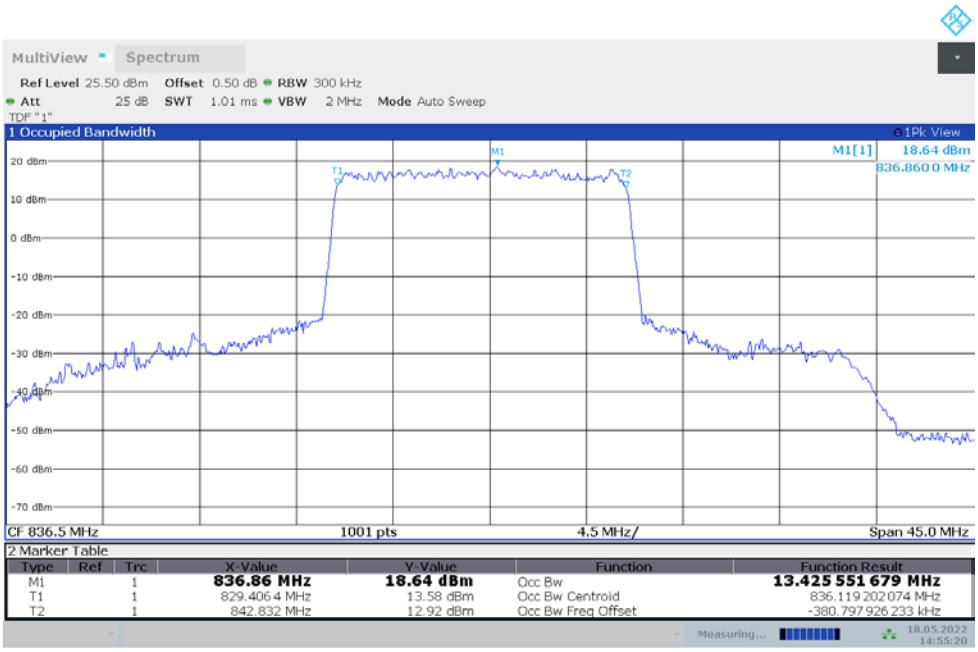
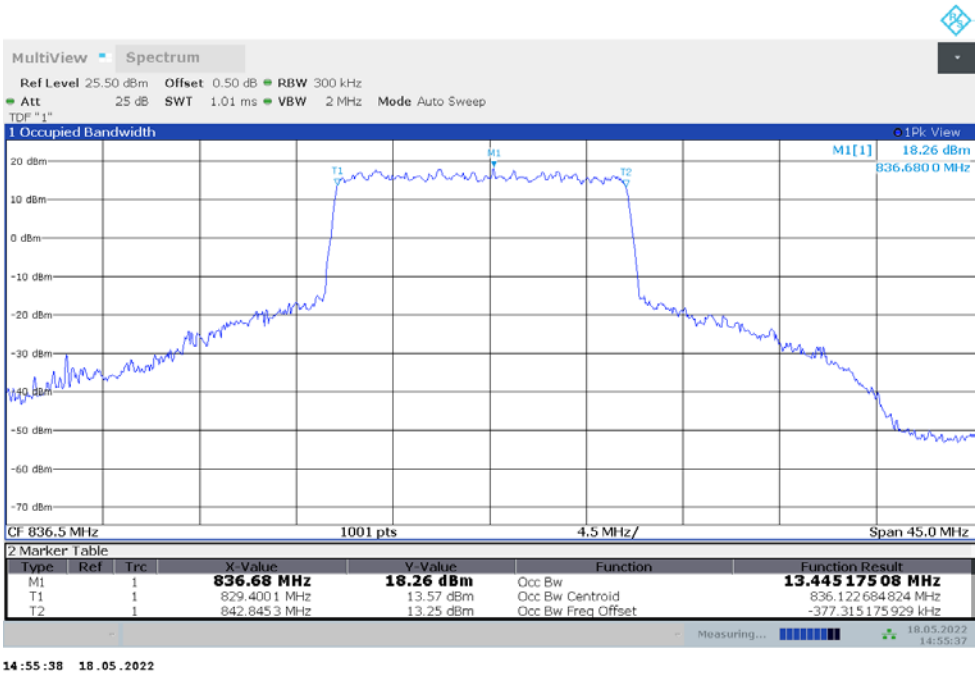
n5,15MHz(99%)

Frequency (MHz)	Occupied Bandwidth (99%) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
836.5	13.426	13.445

n5,15MHz Bandwidth,DFT-s-pi/2 BPSK (99% BW)



n5,15MHz Bandwidth,DFT-s-QPSK (99% BW)



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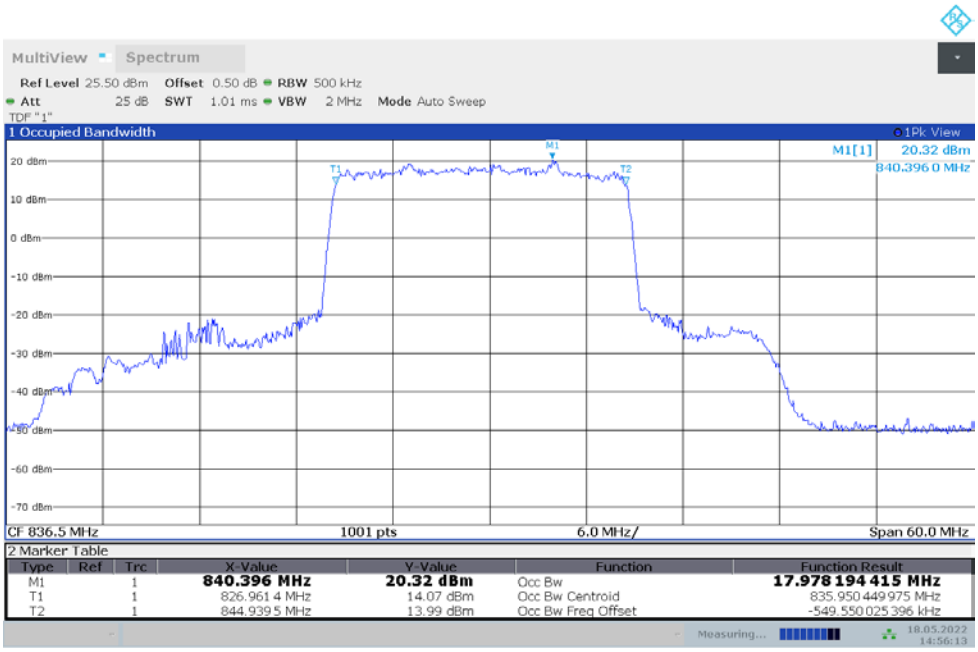
n5,20MHz(99%)

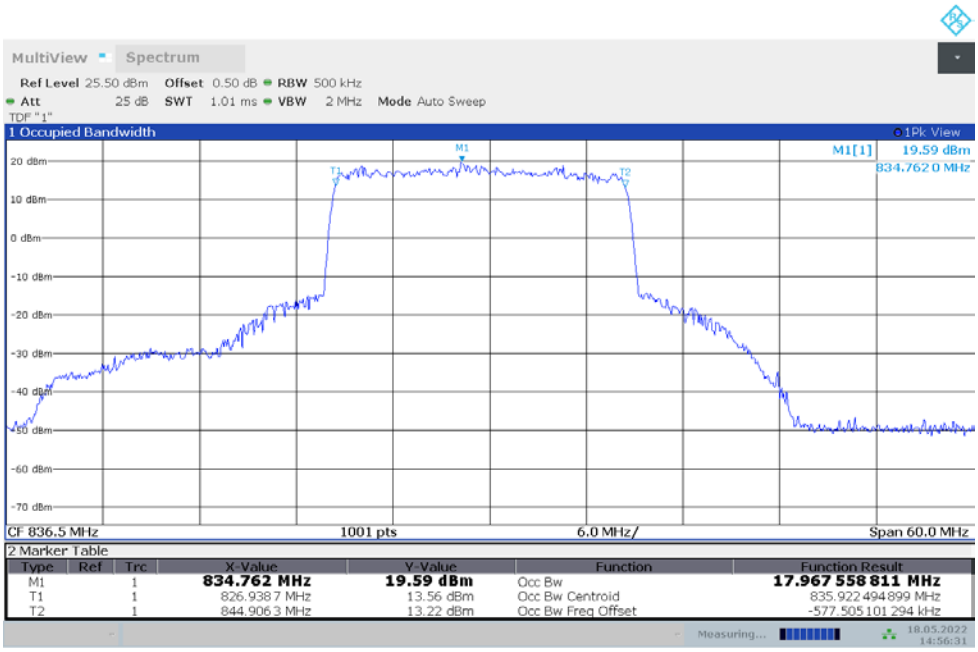
Frequency (MHz)	Occupied Bandwidth (99%) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
836.5	17.978	17.968

n5,20MHz Bandwidth,DFT-s-pi/2 BPSK (99% BW)



14:56:14 18.05.2022

n5,20MHz Bandwidth,DFT-s-QPSK (99% BW)



14:56:32 18.05.2022

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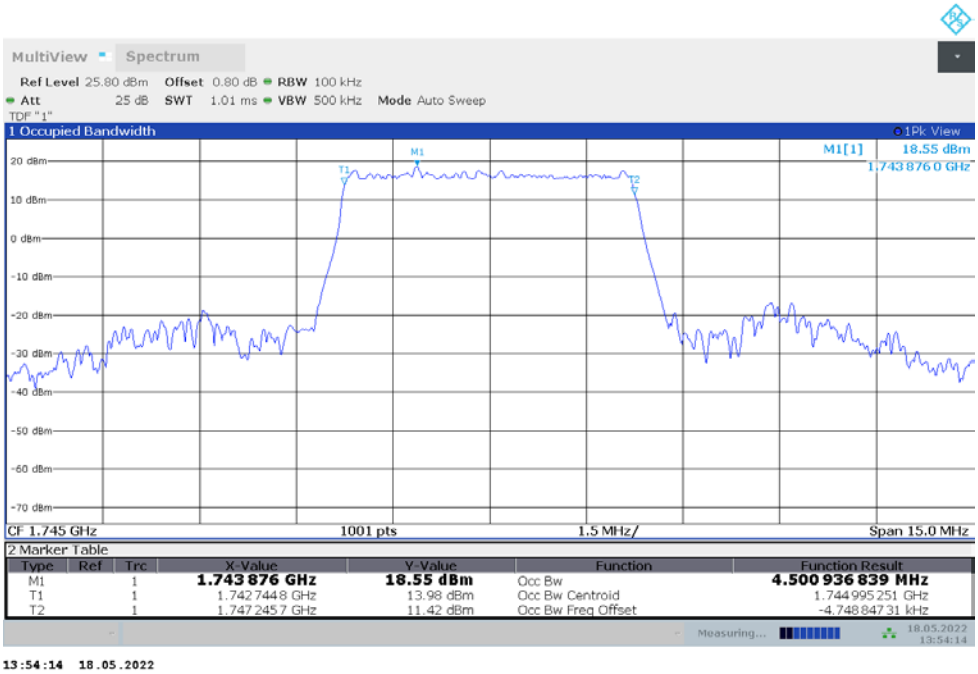
n66

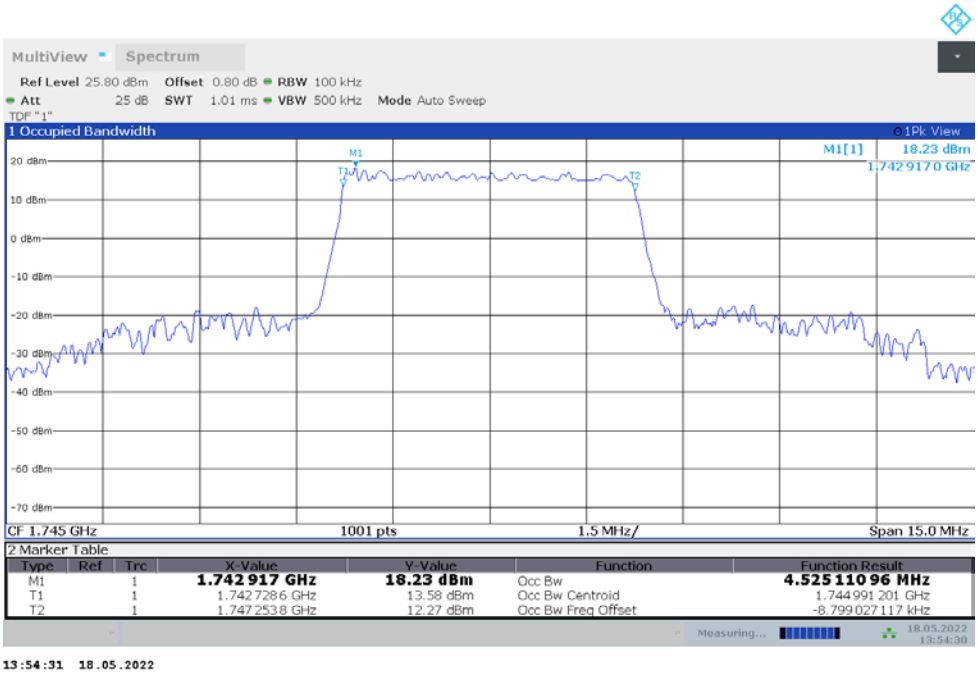
n66,5MHz(99%)

Frequency (MHz)	Occupied Bandwidth (99%) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
1745	4.501	4.525

n66,5MHz Bandwidth,DFT-s-pi/2 BPSK (99% BW)



n66,5MHz Bandwidth,DFT-s-QPSK (99% BW)



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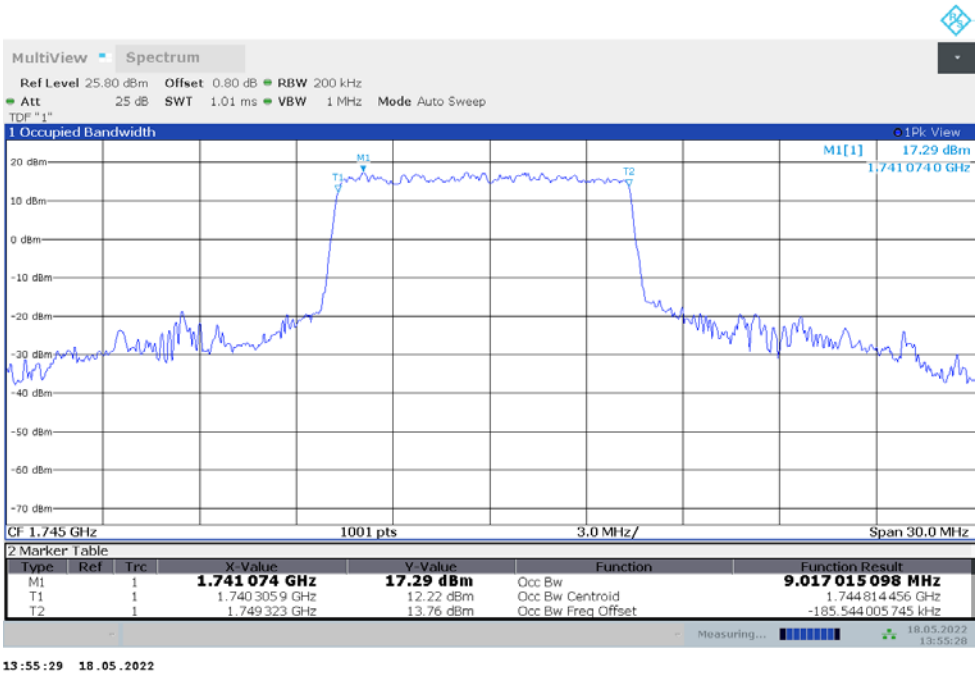
n66,10MHz(99%)

Frequency (MHz)	Occupied Bandwidth (99%) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
1745	8.976	9.017

n66,10MHz Bandwidth,DFT-s-pi/2 BPSK (99% BW)

n66,10MHz Bandwidth,DFT-s-QPSK (99% BW)



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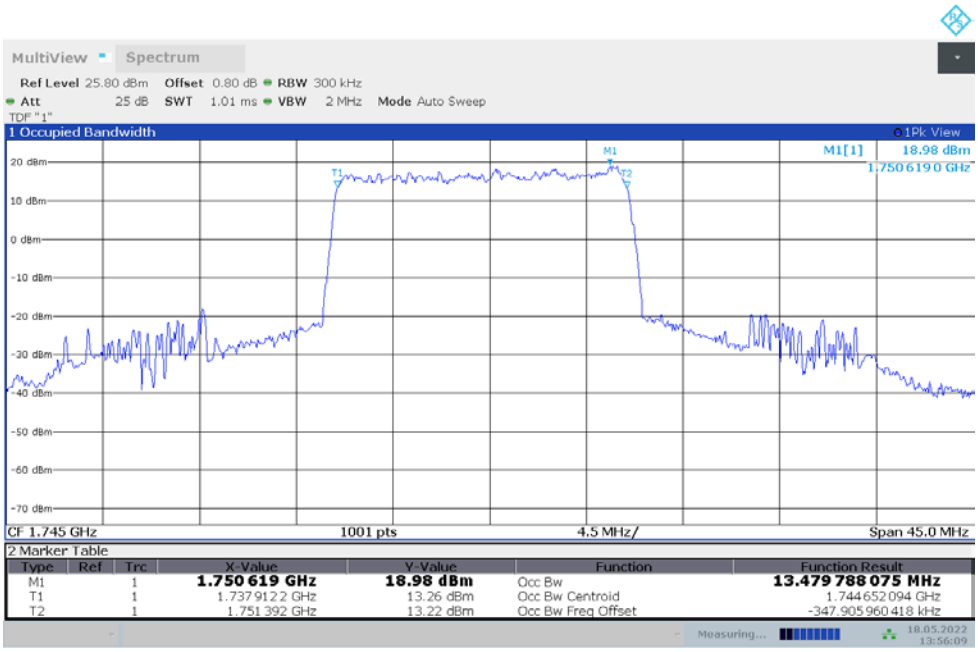
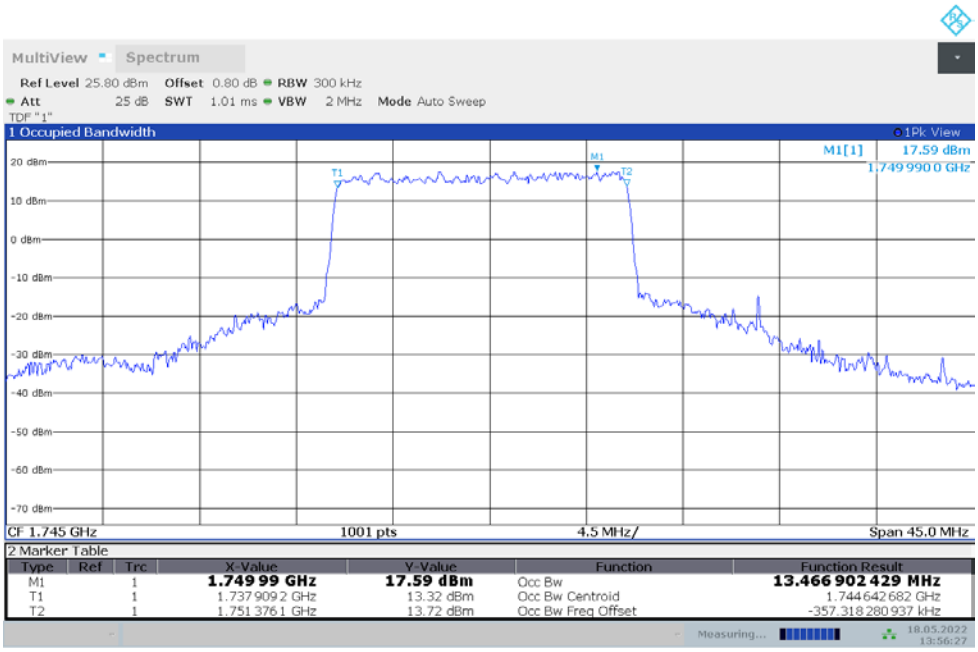
n66,15MHz(99%)

Frequency (MHz)	Occupied Bandwidth (99%) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
1745	13.480	13.467

n66,15MHz Bandwidth,DFT-s-pi/2 BPSK (99% BW)



n66,15MHz Bandwidth,DFT-s-QPSK (99% BW)



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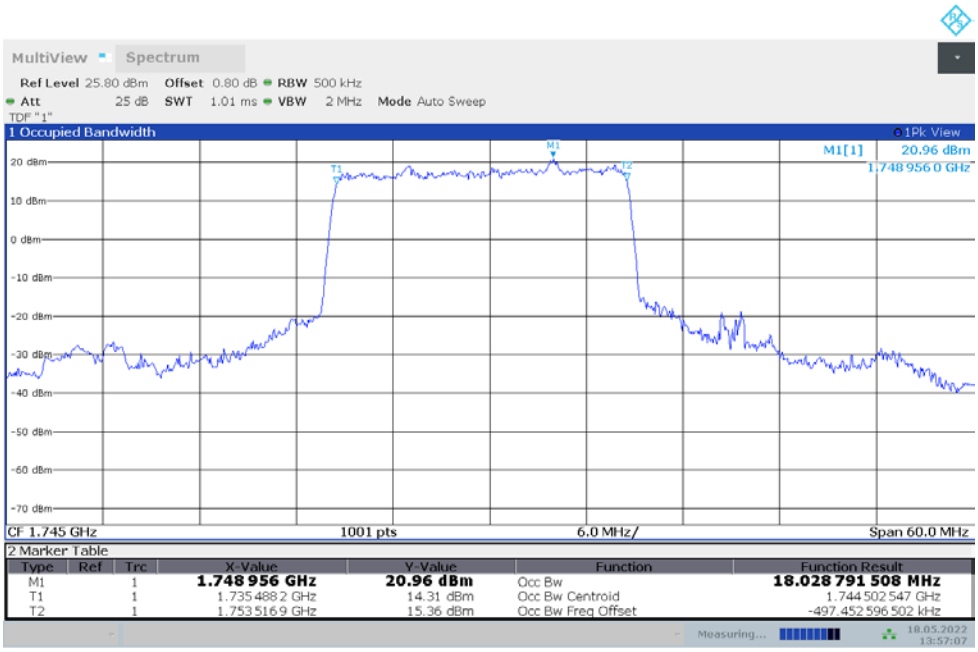
n66,20MHz(99%)

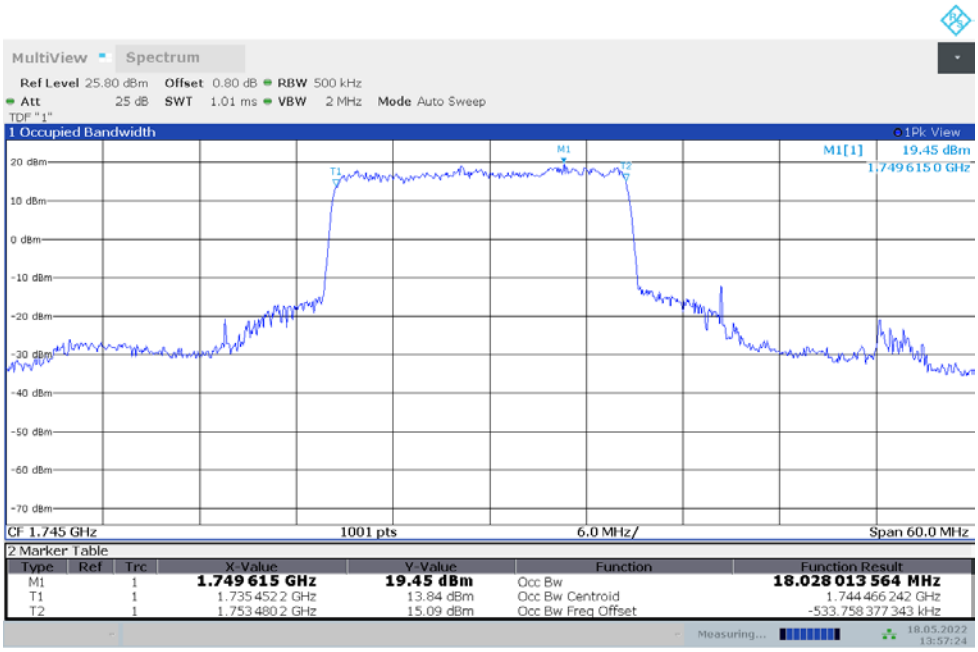
Frequency (MHz)	Occupied Bandwidth (99%) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
1745	18.029	18.028

n66,20MHz Bandwidth,DFT-s-pi/2 BPSK (99% BW)



13:57:07 18.05.2022

n66,20MHz Bandwidth,DFT-s-QPSK (99% BW)



13:57:25 18.05.2022

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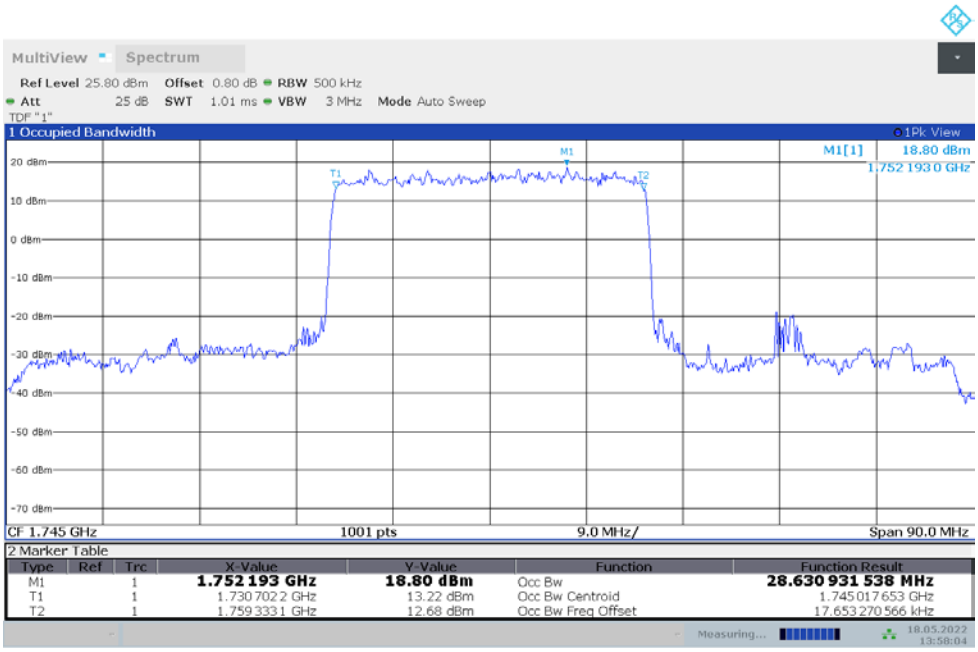
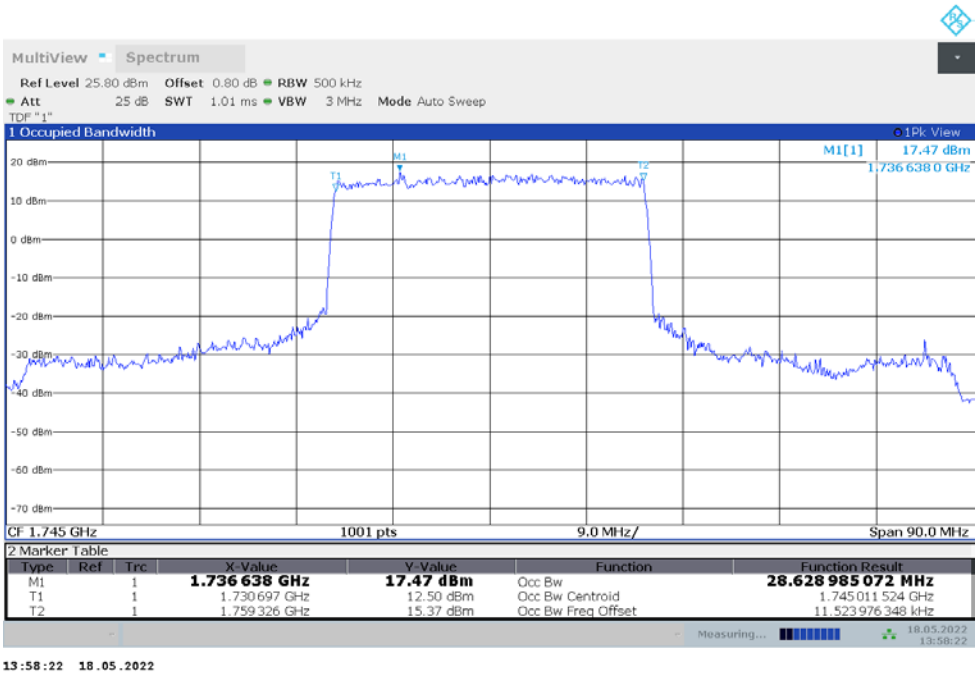
n66,30MHz(99%)

Frequency (MHz)	Occupied Bandwidth (99%) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
1745	28.631	28.629

n66,30MHz Bandwidth,DFT-s-pi/2 BPSK (99% BW)



n66,30MHz Bandwidth,DFT-s-QPSK (99% BW)



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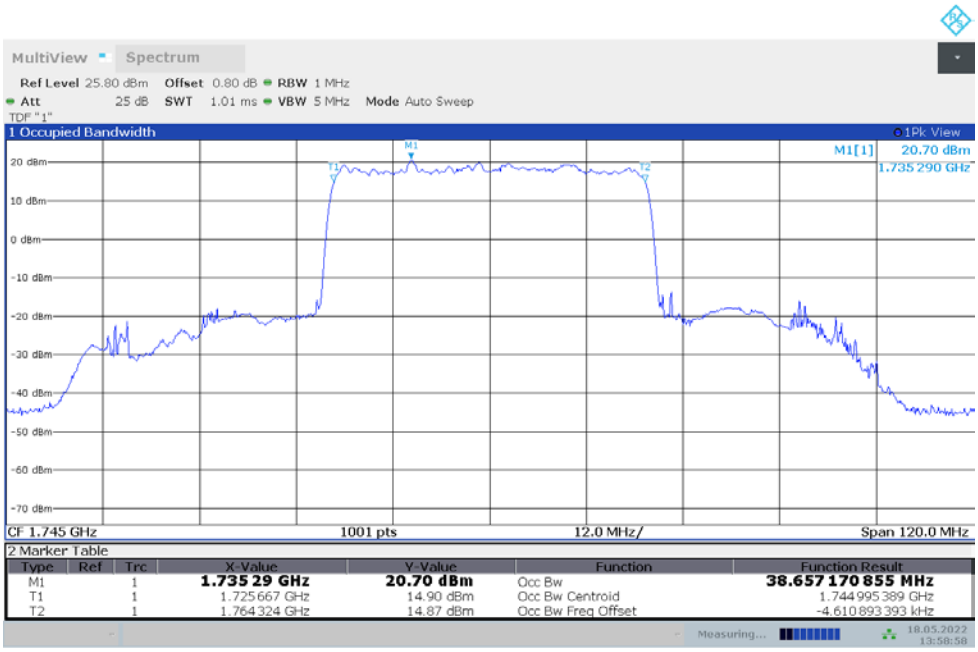
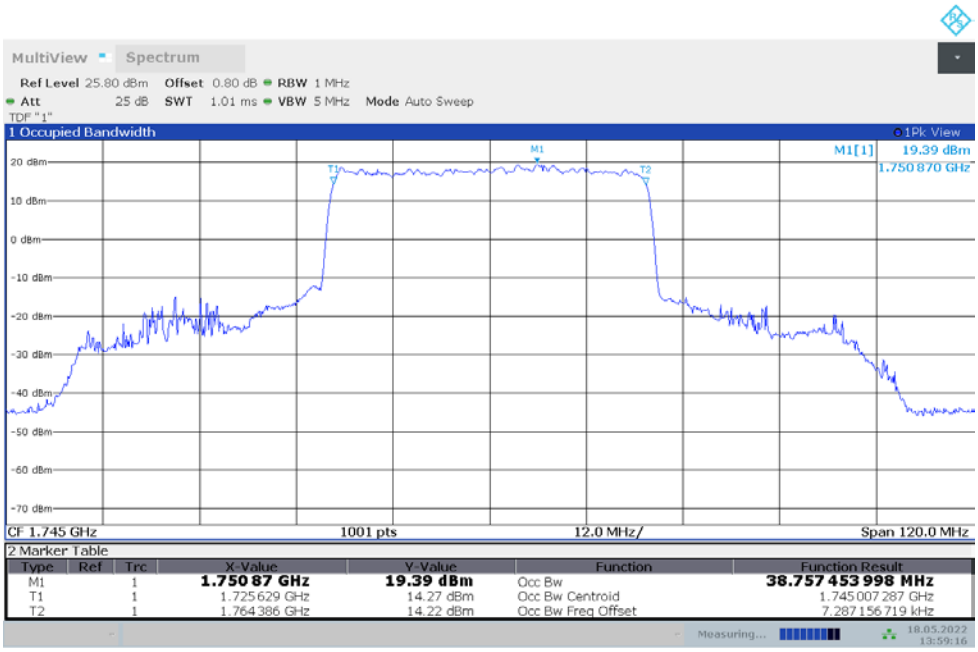
n66,40MHz(99%)

Frequency (MHz)	Occupied Bandwidth (99%) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
1745	38.657	38.757

n66,40MHz Bandwidth,DFT-s-pi/2 BPSK (99% BW)



n66,40MHz Bandwidth,DFT-s-QPSK (99% BW)



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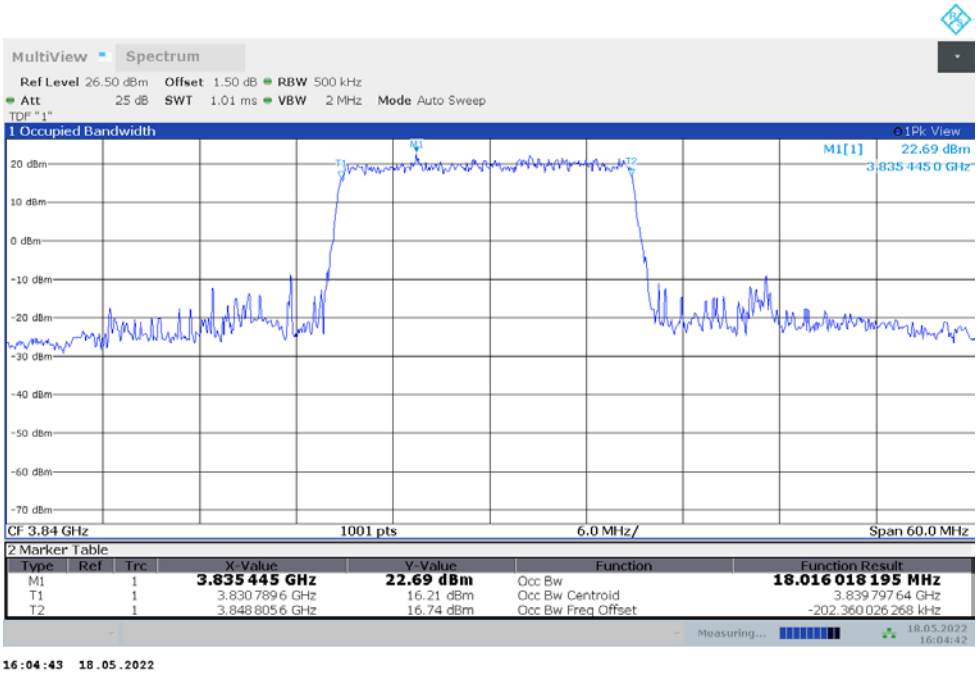
n77H

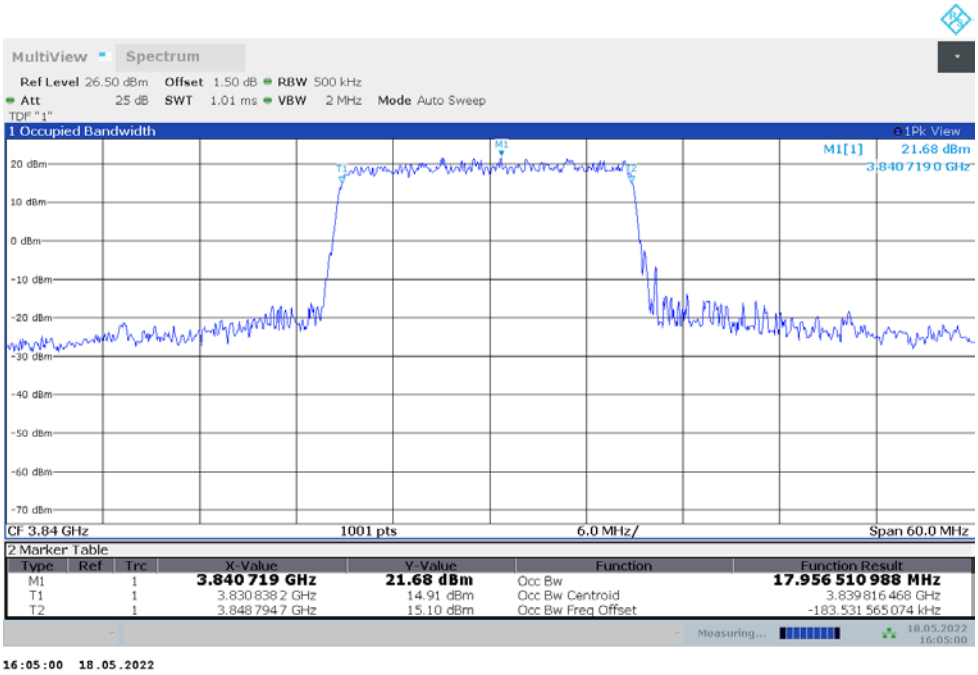
n77H,20MHz(99%)

Frequency (MHz)	Occupied Bandwidth (99%) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
3840	18.016	17.957

n77H,20MHz Bandwidth,DFT-s-pi/2 BPSK (99% BW)



n77H,20MHz Bandwidth,DFT-s-QPSK (99% BW)



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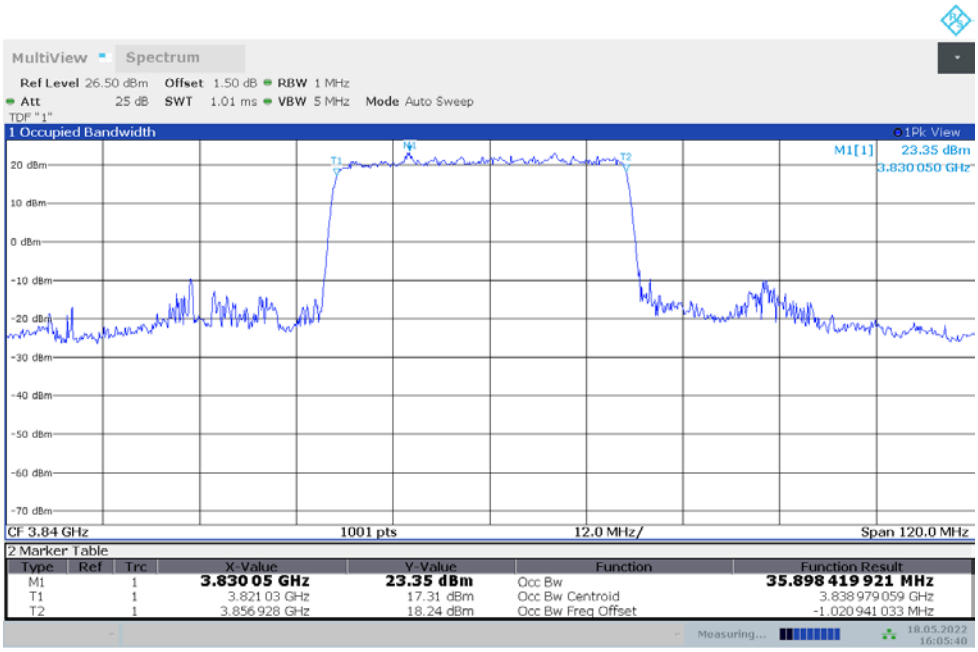
n77H,40MHz(99%)

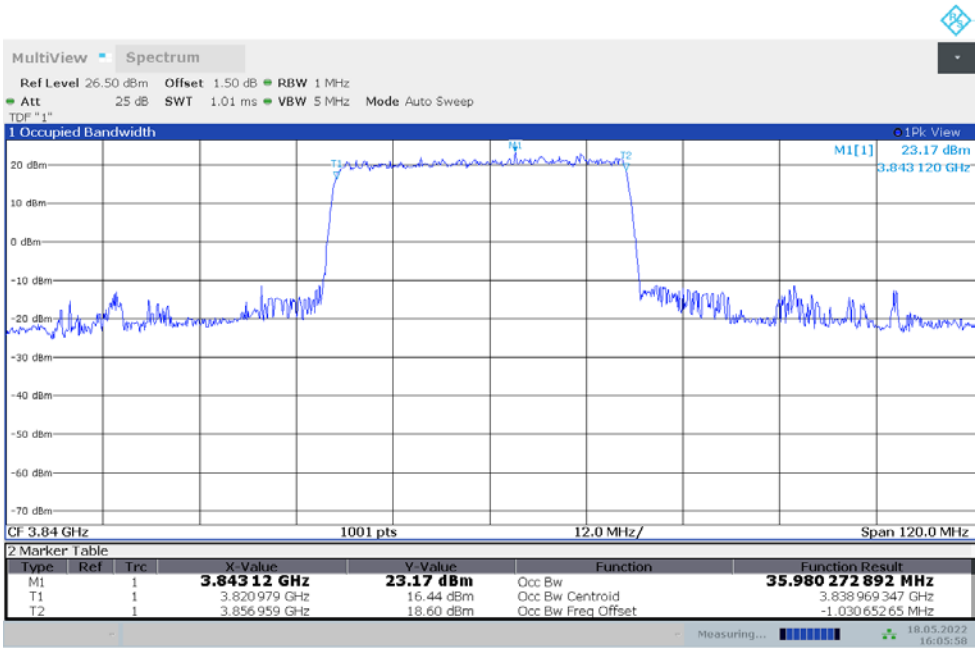
Frequency (MHz)	Occupied Bandwidth (99%) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
3840	35.898	35.980

n77H,40MHz Bandwidth,DFT-s-pi/2 BPSK (99% BW)



16:05:40 18.05.2022

n77H,40MHz Bandwidth,DFT-s-QPSK (99% BW)



16:05:58 18.05.2022

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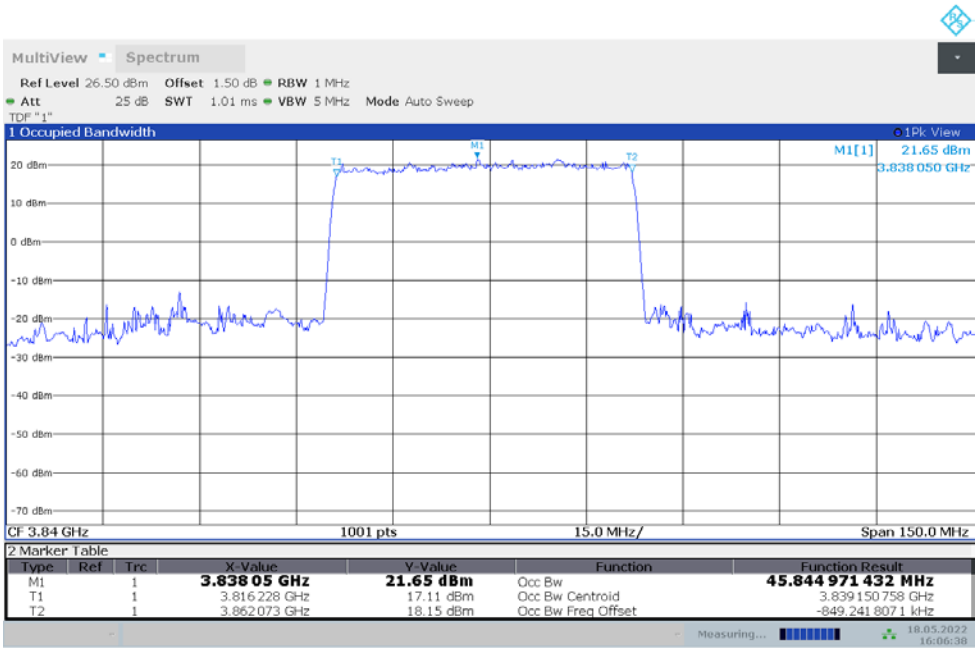
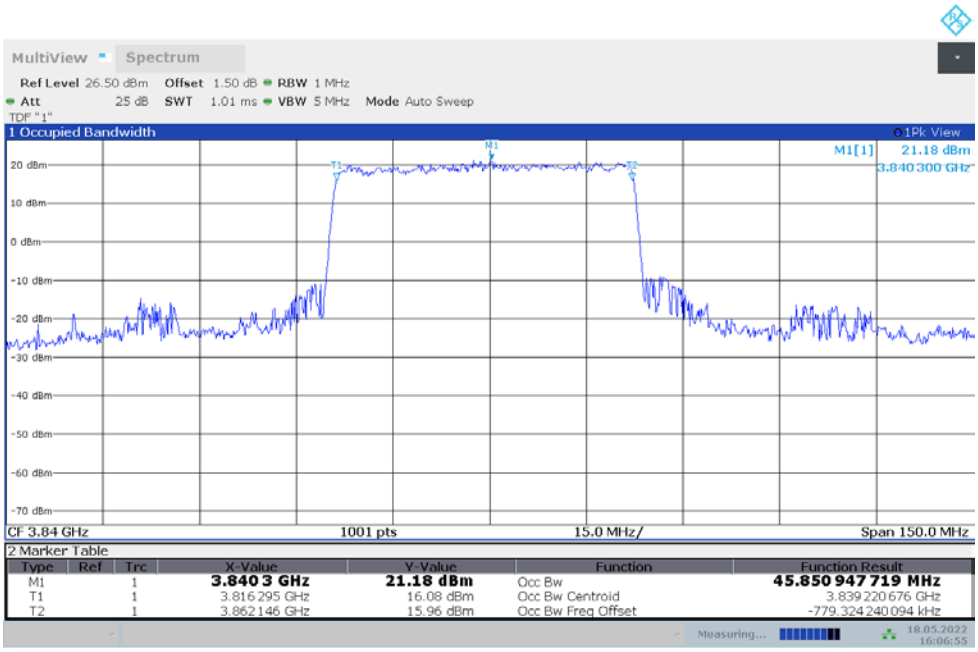
n77H,50MHz(99%)

Frequency (MHz)	Occupied Bandwidth (99%) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
3840	45.845	45.851

n77H,50MHz Bandwidth,DFT-s-pi/2 BPSK (99% BW)



n77H,50MHz Bandwidth,DFT-s-QPSK (99% BW)



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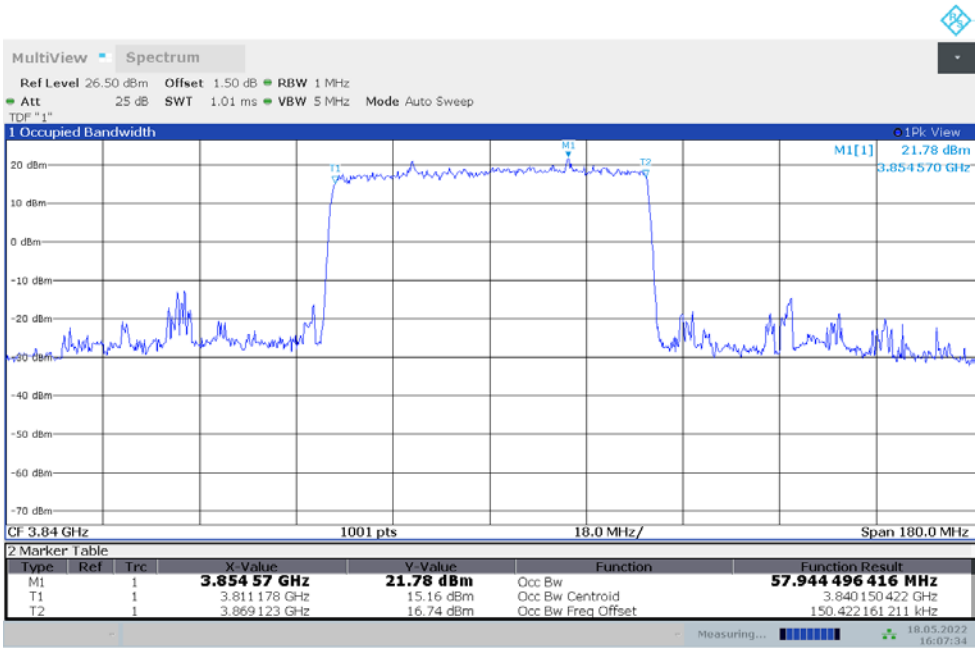
n77H,60MHz(99%)

Frequency (MHz)	Occupied Bandwidth (99%) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
3840	57.944	58.045

n77H,60MHz Bandwidth,DFT-s-pi/2 BPSK (99% BW)



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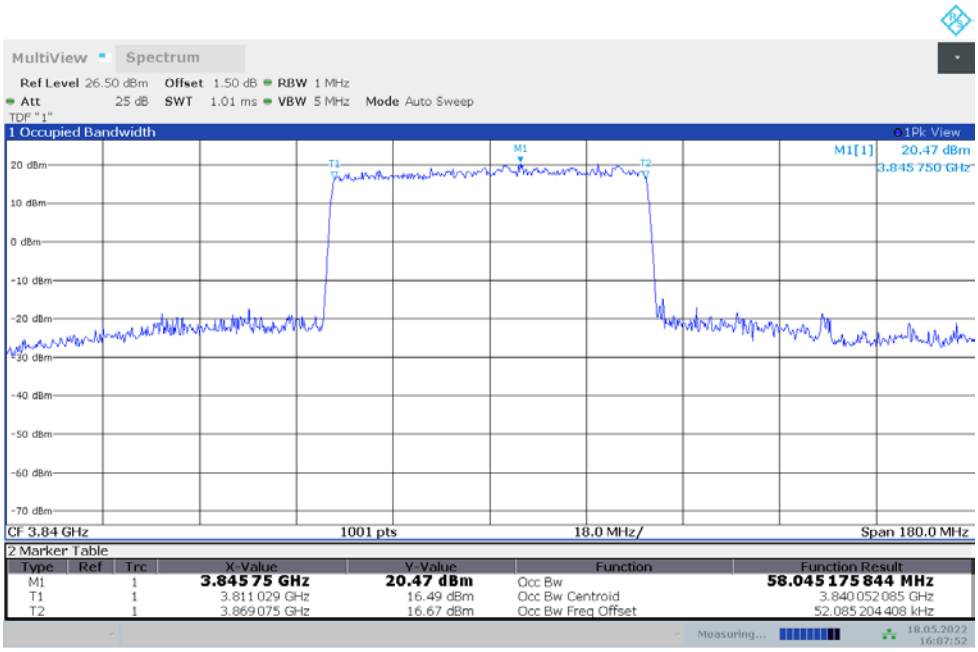
n77H,60MHz Bandwidth,DFT-s-QPSK (99% BW)



16:07:52 18.05.2022

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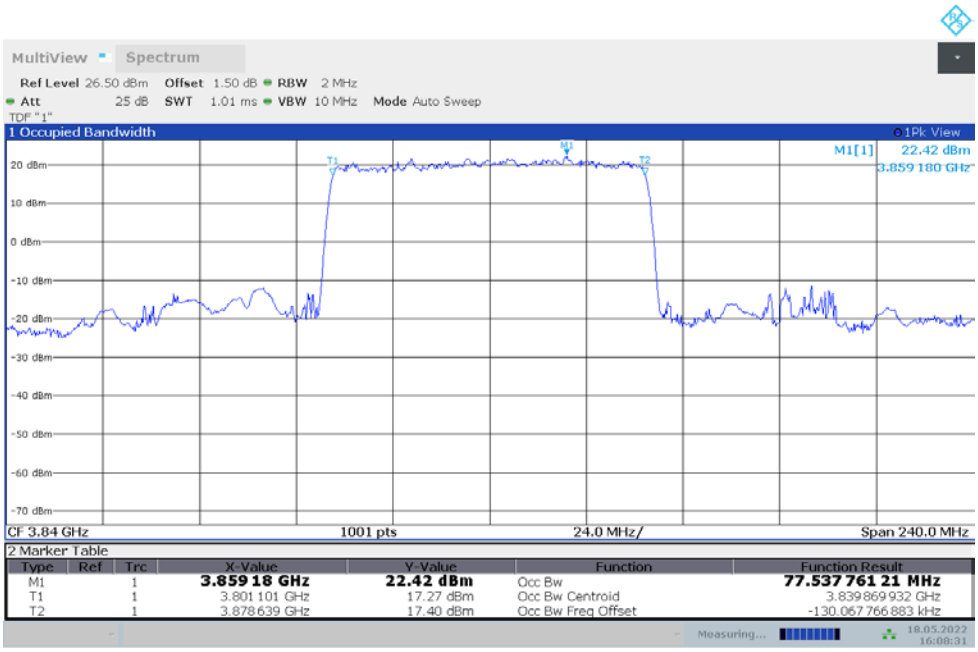
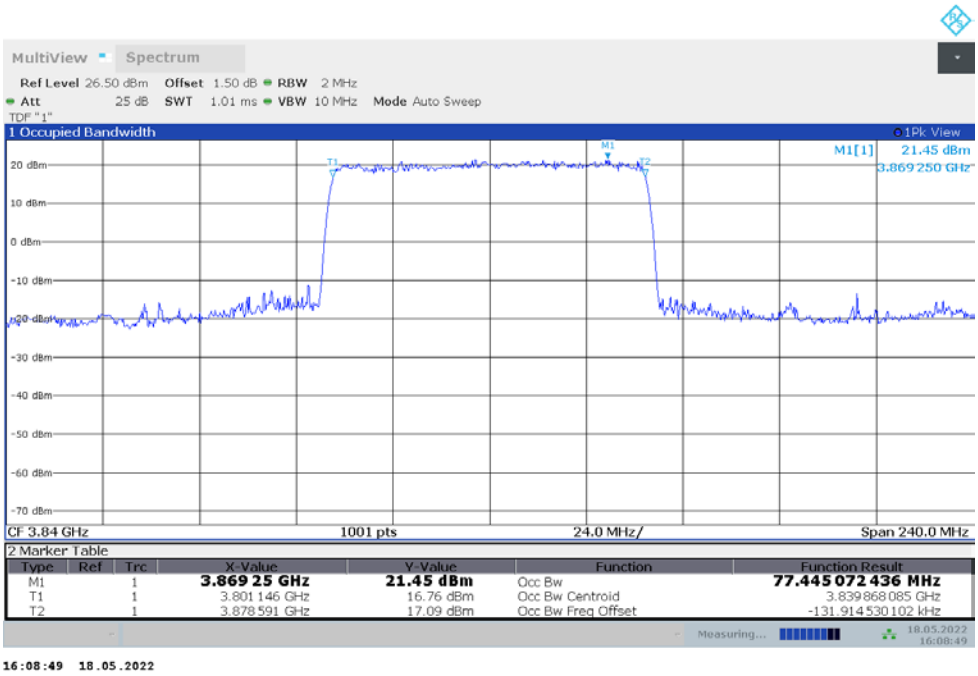
n77H,80MHz(99%)

Frequency (MHz)	Occupied Bandwidth (99%) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
3840	77.538	77.445

n77H,80MHz Bandwidth,DFT-s-pi/2 BPSK (99% BW)



n77H,80MHz Bandwidth,DFT-s-QPSK (99% BW)



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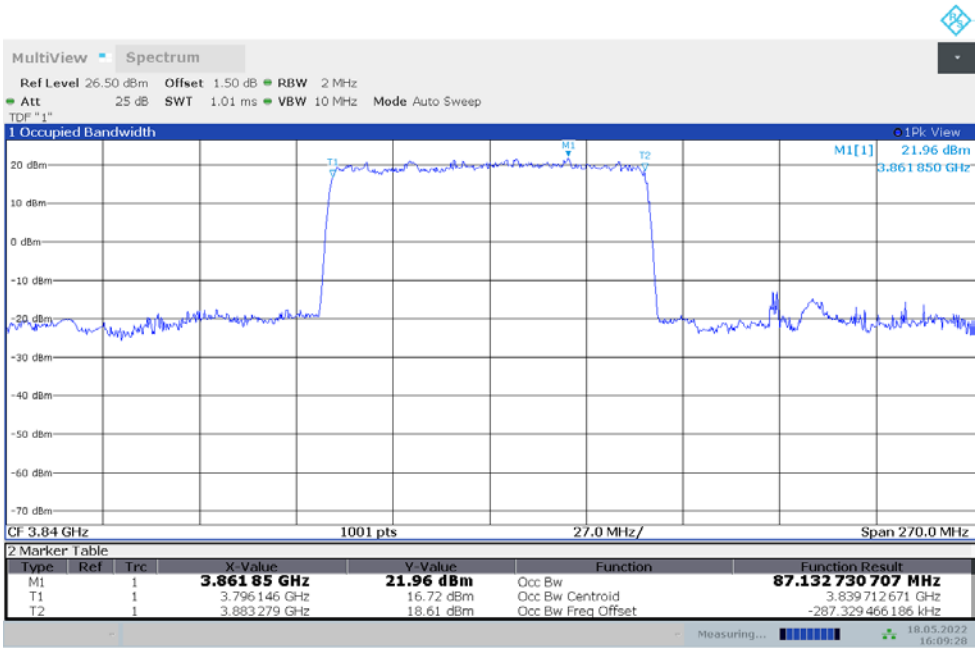
n77H,90MHz(99%)

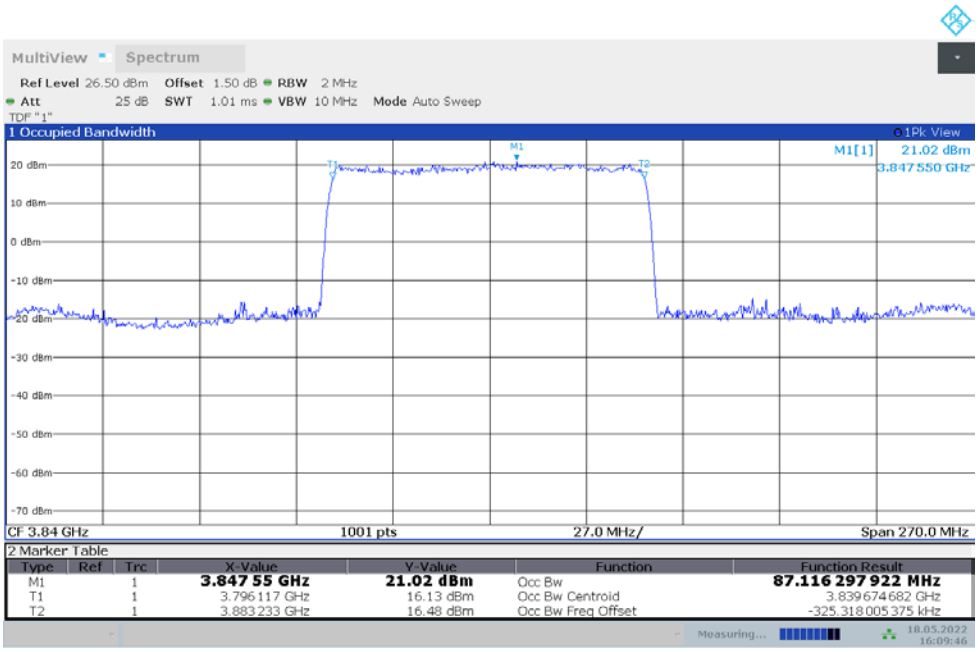
Frequency (MHz)	Occupied Bandwidth (99%) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
3840	87.133	87.116

n77H,90MHz Bandwidth,DFT-s-pi/2 BPSK (99% BW)



16:09:28 18.05.2022

n77H,90MHz Bandwidth,DFT-s-QPSK (99% BW)



16:09:46 18.05.2022

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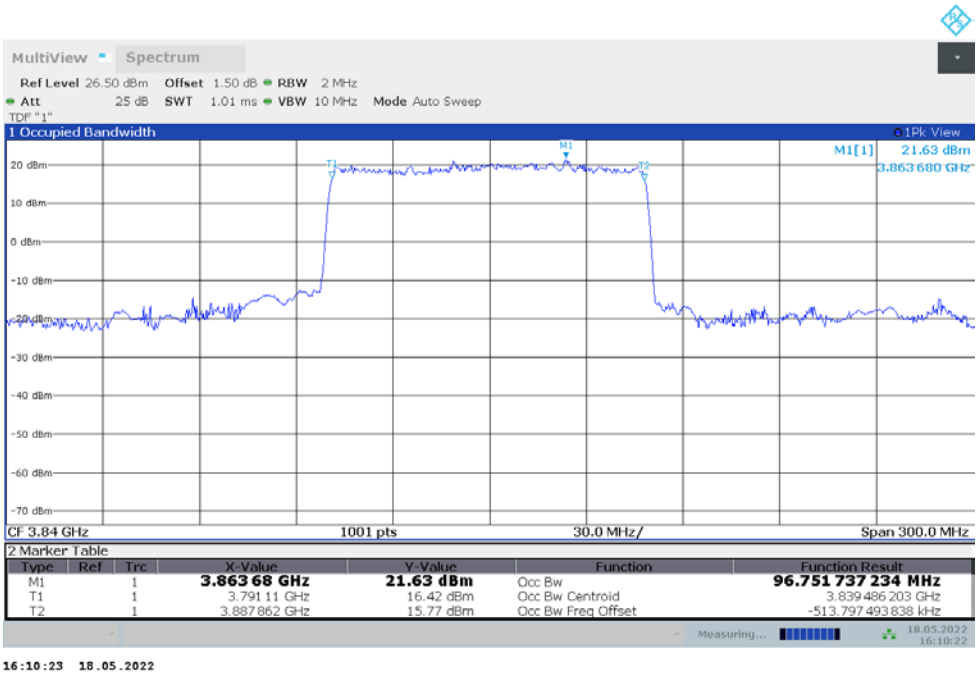
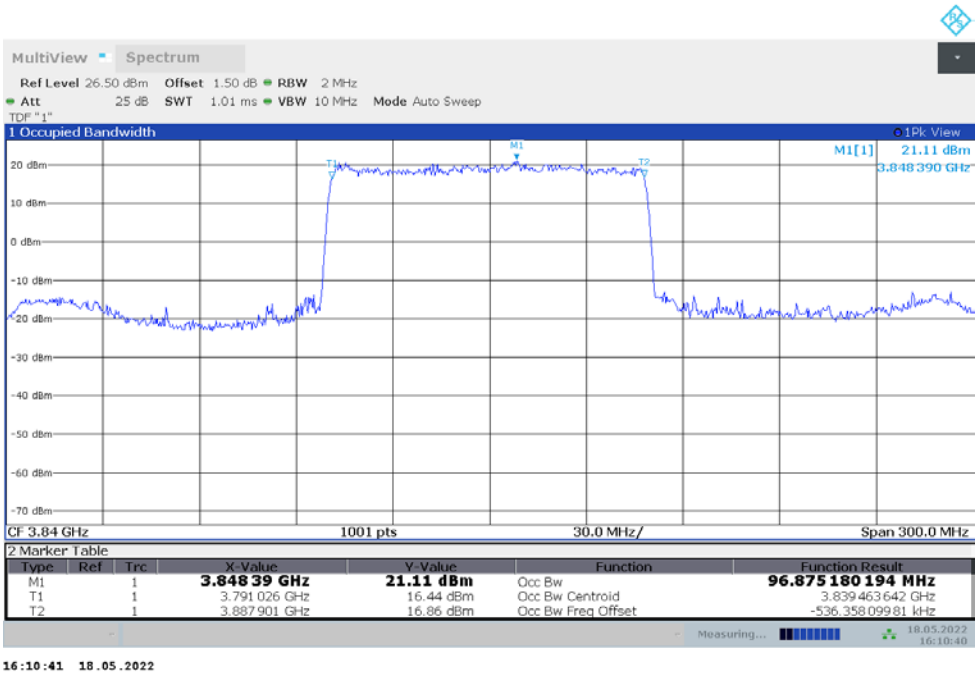
n77H,100MHz(99%)

Frequency (MHz)	Occupied Bandwidth (99%) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
3840	96.752	96.875

n77H,100MHz Bandwidth,DFT-s-pi/2 BPSK (99% BW)



n77H,100MHz Bandwidth,DFT-s-QPSK (99% BW)



Note: Expanded measurement uncertainty is U = 0.626 kHz, k = 2.

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A.5 Emission Bandwidth

The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power. Table below lists the measured -26dBc BW. Spectrum analyzer plots are included on the following pages.
The measurement method is from ANSI C63.26:
a) The spectrum analyzer center frequency is set to the nominal EUT channel center frequency. The span range for the spectrum analyzer shall be wide enough to see sufficient roll off of the signal to make the measurement.
b) The nominal RBW shall be in the range of 1% to 5% of the anticipated OBW, and the VBW shall be set ≥ 3 × RBW.
c) Set the reference level of the instrument as required to prevent the signal amplitude from exceeding the maximum spectrum analyzer input mixer level for linear operation.
d) The dynamic range of the spectrum analyzer at the selected RBW shall be more than 10 dB below the target "−X dB" requirement, i.e., if the requirement calls for measuring the −26 dB OBW, the spectrum analyzer noise floor at the selected RBW shall be at least 36 dB below the reference level.
e) Set spectrum analyzer detection mode to peak, and the trace mode to max hold.

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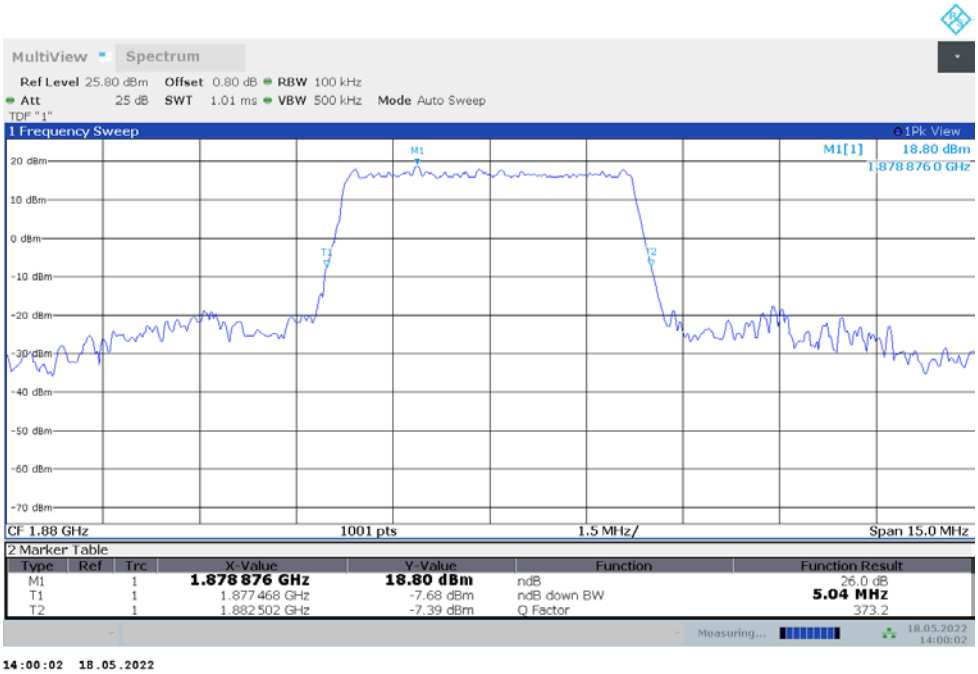
n2

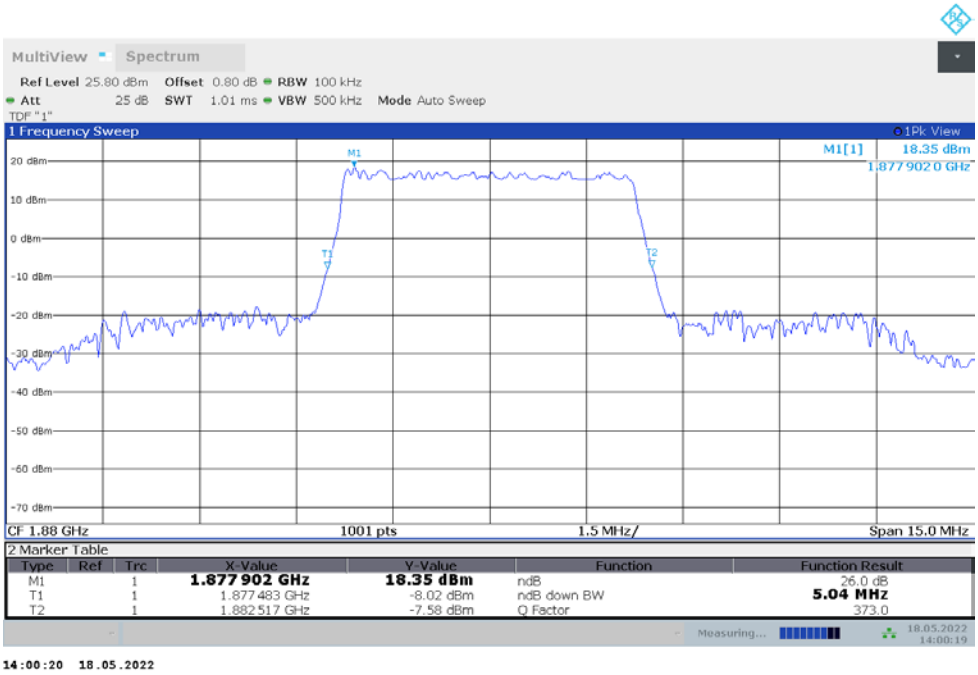
n2,5MHz(-26dBc)

Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
1880	5.035	5.035

n2,5MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



n2,5MHz Bandwidth,DFT-s-QPSK (-26dBc BW)



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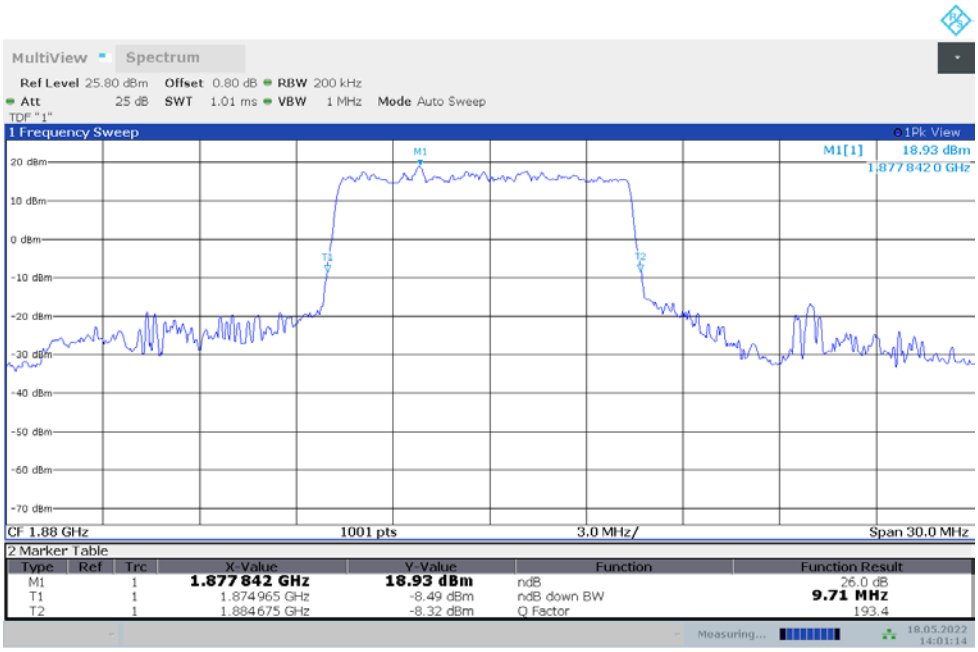
n2,10MHz(-26dBc)

Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
1880	9.740	9.710

n2,10MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)

n2,10MHz Bandwidth,DFT-s-QPSK (-26dBc BW)



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n2,15MHz(-26dBc)

Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
1880	14.431	14.431

n2,15MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)

n2,15MHz Bandwidth,DFT-s-QPSK (-26dBc BW)

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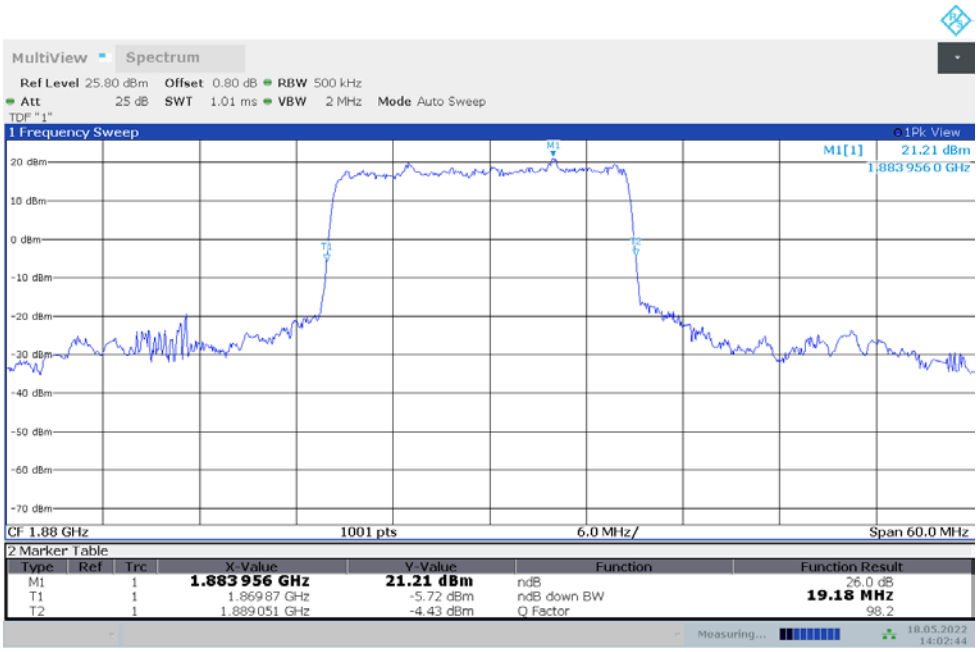
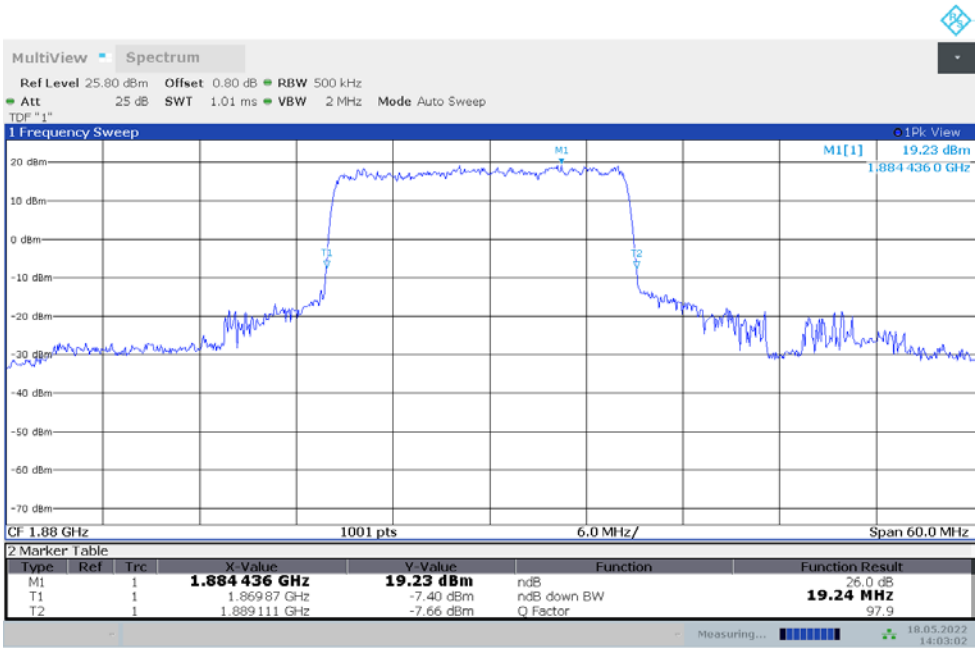
n2,20MHz(-26dBc)

Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
1880	19.181	19.241

n2,20MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



n2,20MHz Bandwidth,DFT-s-QPSK (-26dBc BW)



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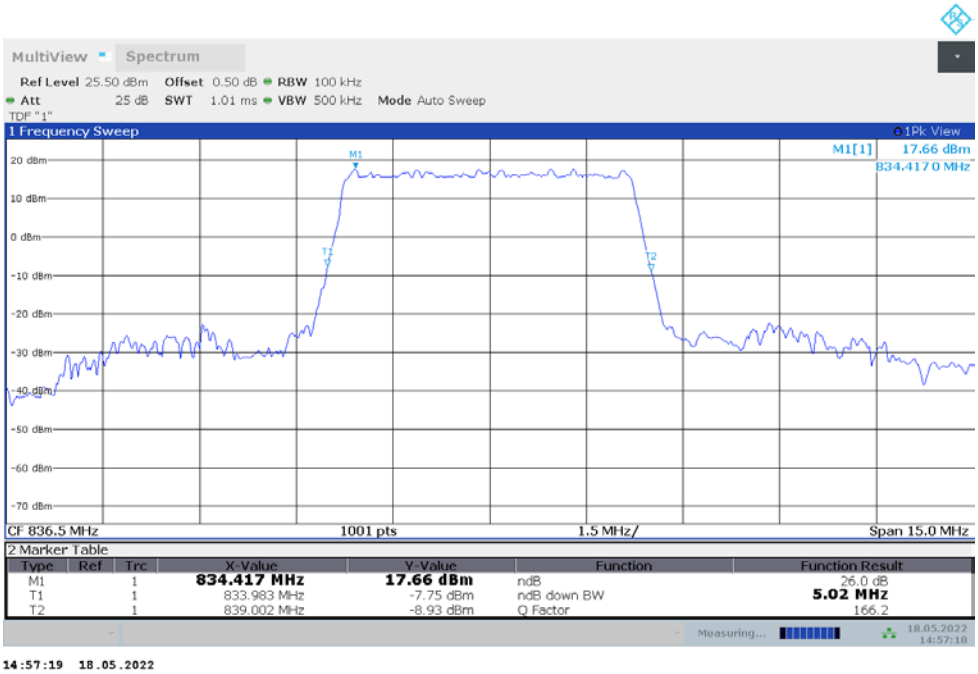
n5

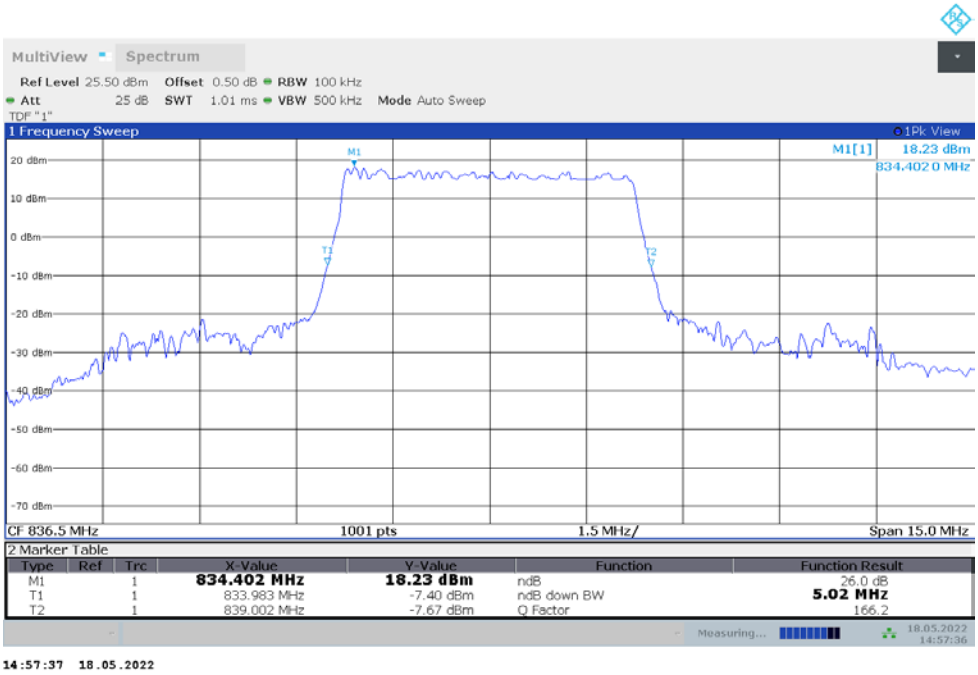
n5,5MHz(-26dBc)

Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
836.5	5.020	5.020

n5,5MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



n5,5MHz Bandwidth,DFT-s-QPSK (-26dBc BW)



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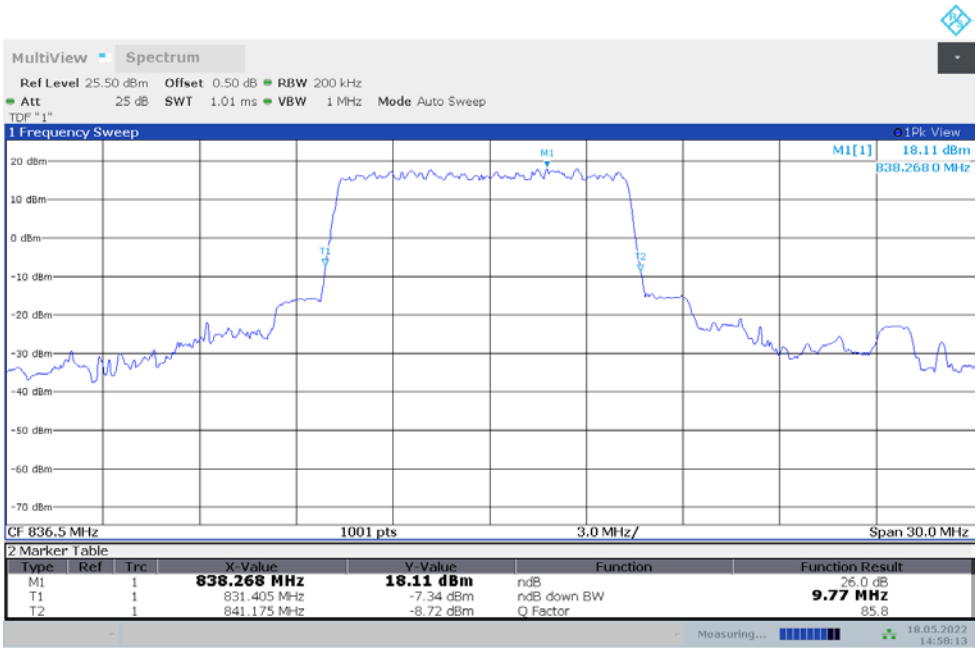
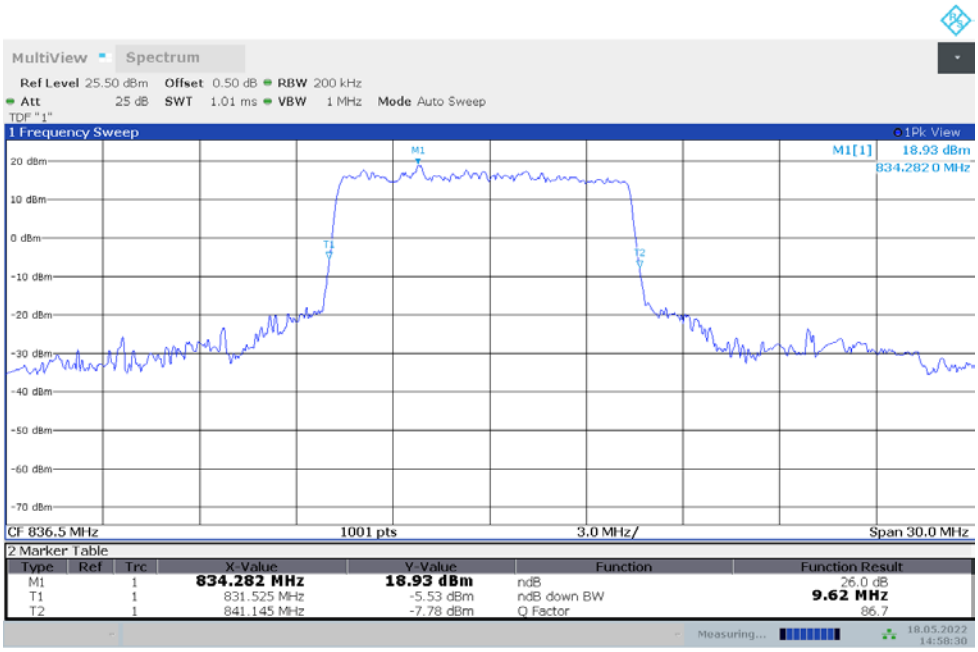
n5,10MHz(-26dBc)

Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
836.5	9.770	9.620

n5,10MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



n5,10MHz Bandwidth,DFT-s-QPSK (-26dBc BW)



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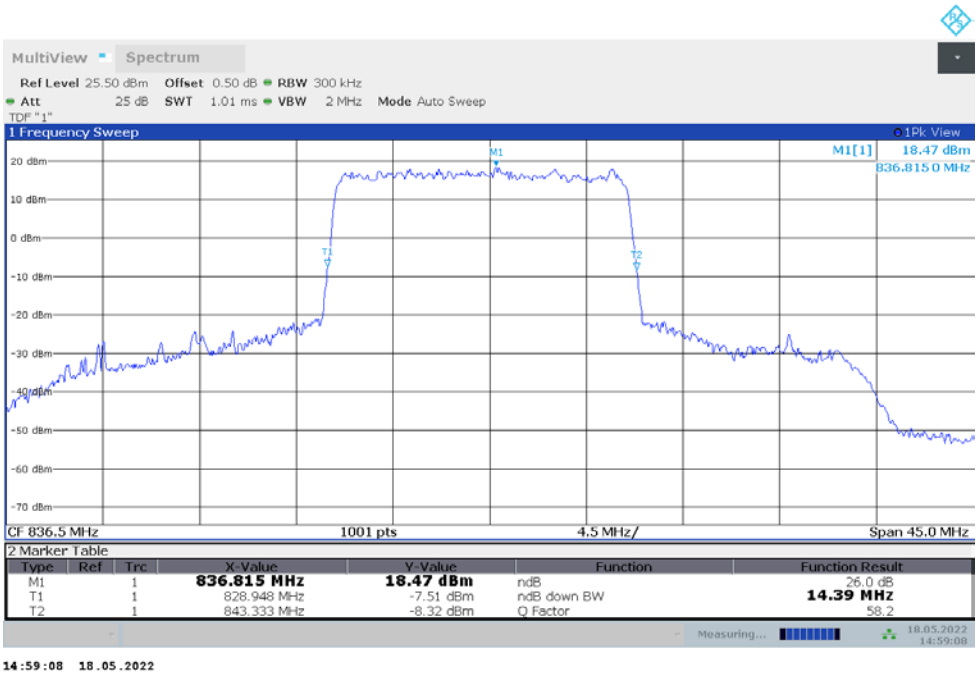
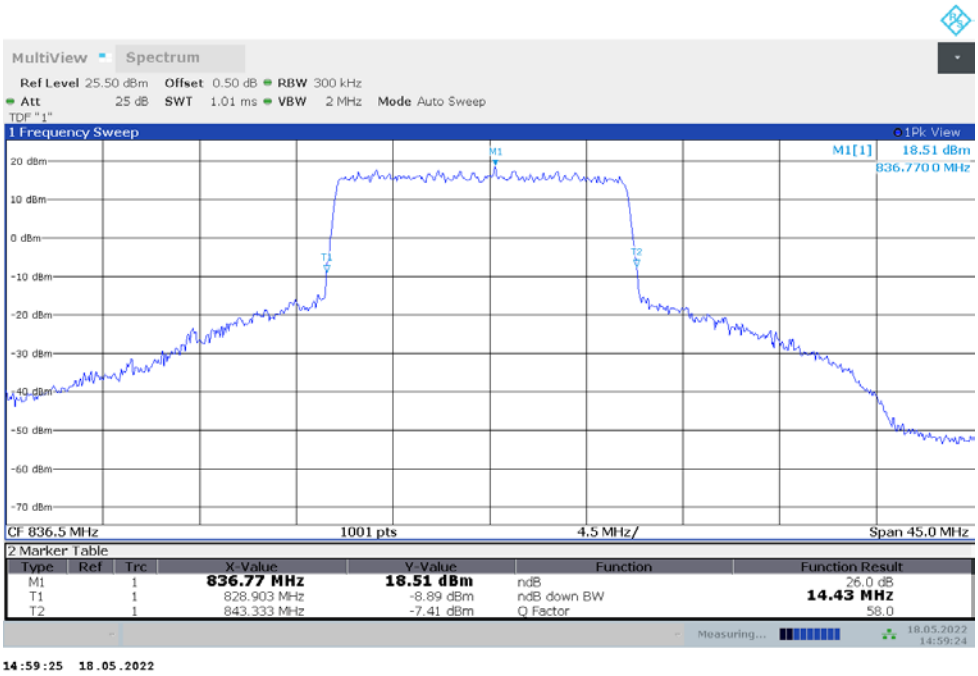
n5,15MHz(-26dBc)

Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
836.5	14.386	14.431

n5,15MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



n5,15MHz Bandwidth,DFT-s-QPSK (-26dBc BW)



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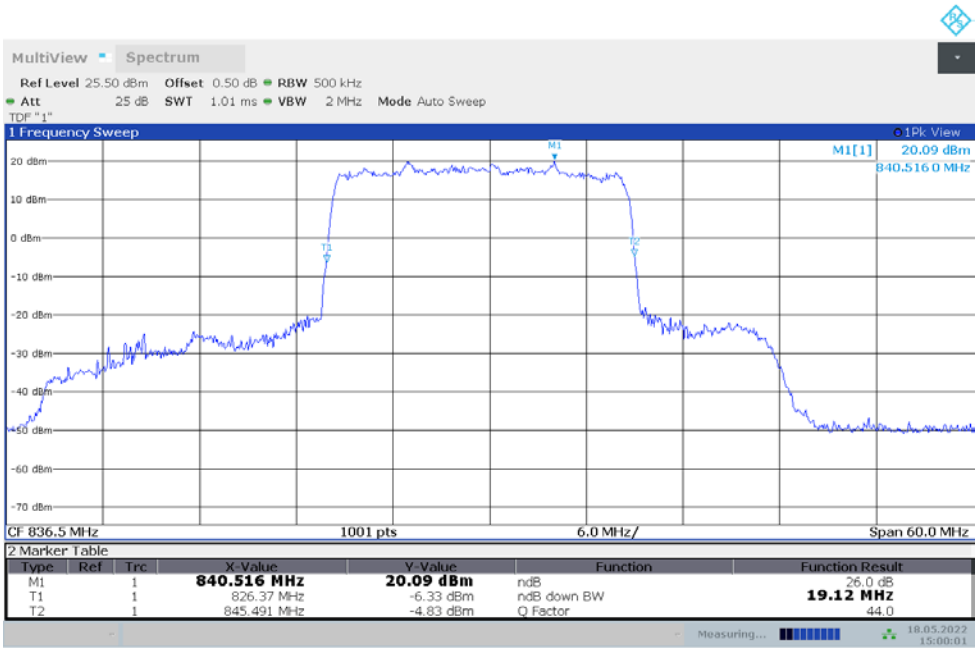
n5,20MHz(-26dBc)

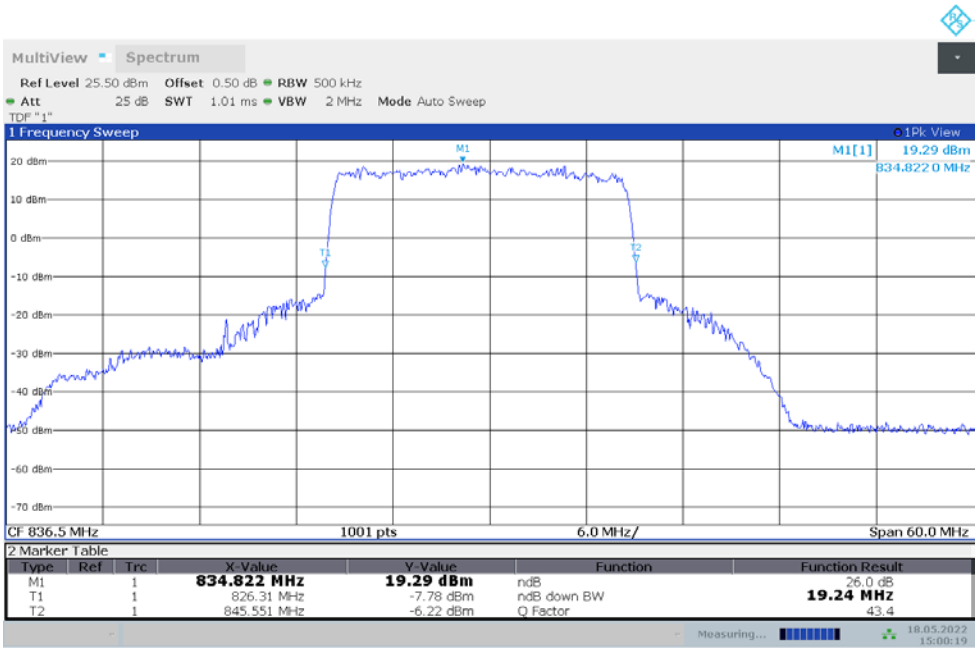
Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
836.5	19.121	19.241

n5,20MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



15:00:02 18.05.2022

n5,20MHz Bandwidth,DFT-s-QPSK (-26dBc BW)



15:00:20 18.05.2022

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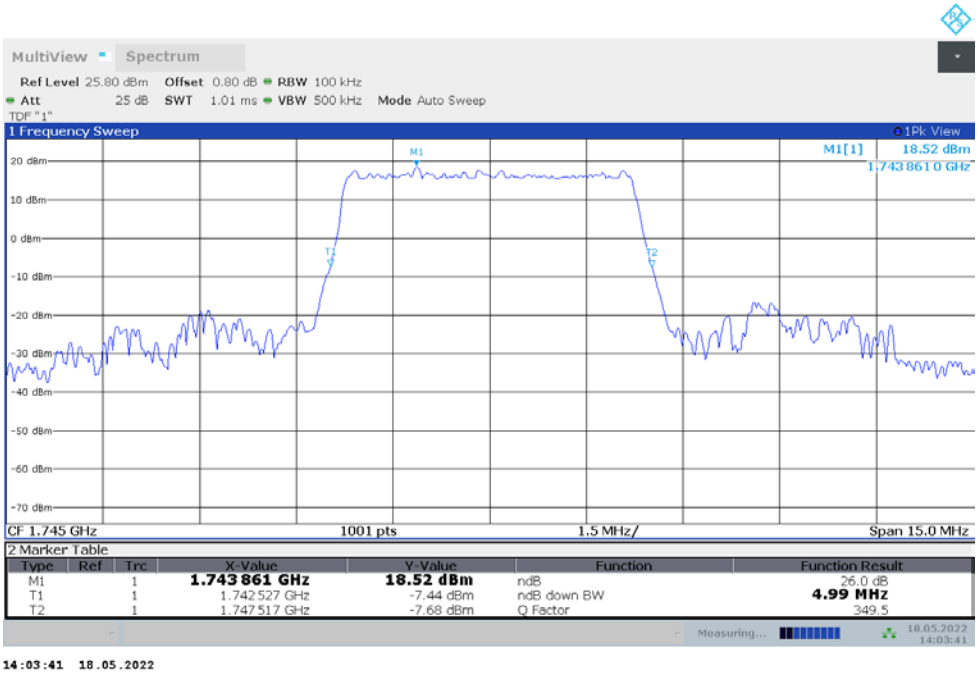
n66

n66,5MHz(-26dBc)

Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
1745	4.990	5.005

n66,5MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



n66,5MHz Bandwidth,DFT-s-QPSK (-26dBc BW)

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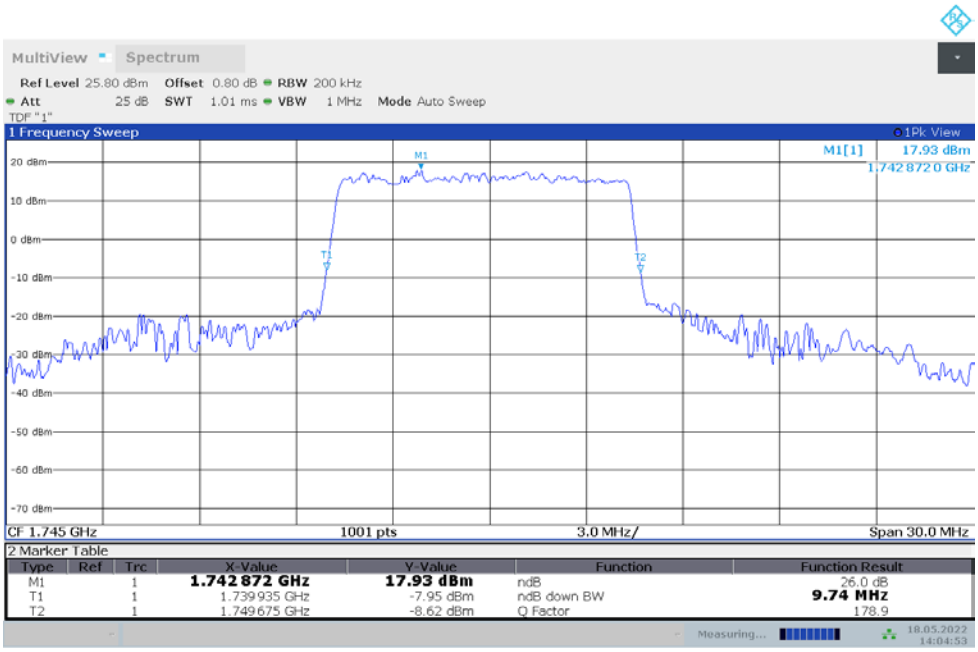
n66,10MHz(-26dBc)

Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
1745	9.740	9.740

n66,10MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)

n66,10MHz Bandwidth,DFT-s-QPSK (-26dBc BW)



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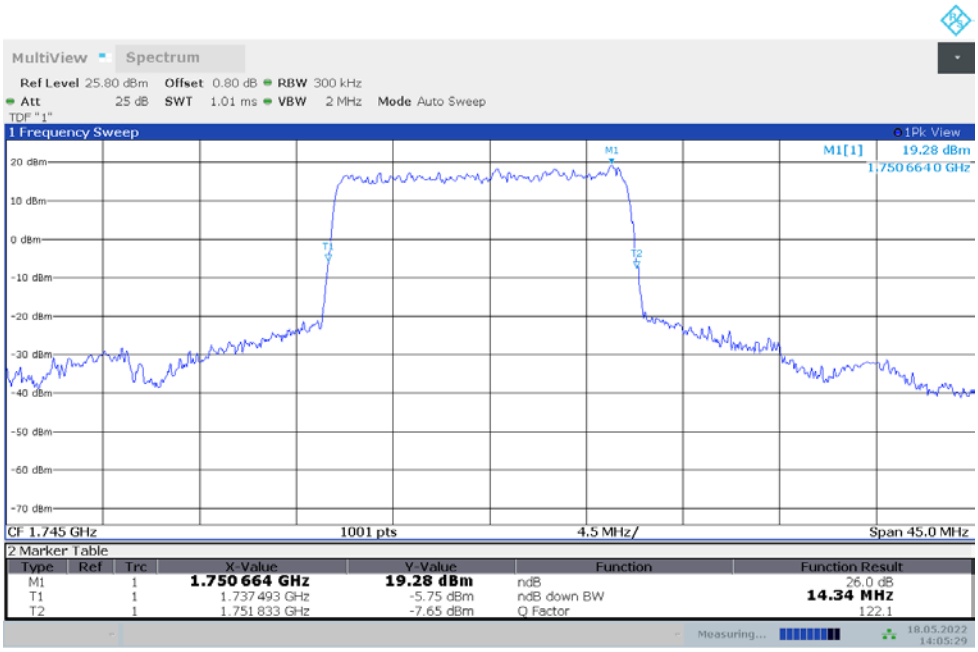
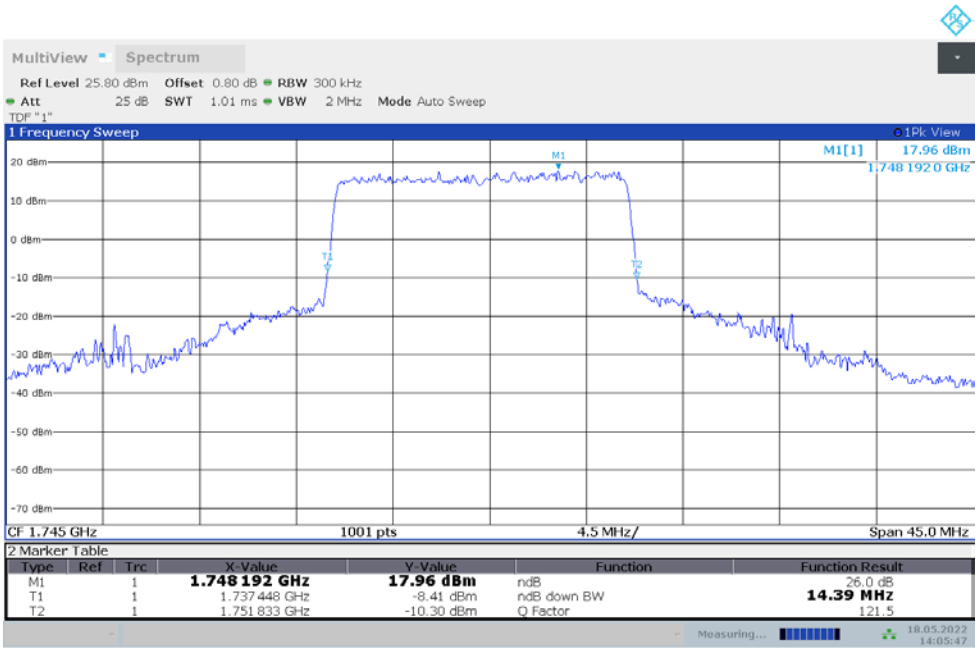
n66,15MHz(-26dBc)

Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
1745	14.341	14.386

n66,15MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



n66,15MHz Bandwidth,DFT-s-QPSK (-26dBc BW)



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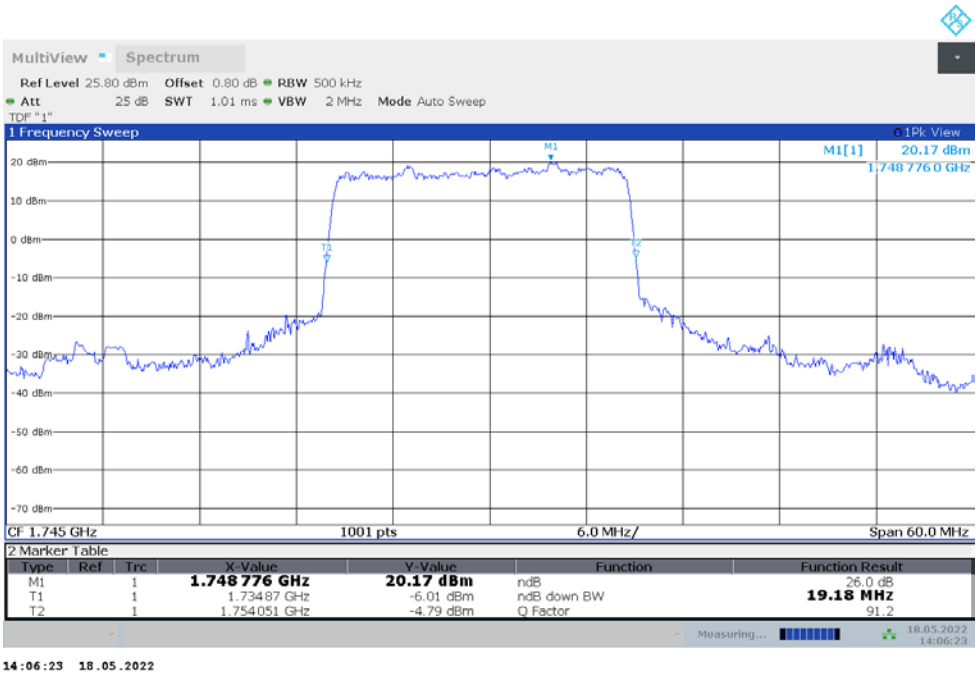
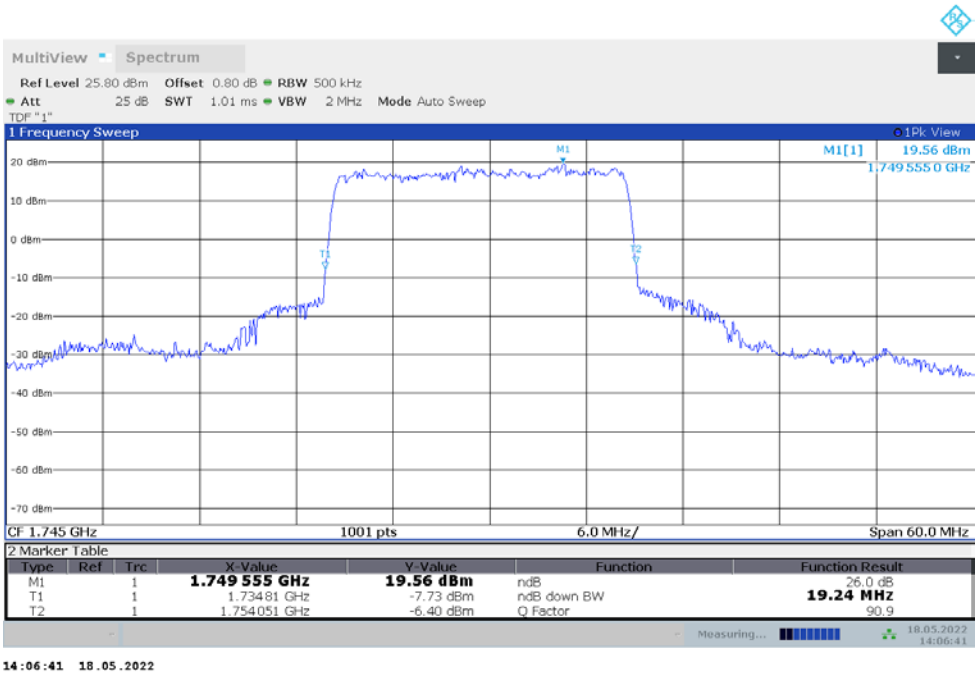
n66,20MHz(-26dBc)

Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
1745	19.181	19.241

n66,20MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



n66,20MHz Bandwidth,DFT-s-QPSK (-26dBc BW)



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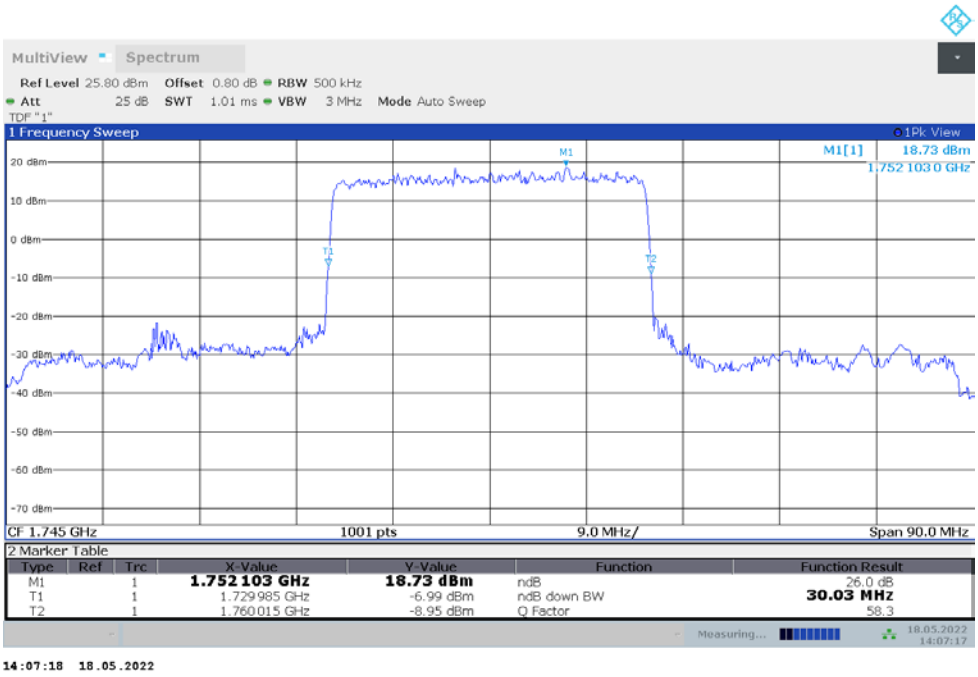
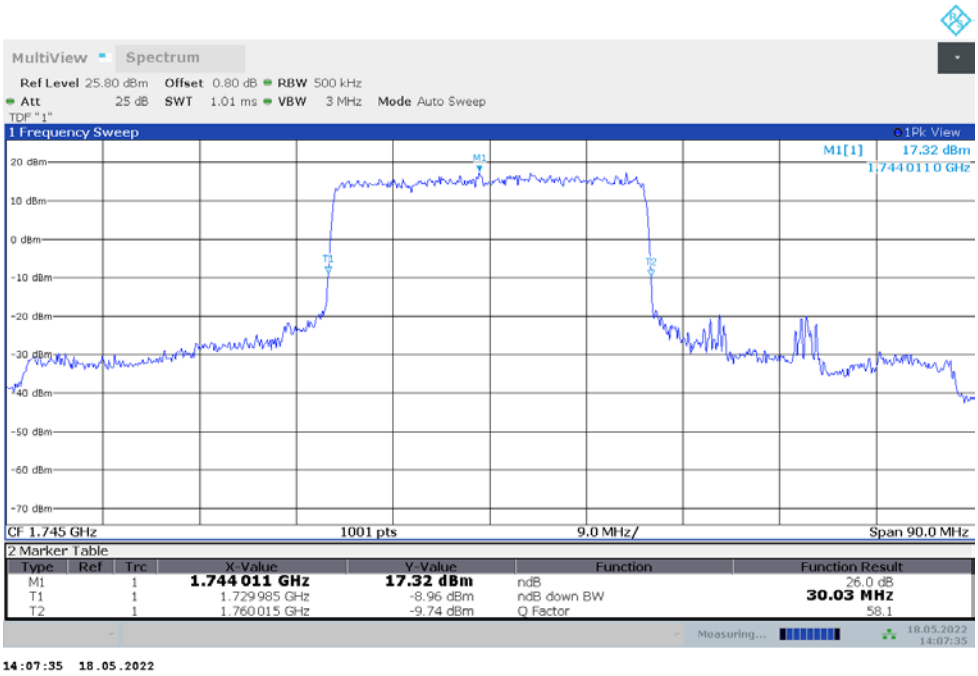
n66,30MHz(-26dBc)

Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
1745	30.030	30.030

n66,30MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



n66,30MHz Bandwidth,DFT-s-QPSK (-26dBc BW)



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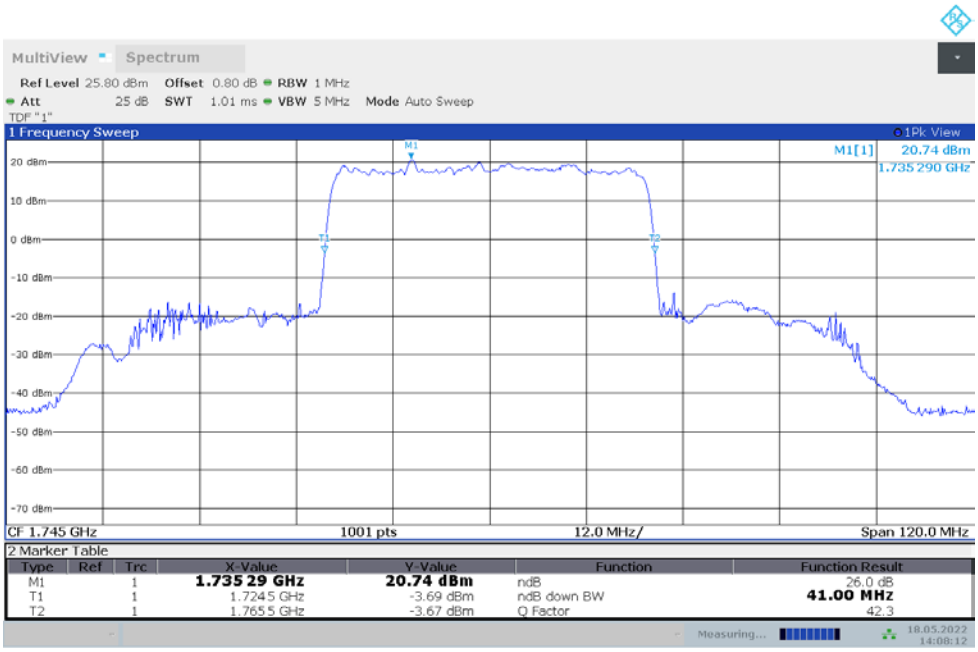
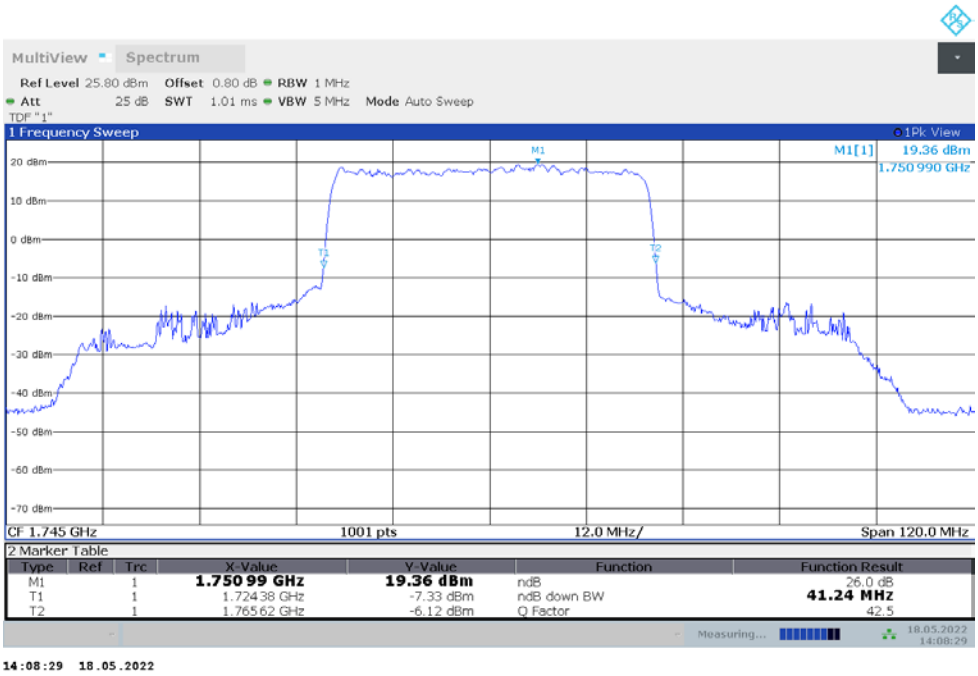
n66,40MHz(-26dBc)

Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
1745	41.000	41.240

n66,40MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



n66,40MHz Bandwidth,DFT-s-QPSK (-26dBc BW)



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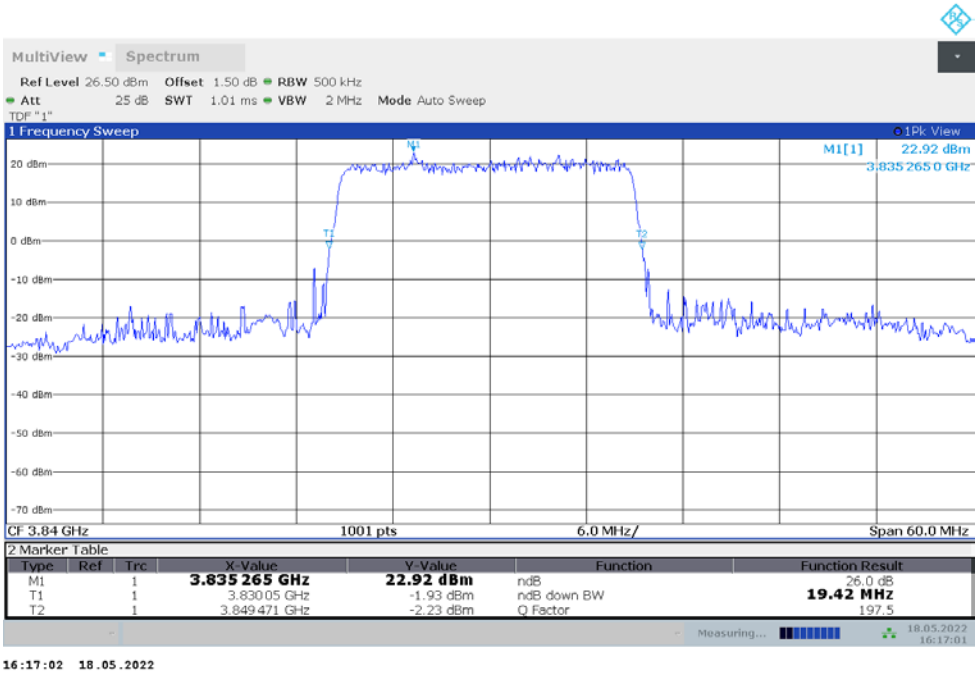
n77H

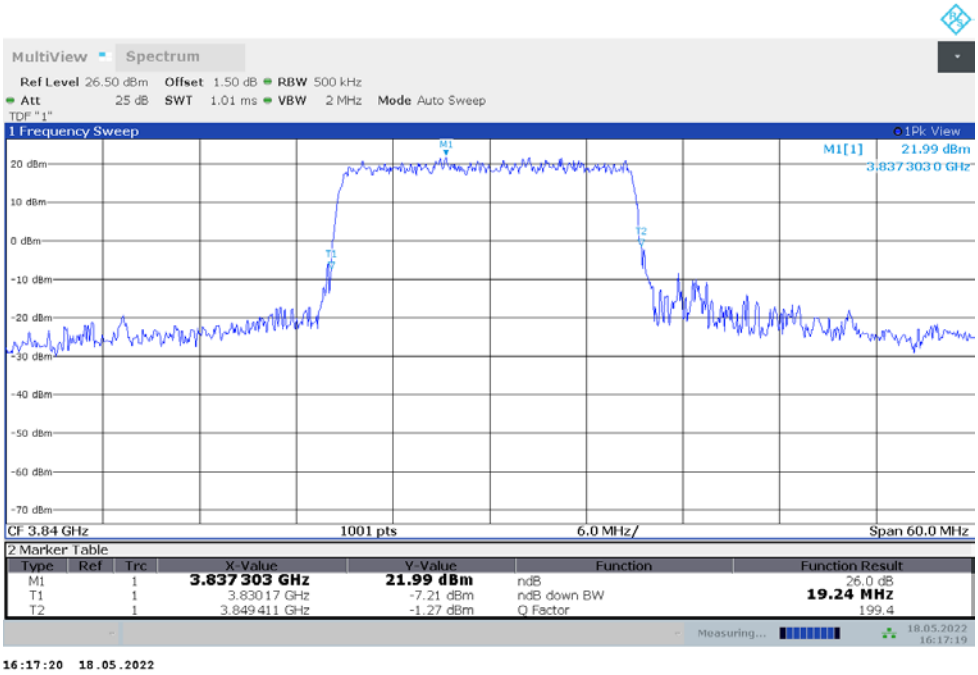
n77H,20MHz(-26dBc)

Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
3840	19.421	19.241

n77H,20MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



n77H,20MHz Bandwidth,DFT-s-QPSK (-26dBc BW)



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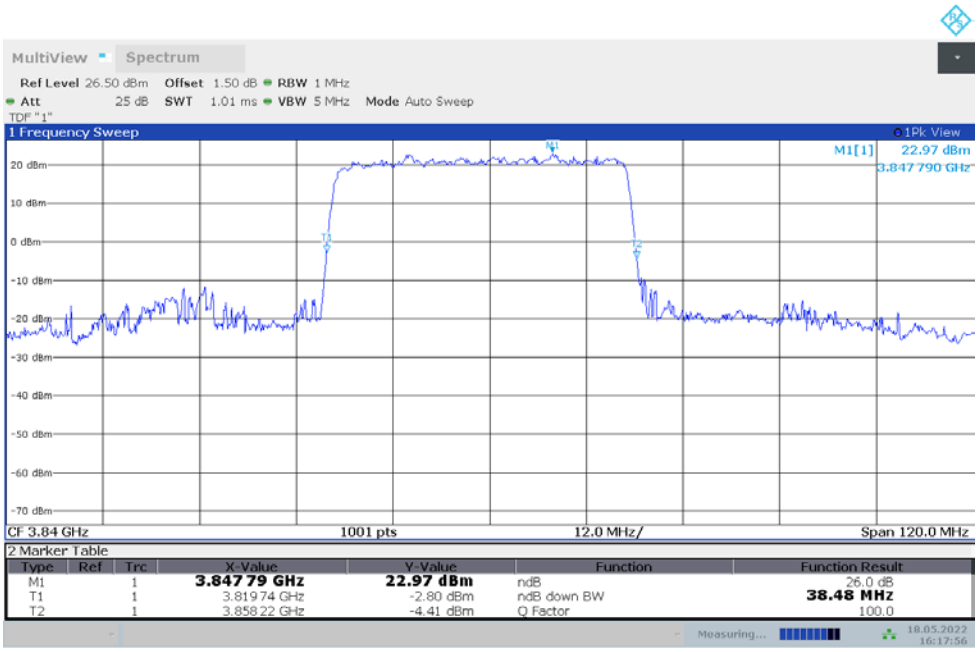
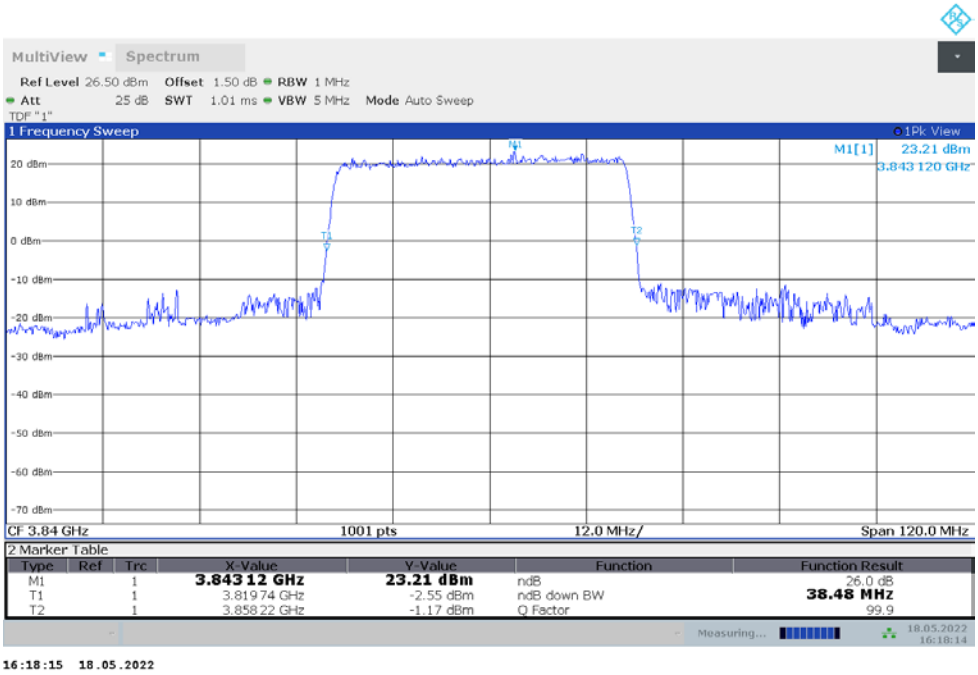
n77H,40MHz(-26dBc)

Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
3840	38.480	38.480

n77H,40MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



n77H,40MHz Bandwidth,DFT-s-QPSK (-26dBc BW)



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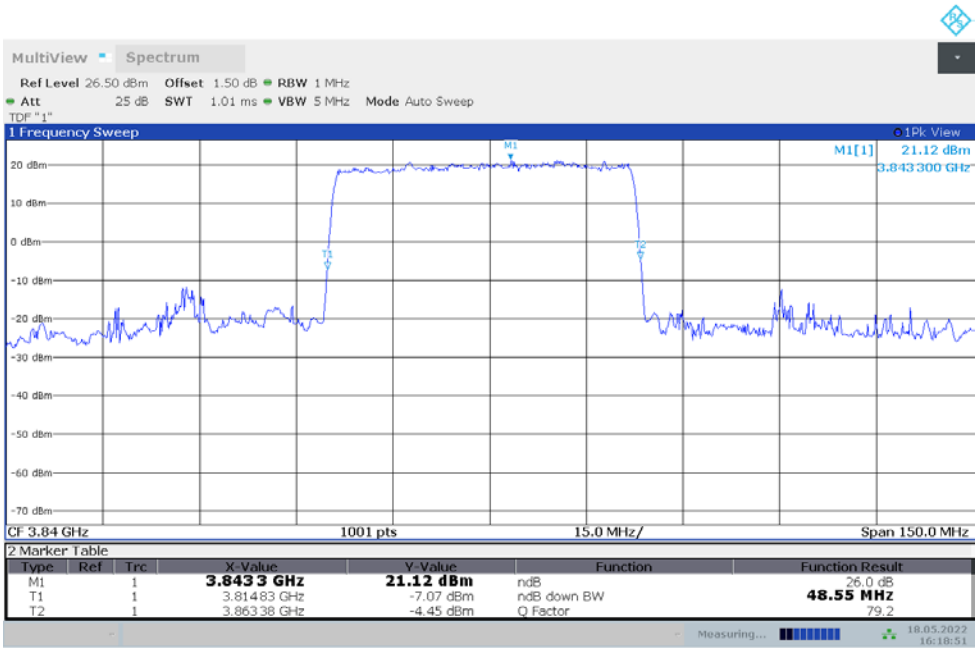
n77H,50MHz(-26dBc)

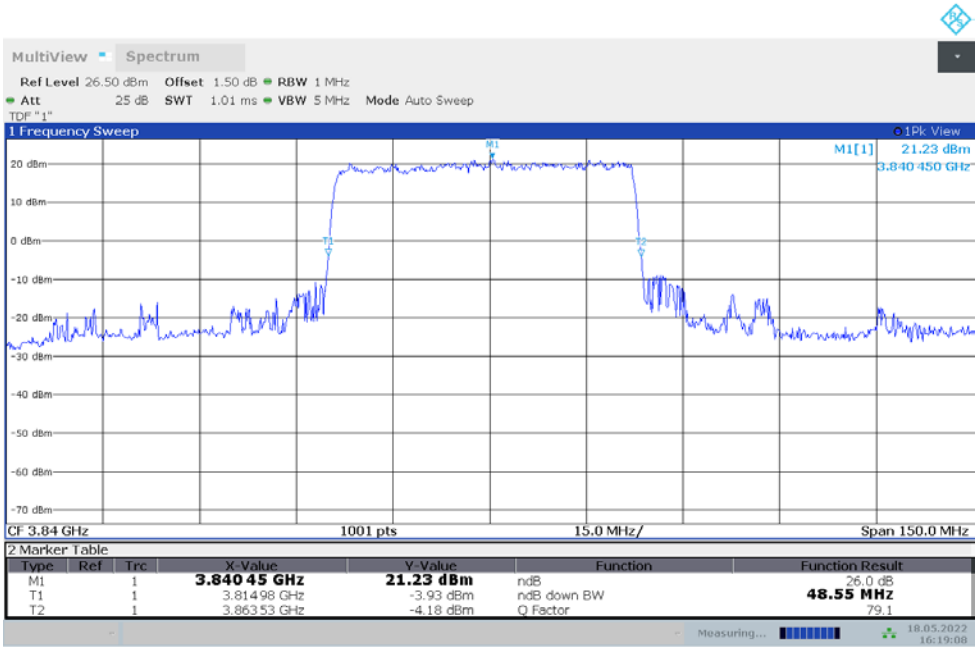
Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
3840	48.550	48.550

n77H,50MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



16:18:51 18.05.2022

n77H,50MHz Bandwidth,DFT-s-QPSK (-26dBc BW)



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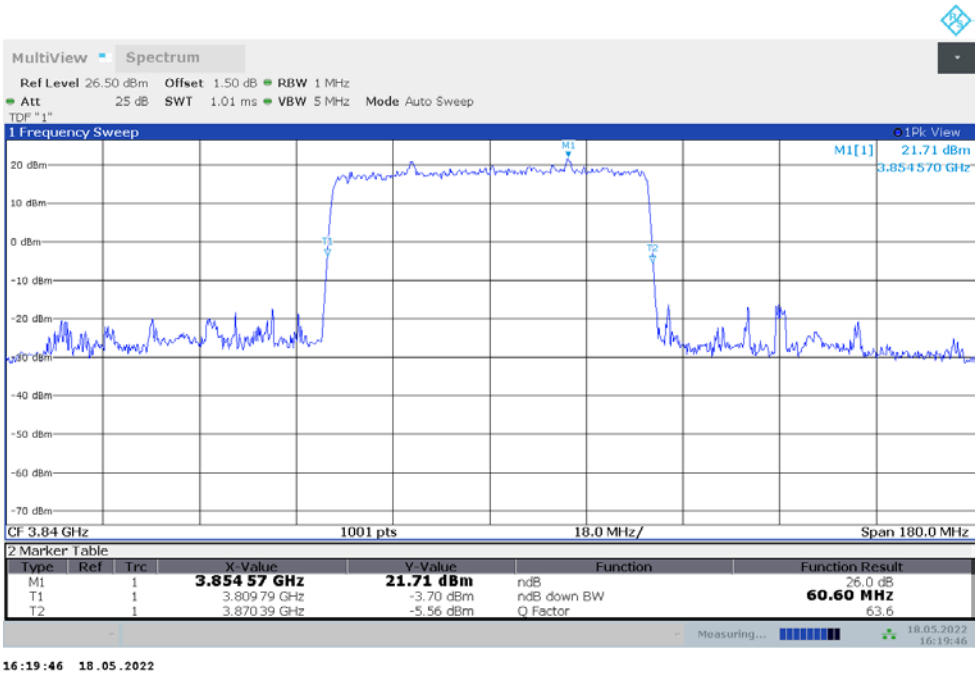
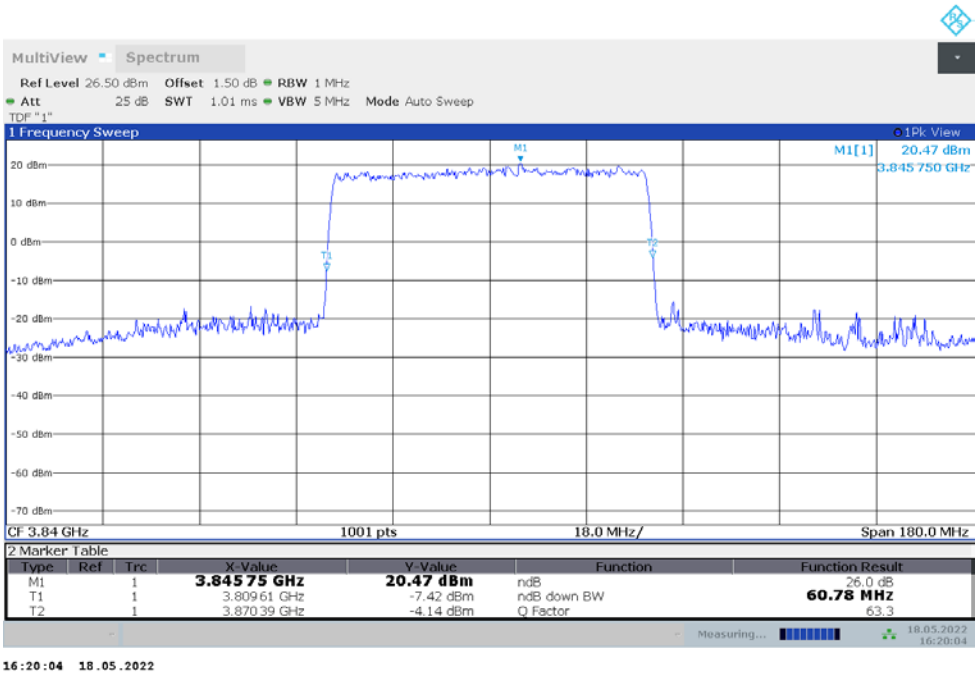
n77H,60MHz(-26dBc)

Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
3840	60.600	60.780

n77H,60MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



n77H,60MHz Bandwidth,DFT-s-QPSK (-26dBc BW)



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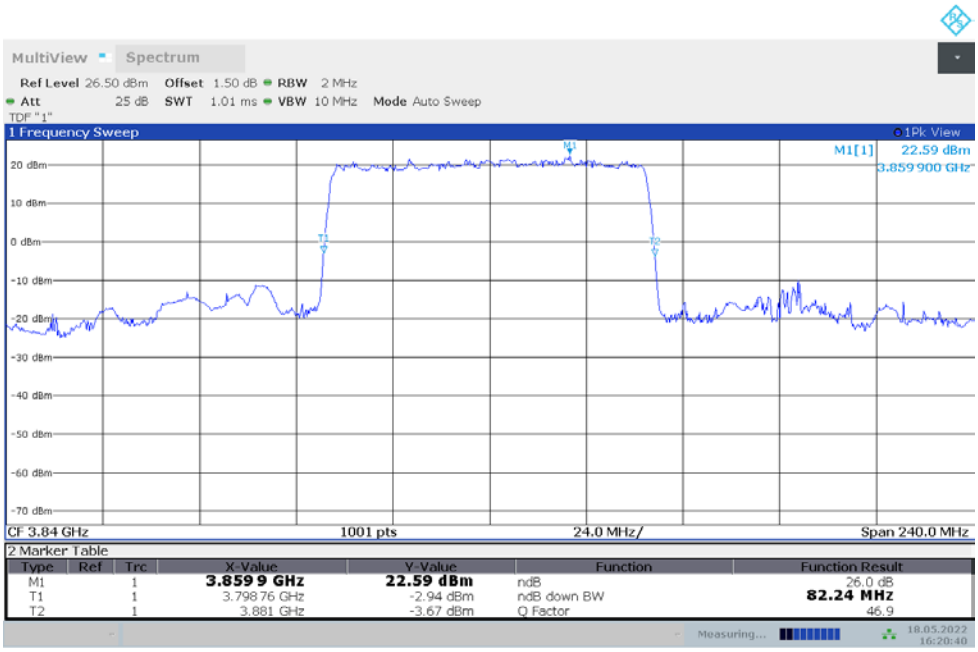
n77H,80MHz(-26dBc)

Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
3840	82.240	82.240

n77H,80MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



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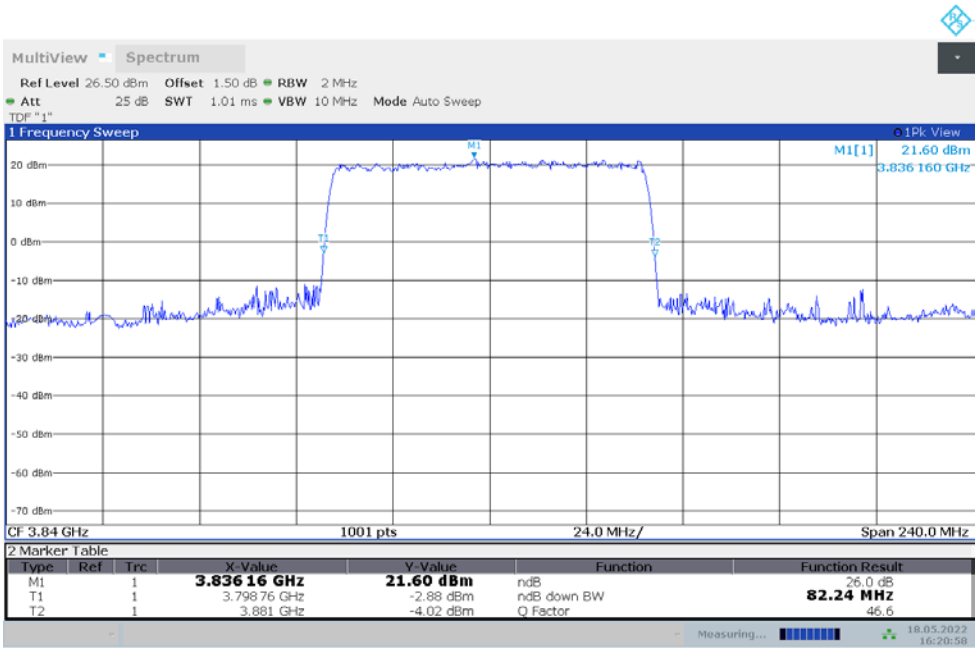
n77H,80MHz Bandwidth,DFT-s-QPSK (-26dBc BW)



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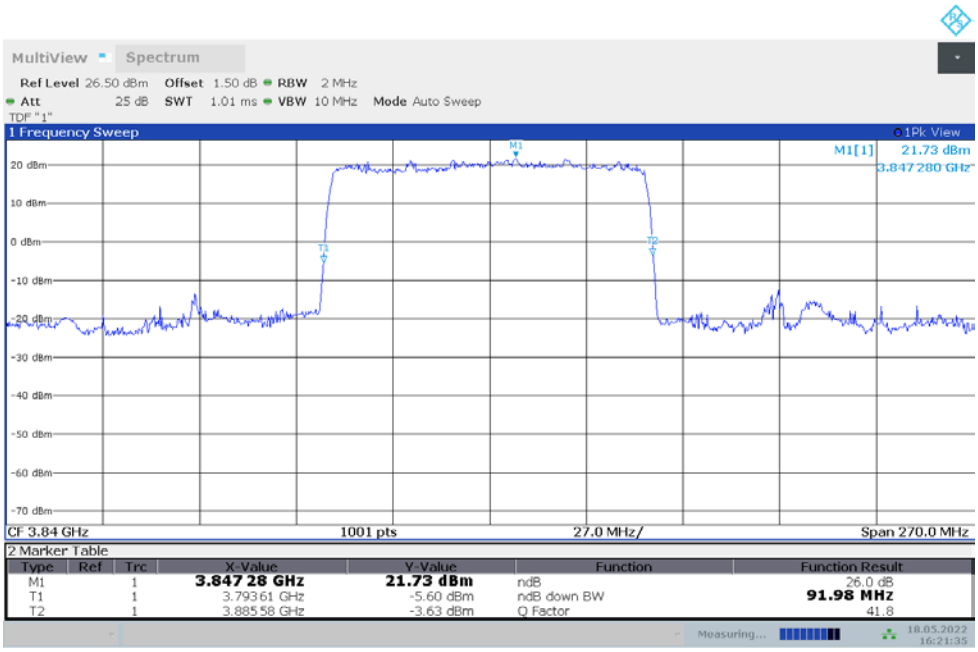
n77H,90MHz(-26dBc)

Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
3840	91.980	91.980

n77H,90MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



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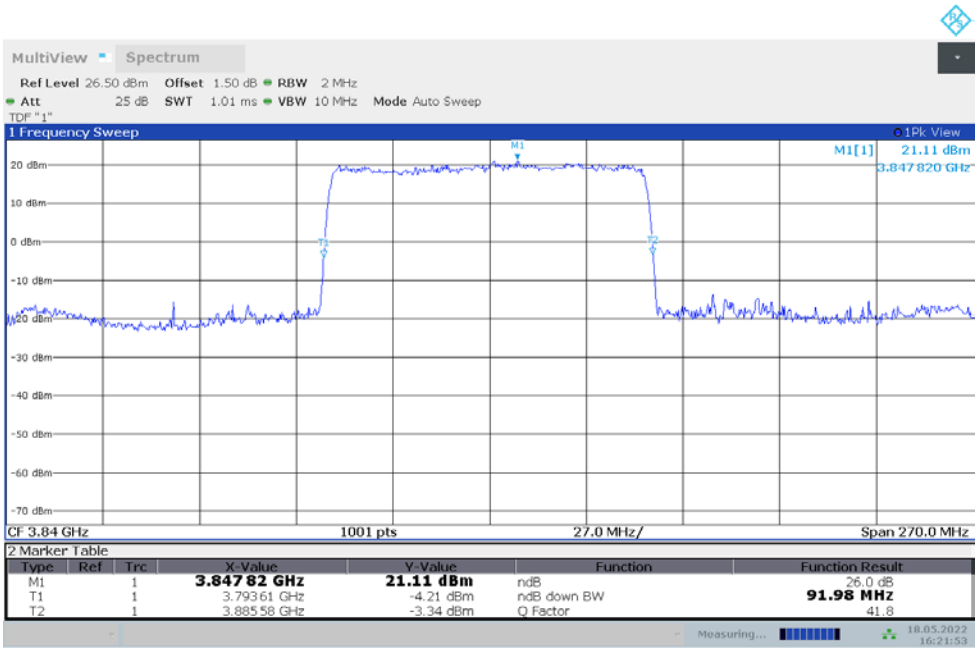
n77H,90MHz Bandwidth,DFT-s-QPSK (-26dBc BW)



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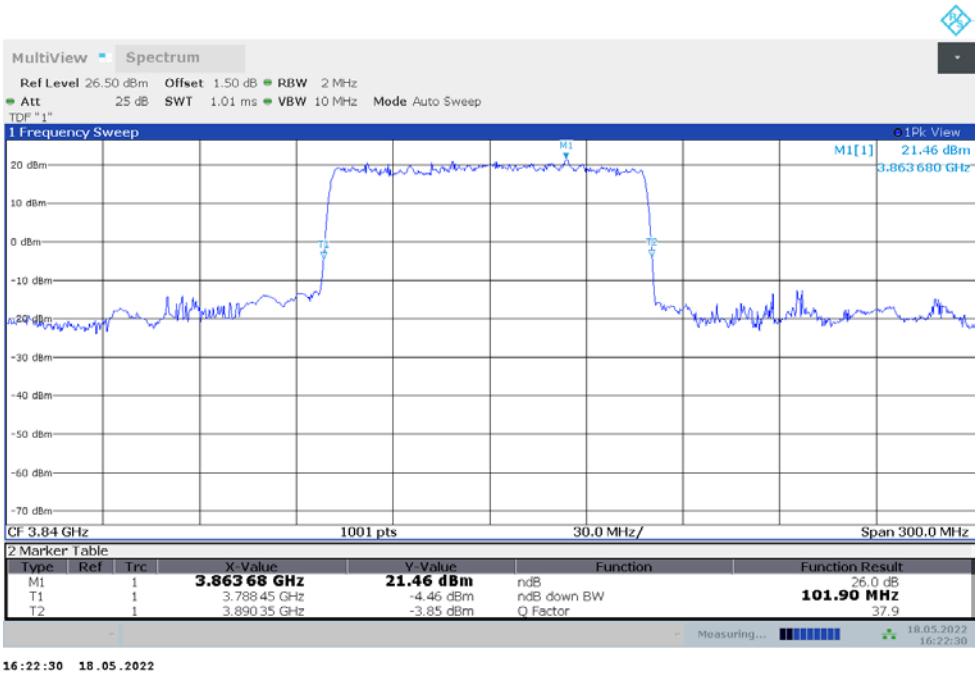
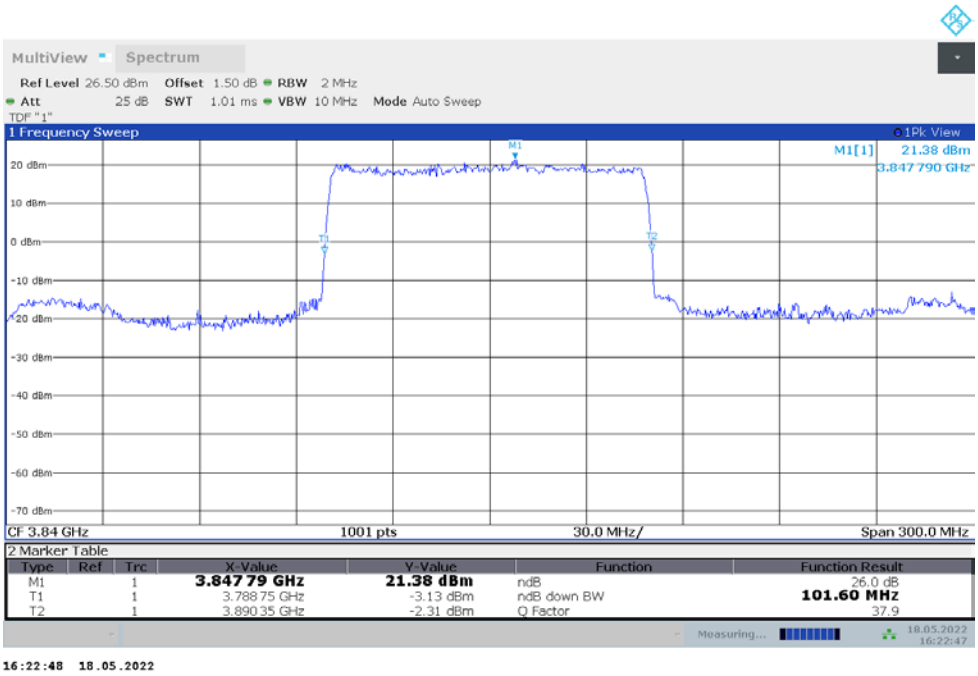
n77H,100MHz(-26dBc)

Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
3840	101.900	101.600

n77H,100MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



n77H,100MHz Bandwidth,DFT-s-QPSK (-26dBc BW)



Note: Expanded measurement uncertainty is U = 0.626 kHz, k = 2.

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A.6 Band Edge Compliance

A.6.1 Measurement limit

Part 22.917, Part 24.238 and Part 27.53(h) specify that the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB.

Part 27.53(n) states for mobile operations in the 3450-3550 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed −13 dBm/MHz. Compliance with this paragraph (n)(2) is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1 megahertz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed, but limited to a maximum of 200 kHz. In the bands between 1 and 5 MHz removed from the licensee's frequency block, the minimum resolution bandwidth for the measurement shall be 500 kHz. The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

Part 27.53(l) states for mobile operations in the 3700-3980 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed −13 dBm/MHz. Compliance with this paragraph (l)(2) is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1 megahertz bands immediately outside and adjacent to the licensee's frequency block, the minimum resolution bandwidth for the measurement shall be either one percent of the emission bandwidth of the fundamental emission of the transmitter or 350 kHz. In the bands between 1 and 5 MHz removed from the licensee's frequency block, the minimum resolution bandwidth for the measurement shall be 500 kHz. The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

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