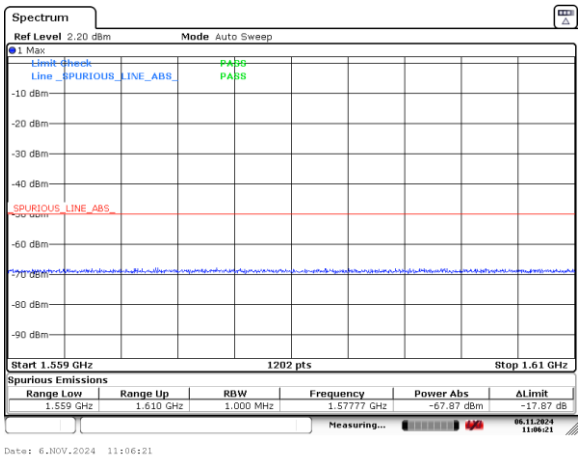
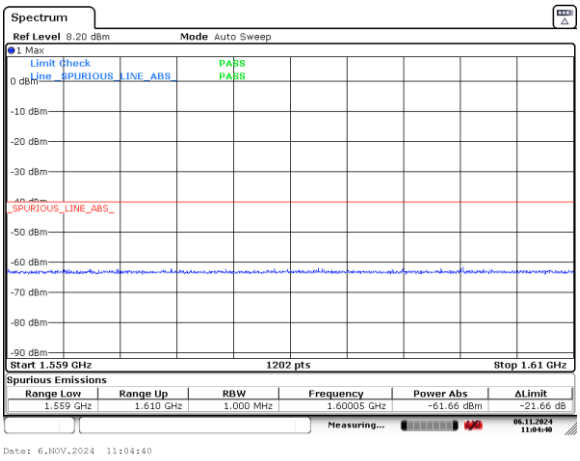
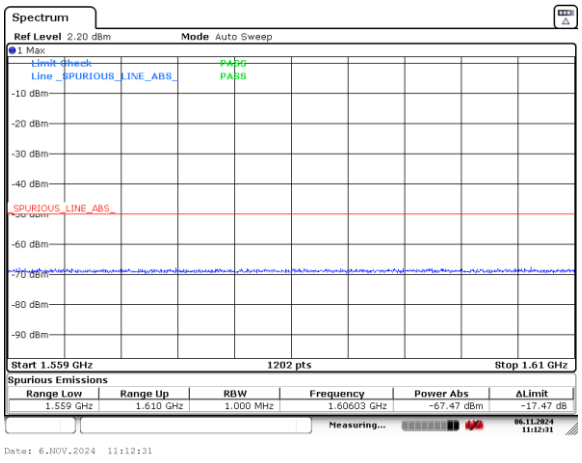
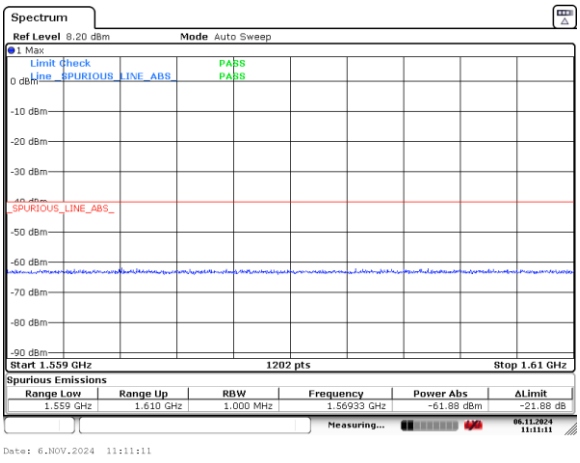
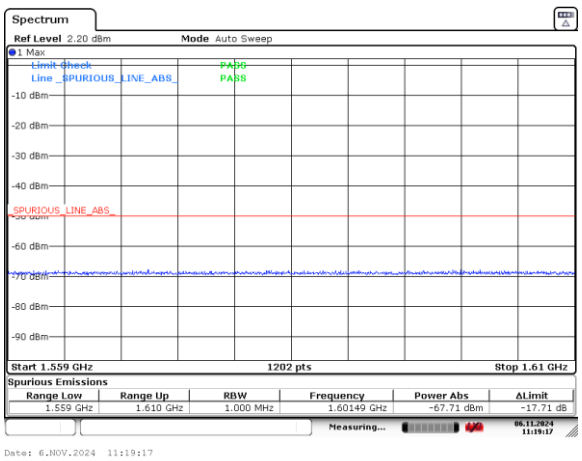
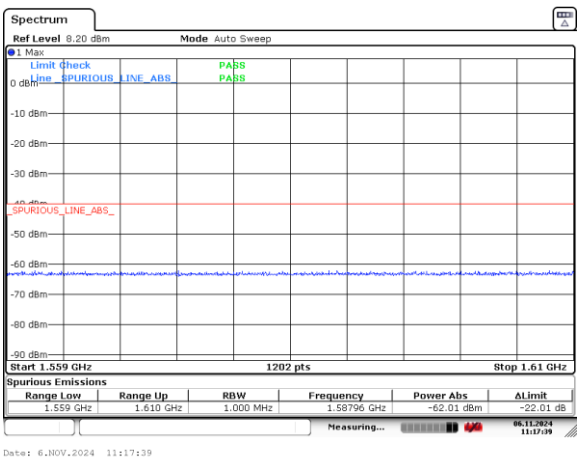
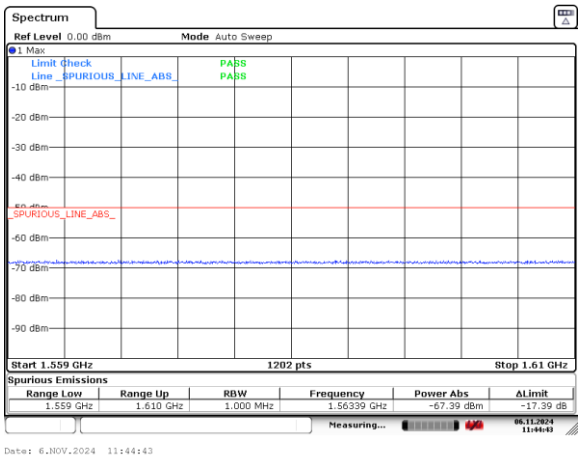
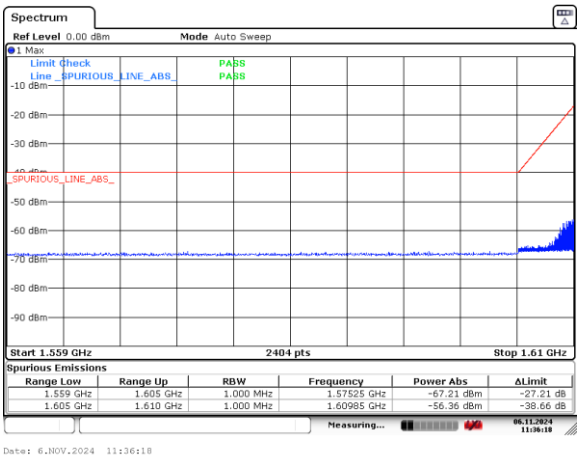
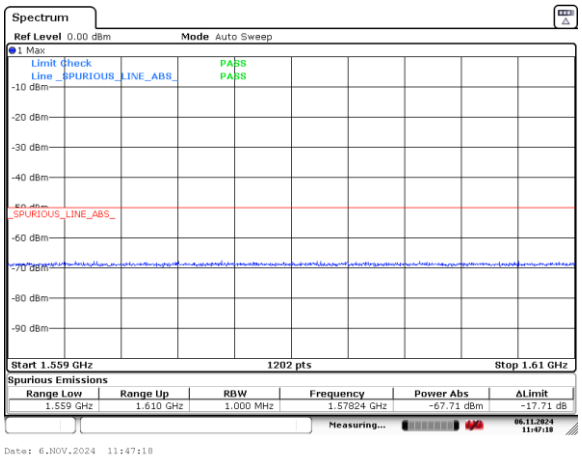
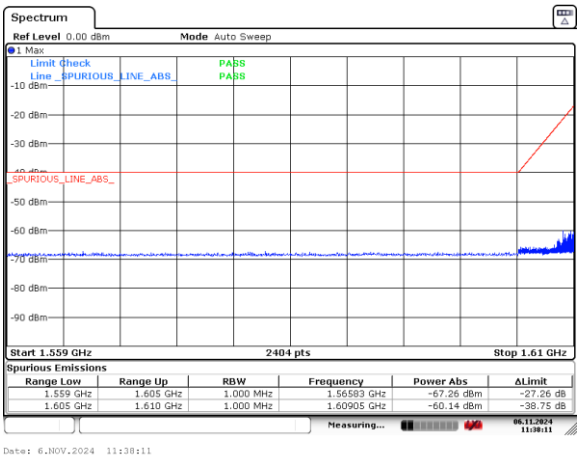
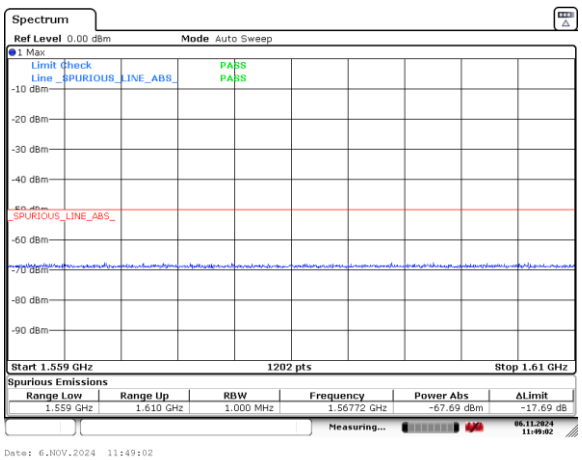
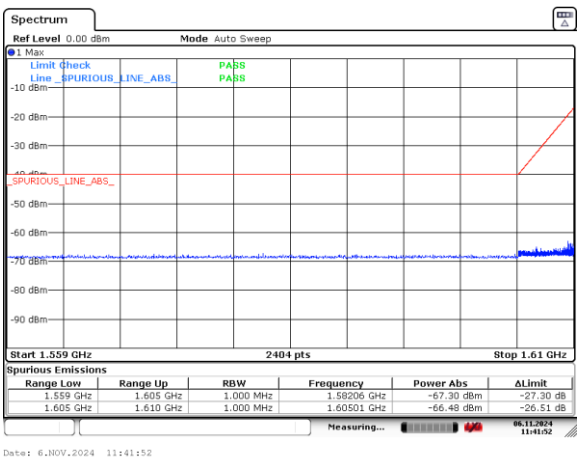
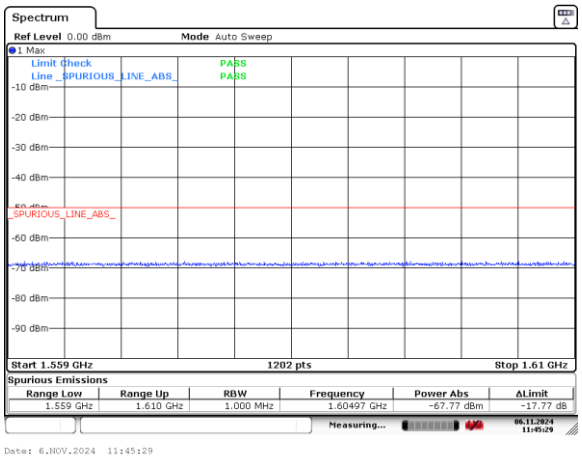
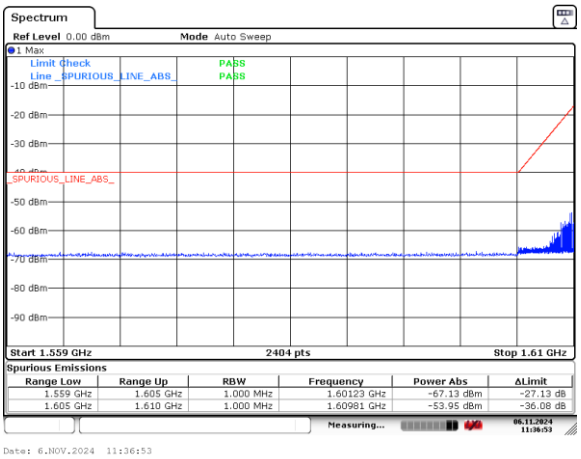
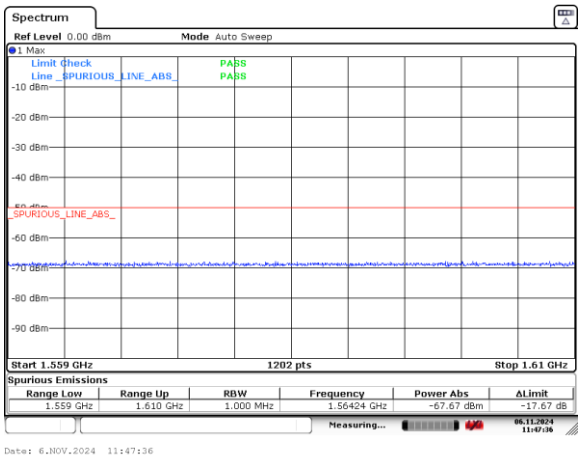
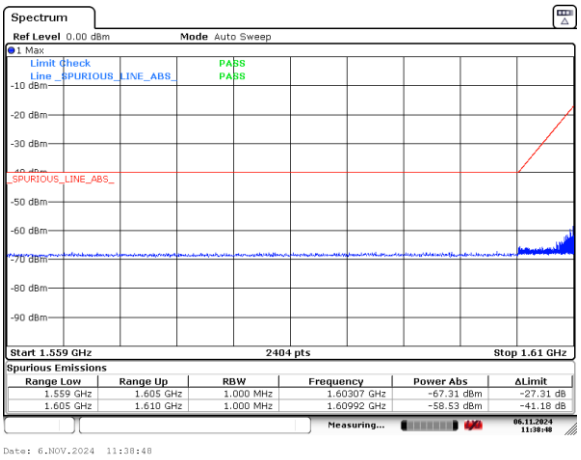
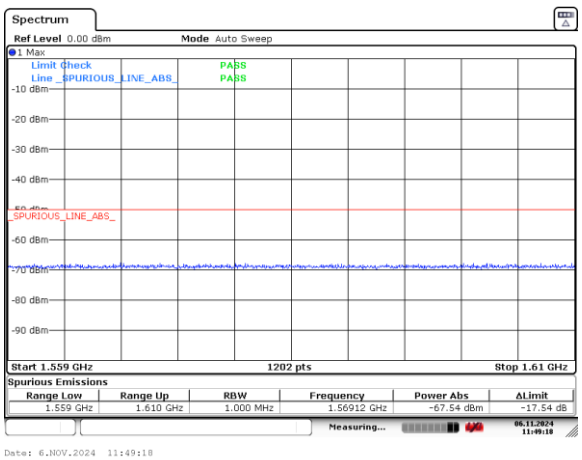
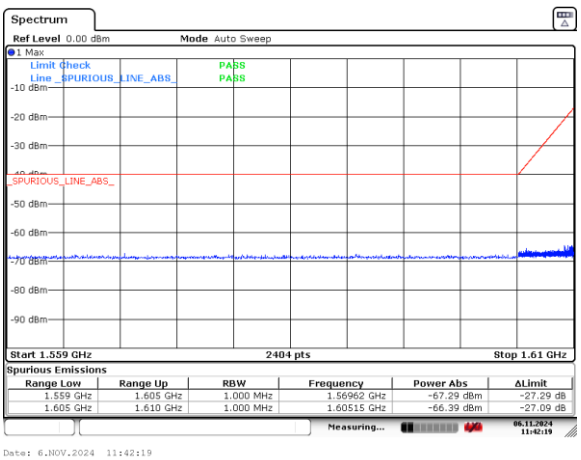
QPSK	
Lowest Channel / 1SC1 / Carrier off	**Lowest Channel / 1SC1 / Carrier on**
	
Middle Channel / 1SC1 / Carrier off	**Middle Channel / 1SC1 / Carrier on**
	
Highest Channel / 1SC1 / Carrier off	**Highest Channel / 1SC1 / Carrier on**
	

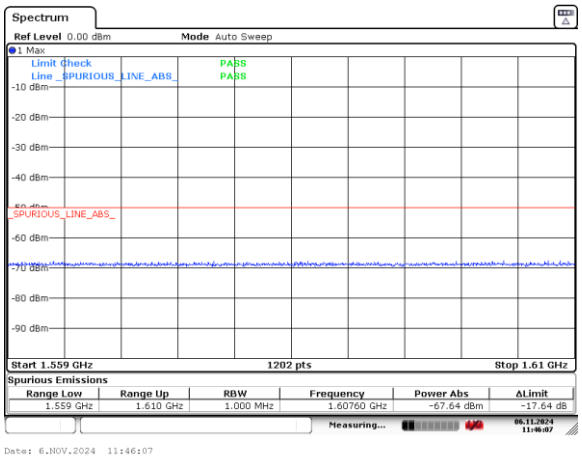
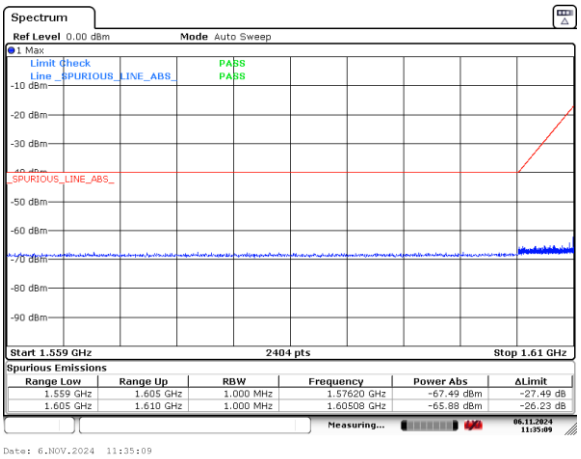
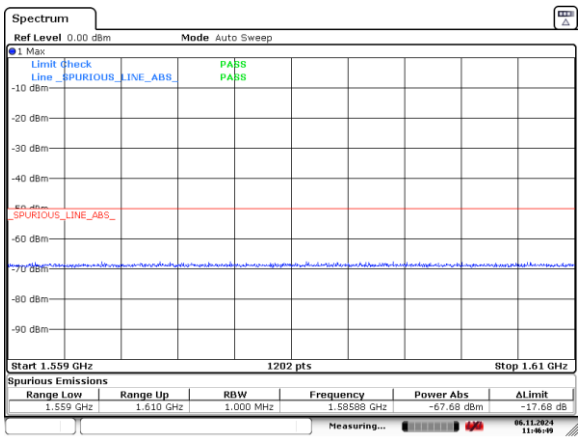
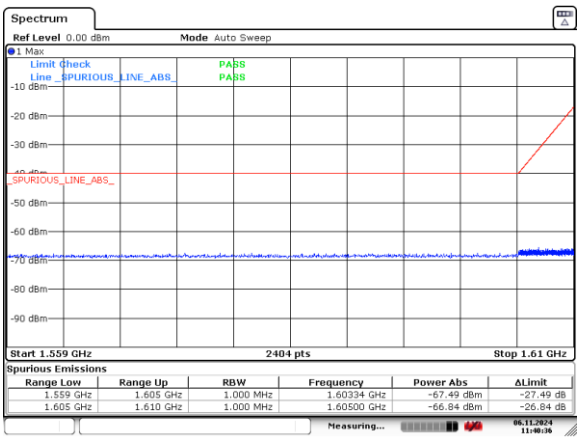
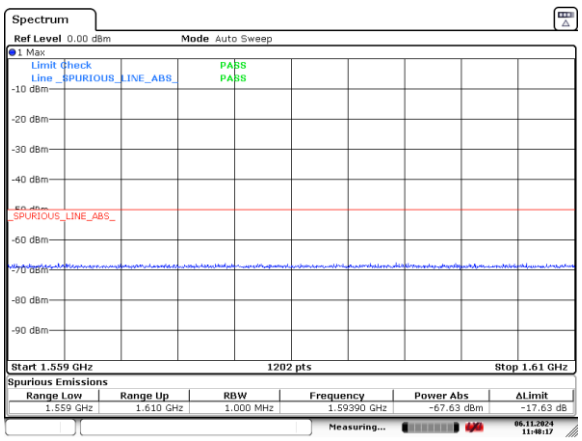
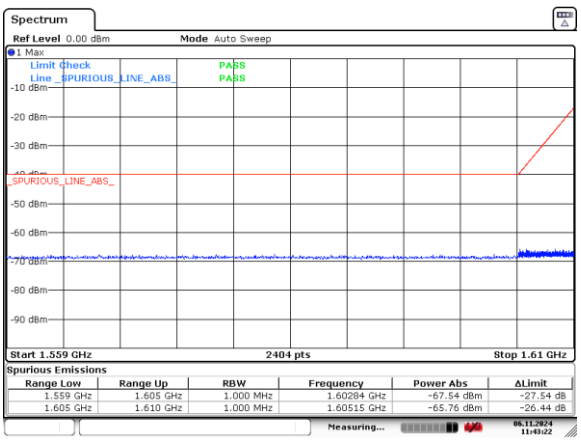
NTN Band 255 SCS3.75kHz

BPSK	
Lowest Channel / 1SC1 / Carrier off	**Lowest Channel / 1SC1 / Carrier on**
	
Middle Channel / 1SC1 / Carrier off	**Middle Channel / 1SC1 / Carrier on**
	
Highest Channel / 1SC1 / Carrier off	**Highest Channel / 1SC1 / Carrier on**
	

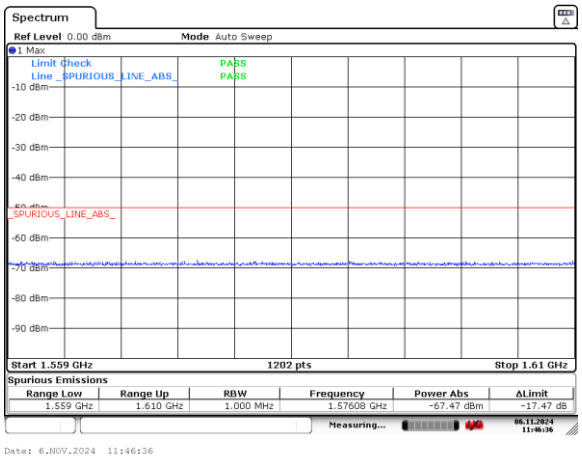
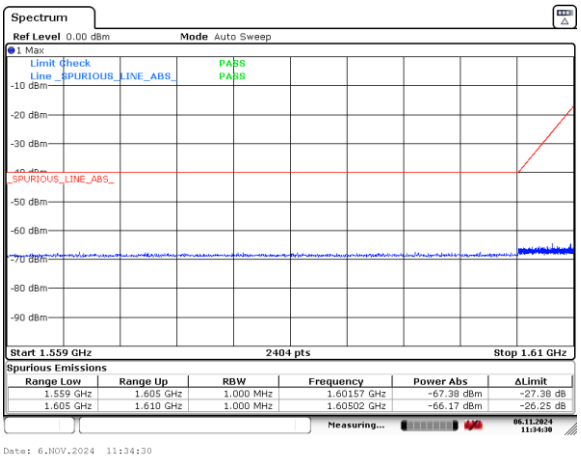
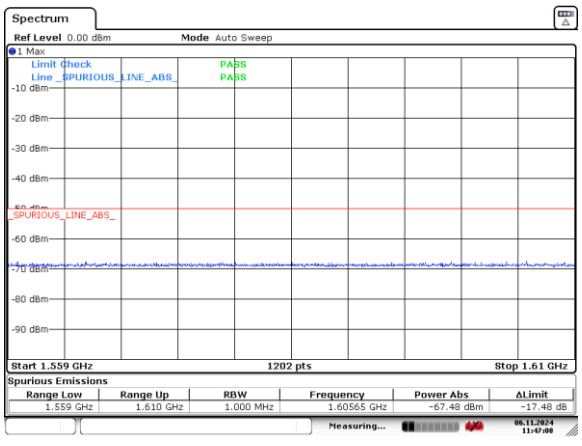
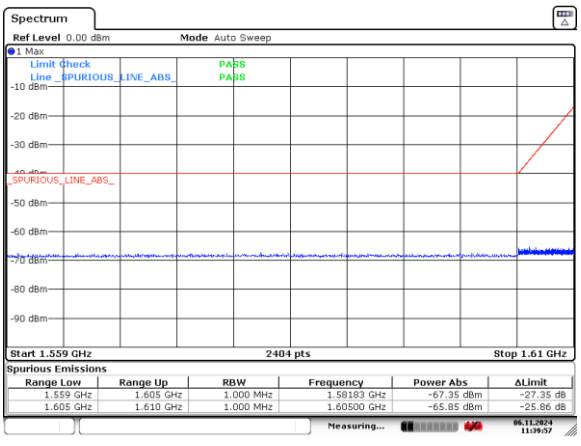
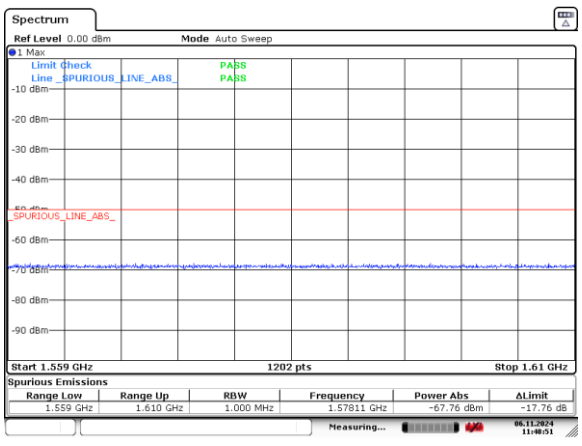
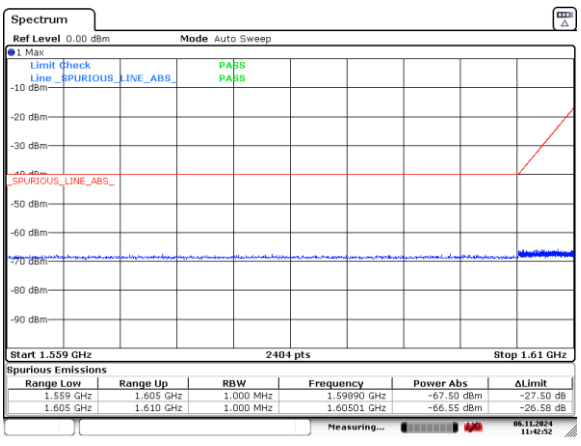
NTN Band 255 SCS3.75kHz

QPSK	
Lowest Channel / 1SC1 / Carrier off	**Lowest Channel / 1SC1 / Carrier on**
	
Middle Channel / 1SC1 / Carrier off	**Middle Channel / 1SC1 / Carrier on**
	
Highest Channel / 1SC1 / Carrier off	**Highest Channel / 1SC1 / Carrier on**
	

NTN Band 255 SCS15kHz

BPSK	
Lowest Channel / 1SC1 / Carrier off	**Lowest Channel / 1SC1 / Carrier on**
	
Middle Channel / 1SC1 / Carrier off	**Middle Channel / 1SC1 / Carrier on**
	
Highest Channel / 1SC1 / Carrier off	**Highest Channel / 1SC1 / Carrier on**
	

NTN Band 255 SCS15kHz

QPSK	
Lowest Channel / 1SC1 / Carrier off	**Lowest Channel / 1SC1 / Carrier on**
	
Middle Channel / 1SC1 / Carrier off	**Middle Channel / 1SC1 / Carrier on**
	
Highest Channel / 1SC1 / Carrier off	**Highest Channel / 1SC1 / Carrier on**
	

Note: Expanded measurement uncertainty is U = ±1dB, k = 2.

A.6 Field Strength of Spurious Radiation

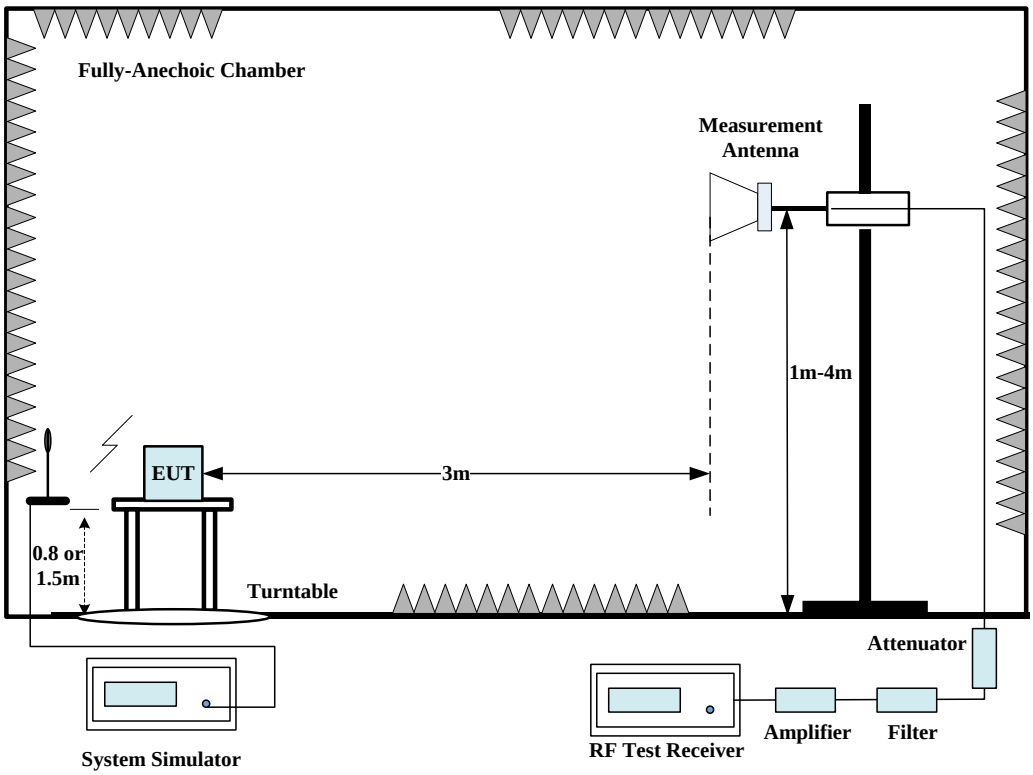
A.6.1 Measurement Method

The measurement procedures in TIA-603E-2016 are used.

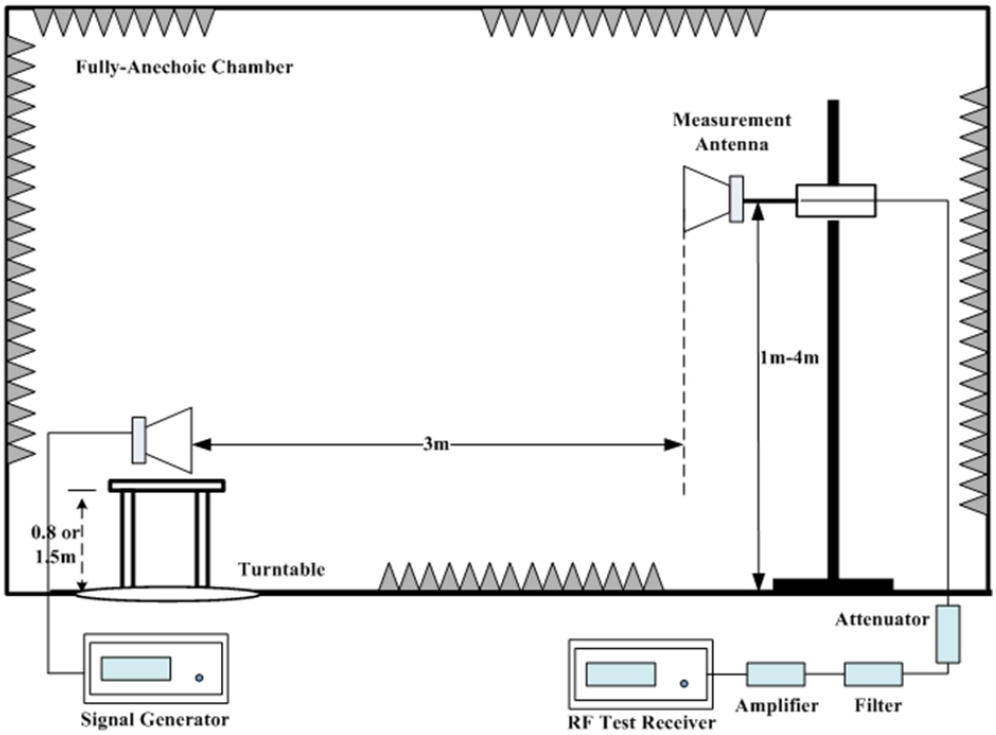
The spectrum was scanned from 30 MHz to the 10th harmonic of the highest frequency generated within the equipment, which is the transmitted carrier. The resolution bandwidth is set 1MHz. The spectrum was scanned with the mobile station transmitting at carrier frequencies that pertain to low, mid and high channels of each band.

The procedure of radiated spurious emissions is as follows:

For measurements performed at frequencies less than or equal to 1 GHz, the EUT was placed on a 80cm-high non-conductive support; For measurements performed at frequencies above 1GHz, EUT was placed on a 1.5-meter-high non-conductive support. A measurement antenna was placed on the antenna mast 3 meters from the EUT for emission measurements. In the initial test, the height of the measurement antenna was varied from 1 m to 4 m for the relative positioning that produces the maximum radiated signal level. The test setup refers to figure below. Detected emissions were maximized at each frequency by rotating the EUT through 360° and adjusting the receiving antenna polarization. The radiated emission measurements of all non-harmonic and harmonics of the transmit frequency through the 10th harmonic were measured with peak detector.



1. The EUT is then put into continuously transmitting mode at its maximum power level during the test. And the maximum value of the receiver should be recorded as (Pr).
2. The EUT shall be replaced by a substitution antenna. The test setup refers to figure below.



In the chamber, a substitution antenna for the frequency band of interest is placed at the reference point of the chamber. An RF Signal source for the frequency band of interest is connected to the substitution antenna with a cable that has been constructed to not interfere with the radiation pattern of the antenna. The height of measurement antenna varied between 1 m to 4 m to maximize the received signal amplitude for each emission that was detected and measured in the initial test. A power (P_{Mea}) is applied to the input of the substitution antenna and adjusts the level of the signal generator output until the value of the receiver reach the previously recorded (P_r). The power of signal source (P_{Mea}) is recorded. The test was performed with the measurement antenna in both vertical and horizontal polarization.

3. The Path loss (P_{pl}) between the Signal Source and the Substitution Antenna and the Substitution Antenna Gain (G_a) were recorded after test.A amplifier was connected in for the test. The Path loss (P_{pl}) is the summation of the cable loss and the gain of the amplifier.
4. The measurement results are obtained as described below:

$$\text{Power (EIRP)} = P_{Mea} - P_{pl} + G_a$$

This value is EIRP since the measurement is calibrated using an antenna of known gain (2.15 dBi) and known input power.ERP can be calculated from EIRP by subtracting the gain of the dipole, ERP = EIRP -2.15dBi.

A.6.2 Measurement Limit

In any 4 kHz band, the center frequency of which is removed from the assigned frequency by more than 250 percent of the authorized bandwidth: An amount equal to 43 dB plus 10 times the logarithm (to the base 10) of the transmitter power in watts

A.6.3 Measurement Results

Radiated emissions measurements were made only at the upper, middle, and lower carrier frequencies of each band. It was decided that measurements at these three carrier frequencies would be sufficient to demonstrate compliance with emissions limits because it was seen that all the significant spurs occur well outside the band and no radiation was seen from a carrier in one block of each band into any of the other blocks. The equipment must still, however, meet emissions requirements with the carrier at all frequencies over which it is capable of operating and it is the manufacturer's responsibility to verify this. The range of evaluated frequency is from 30MHz to 26GHz.

Note 1: Both of Vertical and Horizontal polarizations are evaluated, but only the worst case is recorded in this report.

A.6.4 Measurement Results Table

Frequency	Channel	Frequency Range	Result
NBIot Band	Low	9kHz-26GHz	Pass
	Middle	9kHz-26GHz	Pass
	High	9kHz-26GHz	Pass

A.6.5 Sweep Table

Subrange	RBW	VBW
9~150 kHz	0.2kHz	0.6kHz
150kHz~30MHz	9kHz	27kHz
30MHz~1 GHz	100KHz	300KHz
1~20 GHz	1 MHz	3 MHz

A.6.6 Measurement Result

NBIot Band 23, 15kHz,CH25501,QPSK

Frequency (MHz)	SG (dBm)	CableLoss (dB)	AntennaGain (dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3999.50	-56.19	6.07	8.90	-53.36	-13.00	40.36	V
6038.00	-54.53	7.47	10.54	-51.46	-13.00	38.46	H
8044.50	-52.48	8.32	12.64	-48.16	-13.00	35.16	V
10047.50	-50.44	9.31	12.92	-46.83	-13.00	33.83	H
12100.50	-48.99	10.35	13.04	-46.30	-13.00	33.30	H
14079.00	-47.93	11.03	14.48	-44.48	-13.00	31.48	V

NBIot Band 23, 15kHz,CH25600,QPSK

Frequency (MHz)	SG (dBm)	CableLoss (dB)	AntennaGain (dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
4011.00	-56.29	6.06	8.91	-53.44	-13.00	40.44	H
6029.50	-33.77	7.47	10.53	-30.71	-13.00	17.71	H
8039.50	-50.99	8.32	12.63	-46.68	-13.00	33.68	V
10022.00	-49.12	9.24	12.91	-45.45	-13.00	32.45	H
12013.00	-48.91	10.09	13.01	-45.99	-13.00	32.99	V
14048.50	-47.53	10.96	14.49	-44.00	-13.00	31.00	H

NBIot Band 23, 15kHz,CH25699,QPSK

Frequency (MHz)	SG (dBm)	CableLoss (dB)	AntennaGain (dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
4039.50	-53.97	6.05	8.94	-51.08	-13.00	38.08	H
8059.50	-52.54	8.32	12.65	-48.21	-13.00	35.21	V
10107.50	-50.89	9.45	12.94	-47.40	-13.00	34.40	H
12154.50	-49.10	10.19	13.06	-46.23	-13.00	33.23	V
14138.50	-48.18	11.00	14.47	-44.71	-13.00	31.71	H
16188.50	-46.96	11.74	13.66	-45.04	-13.00	32.04	V

NBIot Band 255, 15kHz,CH261505,QPSK

Frequency (MHz)	SG (dBm)	CableLoss (dB)	AntennaGain (dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3252.50	-52.44	5.27	7.61	-50.10	-13.00	37.10	H
4909.00	-55.48	6.73	9.81	-52.40	-13.00	39.40	V
6485.50	-54.60	7.53	10.99	-51.14	-13.00	38.14	H
8117.50	-52.47	8.35	12.69	-48.13	-13.00	35.13	V
9733.50	-50.18	8.89	13.17	-45.90	-13.00	32.90	H
11401.50	-47.61	10.06	13.12	-44.55	-13.00	31.55	V

NBIot Band 255, 15kHz,CH261674,QPSK

Frequency (MHz)	SG (dBm)	CableLoss (dB)	AntennaGain (dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
2966.50	-32.18	5.02	6.94	-30.26	-13.00	17.26	H
4934.00	-55.23	6.72	9.83	-52.12	-13.00	39.12	V
6701.00	-53.03	7.97	11.24	-49.76	-13.00	36.76	H
8098.50	-51.59	8.32	12.68	-47.23	-13.00	34.23	V
9751.00	-50.00	8.93	13.15	-45.78	-13.00	32.78	H
11413.50	-46.61	10.03	13.12	-43.52	-13.00	30.52	V

NBIot Band 255, 15kHz,CH261843,QPSK

Frequency (MHz)	SG (dBm)	CableLoss (dB)	AntennaGain (dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3320.50	-53.65	5.29	7.77	-51.17	-13.00	38.17	H
5026.00	-55.81	6.56	9.94	-52.43	-13.00	39.43	V
6667.00	-53.92	7.94	11.20	-50.66	-13.00	37.66	H
8352.50	-52.08	8.65	12.88	-47.85	-13.00	34.85	V
9938.00	-50.82	9.12	12.96	-46.98	-13.00	33.98	H
11668.00	-48.48	9.67	13.07	-45.08	-13.00	32.08	V

Annex B: Accreditation Certificate

Accredited Laboratory

A2LA has accredited

TELECOMMUNICATION TECHNOLOGY LABS, CAICT

Beijing, People's Republic of China

for technical competence in the field of

Electrical Testing

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories*. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (*refer to joint ISO-ILAC-IAF Communiqué dated April 2017*).

Presented this 23rd day of July 2024.

Mr. Trace McInturff, Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 7049.01
Valid to July 31, 2026

For the tests to which this accreditation applies, please refer to the laboratory's Electrical Scope of Accreditation.

*****END OF REPORT*****