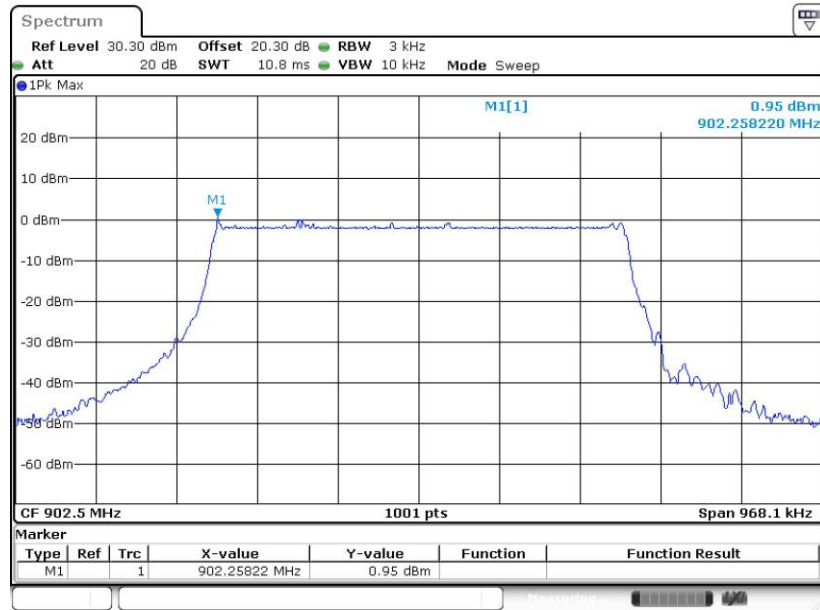




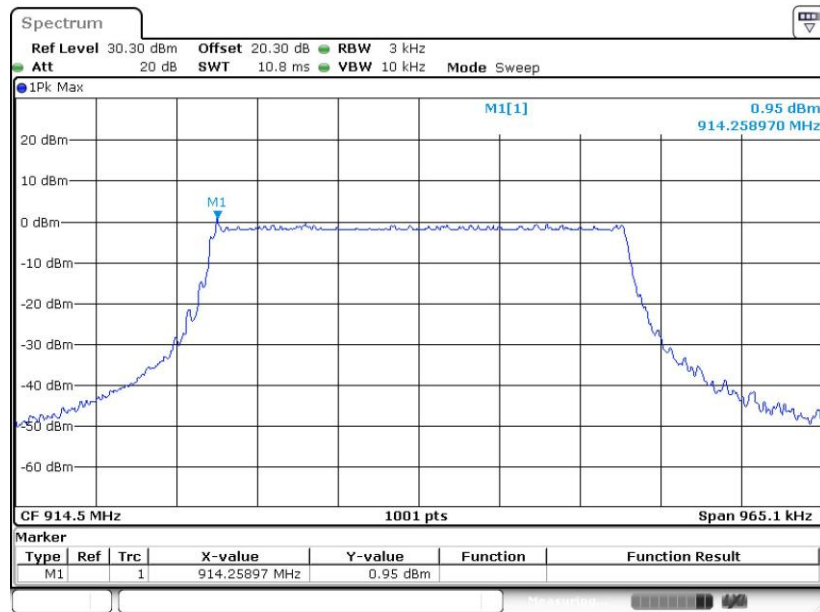
For SF11:

PSD 3kHz Plot on 902.5 MHz



Date: 14.APR.2026 11:00:13

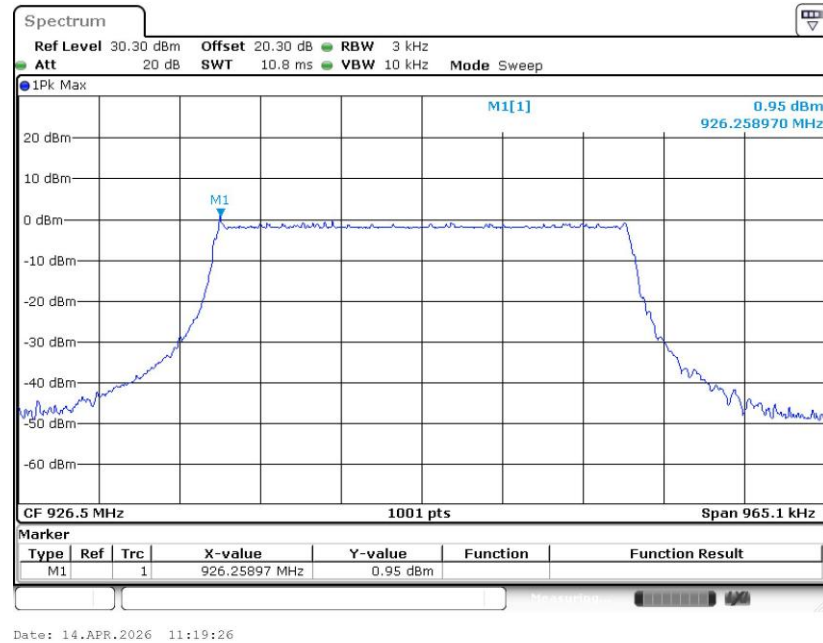
PSD 3kHz Plot on 914.5 MHz



Date: 14.APR.2026 11:09:17

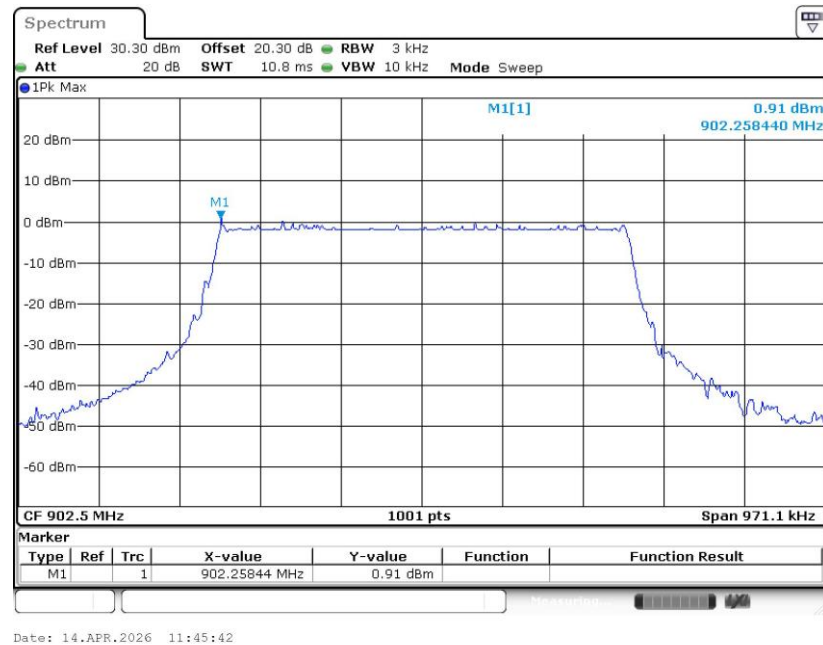


PSD 3kHz Plot on 926.5 MHz



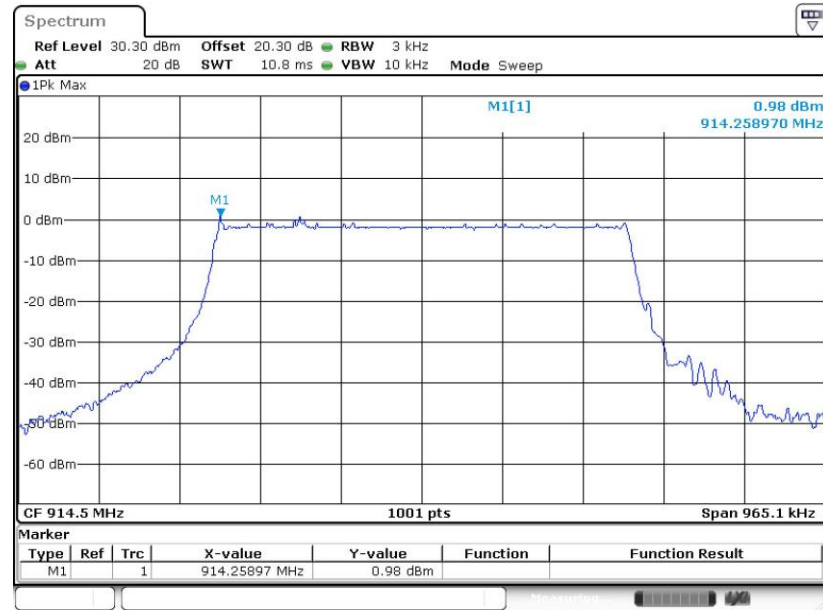
For SF12:

PSD 3kHz Plot on 902.5 MHz



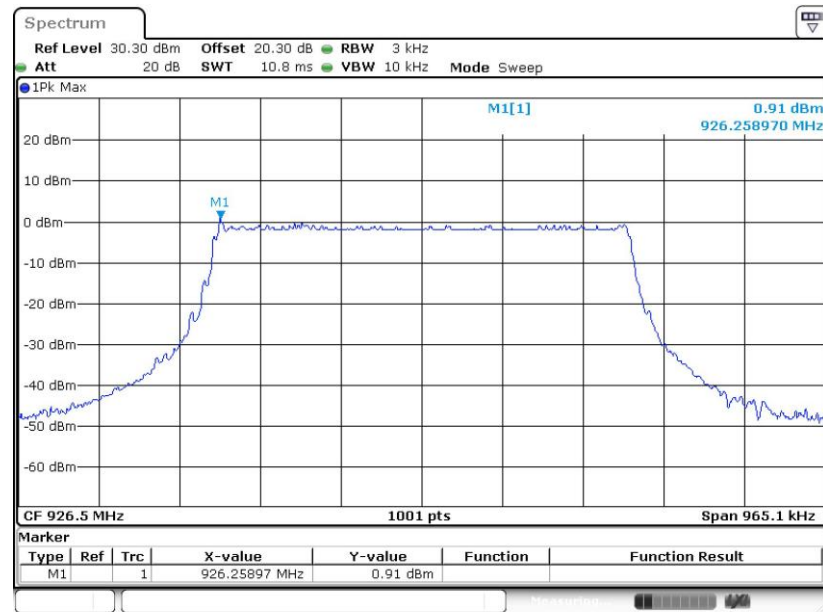


PSD 3kHz Plot on 914.5 MHz



Date: 14.APR.2026 11:53:47

PSD 3kHz Plot on 926.5 MHz



Date: 14.APR.2026 13:02:07

3.4 Conducted Band Edges and Spurious Emission Measurement

3.4.1 Limit of Conducted Band Edges and Spurious Emission

All harmonics/spurious must be at least 20 dB down from the highest emission level within the authorized band.

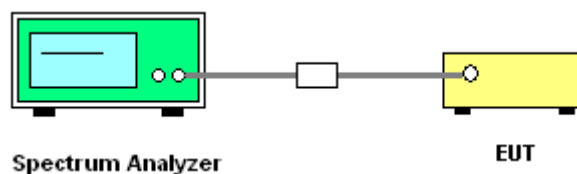
3.4.2 Measuring Instruments

The section 4.0 of List of Measuring Equipment of this test report is used for test.

3.4.3 Test Procedure

1. The testing follows ANSI C63.10-2020 clause 11.11.3.
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Set RBW = 100 kHz, VBW=300 kHz, Peak Detector. Unwanted Emissions measured in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum in-band peak PSD level in 100 kHz when maximum peak conducted output power procedure is used. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, the attenuation required under this paragraph shall be 30 dB instead of 20 dB.
5. Measure and record the results in the test report.
6. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

3.4.4 Test Setup

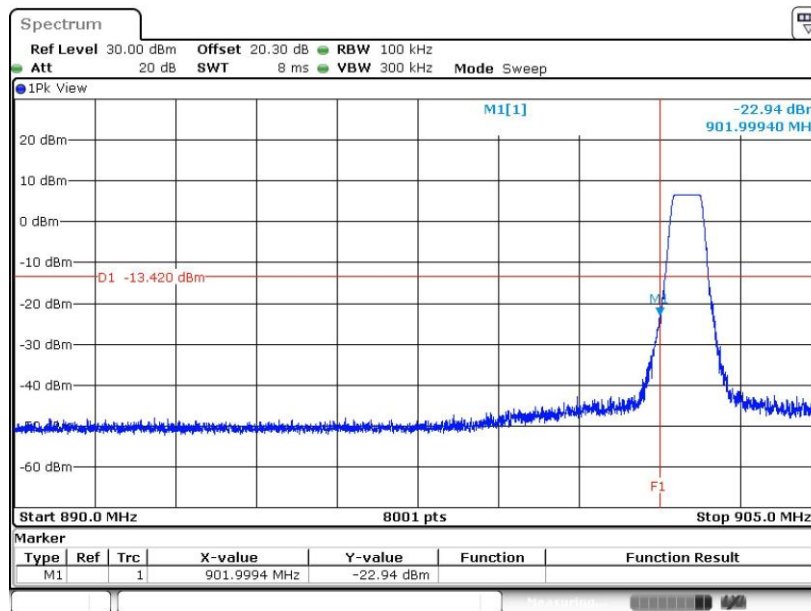




3.4.5 Test Result of Conducted Band Edges Plots

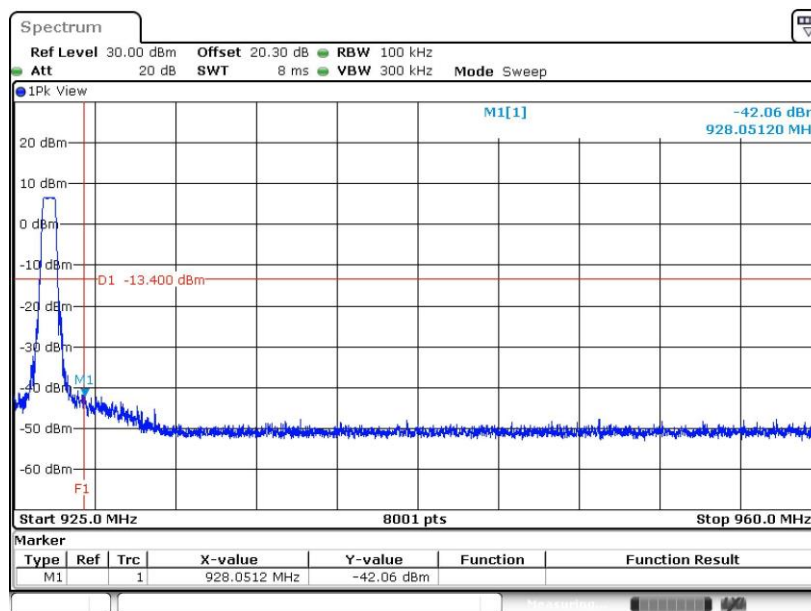
For SF7:

Low Band Edge Plot on 902.5 MHz



Date: 13.APR.2026 15:50:02

High Band Edge Plot on 926.5 MHz

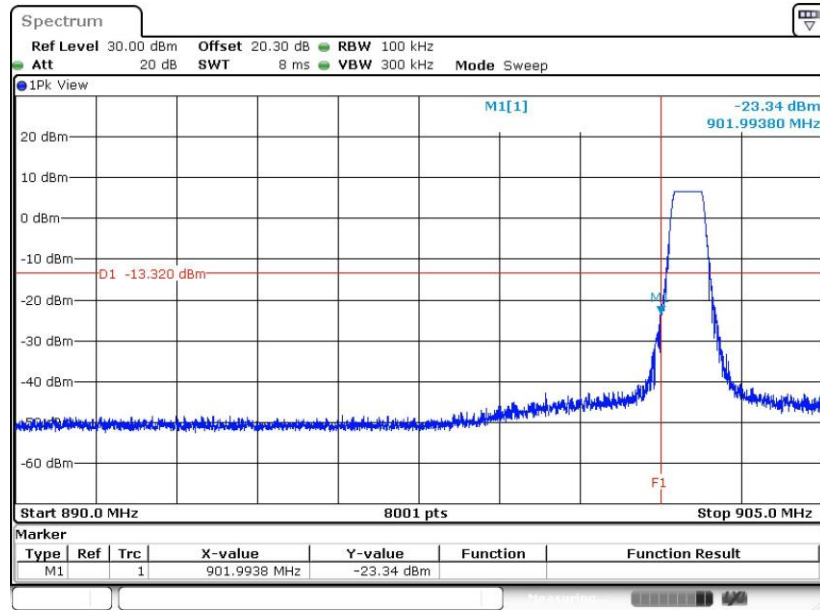


Date: 13.APR.2026 16:10:24



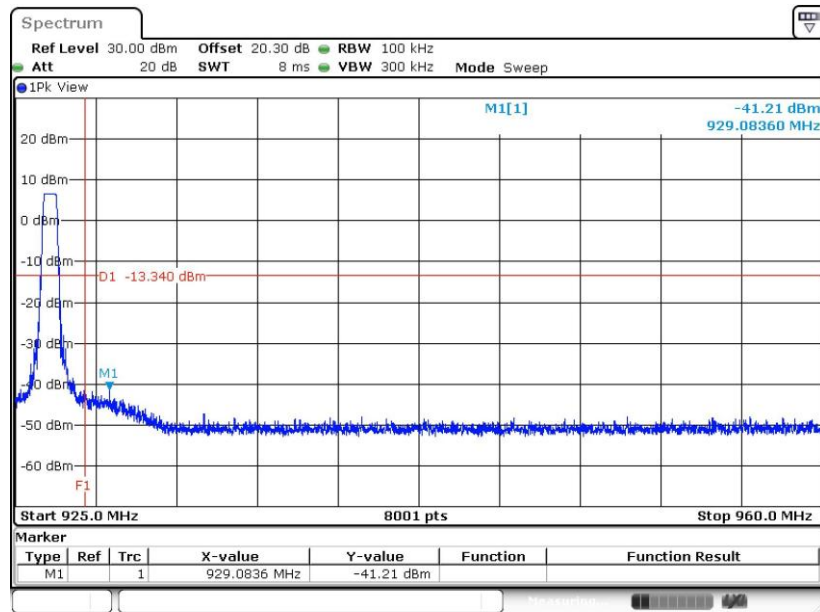
For SF8:

Low Band Edge Plot on 902.5 MHz



Date: 13.APR.2026 16:37:20

High Band Edge Plot on 926.5 MHz

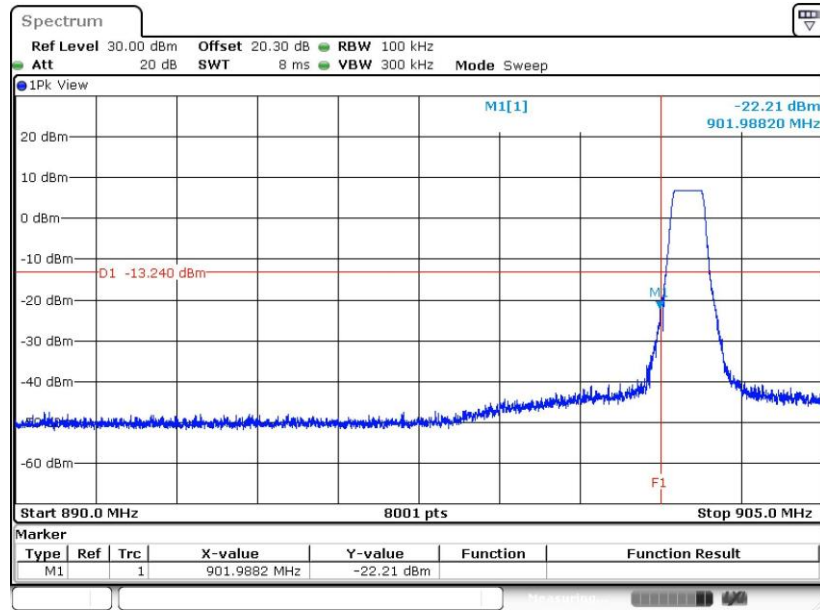


Date: 13.APR.2026 17:28:44



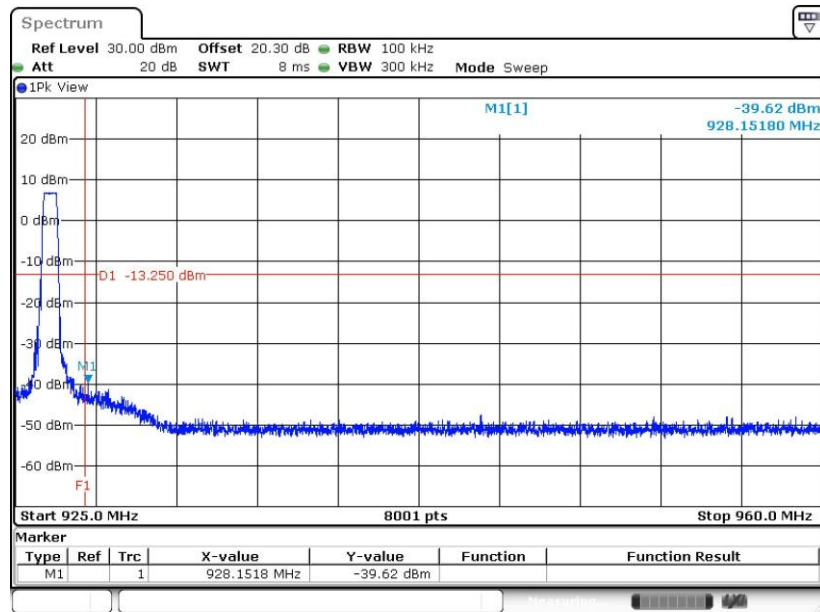
For SF9:

Low Band Edge Plot on 902.5 MHz



Date: 13.APR.2026 17:50:57

High Band Edge Plot on 926.5 MHz

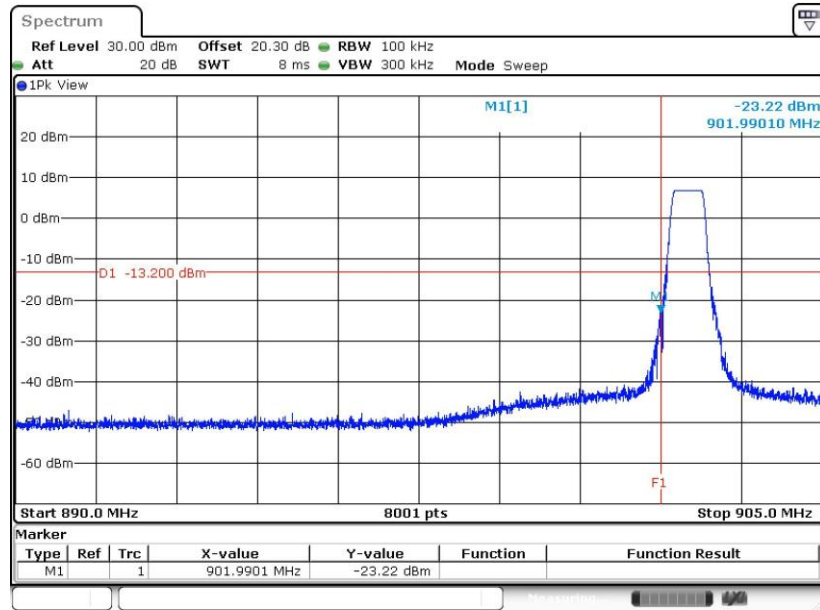


Date: 13.APR.2026 18:14:26



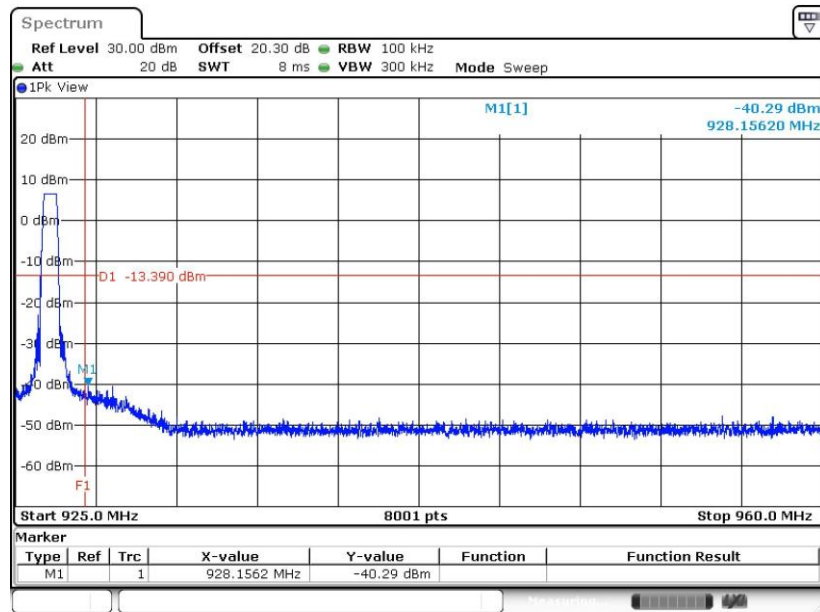
For SF10:

Low Band Edge Plot on 902.5 MHz



Date: 13.APR.2026 18:26:55

High Band Edge Plot on 926.5 MHz

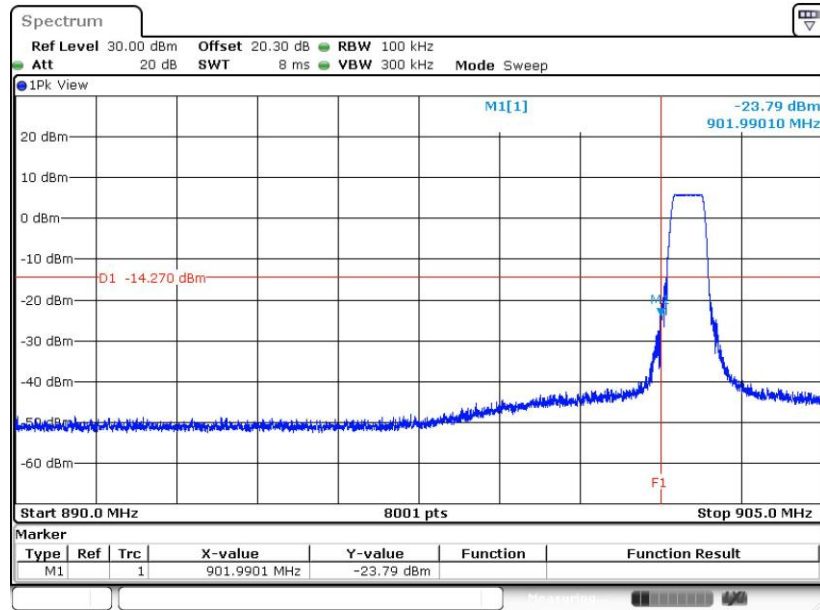


Date: 13.APR.2026 18:48:10



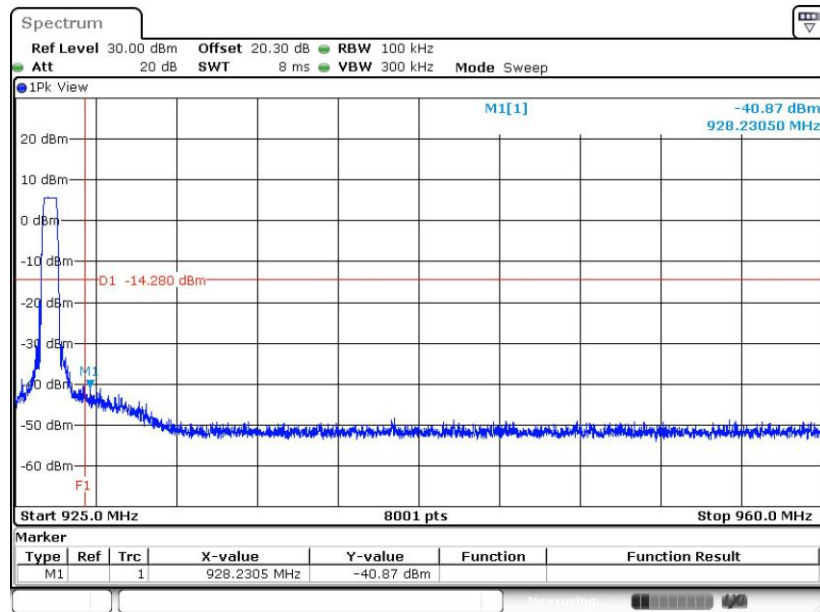
For SF11:

Low Band Edge Plot on 902.5 MHz



Date: 14.APR.2026 11:03:14

High Band Edge Plot on 926.5 MHz

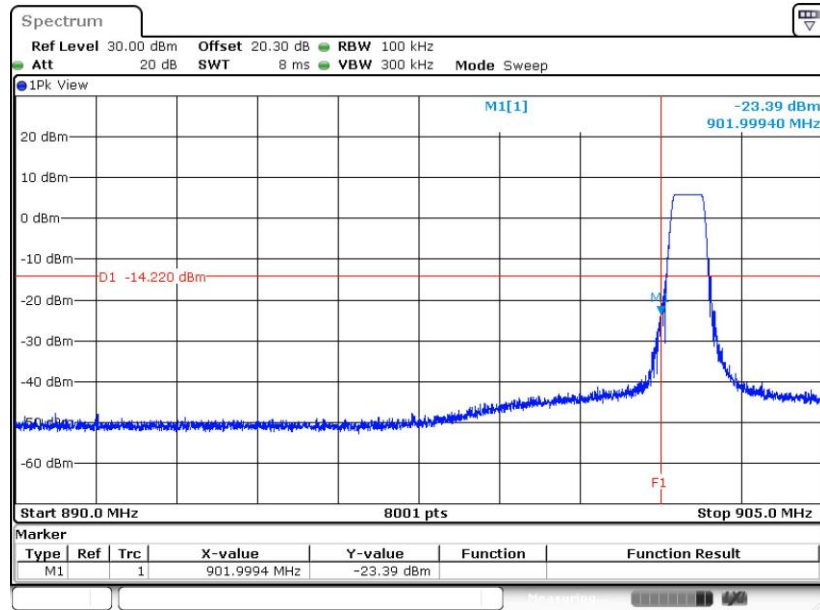


Date: 14.APR.2026 11:22:04



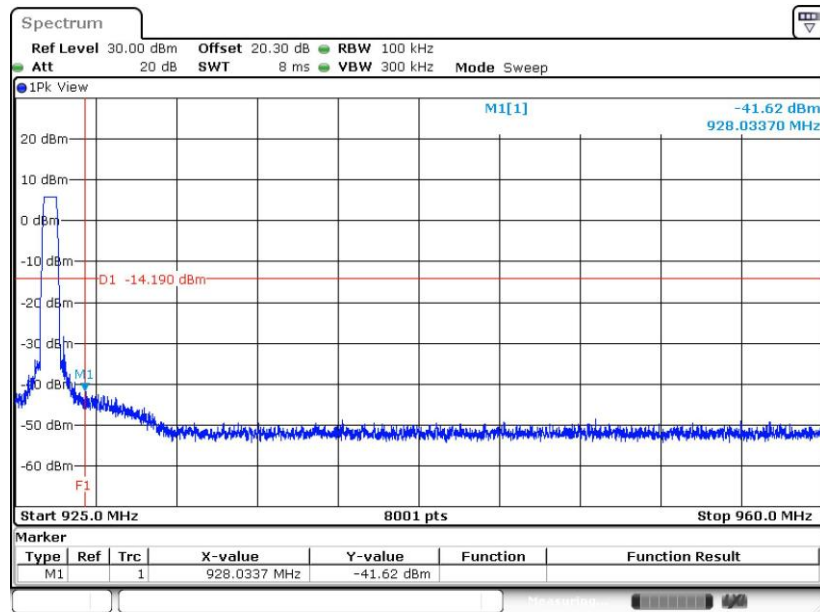
For SF12:

Low Band Edge Plot on 902.5 MHz



Date: 14.APR.2026 11:49:04

High Band Edge Plot on 926.5 MHz



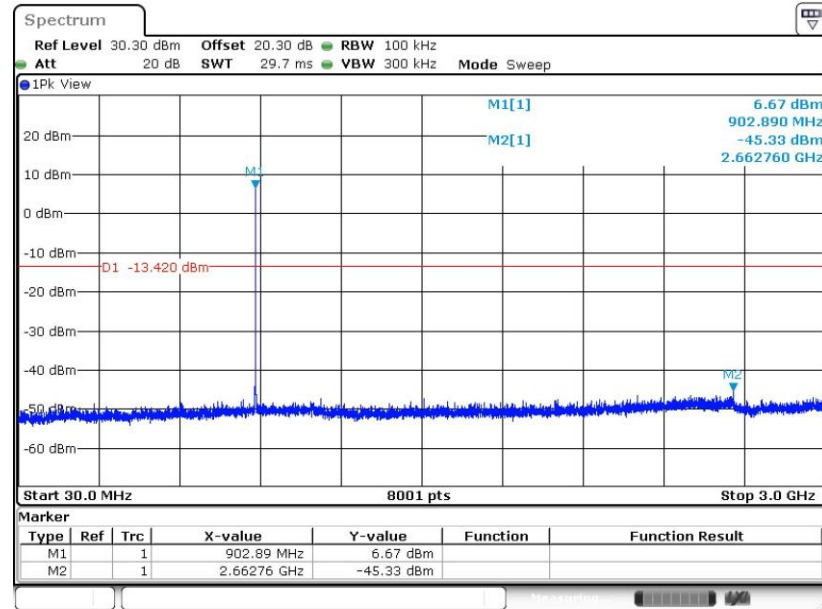
Date: 14.APR.2026 13:05:07



3.4.6 Test Result of Conducted Spurious Emission Plots

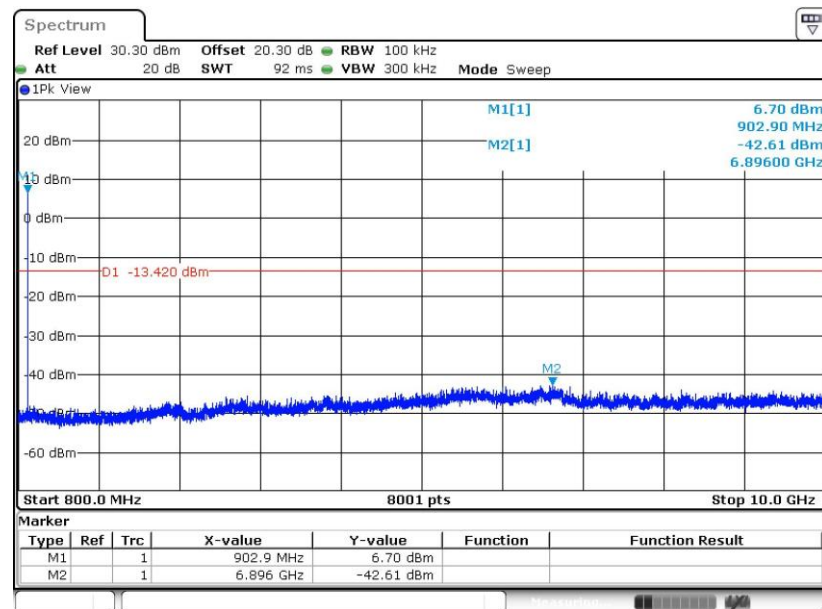
For SF7:

Conducted Spurious Emission Plot on 902.5 MHz



Date: 13.APR.2026 15:51:07

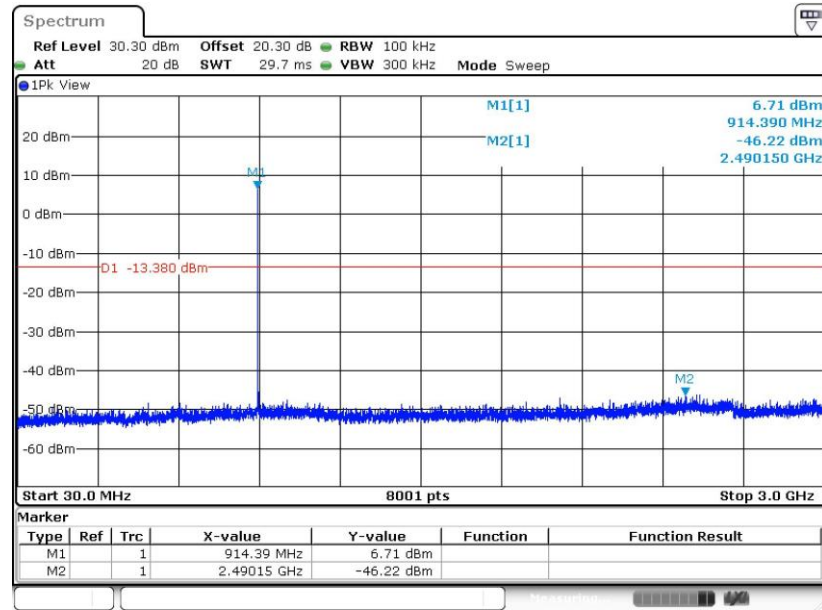
Conducted Spurious Emission Plot on 902.5 MHz



Date: 13.APR.2026 15:51:49

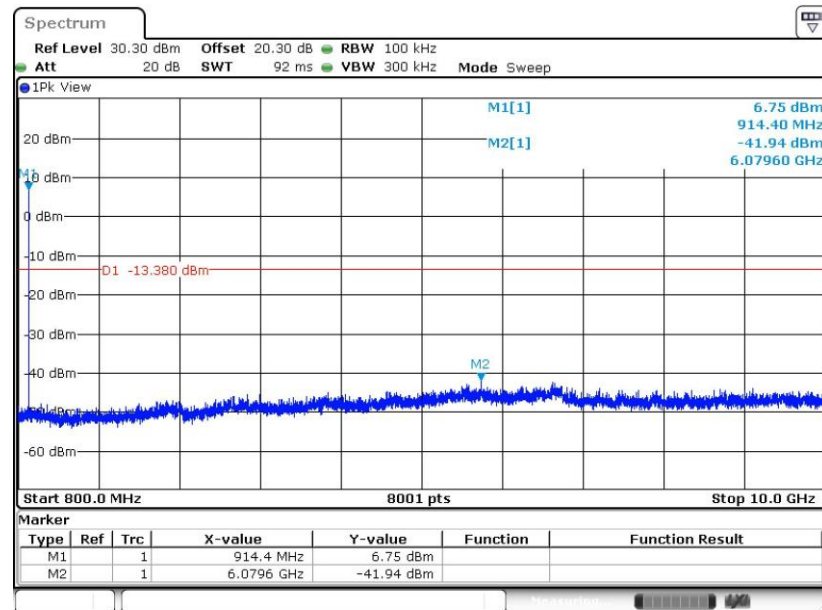


Conducted Spurious Emission Plot on 914.5 MHz



Date: 13.APR.2026 15:59:18

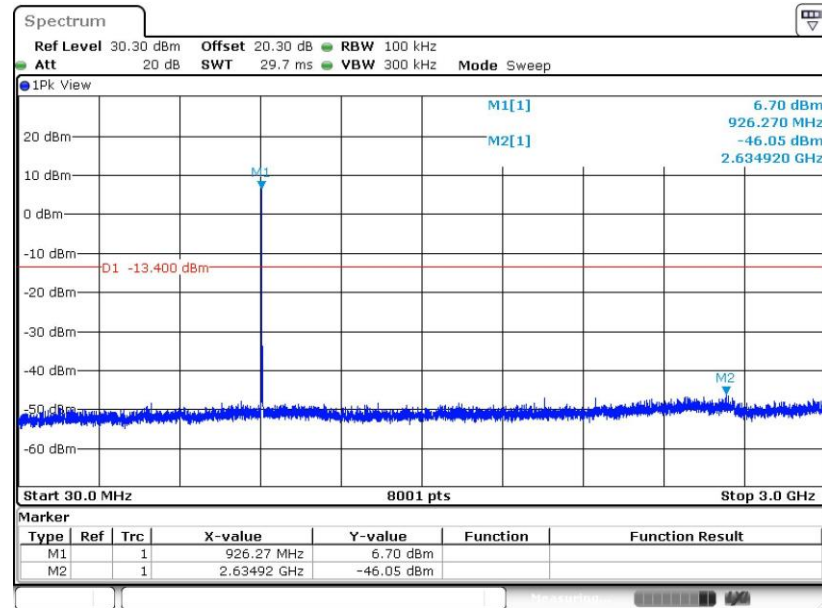
Conducted Spurious Emission Plot on 914.5 MHz



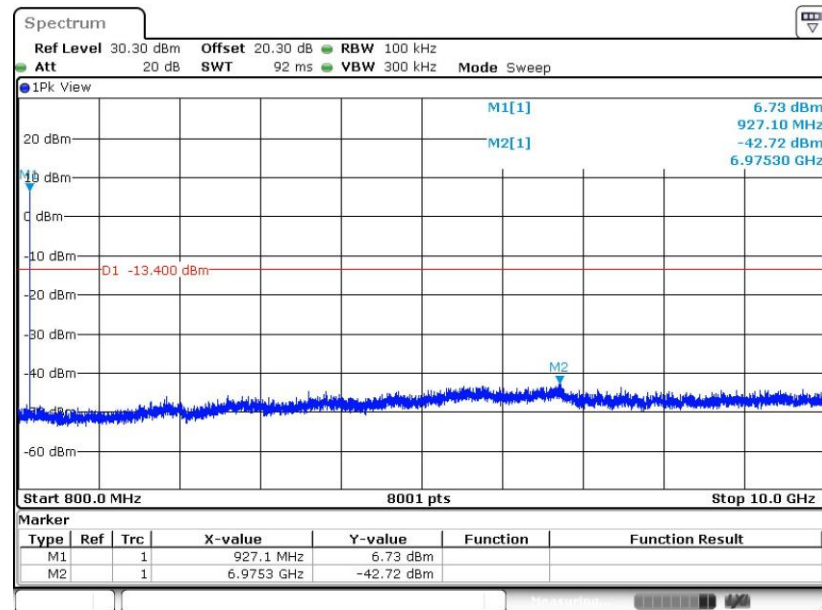
Date: 13.APR.2026 15:59:46



Conducted Spurious Emission Plot on 926.5 MHz



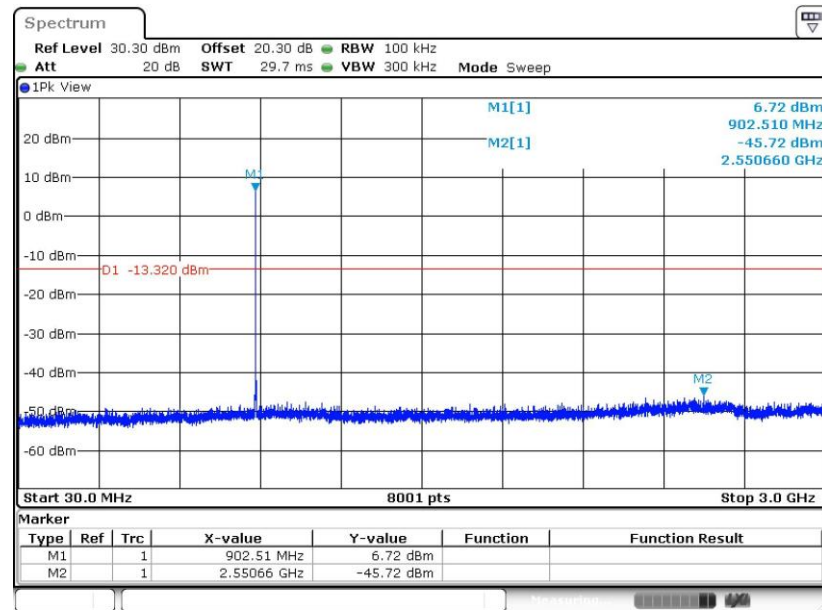
Conducted Spurious Emission Plot on 926.5 MHz



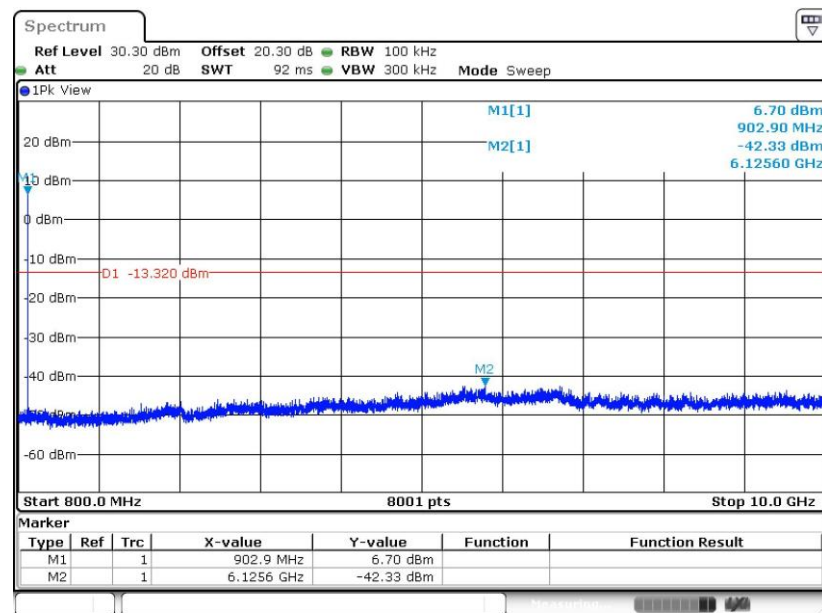


For SF8:

Conducted Spurious Emission Plot on 902.5 MHz

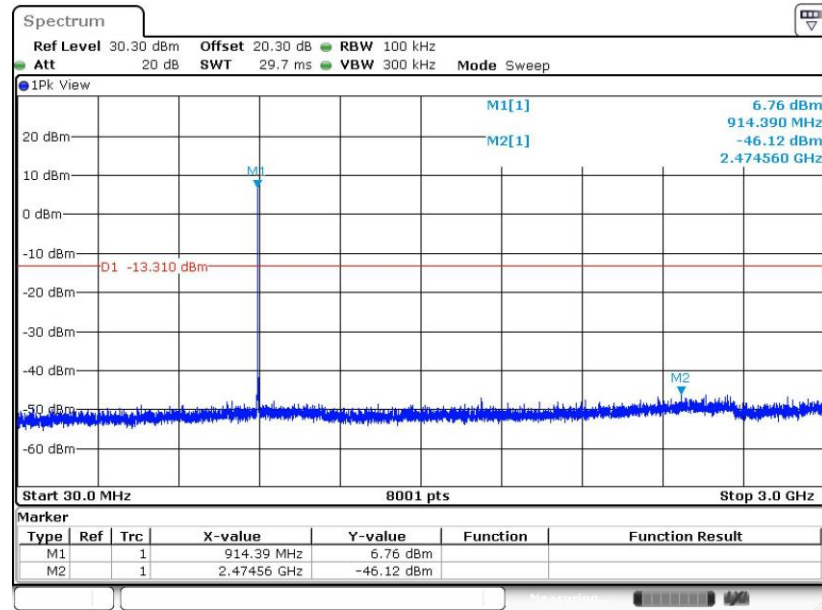


Conducted Spurious Emission Plot on 902.5 MHz



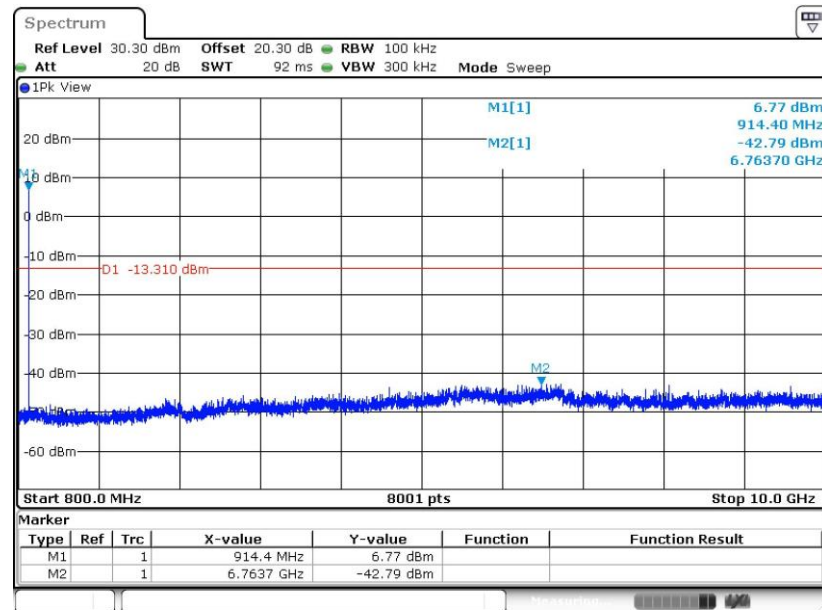


Conducted Spurious Emission Plot on 914.5 MHz



Date: 13.APR.2026 17:21:09

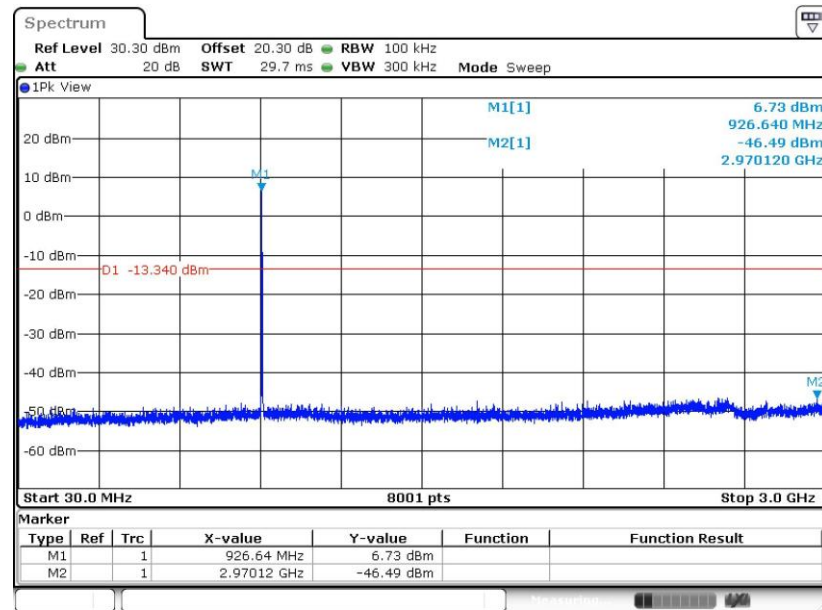
Conducted Spurious Emission Plot on 914.5 MHz



Date: 13.APR.2026 17:21:35

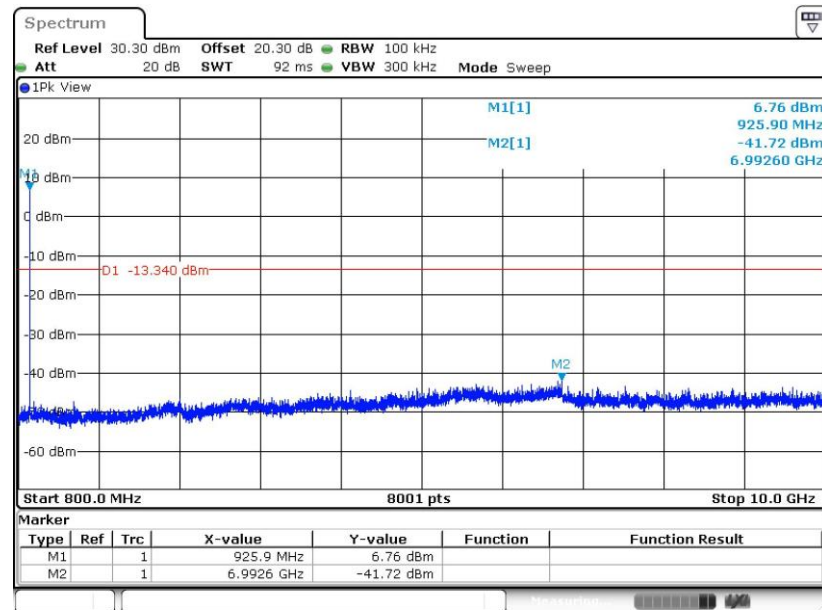


Conducted Spurious Emission Plot on 926.5 MHz



Date: 13.APR.2026 17:29:18

Conducted Spurious Emission Plot on 926.5 MHz

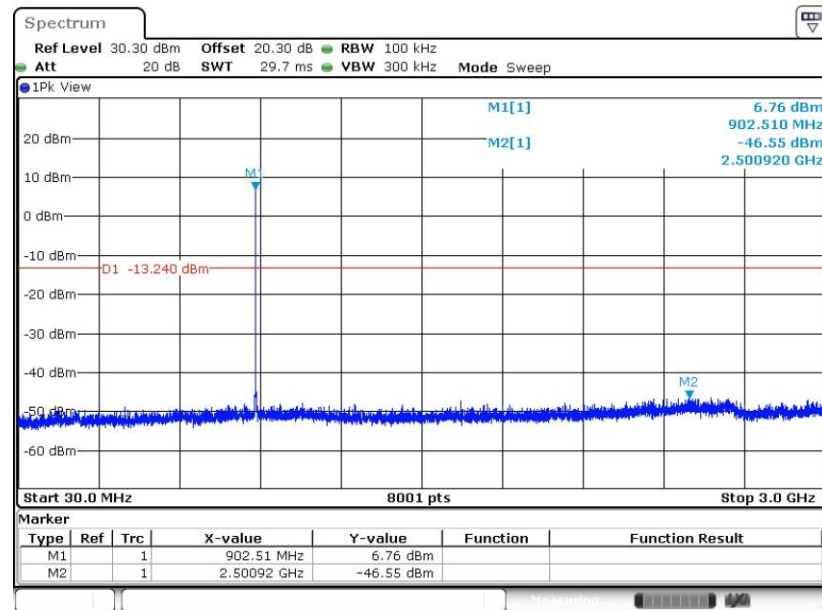


Date: 13.APR.2026 17:29:50



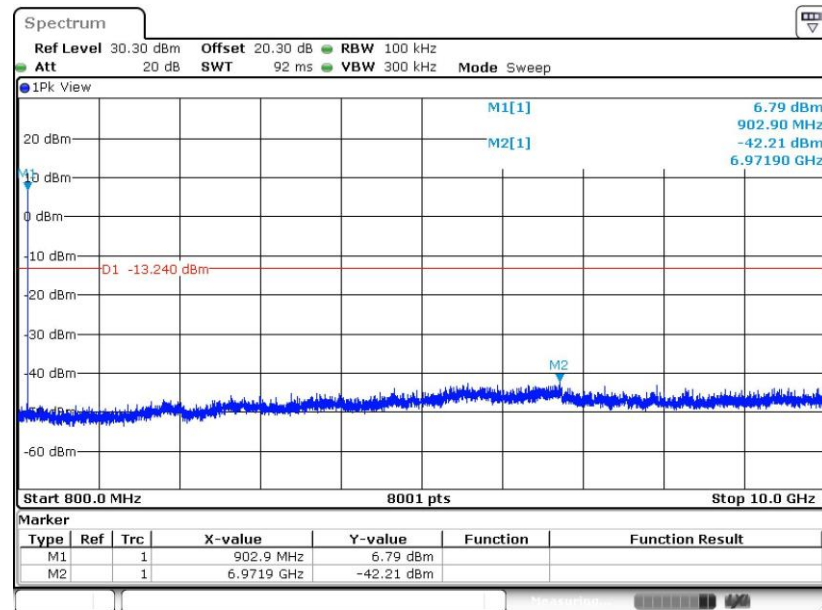
For SF9:

Conducted Spurious Emission Plot on 902.5 MHz



Date: 13.APR.2026 17:51:46

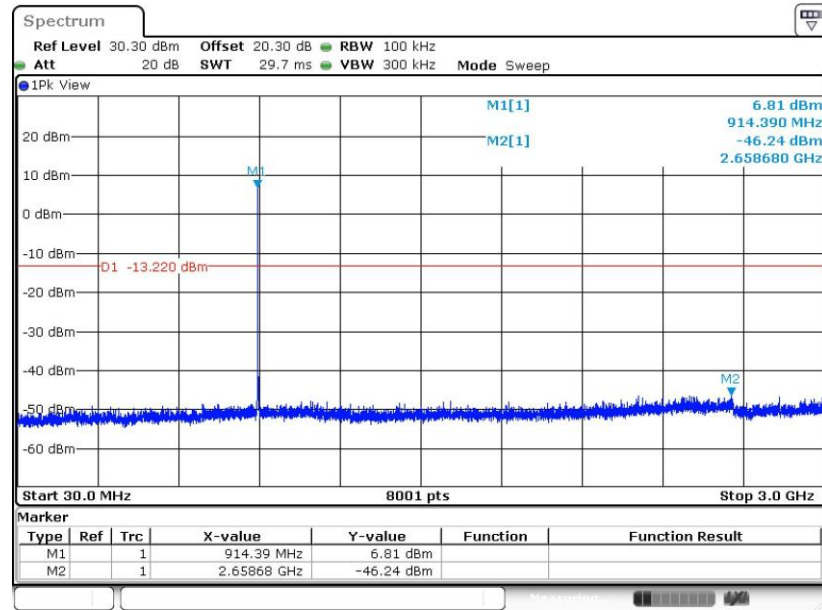
Conducted Spurious Emission Plot on 902.5 MHz



Date: 13.APR.2026 17:52:14

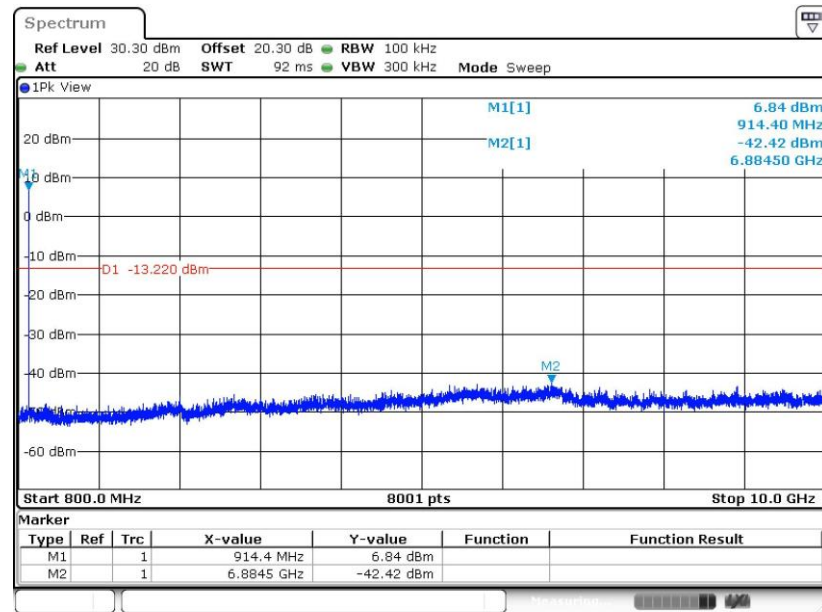


Conducted Spurious Emission Plot on 914.5 MHz



Date: 13.APR.2026 18:05:43

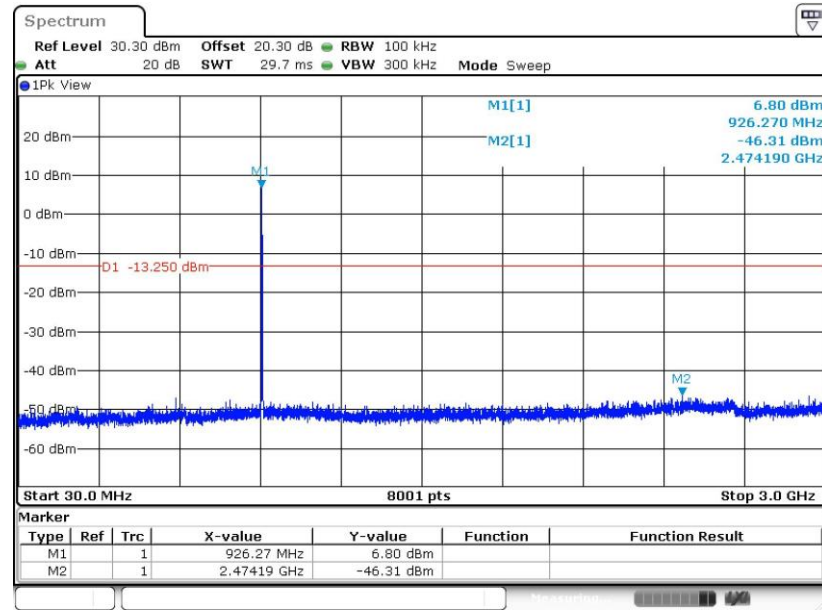
Conducted Spurious Emission Plot on 914.5 MHz



Date: 13.APR.2026 18:06:12

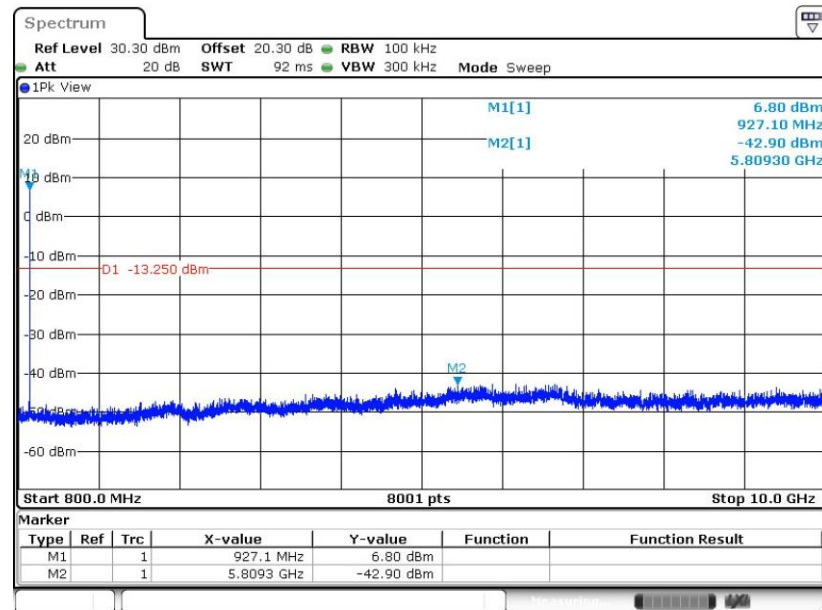


Conducted Spurious Emission Plot on 926.5 MHz



Date: 13.APR.2026 18:14:59

Conducted Spurious Emission Plot on 926.5 MHz

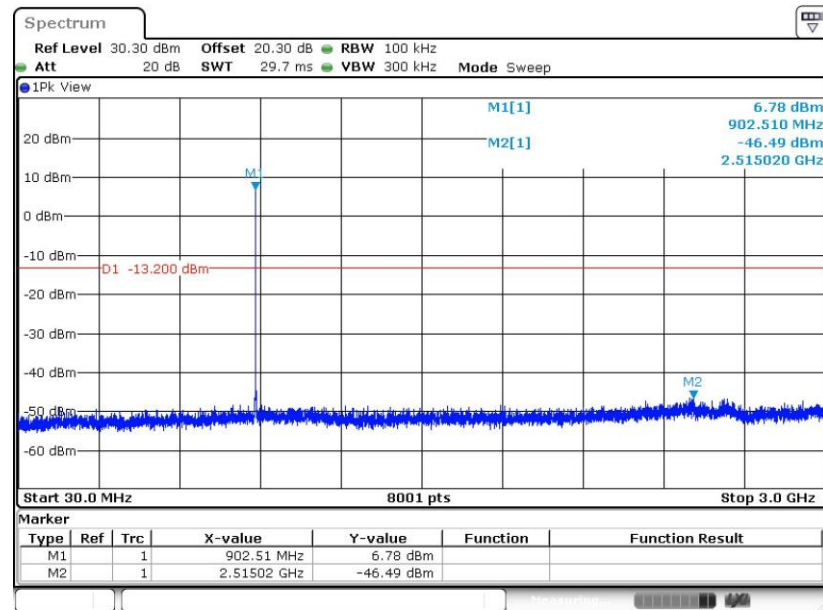


Date: 13.APR.2026 18:15:25



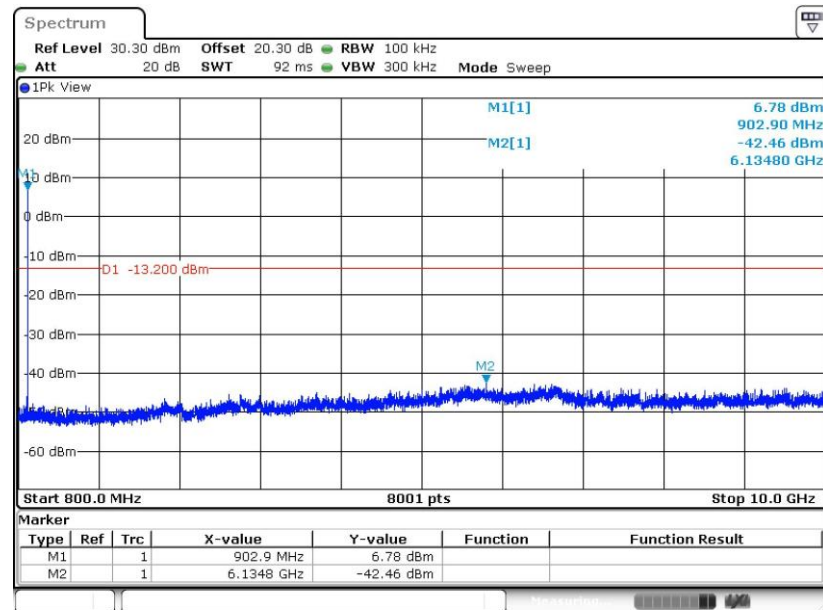
For SF10:

Conducted Spurious Emission Plot on 902.5 MHz



Date: 13.APR.2026 18:27:37

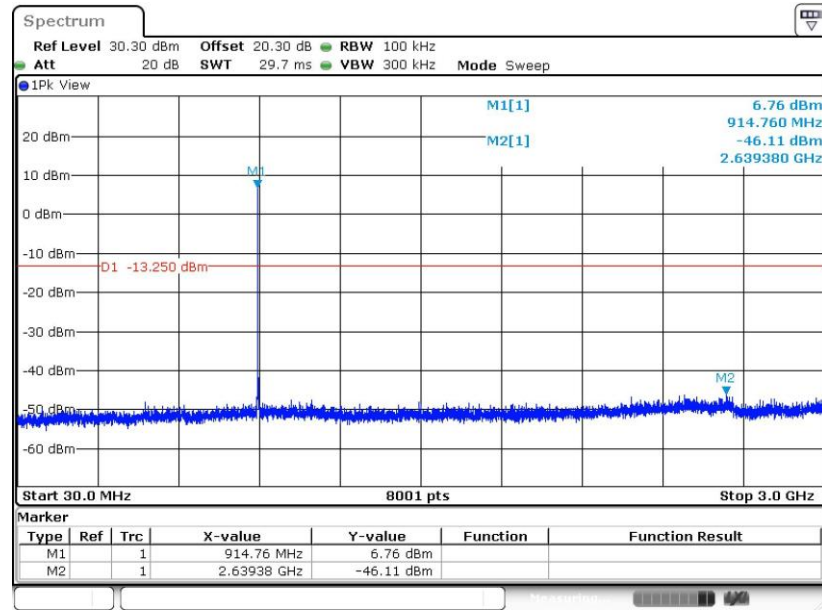
Conducted Spurious Emission Plot on 902.5 MHz



Date: 13.APR.2026 18:28:08

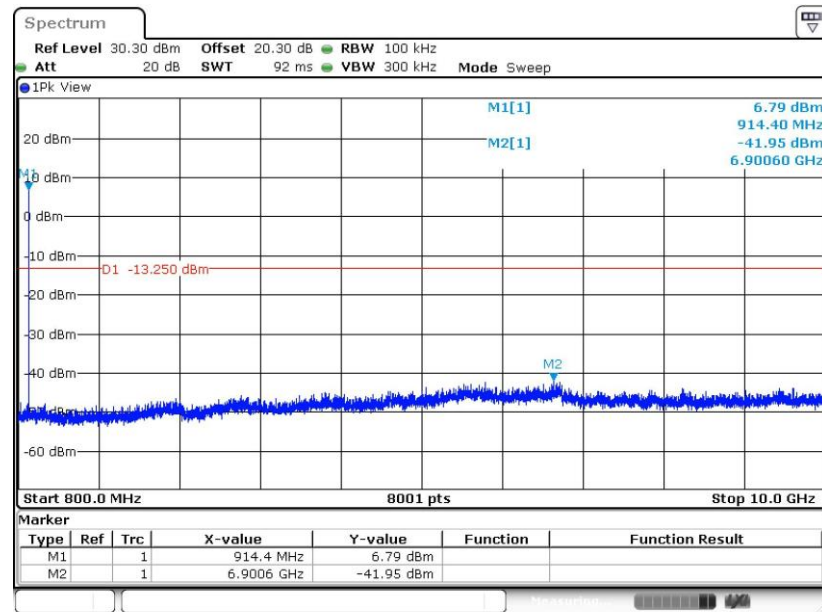


Conducted Spurious Emission Plot on 914.5 MHz



Date: 13.APR.2026 18:34:10

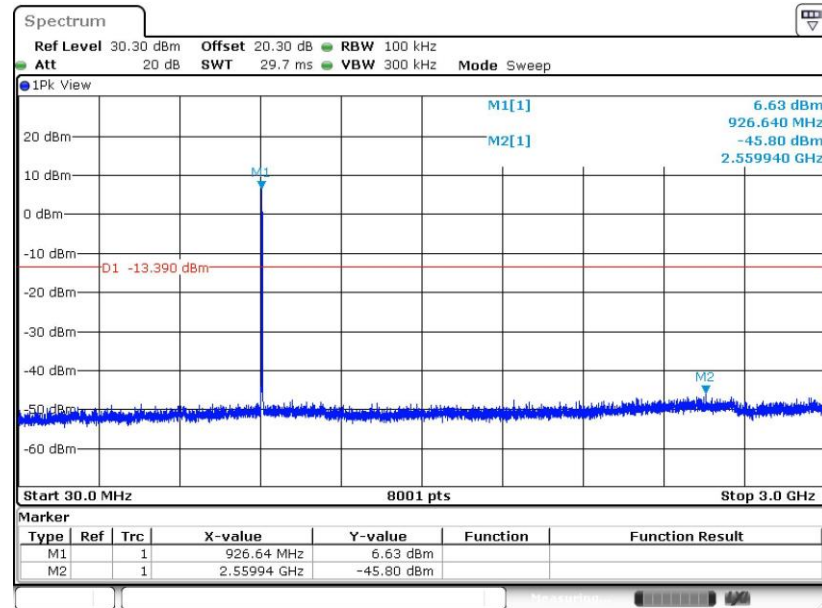
Conducted Spurious Emission Plot on 914.5 MHz



Date: 13.APR.2026 18:34:40

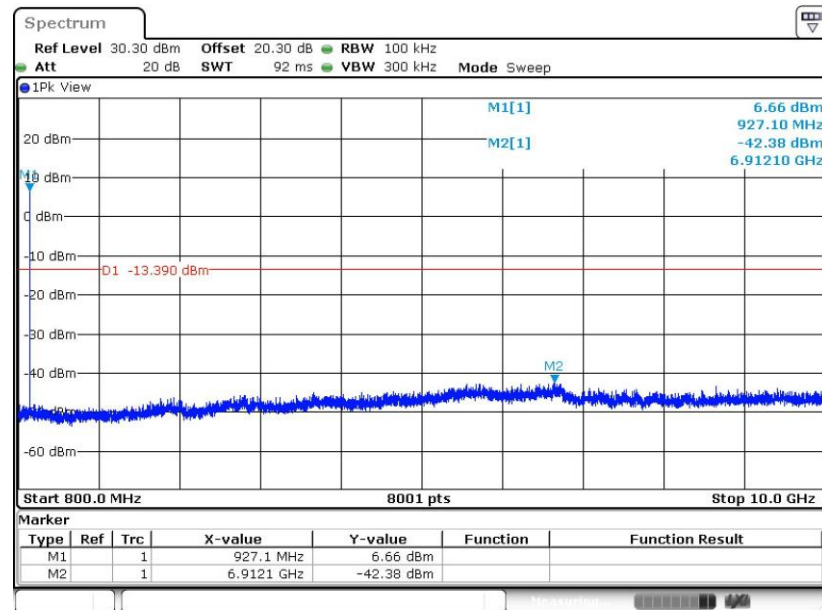


Conducted Spurious Emission Plot on 926.5 MHz



Date: 13.APR.2026 18:48:47

Conducted Spurious Emission Plot on 926.5 MHz

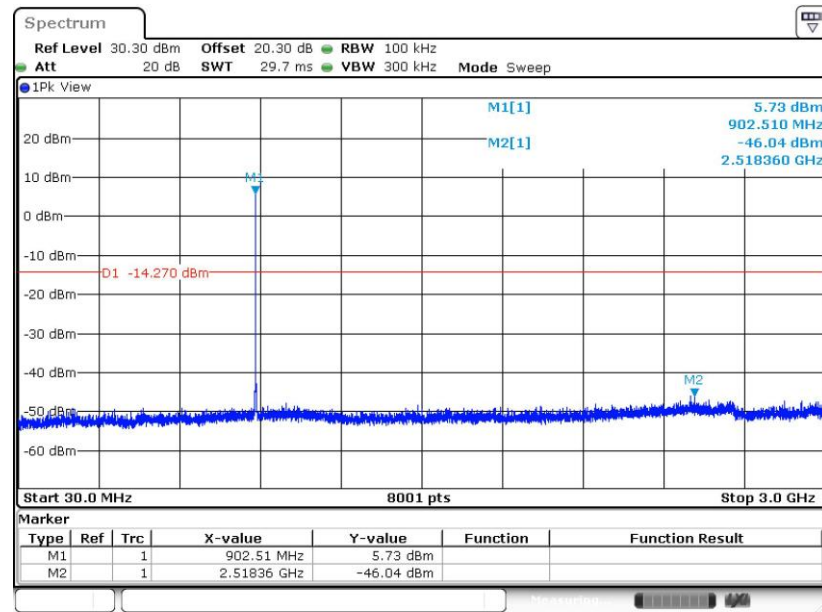


Date: 13.APR.2026 18:49:30



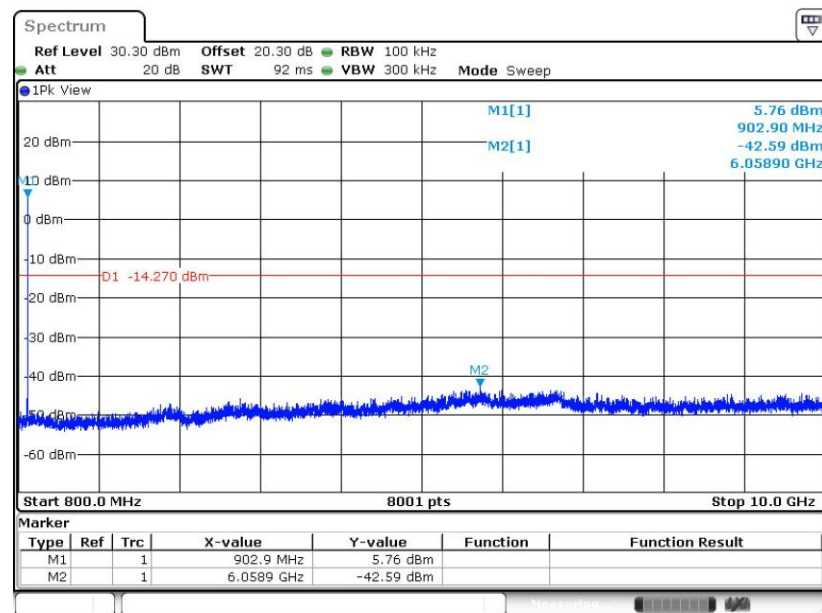
For SF11:

Conducted Spurious Emission Plot on 902.5 MHz



Date: 14.APR.2026 11:04:03

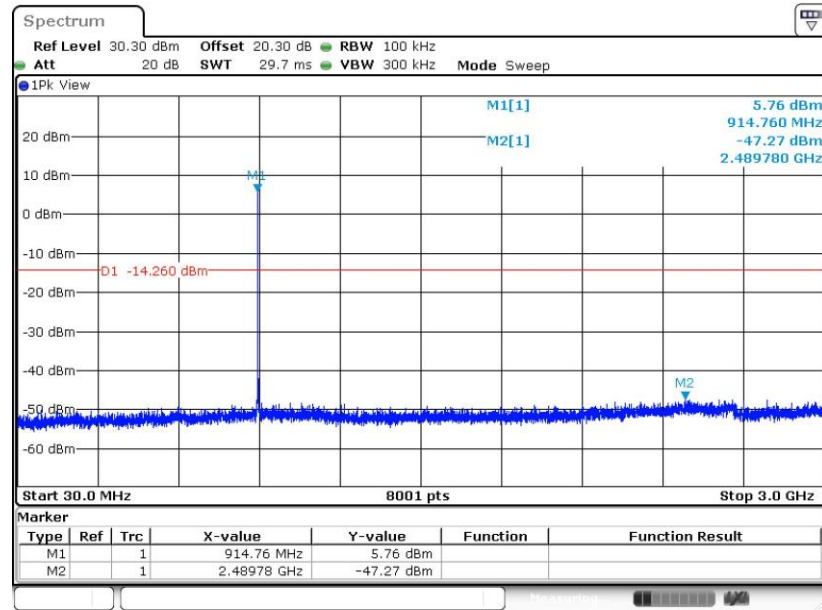
Conducted Spurious Emission Plot on 902.5 MHz



Date: 14.APR.2026 11:04:37

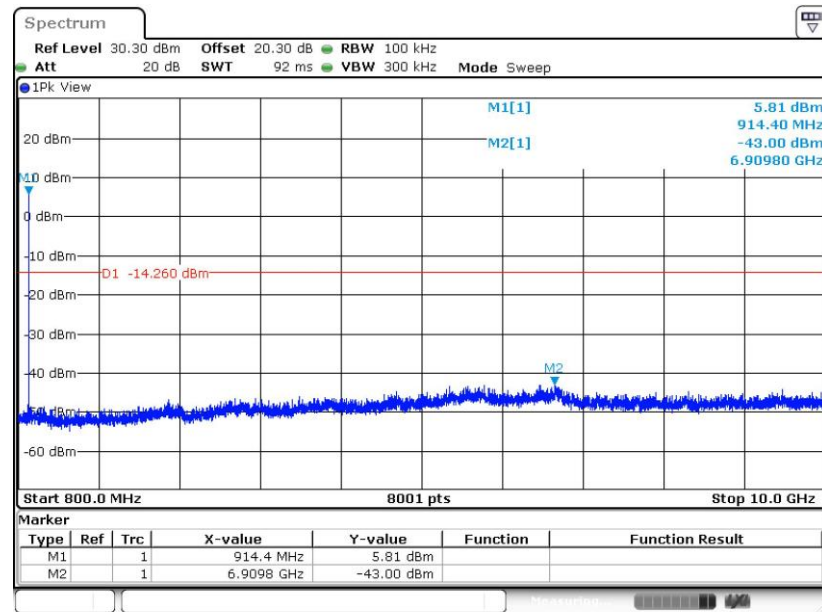


Conducted Spurious Emission Plot on 914.5 MHz



Date: 14.APR.2026 11:11:57

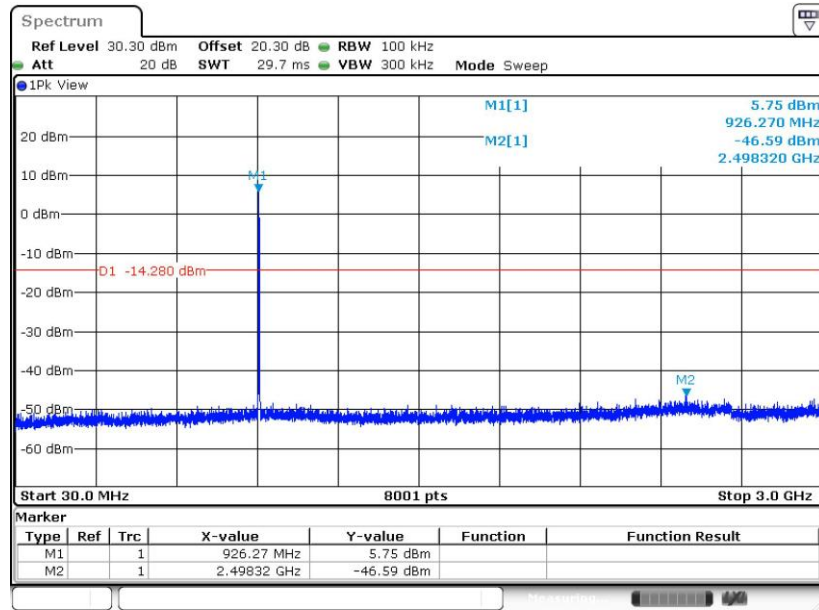
Conducted Spurious Emission Plot on 914.5 MHz



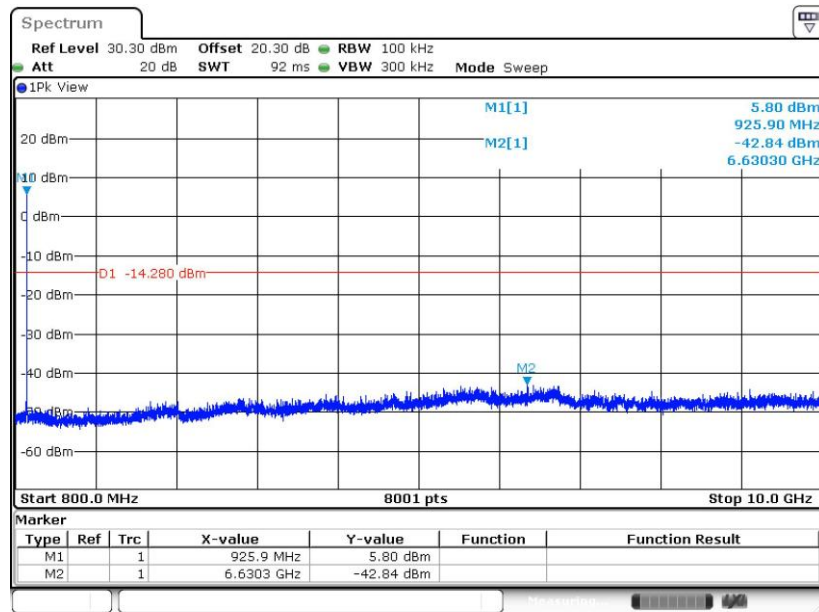
Date: 14.APR.2026 11:12:32



Conducted Spurious Emission Plot on 926.5 MHz



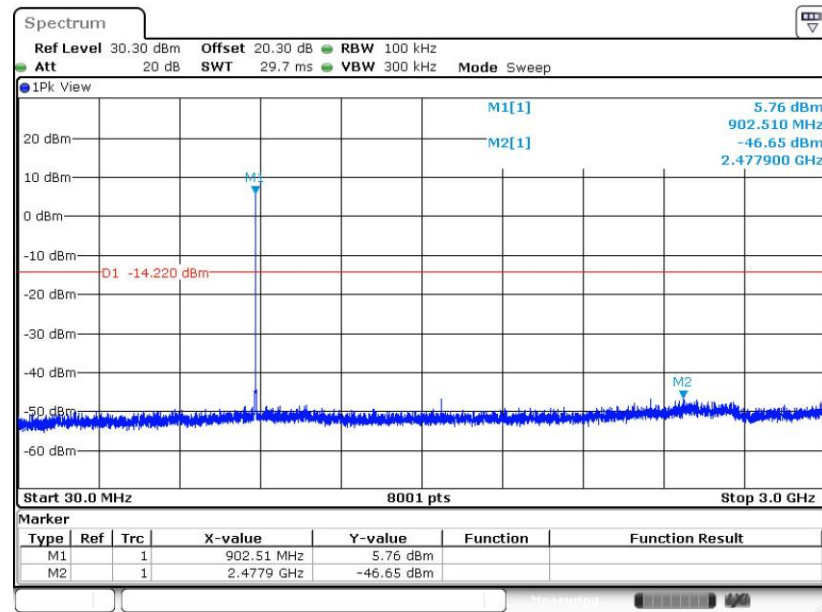
Conducted Spurious Emission Plot on 926.5 MHz





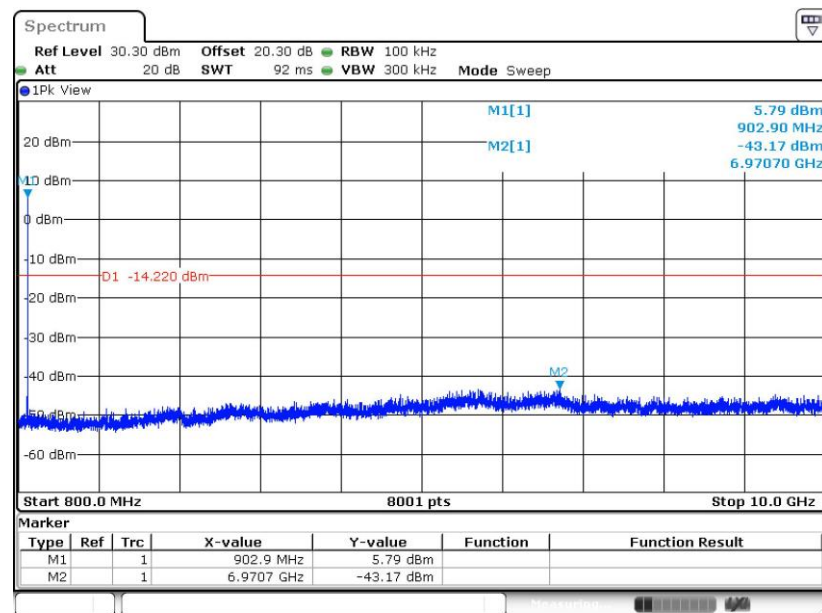
For SF12:

Conducted Spurious Emission Plot on 902.5 MHz



Date: 14.APR.2026 11:49:36

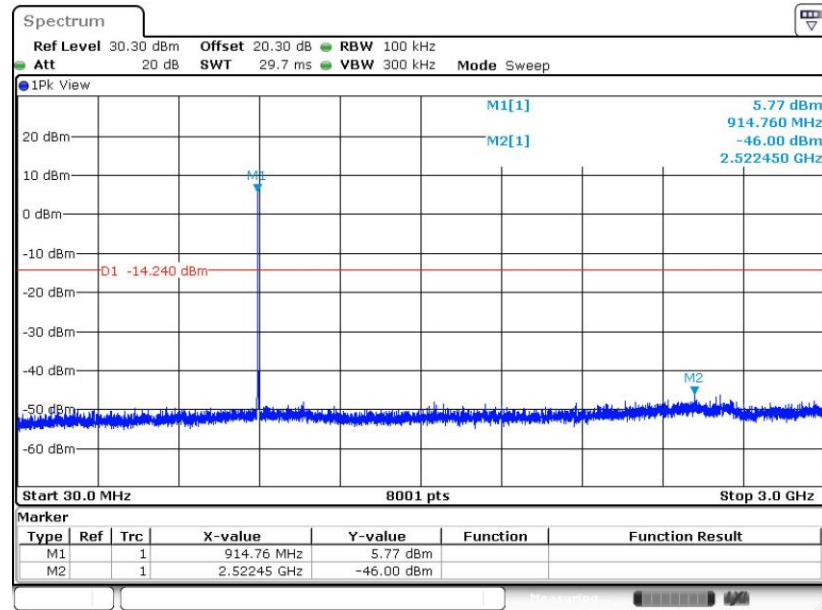
Conducted Spurious Emission Plot on 902.5 MHz



Date: 14.APR.2026 11:50:03

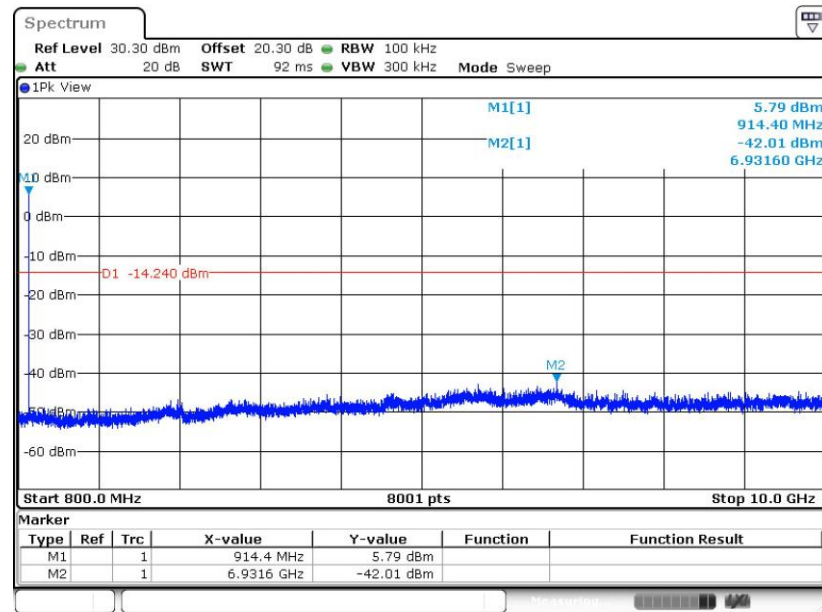


Conducted Spurious Emission Plot on 914.5 MHz



Date: 14.APR.2026 11:55:21

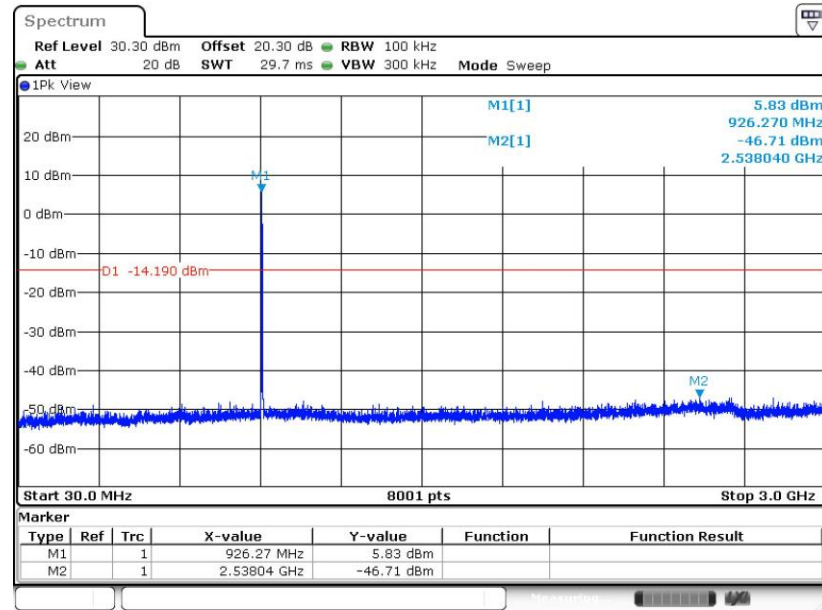
Conducted Spurious Emission Plot on 914.5 MHz



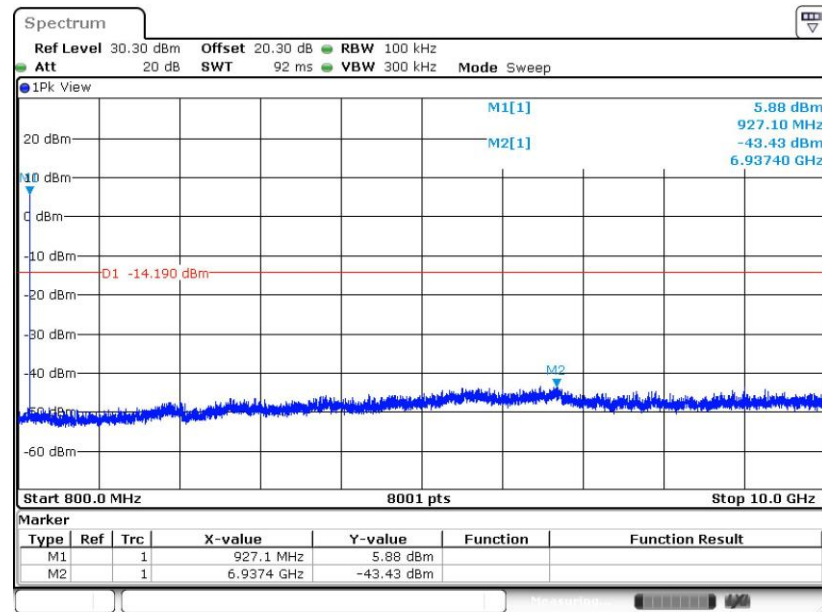
Date: 14.APR.2026 11:55:51



Conducted Spurious Emission Plot on 926.5 MHz



Conducted Spurious Emission Plot on 926.5 MHz



3.5 Radiated Band Edges and Spurious Emission Measurement

3.5.1 Limit of Radiated Band Edges and Spurious Emission

In any 100 kHz bandwidth outside the intentional radiator frequency band, all harmonics/spurious must be at least 20 dB below the highest emission level within the authorized band. If the output power of this device was measured by spectrum analyzer, the attenuation under this paragraph shall be 30 dB instead of 20 dB. In addition, radiated emissions which fall in the restricted bands must also comply with the limits as below.

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
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

3.5.2 Measuring Instruments

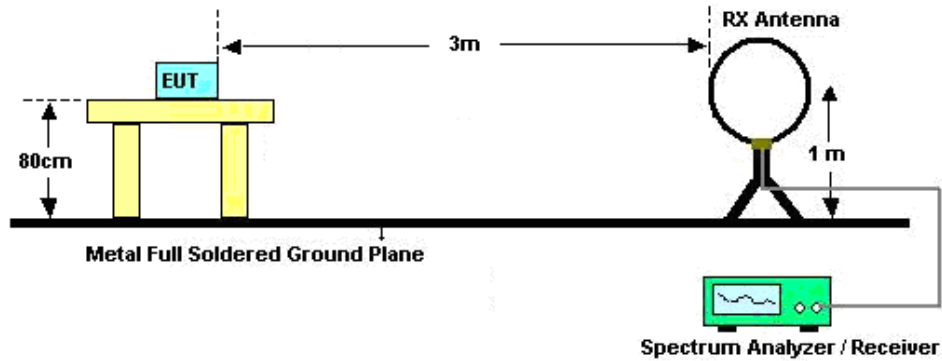
The section 4.0 of List of Measuring Equipment of this test report is used for test.

3.5.3 Test Procedures

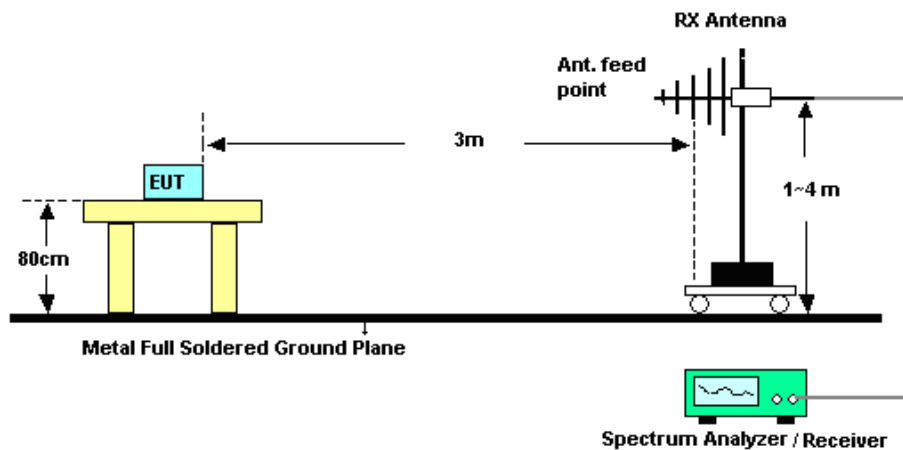
1. The testing follows ANSI C63.10-2020 clause 6.3, 6.5, 6.6, 11.11 and 11.12
2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level.
3. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
5. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level
6. For testing below 1GHz, if the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then peak values of EUT will be reported, otherwise, the emissions will be repeated one by one using the CISPR quasi-peak method and reported.
7. For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than average limit (that means the emission level in average mode also complies with the limit in average mode), then peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
8. Use the following spectrum analyzer settings:
 - (1) Span shall wide enough to fully capture the emission being measured;
 - (2) Set RBW=100 kHz for $f < 1$ GHz; VBW $\geq$ RBW; Sweep = auto; Detector function = peak; Trace = max hold;
 - (3) Set RBW = 1 MHz, VBW= 3MHz for $f \geq 1$ GHz for peak measurement.
For average measurement:
 - VBW = 10 Hz, when duty cycle is no less than 98 percent.
 - VBW $\geq 1/T$, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.

3.5.4 Test Setup

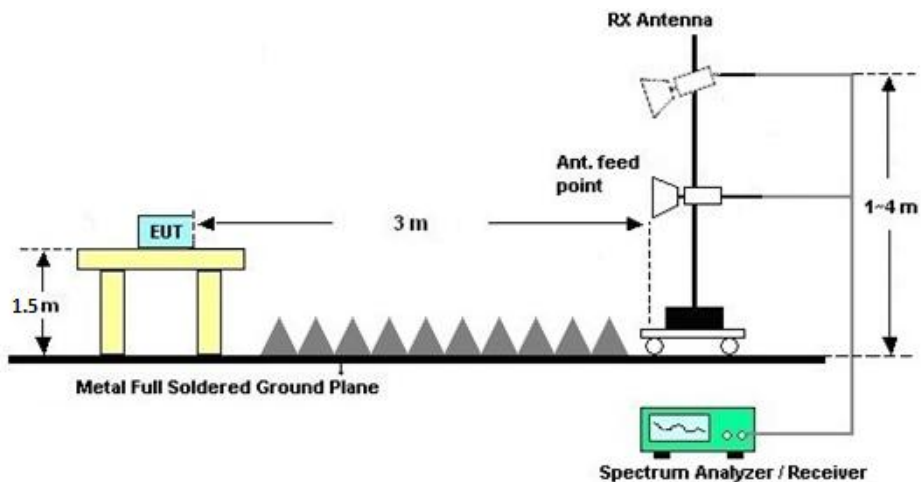
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz





3.5.5 Test Results of Radiated Spurious Emissions (9 kHz ~ 30 MHz)

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line was not reported.

There is a comparison data of both open-field test site and semi-Anechoic chamber, and the result came out very similar.

3.5.6 Test Result of Radiated Spurious Emission (30MHz ~ 10th Harmonic)

Please refer to Appendix C.

3.5.7 Duty cycle

Please refer to Appendix D.

3.6 AC Conducted Emission Measurement

3.6.1 Limit of AC Conducted Emission

For equipment 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.

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.

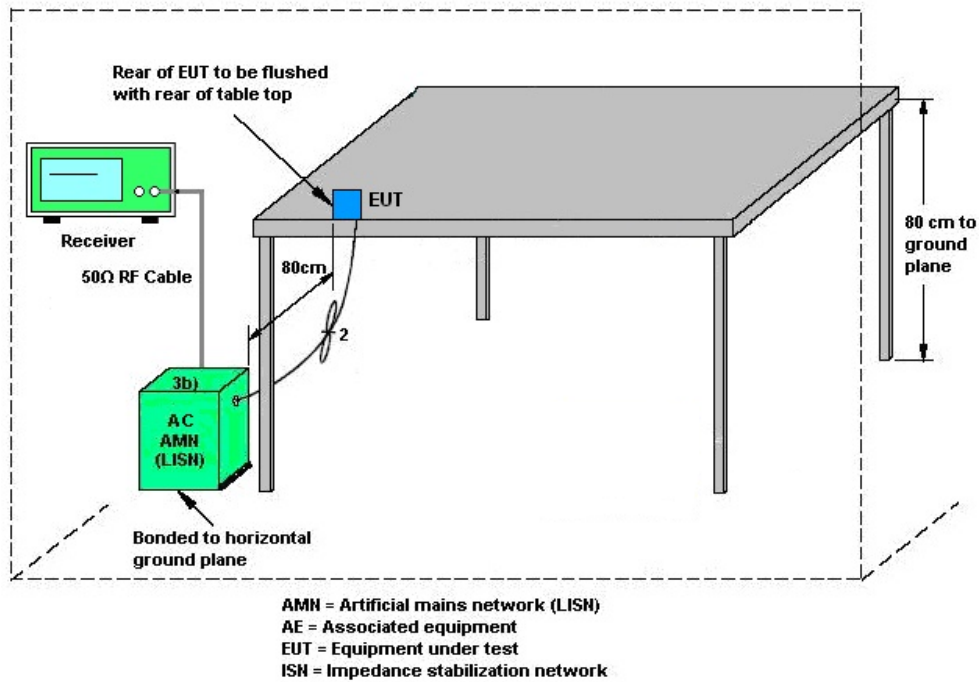
3.6.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.6.3 Test Procedures

1. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connecting to the other LISN.
4. The LISN provides 50 ohm coupling impedance for the measuring instrument.
5. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
6. Both sides of AC line were checked for maximum conducted interference.
7. The frequency range from 150 kHz to 30 MHz was searched.
8. Set the test-receiver system to Peak Detect Function and specified bandwidth (IF Bandwidth = 9kHz) with Maximum Hold Mode. Then measurement is also conducted by Average Detector and Quasi-Peak Detector Function respectively.

3.6.4 Test Setup



3.6.5 Test Result of AC Conducted Emission

Please refer to Appendix B.



3.7 Antenna Requirements

3.7.1 Standard Applicable

If directional gain of transmitting antennas is greater than 6dBi, the power shall be reduced by the same level in dB comparing to gain minus 6dBi. 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 rule.

3.7.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

3.7.3 Antenna Gain

The antenna peak gain of EUT is less than 6 dBi. Therefore, it is not necessary to reduce maximum peak output power limit.



4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
EMI Test Receiver&SA	Agilent	N9038A	MY52260185	20Hz~26.5GHz	Dec. 24, 2025	Apr. 09, 2026	Dec. 23, 2026	Radiation (03CH01-SZ)
EXA Spectrum Analyzer	KEYSIGHT	N9010A	MY55150213	10Hz~44GHz	Jul. 03, 2025	Apr. 09, 2026	Jul. 02, 2026	Radiation (03CH01-SZ)
Loop Antenna	R&S	HFH2-Z2E	101141	9kHz~30MHz	Dec. 26, 2025	Apr. 09, 2026	Dec. 25, 2026	Radiation (03CH01-SZ)
Bilog Antenna	TeseQ	CBL6112D	35407	30MHz~2GHz	Dec. 23, 2025	Apr. 09, 2026	Dec. 22, 2026	Radiation (03CH01-SZ)
Double Ridge Horn Antenna	ETS-Lindgren	3117	00119436	1GHz~18GHz	Jul. 16, 2025	Apr. 09, 2026	Jul. 15, 2026	Radiation (03CH01-SZ)
LF Amplifier	EM Electronics	EM330	060788	20MHz~3GHz	Dec. 24, 2025	Apr. 09, 2026	Dec. 23, 2026	Radiation (03CH01-SZ)0
HF Amplifier	MITEQ	AMF-7D-00101800-30-10P-R	1943528	1GHz~18GHz	Oct. 13, 2025	Apr. 09, 2026	Oct. 12, 2026	Radiation (03CH01-SZ)
HF Amplifier	KEYSIGHT	83017A	MY53270105	0.5GHz~26.5GHz	Oct. 13, 2025	Apr. 09, 2026	Oct. 12, 2026	Radiation (03CH01-SZ)
AC Power Source	Chroma	61601	616010001985	N/A	Oct. 14, 2025	Apr. 09, 2026	Oct. 13, 2026	Radiation (03CH01-SZ)
Turn Table	EM	EM1000	N/A	0~360 degree	NCR	Apr. 09, 2026	NCR	Radiation (03CH01-SZ)
Antenna Mast	EM	EM1000	N/A	1 m~4 m	NCR	Apr. 09, 2026	NCR	Radiation (03CH01-SZ)
EMI Receiver	R&S	ESR7	102297	9kHz~7GHz;	Jul. 02, 2025	Mar. 31, 2026	Jul. 01, 2026	Conduction (CO02-SZ)
AC LISN	R&S	ENV216	101499	9kHz~30MHz	Jul. 03, 2025	Mar. 31, 2026	Jul. 02, 2026	Conduction (CO02-SZ)
AC Power Source	CHROMA	61601	616010002470	100Vac~250Vac	Dec.14, 2025	Mar. 31, 2026	Dec. 13, 2026	Conduction (CO02-SZ)
Spectrum Analyzer	R&S	FSV40	101078	10Hz~40GHz	Mar. 26, 2026	Apr. 13, 2026~Apr. 14, 2026	Mar. 25, 2027	Conducted (TH01-SZ)
Pulse Power Sensor	Anritsu	MA2411B	1339473	30MHz~40GHz	Dec. 24, 2025	Apr. 13, 2026~Apr. 14, 2026	Dec. 23, 2026	Conducted (TH01-SZ)
Power Meter	Anritsu	ML2495A	1218010	50MHz Bandwidth	Oct. 13, 2025	Apr. 13, 2026~Apr. 14, 2026	Oct. 12, 2026	Conducted (TH01-SZ)

NCR: No Calibration Required

5 Uncertainty of Evaluation

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI 63.10. All the measurement uncertainty value were shown with a coverage K=2 to indicate 95% level of confidence. The measurement data show herein meets or exceeds the CISPR measurement uncertainty values specified in CISPR 16-4-2 and can be compared directly to specified limit to determine compliance.

Uncertainty of Conducted Measurement

Test Item	Uncertainty
Conducted Spurious Emission & Bandedge	± 1.34 dB
Occupied Channel Bandwidth	± 0.012 MHz
Conducted Power	± 1.34 dB
Conducted Power Spectral Density	± 1.32 dB
Frequency	± 1.3 Hz

Uncertainty of AC Conducted Emission Measurement (0.15 MHz ~ 30 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2U_c(y)$)	2.5 dB
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Uncertainty of Radiated Emission Measurement (9 KHz ~ 30 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2U_c(y)$)	2.8 dB
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Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2U_c(y)$)	4.2 dB
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Uncertainty of Radiated Emission Measurement (1 GHz ~ 18 GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2U_c(y)$)	5.0 dB
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----- THE END -----



Appendix A. Conducted Test Results

LoRa-DTS-Spreading Factor 7

Test Engineer:	Liu Qiu Qiu	Temperature:	20~26	°C
Test Date:	2026/4/13~2026/4/14	Relative Humidity:	40~51	%

TEST RESULTS DATA
6dB and 99% Occupied Bandwidth

Mod.	Channel	Freq. (MHz)	99% Occupied BW (MHz)	6dB BW (MHz)	6dB BW Limit (MHz)	Pass/Fail
SF7	1	902.5MHz	0.52	0.63	0.50	Pass
SF7	16	914.5MHz	0.52	0.63	0.50	Pass
SF7	31	926.5MHz	0.52	0.63	0.50	Pass

TEST RESULTS DATA
Peak Power Table

Mod.	Channel	Freq. (MHz)	Conducted Power (dBm)	Conducted Power Limit (dBm)	DG (dBi)	EIRP Power (dBm)	EIRP Power Limit (dBm)	Pass /Fail
SF7	1	902.5MHz	7.06	30.00	-3.01	4.05	36.00	Pass
SF7	16	914.5MHz	7.07	30.00	-3.01	4.06	36.00	Pass
SF7	31	926.5MHz	6.98	30.00	-3.01	3.97	36.00	Pass

TEST RESULTS DATA
Average Power Table

Mod.	Channel	Freq. (MHz)	Duty Factor (dB)	Average Conducted Power (dBm)	Power Setting	Conducted Power Limit (dBm)	DG (dBi)	EIRP Power (dBm)	EIRP Power Limit (dBm)	Pass /Fail
SF7	1	902.5MHz	7.42	6.90	12.00	30.00	-3.01	3.89	36.00	Pass
SF7	16	914.5MHz	7.42	6.90	12.00	30.00	-3.01	3.89	36.00	Pass
SF7	31	926.5MHz	7.42	6.80	12.00	30.00	-3.01	3.79	36.00	Pass

TEST RESULTS DATA
Peak Power Density

Mod.	Channel	Freq. (MHz)	Peak PSD (dBm /3kHz)	DG (dBi)	Peak PSD Limit (dBm /3kHz)	Pass/Fail
SF7	1	902.5MHz	-5.50	-3.01	8.00	Pass
SF7	16	914.5MHz	-5.56	-3.01	8.00	Pass
SF7	31	926.5MHz	-5.61	-3.01	8.00	Pass

Note: PSD (dBm/ 100kHz) is a reference level used for Conducted Band Edges and Conducted Spurious Emission 20dBc limit.

LoRa-DTS-Spreading Factor 8

Test Engineer:	Liu Qiu Qiu	Temperature:	20~26	°C
Test Date:	2026/4/13	Relative Humidity:	40~51	%

TEST RESULTS DATA
6dB and 99% Occupied Bandwidth

Mod.	Channel	Freq. (MHz)	99% Occupied BW (MHz)	6dB BW (MHz)	6dB BW Limit (MHz)	Pass/Fail
SF8	1	902.5MHz	0.52	0.63	0.50	Pass
SF8	16	914.5MHz	0.52	0.64	0.50	Pass
SF8	31	926.5MHz	0.52	0.63	0.50	Pass

TEST RESULTS DATA
Peak Power Table

Mod.	Channel	Freq. (MHz)	Conducted Power (dBm)	Conducted Power Limit (dBm)	DG (dBi)	EIRP Power (dBm)	EIRP Power Limit (dBm)	Pass /Fail
SF8	1	902.5MHz	6.98	30.00	-3.01	3.97	36.00	Pass
SF8	16	914.5MHz	6.97	30.00	-3.01	3.96	36.00	Pass
SF8	31	926.5MHz	6.90	30.00	-3.01	3.89	36.00	Pass

TEST RESULTS DATA
Average Power Table

Mod.	Channel	Freq. (MHz)	Duty Factor (dB)	Average Conducted Power (dBm)	Power Setting	Conducted Power Limit (dBm)	DG (dBi)	EIRP Power (dBm)	EIRP Power Limit (dBm)	Pass /Fail
SF8	1	902.5MHz	5.49	6.90	12.00	30.00	-3.01	3.89	36.00	Pass
SF8	16	914.5MHz	5.49	6.90	12.00	30.00	-3.01	3.89	36.00	Pass
SF8	31	926.5MHz	5.49	6.80	12.00	30.00	-3.01	3.79	36.00	Pass

TEST RESULTS DATA
Peak Power Density

Mod.	Channel	Freq. (MHz)	Peak PSD (dBm /3kHz)	DG (dBi)	Peak PSD Limit (dBm /3kHz)	Pass/Fail
SF8	1	902.5MHz	-2.92	-3.01	8.00	Pass
SF8	16	914.5MHz	-2.92	-3.01	8.00	Pass
SF8	31	926.5MHz	-2.87	-3.01	8.00	Pass

Note: PSD (dBm/ 100kHz) is a reference level used for Conducted Band Edges and Conducted Spurious Emission 20dBc limit.