

CERTIFICATION TEST REPORT

Report Number. : U-4791922710-FR1V3

Applicant : SEGI LIMITED
15/F, Eastern Central Plaza, 3 Yiu Hing Road, Shau Kei Wan,
Hong Kong Island, Hong Kong

Model : 2WG18R-SS

FCC ID : VA5REN510-2WLR

IC : 7087A-2WREN510LR

EUT Description : Keyless Entry System

Test Standard(s) : FCC 47 CFR PART 15 SUBPART C
INDUSTRY CANADA RSS-247 Issue 4
INDUSTRY CANADA RSS-GEN Issue 5

Date Of Issue:
2025-10-02

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Revision History

Rev.	Issue Date	Revisions	Revised By
V1	2025-09-30	Initial issue	Jungi Shin
V2	2025-10-01	Updated to address TCB's question	Jungi Shin
V3	2025-10-02	Updated to address TCB's question	Jungi Shin

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: SEGI LIMITED

EUT DESCRIPTION: Keyless Entry System

MODEL NUMBER: 2WG18R-SS

SERIAL NUMBER: Identical prototype(Conducted)
Identical prototype(Radiated)

DATE TESTED: 2025-09-23 ~ 2025-09-29

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
47 CFR Part 15 Subpart C	Complies
INDUSTRY CANADA RSS-247 Issue 4	Complies
INDUSTRY CANADA RSS-GEN Issue 5	Complies

UL Korea, Ltd. tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by UL Korea, Ltd. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Note: The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by UL Korea, Ltd. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL Korea, Ltd. will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by IAS, any agency of the Federal Government, or any agency of any government.

Approved & Released For
UL KOREA LTD. By:



Changmin Kim
Senior Laboratory Engineer
UL Korea, Ltd.

Tested By:



Jungi Shin
Laboratory Engineer Associate
UL Korea, Ltd.

2. TEST METHODOLOGY

1. FCC 47 CFR Part 2.
2. FCC 47 CFR Part 15.247
3. IC RSS-247 Issue 4
4. IC RSS-GEN Issue 5
5. KDB 558074 D01 15.247 Meas Guidance v05r02.
6. ANSI C63.10-2020. (FCC)
7. ANSI C63.10-2020 + Cor. 1-2023 + C63.10a-2024. (ISED)

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 42, Obongsandan 1-ro, Uiwang-si, Gyeonggi-do, Republic of Korea. Line conducted emissions are measured only at the 218 address. The following table identifies which facilities were utilized for radiated emission measurements documented in this report. Specific facilities are also identified in the test results sections.

42, Obongsandan 1-ro	
☐	Chamber 1
☒	Chamber 2

Used ISED Test Site Reg.(company number): 32001
CAB Identifier: KR0161

UL Korea, Ltd. is accredited by IAS, Laboratory Code TL-1087. The full scope of accreditation can be viewed at <https://www.iasonline.org/wp-content/uploads/2022/05/TL-1087-Cert-New.pdf>

4. DECISION RULES AND MEASUREMENT UNCERTAINTY

4.1. METROLOGICAL TRACEABILITY

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations, and is traceable to recognized national standards.

4.2. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

$$\begin{aligned} \text{Field Strength (dBuV/m)} &= \text{Measured Voltage (dBuV)} + \text{Antenna Factor (dB/m)} + \\ &\text{Cable Loss (dB)} - \text{Preamp Gain (dB)} \\ 28.9 \text{ dBuV/m} &= 36.5 \text{ dBuV} + 18.7 \text{ dB/m} + 0.6 \text{ dB} - 26.9 \text{ dB} \end{aligned}$$

4.3. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

Common Items

PARAMETER	UNCERTAINTY
RF Output Power	0.94 dB
Power Spectral Density	0.85 dB
Occupied Bandwidth	0.07 %
Conducted Spurious Emissions	1.21 dB

Uncertainty figures are valid to a confidence level of 95%, k=2

Chamber 2

PARAMETER	UNCERTAINTY
Radiated Disturbance, 9 kHz to 30 MHz	1.93 dB
Radiated Disturbance, 30 MHz to 1 GHz	3.64 dB
Radiated Disturbance, 1 GHz to 18 GHz	5.48 dB
Radiated Disturbance, Above 18 GHz	6.28 dB

Uncertainty figures are valid to a confidence level of 95%, k=2

4.4. DECISION RULES

Decision rule for statement(s) of conformity is based on Clause 4.3.3 in IEC Guide 115:2023. Measurement Uncertainty is not applied when providing statements of conformity in accordance with IEC Guide 115:2023, 4.3.3

5. EQUIPMENT UNDER TEST

5.1. EUT DESCRIPTION

The EUT is Keyless Entry System
This test report addresses the DTS operational mode.

5.2. MAXIMUM OUTPUT POWER

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

Frequency Range[MHz]	Mode	Detector	Output Power [dBm]	Output Power [mW]
907 ~ 919	DSSS	Peak	18.35	68.39

5.3. DESCRIPTION OF AVAILABLE ANTENNAS

An intentional radiator antenna shall be designed to ensure that no antenna other than that furnished by the responsible party can be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.

**The internal antenna was Permanently attached.
Therefore this E.U.T Complies with the requirement of §15.203.**

The radio utilizes a internal antenna, with a maximum gain of:

ANT Type	Frequency Band[MHz]	ANT Gain [dBi]
Helical Antenna	907 – 919	-7.30

5.4. WORST-CASE CONFIGURATION AND MODE

The fundamentals of the EUT were investigated in three orthogonal orientations X, Y and Z.
It was determined that below table's orientation was the worst-case orientation.

Mode	Worst-case Axis		
	X	Y	Z
DSSS	O	-	-

5.5. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
-	-	-	-	-

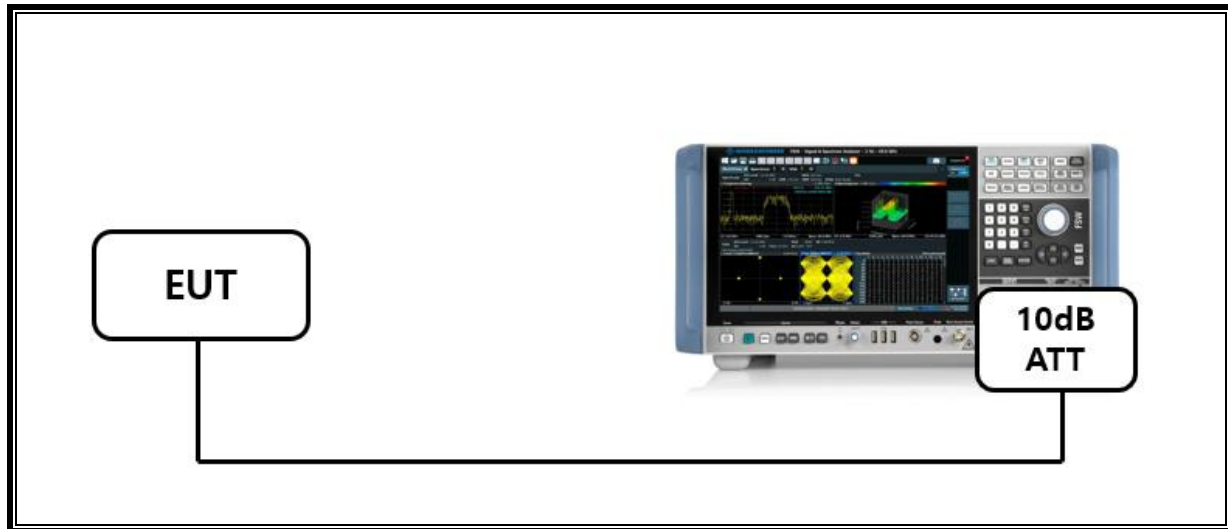
I/O CABLE

I/O Cable List						
Cable No.	Port	# of identical ports	Connector Type	Cable Type	Cable Length (m)	Remarks
-	-	-	-	-	-	-

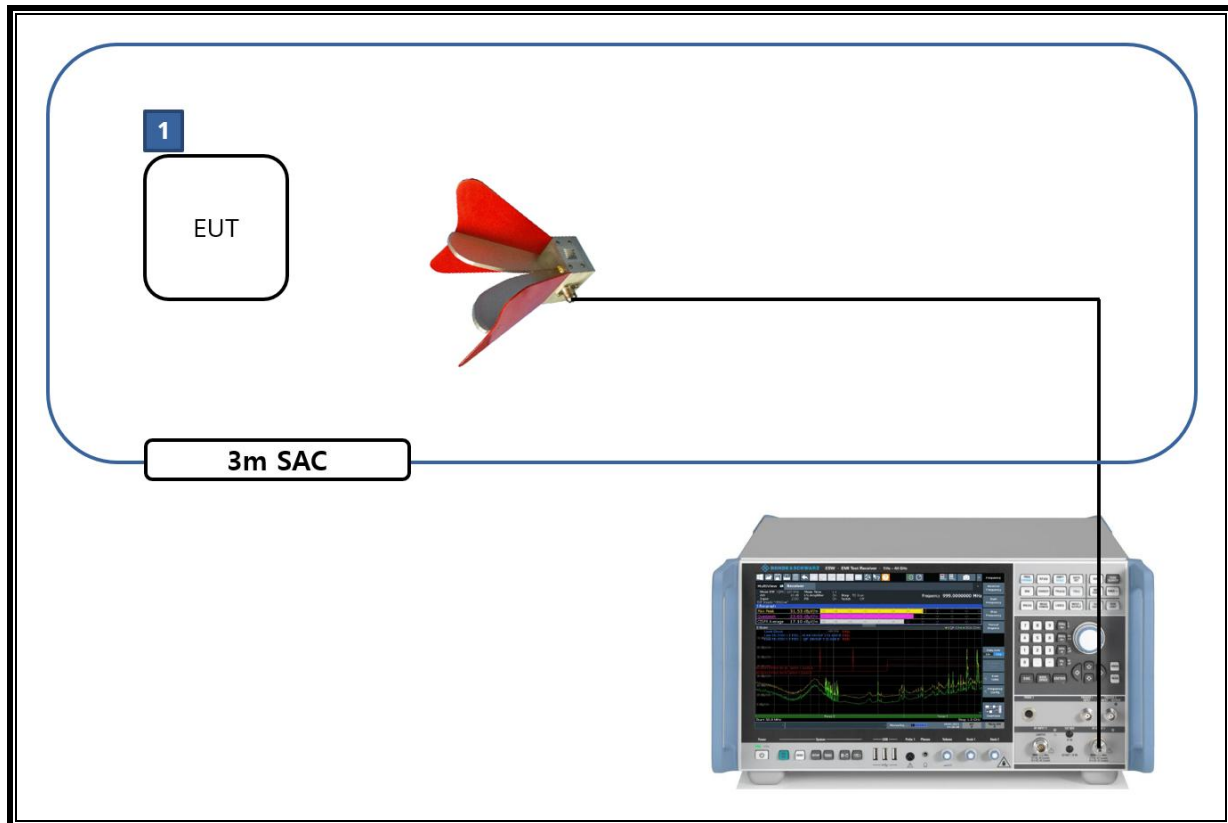
TEST SETUP

The EUT is a stand-alone unit during the tests.

SETUP DIAGRAM FOR TESTS (CONDUCTED TEST SETUP)



SETUP DIAGRAM FOR TESTS (RADIATED TEST SETUP)



6. MEASUREMENT METHOD

6 dB BW : ANSI C63.10-2020, Section 11.8.2 Option 2

OUTPUT POWER : ANSI C63.10-2020, Section 11.9.1.1 RBW $\geq$ DTS bandwidth

POWER SPECTRAL DENSITY : ANSI C63.10-2020, Section 11.10.2 Method PKPSD (peak PSD)

Out-of-band Emissions (Conducted) : ANSI C63.10-2020, Section 11.11 Emissions in nonrestricted frequency bands

Out-of-band Emissions in Non-restricted Bands: ANSI C63.10-2020, Section 11.11 Emissions in nonrestricted frequency bands

Out-of-band Emissions in Restricted Bands : ANSI C63.10-2020, Section 11.12 Emissions in restricted frequency bands

7. TEST AND MEASUREMENT EQUIPMENT

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

Description	Manufacturer	Model	Identifier	Cal. Date	Next Cal. Date
Spectrum Analyzer	Rohde & Schwarz	FSW50	101567	2025-07-14	2026-07-14
Signal Generator	Rohde & Schwarz	SMB100A	184060	2025-07-14	2026-07-14
EMI Test Receiver	Rohde & Schwarz	ESW44	103313	2025-01-22	2026-01-22
DC Power Supply	KIKUSUI	PWR1201ML	DN002201	2025-07-14	2026-07-14
Double-Ridged Guide Antenna	ETS LINDGREN	3117	00261463	2025-07-31	2026-07-31
TRILOG BROADBAND ANTENNA	Schwarzbeck	VULB 9163	01661	2024-03-18	2026-03-18
Loop Antenna	TESEQ	HLA 6121	65111	2025-07-17	2027-07-17
Signal Conditioning Unit	Rohde & Schwarz	SCH01F	100316	2025-03-11	2026-03-11
Amplifier	BNZ	BZR-01001800-231040-182020	28452	2025-01-22	2026-01-22
Attenuator	Centric RF	C040-10	N/A	2025-01-02	2026-01-02
Attenuator	EXYNOD	RLAN-210-18G	10A001	2025-01-22	2026-01-22
Filter	MICRO-TRONICS	HPM50108-02	G005	2025-07-23	2026-07-23
Humidity/Baro/Temp DATA RECORDER	Lutron	MHB-382SD	AM.00223	2025-01-02	2026-01-02
Humidity/Baro/Temp DATA RECORDER	Lutron	MHB-382SD	AM.00227	2025-01-02	2026-01-02
Attn. Switch	Agilent	11713A	3748A09520	N/A	N/A
Controller	Innco Systems	CO3000	CO3000/1280/49380520/P	N/A	N/A
Antenna Mast	Innco Systems	MA4640	N/A	N/A	N/A
Turn Table	Innco Systems	DS2000	N/A	N/A	N/A

Measurement Software			
Description	Manufacturer	Model	Version
Radiated software	UL	UL EMC	Ver 9.5

8. TEST RESULTS SUMMARY

FCC Part Section	IC Part Section	Test Description	Test Limit	Test Condition	Test Result ^{Note 1}
15.247 (a)(2)	RSS-247 5.2(a)	Occupied Bandwidth (6dB & 99%)	> 500kHz	Conducted	C
2.1051, 15.247(d)	RSS-247 5.5	Band Edge / Conducted Spurious Emission	-20 dBc		C
15.247 (b)(3)	RSS-247 5.4(d)	TX conducted output power	< 30 dBm		C
15.247(e)	RSS-247 5.2(b)	PSD	< 8 dBm/3kHz		C
15.207(a)	RSS-GEN Clause 8.8	AC Power Line conducted emissions	Section 12	Power Line conducted	N/A ^{Note4}
15.205, 15.209	RSS-GEN Clause 8.9 & 8.10	Radiated Spurious Emission	< 54dBuV/m(Av)	Radiated	C
Note 1: C=Comply NC=Not Comply NT=Not Tested NA=Not Applicable Note 2: For radiated emission tests below 30 MHz were performed on semi-anechoic chamber which is correlated with OATS. Note 3: This test item was performed in three orthogonal EUT positions and the worst case data was reported. Note 4: The EUT is only supplied by DC power (CR2325 battery*2ea).					

9. ANTENNA PORT TEST RESULTS

9.1. ON TIME AND DUTY CYCLE

LIMITS

None; for reporting purposes only.

Mode	On time [msec]	Period [msec]	Duty Cycle [%]	Duty Cycle Correction Factor [dB]
DSSS (Conducted sample)	-	-	100.00	0.00
DSSS (Radiated sample)	10.50	101.25	10.37	9.84



9.2. 6 dB BANDWIDTH & 99% BANDWIDTH

LIMITS

FCC §15.247 (a) (2), RSS-247 5.2 (a)

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

Occupied Bandwidth:

None; for reporting purposes only.

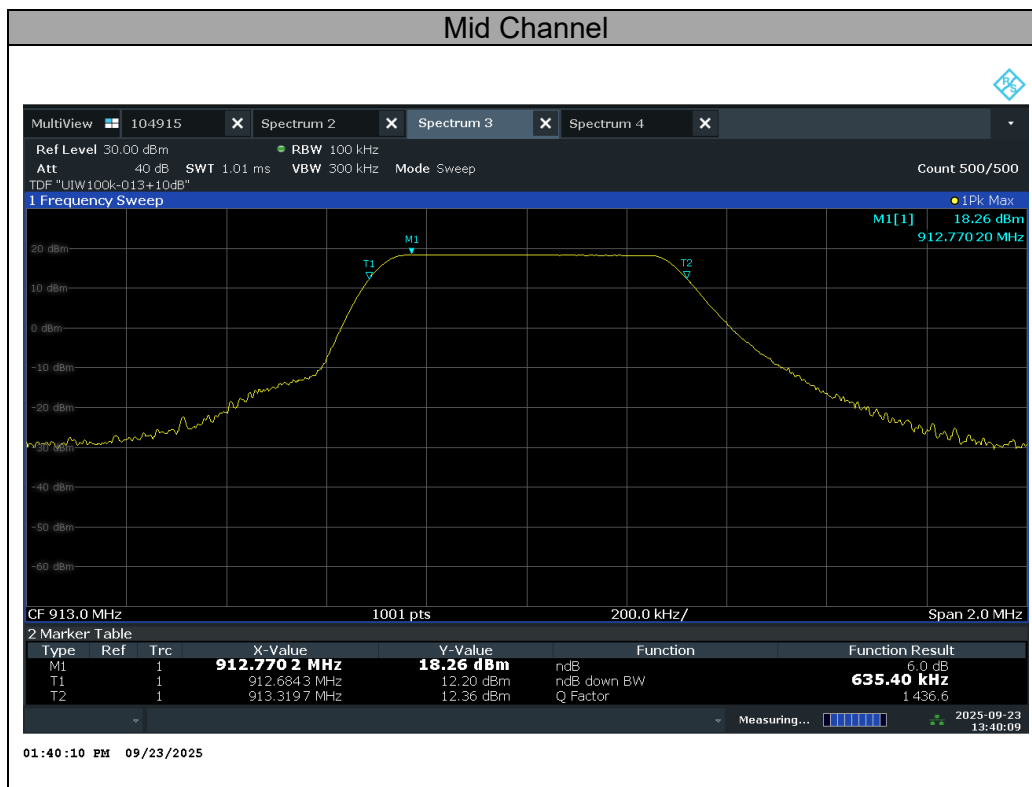
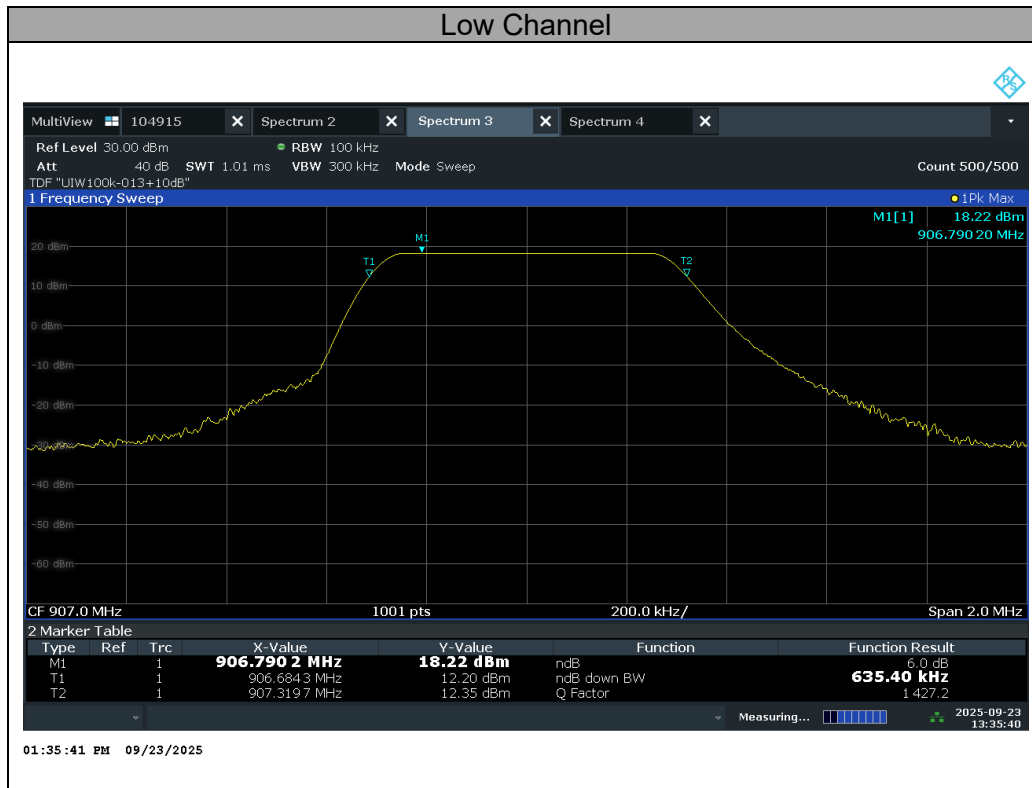
RESULTS

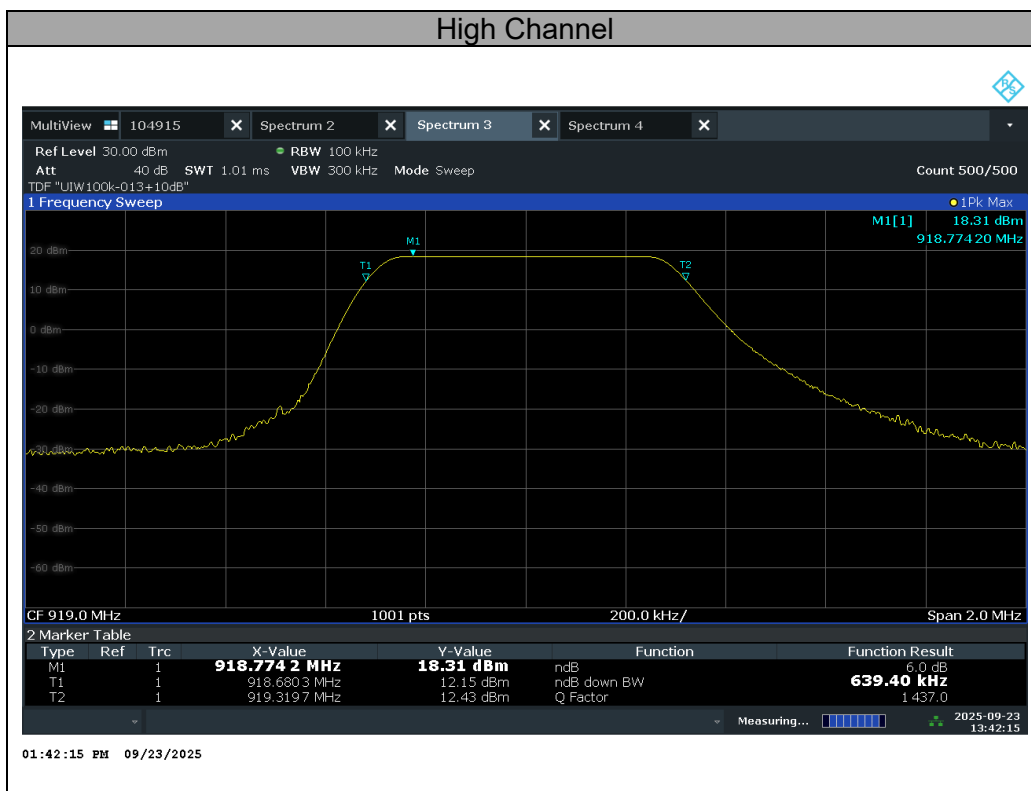
9.2.1. Test data

Mode	Channel	Frequency [MHz]	6 dB Bandwidth [kHz]	Minimum Limit [kHz]
DSSS	Low	907	635.4	500.0
	Mid	913	635.4	
	High	919	639.4	

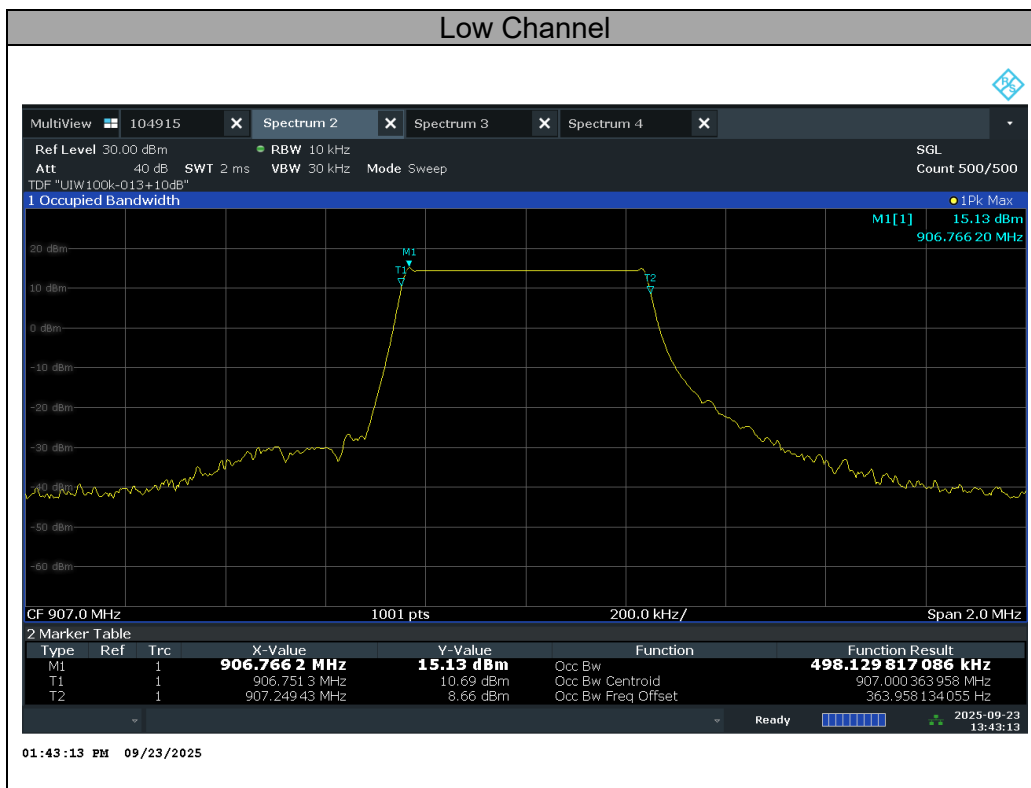
Mode	Channel	Frequency [MHz]	99% Bandwidth [kHz]	Minimum Limit [kHz]
DSSS	Low	907	498.1	N/A
	Mid	913	497.9	
	High	919	499.3	

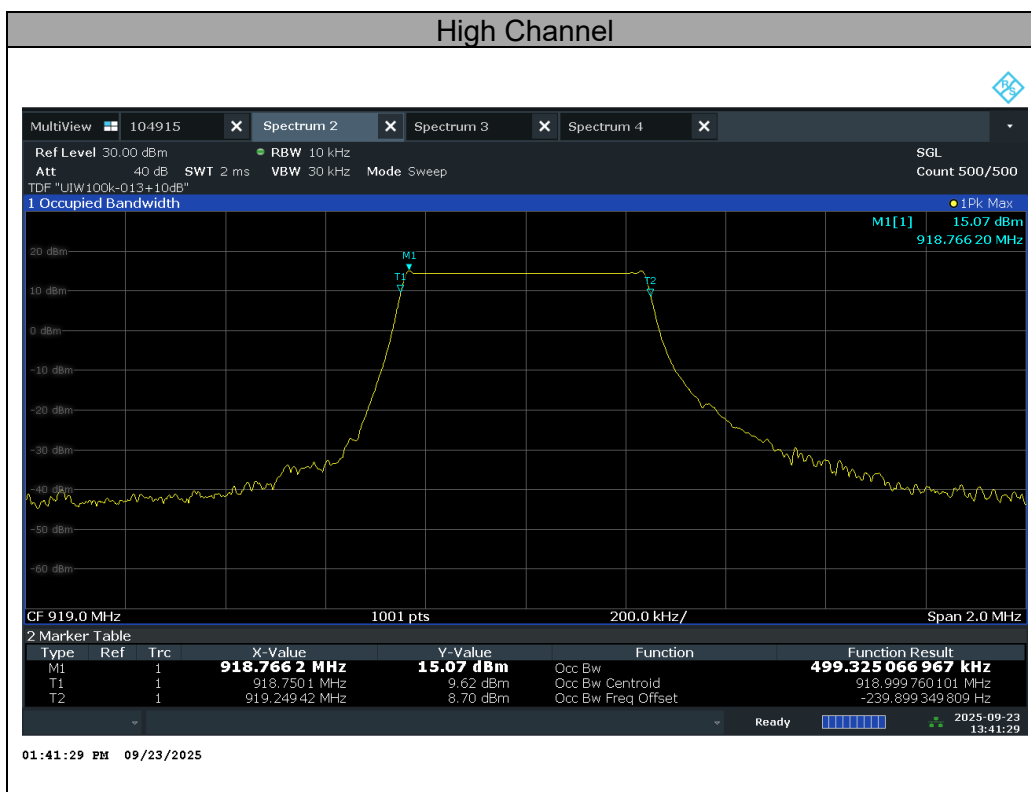
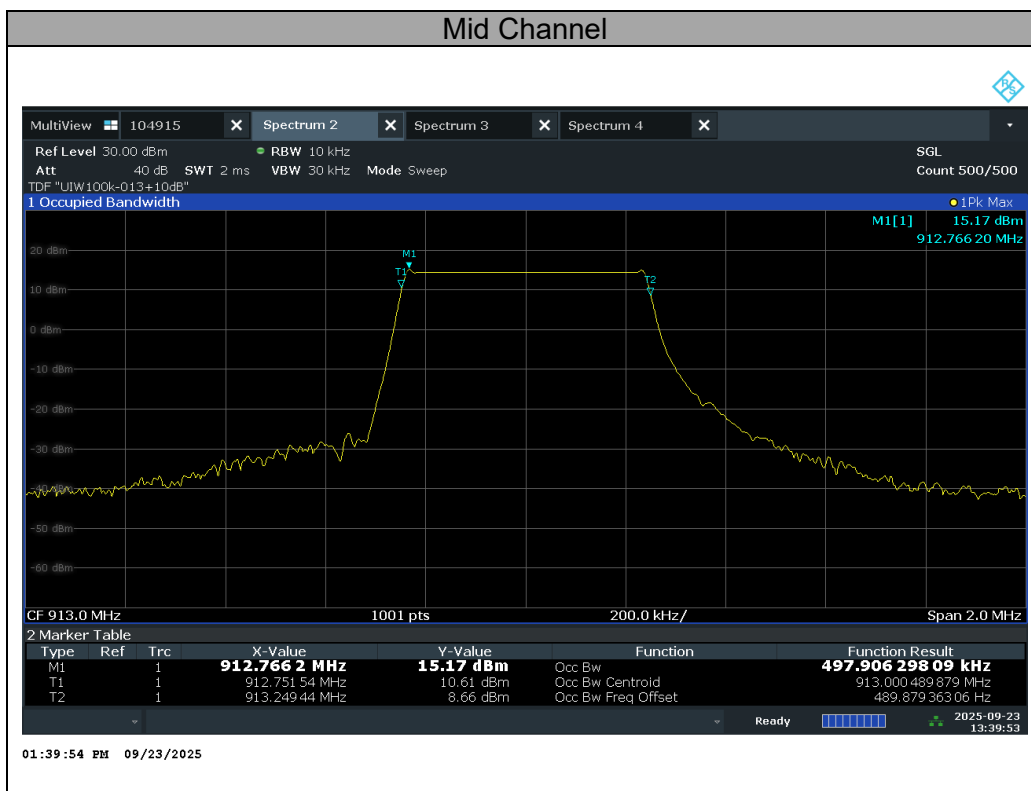
9.2.2. 6 dB BANDWIDTH PLOTS





9.2.3 99% BANDWIDTH PLOTS





9.3. OUTPUT POWER

LIMITS

FCC §15.247 (b) (3), RSS-247 5.4(d)

The maximum antenna gain is less than or equal to 6 dBi, therefore the limit is 30 dBm.

TEST PROCEDURE

Peak power is measured using ANSI C63.10(2020) under section 11.9.1.1 utilizing spectrum analyzer(RBW $\geq$ DTS bandwidth).

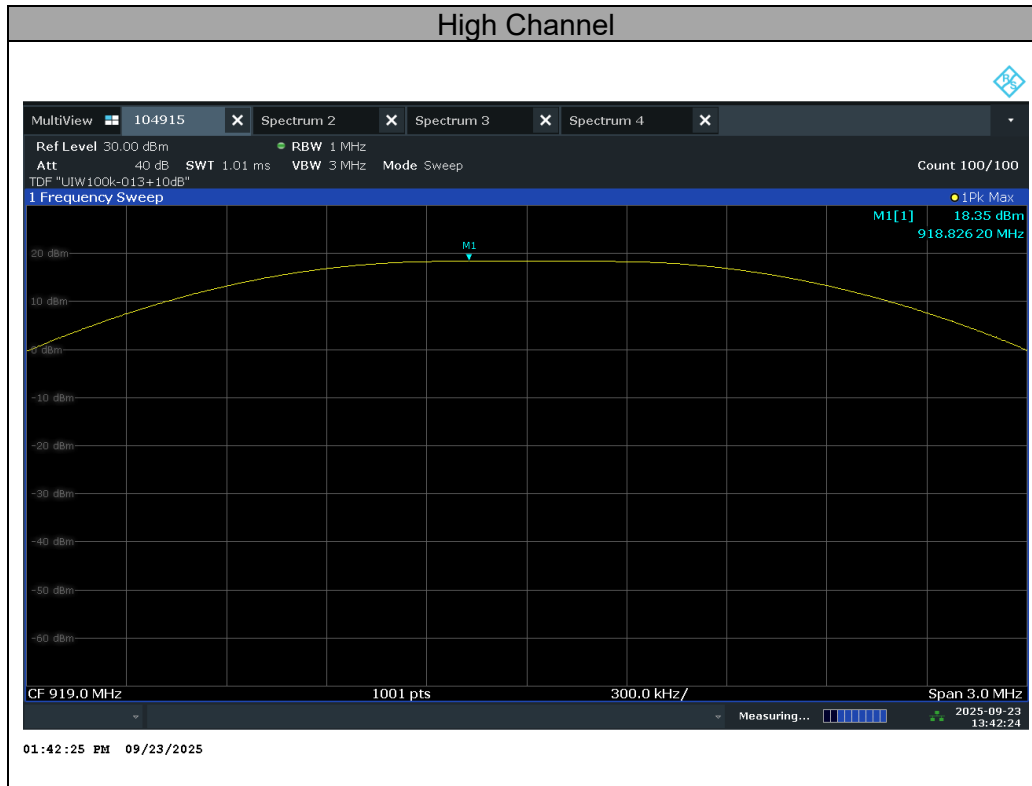
RESULTS

9.3.1. PEAK POWER TEST DATA

Mode	Channel	Frequency [MHz]	Peak Output Power [dBm]	Limit [dBm]	Margin [dB]
DSSS	Low	907	18.26	30.00	11.74
	Mid	913	18.30		11.70
	High	919	18.35		11.65

9.3.2. PEAK POWER PLOTS





9.4. POWER SPECTRAL DENSITY

LIMITS

FCC §15.247 (e), RSS-247 5.2(b)

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

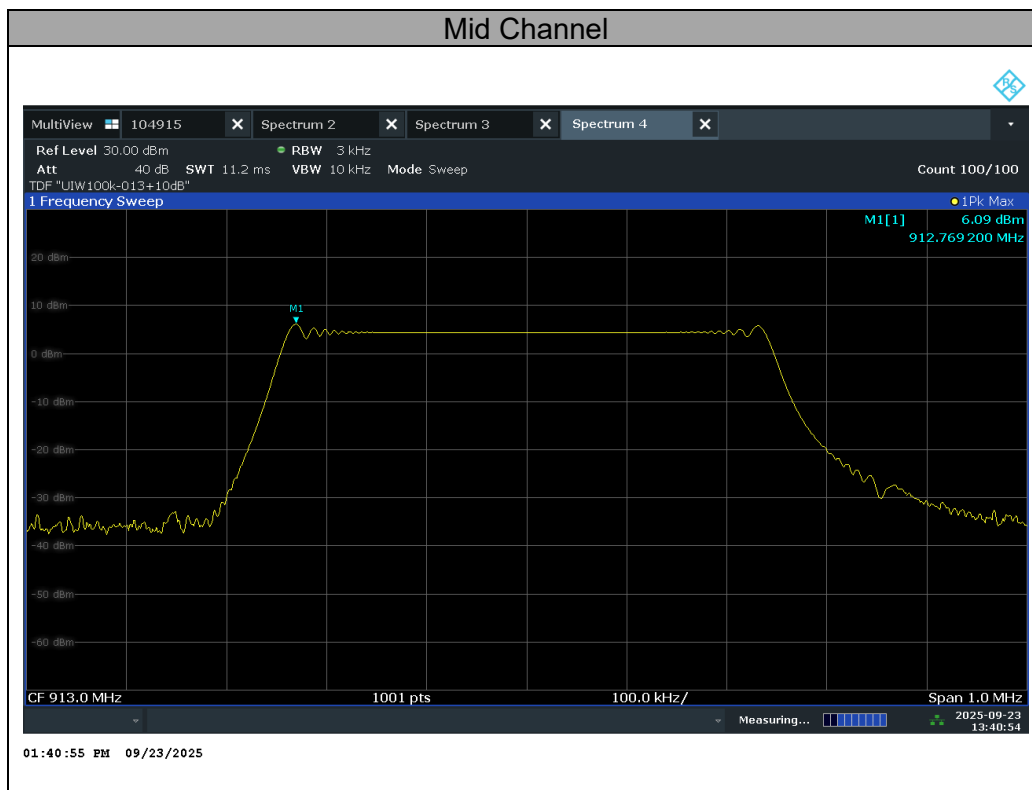
ANSI C63.10-2020, Section 11.10.2 Method PKPSD (peak PSD)

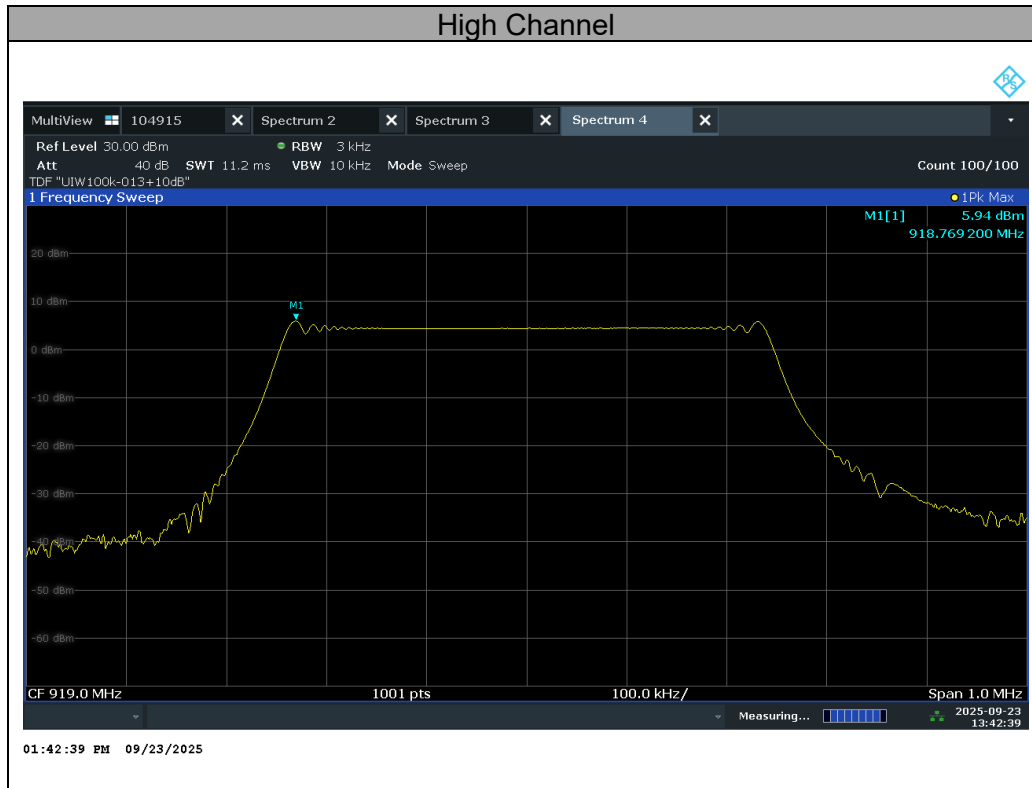
RESULTS

9.4.1. Test data

Mode	Channel	Frequency [MHz]	PSD [dBm/3kHz]	Limit [dBm/3kHz]	Margin [dB]
DSSS	Low	907	6.08	8.00	1.92
	Mid	913	6.09		1.91
	High	919	5.94		2.06

9.4.2. PSD TEST PLOTS





9.5. CONDUCTED SPURIOUS EMISSIONS

LIMITS

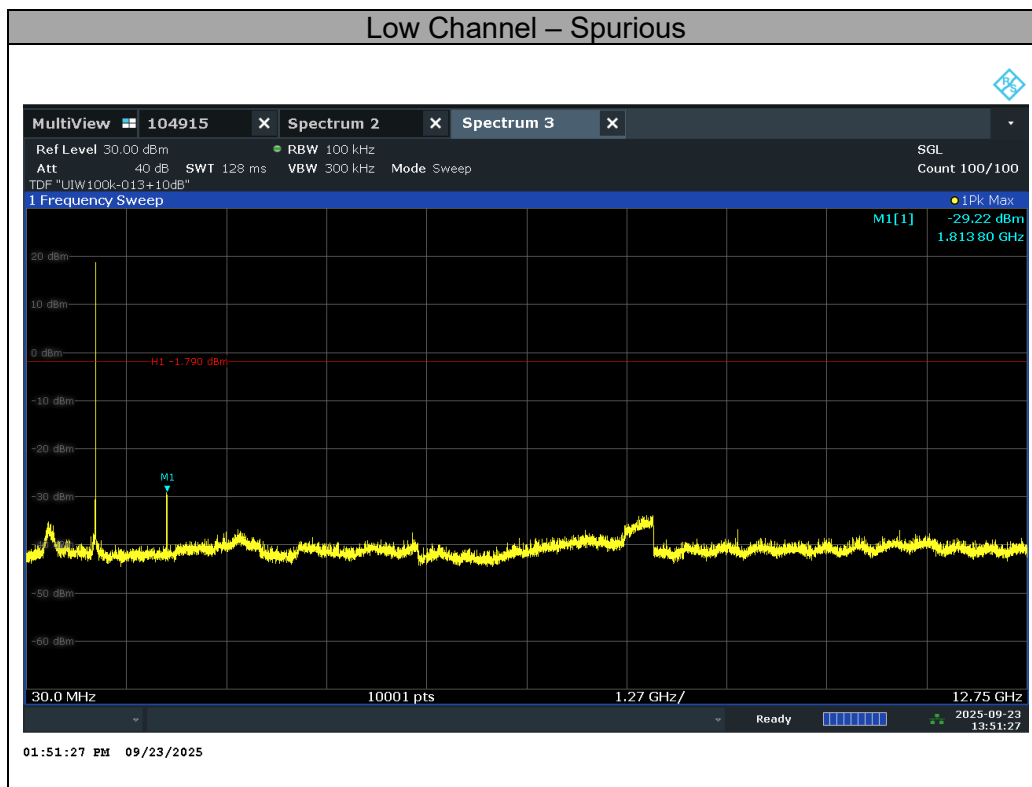
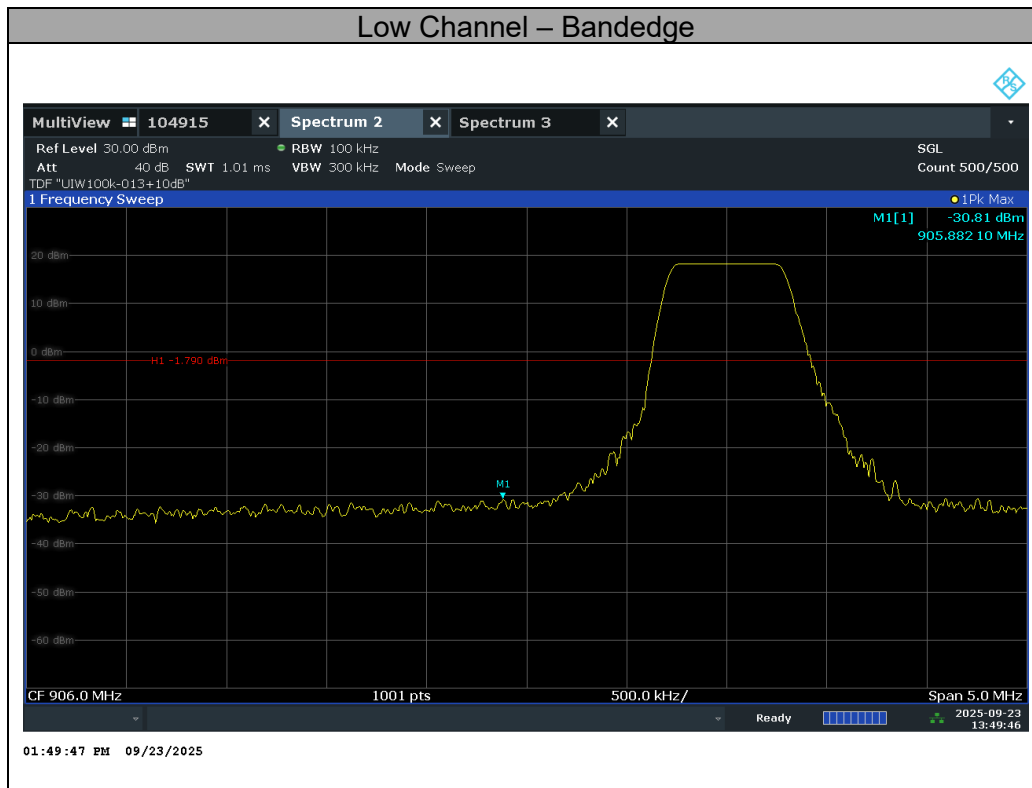
FCC §15.247 (d), RSS-247 5.5

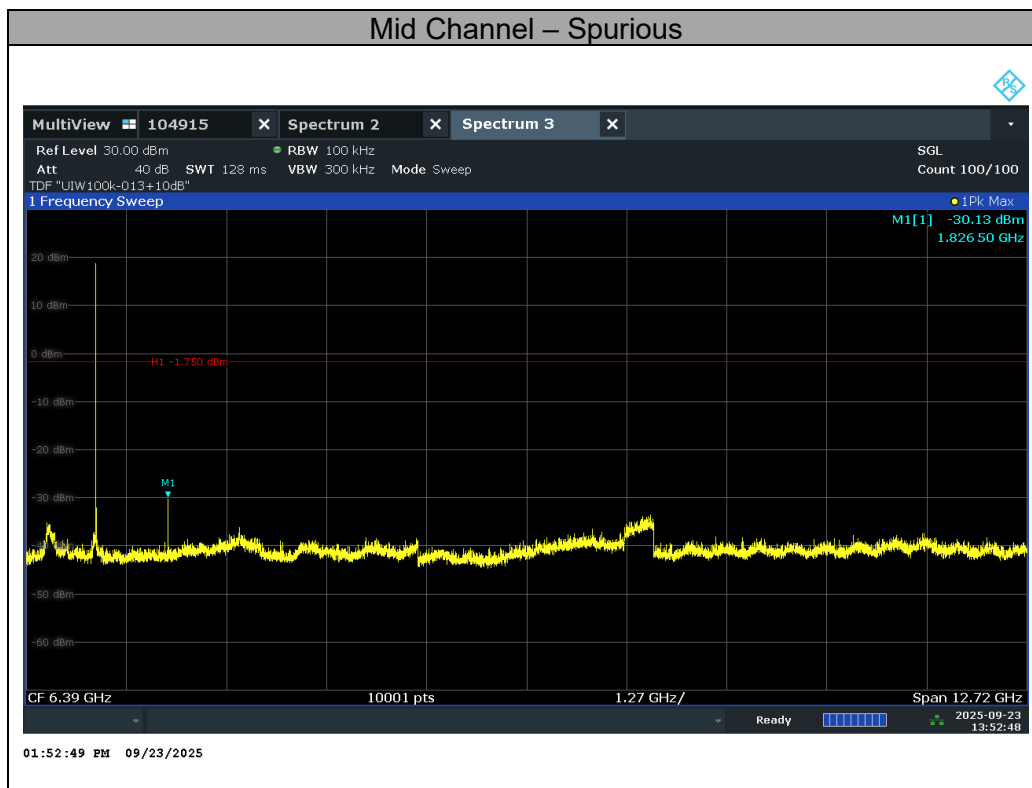
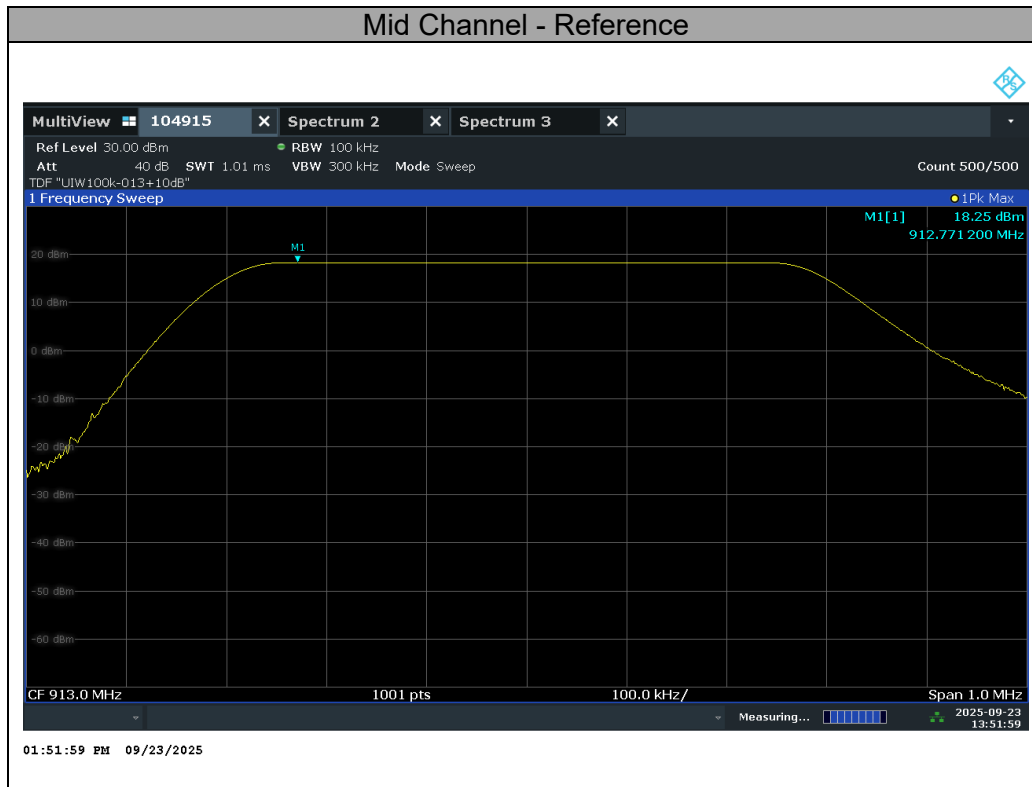
Output power was measured based on the use of a peak measurement.
Therefore, spurious emissions are required to be 20 dBc.

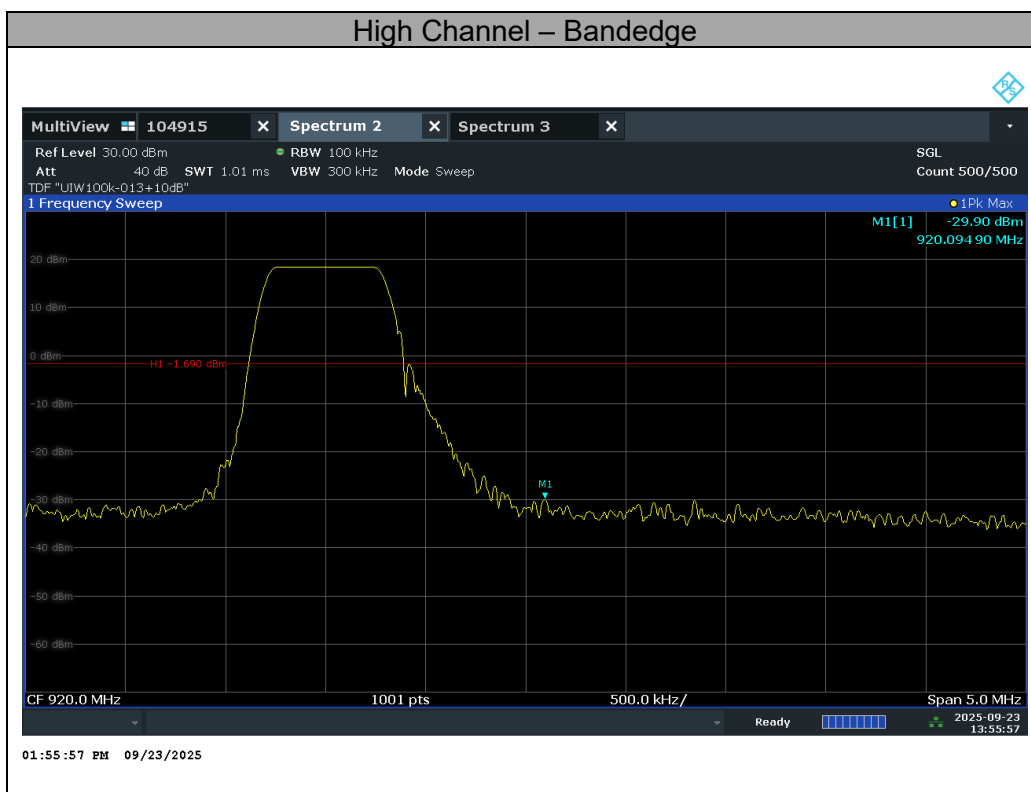
RESULTS

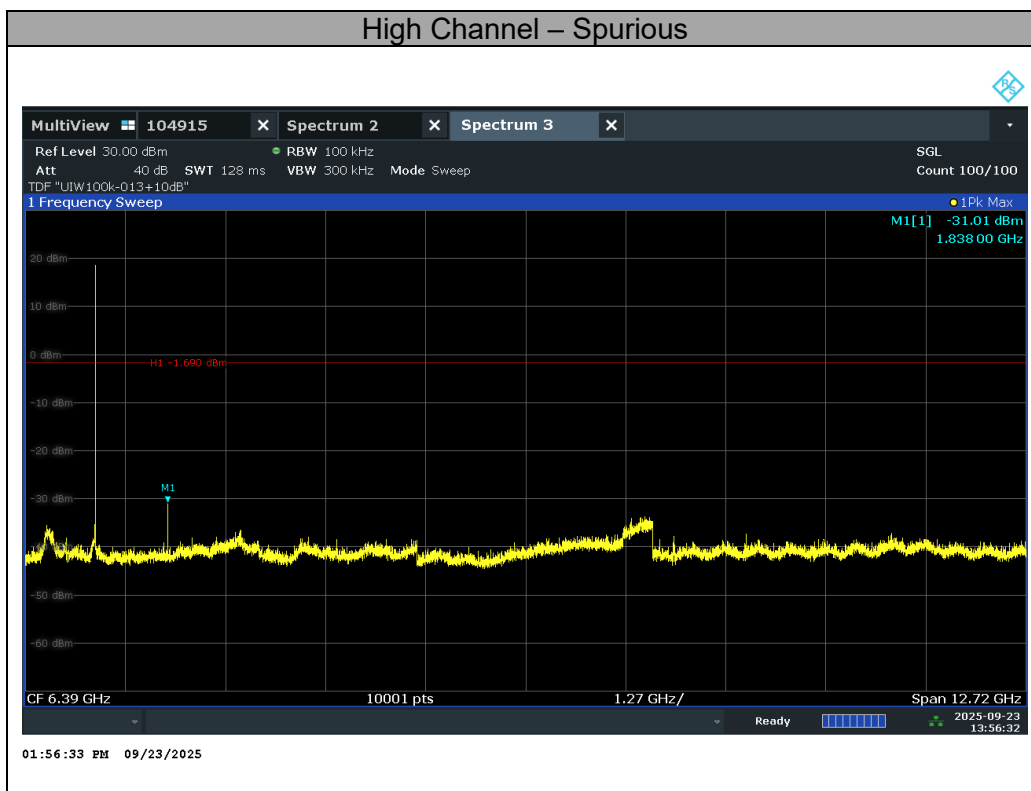
9.5.1. TEST DATA PLOTS











10. RADIATED TEST RESULTS

10.1. LIMITS AND PROCEDURE

LIMITS

IC RSS-GEN (8.9) & (8.10) / FCC §15.205 and §15.209

Limits for radiated disturbance of an intentional radiator		
Frequency range (MHz)	Limits (μV/m)	Measurement Distance (m)
0.009 – 0.490	2400 / F (kHz)	300
0.490 – 1.705	24000 / F (kHz)	30
1.705 – 30.0	30	30
30 – 88	100**	3
88 - 216	150**	3
216 – 960	200**	3
Above 960	500	3

** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g. §§ 15.231 and 15.241.

RSS-Gen (8.9)

Frequency (MHz)	Field strength (μV/m at 3 m)
30 – 88	100
88 – 216	150
216 – 960	200
Above 960	500

Frequency (MHz)	Magnetic field strength (H-Field) (μA/m)	Measurement Distance (m)
0.009–0.490 ^{Note 1}	6.37/F (F in kHz)	300
0.490–1.705	63.7/F (F in kHz)	30
1.705–30.0	0.08	30
Note 1: The emission limits for the ranges 9-90 kHz and 110-490 kHz are based on measurements employing a linear average detector.		

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 reported in the table) using the free space impedance of 377Ω. For example, the measurement 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 has to be 15.209(a) limit.

RSS-Gen (8.10) / FCC Part 15.205 (a): Restricted frequency bands

MHz	MHz	MHz	MHz	GHz	GHz
0.009 ~ 0.110	8.41425 ~ 8.41475	108 ~ 121.94	1300 ~ 1427	4.5 ~ 5.15	14.47 ~ 14.5
0.495 ~ 0.505	12.29 ~ 12.293	123 ~ 138	1435 ~ 1626.5	5.35 ~ 5.46	15.35 ~ 16.2
2.1735 ~ 2.1905	12.51975 ~ 12.52025	149.9 ~ 150.05	1645.5 ~ 1646.5	7.25 ~ 7.75	17.7 ~ 21.4
4.125 ~ 4.128	12.57675 ~ 12.57725	156.52475 ~	1660 ~ 1710	8.025 ~ 8.5	22.01 ~ 23.12
4.17725 ~ 4.17775	13.36 ~ 13.41	156.52525	1718.8 ~ 1722.2	9.0 ~ 9.2	23.6 ~ 24.0
4.20725 ~ 4.20775	16.42 ~ 16.423	156.7 ~ 156.9	2200 ~ 2300	9.3 ~ 9.5	31.2 ~ 31.8
6.215 ~ 6.218	16.69475 ~ 16.69525	162.0125 ~	2310 ~ 2390	10.6 ~ 12.7	36.43 ~ 36.5
6.26775 ~ 6.26825	16.80425 ~ 16.80475	167.17	2483.5 ~ 2500	13.25 ~ 13.4	Above 38.6
6.31175 ~ 6.31225	25.5 ~ 25.67	167.72 ~ 173.2	2655 ~ 2900		
8.291 ~ 8.294	37.5 ~ 38.25	240 ~ 285	3260 ~ 3267		
8.362 ~ 8.366	73 ~ 74.6	322 ~ 335.4	3332 ~ 3339		
8.37625 ~ 8.38675	74.8 ~ 75.2	399.90 ~ 410	3345.8 ~ 3358		
		608 ~ 614	3600 ~ 4400		
		960 ~ 1240			

▪ RSS-Gen 8.10 : Certain frequency bands listed in table 7 and in bands above 38.6 GHz are designated for licence-exempt applications. These frequency bands and the requirements that apply to related devices are set out in the 200 and 300 series of RSSs.

▪ FCC Part 15.205(b) : The field strength of emissions appearing within these frequency bands shall not exceed the limits shown in §15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in §15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in §15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in §15.35 apply to these measurements.

TEST PROCEDURE

The EUT is placed on a non-conducting table 80 cm above the ground plane for below 1GHz and 150 cm for 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 measurements above 1 GHz the resolution bandwidth is set to 1 MHz, then the video bandwidth is set to 3 MHz for peak measurements and add duty cycle factor for average measurements. (Restricted band-edge, Final detection of spurious harmonic emissions)

Duty cycle factor = $10 \log(1/x)$. For this sample: $DCF = 10\log(1/0.1037)=9.842 \text{ dB}$
(Spectrum Analyzer round it up to 9.84 dB).

Pre-scans to detect harmonic and spurious emissions, the resolution bandwidth is set to 1 MHz; the video bandwidth is set to 30 kHz for peak measurements.

The spectrum from 1 GHz to 26 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in the 2.4 GHz band.

(From 30MHz to 1GHz, test was performed with the EUT set to transmit at the channel with highest output power)

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.

Note : Emission was pre-scanned from 9kHz to 30MHz; No emissions were detected which was at least 20dB below the specification limit (consider distance correction factor).
Per FCC part 15.31(o), test results were not reported.

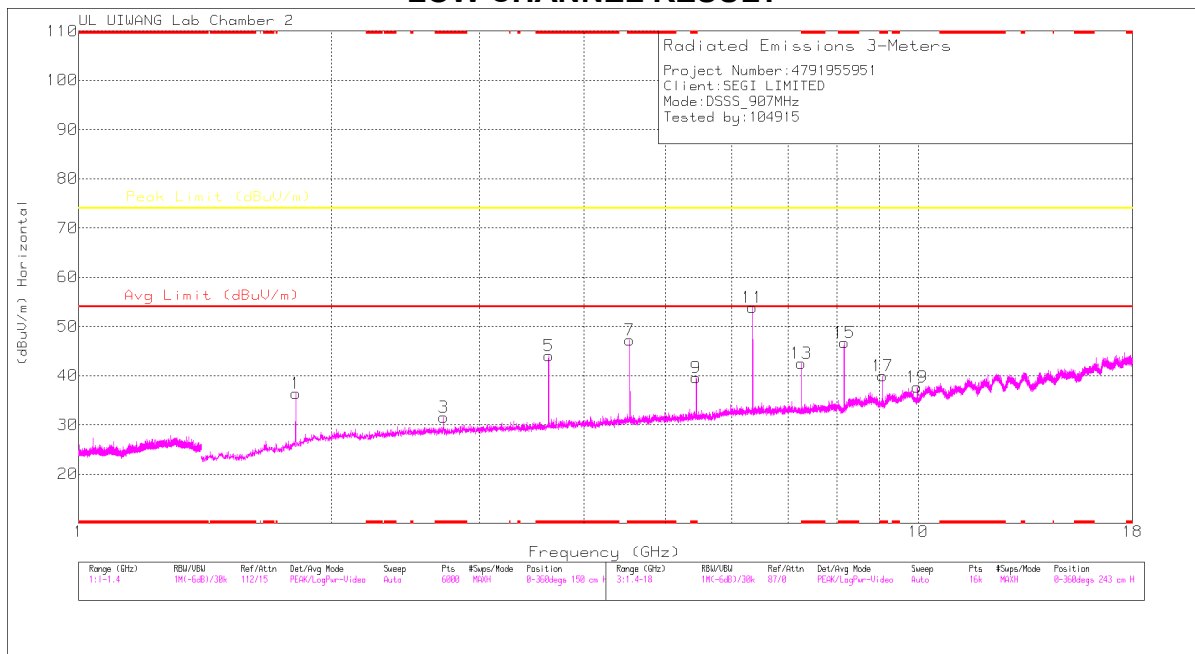
Although these tests were performed other than open field test site, adequate comparison measurements were confirmed against 30 m open are test site.

Therefore sufficient tests were made to demonstrate that the alternative site produces results that correlate with the one of tests made in an open field based on KDB 414788.

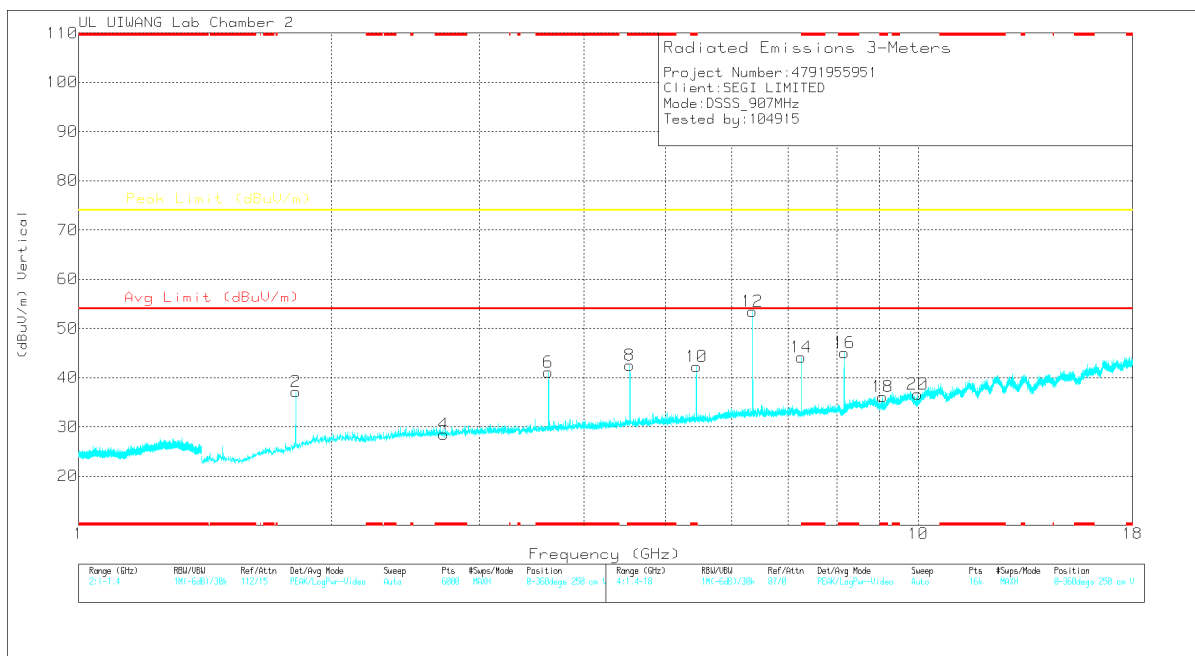
10.2. TRANSMITTER ABOVE 1 GHz

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL RESULT



HORIZONTAL



VERTICAL

Radiated Emissions

Frequency (MHz)	Max. Powering (dBm)	Det.	CH2_F1_1 (10_117_25074) (dBm)	FBI_F1_1 (10_117_25074) (dBm)	CH2_CL_1 400_117_25025 (dBm)	1.5GHz_HPF(25072) (dBm)	DC Corr (dB)	Corrected Powering (dBm)	Ang Limb (dBm)	Margin (dB)	Peak Limb (dBm)	Margin (dB)	Admsh (Daps)	Height (cm)	Polarity
1.81378	50.76	PK2	30.3	-44.1	5.8	-5	0	42.26	-	-	74	-31.74	284	367	H
* 2.72143	45.79	PK2	32.4	-44.1	7.1	-5	0	40.69	-	-	74	-33.31	283	340	H
* 2.72147	32.86	MAV1	32.4	-44.1	7.1	-5	9.84	37.6	54	-16.4	-	-	283	340	H
* 3.62776	53.79	PK2	33.2	-44.2	8.2	-4	0	50.59	-	-	74	-23.41	201	384	H
* 3.62853	38.93	MAV1	33.2	-44.2	8.2	-4	9.84	45.57	54	-8.43	-	-	201	384	H
* 4.53436	51.35	PK2	34	-43.8	9.2	-4	0	50.35	-	-	74	-23.65	93	100	H
* 4.53514	37.12	MAV1	34	-43.8	9.2	-4	9.84	45.96	54	-8.04	-	-	93	100	H
* 5.44067	44.51	PK2	34.5	-43.5	10.1	-3	0	45.31	-	-	74	-28.69	249	392	H
* 5.44099	31.88	MAV1	34.5	-43.5	10.1	-3	9.84	42.52	54	-11.48	-	-	249	392	H
6.34781	53.68	PK2	35.5	-42.9	10.9	-4	0	56.78	-	-	74	-17.22	232	100	H
* 7.25598	43.66	PK2	35.6	-42	11.6	-6	0	48.26	-	-	74	-25.74	234	380	H
* 7.25534	29.69	MAV1	35.6	-42	11.6	-6	9.84	44.13	54	-9.87	-	-	234	380	H
* 8.16247	44.33	PK2	35.8	-41.1	12.2	-4	0	50.83	-	-	74	-23.17	255	381	H
* 8.16358	28.59	MAV1	35.8	-41.1	12.2	-4	9.84	44.93	54	-9.07	-	-	255	381	H
* 9.07114	39.93	PK2	36.3	-40.5	12.9	-4	0	48.23	-	-	74	-25.77	246	111	H
* 9.06902	26.19	MAV1	36.3	-40.5	12.9	-4	9.84	44.33	54	-9.87	-	-	246	111	H
9.97603	37.93	PK2	37.1	-40.1	13.6	-6	0	47.93	-	-	74	-26.07	120	398	H
1.81401	50.39	PK2	30.3	-44.1	5.8	-5	0	41.89	-	-	74	-32.11	293	125	V
* 2.72081	45.99	PK2	32.4	-44.1	7.1	-5	0	40.89	-	-	74	-33.11	358	104	V
* 2.72034	32.36	MAV1	32.4	-44.1	7.1	-5	9.84	37.1	54	-16.9	-	-	358	104	V
* 3.62711	51.07	PK2	33.2	-44.2	8.2	-4	0	47.87	-	-	74	-26.13	248	100	V
* 3.62764	35.5	MAV1	33.2	-44.2	8.2	-4	9.84	42.14	54	-11.86	-	-	248	100	V
* 4.53607	49.46	PK2	34	-43.8	9.2	-4	0	48.46	-	-	74	-25.54	263	103	V
* 4.53423	34.53	MAV1	34	-43.8	9.2	-4	9.84	43.37	54	-10.63	-	-	263	103	V
* 5.44336	45.96	PK2	34.5	-43.5	10.1	-3	0	46.76	-	-	74	-27.24	360	110	V
* 5.44107	31.56	MAV1	34.5	-43.5	10.1	-3	9.84	42.2	54	-11.8	-	-	360	110	V
6.35027	54.69	PK2	35.5	-42.9	10.9	-4	0	57.79	-	-	74	-16.21	0	100	V
* 7.25579	44.94	PK2	35.6	-42	11.6	-6	0	49.54	-	-	74	-24.46	324	114	V
* 7.25445	29.5	MAV1	35.6	-42	11.6	-6	9.84	43.94	54	-10.06	-	-	324	114	V
* 8.16108	45.15	PK2	35.8	-41.1	12.2	-4	0	51.65	-	-	74	-22.35	317	100	V
* 8.16398	31.18	MAV1	35.8	-41.2	12.2	-4	9.84	47.42	54	-6.58	-	-	317	100	V
* 9.07054	37.71	PK2	36.3	-40.5	12.9	-4	0	46.01	-	-	74	-27.99	227	100	V
* 9.06818	24.74	MAV1	36.3	-40.5	12.9	-4	9.84	42.88	54	-11.12	-	-	227	100	V
9.97499	36.7	PK2	37	-40.1	13.6	-6	0	46.6	-	-	74	-27.4	358	110	V

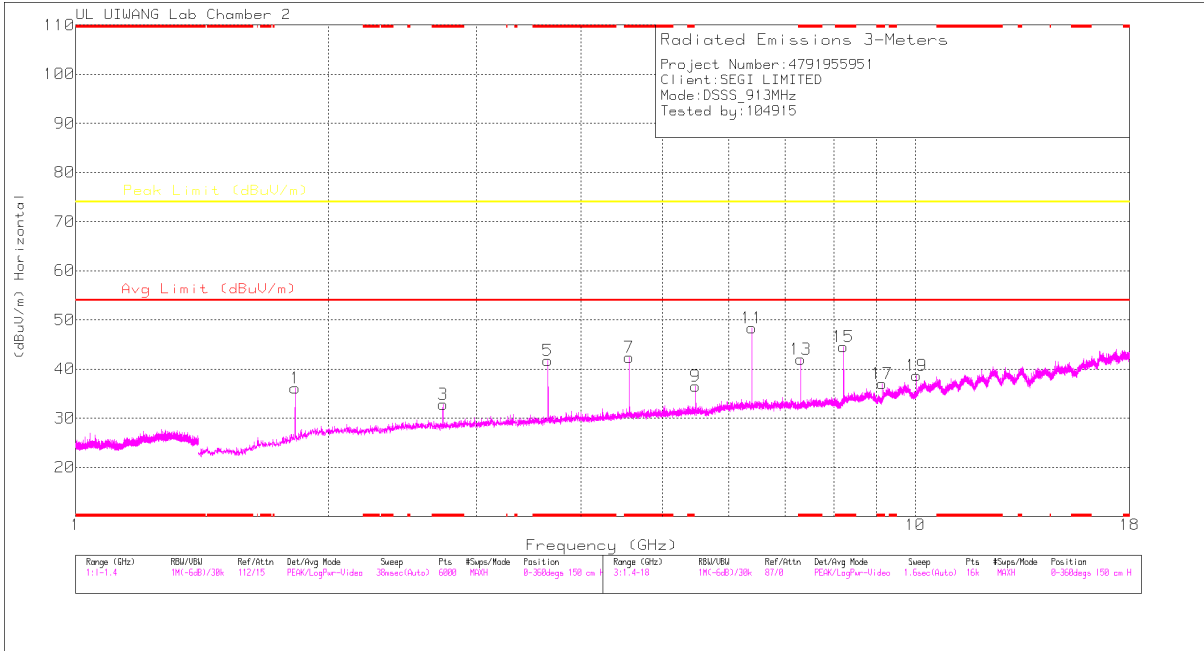
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

PK2 - KDB558074 Method: Maximum Peak

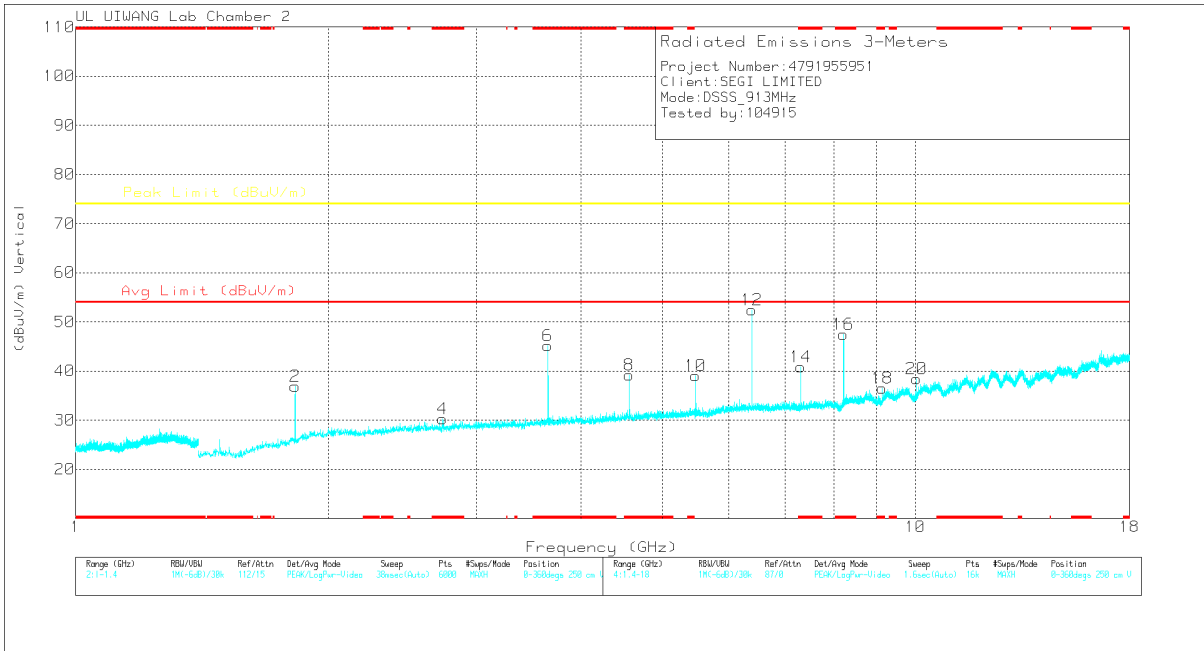
MAV1 - KDB558074 Option 1 Maximum RMS Average

HARMONICS AND SPURIOUS EMISSIONS

MID CHANNEL RESULTS



HORIZONTAL



VERTICAL

Radiated Emissions

Frequency (MHz)	Max Powering (dBm)	Det	CH2_AF_1 (10_171_25071) (dBm)	FBI_P1_1 (10_171_25071) (dBm)	CH2_CL_1 400_171_25071 (dBm)	1.5GHz_HPF(25071) (dBm)	DC Corr (dB)	Corrected Powering (dBm)	Avg Limb (dBm)	Margin (dB)	Peak Limb (dBm)	Margin (dB)	Admsh (dBm)	Height (cm)	Polarity
1.82549	49.73	PK2	30.5	-44.1	5.8	-5	0	41.43	-	-	74	-32.57	81	100	H
* 2.73892	46.61	PK2	32.4	-44.2	7.1	-5	0	41.41	-	-	74	-32.59	273	105	H
* 2.73849	33.42	MAv1	32.4	-44.2	7.1	-5	9.84	38.06	54	-15.94	-	-	273	105	H
* 3.65197	53.89	PK2	33.2	-44.2	8.3	-4	0	50.79	-	-	74	-23.21	209	380	H
* 3.65189	39.37	MAv1	33.2	-44.2	8.3	-4	9.84	46.11	54	-7.89	-	-	209	380	H
* 4.56593	50.6	PK2	34	-43.8	9.2	-4	0	49.6	-	-	74	-24.4	95	100	H
* 4.56464	35.86	MAv1	34	-43.8	9.2	-4	9.84	44.7	54	-9.3	-	-	95	100	H
5.47932	42.34	PK2	34.5	-43.5	10.1	-3	0	43.14	-	-	74	-30.86	246	100	H
6.39051	53.01	PK2	35.5	-42.8	10.9	-4	0	56.21	-	-	74	-17.79	231	109	H
* 7.3021	43.49	PK2	35.6	-41.9	11.6	-6	0	48.19	-	-	74	-25.81	234	389	H
* 7.30388	27.27	MAv1	35.6	-41.9	11.6	-6	9.84	41.81	-	-	74	-	234	389	H
* 8.21503	44.73	PK2	35.8	-41.2	12.4	-4	0	51.33	54	-12.19	-	-	299	100	H
* 8.21563	29.45	MAv1	35.8	-41.2	12.4	-4	9.84	45.89	54	-8.11	-	-	299	100	H
* 9.13031	39.33	PK2	36.2	-40.4	13	-4	0	47.73	-	-	74	-26.27	258	125	H
* 9.1309	24.98	MAv1	36.2	-40.4	13	-4	9.84	43.22	54	-10.78	-	-	258	125	H
10.04069	39.34	PK2	37.1	-40	13.8	-5	0	49.74	-	-	74	-24.26	87	100	H
1.82618	49.36	PK2	30.5	-44.1	5.8	-5	0	41.06	-	-	74	-32.94	290	115	V
* 2.73901	45.7	PK2	32.4	-44.2	7.1	-5	0	40.5	-	-	74	-33.5	232	363	V
* 2.73887	32.69	MAv1	32.4	-44.2	7.1	-5	9.84	37.33	54	-16.67	-	-	232	363	V
* 3.65184	52.94	PK2	33.2	-44.2	8.3	-4	0	49.84	-	-	74	-24.16	274	365	V
* 3.65198	38.5	MAv1	33.2	-44.2	8.3	-4	9.84	45.24	54	-8.76	-	-	274	365	V
* 4.56446	47.24	PK2	34	-43.8	9.2	-4	0	46.24	-	-	74	-27.76	174	383	V
* 4.56501	32.14	MAv1	34	-43.8	9.2	-4	9.84	40.98	54	-13.02	-	-	174	383	V
5.47806	43.83	PK2	34.5	-43.5	10.1	-3	0	44.63	-	-	74	-29.37	38	387	V
6.39043	52.17	PK2	35.5	-42.8	10.9	-4	0	55.37	-	-	74	-18.63	186	386	V
* 7.3024	43.3	PK2	35.6	-41.9	11.6	-6	0	48	-	-	74	-26	193	387	V
* 7.30264	27.57	MAv1	35.6	-41.9	11.6	-6	9.84	42.11	54	-11.89	-	-	193	387	V
* 8.2185	45.16	PK2	35.8	-41.2	12.4	-4	0	51.76	-	-	74	-22.24	175	386	V
* 8.21616	29.06	MAv1	35.8	-41.2	12.4	-4	9.84	45.5	54	-8.5	-	-	175	386	V
* 9.13047	36.57	PK2	36.2	-40.4	13	-4	0	44.97	-	-	74	-29.03	188	100	V
* 9.12892	24.14	MAv1	36.2	-40.4	13	-4	9.84	42.38	54	-11.62	-	-	188	100	V
10.04498	35.95	PK2	37.1	-40	13.8	-5	0	46.35	-	-	74	-27.65	4	115	V

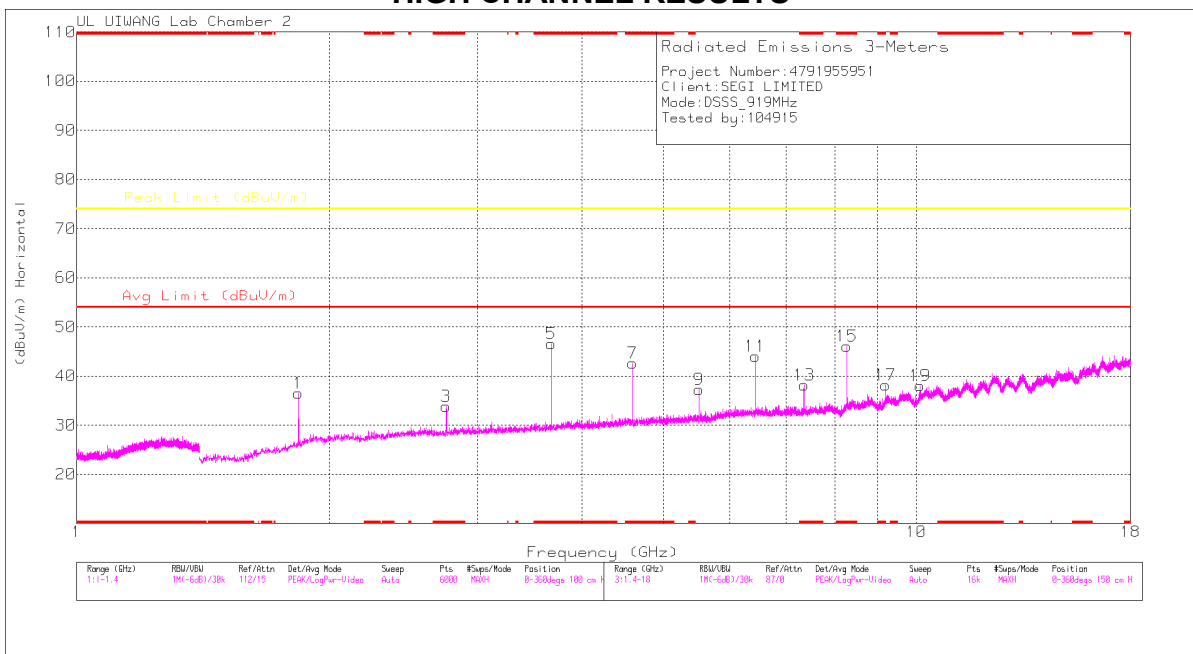
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

PK2 - KDB558074 Method: Maximum Peak

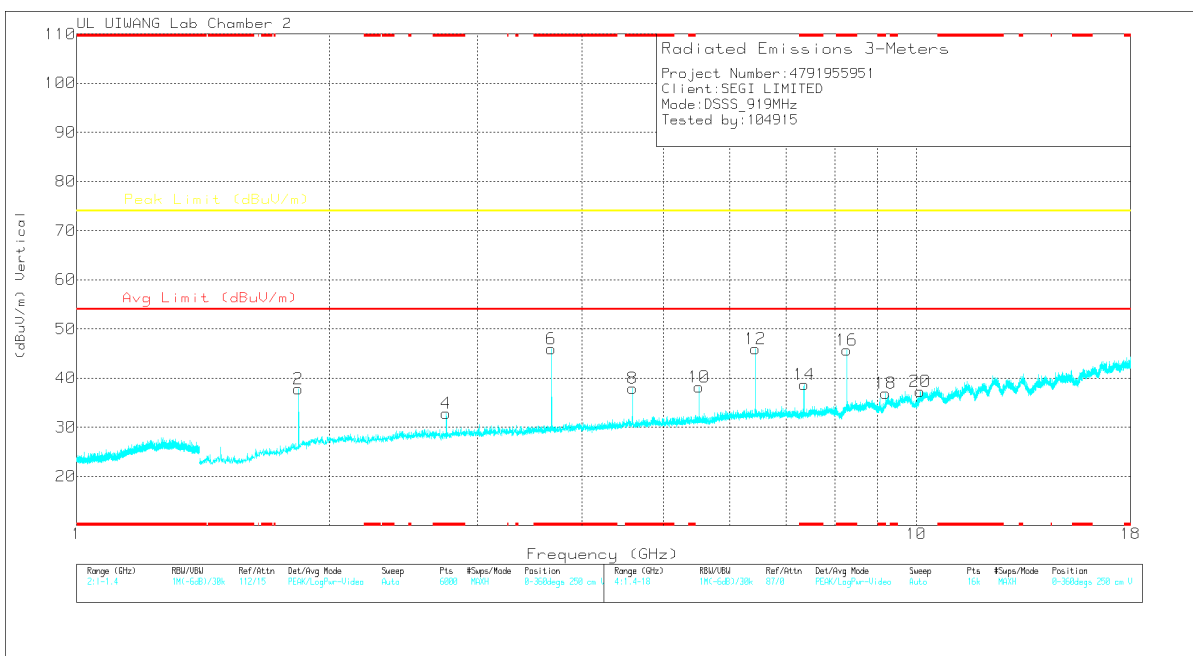
MAv1 - KDB558074 Option 1 Maximum RMS Average

HARMONICS AND SPURIOUS EMISSIONS

HIGH CHANNEL RESULTS



HORIZONTAL



VERTICAL

Radiated Emissions

Frequency (GHz)	Max Power (dBm)	Det	CH2_FL 1 (60_101_25021) (dBm)	FBI_FL 1 (60_101_25024) (dB)	CH2_CL 1 (400_101_25025) (dB)	1.5GHz_HFF(25022) (dB)	DC Cor (dB)	Corrected Power (dBm)	Avg Lim (dBuV/m)	Margin (dB)	Peak Lim (dBuV/m)	Margin (dB)	Admsh (Daps)	Height (cm)	Polarity
1.8384	50.1	PK2	30.7	-44.1	5.8	-5	0	42	-	-	74	-32	65	113	H
* 2.75706	49.39	PK2	32.4	-44.2	7.1	-5	0	44.19	-	-	74	-29.81	287	100	H
* 2.75689	35.35	MAv1	32.4	-44.2	7.1	-5	9.84	39.99	54	-14.01	-	-	287	100	H
* 3.676	54.2	PK2	33.3	-44.2	8.3	-4	0	51.2	-	-	74	-22.8	206	100	H
* 3.67546	39.99	MAv1	33.3	-44.2	8.3	-4	9.84	46.83	54	-7.17	-	-	206	100	H
* 4.59419	49.42	PK2	34	-43.9	9.2	-5	0	48.22	-	-	74	-25.78	91	110	H
* 4.59535	34.34	MAv1	34	-44	9.2	-5	9.84	42.88	54	-11.12	-	-	91	110	H
5.51295	43.66	PK2	34.5	-43.5	10.1	-3	0	44.46	-	-	74	-29.54	237	380	H
6.43129	50.27	PK2	35.6	-42.8	10.9	-4	0	53.57	-	-	74	-20.43	234	108	H
* 7.35322	41.76	PK2	35.7	-41.8	11.7	-6	0	46.76	-	-	74	-27.24	234	400	H
* 7.3515	27.25	MAv1	35.7	-41.8	11.7	-6	9.84	42.09	54	-11.91	-	-	234	400	H
* 8.26936	44.8	PK2	35.8	-41.3	12.5	-4	0	51.2	-	-	74	-22.8	237	398	H
* 8.27195	29.12	MAv1	35.8	-41.3	12.5	-4	9.84	45.56	54	-8.44	-	-	237	398	H
* 9.18867	39.08	PK2	36.2	-40.3	13.2	-3	0	47.88	-	-	74	-26.12	257	100	H
* 9.18909	24.69	MAv1	36.2	-40.3	13.2	-3	9.84	43.33	54	-10.67	-	-	257	100	H
10.10862	38.61	PK2	37.2	-39.9	13.9	-5	0	49.31	-	-	74	-24.69	84	111	H
1.838	49.31	PK2	30.7	-44.1	5.8	-5	0	41.21	-	-	74	-32.79	303	153	V
* 2.7565	45.76	PK2	32.4	-44.2	7.1	-5	0	40.56	-	-	74	-33.44	2	368	V
* 2.75651	32.91	MAv1	32.4	-44.2	7.1	-5	9.84	37.55	54	-16.45	-	-	2	368	V
* 3.67657	52.92	PK2	33.3	-44.2	8.3	-4	0	49.92	-	-	74	-24.08	270	100	V
* 3.67602	36.76	MAv1	33.3	-44.2	8.3	-4	9.84	43.6	54	-10.4	-	-	270	100	V
* 4.59495	47.17	PK2	34	-44	9.2	-5	0	45.87	-	-	74	-28.13	307	100	V
* 4.59422	32.48	MAv1	34	-43.9	9.2	-5	9.84	41.12	54	-12.88	-	-	307	100	V
5.51533	43.87	PK2	34.5	-43.5	10.1	-3	0	44.67	-	-	74	-29.33	8	110	V
6.43155	50.11	PK2	35.6	-42.8	10.9	-4	0	53.41	-	-	74	-20.59	354	100	V
* 7.3515	43.45	PK2	35.7	-41.8	11.7	-6	0	48.45	-	-	74	-25.55	324	100	V
* 7.35018	28.11	MAv1	35.7	-41.8	11.7	-6	9.84	42.95	54	-11.05	-	-	324	100	V
* 8.27037	46.68	PK2	35.8	-41.3	12.5	-4	0	53.28	-	-	74	-20.72	324	110	V
* 8.26918	30.51	MAv1	35.8	-41.3	12.5	-4	9.84	46.95	54	-7.05	-	-	324	110	V
* 9.18923	36.2	PK2	36.2	-40.3	13.2	-3	0	45	-	-	74	-29	209	111	V
* 9.18906	24.39	MAv1	36.2	-40.3	13.2	-3	9.84	43.03	54	-10.97	-	-	209	111	V
10.10876	37.22	PK2	37.2	-39.9	13.9	-5	0	47.92	-	-	74	-26.08	360	111	V

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

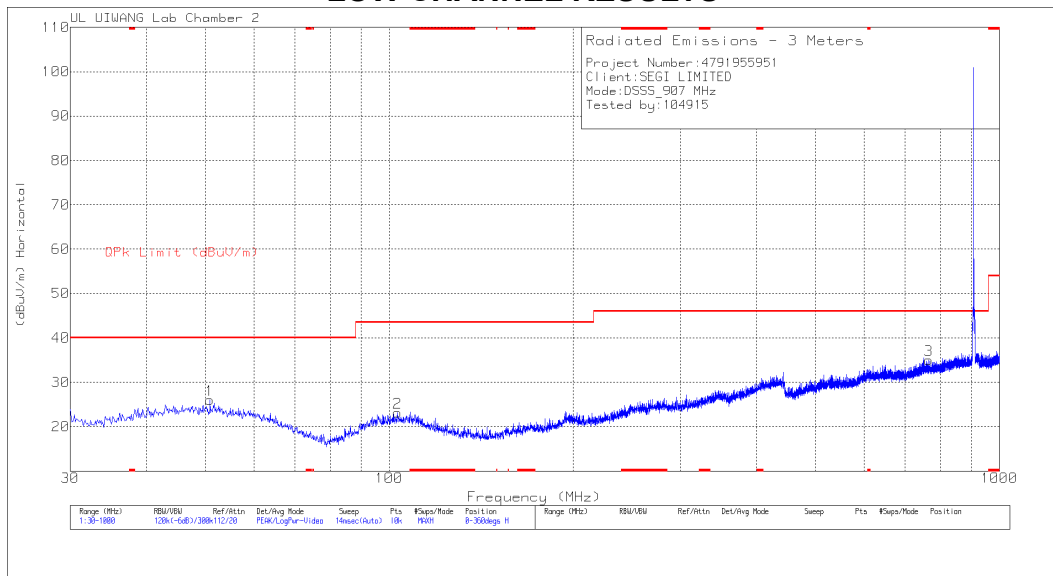
PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

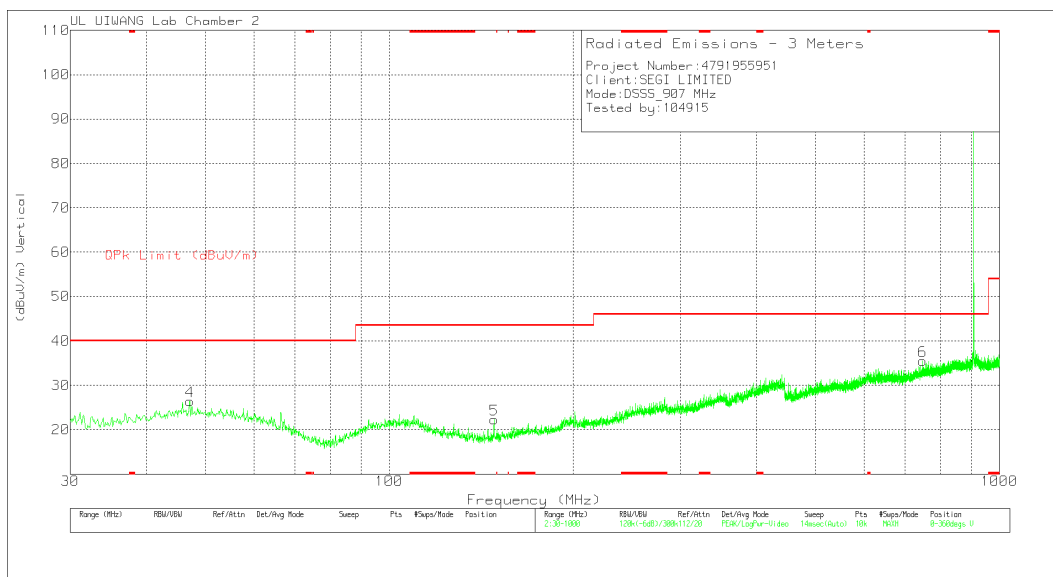
10.3. TRANSMITTER BELOW 1 GHz

10.3.1 SPURIOUS EMISSIONS 30 TO 1000 MHz

LOW CHANNEL RESULTS



HORIZONTAL



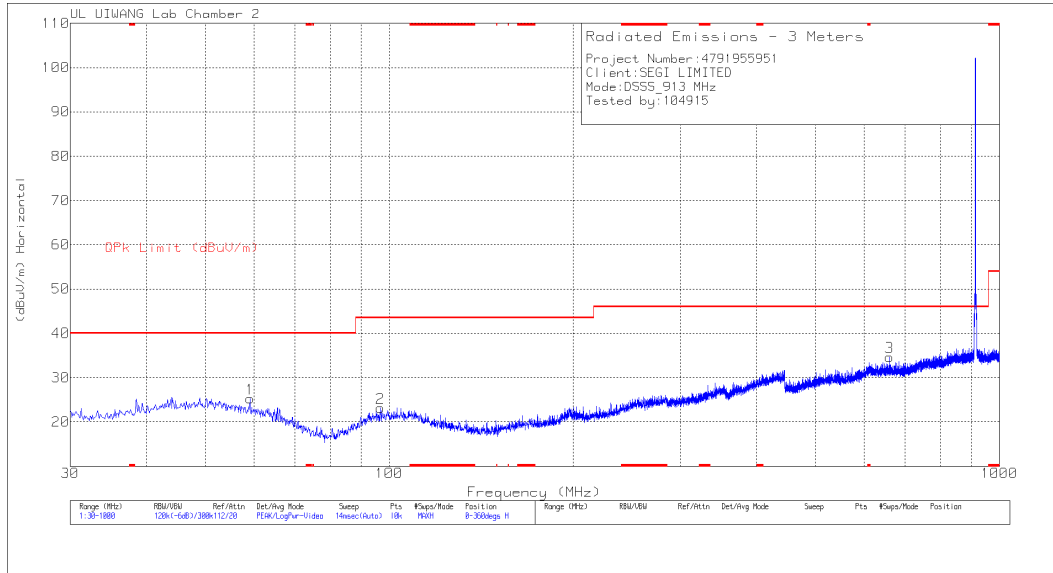
VERTICAL

Trace Markers

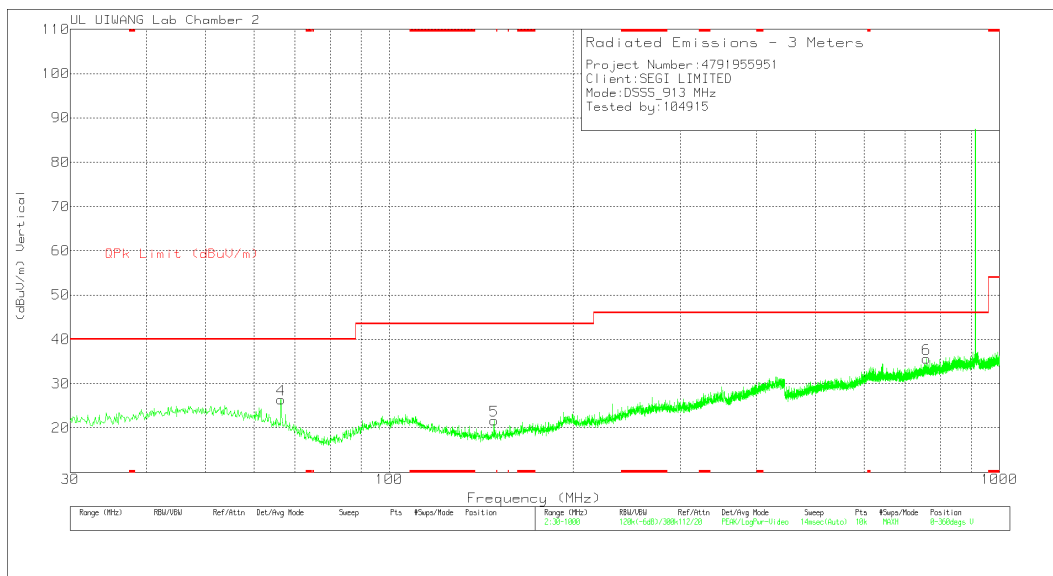
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	2Cham_VULB9163 (dB/m)	CH2_PL_30-1000M_Amp_2503 24(dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	50.8572	33.45	Pk	19.9	-27.3	26.05	40	-13.95	0-360	300	H
2	103.1455	32.61	Pk	17.8	-27.3	23.11	43.52	-20.41	0-360	100	H
3	765.7238	32.77	Pk	27	-24.8	34.97	46.02	-11.05	0-360	300	H
4	47.1708	33.92	Pk	19.8	-27.3	26.42	40	-13.58	0-360	100	V
5	148.4492	35.19	Pk	14.1	-27	22.29	43.52	-21.23	0-360	100	V
6	748.4561	33.28	Pk	27.1	-24.9	35.48	46.02	-10.54	0-360	300	V

Pk - Peak detector

MID CHANNEL RESULTS



HORIZONTAL



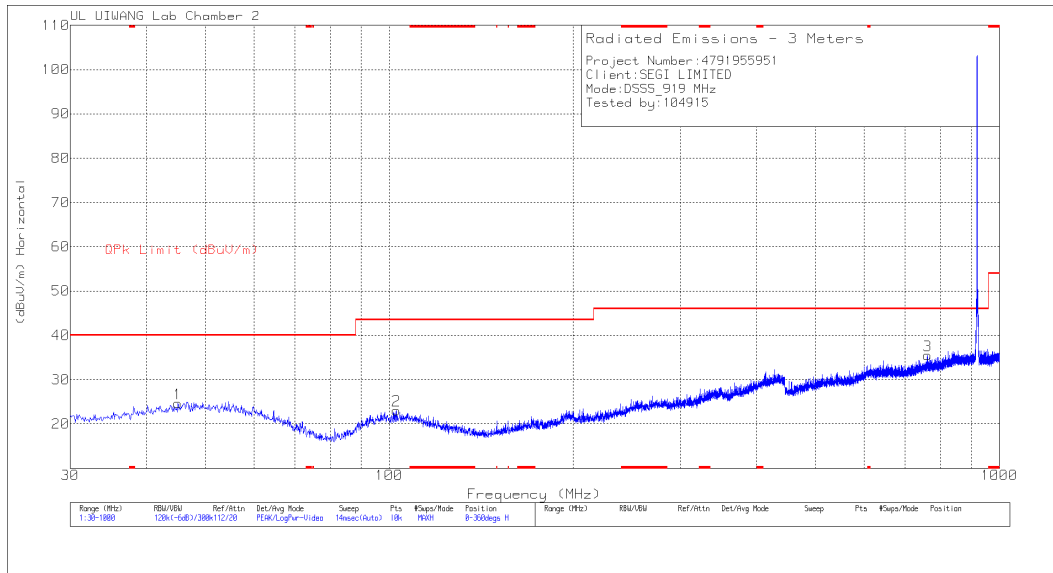
VERTICAL

Trace Markers

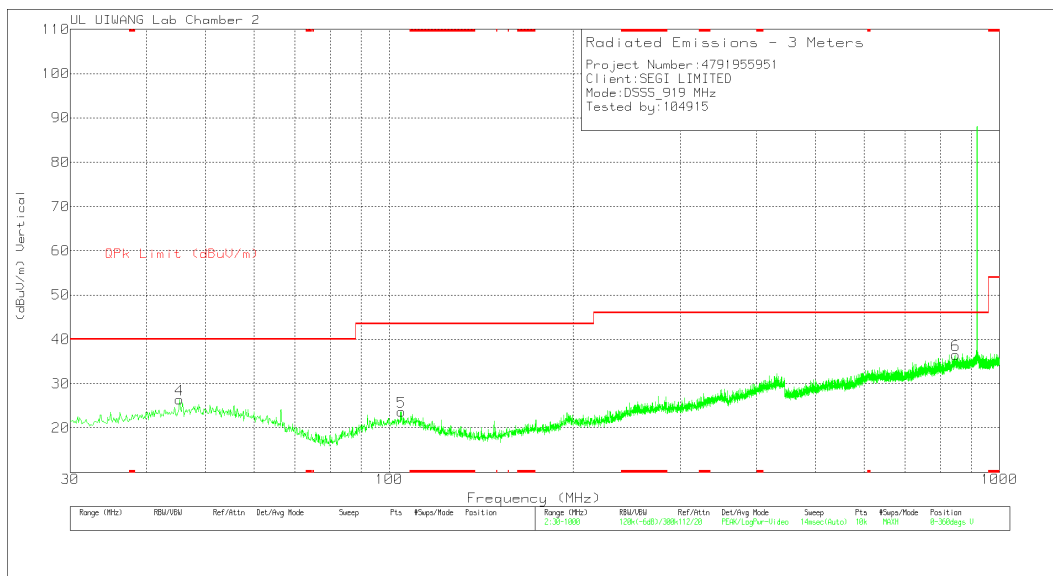
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	2Cham_VULB9163 (dB/m)	CH2_PL_30-1000M_Amp_2503 24(dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	59.103	33.59	Pk	19	-27.3	25.29	40	-14.71	0-360	100	H
2	96.6459	33.26	Pk	17.2	-27.3	23.16	43.52	-20.36	0-360	100	H
3	660.371	34.09	Pk	25.5	-24.9	34.69	46.02	-11.33	0-360	100	H
4	66.4758	36.91	Pk	16.9	-27.4	26.41	40	-13.59	0-360	100	V
5	148.4492	34.6	Pk	14.1	-27	21.7	43.52	-21.82	0-360	100	V
6	759.4182	33.37	Pk	27.1	-24.8	35.67	46.02	-10.35	0-360	300	V

Pk - Peak detector

HIGH CHANNEL RESULTS



HORIZONTAL



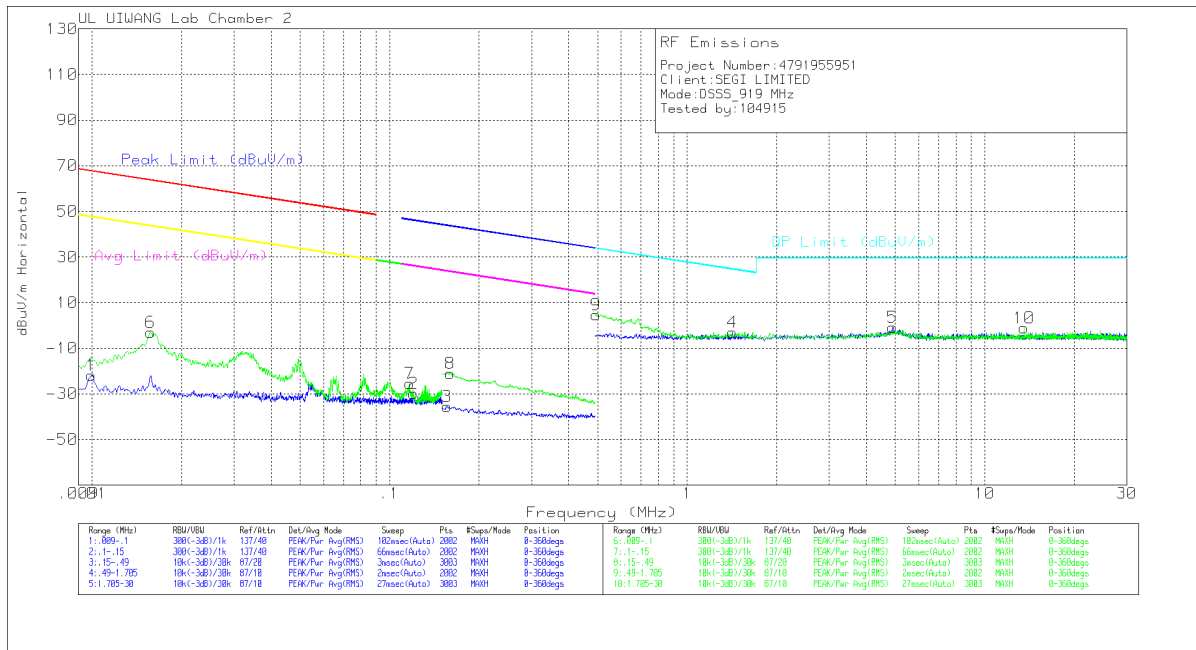
VERTICAL

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	2Cham_VULB9163 (dB/m)	CH2_PL_30-1000M_Amp_2503 24(dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	45.0366	32.34	Pk	19.6	-27.3	24.64	40	-15.36	0-360	100	H
2	102.7575	32.6	Pk	17.8	-27.3	23.1	43.52	-20.42	0-360	300	H
3	762.9106	33.36	Pk	27	-24.8	35.56	46.02	-10.46	0-360	100	H
4	45.3276	33.97	Pk	19.7	-27.3	26.37	40	-13.63	0-360	200	V
5	104.6977	32.99	Pk	17.9	-27.2	23.69	43.52	-19.83	0-360	200	V
6	848.4734	33.77	Pk	27.7	-25	36.47	46.02	-9.55	0-360	300	V

Pk - Peak detector

SPURIOUS EMISSIONS BELOW 30 MHz (WORST-CASE CONFIGURATION)



Trace Markers

[Face on]

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF (dB/m)	CL (dB)	Dist Corr (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	QP Limit (dBuV/m)	Margin (dB)
1	.00997	38.55	Pk	19.6	.1	-80	-21.75	67.61	-89.36	47.61	-69.36	-	-
2	.12043	29.63	Pk	20.4	.1	-80	-29.87	46.01	-75.88	26.01	-55.88	-	-
3	.15582	23.81	Pk	20.5	.1	-80	-35.59	43.77	-79.36	23.77	-59.36	-	-
4	1.41871	16.17	Pk	20.6	.2	-40	-3.03	-	-	-	-	24.59	-27.62
5	4.90008	18.17	Pk	20.7	.3	-40	-8.3	-	-	-	-	29.5	-30.33

[Face off]

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF (dB/m)	CL (dB)	Dist Corr (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	QP Limit (dBuV/m)	Margin (dB)
6	.01571	57.15	Pk	19.8	.1	-80	-2.95	63.66	-66.61	43.66	-46.61	-	-
7	.1166	34.04	Pk	20.4	.1	-80	-25.46	46.29	-71.75	26.29	-51.75	-	-
8	.15989	38.41	Pk	20.5	.1	-80	-20.99	43.55	-64.54	23.55	-44.54	-	-
9	.49486	23.97	Pk	20.6	.1	-40	4.67	-	-	-	-	33.71	-29.04
10	13.56165	17.52	Pk	20.9	.6	-40	-.98	-	-	-	-	29.5	-30.48

PK – Peak Detector

END OF TEST REPORT