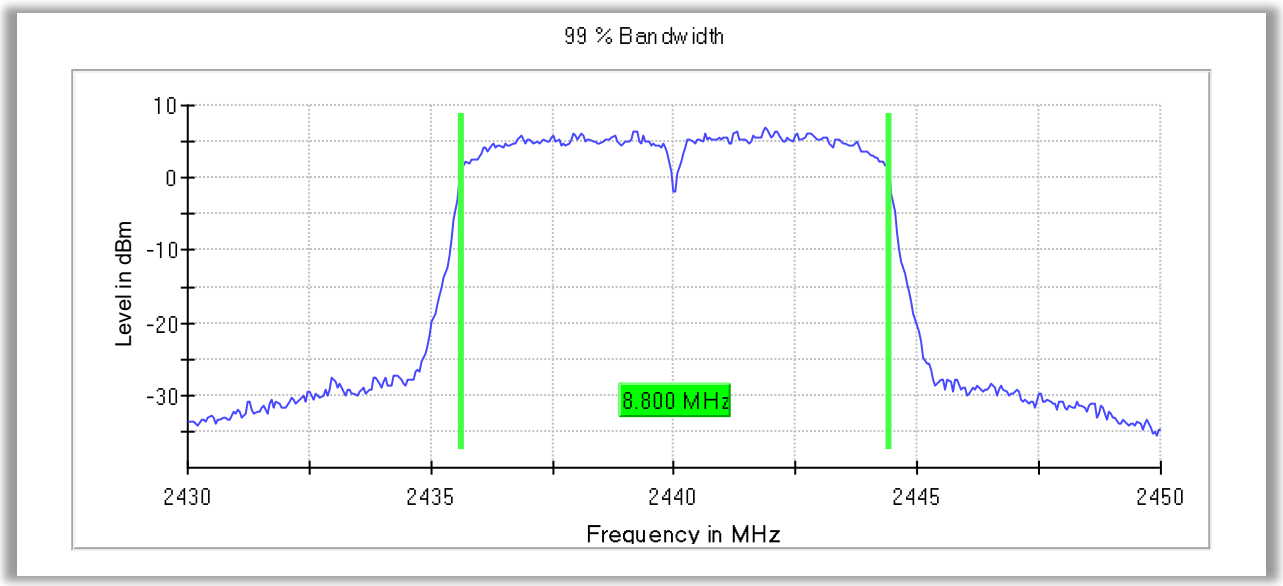
2.3.8 Sample Measurement Settings

Setting	Instrument Value	Target Value
Span	20.000 MHz	20.000 MHz
RBW	100.000 kHz	>= 100.000 kHz
VBW	300.000 kHz	>= 300.000 kHz
SweepPoints	400	~ 400
Sweeptime	37.891 µs	AUTO
Reference Level	20.000 dBm	20.000 dBm
Attenuation	40.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	FFT	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.30 dB	0.30 dB
Run	68 / max. 150	max. 150
Stable	3 / 3	3
Max Stable Difference	0.00 dB	0.30 dB

2.3.9 Test Results

DUT Frequency (MHz)	Configuration	99% Bandwidth	Band Edge Left (MHz)	Band Edge Right (MHz)	Result
2440.000000	4X4 MIMO	8.800000	2435.625000	2444.425000	PASS

2.3.10 Test Plots



2440 MHz

2.4 MINIMUM 6 DB RF BANDWIDTH

2.4.1 Specification Reference

FCC 47 CFR Part 15, Clause 15.247(a)(2)

2.4.2 Standard Applicable

(2) Systems using digital modulation techniques may operate in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

2.4.3 Equipment Under Test and Modification State

Serial No: SC44-106123 / Test Configuration A

2.4.4 Date of Test/Initial of test personnel who performed the test

June 25, 2024 / FSC

2.4.5 Test Equipment Used

The major items of test equipment used for the above tests are identified in Section 3.1.

2.4.6 Environmental Conditions (Rancho Bernardo Satellite Facility)

Ambient Temperature	24.5 °C
Relative Humidity	49.8 %
ATM Pressure	99.9 kPa

2.4.7 Additional Observations

- This is a conducted test using direct connection to the TS8997 Test System.
- The path loss was all accounted for with the test system calibration.
- Test methodology is per FCC title 47 part 15 §15.247(a), KDB 558074 D01 DTS Meas Guidance v05 and ANSI C63.10-2013 11.8.1.

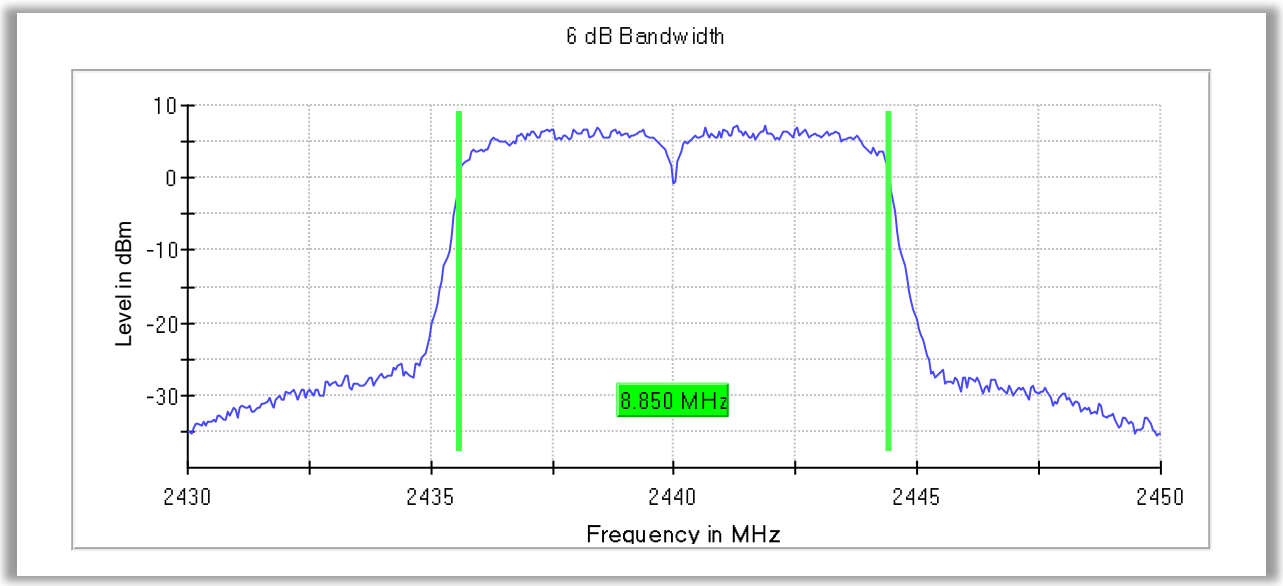
2.4.8 Sample Measurement Settings

Setting	Instrument Value	Target Value
Span	20.000 MHz	20.000 MHz
RBW	100.000 kHz	~ 100.000 kHz
VBW	300.000 kHz	~ 300.000 kHz
SweepPoints	400	~ 400
Sweeptime	37.891 µs	AUTO
Reference Level	10.000 dBm	10.000 dBm
Attenuation	30.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	FFT	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	69 / max. 150	max. 150
Stable	5 / 5	5
Max Stable Difference	0.00 dB	0.50 dB

2.4.9 Test Results

DUT Frequency (MHz)	Configuration	Limit Min (MHz)	Bandwidth (MHz)	Result
2440.000000	4X4 MIMO	0.500000	8.850000	PASS

2.4.10 Test Plots



2440 MHz

2.5 OUT-OF-BAND EMISSIONS - CONDUCTED

2.5.1 Specification Reference

FCC 47 CFR Part 15, Clause 15.247(d)

2.5.2 Standard Applicable

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

2.5.3 Equipment Under Test and Modification State

Serial No: SC44-106123 / Test Configuration A

2.5.4 Date of Test/Initial of test personnel who performed the test

June 26, 2024 / FSC

2.5.5 Test Equipment Used

The major items of test equipment used for the above tests are identified in Section 3.1.

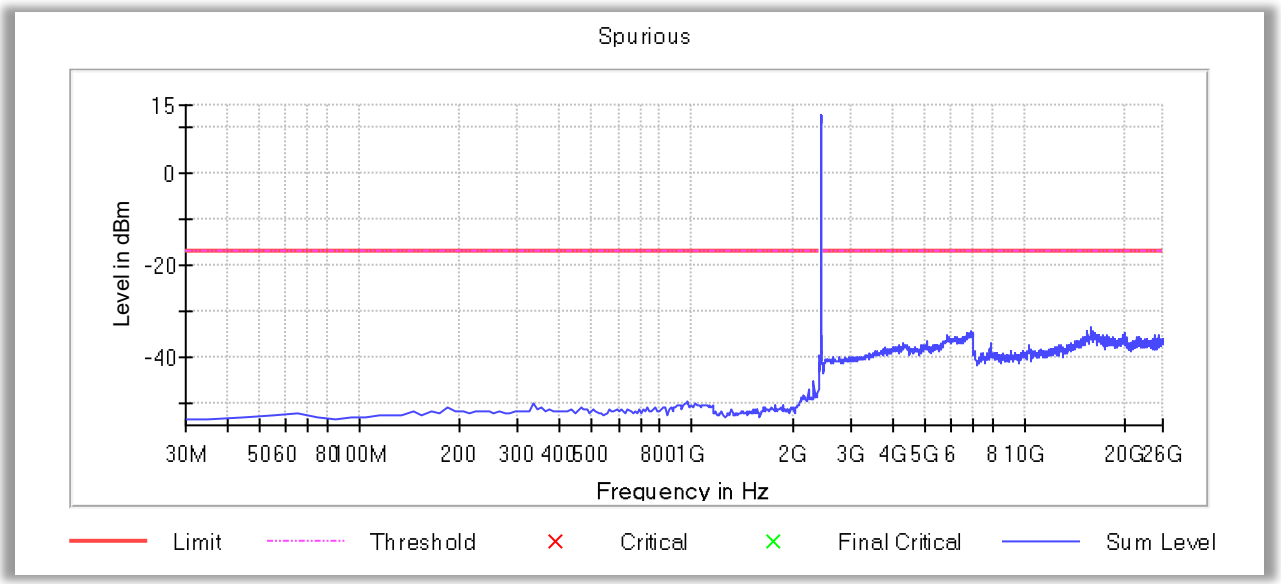
2.5.6 Environmental Conditions (Rancho Bernardo Satellite Facility)

Ambient Temperature	24.5 °C
Relative Humidity	49.8 %
ATM Pressure	99.9 kPa

2.5.7 Additional Observations

- This is a conducted test using a spectrum analyser and the TS8997 Test System.
- The path loss was all accounted for using a transducer factor (TDF).
- Test methodology is per FCC title 47 part 15 §15.247(d), KDB 558074 D01 DTS Meas Guidance v05 and ANSI C63.10-2013 11.11.2 & 11.11.3.
- Both §15.205 and §15.247(d) requirements verified.
- Sample Calculations for SA offset in §15.205 were using the Max peak gain supported by the antenna used (Worst Case)
- Limits of §15.209 is converted to EIRP using formula from Clause 12.7.2(d) of ANSI C63.10-2013. Appropriate antenna gain is programmed as Offset for §15.205 verification.
- For §15.247(d) requirement, no emissions observed within the measurement threshold during prescan, further verification is not required. All RF chains are verified at the same time and the sum presented as “Sum Level”

2.5.8 Test Results Plots (§15.247 requirements)



2440 MHz

2.5.9 Test Results Plots (§15.205 requirements)

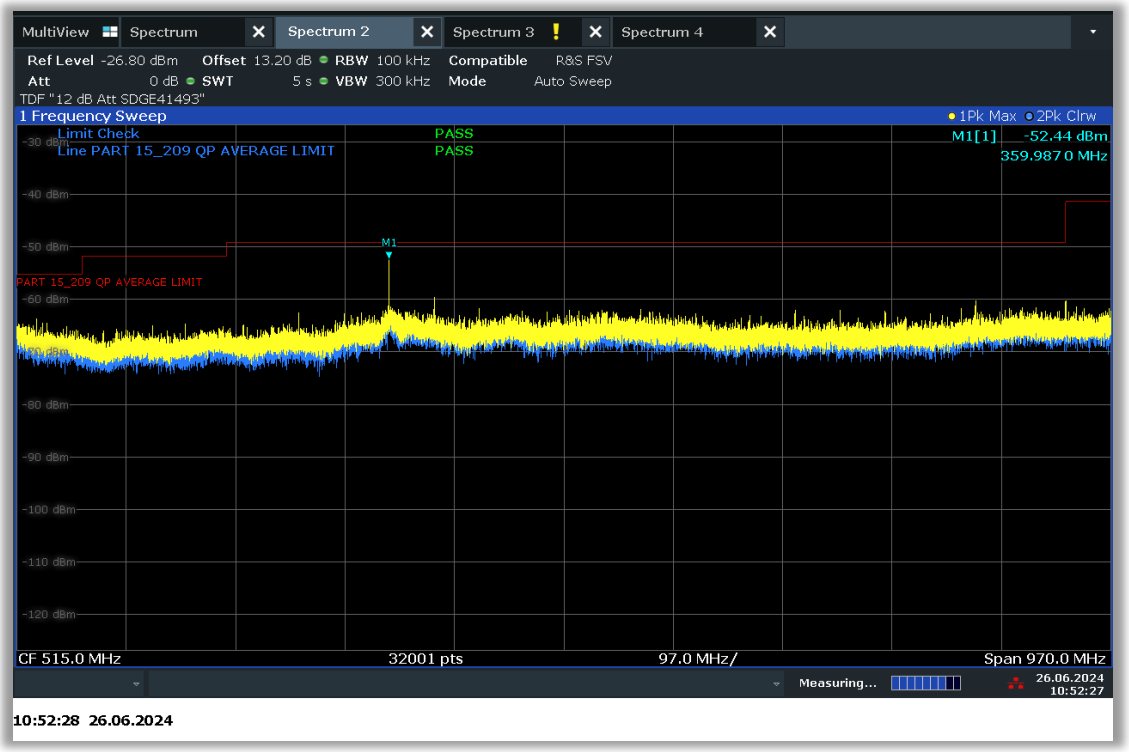
Procedure used is per Clause 11.12.2 Antenna-port conducted measurements for Emissions in restricted frequency bands (Clause 11.12) of ANSI C63.10-2013 American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices.

Sample Calculation:

12.8dB offset for the range 30MHz to 1GHz

SA offset = Antenna Gain + maximum ground reflection factor + 10log(N_{ant})
= 2.5 dBi + 4.7 dB + 10log(4)
= 2.5 dBi + 4.7 dB + 6.02
= 12.8 dB

9kHz to 30MHz



30MHz to 1GHz

1GHz to 26.5GHz

2.5.10 Sample Measurement Settings

Setting	Instrument Value	Target Value
RBW	100.000 kHz	<= 100.000 kHz
VBW	300.000 kHz	>= 300.000 kHz
SweepPoints	238	~ 238
Sweeptime	23.700 ms	AUTO
Reference Level	0.000 dBm	-30.000 dBm
Attenuation	30.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	3	3
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	Sweep	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	4 / max. 40	max. 40
Stable	3 / 3	3
Max Stable Difference	0.00 dB	0.50 dB

2.6 BAND-EDGE COMPLIANCE OF RF CONDUCTED EMISSIONS

2.6.1 Specification Reference

FCC 47 CFR Part 15, Clause 15.247(d)
FCC 47 CFR Part 15, Clause 15.205

2.6.2 Standard Applicable

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

2.6.3 Equipment Under Test and Modification State

Serial No: SC44-106123 / Test Configuration A

2.6.4 Date of Test/Initial of test personnel who performed the test

June 25, 2024 / FSC

2.6.5 Test Equipment Used

The major items of test equipment used for the above tests are identified in Section 3.1.

2.6.6 Environmental Conditions (Rancho Bernardo Satellite Facility)

Ambient Temperature	24.5 °C
Relative Humidity	49.8 %
ATM Pressure	99.9 kPa

2.6.7 Additional Observations

- This is a conducted test using direct connection to the Spectrum Analyzer being controlled by the TS8997 Test System.
- The path loss was all accounted for with the test system calibration.
- Test methodology is per FCC title 47 part 15 §15.247(d), KDB 558074 D01 DTS Meas Guidance v05 8.7 and ANSI C63.10-2013.

2.6.8 Sample Measurement Settings

Measurement 1		
Setting	**Instrument Value**	**Target Value**
Span	90.000 MHz	90.000 MHz
RBW	100.000 kHz	<= 100.000 kHz
VBW	300.000 kHz	>= 300.000 kHz
SweepPoints	1800	~ 1800
Sweeptime	113.672 µs	AUTO
Reference Level	20.000 dBm	20.000 dBm
Attenuation	40.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	FFT	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	4 / max. 150	max. 150
Stable	3 / 3	3
Max Stable Difference	0.00 dB	0.50 dB

Measurement 2		
Setting	**Instrument Value**	**Target Value**
Span	83.500 MHz	83.500 MHz
RBW	100.000 kHz	<= 100.000 kHz
VBW	300.000 kHz	>= 300.000 kHz
SweepPoints	1670	~ 1670
Sweeptime	94.727 µs	AUTO
Reference Level	20.000 dBm	20.000 dBm
Attenuation	40.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	FFT	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	29 / max. 150	max. 150
Stable	3 / 3	3
Max Stable Difference	0.17 dB	0.50 dB

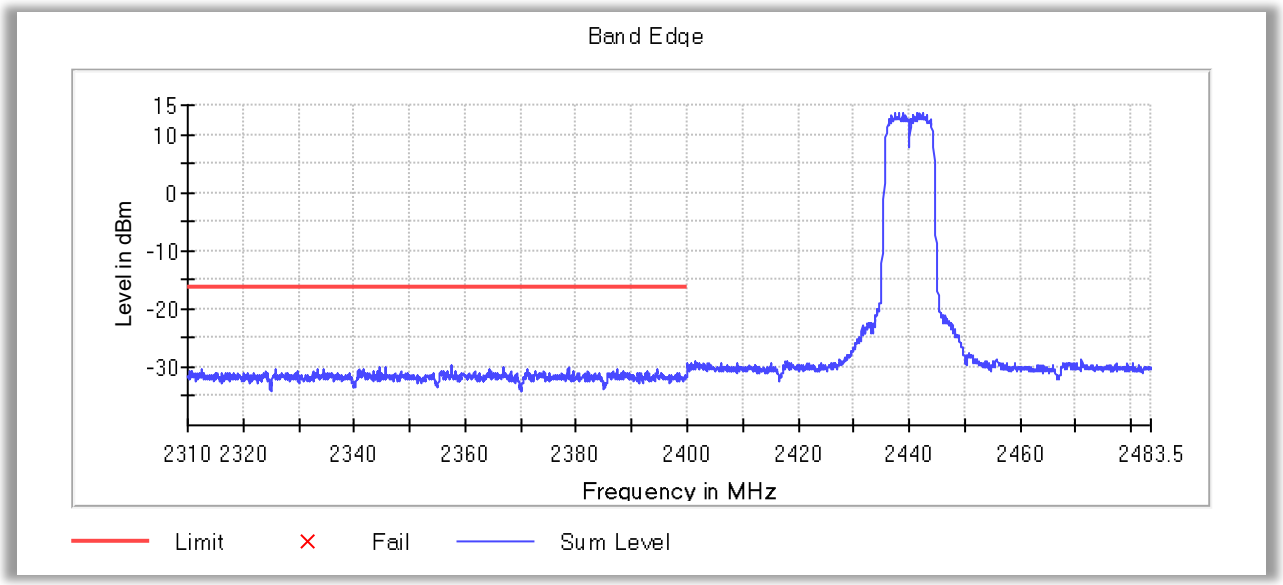
2.6.9 Test Results (Lower Band Edge)

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	Result
2357.525000	-29.7	13.5	-16.2	PASS
2357.475000	-30.1	13.9	-16.2	PASS
2366.975000	-30.1	13.9	-16.2	PASS
2345.575000	-30.1	13.9	-16.2	PASS
2344.525000	-30.2	14.0	-16.2	PASS
2366.925000	-30.2	14.0	-16.2	PASS
2378.575000	-30.2	14.0	-16.2	PASS
2371.125000	-30.3	14.1	-16.2	PASS
2378.675000	-30.3	14.1	-16.2	PASS
2345.625000	-30.3	14.1	-16.2	PASS
2340.875000	-30.3	14.1	-16.2	PASS
2340.825000	-30.3	14.1	-16.2	PASS
2344.575000	-30.3	14.1	-16.2	PASS
2378.725000	-30.4	14.2	-16.2	PASS
2357.575000	-30.4	14.2	-16.2	PASS

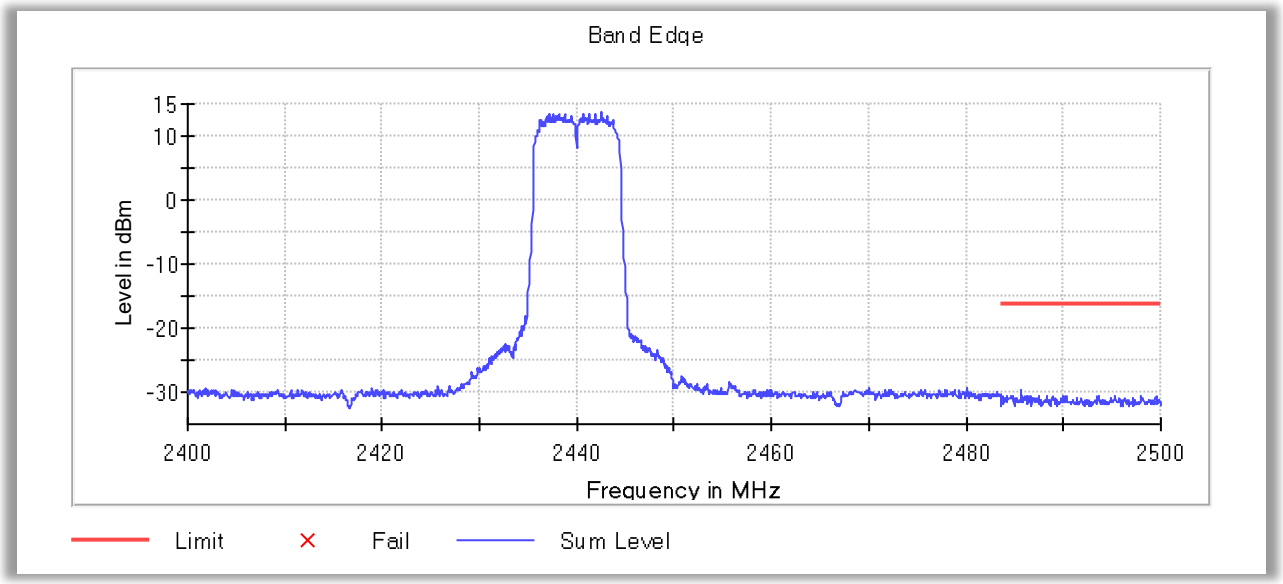
2.6.10 Test Results (Upper Band Edge)

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	Result
2485.675000	-29.8	13.4	-16.4	PASS
2485.625000	-30.4	13.9	-16.4	PASS
2485.725000	-30.4	14.0	-16.4	PASS
2499.575000	-30.5	14.1	-16.4	PASS
2484.825000	-30.5	14.1	-16.4	PASS
2486.525000	-30.5	14.1	-16.4	PASS
2495.275000	-30.5	14.1	-16.4	PASS
2495.325000	-30.5	14.1	-16.4	PASS
2486.225000	-30.6	14.2	-16.4	PASS
2493.525000	-30.6	14.2	-16.4	PASS
2483.725000	-30.6	14.2	-16.4	PASS
2488.275000	-30.6	14.2	-16.4	PASS
2484.775000	-30.6	14.2	-16.4	PASS
2490.275000	-30.6	14.2	-16.4	PASS
2486.475000	-30.6	14.2	-16.4	PASS

2.6.11 Test Plots



Low Band Edge 2400MHz



Upper Band Edge 2483.5MHz

2.6.12 Upper band edge calculation (2483.5 MHz) within Restricted Band:

- 2483.525000 MHz (in the restricted bands)
- Procedure is per Clause 12.7.2 of ANSI C63.10-2013.
- Use the following formula as per Clause 12.7.2(d) of ANSI C63.10-2013.

E(dBµV/m) = EIRP (dBm) + 95.2
= (-30.6 dBm + 2.1 dBi antenna gain + 10log(N_{ant})) + 95.2
= 72.74 dBµV/m @ 3 meters (Peak complies with 74 dBµV/m limit)

It is confirmed that -30.6 dBm is not the actual level but rather the noise floor of this particular configuration. The higher than normal noise floor is due to the attenuation used by the test system to offset the fundamental (>20dBm total). No emissions observed at the band edges as the EUT only transmits at the center of the band (2440MHz).

2.7 RADIATED SPURIOUS EMISSIONS

2.7.1 Specification Reference

FCC 47 CFR Part 15, Clause 15.247(d)

2.7.2 Standard Applicable

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

2.7.3 Equipment Under Test and Modification State

Serial No: SC44-106123 / Test Configuration B

2.7.4 Date of Test/Initial of test personnel who performed the test

June 25, 2024 / FSC

2.7.5 Test Equipment Used

The major items of test equipment used for the above tests are identified in Section 3.1.

2.7.6 Environmental Conditions (Rancho Bernardo Satellite Facility)

Ambient Temperature	24.5 °C
Relative Humidity	49.8 %
ATM Pressure	99.9 kPa

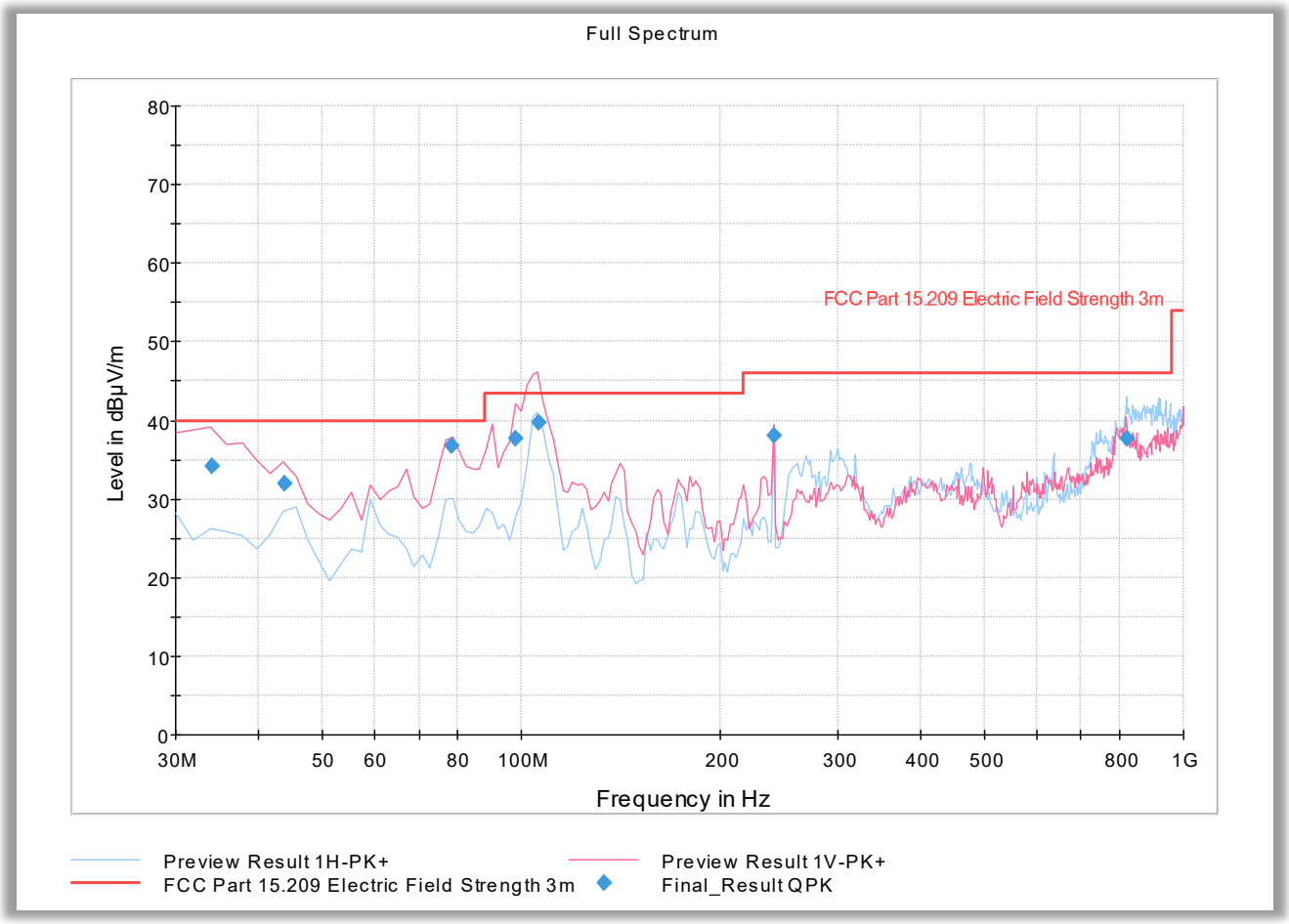
2.7.7 Additional Observations

- This is a radiated test. The spectrum was searched from 9kHz to the 10th harmonic. Only 30MHz to 26.5GHz presented as there are no emissions observed that fall within the restricted bands defined in FCC Part 15 Subpart C, 15.205 below 30MHz.
- Antenna port terminated with 50 Ω load. Emissions coming out of the cabinet being verified.
- There are no emissions found that do not comply to the restricted bands defined in FCC Part 15 Subpart C, 15.205 or Part 15.247(d).
- Measurement was done using EMC32 automated software. Reported level is the actual level with all the correction factors factored in. Correction Factor column is for informational purposes only. See Section 2.7.8 for sample computation.

2.7.8 Sample Computation (Radiated Emission)

Measuring equipment raw measurement (dbµV) @ 30 MHz			-0.8
Correction Factor (dB/m)	Asset# 1066 (cable)	18.1	12.6
	Asset# 1172 (cable)	0.3	
	Asset# 1175(cable)	0.3	
	Asset# 1002 (antenna)	17.2	
Reported QuasiPeak Final Measurement (dbµV/m) @ 30MHz			**11.8**

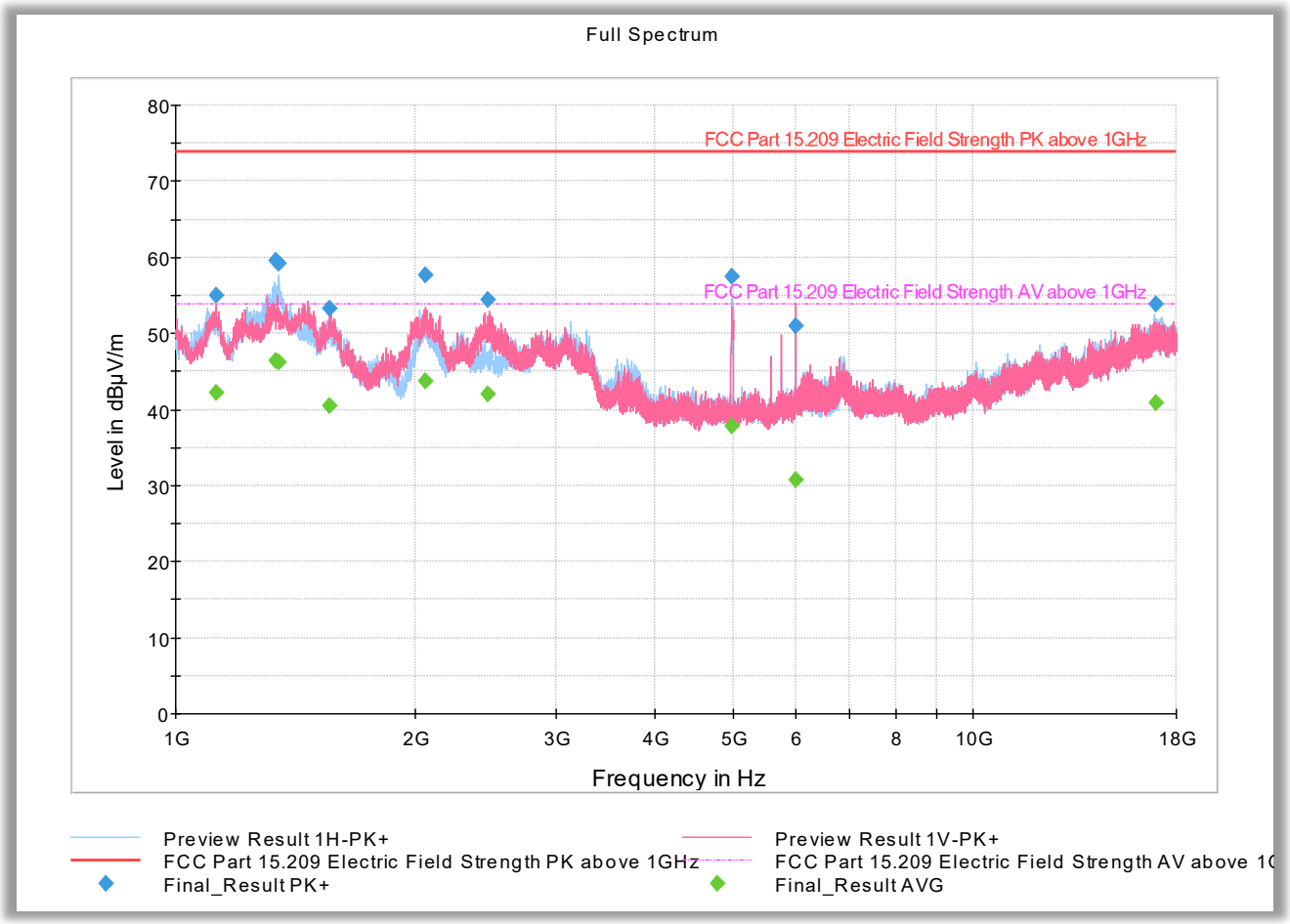
2.7.9 Test Results for 30MHz to 1GHz



Quasi Peak Data

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
34.087776	34.16	40.00	5.84	1000.	120.000	124.0	V	182.0	-15.2
43.807214	31.97	40.00	8.03	1000.	120.000	101.0	V	18.0	-11.5
78.237194	36.84	40.00	3.16	1000.	120.000	105.0	V	62.0	-16.4
97.836072	37.74	43.50	5.76	1000.	120.000	104.0	V	251.0	-10.6
105.85162	39.71	43.50	3.79	1000.	120.000	111.0	V	279.0	-10.5
239.97988	38.06	46.00	7.94	1000.	120.000	109.0	H	145.0	-10.2
819.29843	37.75	46.00	8.25	1000.	120.000	103.0	H	314.0	2.0

2.7.10 Test Results for 1GHz to 18GHz



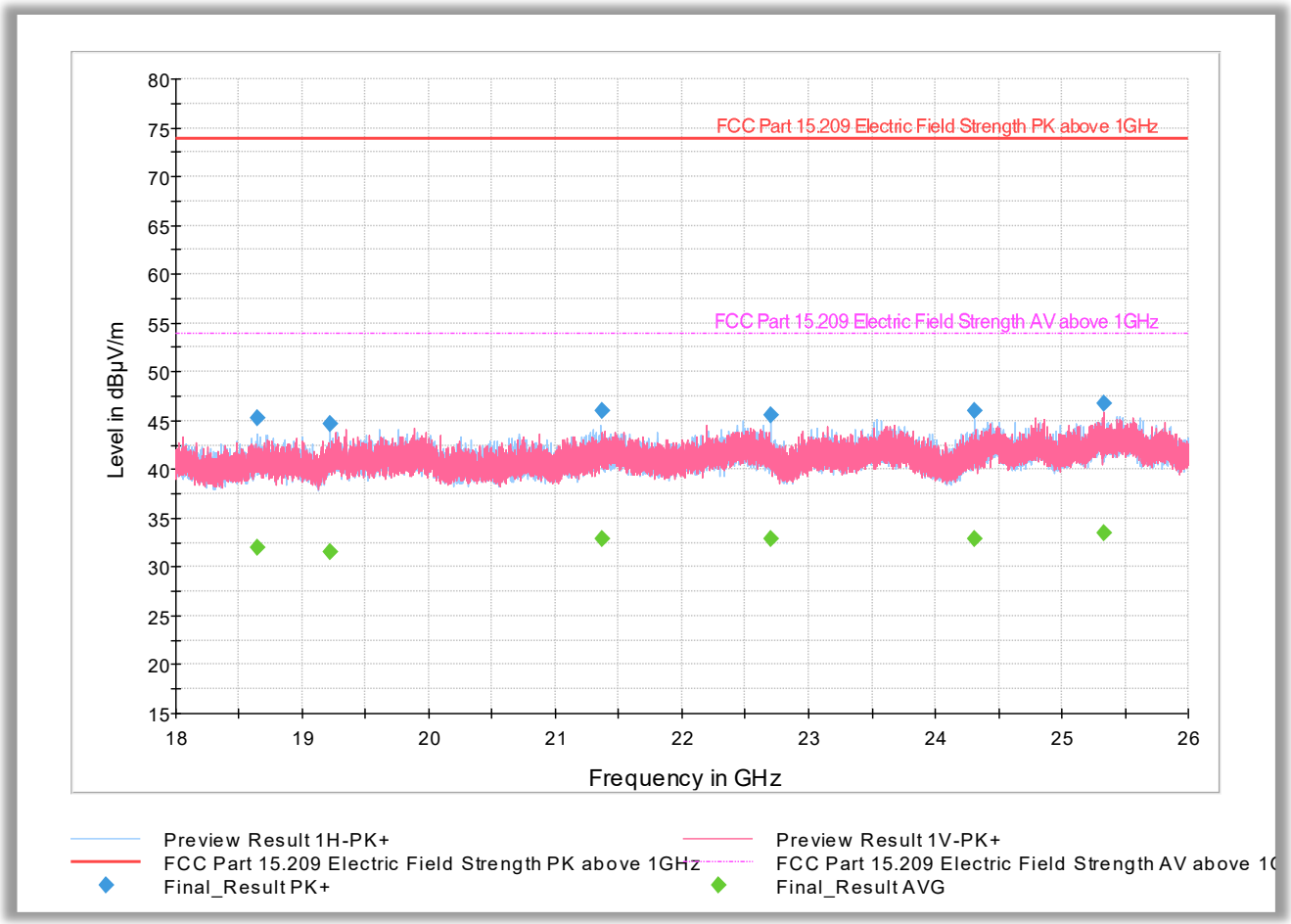
Peak Data

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1124.66666	55.05	73.90	18.85	1000.0	1000.000	279.0	V	88.0	-7.3
1333.03333	59.54	73.90	14.36	1000.0	1000.000	102.0	H	50.0	-5.5
1347.60000	59.19	73.90	14.71	1000.0	1000.000	100.0	H	56.0	-5.4
1559.86666	53.27	73.90	20.63	1000.0	1000.000	402.0	V	6.0	-6.4
2057.56666	57.58	73.90	16.32	1000.0	1000.000	329.0	V	95.0	-1.9
2461.36666	54.51	73.90	19.39	1000.0	1000.000	203.0	V	109.0	-0.4
4993.30000	57.48	73.90	16.42	1000.0	1000.000	262.0	H	79.0	4.8
5997.70000	51.02	73.90	22.88	1000.0	1000.000	284.0	V	113.0	6.5
16983.3333	53.78	73.90	20.12	1000.0	1000.000	285.0	H	286.0	22.3

Average Data

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1124.66666	42.28	53.90	11.62	1000.0	1000.000	279.0	V	88.0	-7.3
1333.03333	46.46	53.90	7.44	1000.0	1000.000	102.0	H	50.0	-5.5
1347.60000	46.23	53.90	7.67	1000.0	1000.000	100.0	H	56.0	-5.4
1559.86666	40.44	53.90	13.46	1000.0	1000.000	402.0	V	6.0	-6.4
2057.56666	43.75	53.90	10.15	1000.0	1000.000	329.0	V	95.0	-1.9
2461.36666	42.07	53.90	11.83	1000.0	1000.000	203.0	V	109.0	-0.4
4993.30000	37.88	53.90	16.02	1000.0	1000.000	262.0	H	79.0	4.8
5997.70000	30.81	53.90	23.09	1000.0	1000.000	284.0	V	113.0	6.5
16983.3333	40.94	53.90	12.96	1000.0	1000.000	285.0	H	286.0	22.3

2.7.11 Test Results for 18GHz to 26GHz



Peak Data

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
18642.2000	45.22	73.90	28.68	1000.0	1000.000	115.0	H	148.0	-4.5
19216.3333	44.68	73.90	29.23	1000.0	1000.000	145.0	H	309.0	-5.1
21369.1333	45.94	73.90	27.96	1000.0	1000.000	160.0	H	0.0	-3.9
22696.8666	45.62	73.90	28.28	1000.0	1000.000	104.0	H	52.0	-3.2
24307.9333	46.04	73.90	27.86	1000.0	1000.000	139.0	H	159.0	-2.2
25331.6666	46.79	73.90	27.11	1000.0	1000.000	103.0	V	106.0	-1.2

Average Data

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
18642.2000	32.05	53.90	21.85	1000.0	1000.000	115.0	H	148.0	-4.5
19216.3333	31.56	53.90	22.34	1000.0	1000.000	145.0	H	309.0	-5.1
21369.1333	32.96	53.90	20.94	1000.0	1000.000	160.0	H	0.0	-3.9
22696.8666	32.83	53.90	21.07	1000.0	1000.000	104.0	H	52.0	-3.2
24307.9333	32.91	53.90	20.99	1000.0	1000.000	139.0	H	159.0	-2.2
25331.6666	33.51	53.90	20.39	1000.0	1000.000	103.0	V	106.0	-1.2

2.8 POWER SPECTRAL DENSITY

2.8.1 Specification Reference

FCC 47 CFR Part 15, Clause 15.247(e)

2.8.2 Standard Applicable

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section. The same method of determining the conducted output power shall be used to determine the power spectral density.

2.8.3 Equipment Under Test and Modification State

Serial No: SC44-106123 / Test Configuration A

2.8.4 Date of Test/Initial of test personnel who performed the test

June 25, 2024 / FSC

2.8.5 Test Equipment Used

The major items of test equipment used for the above tests are identified in Section 3.1.

2.8.6 Environmental Conditions (Rancho Bernardo Satellite Facility)

Ambient Temperature	24.5 °C
Relative Humidity	49.8 %
ATM Pressure	99.9 kPa

2.8.7 Additional Observations

- This is a conducted test using direct connection to the TS8997 Test System.
- The path loss was all accounted for with the test system calibration.
- All ports are used for this test.
- Test methodology is per FCC title 47 part 15 §15.247(a),(e), KDB 558074 D01 DTS Meas Guidance v05 F and ANSI C63.10-2013.

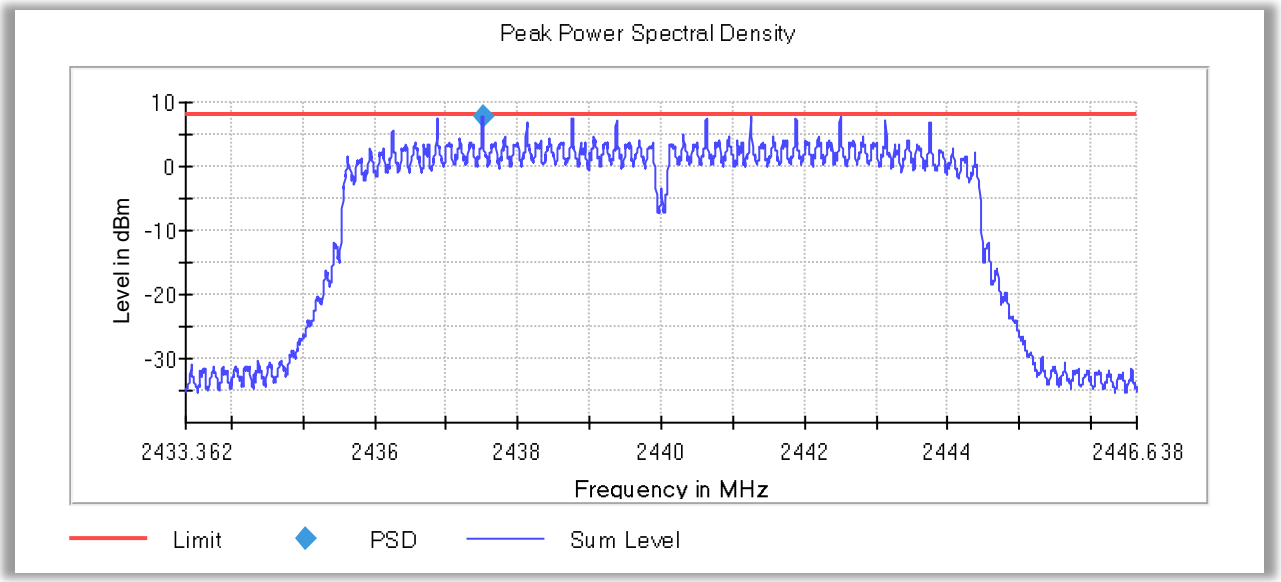
2.8.8 Test Results Summary

DUT Frequency (MHz)	Configuration	Frequency (MHz)	PSD (dBm)	Limit Max (dBm)	Result
2440.000000	4X4 MIMO	2437.505000	7.961	8.0	PASS

2.8.9 Sample Measurement Settings

Setting	Instrument Value	Target Value
Span	13.275 MHz	13.275 MHz
RBW	10.000 kHz	<= 10.000 kHz
VBW	30.000 kHz	>= 30.000 kHz
SweepPoints	2655	~ 2655
Sweeptime	13.300 ms	AUTO
Reference Level	20.000 dBm	20.000 dBm
Attenuation	40.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	Sweep	Sweep
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	80 / max. 150	max. 150
Stable	2 / 2	2
Max Stable Difference	0.00 dB	0.50 dB

2.8.10 Test Plot



2440.00 MHz

SECTION 3

TEST EQUIPMENT USED

3.1 TEST EQUIPMENT USED

List of absolute measuring and other principal items of test equipment.

ID Number (SDGE/SDRB)	Test Equipment	Type	Serial Number	Manufacturer	Cal Date	Cal Due Date
Conducted Port Setup						
7643	Signal/Spectrum Analyzer	FSV30	1321.3008K30/103166	Rhode & Schwarz	01/24/24	01/24/25
7655	Vector Signal Generator	SMBV100A	260734	Rhode & Schwarz	01/25/24	01/25/25
7654	Signal Generator	SMB 100A	175750	Rhode & Schwarz	01/24/24	01/24/25
7656	OSP with B157	OSP120	101310	Rhode & Schwarz	01/25/24	01/25/25
8825	20dB Attenuator	46-20-34	BK5773	Weinschel Corp.	Verified by 7643 and 7654	
AC Conducted Emissions						
56393	EMI Test Receiver	ESR7	102585	Rohde & Schwarz	04/02/24	04/02/25
06836	LISN	FCC-LISN-50-25-2	05024	Fischer Custom Comm	04/18/24	04/18/25
08822	20dB Attenuator	34-20-34	BP4180	MCE / Weinschel	05/03/24	05/03/25
08824	20dB Attenuator	34-20-34	BP4150	MCE / Weinschel	05/03/24	05/03/25
Radiated Emission						
1049	EMI Test Receiver	ESU40	100133	Rohde & Schwarz	04/01/24	04/01/25
8628	Pre-Amplifier	QLJ-01182835-JO	8986002	Quinstar	02/19/24	02/19/25
07575	1-18GHz DRG Horn	3117	155511	ETS Lindgren	08/08/22	08/08/24
64249	Trilog Broadband Antenna	VULB 9162	00660.3105	Schwarzbeck	12/04/23	12/04/25
1040	EMI Test Receiver	ESIB40	100292	Rohde & Schwarz	10/02/23	10/02/24
1049	EMI Test Receiver	ESU40	100133	Rohde & Schwarz	04/01/24	04/01/25
9001	18-26 GHz Antenna	HO42S	101	Custom Microwave Inc.	10/26/23	10/26/25
Miscellaneous						
34029	Mini Environmental Quality Meter	Hygrometer	850027	Sper Scientific	07/05/23	07/05/24
43003	True RMS Multimeter	85 III	69880143	Fluke	10/02/23	10/02/24
	Test Software	EMC32	V10.50.40	Rhode & Schwarz	N/A	

3.2 MEASUREMENT UNCERTAINTY

Calculation of Measurement Uncertainty per CISPR 16-4-2:2011 with Corr. 1

3.2.1 AC Conducted Measurements (for reference only)

	Input Quantity (Contribution) X_i	Value		Prob. Dist.	Divisor	$u_i(x)$	$u_i(x)^2$
1	Receiver reading	0.10	dB	Normal, k=1	1.000	0.10	0.01
2	LISN-receiver attenuation	0.10	dB	Normal, k=2	2.000	0.05	0.00
3	LISN voltage division factor	0.30	dB	Normal, k=2	2.000	0.15	0.02
4	Receiver sinewave accuracy	0.36	dB	Normal, k=2	2.000	0.18	0.03
5	Receiver pulse amplitude	1.50	dB	Rectangular	1.732	0.87	0.75
6	Receiver pulse repetition rate	1.50	dB	Rectangular	1.732	0.87	0.75
7	Noise floor proximity	0.00	dB	Rectangular	1.732	0.00	0.00
8	AMN VDF frequency interpolation	0.10	dB	Rectangular	1.732	0.06	0.00
9	Mismatch	0.07	dB	U-shaped	1.414	0.05	0.00
10	LISN impedance	2.65	dB	Triangular	2.449	1.08	1.17
11	Effect of mains disturbance	0.00	dB			0.00	0.00
12	Effect of the environment						
	Combined standard uncertainty			Normal	1.66	dB	
	Expanded uncertainty			**Normal, k=2**	**3.31**	**dB**	

3.2.2 Radiated Measurements (30MHz to 1GHz)

	Input Quantity (Contribution) X_i	Value		Prob. Dist.	Divisor	$u_i(x)$	$u_i(x)^2$
1	Receiver reading	0.10	dB	Normal, k=1	1.000	0.10	0.01
2	Attenuation: antenna-receiver	0.20	dB	Normal, k=2	2.000	0.10	0.01
3	Antenna factor AF	0.58	dB	Normal, k=2	2.000	0.29	0.08
4	Receiver sinewave accuracy	0.15	dB	Normal, k=2	2.000	0.08	0.01
5	Receiver pulse amplitude	1.50	dB	Rectangular	1.732	0.87	0.75
6	Receiver pulse repetition rate	1.50	dB	Rectangular	1.732	0.87	0.75
7	Noise floor proximity	0.50	dB	Rectangular	1.732	0.29	0.08
8	Mismatch: antenna-receiver	0.95	dB	U-shaped	1.414	0.67	0.45
9	AF frequency interpolation	0.30	dB	Rectangular	1.732	0.17	0.03
10	AF height deviations	0.10	dB	Rectangular	1.732	0.06	0.00
11	Directivity difference at 3 m	3.12	dB	Rectangular	1.732	1.80	3.24
12	Phase center location at 3 m	1.00	dB	Rectangular	1.732	0.58	0.33
13	Cross-polarization	0.90	dB	Rectangular	1.732	0.52	0.27
14	Balance	0.00	dB	Rectangular	1.732	0.00	0.00
15	Site imperfections	3.99	dB	Triangular	2.449	1.63	2.65
16	Separation distance at 3 m	0.30	dB	Rectangular	1.732	0.17	0.03
17	Effect of setup table material	0.57	dB	Rectangular	1.732	0.33	0.11
18	Table height at 3 m	0.10	dB	Normal, k=2	2.000	0.05	0.00

19	Near-field effects	0.00	dB	Triangular	2.449	0.00	0.00
20	Effect of ambient noise on OATS	0.00	dB				0.00
	Combined standard uncertainty			Normal	2.97	dB	
	Expanded uncertainty			Normal, k=2	**5.94**	**dB**	

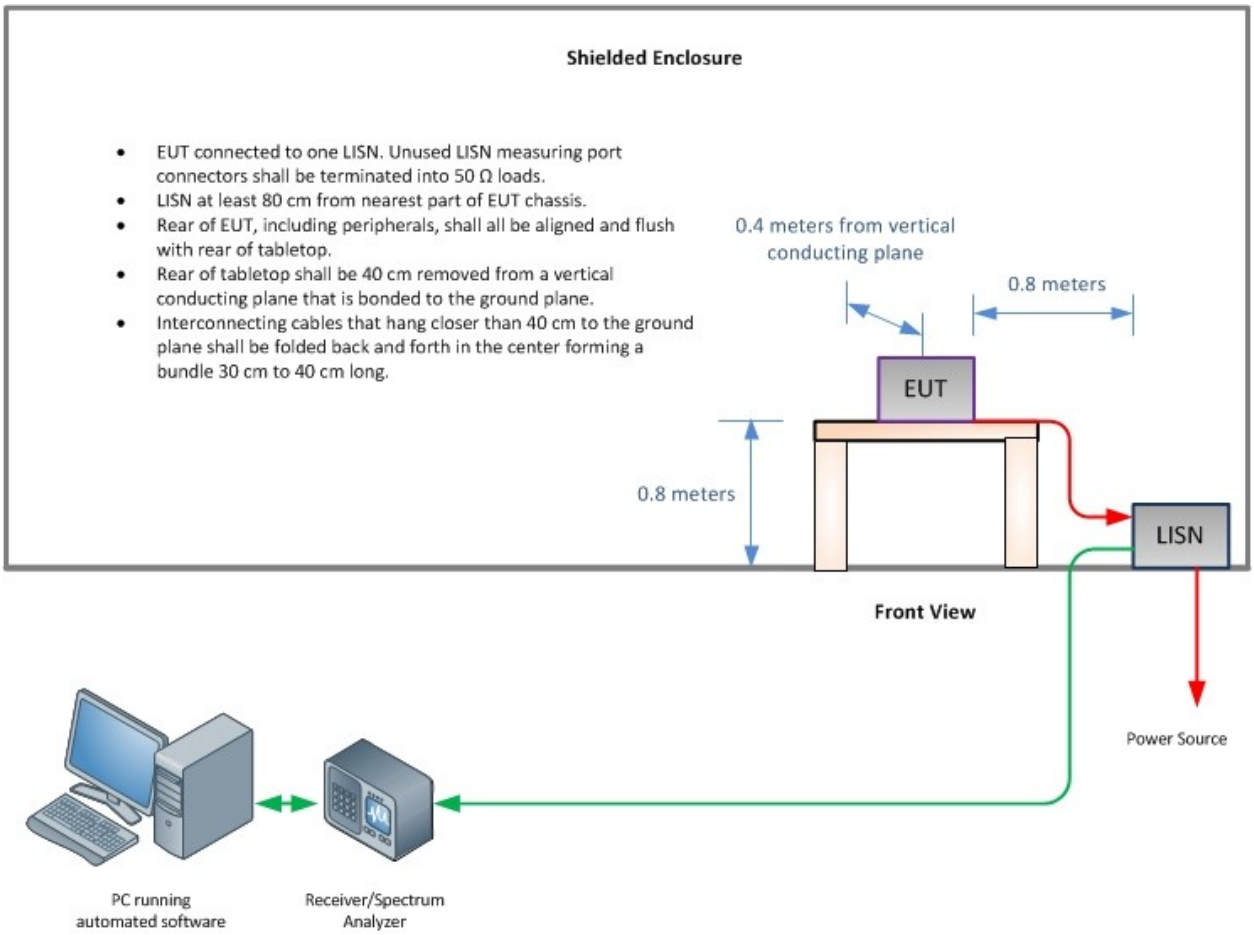
3.2.1 Radiated Emission Measurements (1GHz to 18GHz)

	Input Quantity (Contribution) X_i	Value		Prob. Dist.	Divisor	$u_i(x)$	$u_i(x)^2$
1	Receiver reading	0.10	dB	Normal, k=1	1.000	0.10	0.01
2	Attenuation: antenna-receiver	0.20	dB	Normal, k=2	2.000	0.10	0.01
3	Antenna factor AF	0.75	dB	Normal, k=2	2.000	0.38	0.14
4	Receiver sinewave accuracy	0.45	dB	Normal, k=2	2.000	0.23	0.05
5	Receiver pulse amplitude	1.50	dB	Rectangular	1.732	0.87	0.75
6	Receiver pulse repetition rate	1.50	dB	Rectangular	1.732	0.87	0.75
7	Noise floor proximity	0.50	dB	Rectangular	1.732	0.29	0.08
8	Mismatch: antenna-receiver	0.95	dB	U-shaped	1.414	0.67	0.45
9	AF frequency interpolation	0.30	dB	Rectangular	1.732	0.17	0.03
10	AF height deviations	0.10	dB	Rectangular	1.732	0.06	0.00
11	Directivity difference at 3 m	3.12	dB	Rectangular	1.732	1.80	3.24
12	Phase center location at 3 m	1.00	dB	Rectangular	1.732	0.58	0.33
13	Cross-polarisation	0.90	dB	Rectangular	1.732	0.52	0.27
14	Balance	0.00	dB	Rectangular	1.732	0.00	0.00
15	Site imperfections	3.25	dB	Triangular	2.449	1.33	1.76
16	Separation distance at 3 m	0.30	dB	Rectangular	1.732	0.17	0.03
17	Effect of setup table material	0.77	dB	Rectangular	1.732	0.44	0.20
18	Table height at 3 m	0.10	dB	Normal, k=2	2.000	0.05	0.00
19	Near-field effects	0.00	dB	Triangular	2.449	0.00	0.00
20	Effect of ambient noise on OATS	0.00	dB				0.00
	Combined standard uncertainty			Normal	2.85	dB	
	Expanded uncertainty			Normal, k=2	**5.70**	**dB**	

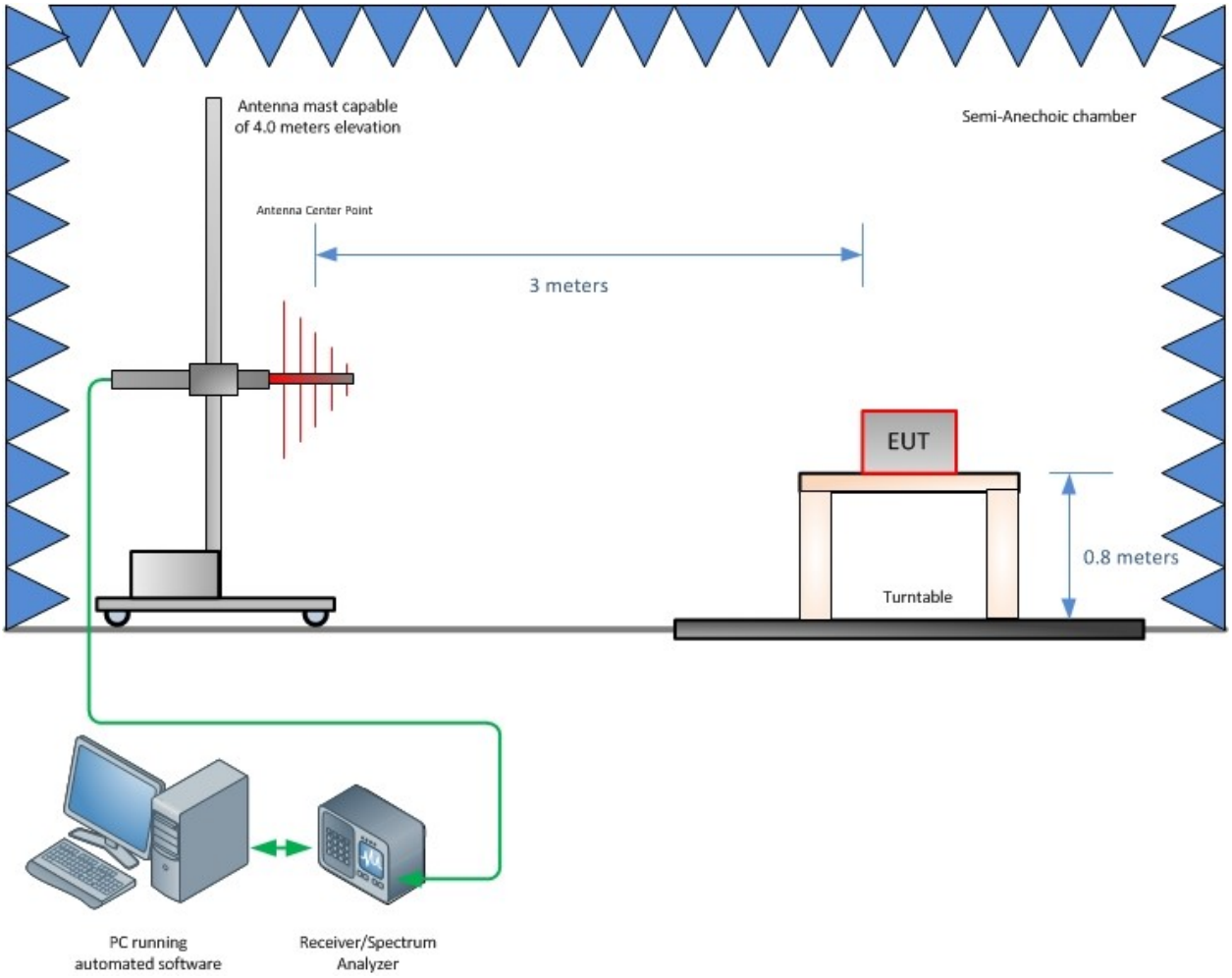
SECTION 4

DIAGRAM OF TEST SETUP

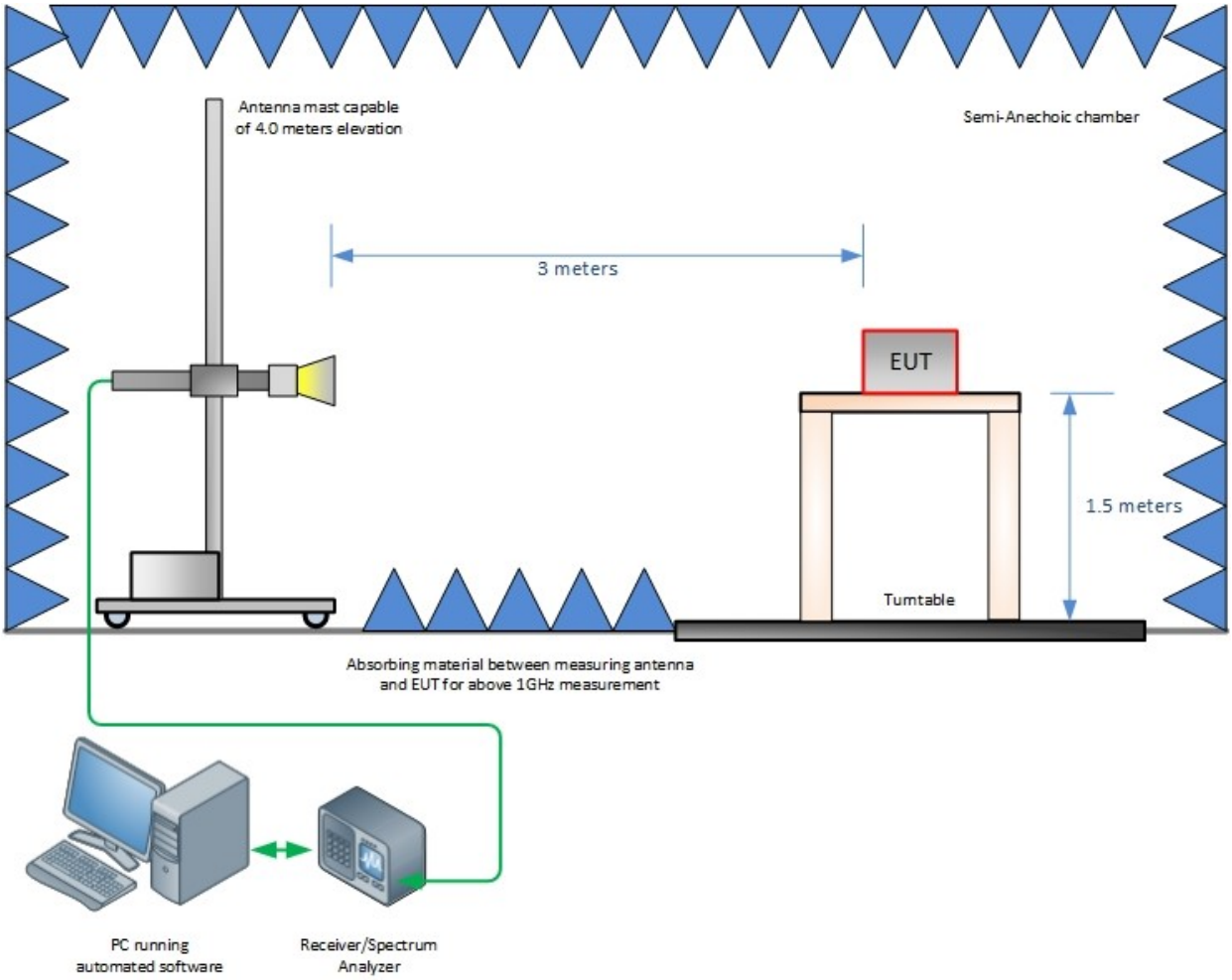
4.1 TEST SETUP DIAGRAM



AC Conducted Emission Test Setup (for reference only)



Radiated Emission Test Setup (Below 1GHz)



Radiated Emission Test Setup (Above 1GHz)

SECTION 5

ACCREDITATION, DISCLAIMERS AND COPYRIGHT

5.1 ACCREDITATION, DISCLAIMERS AND COPYRIGHT

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