

TEST REPORT

Report Number: 16041996-E3V3

Applicant : tekmar Control Systems Ltd.
5100 Silver Star Rd.,
Vernon, BC,
Canada V1B 3K4

Model : 1183-01

Brand : tekmar

FCC ID : 2AHQR-11830A

IC : 21247-11830A

EUT Description : Wireless Temperature and Humidity Sensor

Test Standard(s) : FCC 47 CFR PART 15 SUBPART C
ISED RSS-247 ISSUE 4
ISED RSS-GEN ISSUE 5 + A1 + A2

Date Of Issue:
2025-12-22

Prepared by:
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REPORT REVISION HISTORY

Rev.	Issue Date	Revisions	Revised By
V1	2025-11-21	Initial Issue	---
V2	2025-12-17	Updated Section 3 ANSI C63.10 version , model number, EUT name and Section 6.4 software version	Tina Chu
V3	2025-12-22	Added 2475MHz radiated bandedge test data	Tina Chu

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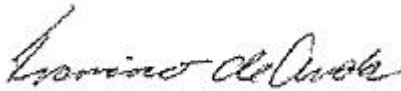
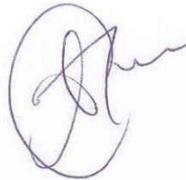
1. ATTESTATION OF TEST RESULTS

Applicant Name and Address	tekmar Control Systems Ltd. 5100 Silver Star Rd., Vernon, BC, Canada V1B 3K4
Model	1183-01
Brand	tekmar
FCC ID	2AHQR-11830A
IC	21247-11830A
EUT Description	Wireless Temperature and Humidity Sensor
Serial Number	9059731, 9105111(Conducted) 94B216FFFEF7EF2E, 9105115 (Radiated)
Sample Receipt Date	2025-11-04
Date Tested	2025-11-05 to 2025-12-22
Applicable Standards	FCC 47 CFR Part 15 Subpart C ISED RSS-247 Issue 4 ISED RSS-GEN Issue 5 + A1 + A2
Test Results	COMPLIES

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

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

This document may not be altered or revised in any way unless done so by UL Verification Services Inc., and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL Verification Services Inc. will constitute fraud and shall nullify the document.

Approved & Released By: 	Prepared & Reviewed By: 
Francisco de Anda Staff Engineer UL Verification Services, Inc.	Tina Chu Senior Project Engineer UL Verification Services, Inc.

2. TEST RESULTS SUMMARY

This report contains data provided by the customer, which can impact the validity of the results. UL Verification Services Inc. is only responsible for correctly integrating customer-provided data with measurements performed by UL Verification Services Inc.

Below is a list of the data provided by the customer:

1. Antenna gain and type (see section 6.3)
2. Cable loss (see section 6.3)

Requirement Description	Requirement Clause Number (FCC)	Requirement Clause Number (ISED)	Result	Comment
Duty Cycle	See Comment		Reporting purposes only	ANSI C63.10 Section 11.6.
99% OBW	-	RSS-GEN 6.7	Reporting purposes only	ANSI C63.10 Section 6.9.3.
6dB BW	15.247 (a) (2)	RSS-247 6.3.1 (a)	Complies	None.
Output Power	15.247 (b) (3)	RSS-247 6.3.2	Complies	None.
PSD	15.247 (e)	RSS-247 6.3.1 (b)	Complies	None.
Conducted Spurious Emissions	15.247 (d)	RSS-247 6.6	Complies	None.
Radiated Emissions	15.209, 15.205	RSS-GEN 8.9, 8.10	Complies	None.
AC Mains Conducted Emissions	15.207	RSS-Gen 8.8	Not Applicable	EUT is powered by batteries

3. TEST METHODOLOGY

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

- ANSI C63.10-2020 (FCC)
- ANSI C63.10-2020+Cor. 1-2023+C63.10a-2024+ Errata to C63.10a-2024 (ISED)
- FCC 47 CFR Part 2
- FCC 47 CFR Part 15C
- KDB 558074 D01 15.247 Meas Guidance
- KDB 414788 D01 Radiated Test Site
- RSS-GEN Issue 5 + A1 + A2s
- RSS-247 Issue 4

4. FACILITIES AND ACCREDITATION

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

	Address	ISED CABID	ISED Company Number	FCC Registration
☒	Building 1: 47173 Benicia Street, Fremont, CA 94538, USA	US0104	2324A	550739
☐	Building 2: 47266 Benicia Street, Fremont, CA 94538, USA			
☐	Building 3: 843 Auburn Court, Fremont, CA 94538 USA			
☒	Building 4: 47658 Kato Rd, Fremont, CA 94538 USA			
☐	Building 5: 47670 Kato Rd, Fremont, CA 94538 USA			

5. DECISION RULES AND MEASUREMENT UNCERTAINTY

5.1. METROLOGICAL TRACEABILITY

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

5.2. 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.)

5.3. 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	1.94 dB
Power Spectral Density	2.466 dB
Time Domain Measurements Using SA	3.39 %
RF Power Measurement Direct Method Using a Power Meter	0.45 dB (Ave), 1.30 dB Peak)
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

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

5.4. 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

MAINS CONDUCTED EMISSIONS

Where relevant, the following sample calculation is provided:

Final Voltage (dBuV) = Measured Voltage (dBuV) + Cable Loss (dB) + Limiter Factor (dB) + LISN Insertion Loss.

36.5 dBuV + 0 dB + 10.1 dB + 0 dB = 46.6 dBuV

6. EQUIPMENT UNDER TEST

6.1. EUT DESCRIPTION

The EUT is a Wireless Temperature and Humidity Sensor which support Thread 2.4G technology, powered by two AA batteries.

6.2. MAXIMUM OUTPUT POWER

The transmitter has a maximum conducted peak output power as follows:

Frequency Range (MHz)	Mode	Output Power (dBm)	Output Power (mW)
2405 - 2480	Thread	10.50	11.22

6.3. DESCRIPTION OF AVAILABLE ANTENNAS AND CABLE LOSS

The antenna(s) gain and type, as provided by the manufacturer' are as follows:

The radio utilizes a PCB Meandered PIFA antenna with a maximum gain of 0.8dBi.

Cable loss: 0.4 dB

The cables were used for RF antenna port tests that had been offset to the test equipment during testing.

6.4. SOFTWARE AND FIRMWARE

The EUT firmware and software installed during testing were Test mode FW version 0.5.16.

6.5. WORST-CASE CONFIGURATION AND MODE

Radiated emissions below 1GHz, above 18GHz were performed with the EUT set to transmit at the channel with highest output power as worst-case scenario.

Band edge and radiated emissions between 1GHz and 18GHz were performed with the EUT set to transmit at the highest power on low, middle and high channels.

EUT was investigated in three orthogonal orientations: X (Flatbed), Y (Landscape), and Z (Portrait). The Y (Landscape), is the worst-case orientation. All tests were performed with the EUT in the Y (Landscape) orientation.

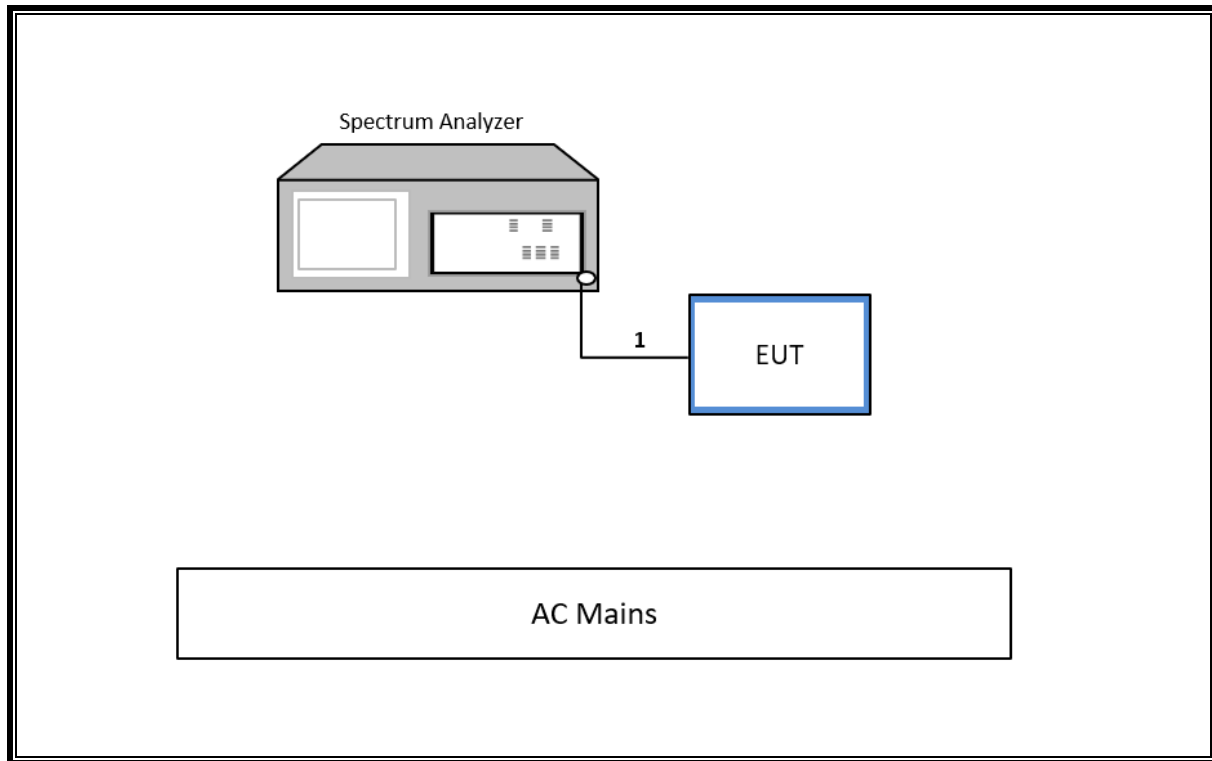
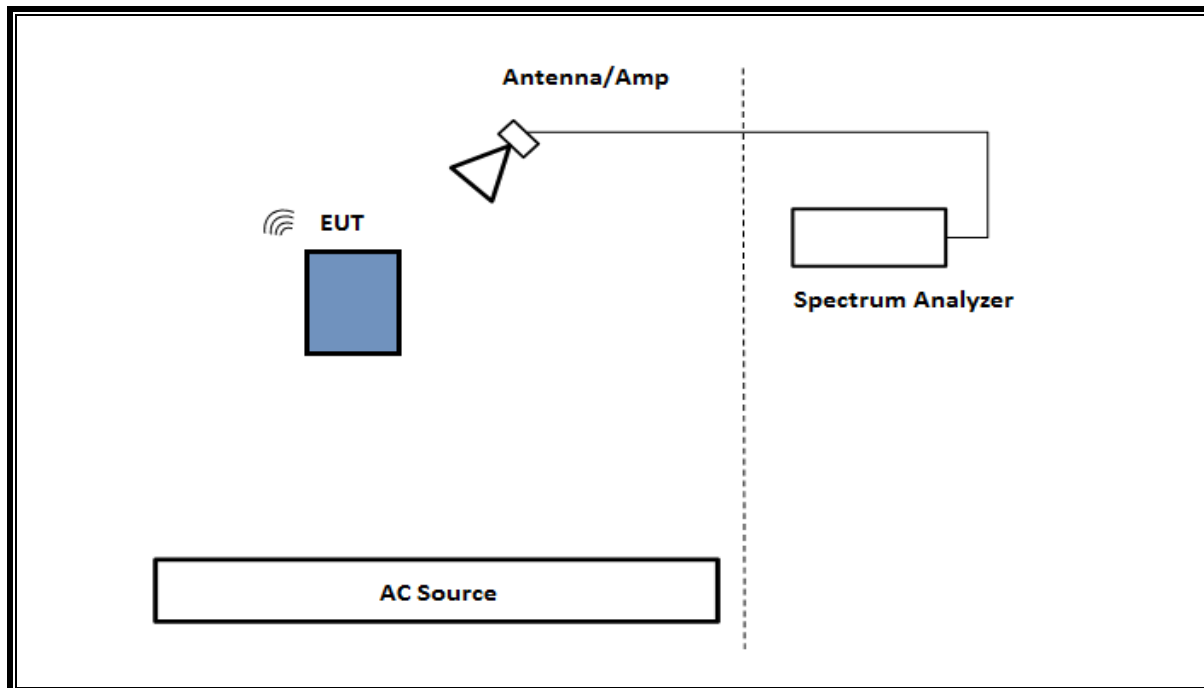
Data rate provided by the client was 250kbps.

6.6. DESCRIPTION OF TEST SETUP

SUPPORT TEST EQUIPMENT						
Description		Manufacturer	Model	Serial Number		FCC ID/ DoC
N/A		N/A	N/A	N/A		N/A
I/O CABLES (RF CONDUCTED TEST)						
Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	SMA	1	SMA	Shielded	0.1	To the spectrum Analyzer
I/O CABLES (RF RADIATED AND AC LINE CONDUCTED TEST)						
Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length (m)	Remarks
N/A	N/A	N/A	N/A	N/A	N/A	N/A

TEST SETUP

The EUT setup is shown below. Test software exercised the radio card.

SETUP DIAGRAM FOR CONDUCTED TESTS**SETUP DIAGRAM FOR RADIATED TESTS Above 1 GHz (1 to 26GHz)**

7. MEASUREMENT METHOD

Test Item	Test Method
On Time and Duty Cycle	ANSI C63.10 Section 11.6
6 dB BW	ANSI C63.10 Subclause -11.8.1 RBW $\geq$ DTS BW
99% BW	ANSI C63.10, Subclause 6.9.3.
Conducted Output Power	ANSI C63.10 Subclause -11.9.2.3.2 Method AVGPM G (Measurement using an RF average-reading power meter), 11.9.1.2 Method PKPM1 Peak-reading power meter
Power Spectral Density	ANSI C63.10 Subclause -11.10.2 Method PKPSD (peak PSD)
Radiated emissions non-restricted frequency bands	ANSI C63.10 Subclause -11.11
Radiated emissions restricted frequency bands	ANSI C63.10 Subclause -11.12.1
Conducted emissions in restricted frequency bands	ANSI C63.10 Subclause -11.12.2
Band-edge	ANSI C63.10 Subclause -11.12.2.4: Peak Measurement
Band-edge	ANSI C63.10 Subclause -11.12.2.5: Average Measurement
Radiated Spurious Emissions Below 30MHz	ANSI C63.10 Subclause 6.4

8. 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	ID Num	Cal Due
Antenna, Passive Loop 100kHz to 30MHz	ELECTRO-METRICS	EM-6872	219910	2026-08-31
Antenna, Passive Loop 30Hz - 1MHz	ELECTRO-METRICS	EM-6871	219908	2026-08-31
Antenna, Broadband Hybrid, 30MHz to 3GHz	Sunol Sciences Corp.	JB3	203089	2027-04-30
Link File, @3m, 9kHz-1000MHz Hybrid Path Loss	UL-FR1	Port 0 Factors	211062	2026-03-31
Antenna, Horn 1-18GHz	ETS-Lindgren	3117	206808	2027-04-30
RF Filter Box, 1-18GHz	UL-FR1	RATS 1.0, 2 Amp, 8 Port	197920	2026-03-31
Antenna, Horn 18 to 26.5GHz	A.R.A.	MWH-1826/B	81140	2027-05-31
Link File, RF Amplifier Assembly, 18-26.5GHz, 60dB Gainr	UL-FR1	AMP18G26.5-60	215705	2026-10-31
EMI Test Receiver	Rohde & Schwarz	ESW44	225688	2026-02-28
10dB Fixed Attenuator	Pasternack Enterprises	PE7087-10	252765	Verified
P-Series Power Meter	Keysight Technologies Inc	N1912A-CFG003	259286	2026-03-31
Power Sensor, P - series, 50MHz to 18GHz, Wideband	Keysight Technologies Inc	N1921A	257703	2026-03-31
Spectrum Analyzer, PXA, 3Hz to 44GHz	N9030A	Keysight Technologies Inc	85214	2026-01-31

UL AUTOMATION SOFTWARE			
Radiated Software	UL	UL EMC	Ver 9.5, Aug 25, 2025
Conducted Software	UL	UL EMC	2024.2.23

9. ANTENNA PORT TEST RESULTS

9.1. ON TIME AND DUTY CYCLE

LIMITS

None; for reporting purposes only.

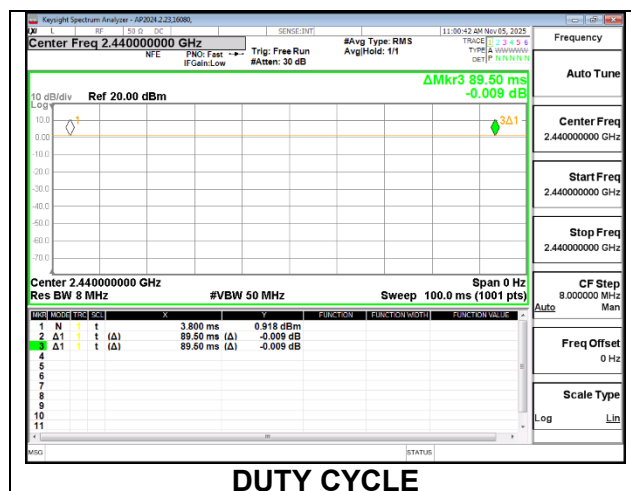
PROCEDURE

ANSI C63.10, Section 11.6: Zero-Span Spectrum Analyzer Method.

ON TIME AND DUTY CYCLE RESULTS

Mode	ON Time T (msec)	Period (msec)	Duty Cycle x (linear)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	1/T Minimum VBW (kHz)
2.4GHz Band						
802.15.4	89.50	89.50	1.000	100.00	0.00	0.010

DUTY CYCLE PLOTS

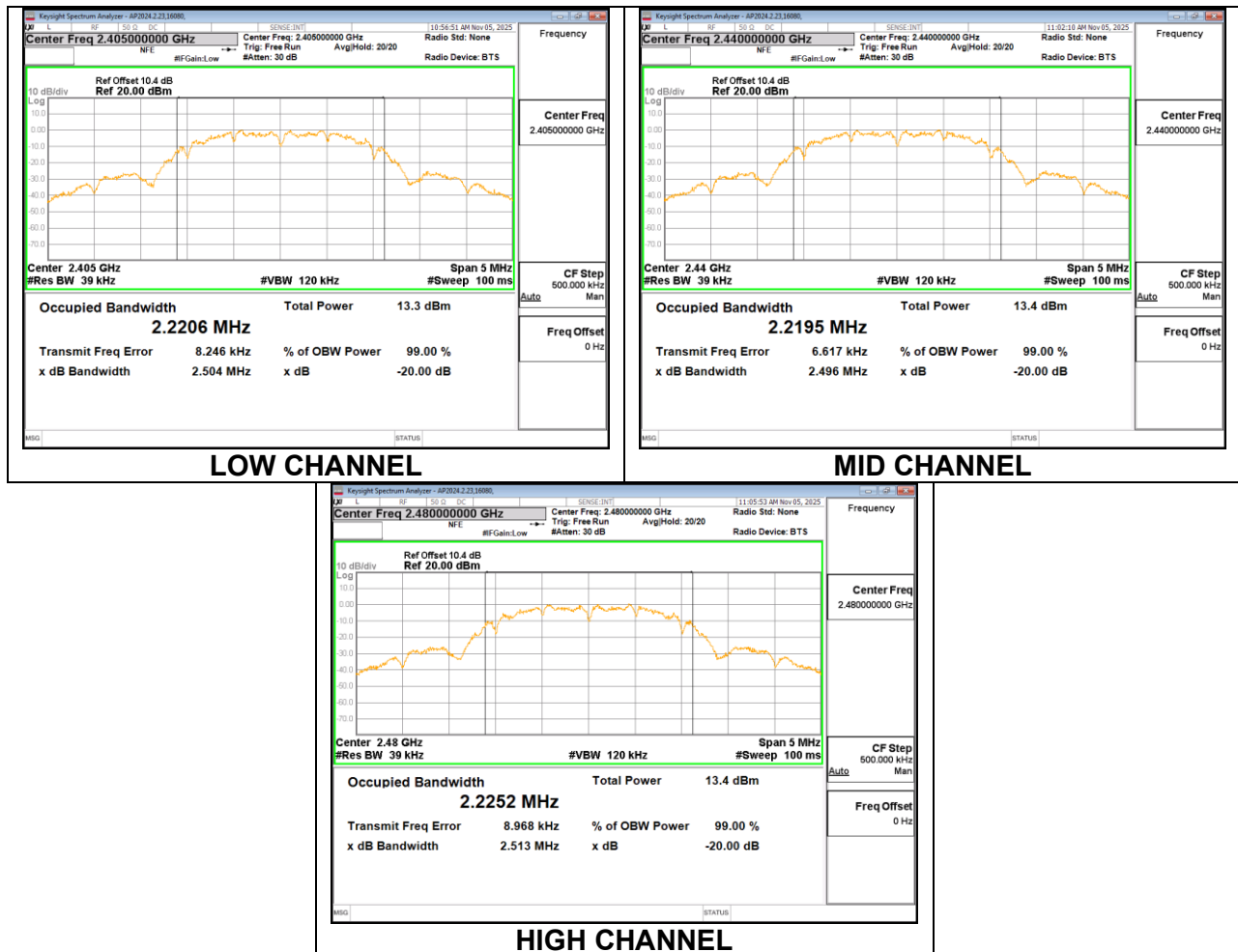


9.2. 99% BANDWIDTH LIMITS

None; for reporting purposes only.

RESULTS

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2405	2.2206
Middle	2440	2.2195
High	2480	2.2252



9.3. 6dB BANDWIDTH

LIMITS

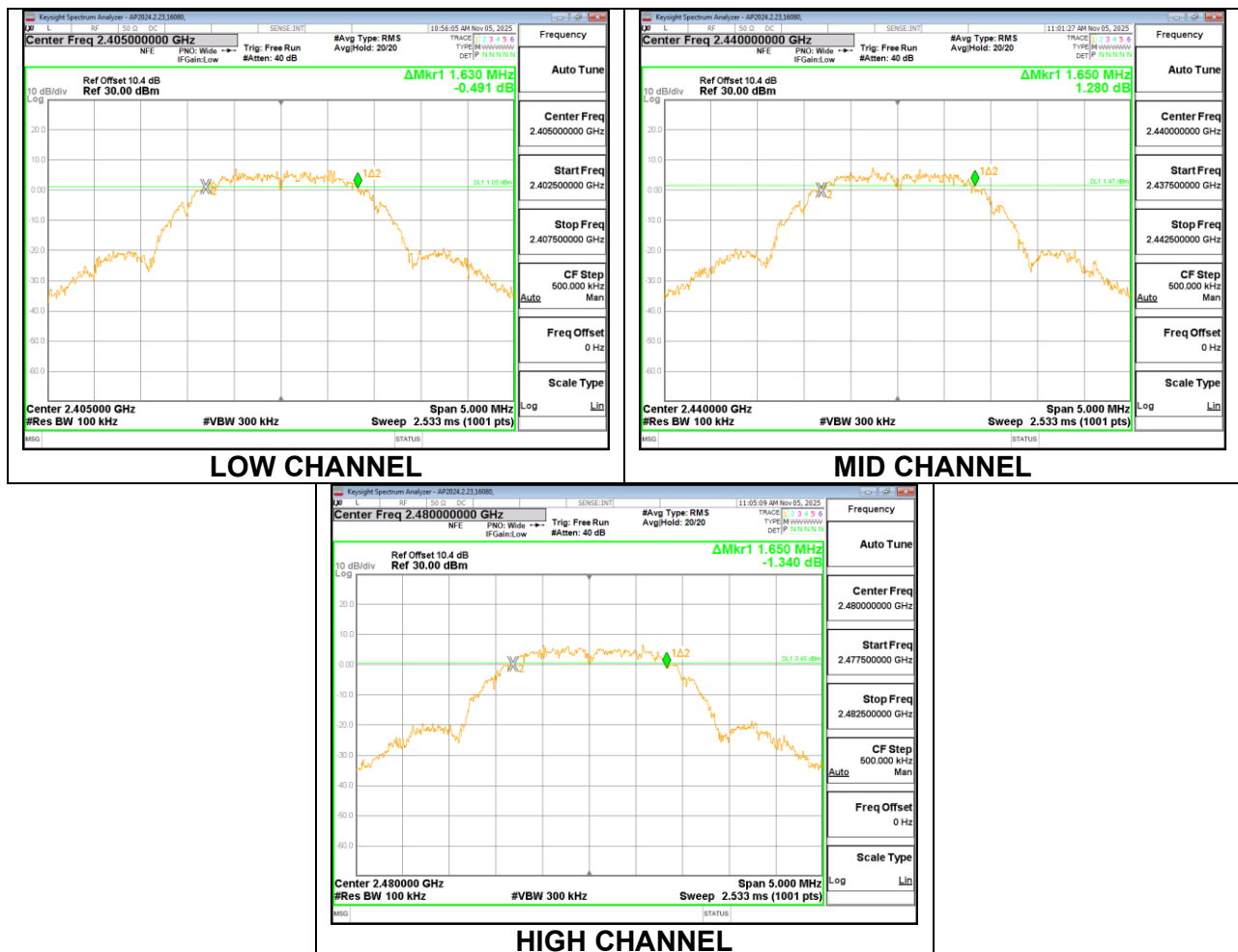
FCC §15.247 (a) (2)

RSS-247 6.3.1 (a)

The minimum 6 dB bandwidth shall be at least 500 kHz.

RESULTS

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2405	1.630	0.5
Middle	2440	1.650	0.5
High	2480	1.650	0.5



9.4. OUTPUT POWER AND POWER SPECTRAL DENSITY

LIMITS

FCC §15.247 (b) (3) & (e)

RSS-247 6.3.2 & 6.3.1 (b)

For systems using digital modulation in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands: 1 Watt, based on the use of antennas with directional gains that do not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

The power spectral density conducted from the transmitter to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

TEST PROCEDURE

Power Measurements are performed using a wideband RF power meter.

The power output was measured on the EUT antenna port using an SMA cable with a 10dB attenuator connected to a power meter via a wideband power sensor. Peak and Average output power were read directly from the power meter.

DIRECTIONAL ANTENNA GAIN

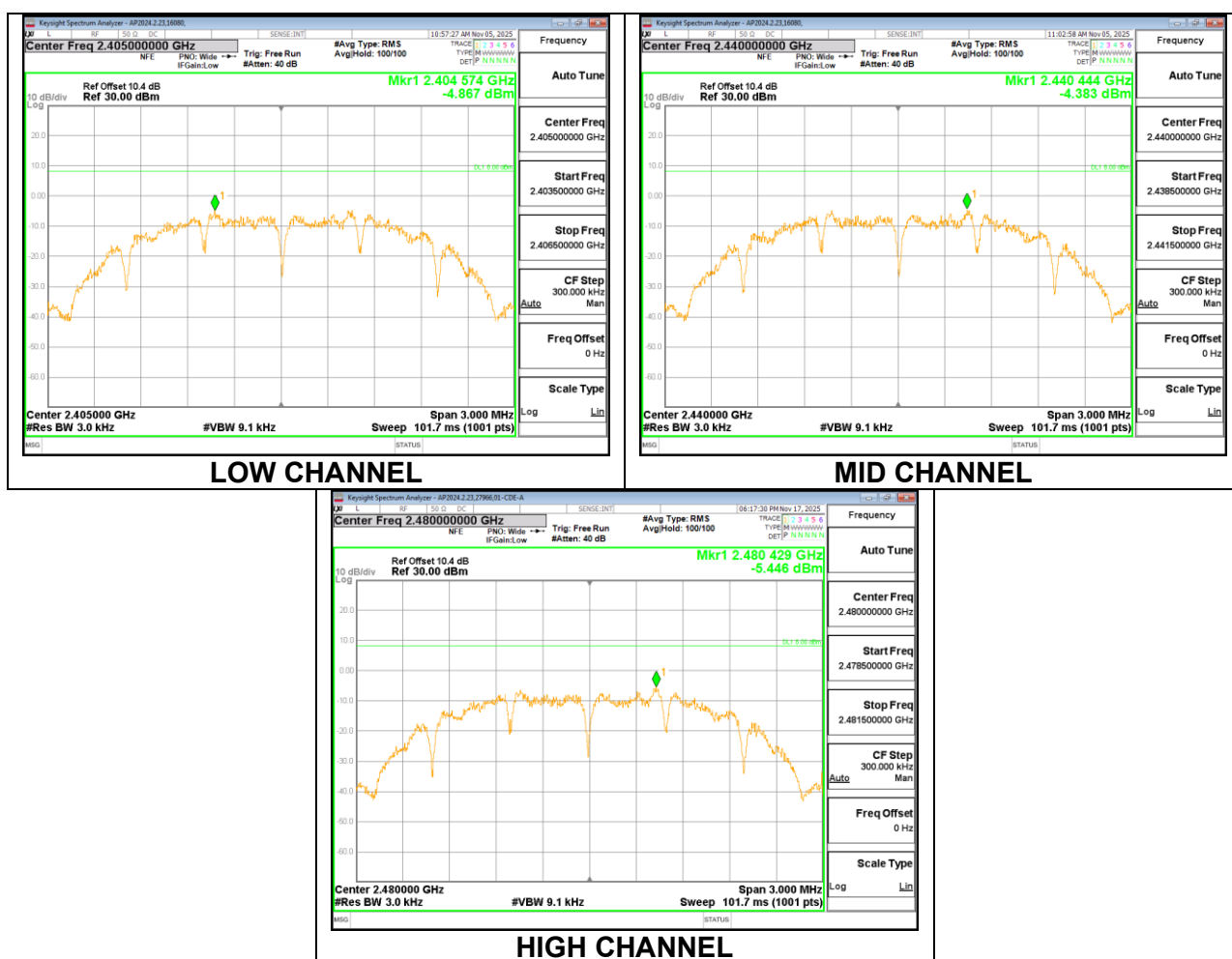
For 1 TX:

There is only one transmitter output; therefore, the directional gain is equal to the antenna gain.

RESULTS

Tested By:	16080 ZS, 27966 PV
Date:	2025-11-05 and 2025-11-17

Mode	No. of Tx	Freq (MHz)	Measured Conducted Avg Power (dBm)	Measured Conducted Peak Power (dBm)	Output Power Limit (dBm)	Output Power Margin (dB)	Measured PSD (dBm/3kHz)	DCCF (dB)	Corrected Total PSD with DCCF (dBm/3kHz)	PSD Limit (dBm/3kHz)
Thread	1Tx	2405	10.23	10.33	30.00	-19.67	-4.867	0.00	-4.87	8.00
		2440	10.29	10.50	30.00	-19.50	-4.383	0.00	-4.38	8.00
		2480	9.59	9.66	30.00	-20.34	-5.446	0.00	-5.45	8.00



9.5. CONDUCTED SPURIOUS EMISSIONS

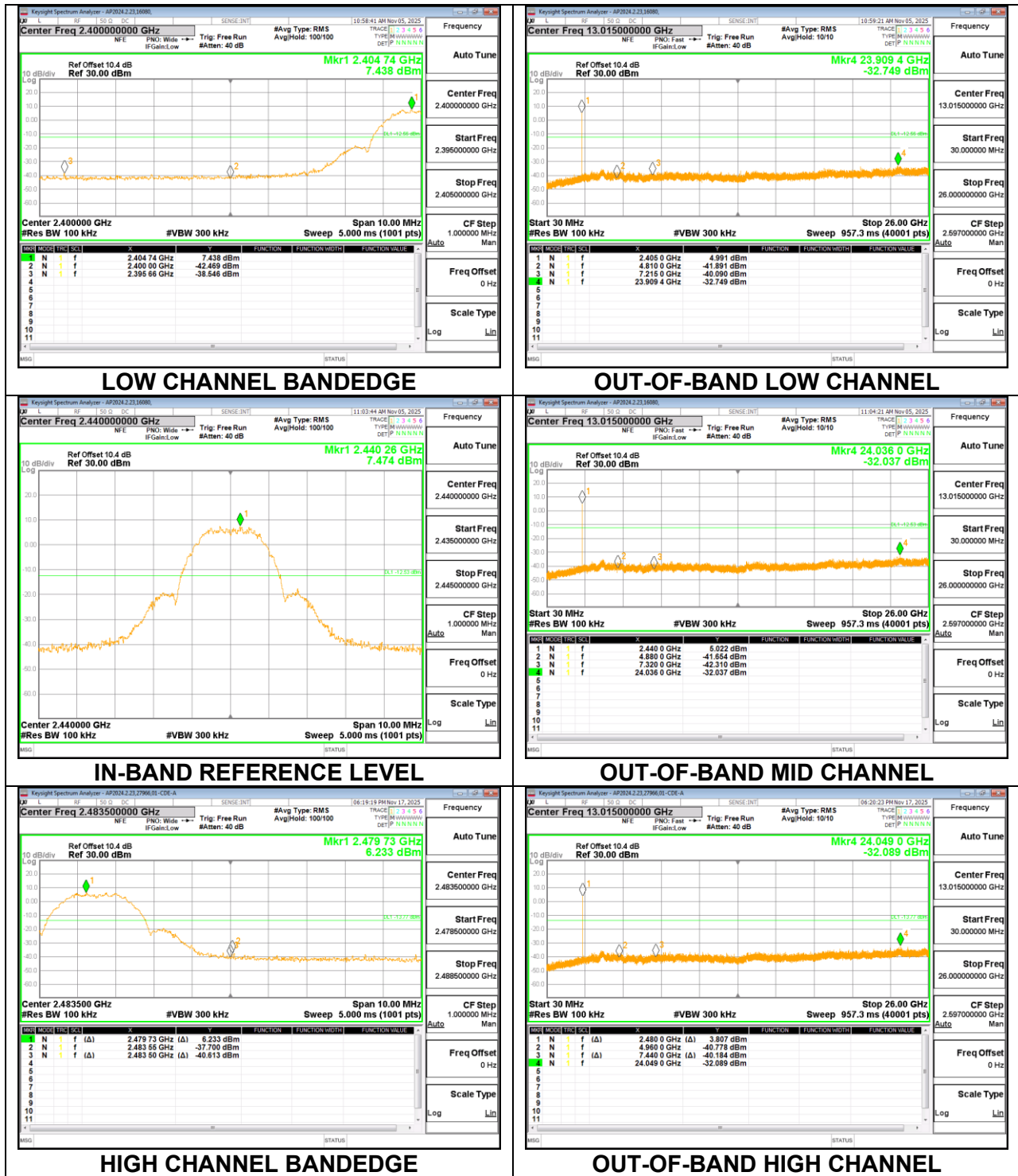
LIMITS

FCC §15.247 (d)

RSS-247 6.6

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)).

RESULTS



10. RADIATED TEST RESULTS

LIMITS

FCC §15.205 and §15.209
RSS-GEN, Section 8.9 and 8.10

Frequency Range (MHz)	Field Strength Limit (uV/m) at 3 m	Field Strength Limit (dBuV/m) at 3 m
0.009-0.490	2400/F(kHz) @ 300 m	-
0.490-1.705	24000/F(kHz) @ 30 m	-
1.705 - 30	30 @ 30m	-
30 - 88	100	40
88 - 216	150	43.5
216 - 960	200	46
Above 960	500	54

TEST PROCEDURE

The EUT is placed on a non-conducting table 80 cm above the ground plane for measurement below 1GHz; 1.5 m above the ground plane for measurement above 1GHz. The antenna to EUT distance is 3 meters. The EUT is configured in accordance with ANSI C63.10. The EUT is set to transmit in a continuous mode.

For measurements below 1 GHz the resolution bandwidth is set to 100 kHz for peak detection measurements or 120 kHz for quasi-peak detection measurements. Peak detection is used unless otherwise noted as quasi-peak.

For pre-scans above 1 GHz the resolution bandwidth is set to 1 MHz; the video bandwidth is set to 30 KHz for peak measurements.

For final measurements above 1 GHz the resolution bandwidth is set to 1 MHz; the video bandwidth is set to 3 MHz for peak measurements and as applicable for average measurements.

The spectrum from 1 GHz to 18 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in each applicable band. Below 1GHz and above 18GHz emissions, the channel with the highest output power was tested.

The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized in both the vertical and the horizontal positions.

For below 30MHz testing, investigation was done on three antenna orientations (parallel, perpendicular, and ground-parallel), parallel and perpendicular are the worst orientations, therefore testing was performed on these two orientations only. Blue color trace on plots: Parallel orientation. Green color trace on plots: Perpendicular orientation.

Note: The limits in CFR 47, Part 15, Subpart C, paragraph 15.209(a), are identical to those in RSS-Gen section 8.9, Table 6, since the measurements are performed in terms of magnetic field strength and converted to electric field strength levels (as report in the table) using free space impedance of 377 Ohms. For example, the measurement at frequency X kHz resulted in a level of Y dBuV/m, which is equivalent to $Y-51.5 = Z$ dBuA/m, which has the same margin, W dB to the corresponding RSS-Gen Table 6 limit as it must 15.209(a) limit.

KDB 414788 Open Field Site (OFS) and Chamber Correlation Justification

Base on FCC 15.31 (f) (2): measurements may be performed at a distance closer than that specified in the regulations; however, an attempt should be made to avoid making measurements in the near field.

OFS and chamber correlation testing had been performed and chamber measured test result is the worst-case test result.

RESULTS

The plots in these sections are for reference settings only.

10.1. TRANSMITTER ABOVE 1 GHz

10.1.1. LOW BANDEDGE

2.4GHz (SISO)	Channel Frequency (MHz)	Frequency (GHz)	Meter Reading (dBuV)	Det	ACF (dB/m)	Amp/Cbl/ Fitr/Pad (dB)	DCCF (dB)	Correct Reading (dBuV/m)	Avg Limit (dBuV/m)	Avg Margin (dB)	Pk Limit (dBuV/m)	Pk Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
250kbps	2405	* 2.39	55.11	Pk	32.3	-34.6	0	52.81	-	-	74	-21.19	251	171	H
		* 2.366222	56.62	Pk	32.2	-34.7	0	54.12	-	-	74	-19.88	251	171	H
		* 2.39	44.02	RMS	32.3	-34.6	0	41.72	54	-12.28	-	-	251	171	H
		* 2.387758	44.78	RMS	32.3	-34.6	0	42.48	54	-11.52	-	-	251	171	H
		* 2.39	54.1	Pk	32.3	-34.6	0	51.8	-	-	74	-22.2	139	318	V
		* 2.347896	57.34	Pk	32.1	-34.8	0	54.64	-	-	74	-19.36	139	318	V
		* 2.39	43.71	RMS	32.3	-34.6	0	41.41	54	-12.59	-	-	139	318	V
		* 2.388642	44.56	RMS	32.3	-34.6	0	42.26	54	-11.74	-	-	139	318	V

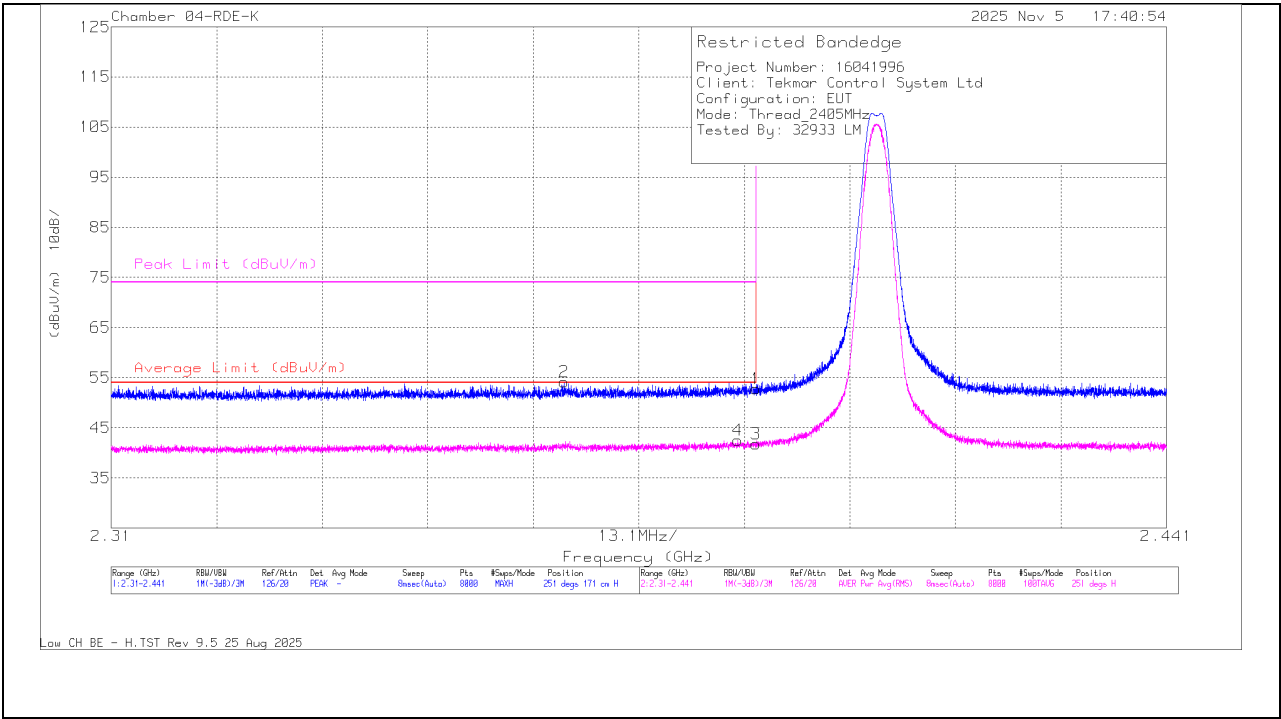
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

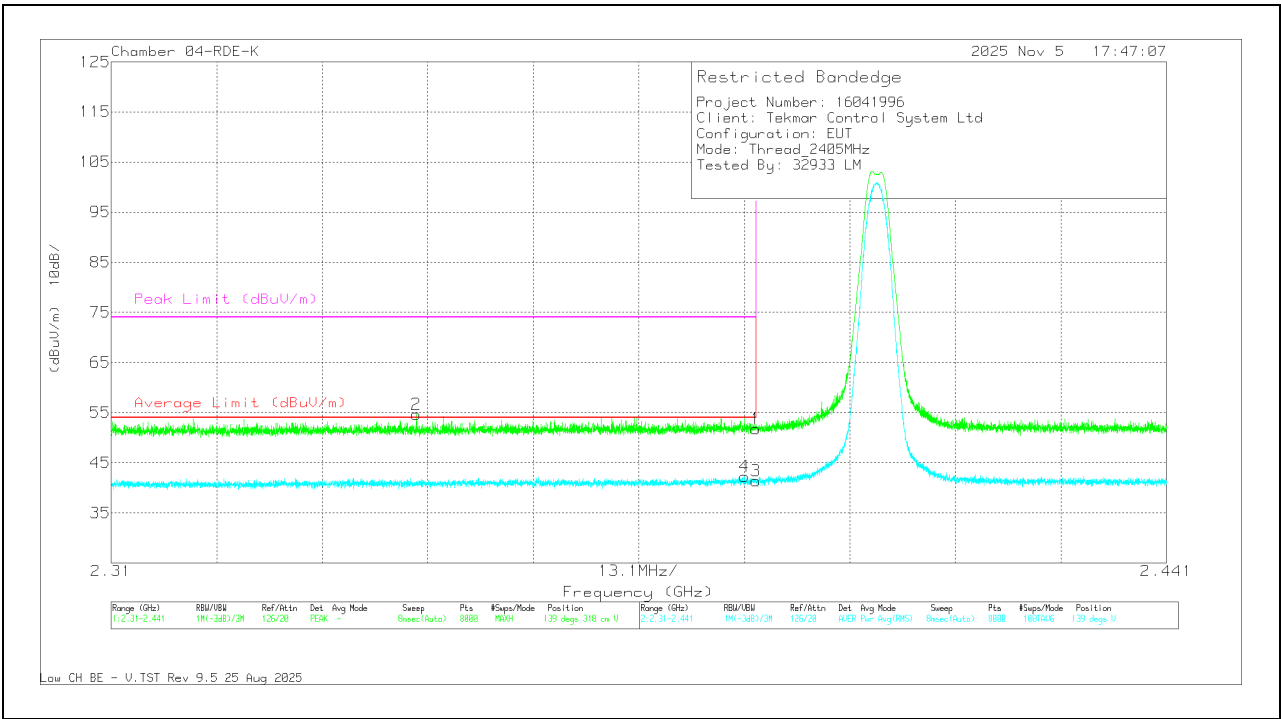
RMS - RMS detection

BANDEGE (LOW CHANNEL)

HORIZONTAL RESULT



VERTICAL RESULT



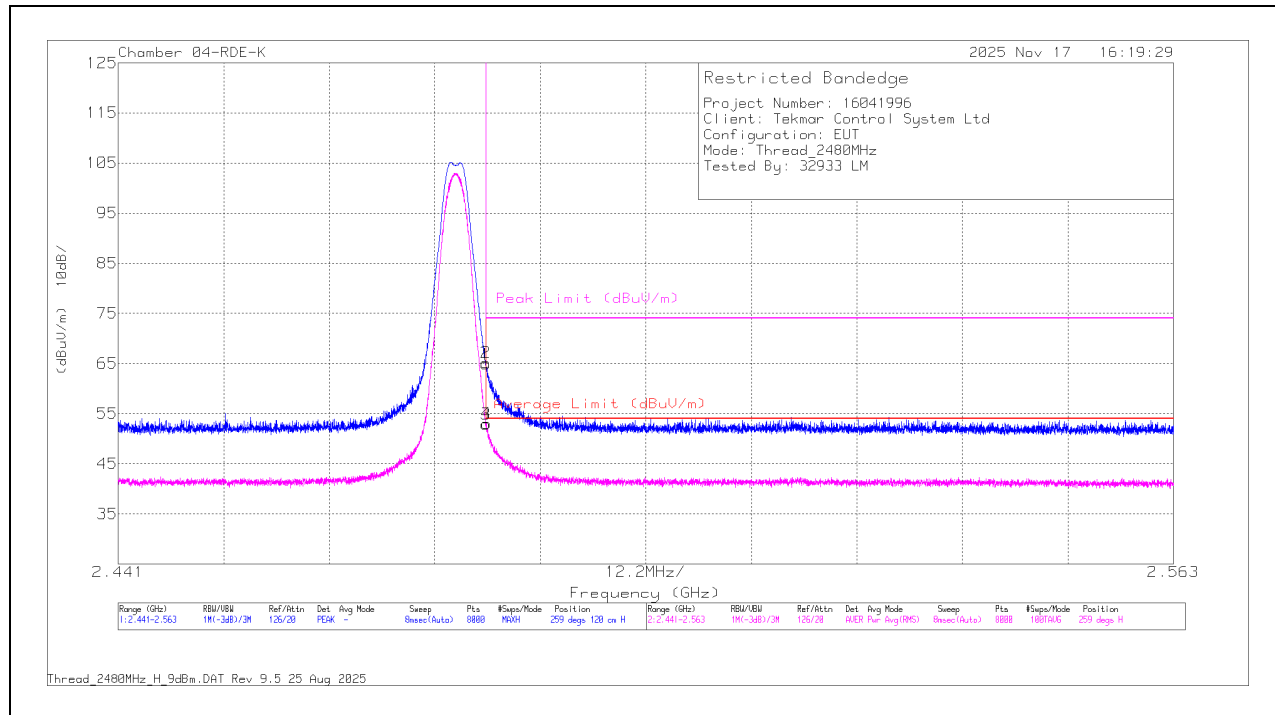
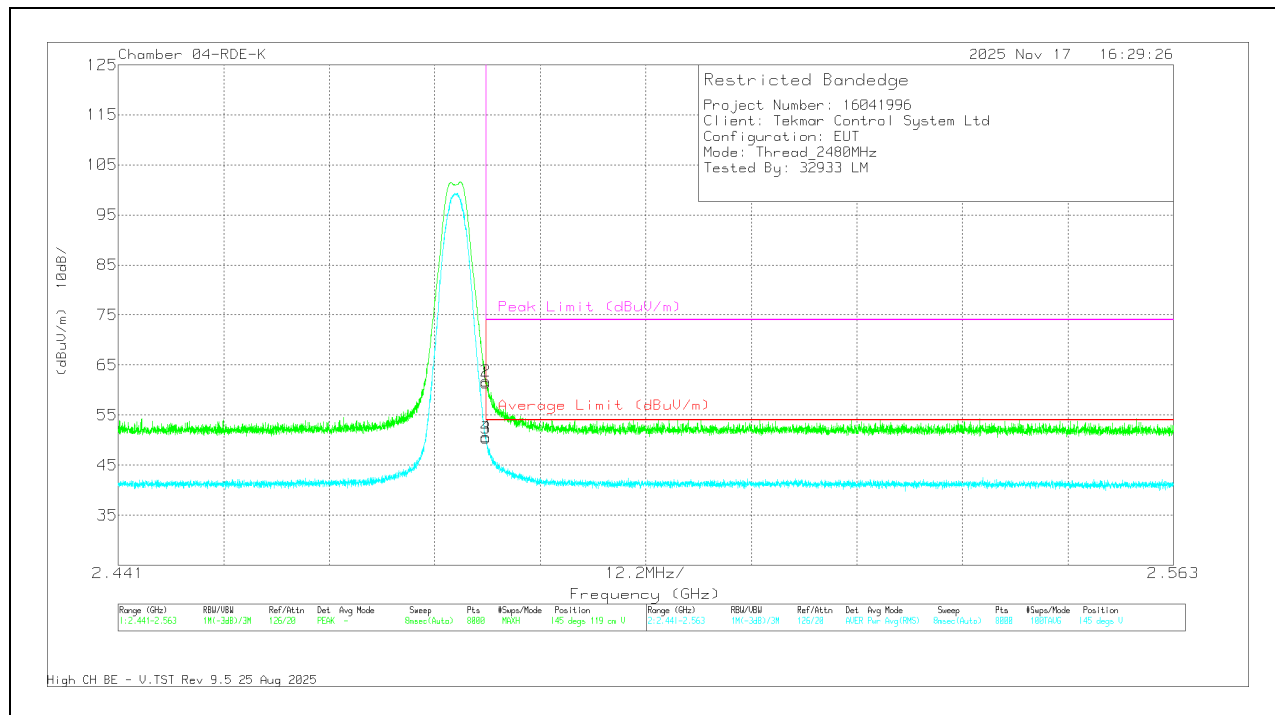
10.1.2. HIGH BANDEDGE

2.4GHz (SISO)	Channel Frequency (MHz)	Frequency (GHz)	Meter Reading (dBuV)	Det	ACF (dB/m)	Amp/Cb/ Fitr/Pad (dB)	DCCF (dB)	Correct Reading (dBuV/m)	Avg Limit (dBuV/m)	Avg Margin (dB)	Pk Limit (dBuV/m)	Pk Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
250kbps	2480	*2.4835	66.46	Pk	32.6	-34.2	0	64.86	-	-	74	-9.14	259	120	H
		*2.483523	66.78	Pk	32.6	-34.2	0	65.18	-	-	74	-8.82	259	120	H
		*2.4835	54.52	RMS	32.6	-34.2	0	52.92	54	-1.08	-	-	259	120	H
		*2.483553	54.61	RMS	32.6	-34.2	0	53.01	54	-0.99	-	-	259	120	H
		*2.4835	62.98	Pk	32.6	-34.2	0	61.38	-	-	74	-12.62	145	119	V
		*2.483538	63.44	Pk	32.6	-34.2	0	61.84	-	-	74	-12.16	145	119	V
		*2.4835	52.01	RMS	32.6	-34.2	0	50.41	54	-3.59	-	-	145	119	V
		*2.483523	52.25	RMS	32.6	-34.2	0	50.65	54	-3.35	-	-	145	119	V
250kbps	2475	* 2.4835	55.94	Pk	32.6	-34.2	0	54.34	-	-	74	-19.66	181	126	H
		* 2.483568	56.88	Pk	32.6	-34.2	0	55.28	-	-	74	-18.72	181	126	H
		* 2.4835	45.1	RMS	32.6	-34.2	0	43.5	54	-10.5	-	-	181	126	H
		* 2.483843	45.3	RMS	32.6	-34.2	0	43.7	54	-10.3	-	-	181	126	H
		* 2.4835	55.19	Pk	32.6	-34.2	0	53.59	-	-	74	-20.41	296	348	V
		*2.518663	56.74	Pk	32.6	-34.1	0	55.24	-	-	74	-18.76	296	348	V
		* 2.4835	43.88	RMS	32.6	-34.2	0	42.28	54	-11.72	-	-	296	348	V
		* 2.483629	44.93	RMS	32.6	-34.2	0	43.33	54	-10.67	-	-	296	348	V

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

Pk - Peak detector

RMS - RMS detection

BANDEDGE (HIGH CHANNEL, 2480MHz)**HORIZONTAL RESULT****VERTICAL RESULT**

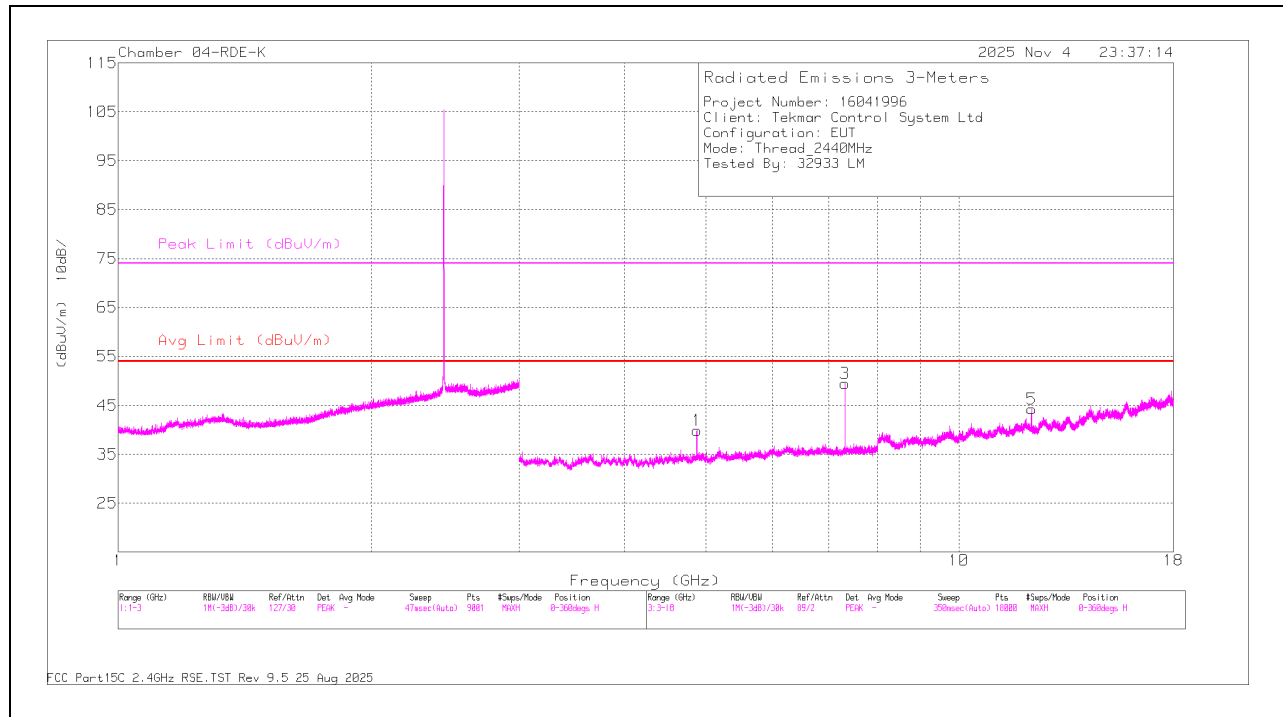
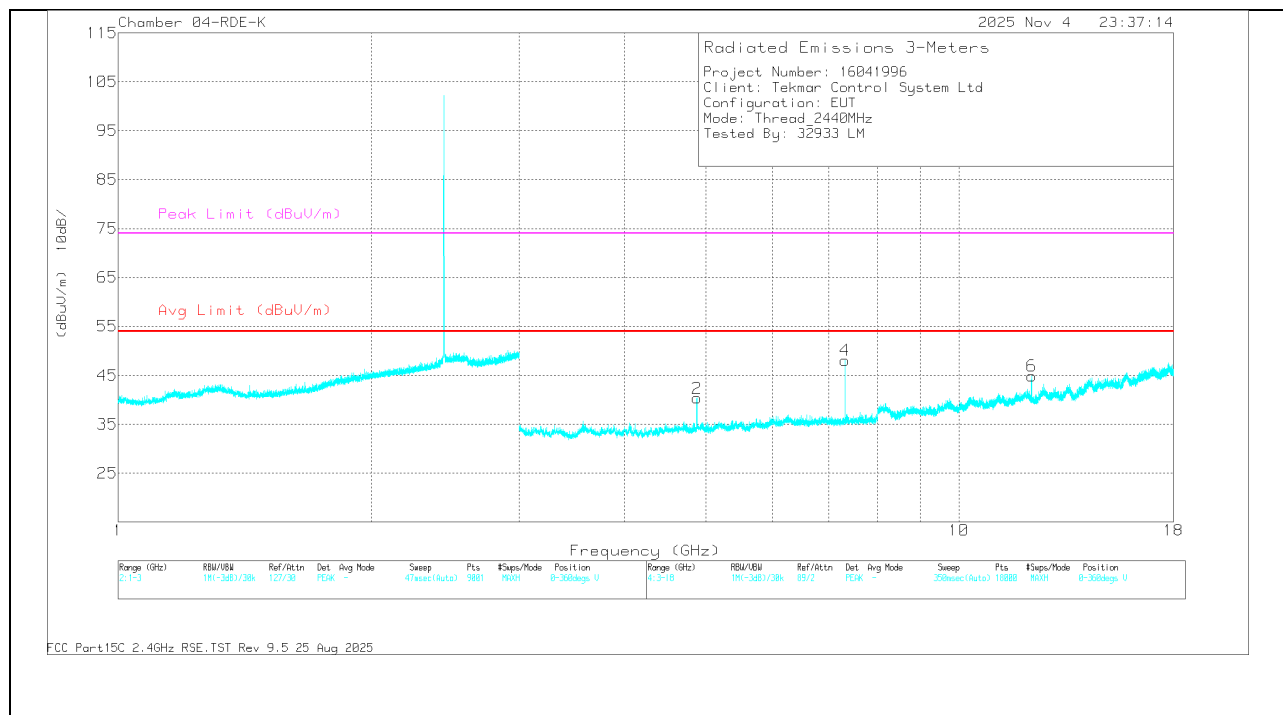
10.1.3. SPURIOUS EMISSIONS

2.4 GHz (SISO)	Channel Frequency (MHz)	Frequency (GHz)	Meter Reading (dBuV)	Det	ACF (dB/m)	Amp/Cbl/ Fitr/Pad (dB)	DCCF (dB)	Correct Reading (dBuV/m)	Avg Limit (dBuV/m)	Avg Margin (dB)	Pk Limit (dBuV/m)	Pk Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
250kbps	2405	* 4.808895	47.82	MAv1	34.1	-40.2	0	41.72	54	-12.28	-	-	4	239	H
		* 4.811357	55.22	PK2	34.1	-40.2	0	49.12	-	-	74	-24.88	4	239	H
		* 4.808825	56.34	PK2	34.1	-40.2	0	50.24	-	-	74	-23.76	21	180	V
		* 4.809216	49.28	MAv1	34.1	-40.2	0	43.18	54	-10.82	-	-	21	180	V
		7.213414	59.73	PK2	35.6	-38.3	0	57.03	-	-	-	-	39	243	H
		7.21681	53.94	MAv1	35.6	-38.2	0	51.34	-	-	-	-	39	243	H
		7.216581	51.53	MAv1	35.6	-38.2	0	48.93	-	-	-	-	353	204	V
		7.216679	57.64	PK2	35.6	-38.2	0	55.04	-	-	-	-	353	204	V
		14.42689	39.02	MAv1	39.3	-34.4	0	43.92	-	-	-	-	85	101	H
		14.433681	49.56	PK2	39.3	-34.4	0	54.46	-	-	-	-	85	101	H
		14.426919	38.58	MAv1	39.3	-34.4	0	43.48	-	-	-	-	359	101	V
		14.433643	49.49	PK2	39.3	-34.4	0	54.39	-	-	-	-	359	101	V
	2440	* 4.878864	54.87	PK2	34.1	-40.2	0	48.77	-	-	74	-25.23	50	101	H
		* 4.881029	46.09	MAv1	34.1	-40.3	0	39.89	54	-14.11	-	-	50	101	H
		* 4.878836	48.02	MAv1	34.1	-40.2	0	41.92	54	-12.08	-	-	36	120	V
		* 4.881259	55.48	PK2	34.1	-40.3	0	49.28	-	-	74	-24.72	36	120	V
		* 7.318191	60.72	PK2	35.6	-37.8	0	58.52	-	-	74	-15.48	48	257	H
		* 7.318582	54.82	MAv1	35.6	-37.8	0	52.62	54	-1.38	-	-	48	257	H
		* 7.318629	50.83	MAv1	35.6	-37.8	0	48.63	54	-5.37	-	-	360	253	V
		* 7.321829	56.98	PK2	35.6	-37.8	0	54.78	-	-	74	-19.22	360	253	V
		* 12.196942	50.4	PK2	38.8	-34.6	0	54.6	-	-	74	-19.4	218	218	H
		* 12.202697	40.61	MAv1	38.8	-34.6	0	44.81	54	-9.19	-	-	218	218	H
		* 12.196991	49.38	PK2	38.8	-34.6	0	53.58	-	-	74	-20.42	40	281	V
		* 12.202782	40.19	MAv1	38.8	-34.6	0	44.39	54	-9.61	-	-	40	281	V
	2480	* 4.95901	47.75	MAv1	34.1	-40.2	0	41.65	54	-12.35	-	-	190	202	H
		* 4.961223	55.86	PK2	34.1	-40.2	0	49.76	-	-	74	-24.24	190	202	H
		* 4.958985	55.87	PK2	34.1	-40.2	0	49.77	-	-	74	-24.23	208	156	V
		* 4.961003	48	MAv1	34.1	-40.2	0	41.9	54	-12.1	-	-	208	156	V
		* 7.438473	58.89	PK2	35.6	-37.6	0	56.89	-	-	74	-17.11	270	102	H
		* 7.441713	53.15	MAv1	35.6	-37.6	0	51.15	54	-2.85	-	-	270	102	H
		* 7.441522	57.5	PK2	35.6	-37.6	0	55.5	-	-	74	-18.5	230	101	V
		* 7.44166	51.54	MAv1	35.6	-37.6	0	49.54	54	-4.46	-	-	230	101	V
		* 12.397173	49.44	PK2	38.8	-34.2	0	54.04	-	-	74	-19.96	34	210	H
		* 12.402871	40.13	MAv1	38.8	-34.3	0	44.63	54	-9.37	-	-	34	210	H
		* 12.402678	40.99	MAv1	38.8	-34.3	0	45.49	54	-8.51	-	-	262	200	V
		* 12.40274	49.66	PK2	38.8	-34.3	0	54.16	-	-	74	-19.84	262	200	V

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

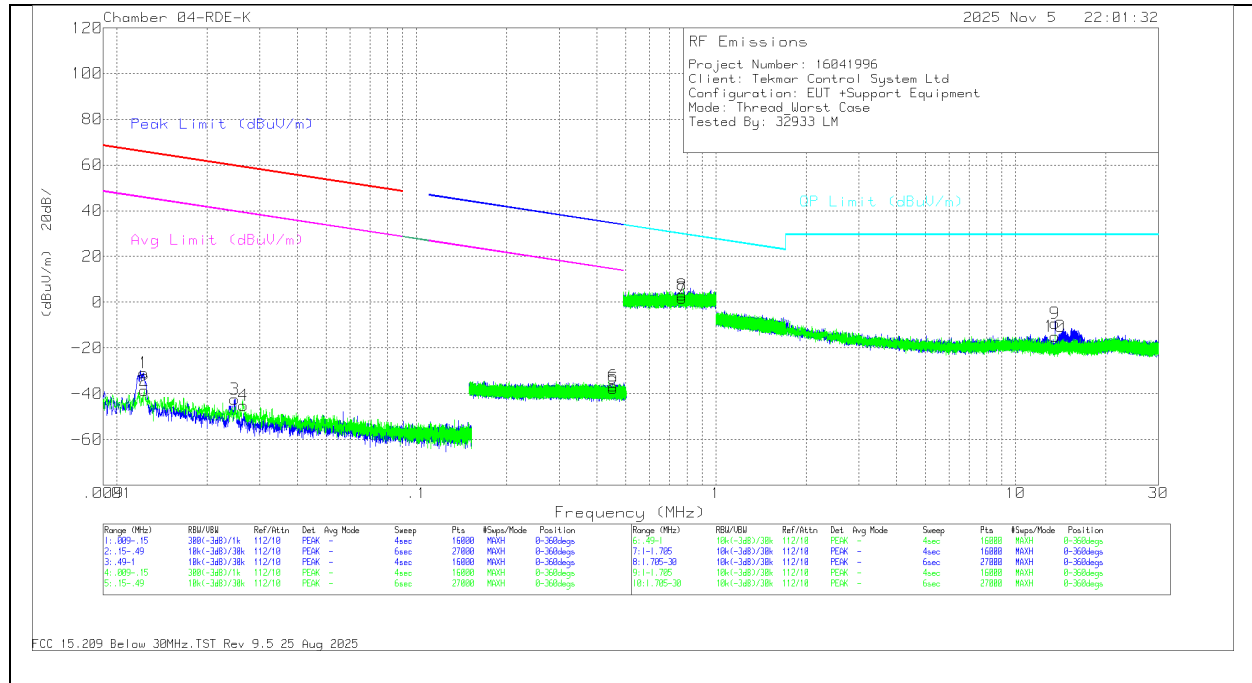
Pk - Peak detector

RMS - RMS detection

SPURIOUS HARMONIC (MID CHANNEL)**HORIZONTAL RESULT****VERTICAL RESULT**

10.2. TRANSMITTER WORST CASE BELOW 30MHz

SPURIOUS EMISSIONS BELOW 30MHz (WORST-CASE CONFIGURATION)



Below 30MHz Data

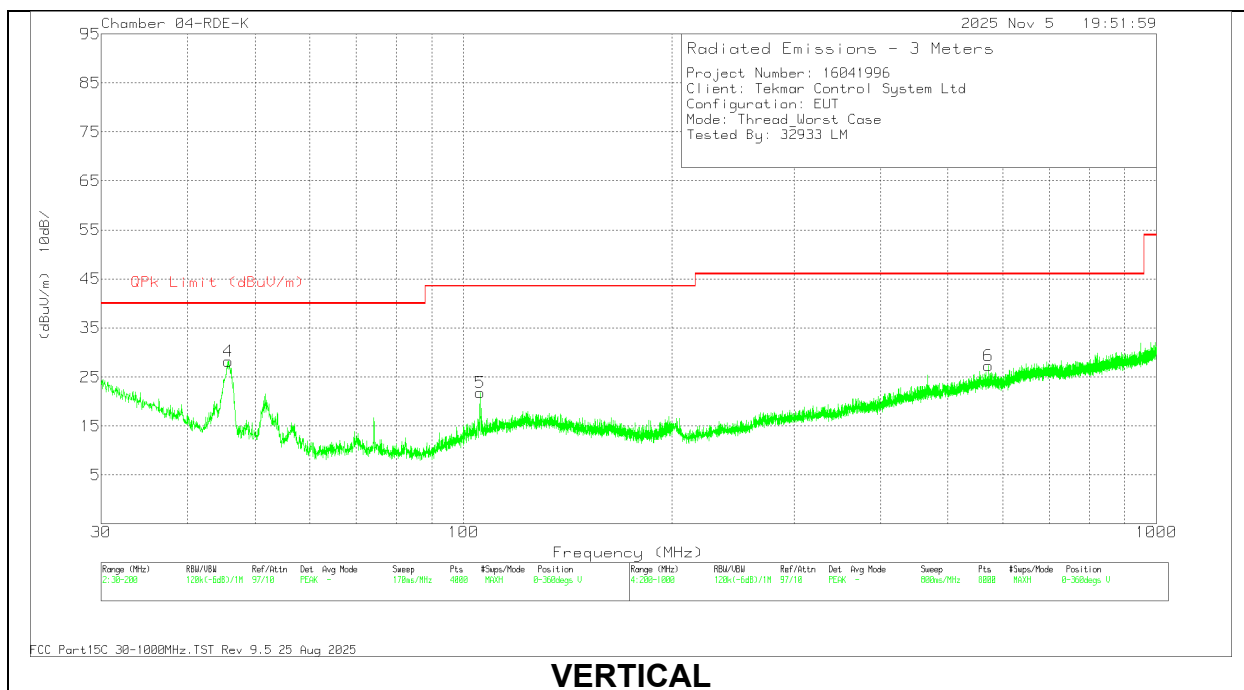
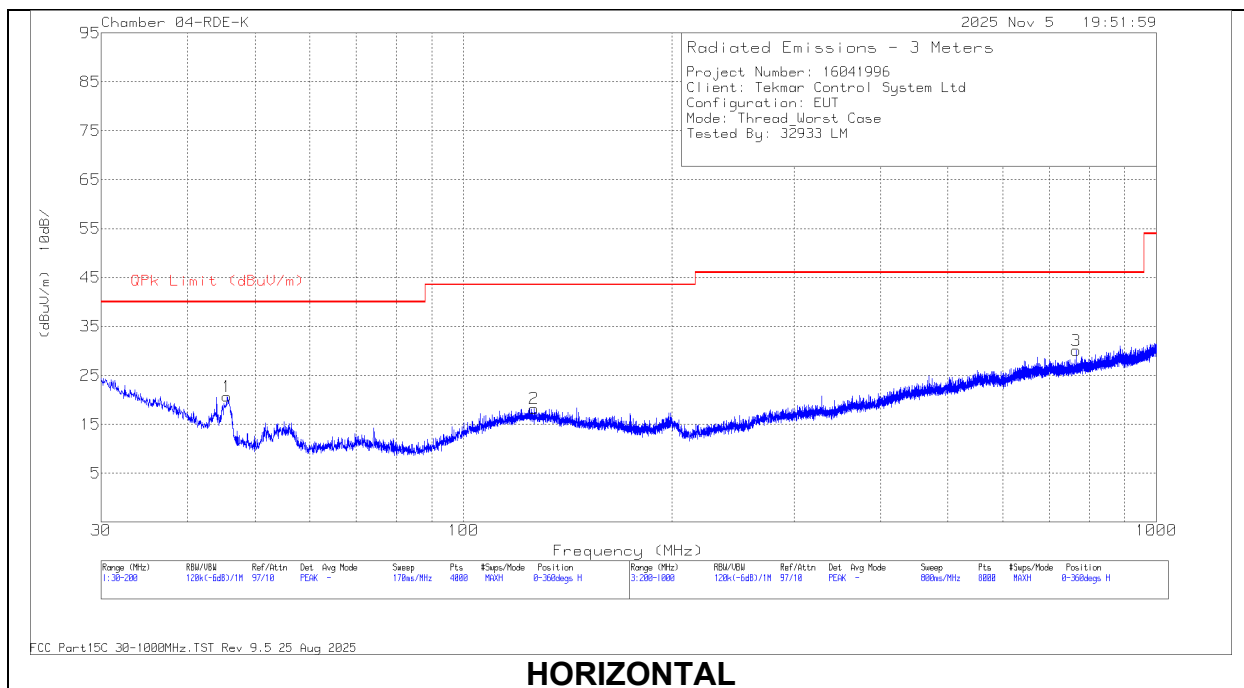
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna E (dB/m)	Amp/Cbl (dB)	Dist Corr 300m (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Polarity FACE
1	.0123	19.23	Pk	60.1	-30.3	-80	-30.97	65.8	-96.77	45.8	-76.77	-	-	-	-	0-360	ON
2	.0123	11.51	Pk	60.1	-30.3	-80	-38.69	65.75	-104.44	45.75	-84.44	-	-	-	-	0-360	OFF
3	.0248	11.28	Pk	58.6	-32.2	-80	-42.32	59.71	-102.03	39.71	-82.03	-	-	-	-	0-360	ON
4	.0264	8.64	Pk	58.4	-32.3	-80	-45.26	59.14	-104.4	39.14	-84.4	-	-	-	-	0-360	OFF
5	.4538	18.12	Pk	56.2	-32	-80	-37.68	-	-	-	-	34.47	-72.15	14.47	-52.15	0-360	ON
6	.4537	19.19	Pk	56.2	-32	-80	-36.61	-	-	-	-	34.47	-71.08	14.47	-51.08	0-360	OFF

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna E (dB/m)	Amp/Cbl (dB)	Dist Corr 30m (dB) 40Log	Corrected Reading (dBuV/m)	QP Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Polarity FACE
7	.7711	17.36	Pk	56.4	-31.9	-40	1.86	29.87	-28.01	0-360	ON
8	.7713	18.71	Pk	56.4	-31.9	-40	3.21	29.87	-26.66	0-360	OFF
9	13.5631	28.29	Pk	34	-31.6	-40	-9.31	29.5	-38.81	0-360	ON
10	13.561	22.72	Pk	34	-31.6	-40	-14.88	29.5	-44.38	0-360	OFF

Pk - Peak detector

10.3. TRANSMITTER WORST CASE BELOW 1 GHz

SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION)



Below 1GHz Data

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	203089 ACF (dB/m)	Amp/CbIs (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	45.6015	35.71	Pk	16.1	-31.1	20.71	40	-19.29	0-360	399	H
2	* 126.457	28.64	Pk	20	-30.4	18.24	43.52	-25.28	0-360	199	H
3	765.474	30.66	Pk	26.7	-27.3	30.06	46.02	-15.96	0-360	399	H
4	45.8765	45.52	Pk	15.9	-31.1	30.32	40	-9.68	347	100	V
	45.8765	39.09	Qp	15.9	-31.1	23.89	40	-16.11	347	100	V
5	105.712	34.46	Pk	17.9	-30.6	21.76	43.52	-21.76	0-360	100	V
6	572.548	31.31	Pk	24.4	-28.4	27.31	46.02	-18.71	0-360	299	V

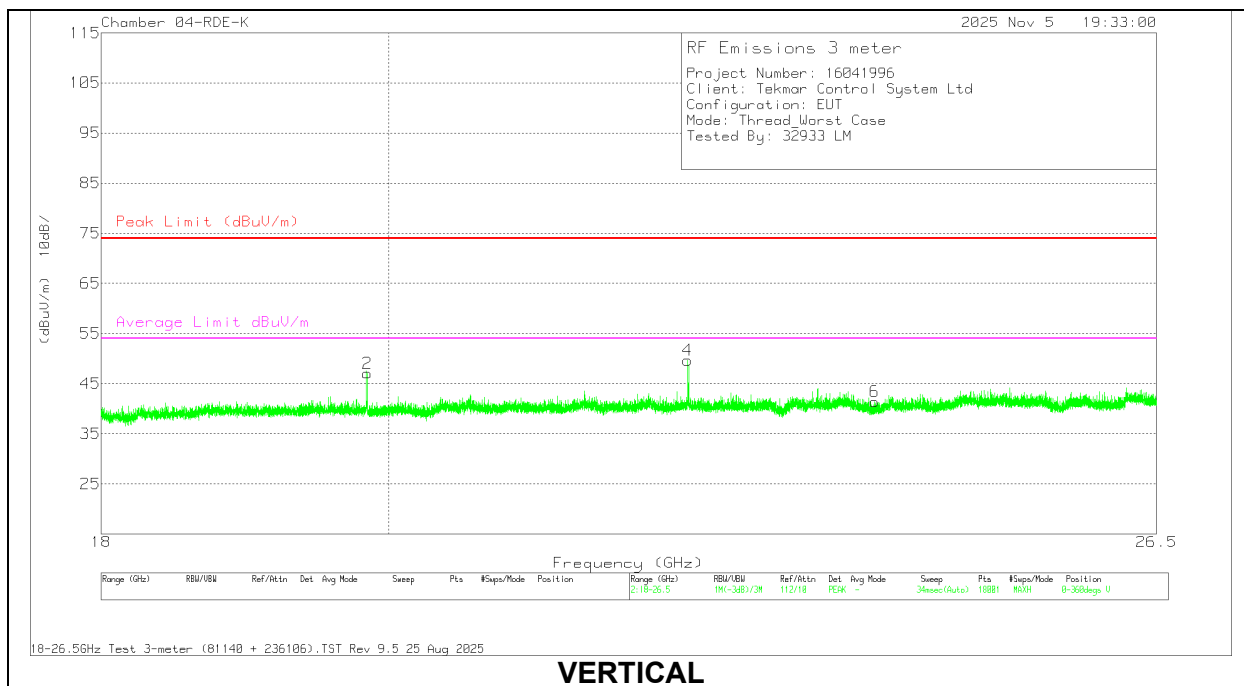
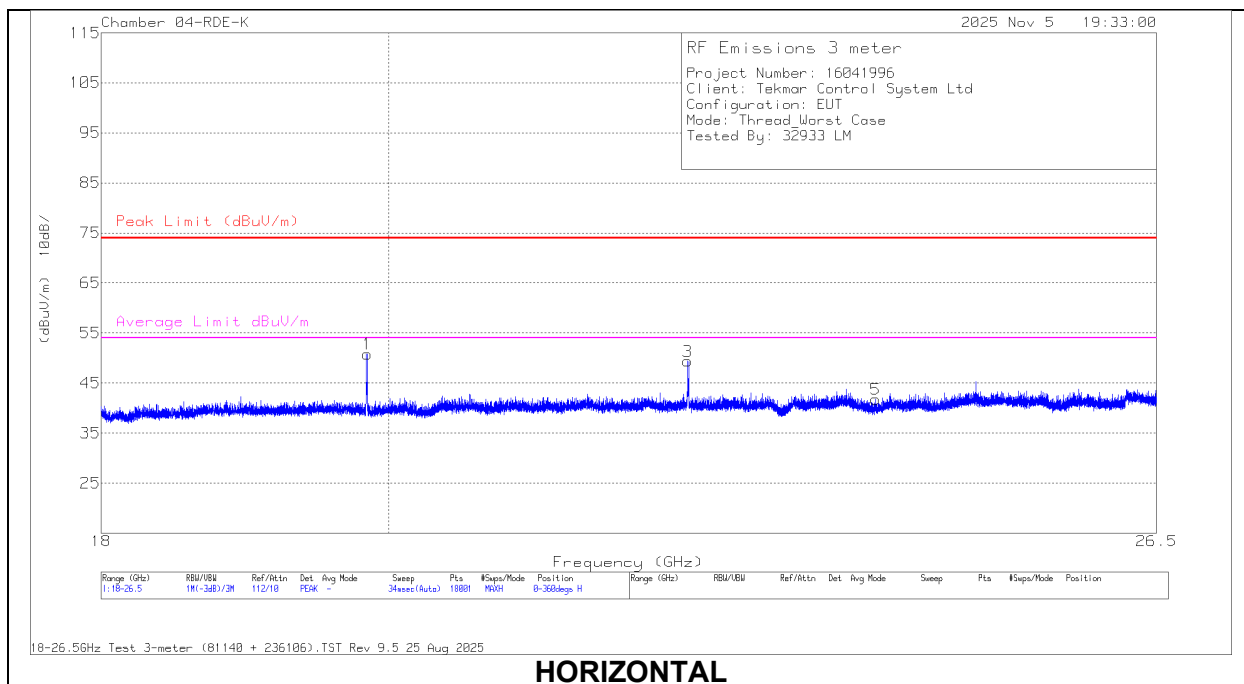
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

Qp - Quasi-Peak detector

10.4. TRANSMITTER WORST CASE 18-26 GHz

SPURIOUS EMISSIONS 18-26 GHz (WORST-CASE CONFIGURATION)



18 – 26GHz Data

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	81140 ACF (dB/m)	CBL/AMP (dB)	CBL (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Average Limit dBuV/m	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 19.844027	60.81	Pk	32.4	-62.4	20	50.81	74	-23.19	-	-	0-360	200	H
2	* 19.844499	57.09	Pk	32.4	-62.4	20	47.09	74	-26.91	-	-	0-360	101	V
3	* 22.314692	57.85	Pk	33.1	-62.7	21.1	49.35	74	-24.65	-	-	0-360	101	H
4	* 22.315637	58.17	Pk	33.1	-62.7	21.1	49.67	74	-24.33	-	-	0-360	101	V
5	* 23.906553	50.02	Pk	33.5	-63.6	21.8	41.72	74	-32.28	-	-	0-360	200	H
6	* 23.899942	49.67	Pk	33.5	-63.6	21.8	41.37	74	-32.63	-	-	0-360	200	V

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

PK - Peak detector

11. SETUP PHOTOS

Please refer to 16041996-EP2 for setup photos

END OF REPORT