

6.9. Peak-To-Average Power Ratio

Specifications:	RSS 140 4.3,RSS-195 5.5
DUT Serial Number:	24B02W000030#S1
Test conditions:	Ambient Temperature:15°C-35°C Relative Humidity:30%-60% Air pressure: 86-106kPa
Test Results:	Pass

6.9.1. Measurement Limit

RSS 140 4.3: The peak to average power ratio (PAPR) of the equipment shall not exceed 13 dB for more than 0.1% of the time, using a signal that corresponds to the highest PAPR during periods of continuous transmission.

RSS-195 5.5 The PAPR of the transmitter output power of base and fixed station equipment shall not exceed 13 dB for more than 0.1% of the time, using a signal that corresponds to the highest PAPR during periods of continuous transmission.

6.9.2. Method of Measurement

The peak-to-average power ratio (PAPR) of the transmitter output power must not exceed 13 dB. The PAPR measurements should be made using either an instrument with complementary cumulative distribution function (CCDF) capabilities to determine that PAPR will not exceed 13 dB for more than 0.1 percent of the time or other Commission approved procedure. The measurement must be performed using a signal corresponding to the highest PAPR expected during periods of continuous transmission.

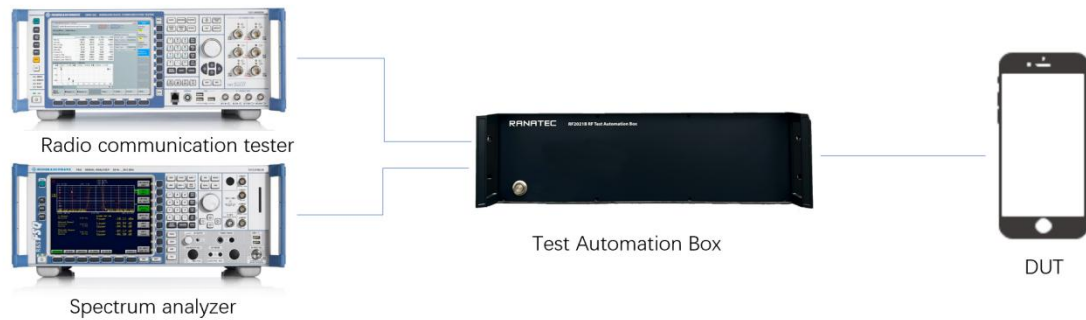
According to KDB 971168 5.7:

- Refer to instrument's analyzer instruction manual for details on how to use the power statistics/CCDF function;
- Set resolution/measurement bandwidth $\geq$ signal's occupied bandwidth;
- Set the number of counts to a value that stabilizes the measured CCDF curve;
- Set the measurement interval to 1 ms
- Record the maximum PAPR level associated with a probability of 0.1%

6.9.3. Measurement Uncertainty

Expanded Uncertainty	0.36 dB (k=2)
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6.9.4. Test Setup



6.9.5. Measurement results

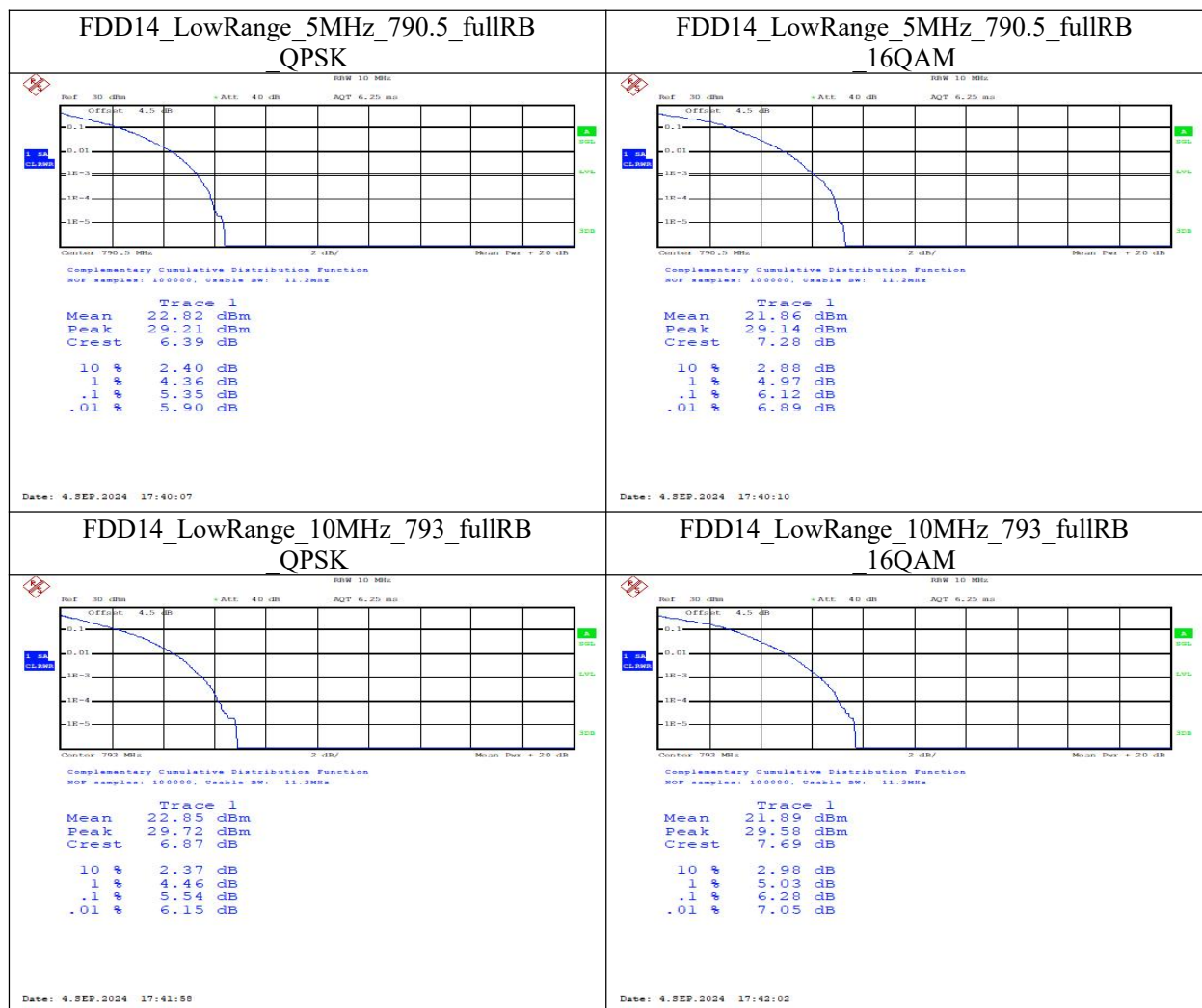
Band	Range	BandWidth	RbMode	QPSK(dBm)	16QAM(dBm)
FDD14	LowRange	5	fullRB	5.35	6.12
FDD14	LowRange	10	fullRB	5.54	6.28
FDD14	MidRange	5	fullRB	5.51	6.25
FDD14	MidRange	10	fullRB	5.51	6.25
FDD14	HighRange	5	fullRB	5.54	6.19
FDD14	HighRange	10	fullRB	5.48	6.35
FDD26 (PART 90)	LowRange	1.4	fullRB	4.78	5.58
FDD26 (PART 90)	LowRange	3	fullRB	5.16	6.03
FDD26 (PART 90)	LowRange	5	fullRB	5.42	6.22
FDD26 (PART 90)	LowRange	10	fullRB	5.51	6.38
FDD26 (PART 90)	MidRange	1.4	fullRB	5.38	6.25
FDD26 (PART 90)	MidRange	3	fullRB	5.51	6.38
FDD26 (PART 90)	MidRange	5	fullRB	5.67	6.38
FDD26 (PART 90)	MidRange	10	fullRB	5.58	6.35
FDD26 (PART 90)	HighRange	1.4	fullRB	5.26	6.06
FDD26 (PART 90)	HighRange	3	fullRB	5.42	6.28
FDD26 (PART 90)	HighRange	5	fullRB	5.54	6.35

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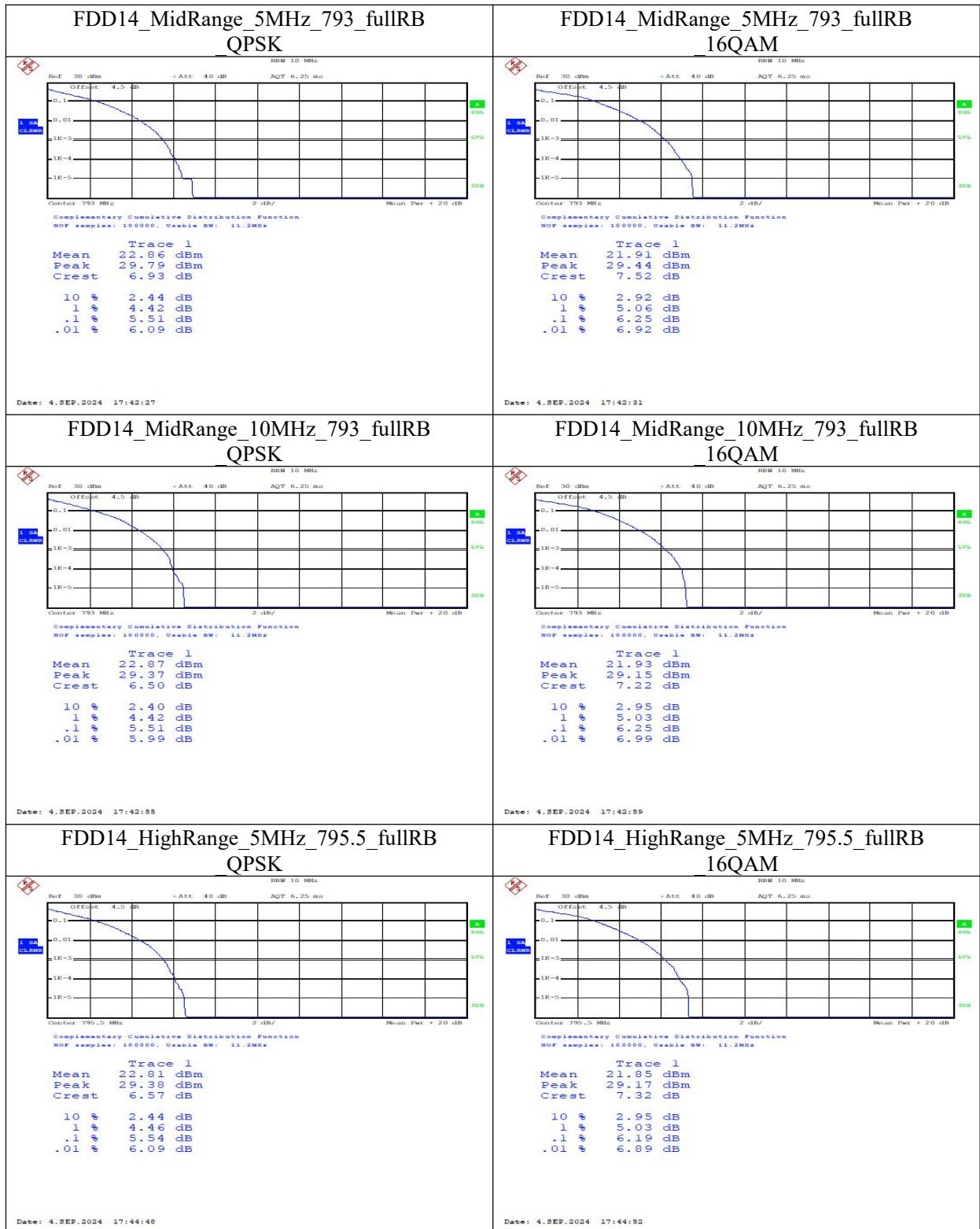
FDD26 (PART 90)	HighRange	10	fullRB	5.58	6.41
FDD30	LowRange	5	fullRB	4.90	5.67
FDD30	LowRange	10	fullRB	5.22	5.93
FDD30	MidRange	5	fullRB	5.06	5.80
FDD30	MidRange	10	fullRB	5.22	5.96
FDD30	HighRange	5	fullRB	5.13	5.80
FDD30	HighRange	10	fullRB	5.26	5.93



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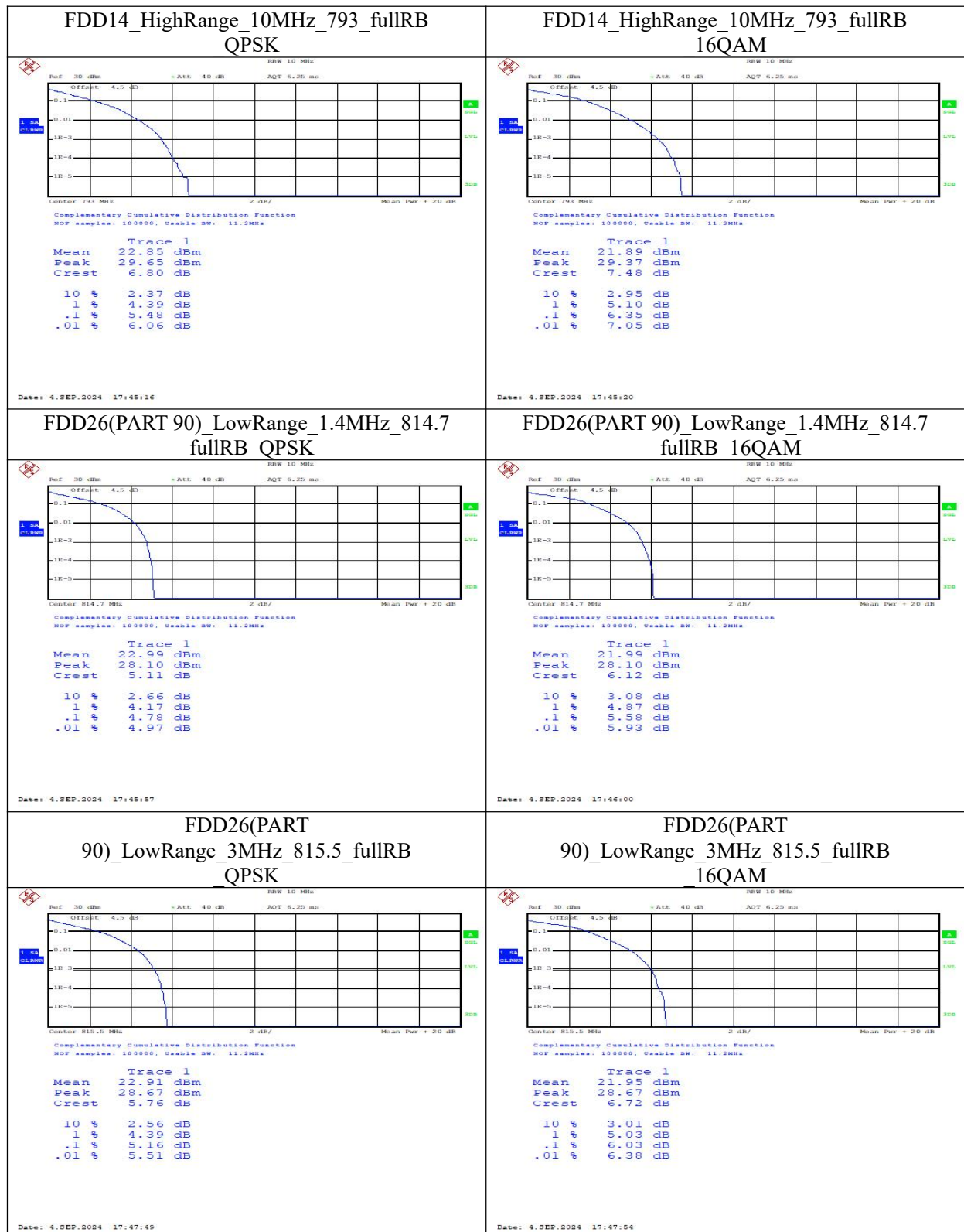
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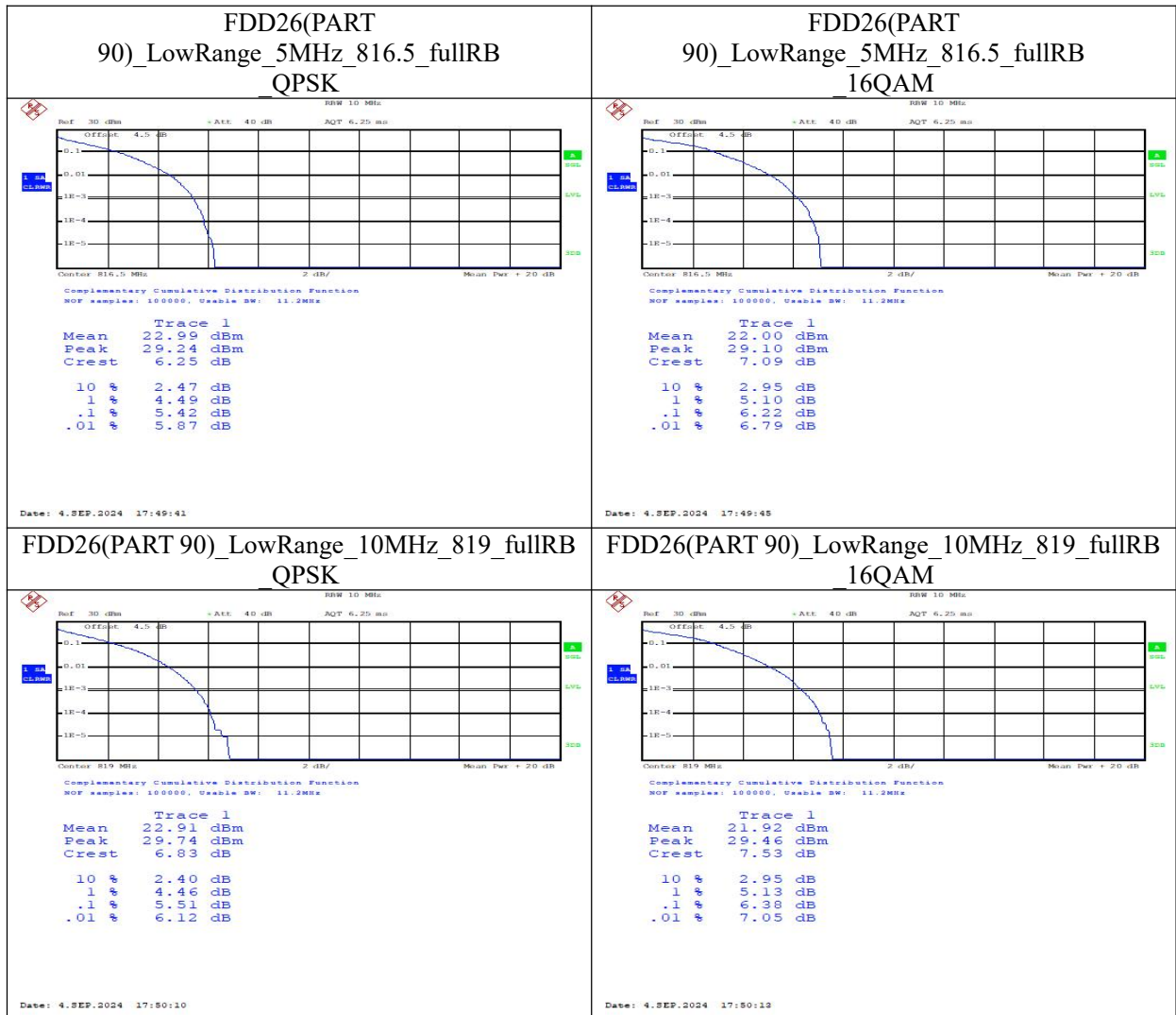
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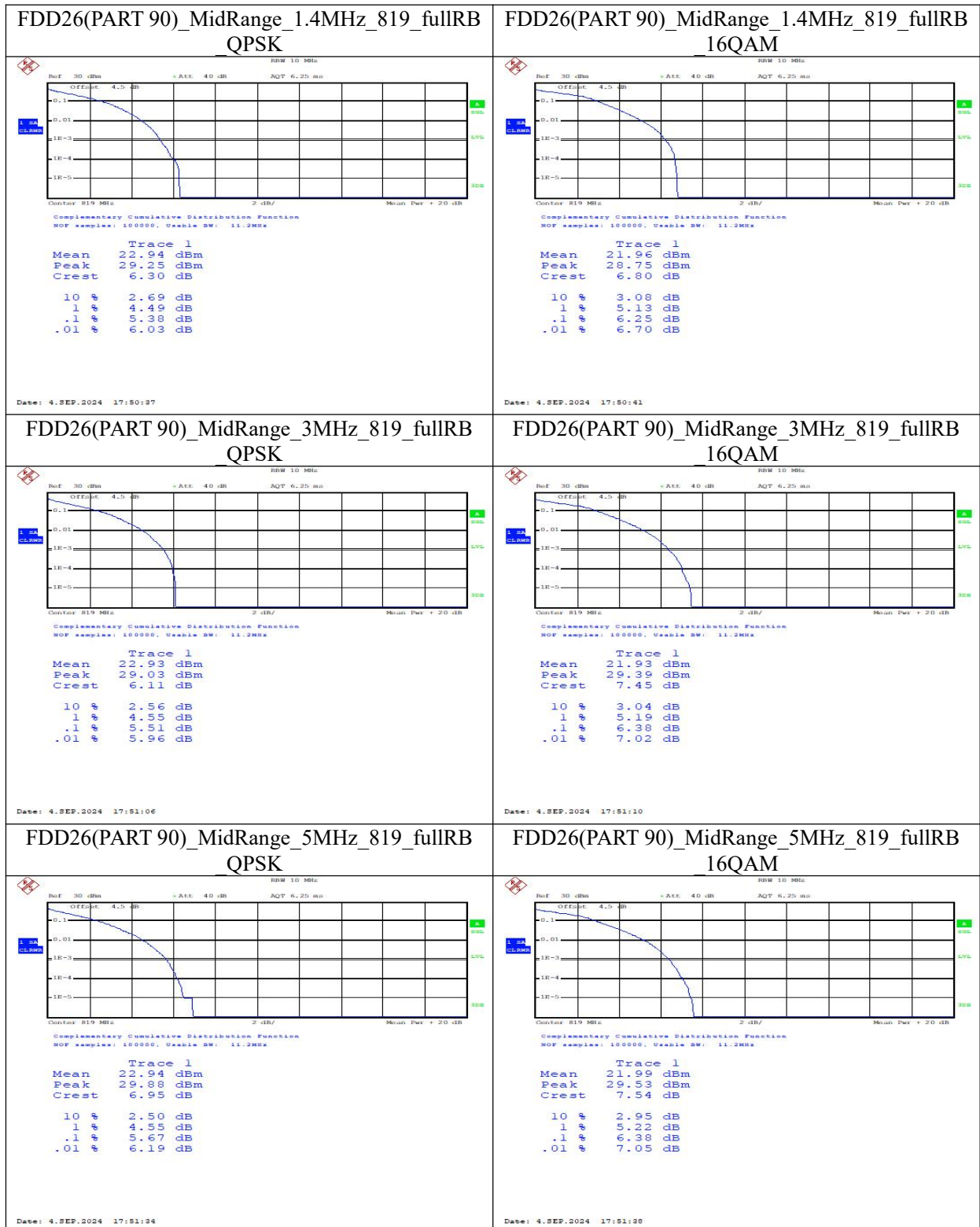
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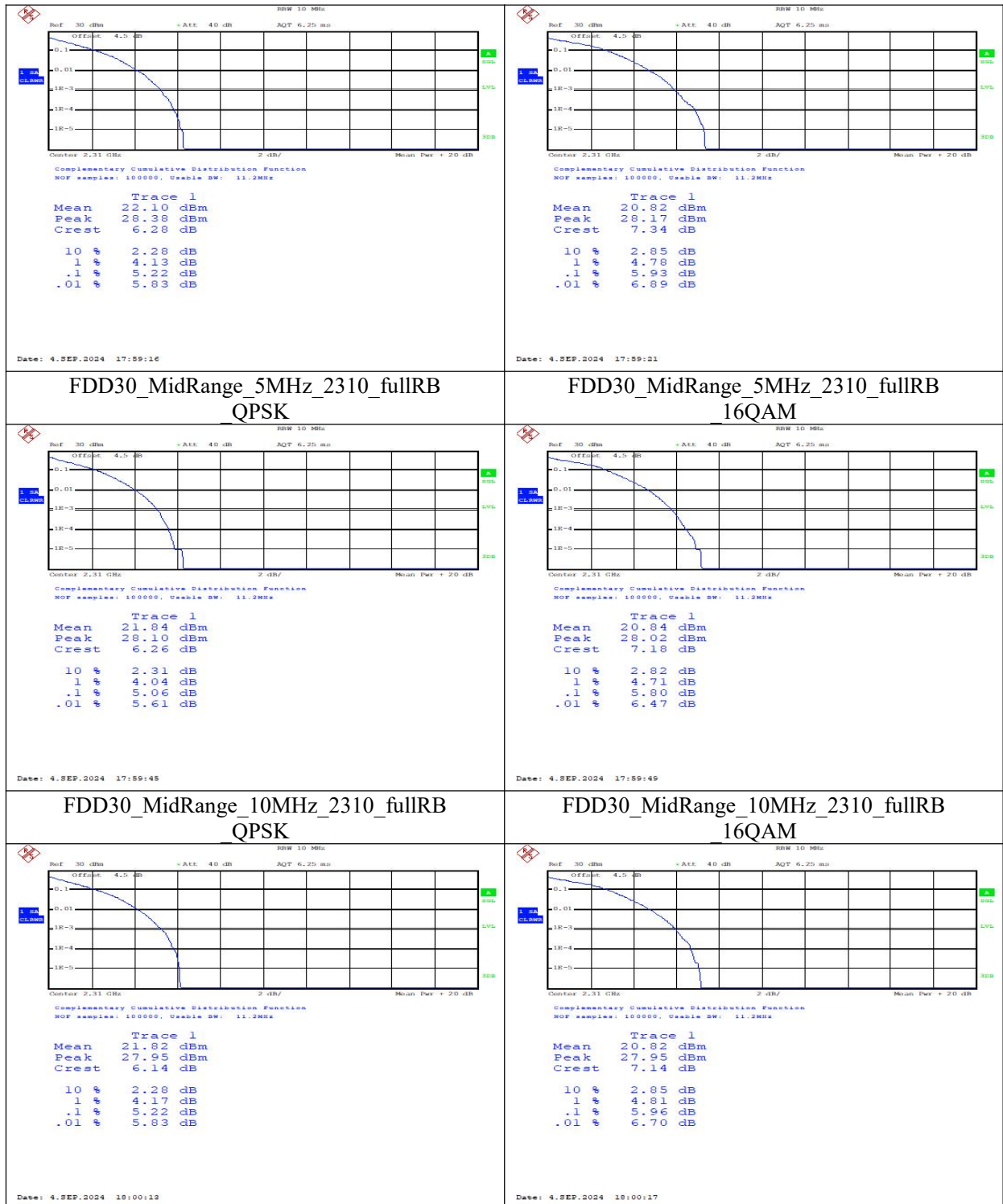
FDD26(PART 90)_MidRange_10MHz_819_fullRB QPSK Complementary Cumulative Distribution Function NOF samples: 100000, Usable BW: 11.2MHz Trace 1 Mean 22.89 dBm Peak 29.74 dBm Crest 6.85 dB 10 % 2.40 dB 1 % 4.49 dB .1 % 5.58 dB .01 % 6.12 dB Date: 4.SEP.2024 17:52:04	FDD26(PART 90)_MidRange_10MHz_819_fullRB 16QAM Complementary Cumulative Distribution Function NOF samples: 100000, Usable BW: 11.2MHz Trace 1 Mean 21.94 dBm Peak 29.46 dBm Crest 7.52 dB 10 % 2.95 dB 1 % 5.10 dB .1 % 6.35 dB .01 % 6.96 dB Date: 4.SEP.2024 17:52:07
FDD26(PART 90)_HighRange_1.4MHz_823.3_fullRB QPSK Complementary Cumulative Distribution Function NOF samples: 100000, Usable BW: 11.2MHz Trace 1 Mean 22.93 dBm Peak 28.76 dBm Crest 5.83 dB 10 % 2.69 dB 1 % 4.46 dB .1 % 5.26 dB .01 % 5.71 dB Date: 4.SEP.2024 17:52:33	FDD26(PART 90)_HighRange_1.4MHz_823.3_fullRB 16QAM Complementary Cumulative Distribution Function NOF samples: 100000, Usable BW: 11.2MHz Trace 1 Mean 21.96 dBm Peak 28.35 dBm Crest 6.59 dB 10 % 3.04 dB 1 % 5.03 dB .1 % 6.06 dB .01 % 6.41 dB Date: 4.SEP.2024 17:52:36
FDD26(PART 90)_HighRange_3MHz_822.5_fullRB QPSK Complementary Cumulative Distribution Function NOF samples: 100000, Usable BW: 11.2MHz Trace 1 Mean 22.89 dBm Peak 29.18 dBm Crest 6.29 dB 10 % 2.56 dB 1 % 4.49 dB .1 % 5.42 dB .01 % 5.93 dB Date: 4.SEP.2024 17:54:25	FDD26(PART 90)_HighRange_3MHz_822.5_fullRB 16QAM Complementary Cumulative Distribution Function NOF samples: 100000, Usable BW: 11.2MHz Trace 1 Mean 21.93 dBm Peak 29.11 dBm Crest 7.19 dB 10 % 3.01 dB 1 % 5.16 dB .1 % 6.28 dB .01 % 6.83 dB Date: 4.SEP.2024 17:54:29
FDD26(PART 90)_HighRange_5MHz_821.5_fullRB	FDD26(PART 90)_HighRange_5MHz_821.5_fullRB

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QPSK Center: 821.5 MHz Complementary Cumulative Distribution Function NOF samples: 100000, Usable BW: 11.2MHz <table border="1"> <thead> <tr> <th colspan="2">Trace 1</th> </tr> </thead> <tbody> <tr> <td>Mean</td> <td>22.88 dBm</td> </tr> <tr> <td>Peak</td> <td>29.39 dBm</td> </tr> <tr> <td>Crest</td> <td>6.51 dB</td> </tr> <tr> <td>10 %</td> <td>2.47 dB</td> </tr> <tr> <td>1 %</td> <td>4.52 dB</td> </tr> <tr> <td>.1 %</td> <td>5.54 dB</td> </tr> <tr> <td>.01 %</td> <td>6.15 dB</td> </tr> </tbody> </table> Date: 4.SEP.2024 17:56:17	Trace 1		Mean	22.88 dBm	Peak	29.39 dBm	Crest	6.51 dB	10 %	2.47 dB	1 %	4.52 dB	.1 %	5.54 dB	.01 %	6.15 dB	16QAM Center: 821.5 MHz Complementary Cumulative Distribution Function NOF samples: 100000, Usable BW: 11.2MHz <table border="1"> <thead> <tr> <th colspan="2">Trace 1</th> </tr> </thead> <tbody> <tr> <td>Mean</td> <td>21.92 dBm</td> </tr> <tr> <td>Peak</td> <td>29.39 dBm</td> </tr> <tr> <td>Crest</td> <td>7.47 dB</td> </tr> <tr> <td>10 %</td> <td>2.95 dB</td> </tr> <tr> <td>1 %</td> <td>5.16 dB</td> </tr> <tr> <td>.1 %</td> <td>6.35 dB</td> </tr> <tr> <td>.01 %</td> <td>7.05 dB</td> </tr> </tbody> </table> Date: 4.SEP.2024 17:56:20	Trace 1		Mean	21.92 dBm	Peak	29.39 dBm	Crest	7.47 dB	10 %	2.95 dB	1 %	5.16 dB	.1 %	6.35 dB	.01 %	7.05 dB
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FDD26(PART 90)_HighRange_10MHz_819_fullRB QPSK Center: 819 MHz Complementary Cumulative Distribution Function NOF samples: 100000, Usable BW: 11.2MHz <table border="1"> <thead> <tr> <th colspan="2">Trace 1</th> </tr> </thead> <tbody> <tr> <td>Mean</td> <td>22.89 dBm</td> </tr> <tr> <td>Peak</td> <td>29.60 dBm</td> </tr> <tr> <td>Crest</td> <td>6.71 dB</td> </tr> <tr> <td>10 %</td> <td>2.40 dB</td> </tr> <tr> <td>1 %</td> <td>4.49 dB</td> </tr> <tr> <td>.1 %</td> <td>5.58 dB</td> </tr> <tr> <td>.01 %</td> <td>6.22 dB</td> </tr> </tbody> </table> Date: 4.SEP.2024 17:56:44	Trace 1		Mean	22.89 dBm	Peak	29.60 dBm	Crest	6.71 dB	10 %	2.40 dB	1 %	4.49 dB	.1 %	5.58 dB	.01 %	6.22 dB	FDD26(PART 90)_HighRange_10MHz_819_fullRB 16QAM Center: 819 MHz Complementary Cumulative Distribution Function NOF samples: 100000, Usable BW: 11.2MHz <table border="1"> <thead> <tr> <th colspan="2">Trace 1</th> </tr> </thead> <tbody> <tr> <td>Mean</td> <td>21.89 dBm</td> </tr> <tr> <td>Peak</td> <td>29.46 dBm</td> </tr> <tr> <td>Crest</td> <td>7.56 dB</td> </tr> <tr> <td>10 %</td> <td>2.95 dB</td> </tr> <tr> <td>1 %</td> <td>5.13 dB</td> </tr> <tr> <td>.1 %</td> <td>6.41 dB</td> </tr> <tr> <td>.01 %</td> <td>7.08 dB</td> </tr> </tbody> </table> Date: 4.SEP.2024 17:56:48	Trace 1		Mean	21.89 dBm	Peak	29.46 dBm	Crest	7.56 dB	10 %	2.95 dB	1 %	5.13 dB	.1 %	6.41 dB	.01 %	7.08 dB
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FDD30_LowRange_5MHz_2307.5_fullRB QPSK Center: 2307.5 MHz Complementary Cumulative Distribution Function NOF samples: 100000, Usable BW: 11.2MHz <table border="1"> <thead> <tr> <th colspan="2">Trace 1</th> </tr> </thead> <tbody> <tr> <td>Mean</td> <td>22.29 dBm</td> </tr> <tr> <td>Peak</td> <td>27.80 dBm</td> </tr> <tr> <td>Crest</td> <td>5.51 dB</td> </tr> <tr> <td>10 %</td> <td>2.28 dB</td> </tr> <tr> <td>1 %</td> <td>3.97 dB</td> </tr> <tr> <td>.1 %</td> <td>4.90 dB</td> </tr> <tr> <td>.01 %</td> <td>5.26 dB</td> </tr> </tbody> </table> Date: 4.SEP.2024 17:57:25	Trace 1		Mean	22.29 dBm	Peak	27.80 dBm	Crest	5.51 dB	10 %	2.28 dB	1 %	3.97 dB	.1 %	4.90 dB	.01 %	5.26 dB	FDD30_LowRange_5MHz_2307.5_fullRB 16QAM Center: 2307.5 MHz Complementary Cumulative Distribution Function NOF samples: 100000, Usable BW: 11.2MHz <table border="1"> <thead> <tr> <th colspan="2">Trace 1</th> </tr> </thead> <tbody> <tr> <td>Mean</td> <td>21.31 dBm</td> </tr> <tr> <td>Peak</td> <td>27.80 dBm</td> </tr> <tr> <td>Crest</td> <td>6.49 dB</td> </tr> <tr> <td>10 %</td> <td>2.79 dB</td> </tr> <tr> <td>1 %</td> <td>4.58 dB</td> </tr> <tr> <td>.1 %</td> <td>5.67 dB</td> </tr> <tr> <td>.01 %</td> <td>6.25 dB</td> </tr> </tbody> </table> Date: 4.SEP.2024 17:57:28	Trace 1		Mean	21.31 dBm	Peak	27.80 dBm	Crest	6.49 dB	10 %	2.79 dB	1 %	4.58 dB	.1 %	5.67 dB	.01 %	6.25 dB
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FDD30_LowRange_10MHz_2310_fullRB QPSK	FDD30_LowRange_10MHz_2310_fullRB 16QAM																																

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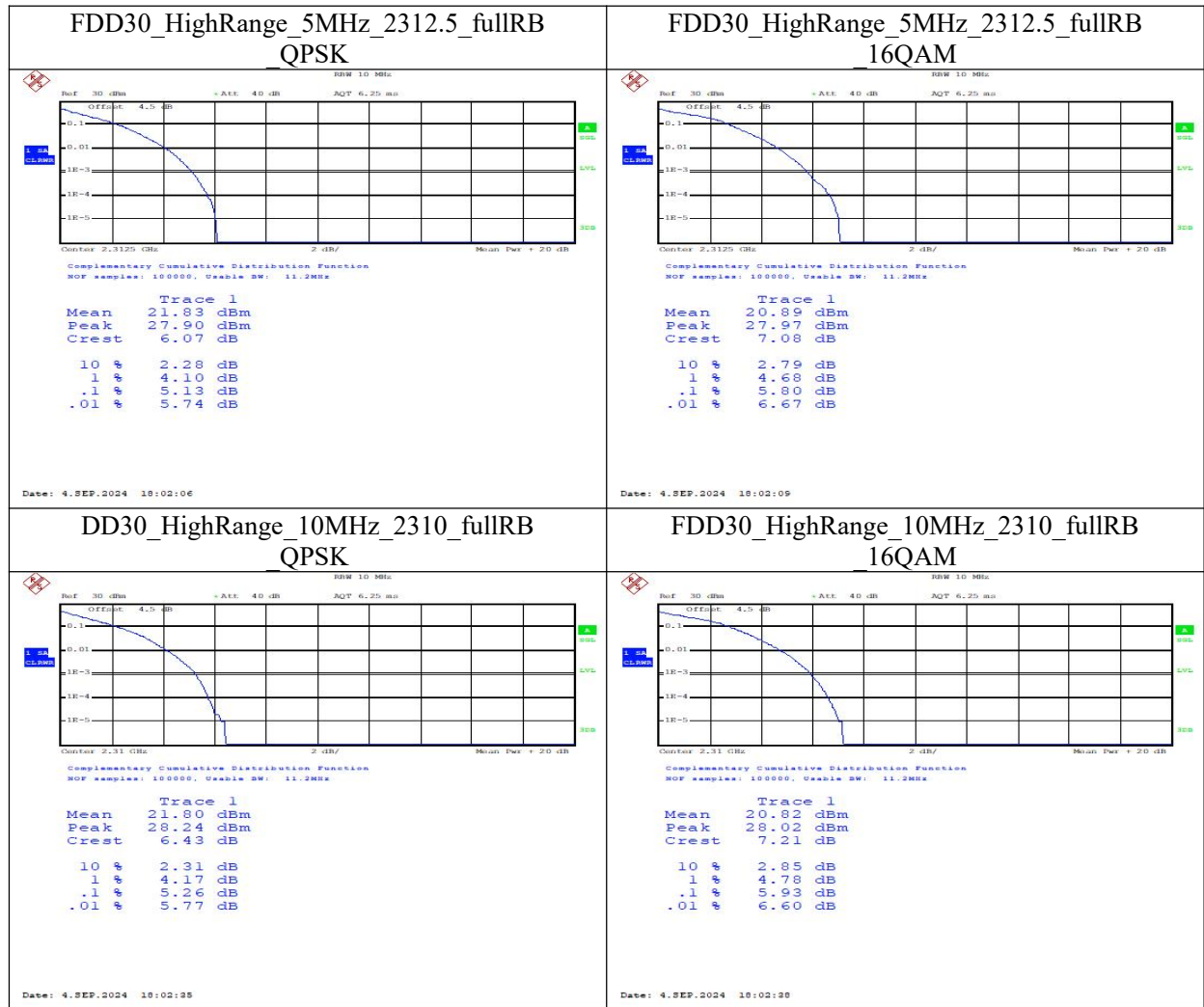
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Annex A EUT Photos

See the document "24B02W000030-External Photos".

See the document "24B02W000030-Internal Photos".

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Annex B Deviations from Prescribed Test Methods

No deviation from Prescribed Test Methods.

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

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