

FCC RADIO TEST REPORT

FCC ID: 2A12O-OC32

Product : Sharing bike smart lock

Trade Name : Omni

Model Name : OC32

Additional Model : N/A

Report No. : UNIA21032411ER-12

Prepared for

Shenzhen Omni Intelligent Technology Co., Ltd.

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Prepared by

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TEST RESULT CERTIFICATION

Applicant.....: Shenzhen Omni Intelligent Technology Co., Ltd.
 Address: 11th Floor Block 31, Lianchuang Technical Zone, Bulan Road, Longgang District, Shenzhen, P.R. China
Manufacturer.....: Shenzhen Omni Intelligent Technology Co., Ltd.
 Address: 11th Floor Block 31, Lianchuang Technical Zone, Bulan Road, Longgang District, Shenzhen, P.R. China

Product description

Product name.....: Sharing bike smart lock
 Trade Mark: Omni
 Model and/or type reference : OC32
 FCC CFR Title 47 Part 2
 FCC CFR Title 47 Part 22 Subpart H
Test Methods.....: FCC CFR Title 47 Part 24 Subpart E
 FCC CFR Title 47 Part 27 Subpart C
 FCC CFR Title 47 Part 27 Subpart C

This device described above has been tested by Shenzhen United Testing Technology Co., Ltd., and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

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Date of Test.....:
 Date (s) of performance of tests.....: Mar. 21, 2021 ~ Jul. 11, 2021
 Date of Issue: Aug. 24, 2021
 Test Result.....: Pass

Prepared by: Bob Liao
 Bob liao/Editor
 Reviewer: Kahn Yang
 Kahn yang/Supervisor
 Approved & Authorized Signer: Liuzze
 Liuzze/Manager

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1. TEST SUMMARY

1.1 TEST PROCEDURES AND RESULTS

DESCRIPTION OF TEST	STANDARD	RESULT
RF Output Power	Part 2.1046 Part 22.913 (a)(5) Part 24.232 (c) Part 27.50 (c)(10) Part 27.50 (d)(4)	COMPLIANT
Peak-to-Average Power Ratio	Part 24.232 (d) Part 22.913 (d) Part 27.50(d)(5)	COMPLIANT
Modulation Characteristics	Part 2.1047	COMPLIANT
99% & -26 dB Occupied Bandwidth	Part 2.1049 Part 22.917(b) Part 24.238(b) Part 27.53(g) Part 27.53(h) Part 27.53(m)	COMPLIANT
Out of band emission at antenna terminals	Part 2.1053 Part 22.917(a) Part 24.238 (a) Part 27.53 (g) Part 27.53 (h)	COMPLIANT
Field strength of spurious radiation	Part 22.917(a) Part 24.238 (a) Part 27.53 (g) Part 27.53 (h)	COMPLIANT
Frequency stability vs. temperature	Part 22.355 Part 24.235 Part 27.54 Part 2.1055(a)(1)(b)	COMPLIANT
Frequency stability vs. voltage	Part 22.355 Part 24.235 Part 27.54 Part 2.1055(d)(2)	COMPLIANT

1.2 TEST FACILITY

Test Firm : Shenzhen United Testing Technology Co., Ltd.
Address : 2F, Annex Bldg, Jiahuangyuan Tech Park, #365 Baotian 1 Rd, Tiegang Community, Xixiang Str, Bao'an District, Shenzhen, China

The testing quality ability of our laboratory meet with "Quality Law of People's Republic of China" Clause 19. The testing quality system of our laboratory meets with ISO/IEC-17025 requirements. This approval result is accepted by MRA of APLAC.

Our test facility is recognized, certified, or accredited by the following organizations:

A2LA Certificate Number: 4747.01

The EMC Laboratory has been accredited by A2LA, and in compliance with ISO/IEC 17025:2017 General Requirements for testing Laboratories.

FCC Registration Number: 674885

The EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications commission.

IC Registration Number: 21947

The EMC Laboratory has been registered and fully described in a report filed with the (IC) Industry Canada.

1.3 MEASUREMENT UNCERTAINTY

Measurement Uncertainty

Conducted Emission Expanded Uncertainty	=	2.23dB, k=2
Radiated emission expanded uncertainty(9kHz-30MHz)	=	3.08dB, k=2
Radiated emission expanded uncertainty(30MHz-1000MHz)	=	4.42dB, k=2
Radiated emission expanded uncertainty(Above 1GHz)	=	4.06dB, k=2

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Equipment	Sharing bike smart lock
Trade Mark	Omni
Model Name	OC32
Additional Model	N/A
Model Difference	Exterior mechanical shape is slightly different.
FCC ID	2AI2O-OC32
Antenna Type	FPCB Antenna
Antenna Gain	LTE Band 2:1.5dBi, LTE Band 4:1.4dBi, LTE Band 12:-1.2dBi
Frequency Range	LTE Band 2: TX: 1850MHz-1910MHz RX: 1930MHz-1990MHz LTE Band 4: TX: 1710MHz-1755MHz RX: 2110MHz-2155MHz LTE Band 12: TX: 699MHz-716MHz RX: 729MHz-746MHz
Modulation Type	<input checked="" type="checkbox"/> QPSK <input checked="" type="checkbox"/> 16QAM <input checked="" type="checkbox"/> 64QAM
Battery	DC 3.7V, 8000mAh
Power Source	DC 3.7V from battery or DC 6.0V from adapter with AC 120(240)V/60Hz
Adapter	N/A

2.2 Carrier Frequency of Channels

LTE Band 2 (1.4MHz)		LTE Band 2 (3MHz)	
Channel	Frequency (MHz)	Channel	Frequency (MHz)
18607	1850.70	18615	1851.50
18608	1850.80	18616	1851.60
....
18899	1879.90	18899	1879.90
18900	1880.00	18900	1880.00
18901	1880.10	18901	1880.10
...
19193	1909.20	19185	1908.40
19194	1909.30	19186	1908.50
LTE Band 2 (5MHz)		LTE Band 2 (10MHz)	
Channel	Frequency (MHz)	Channel	Frequency (MHz)
18625	1852.50	18650	1855.00
18626	1852.60	18651	1855.10
....
18899	1879.90	18899	1879.90
18900	1880.00	18900	1880.00
18901	1880.10	18901	1880.10
...
19175	1907.40	19150	1904.90
19176	1907.50	19151	1905.00
LTE Band 2 (15MHz)		LTE Band 2 (20MHz)	
Channel	Frequency (MHz)	Channel	Frequency (MHz)
18675	1857.50	18700	1860.00
18676	1857.60	18701	1860.10
....
18899	1879.90	18899	1879.90
18900	1880.00	18900	1880.00
18901	1880.10	18901	1880.10
...
19125	1902.40	19100	1899.90
19126	1902.50	19101	1900.00

LTE Band 4 (1.4MHz)		LTE Band 4 (3MHz)	
Channel	Frequency (MHz)	Channel	Frequency (MHz)
19957	1710.70	19965	1711.50
19958	1710.80	19966	1711.60
....
20174	1732.40	20174	1732.40
20175	1732.50	20175	1732.50
20176	1732.60	20176	1732.60
...
20392	1754.20	20384	1753.40
20393	1754.30	20385	1753.50
LTE Band 4 (5MHz)		LTE Band 4 (10MHz)	
Channel	Frequency (MHz)	Channel	Frequency (MHz)
19975	1712.50	20000	1715.00
19976	1712.60	20001	1715.10
....
20174	1732.40	20174	1732.40
20175	1732.50	20175	1732.50
20176	1732.60	20176	1732.60
...
20374	1752.40	20349	1749.90
20375	1752.50	20350	1750.00
LTE Band 4 (15MHz)		LTE Band 4 (20MHz)	
Channel	Frequency (MHz)	Channel	Frequency (MHz)
20025	1717.50	20050	1720.00
20026	1717.60	20051	1720.10
....
20174	1732.40	20174	1732.40
20175	1732.50	20175	1732.50
20176	1732.60	20176	1732.60
...
20324	1747.40	20299	1744.90
20325	1747.50	20300	1745.00

LTE Band 12 (1.4MHz)		LTE Band 12 (3MHz)	
Channel	Frequency (MHz)	Channel	Frequency (MHz)
23017	699.70	23025	700.50
23756	699.80	23026	700.60
....
23094	707.40	23094	707.40
23095	707.50	23095	707.50
23096	707.60	23096	707.60
...
23172	715.20	23164	714.40
23173	715.30	23165	714.50
LTE Band 12 (5MHz)		LTE Band 12 (10MHz)	
Channel	Frequency (MHz)	Channel	Frequency (MHz)
23035	701.50	23060	704.00
23036	701.60	23061	704.10
....
23094	707.40	23094	707.40
23095	707.50	23095	707.50
23096	707.60	23096	707.60
...
23154	713.40	23129	710.90
23155	713.50	23130	711.00

Regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

LTE Band 2 (1.4MHz)			LTE Band 2 (3MHz)		
Channel	Frequency (MHz)		Channel	Frequency (MHz)	
Lowest channel	18607	1850.70	Lowest channel	18615	1851.50
Middle channel	18900	1880.00	Middle channel	18900	1880.00
Highest channel	19193	1909.30	Highest channel	19185	1908.50
LTE Band 2 (5MHz)			LTE Band 2 (10MHz)		
Channel	Frequency (MHz)		Channel	Frequency (MHz)	
Lowest channel	18625	1852.50	Lowest channel	18650	1855.00
Middle channel	18900	1880.00	Middle channel	18900	1880.00
Highest channel	19175	1907.50	Highest channel	19150	1905.00
LTE Band 2 (15MHz)			LTE Band 2 (20MHz)		
Channel	Frequency (MHz)		Channel	Frequency (MHz)	
Lowest channel	18675	1857.50	Lowest channel	18700	1860.00
Middle channel	18900	1880.00	Middle channel	18900	1880.00
Highest channel	19125	1902.50	Highest channel	19100	1900.00

LTE Band 4 (1.4MHz)			LTE Band 4 (3MHz)		
Channel:	Frequency (MHz)		Channel	Frequency (MHz)	
Lowest channel	19957	1710.70	Lowest channel	19965	1711.50
Middle channel	20175	1732.50	Middle channel	20175	1732.50
Highest channel	20393	1754.30	Highest channel	20385	1753.50
LTE Band 4 (5MHz)			LTE Band 4 (10MHz)		
Channel	Frequency (MHz)		Channel	Frequency (MHz)	
Lowest channel	19975	1712.50	Lowest channel	20000	1715.00
Middle channel	20175	1732.50	Middle channel	20175	1732.50
Highest channel	20375	1752.50	Highest channel	20350	1750.00
LTE Band 4 (15MHz)			LTE Band 4 (20MHz)		
Channel	Frequency (MHz)		Channel	Frequency (MHz)	
Lowest channel	20025	1717.50	Lowest channel	20050	1720.00
Middle channel	20175	1732.50	Middle channel	20175	1732.50
Highest channel	20325	1747.50	Highest channel	20300	1745.00

LTE Band 12(1.4MHz)			LTE Band 12(3MHz)		
Channel	Frequency (MHz)		Channel	Frequency (MHz)	
Lowest channel	23017	699.70	Lowest channel	23025	700.50
Middle channel	23095	707.50	Middle channel	23095	707.50
Highest channel	23173	715.30	Highest channel	23165	714.50
LTE Band 12(5MHz)			LTE Band 12(10MHz)		
Channel	Frequency (MHz)		Channel	Frequency (MHz)	
Lowest channel	23035	701.50	Lowest channel	23060	704.00
Middle channel	23095	707.50	Middle channel	23095	707.50
Highest channel	23155	713.50	Highest channel	23130	711.00

2.3 Test environment and mode

Operating Environment:	
Temperature:	Normal: 15°C ~ 35°C , Extreme: -30°C ~ +50°C
Humidity:	20 % ~ 75 % RH
Atmospheric Pressure:	1008 mbar
Voltage:	Nominal: 6.0Vdc, Extreme: Low 5.4 Vdc, High 6.6 Vdc
Test mode:	
LTE QPSK mode	Keep the EUT communication with simulated station in QPSK mode
LTE 16-QAM mode	Keep the EUT communication with simulated station in 16-QAM mode
<p>Remark: The EUT has been tested under continuous transmitting mode. Channel Low, Mid and High for each type band with rated data rate were chosen for full testing. The field strength of spurious radiation emission was measured as EUT stand-up position (H mode) and lie down position (E1, E2 mode) for these modes. Just the worst case position (H mode) shown in report.</p>	

2.4 DESCRIPTION OF TEST SETUP

Operation of EUT during Conducted testing:

N/A

Operation of EUT during Radiation and Above1GHz Radiation testing:



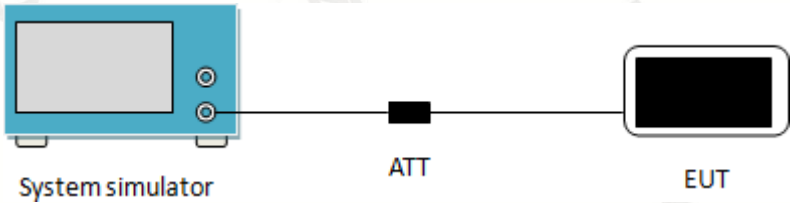
Table for auxiliary equipment:

Equipment Description	Manufacturer	Model	Calibration Due Date
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A

2.5 MEASUREMENT INSTRUMENTS LIST

Item	Equipment	Manufacturer	Model No.	Serial No.	Calibrated until
Conduction Emissions Measurement					
1	Conducted Emission Test Software	EZ-EMC	Ver.CCS-3A1-CE	N/A	N/A
2	AMN	Schwarzbeck	NNLK8121	8121370	2021.10.12
3	AAN	TESEQ	T8-Cat6	38888	2021.10.12
4	Pulse Limiter	CYBRTEK	EM5010	E115010056	2022.05.17
5	EMI Test Receiver	Rohde&Schwarz	ESCI	101210	2021.10.12
Radiated Emissions Measurement					
1	Radiated Emission Test Software	EZ-EMC	Ver.CCS-03A1	N/A	N/A
2	Horn Antenna	Sunol	DRH-118	A101415	2021.10.18
3	Broadband Hybrid Antenna	Sunol	JB1	A090215	2022.03.01
4	PREAMP	HP	8449B	3008A00160	2021.10.18
5	PREAMP	HP	8447D	2944A07999	2022.05.17
6	EMI TEST RECEIVER	Rohde&Schwarz	ESR3	101891	2021.10.12
7	VECTOR Signal Generator	Rohde&Schwarz	SMU200A	101521	2021.10.12
8	Signal Generator	Agilent	E4421B	MY4335105	2021.11.11
9	MXA Signal Analyzer	Agilent	N9020A	MY50510140	2021.10.12
10	MXA Signal Analyzer	Keysight	N9020A	MY51110104	2021.10.12
11	RF Power sensor	DARE	RPR3006W	15I00041SNO88	2022.05.17
12	RF Power sensor	DARE	RPR3006W	15I00041SNO89	2022.05.17
13	RF power divider	Anritsu	K241B	992289	2021.10.12
14	Wideband radio communication tester	Rohde&Schwarz	CMW500	154987	2021.10.12
15	Active Loop Antenna	Com-Power	AL-130R	10160009	2022.05.17
16	Broadband Hybrid Antennas	Schwarzbeck	VULB9163	VULB9163#958	2022.05.17
17	Horn Antenna	Schwarzbeck	BBHA9120D	9120D-1680	2022.05.17
18	Horn Antenna	A-INFOMW	LB-180400-KF	J211060660	2021.11.04
19	Microwave Broadband Preamplifier	Schwarzbeck	BBV 9721	100472	2022.05.17
20	Signal Generator	Agilent	N5183A	MY47420153	2022.05.17
21	Spectrum Analyzer	Rohde&Schwarz	FSP 40	100501	2022.05.17
22	Power Meter	KEYSIGHT	N1911A	MY50520168	2022.05.17
23	Frequency Meter	VICTOR	VC2000	997406086	2022.05.17
24	DC Power Source	HYELEC	HY5020E	055161818	2022.05.17

3. Conducted Output Power, ERP and EIRP

Test Requirement:	Part 22.913(a)(5), Part 24.232(c), part 27.50(c)(10), Part 27.50(d)(4),
Limit:	LTE Band 2: 2W, LTE Band 4: 1W, LTE Band 12: 3W
Test setup:	 <p>The diagram shows a blue 'System simulator' box on the left, connected by a line to a black 'ATT' (attenuator) block in the center, which is then connected to a black 'EUT' (Equipment Under Test) box on the right.</p>
Test Procedure:	The transmitter output was connected to a calibrated attenuator, the other end of which was connected to the CMW500. Transmitter output power was read off in dBm.
Test Instruments:	Refer to section 2.5 for details
Test mode:	Refer to section 2.3 for details
Test results:	Passed

3.1 Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Average Power (dBm)	Antenna Gain (dBi)	ERP/EIRP (dBm)	ERP/EIRP Limit (dBm)
Band2	1.4MHz	QPSK	18607	1RB#0	22.34	1.50	23.84	33.00
Band2	1.4MHz	QPSK	18607	1RB#2	22.39	1.50	23.89	33.00
Band2	1.4MHz	QPSK	18607	1RB#5	22.27	1.50	23.77	33.00
Band2	1.4MHz	QPSK	18607	3RB#0	21.30	1.50	22.80	33.00
Band2	1.4MHz	QPSK	18607	3RB#1	21.33	1.50	22.83	33.00
Band2	1.4MHz	QPSK	18607	3RB#2	21.21	1.50	22.71	33.00
Band2	1.4MHz	QPSK	18607	6RB#0	21.16	1.50	22.66	33.00
Band2	1.4MHz	QPSK	18900	1RB#0	22.36	1.50	23.86	33.00
Band2	1.4MHz	QPSK	18900	1RB#2	22.25	1.50	23.75	33.00
Band2	1.4MHz	QPSK	18900	1RB#5	22.41	1.50	23.91	33.00
Band2	1.4MHz	QPSK	18900	3RB#0	21.2	1.50	22.70	33.00
Band2	1.4MHz	QPSK	18900	3RB#1	21.19	1.50	22.69	33.00
Band2	1.4MHz	QPSK	18900	3RB#2	21.27	1.50	22.77	33.00
Band2	1.4MHz	QPSK	18900	6RB#0	21.08	1.50	22.58	33.00
Band2	1.4MHz	QPSK	19193	1RB#0	22.48	1.50	23.98	33.00
Band2	1.4MHz	QPSK	19193	1RB#2	22.39	1.50	23.89	33.00
Band2	1.4MHz	QPSK	19193	1RB#5	22.46	1.50	23.96	33.00
Band2	1.4MHz	QPSK	19193	3RB#0	21.26	1.50	22.76	33.00
Band2	1.4MHz	QPSK	19193	3RB#1	21.25	1.50	22.75	33.00
Band2	1.4MHz	QPSK	19193	3RB#2	21.13	1.50	22.63	33.00
Band2	1.4MHz	QPSK	19193	6RB#0	21.14	1.50	22.64	33.00
Band2	1.4MHz	16QAM	18607	1RB#0	21.54	1.50	23.04	33.00
Band2	1.4MHz	16QAM	18607	1RB#2	21.6	1.50	23.10	33.00
Band2	1.4MHz	16QAM	18607	1RB#5	21.68	1.50	23.18	33.00
Band2	1.4MHz	16QAM	18607	3RB#0	20.3	1.50	21.80	33.00
Band2	1.4MHz	16QAM	18607	3RB#1	20.41	1.50	21.91	33.00
Band2	1.4MHz	16QAM	18607	3RB#2	20.35	1.50	21.85	33.00
Band2	1.4MHz	16QAM	18607	6RB#0	20.29	1.50	21.79	33.00
Band2	1.4MHz	16QAM	18900	1RB#0	21.48	1.50	22.98	33.00
Band2	1.4MHz	16QAM	18900	1RB#2	21.59	1.50	23.09	33.00



Band2	1.4MHz	16QAM	18900	1RB#5	21.51	1.50	23.01	33.00
Band2	1.4MHz	16QAM	18900	3RB#0	20.38	1.50	21.88	33.00
Band2	1.4MHz	16QAM	18900	3RB#1	20.36	1.50	21.86	33.00
Band2	1.4MHz	16QAM	18900	3RB#2	20.34	1.50	21.84	33.00
Band2	1.4MHz	16QAM	18900	6RB#0	20.25	1.50	21.75	33.00
Band2	1.4MHz	16QAM	19193	1RB#0	21.41	1.50	22.91	33.00
Band2	1.4MHz	16QAM	19193	1RB#2	21.51	1.50	23.01	33.00
Band2	1.4MHz	16QAM	19193	1RB#5	21.56	1.50	23.06	33.00
Band2	1.4MHz	16QAM	19193	3RB#0	20.5	1.50	22.00	33.00
Band2	1.4MHz	16QAM	19193	3RB#1	20.48	1.50	21.98	33.00
Band2	1.4MHz	16QAM	19193	3RB#2	20.57	1.50	22.07	33.00
Band2	1.4MHz	16QAM	19193	6RB#0	20.23	1.50	21.73	33.00
Band2	3MHz	QPSK	18615	1RB#0	22.44	1.50	23.94	33.00
Band2	3MHz	QPSK	18615	1RB#7	22.45	1.50	23.95	33.00
Band2	3MHz	QPSK	18615	1RB#14	22.34	1.50	23.84	33.00
Band2	3MHz	QPSK	18615	8RB#0	21.3	1.50	22.80	33.00
Band2	3MHz	QPSK	18615	8RB#4	21.36	1.50	22.86	33.00
Band2	3MHz	QPSK	18615	8RB#7	21.27	1.50	22.77	33.00
Band2	3MHz	QPSK	18615	15RB#0	21.21	1.50	22.71	33.00
Band2	3MHz	QPSK	18900	1RB#0	22.35	1.50	23.85	33.00
Band2	3MHz	QPSK	18900	1RB#7	22.44	1.50	23.94	33.00
Band2	3MHz	QPSK	18900	1RB#14	22.38	1.50	23.88	33.00
Band2	3MHz	QPSK	18900	8RB#0	21.35	1.50	22.85	33.00
Band2	3MHz	QPSK	18900	8RB#4	21.25	1.50	22.75	33.00
Band2	3MHz	QPSK	18900	8RB#7	21.41	1.50	22.91	33.00
Band2	3MHz	QPSK	18900	15RB#0	21.12	1.50	22.62	33.00
Band2	3MHz	QPSK	19185	1RB#0	22.42	1.50	23.92	33.00
Band2	3MHz	QPSK	19185	1RB#7	22.47	1.50	23.97	33.00
Band2	3MHz	QPSK	19185	1RB#14	22.46	1.50	23.96	33.00
Band2	3MHz	QPSK	19185	8RB#0	21.46	1.50	22.96	33.00
Band2	3MHz	QPSK	19185	8RB#4	21.5	1.50	23.00	33.00
Band2	3MHz	QPSK	19185	8RB#7	21.48	1.50	22.98	33.00
Band2	3MHz	QPSK	19185	15RB#0	21.4	1.50	22.90	33.00
Band2	3MHz	16QAM	18615	1RB#0	21.53	1.50	23.03	33.00
Band2	3MHz	16QAM	18615	1RB#7	21.51	1.50	23.01	33.00
Band2	3MHz	16QAM	18615	1RB#14	21.45	1.50	22.95	33.00

Band2	3MHz	16QAM	18615	8RB#0	20.33	1.50	21.83	33.00
Band2	3MHz	16QAM	18615	8RB#4	20.34	1.50	21.84	33.00
Band2	3MHz	16QAM	18615	8RB#7	20.3	1.50	21.80	33.00
Band2	3MHz	16QAM	18615	15RB#0	20.09	1.50	21.59	33.00
Band2	3MHz	16QAM	18900	1RB#0	21.58	1.50	23.08	33.00
Band2	3MHz	16QAM	18900	1RB#7	21.62	1.50	23.12	33.00
Band2	3MHz	16QAM	18900	1RB#14	21.59	1.50	23.09	33.00
Band2	3MHz	16QAM	18900	8RB#0	20.41	1.50	21.91	33.00
Band2	3MHz	16QAM	18900	8RB#4	20.32	1.50	21.82	33.00
Band2	3MHz	16QAM	18900	8RB#7	20.24	1.50	21.74	33.00
Band2	3MHz	16QAM	18900	15RB#0	20.2	1.50	21.70	33.00
Band2	3MHz	16QAM	19185	1RB#0	21.5	1.50	23.00	33.00
Band2	3MHz	16QAM	19185	1RB#7	21.55	1.50	23.05	33.00
Band2	3MHz	16QAM	19185	1RB#14	21.48	1.50	22.98	33.00
Band2	3MHz	16QAM	19185	8RB#0	20.51	1.50	22.01	33.00
Band2	3MHz	16QAM	19185	8RB#4	20.63	1.50	22.13	33.00
Band2	3MHz	16QAM	19185	8RB#7	20.59	1.50	22.09	33.00
Band2	3MHz	16QAM	19185	15RB#0	20.55	1.50	22.05	33.00
Band2	5MHz	QPSK	18625	1RB#0	22.37	1.50	23.87	33.00
Band2	5MHz	QPSK	18625	1RB#12	22.3	1.50	23.80	33.00
Band2	5MHz	QPSK	18625	1RB#24	22.23	1.50	23.73	33.00
Band2	5MHz	QPSK	18625	12RB#0	21.3	1.50	22.80	33.00
Band2	5MHz	QPSK	18625	12RB#6	21.27	1.50	22.77	33.00
Band2	5MHz	QPSK	18625	12RB#11	21.35	1.50	22.85	33.00
Band2	5MHz	QPSK	18625	25RB#0	21.17	1.50	22.67	33.00
Band2	5MHz	QPSK	18900	1RB#0	22.28	1.50	23.78	33.00
Band2	5MHz	QPSK	18900	1RB#12	22.4	1.50	23.90	33.00
Band2	5MHz	QPSK	18900	1RB#24	22.33	1.50	23.83	33.00
Band2	5MHz	QPSK	18900	12RB#0	21.21	1.50	22.71	33.00
Band2	5MHz	QPSK	18900	12RB#6	21.23	1.50	22.73	33.00
Band2	5MHz	QPSK	18900	12RB#11	21.13	1.50	22.63	33.00
Band2	5MHz	QPSK	18900	25RB#0	21.09	1.50	22.59	33.00
Band2	5MHz	QPSK	19175	1RB#0	22.47	1.50	23.97	33.00
Band2	5MHz	QPSK	19175	1RB#12	22.46	1.50	23.96	33.00
Band2	5MHz	QPSK	19175	1RB#24	22.49	1.50	23.99	33.00
Band2	5MHz	QPSK	19175	12RB#0	21.42	1.50	22.92	33.00

Band2	5MHz	QPSK	19175	12RB#6	21.44	1.50	22.94	33.00
Band2	5MHz	QPSK	19175	12RB#11	21.45	1.50	22.95	33.00
Band2	5MHz	QPSK	19175	25RB#0	21.41	1.50	22.91	33.00
Band2	5MHz	16QAM	18625	1RB#0	21.17	1.50	22.67	33.00
Band2	5MHz	16QAM	18625	1RB#12	21.22	1.50	22.72	33.00
Band2	5MHz	16QAM	18625	1RB#24	21.17	1.50	22.67	33.00
Band2	5MHz	16QAM	18625	12RB#0	20.32	1.50	21.82	33.00
Band2	5MHz	16QAM	18625	12RB#6	20.32	1.50	21.82	33.00
Band2	5MHz	16QAM	18625	12RB#11	20.3	1.50	21.80	33.00
Band2	5MHz	16QAM	18625	25RB#0	20.21	1.50	21.71	33.00
Band2	5MHz	16QAM	18900	1RB#0	21.12	1.50	22.62	33.00
Band2	5MHz	16QAM	18900	1RB#12	21.05	1.50	22.55	33.00
Band2	5MHz	16QAM	18900	1RB#24	21.12	1.50	22.62	33.00
Band2	5MHz	16QAM	18900	12RB#0	20.38	1.50	21.88	33.00
Band2	5MHz	16QAM	18900	12RB#6	20.35	1.50	21.85	33.00
Band2	5MHz	16QAM	18900	12RB#11	20.35	1.50	21.85	33.00
Band2	5MHz	16QAM	18900	25RB#0	20.3	1.50	21.80	33.00
Band2	5MHz	16QAM	19175	1RB#0	21.14	1.50	22.64	33.00
Band2	5MHz	16QAM	19175	1RB#12	21.17	1.50	22.67	33.00
Band2	5MHz	16QAM	19175	1RB#24	21.09	1.50	22.59	33.00
Band2	5MHz	16QAM	19175	12RB#0	20.51	1.50	22.01	33.00
Band2	5MHz	16QAM	19175	12RB#6	20.53	1.50	22.03	33.00
Band2	5MHz	16QAM	19175	12RB#11	20.51	1.50	22.01	33.00
Band2	5MHz	16QAM	19175	25RB#0	20.39	1.50	21.89	33.00
Band2	10MHz	QPSK	18650	1RB#0	22.28	1.50	23.78	33.00
Band2	10MHz	QPSK	18650	1RB#24	22.26	1.50	23.76	33.00
Band2	10MHz	QPSK	18650	1RB#49	22.35	1.50	23.85	33.00
Band2	10MHz	QPSK	18650	25RB#0	21.32	1.50	22.82	33.00
Band2	10MHz	QPSK	18650	25RB#12	21.21	1.50	22.71	33.00
Band2	10MHz	QPSK	18650	25RB#24	21.23	1.50	22.73	33.00
Band2	10MHz	QPSK	18650	50RB#0	21.07	1.50	22.57	33.00
Band2	10MHz	QPSK	18900	1RB#0	22.34	1.50	23.84	33.00
Band2	10MHz	QPSK	18900	1RB#24	22.33	1.50	23.83	33.00
Band2	10MHz	QPSK	18900	1RB#49	22.3	1.50	23.80	33.00
Band2	10MHz	QPSK	18900	25RB#0	21.23	1.50	22.73	33.00
Band2	10MHz	QPSK	18900	25RB#12	21.35	1.50	22.85	33.00

Band2	10MHz	QPSK	18900	25RB#24	21.29	1.50	22.79	33.00
Band2	10MHz	QPSK	18900	50RB#0	21.16	1.50	22.66	33.00
Band2	10MHz	QPSK	19150	1RB#0	22.34	1.50	23.84	33.00
Band2	10MHz	QPSK	19150	1RB#24	22.46	1.50	23.96	33.00
Band2	10MHz	QPSK	19150	1RB#49	22.48	1.50	23.98	33.00
Band2	10MHz	QPSK	19150	25RB#0	21.37	1.50	22.87	33.00
Band2	10MHz	QPSK	19150	25RB#12	21.42	1.50	22.92	33.00
Band2	10MHz	QPSK	19150	25RB#24	21.43	1.50	22.93	33.00
Band2	10MHz	QPSK	19150	50RB#0	21.21	1.50	22.71	33.00
Band2	10MHz	16QAM	18650	1RB#0	21.04	1.50	22.54	33.00
Band2	10MHz	16QAM	18650	1RB#24	21.15	1.50	22.65	33.00
Band2	10MHz	16QAM	18650	1RB#49	21.09	1.50	22.59	33.00
Band2	10MHz	16QAM	18650	25RB#0	20.3	1.50	21.80	33.00
Band2	10MHz	16QAM	18650	25RB#12	20.3	1.50	21.80	33.00
Band2	10MHz	16QAM	18650	25RB#24	20.29	1.50	21.79	33.00
Band2	10MHz	16QAM	18650	50RB#0	20.17	1.50	21.67	33.00
Band2	10MHz	16QAM	18900	1RB#0	21.13	1.50	22.63	33.00
Band2	10MHz	16QAM	18900	1RB#24	21.08	1.50	22.58	33.00
Band2	10MHz	16QAM	18900	1RB#49	21.11	1.50	22.61	33.00
Band2	10MHz	16QAM	18900	25RB#0	20.4	1.50	21.90	33.00
Band2	10MHz	16QAM	18900	25RB#12	20.41	1.50	21.91	33.00
Band2	10MHz	16QAM	18900	25RB#24	20.41	1.50	21.91	33.00
Band2	10MHz	16QAM	18900	50RB#0	20.27	1.50	21.77	33.00
Band2	10MHz	16QAM	19150	1RB#0	21.09	1.50	22.59	33.00
Band2	10MHz	16QAM	19150	1RB#24	21.24	1.50	22.74	33.00
Band2	10MHz	16QAM	19150	1RB#49	21.18	1.50	22.68	33.00
Band2	10MHz	16QAM	19150	25RB#0	20.5	1.50	22.00	33.00
Band2	10MHz	16QAM	19150	25RB#12	20.44	1.50	21.94	33.00
Band2	10MHz	16QAM	19150	25RB#24	20.45	1.50	21.95	33.00
Band2	10MHz	16QAM	19150	50RB#0	20.35	1.50	21.85	33.00
Band2	15MHz	QPSK	18675	1RB#0	22.12	1.50	23.62	33.00
Band2	15MHz	QPSK	18675	1RB#37	22.09	1.50	23.59	33.00
Band2	15MHz	QPSK	18675	1RB#74	22.31	1.50	23.81	33.00
Band2	15MHz	QPSK	18675	36RB#0	21.21	1.50	22.71	33.00
Band2	15MHz	QPSK	18675	36RB#16	21.32	1.50	22.82	33.00
Band2	15MHz	QPSK	18675	36RB#35	21.24	1.50	22.74	33.00



Band2	15MHz	QPSK	18675	75RB#0	21.14	1.50	22.64	33.00
Band2	15MHz	QPSK	18900	1RB#0	22.27	1.50	23.77	33.00
Band2	15MHz	QPSK	18900	1RB#37	22.13	1.50	23.63	33.00
Band2	15MHz	QPSK	18900	1RB#74	22.22	1.50	23.72	33.00
Band2	15MHz	QPSK	18900	36RB#0	21.26	1.50	22.76	33.00
Band2	15MHz	QPSK	18900	36RB#16	21.29	1.50	22.79	33.00
Band2	15MHz	QPSK	18900	36RB#35	21.3	1.50	22.80	33.00
Band2	15MHz	QPSK	18900	75RB#0	21.19	1.50	22.69	33.00
Band2	15MHz	QPSK	19125	1RB#0	22.26	1.50	23.76	33.00
Band2	15MHz	QPSK	19125	1RB#37	22.44	1.50	23.94	33.00
Band2	15MHz	QPSK	19125	1RB#74	22.43	1.50	23.93	33.00
Band2	15MHz	QPSK	19125	36RB#0	21.4	1.50	22.90	33.00
Band2	15MHz	QPSK	19125	36RB#16	21.31	1.50	22.81	33.00
Band2	15MHz	QPSK	19125	36RB#35	21.32	1.50	22.82	33.00
Band2	15MHz	QPSK	19125	75RB#0	21.29	1.50	22.79	33.00
Band2	15MHz	16QAM	18675	1RB#0	21.22	1.50	22.72	33.00
Band2	15MHz	16QAM	18675	1RB#37	21.16	1.50	22.66	33.00
Band2	15MHz	16QAM	18675	1RB#74	21.25	1.50	22.75	33.00
Band2	15MHz	16QAM	18675	36RB#0	20.27	1.50	21.77	33.00
Band2	15MHz	16QAM	18675	36RB#16	20.29	1.50	21.79	33.00
Band2	15MHz	16QAM	18675	36RB#35	20.26	1.50	21.76	33.00
Band2	15MHz	16QAM	18675	75RB#0	20.15	1.50	21.65	33.00
Band2	15MHz	16QAM	18900	1RB#0	21.36	1.50	22.86	33.00
Band2	15MHz	16QAM	18900	1RB#37	21.28	1.50	22.78	33.00
Band2	15MHz	16QAM	18900	1RB#74	21.31	1.50	22.81	33.00
Band2	15MHz	16QAM	18900	36RB#0	20.29	1.50	21.79	33.00
Band2	15MHz	16QAM	18900	36RB#16	20.3	1.50	21.80	33.00
Band2	15MHz	16QAM	18900	36RB#35	20.3	1.50	21.80	33.00
Band2	15MHz	16QAM	18900	75RB#0	20.31	1.50	21.81	33.00
Band2	15MHz	16QAM	19125	1RB#0	21.15	1.50	22.65	33.00
Band2	15MHz	16QAM	19125	1RB#37	21.1	1.50	22.60	33.00
Band2	15MHz	16QAM	19125	1RB#74	21.19	1.50	22.69	33.00
Band2	15MHz	16QAM	19125	36RB#0	20.46	1.50	21.96	33.00
Band2	15MHz	16QAM	19125	36RB#16	20.49	1.50	21.99	33.00
Band2	15MHz	16QAM	19125	36RB#35	20.52	1.50	22.02	33.00
Band2	15MHz	16QAM	19125	75RB#0	20.36	1.50	21.86	33.00

Band2	20MHz	QPSK	18700	1RB#0	22.18	1.50	23.68	33.00
Band2	20MHz	QPSK	18700	1RB#49	22.23	1.50	23.73	33.00
Band2	20MHz	QPSK	18700	1RB#99	22.15	1.50	23.65	33.00
Band2	20MHz	QPSK	18700	50RB#0	21.19	1.50	22.69	33.00
Band2	20MHz	QPSK	18700	50RB#24	21.2	1.50	22.70	33.00
Band2	20MHz	QPSK	18700	50RB#49	21.25	1.50	22.75	33.00
Band2	20MHz	QPSK	18700	100RB#0	21.15	1.50	22.65	33.00
Band2	20MHz	QPSK	18900	1RB#0	22.31	1.50	23.81	33.00
Band2	20MHz	QPSK	18900	1RB#49	22.23	1.50	23.73	33.00
Band2	20MHz	QPSK	18900	1RB#99	22.36	1.50	23.86	33.00
Band2	20MHz	QPSK	18900	50RB#0	21.24	1.50	22.74	33.00
Band2	20MHz	QPSK	18900	50RB#24	21.27	1.50	22.77	33.00
Band2	20MHz	QPSK	18900	50RB#49	21.3	1.50	22.80	33.00
Band2	20MHz	QPSK	18900	100RB#0	21.22	1.50	22.72	33.00
Band2	20MHz	QPSK	19100	1RB#0	22.28	1.50	23.78	33.00
Band2	20MHz	QPSK	19100	1RB#49	22.33	1.50	23.83	33.00
Band2	20MHz	QPSK	19100	1RB#99	22.43	1.50	23.93	33.00
Band2	20MHz	QPSK	19100	50RB#0	21.26	1.50	22.76	33.00
Band2	20MHz	QPSK	19100	50RB#24	21.23	1.50	22.73	33.00
Band2	20MHz	QPSK	19100	50RB#49	21.31	1.50	22.81	33.00
Band2	20MHz	QPSK	19100	100RB#0	21.19	1.50	22.69	33.00
Band2	20MHz	16QAM	18700	1RB#0	21.53	1.50	23.03	33.00
Band2	20MHz	16QAM	18700	1RB#49	21.55	1.50	23.05	33.00
Band2	20MHz	16QAM	18700	1RB#99	21.67	1.50	23.17	33.00
Band2	20MHz	16QAM	18700	50RB#0	20.25	1.50	21.75	33.00
Band2	20MHz	16QAM	18700	50RB#24	20.26	1.50	21.76	33.00
Band2	20MHz	16QAM	18700	50RB#49	20.26	1.50	21.76	33.00
Band2	20MHz	16QAM	18700	100RB#0	20.19	1.50	21.69	33.00
Band2	20MHz	16QAM	18900	1RB#0	21.46	1.50	22.96	33.00
Band2	20MHz	16QAM	18900	1RB#49	21.5	1.50	23.00	33.00
Band2	20MHz	16QAM	18900	1RB#99	21.49	1.50	22.99	33.00
Band2	20MHz	16QAM	18900	50RB#0	20.39	1.50	21.89	33.00
Band2	20MHz	16QAM	18900	50RB#24	20.4	1.50	21.90	33.00
Band2	20MHz	16QAM	18900	50RB#49	20.42	1.50	21.92	33.00
Band2	20MHz	16QAM	18900	100RB#0	20.32	1.50	21.82	33.00
Band2	20MHz	16QAM	19100	1RB#0	21.33	1.50	22.83	33.00



Band2	20MHz	16QAM	19100	1RB#49	21.41	1.50	22.91	33.00
Band2	20MHz	16QAM	19100	1RB#99	21.57	1.50	23.07	33.00
Band2	20MHz	16QAM	19100	50RB#0	20.46	1.50	21.96	33.00
Band2	20MHz	16QAM	19100	50RB#24	20.47	1.50	21.97	33.00
Band2	20MHz	16QAM	19100	50RB#49	20.48	1.50	21.98	33.00
Band2	20MHz	16QAM	19100	100RB#0	20.37	1.50	21.87	33.00
Band4	1.4MHz	QPSK	19957	1RB#0	22.28	1.40	23.68	30.00
Band4	1.4MHz	QPSK	19957	1RB#2	22.31	1.40	23.71	30.00
Band4	1.4MHz	QPSK	19957	1RB#5	22.31	1.40	23.71	30.00
Band4	1.4MHz	QPSK	19957	3RB#0	21.43	1.40	22.83	30.00
Band4	1.4MHz	QPSK	19957	3RB#1	21.43	1.40	22.83	30.00
Band4	1.4MHz	QPSK	19957	3RB#2	21.44	1.40	22.84	30.00
Band4	1.4MHz	QPSK	19957	6RB#0	21.32	1.40	22.72	30.00
Band4	1.4MHz	QPSK	20175	1RB#0	22.2	1.40	23.60	30.00
Band4	1.4MHz	QPSK	20175	1RB#2	22.25	1.40	23.65	30.00
Band4	1.4MHz	QPSK	20175	1RB#5	22.19	1.40	23.59	30.00
Band4	1.4MHz	QPSK	20175	3RB#0	21.32	1.40	22.72	30.00
Band4	1.4MHz	QPSK	20175	3RB#1	21.3	1.40	22.70	30.00
Band4	1.4MHz	QPSK	20175	3RB#2	21.3	1.40	22.70	30.00
Band4	1.4MHz	QPSK	20175	6RB#0	21.23	1.40	22.63	30.00
Band4	1.4MHz	QPSK	20393	1RB#0	22.39	1.40	23.79	30.00
Band4	1.4MHz	QPSK	20393	1RB#2	22.32	1.40	23.72	30.00
Band4	1.4MHz	QPSK	20393	1RB#5	22.34	1.40	23.74	30.00
Band4	1.4MHz	QPSK	20393	3RB#0	21.48	1.40	22.88	30.00
Band4	1.4MHz	QPSK	20393	3RB#1	21.47	1.40	22.87	30.00
Band4	1.4MHz	QPSK	20393	3RB#2	21.47	1.40	22.87	30.00
Band4	1.4MHz	QPSK	20393	6RB#0	21.42	1.40	22.82	30.00
Band4	1.4MHz	16QAM	19957	1RB#0	21.53	1.40	22.93	30.00
Band4	1.4MHz	16QAM	19957	1RB#2	21.61	1.40	23.01	30.00
Band4	1.4MHz	16QAM	19957	1RB#5	21.54	1.40	22.94	30.00
Band4	1.4MHz	16QAM	19957	3RB#0	20.46	1.40	21.86	30.00
Band4	1.4MHz	16QAM	19957	3RB#1	20.38	1.40	21.78	30.00
Band4	1.4MHz	16QAM	19957	3RB#2	20.51	1.40	21.91	30.00

Band4	1.4MHz	16QAM	19957	6RB#0	20.35	1.40	21.75	30.00
Band4	1.4MHz	16QAM	20175	1RB#0	21.43	1.40	22.83	30.00
Band4	1.4MHz	16QAM	20175	1RB#2	21.47	1.40	22.87	30.00
Band4	1.4MHz	16QAM	20175	1RB#5	21.54	1.40	22.94	30.00
Band4	1.4MHz	16QAM	20175	3RB#0	20.32	1.40	21.72	30.00
Band4	1.4MHz	16QAM	20175	3RB#1	20.28	1.40	21.68	30.00
Band4	1.4MHz	16QAM	20175	3RB#2	20.33	1.40	21.73	30.00
Band4	1.4MHz	16QAM	20175	6RB#0	20.18	1.40	21.58	30.00
Band4	1.4MHz	16QAM	20393	1RB#0	21.44	1.40	22.84	30.00
Band4	1.4MHz	16QAM	20393	1RB#2	21.57	1.40	22.97	30.00
Band4	1.4MHz	16QAM	20393	1RB#5	21.64	1.40	23.04	30.00
Band4	1.4MHz	16QAM	20393	3RB#0	20.35	1.40	21.75	30.00
Band4	1.4MHz	16QAM	20393	3RB#1	20.35	1.40	21.75	30.00
Band4	1.4MHz	16QAM	20393	3RB#2	20.33	1.40	21.73	30.00
Band4	1.4MHz	16QAM	20393	6RB#0	20.27	1.40	21.67	30.00
Band4	3MHz	QPSK	19965	1RB#0	22.46	1.40	23.86	30.00
Band4	3MHz	QPSK	19965	1RB#7	22.49	1.40	23.89	30.00
Band4	3MHz	QPSK	19965	1RB#14	22.35	1.40	23.75	30.00
Band4	3MHz	QPSK	19965	8RB#0	21.39	1.40	22.79	30.00
Band4	3MHz	QPSK	19965	8RB#4	21.44	1.40	22.84	30.00
Band4	3MHz	QPSK	19965	8RB#7	21.48	1.40	22.88	30.00
Band4	3MHz	QPSK	19965	15RB#0	21.37	1.40	22.77	30.00
Band4	3MHz	QPSK	20175	1RB#0	22.21	1.40	23.61	30.00
Band4	3MHz	QPSK	20175	1RB#7	22.23	1.40	23.63	30.00
Band4	3MHz	QPSK	20175	1RB#14	22.2	1.40	23.60	30.00
Band4	3MHz	QPSK	20175	8RB#0	21.25	1.40	22.65	30.00
Band4	3MHz	QPSK	20175	8RB#4	21.37	1.40	22.77	30.00
Band4	3MHz	QPSK	20175	8RB#7	21.32	1.40	22.72	30.00
Band4	3MHz	QPSK	20175	15RB#0	21.22	1.40	22.62	30.00
Band4	3MHz	QPSK	20385	1RB#0	22.54	1.40	23.94	30.00
Band4	3MHz	QPSK	20385	1RB#7	22.47	1.40	23.87	30.00
Band4	3MHz	QPSK	20385	1RB#14	22.44	1.40	23.84	30.00

Band4	3MHz	QPSK	20385	8RB#0	21.42	1.40	22.82	30.00
Band4	3MHz	QPSK	20385	8RB#4	21.43	1.40	22.83	30.00
Band4	3MHz	QPSK	20385	8RB#7	21.5	1.40	22.90	30.00
Band4	3MHz	QPSK	20385	15RB#0	21.37	1.40	22.77	30.00
Band4	3MHz	16QAM	19965	1RB#0	21.52	1.40	22.92	30.00
Band4	3MHz	16QAM	19965	1RB#7	21.51	1.40	22.91	30.00
Band4	3MHz	16QAM	19965	1RB#14	21.55	1.40	22.95	30.00
Band4	3MHz	16QAM	19965	8RB#0	20.66	1.40	22.06	30.00
Band4	3MHz	16QAM	19965	8RB#4	20.62	1.40	22.02	30.00
Band4	3MHz	16QAM	19965	8RB#7	20.57	1.40	21.97	30.00
Band4	3MHz	16QAM	19965	15RB#0	20.43	1.40	21.83	30.00
Band4	3MHz	16QAM	20175	1RB#0	21.54	1.40	22.94	30.00
Band4	3MHz	16QAM	20175	1RB#7	21.46	1.40	22.86	30.00
Band4	3MHz	16QAM	20175	1RB#14	21.48	1.40	22.88	30.00
Band4	3MHz	16QAM	20175	8RB#0	20.57	1.40	21.97	30.00
Band4	3MHz	16QAM	20175	8RB#4	20.57	1.40	21.97	30.00
Band4	3MHz	16QAM	20175	8RB#7	20.67	1.40	22.07	30.00
Band4	3MHz	16QAM	20175	15RB#0	20.46	1.40	21.86	30.00
Band4	3MHz	16QAM	20385	1RB#0	21.54	1.40	22.94	30.00
Band4	3MHz	16QAM	20385	1RB#7	21.53	1.40	22.93	30.00
Band4	3MHz	16QAM	20385	1RB#14	21.49	1.40	22.89	30.00
Band4	3MHz	16QAM	20385	8RB#0	20.61	1.40	22.01	30.00
Band4	3MHz	16QAM	20385	8RB#4	20.66	1.40	22.06	30.00
Band4	3MHz	16QAM	20385	8RB#7	20.68	1.40	22.08	30.00
Band4	3MHz	16QAM	20385	15RB#0	20.42	1.40	21.82	30.00
Band4	5MHz	QPSK	19975	1RB#0	22.37	1.40	23.77	30.00
Band4	5MHz	QPSK	19975	1RB#12	22.44	1.40	23.84	30.00
Band4	5MHz	QPSK	19975	1RB#24	22.41	1.40	23.81	30.00
Band4	5MHz	QPSK	19975	12RB#0	21.46	1.40	22.86	30.00
Band4	5MHz	QPSK	19975	12RB#6	21.37	1.40	22.77	30.00
Band4	5MHz	QPSK	19975	12RB#11	21.37	1.40	22.77	30.00
Band4	5MHz	QPSK	19975	25RB#0	21.25	1.40	22.65	30.00

Band4	5MHz	QPSK	20175	1RB#0	22.22	1.40	23.62	30.00
Band4	5MHz	QPSK	20175	1RB#12	22.31	1.40	23.71	30.00
Band4	5MHz	QPSK	20175	1RB#24	22.27	1.40	23.67	30.00
Band4	5MHz	QPSK	20175	12RB#0	21.21	1.40	22.61	30.00
Band4	5MHz	QPSK	20175	12RB#6	21.34	1.40	22.74	30.00
Band4	5MHz	QPSK	20175	12RB#11	21.21	1.40	22.61	30.00
Band4	5MHz	QPSK	20175	25RB#0	21.18	1.40	22.58	30.00
Band4	5MHz	QPSK	20375	1RB#0	22.39	1.40	23.79	30.00
Band4	5MHz	QPSK	20375	1RB#12	22.41	1.40	23.81	30.00
Band4	5MHz	QPSK	20375	1RB#24	22.39	1.40	23.79	30.00
Band4	5MHz	QPSK	20375	12RB#0	21.44	1.40	22.84	30.00
Band4	5MHz	QPSK	20375	12RB#6	21.53	1.40	22.93	30.00
Band4	5MHz	QPSK	20375	12RB#11	21.54	1.40	22.94	30.00
Band4	5MHz	QPSK	20375	25RB#0	21.35	1.40	22.75	30.00
Band4	5MHz	16QAM	19975	1RB#0	21.41	1.40	22.81	30.00
Band4	5MHz	16QAM	19975	1RB#12	21.52	1.40	22.92	30.00
Band4	5MHz	16QAM	19975	1RB#24	21.47	1.40	22.87	30.00
Band4	5MHz	16QAM	19975	12RB#0	20.46	1.40	21.86	30.00
Band4	5MHz	16QAM	19975	12RB#6	20.55	1.40	21.95	30.00
Band4	5MHz	16QAM	19975	12RB#11	20.55	1.40	21.95	30.00
Band4	5MHz	16QAM	19975	25RB#0	20.37	1.40	21.77	30.00
Band4	5MHz	16QAM	20175	1RB#0	21.54	1.40	22.94	30.00
Band4	5MHz	16QAM	20175	1RB#12	21.63	1.40	23.03	30.00
Band4	5MHz	16QAM	20175	1RB#24	21.65	1.40	23.05	30.00
Band4	5MHz	16QAM	20175	12RB#0	20.43	1.40	21.83	30.00
Band4	5MHz	16QAM	20175	12RB#6	20.34	1.40	21.74	30.00
Band4	5MHz	16QAM	20175	12RB#11	20.35	1.40	21.75	30.00
Band4	5MHz	16QAM	20175	25RB#0	20.33	1.40	21.73	30.00
Band4	5MHz	16QAM	20375	1RB#0	21.64	1.40	23.04	30.00
Band4	5MHz	16QAM	20375	1RB#12	21.63	1.40	23.03	30.00
Band4	5MHz	16QAM	20375	1RB#24	21.51	1.40	22.91	30.00
Band4	5MHz	16QAM	20375	12RB#0	20.43	1.40	21.83	30.00

Band4	5MHz	16QAM	20375	12RB#6	20.34	1.40	21.74	30.00
Band4	5MHz	16QAM	20375	12RB#11	20.35	1.40	21.75	30.00
Band4	5MHz	16QAM	20375	25RB#0	20.31	1.40	21.71	30.00
Band4	10MHz	QPSK	20000	1RB#0	22.47	1.40	23.87	30.00
Band4	10MHz	QPSK	20000	1RB#24	22.37	1.40	23.77	30.00
Band4	10MHz	QPSK	20000	1RB#49	22.4	1.40	23.80	30.00
Band4	10MHz	QPSK	20000	25RB#0	21.5	1.40	22.90	30.00
Band4	10MHz	QPSK	20000	25RB#12	21.51	1.40	22.91	30.00
Band4	10MHz	QPSK	20000	25RB#24	21.51	1.40	22.91	30.00
Band4	10MHz	QPSK	20000	50RB#0	21.41	1.40	22.81	30.00
Band4	10MHz	QPSK	20175	1RB#0	22.33	1.40	23.73	30.00
Band4	10MHz	QPSK	20175	1RB#24	22.29	1.40	23.69	30.00
Band4	10MHz	QPSK	20175	1RB#49	22.38	1.40	23.78	30.00
Band4	10MHz	QPSK	20175	25RB#0	21.22	1.40	22.62	30.00
Band4	10MHz	QPSK	20175	25RB#12	21.35	1.40	22.75	30.00
Band4	10MHz	QPSK	20175	25RB#24	21.34	1.40	22.74	30.00
Band4	10MHz	QPSK	20175	50RB#0	21.24	1.40	22.64	30.00
Band4	10MHz	QPSK	20350	1RB#0	23.38	1.40	24.78	30.00
Band4	10MHz	QPSK	20350	1RB#24	22.59	1.40	23.99	30.00
Band4	10MHz	QPSK	20350	1RB#49	22.47	1.40	23.87	30.00
Band4	10MHz	QPSK	20350	25RB#0	21.45	1.40	22.85	30.00
Band4	10MHz	QPSK	20350	25RB#12	21.48	1.40	22.88	30.00
Band4	10MHz	QPSK	20350	25RB#24	21.36	1.40	22.76	30.00
Band4	10MHz	QPSK	20350	50RB#0	21.42	1.40	22.82	30.00
Band4	10MHz	16QAM	20000	1RB#0	21.59	1.40	22.99	30.00
Band4	10MHz	16QAM	20000	1RB#24	21.45	1.40	22.85	30.00
Band4	10MHz	16QAM	20000	1RB#49	21.47	1.40	22.87	30.00
Band4	10MHz	16QAM	20000	25RB#0	20.47	1.40	21.87	30.00
Band4	10MHz	16QAM	20000	25RB#12	20.33	1.40	21.73	30.00
Band4	10MHz	16QAM	20000	25RB#24	20.35	1.40	21.75	30.00
Band4	10MHz	16QAM	20000	50RB#0	20.25	1.40	21.65	30.00
Band4	10MHz	16QAM	20175	1RB#0	21.44	1.40	22.84	30.00

Band4	10MHz	16QAM	20175	1RB#24	21.49	1.40	22.89	30.00
Band4	10MHz	16QAM	20175	1RB#49	21.55	1.40	22.95	30.00
Band4	10MHz	16QAM	20175	25RB#0	20.33	1.40	21.73	30.00
Band4	10MHz	16QAM	20175	25RB#12	20.33	1.40	21.73	30.00
Band4	10MHz	16QAM	20175	25RB#24	20.32	1.40	21.72	30.00
Band4	10MHz	16QAM	20175	50RB#0	20.26	1.40	21.66	30.00
Band4	10MHz	16QAM	20350	1RB#0	21.31	1.40	22.71	30.00
Band4	10MHz	16QAM	20350	1RB#24	21.46	1.40	22.86	30.00
Band4	10MHz	16QAM	20350	1RB#49	21.33	1.40	22.73	30.00
Band4	10MHz	16QAM	20350	25RB#0	20.41	1.40	21.81	30.00
Band4	10MHz	16QAM	20350	25RB#12	20.42	1.40	21.82	30.00
Band4	10MHz	16QAM	20350	25RB#24	20.43	1.40	21.83	30.00
Band4	10MHz	16QAM	20350	50RB#0	20.37	1.40	21.77	30.00
Band4	15MHz	QPSK	20025	1RB#0	22.51	1.40	23.91	30.00
Band4	15MHz	QPSK	20025	1RB#37	22.46	1.40	23.86	30.00
Band4	15MHz	QPSK	20025	1RB#74	22.38	1.40	23.78	30.00
Band4	15MHz	QPSK	20025	36RB#0	21.4	1.40	22.80	30.00
Band4	15MHz	QPSK	20025	36RB#16	21.39	1.40	22.79	30.00
Band4	15MHz	QPSK	20025	36RB#35	21.4	1.40	22.80	30.00
Band4	15MHz	QPSK	20025	75RB#0	21.36	1.40	22.76	30.00
Band4	15MHz	QPSK	20175	1RB#0	22.48	1.40	23.88	30.00
Band4	15MHz	QPSK	20175	1RB#37	22.41	1.40	23.81	30.00
Band4	15MHz	QPSK	20175	1RB#74	22.34	1.40	23.74	30.00
Band4	15MHz	QPSK	20175	36RB#0	21.39	1.40	22.79	30.00
Band4	15MHz	QPSK	20175	36RB#16	21.34	1.40	22.74	30.00
Band4	15MHz	QPSK	20175	36RB#35	21.3	1.40	22.70	30.00
Band4	15MHz	QPSK	20175	75RB#0	21.25	1.40	22.65	30.00
Band4	15MHz	QPSK	20325	1RB#0	22.46	1.40	23.86	30.00
Band4	15MHz	QPSK	20325	1RB#37	22.63	1.40	24.03	30.00
Band4	15MHz	QPSK	20325	1RB#74	22.57	1.40	23.97	30.00
Band4	15MHz	QPSK	20325	36RB#0	21.45	1.40	22.85	30.00
Band4	15MHz	QPSK	20325	36RB#16	21.37	1.40	22.77	30.00

Band4	15MHz	QPSK	20325	36RB#35	21.37	1.40	22.77	30.00
Band4	15MHz	QPSK	20325	75RB#0	21.38	1.40	22.78	30.00
Band4	15MHz	16QAM	20025	1RB#0	21.58	1.40	22.98	30.00
Band4	15MHz	16QAM	20025	1RB#37	21.58	1.40	22.98	30.00
Band4	15MHz	16QAM	20025	1RB#74	21.45	1.40	22.85	30.00
Band4	15MHz	16QAM	20025	36RB#0	20.61	1.40	22.01	30.00
Band4	15MHz	16QAM	20025	36RB#16	20.64	1.40	22.04	30.00
Band4	15MHz	16QAM	20025	36RB#35	20.57	1.40	21.97	30.00
Band4	15MHz	16QAM	20025	75RB#0	20.47	1.40	21.87	30.00
Band4	15MHz	16QAM	20175	1RB#0	21.52	1.40	22.92	30.00
Band4	15MHz	16QAM	20175	1RB#37	21.49	1.40	22.89	30.00
Band4	15MHz	16QAM	20175	1RB#74	21.54	1.40	22.94	30.00
Band4	15MHz	16QAM	20175	36RB#0	20.4	1.40	21.80	30.00
Band4	15MHz	16QAM	20175	36RB#16	20.44	1.40	21.84	30.00
Band4	15MHz	16QAM	20175	36RB#35	20.45	1.40	21.85	30.00
Band4	15MHz	16QAM	20175	75RB#0	20.34	1.40	21.74	30.00
Band4	15MHz	16QAM	20325	1RB#0	21.42	1.40	22.82	30.00
Band4	15MHz	16QAM	20325	1RB#37	21.62	1.40	23.02	30.00
Band4	15MHz	16QAM	20325	1RB#74	21.64	1.40	23.04	30.00
Band4	15MHz	16QAM	20325	36RB#0	20.68	1.40	22.08	30.00
Band4	15MHz	16QAM	20325	36RB#16	20.63	1.40	22.03	30.00
Band4	15MHz	16QAM	20325	36RB#35	20.55	1.40	21.95	30.00
Band4	15MHz	16QAM	20325	75RB#0	20.48	1.40	21.88	30.00
Band4	20MHz	QPSK	20050	1RB#0	22.52	1.40	23.92	30.00
Band4	20MHz	QPSK	20050	1RB#49	22.45	1.40	23.85	30.00
Band4	20MHz	QPSK	20050	1RB#99	22.41	1.40	23.81	30.00
Band4	20MHz	QPSK	20050	50RB#0	21.44	1.40	22.84	30.00
Band4	20MHz	QPSK	20050	50RB#24	21.4	1.40	22.80	30.00
Band4	20MHz	QPSK	20050	50RB#49	21.42	1.40	22.82	30.00
Band4	20MHz	QPSK	20050	100RB#0	21.34	1.40	22.74	30.00
Band4	20MHz	QPSK	20175	1RB#0	22.48	1.40	23.88	30.00
Band4	20MHz	QPSK	20175	1RB#49	22.48	1.40	23.88	30.00



Band4	20MHz	QPSK	20175	1RB#99	22.59	1.40	23.99	30.00
Band4	20MHz	QPSK	20175	50RB#0	21.31	1.40	22.71	30.00
Band4	20MHz	QPSK	20175	50RB#24	21.34	1.40	22.74	30.00
Band4	20MHz	QPSK	20175	50RB#49	21.43	1.40	22.83	30.00
Band4	20MHz	QPSK	20175	100RB#0	21.27	1.40	22.67	30.00
Band4	20MHz	QPSK	20300	1RB#0	22.33	1.40	23.73	30.00
Band4	20MHz	QPSK	20300	1RB#49	22.49	1.40	23.89	30.00
Band4	20MHz	QPSK	20300	1RB#99	22.67	1.40	24.07	30.00
Band4	20MHz	QPSK	20300	50RB#0	21.42	1.40	22.82	30.00
Band4	20MHz	QPSK	20300	50RB#24	21.33	1.40	22.73	30.00
Band4	20MHz	QPSK	20300	50RB#49	21.29	1.40	22.69	30.00
Band4	20MHz	QPSK	20300	100RB#0	21.22	1.40	22.62	30.00
Band4	20MHz	16QAM	20050	1RB#0	21.74	1.40	23.14	30.00
Band4	20MHz	16QAM	20050	1RB#49	21.71	1.40	23.11	30.00
Band4	20MHz	16QAM	20050	1RB#99	21.63	1.40	23.03	30.00
Band4	20MHz	16QAM	20050	50RB#0	20.54	1.40	21.94	30.00
Band4	20MHz	16QAM	20050	50RB#24	20.5	1.40	21.90	30.00
Band4	20MHz	16QAM	20050	50RB#49	20.45	1.40	21.85	30.00
Band4	20MHz	16QAM	20050	100RB#0	20.36	1.40	21.76	30.00
Band4	20MHz	16QAM	20175	1RB#0	21.54	1.40	22.94	30.00
Band4	20MHz	16QAM	20175	1RB#49	21.45	1.40	22.85	30.00
Band4	20MHz	16QAM	20175	1RB#99	21.6	1.40	23.00	30.00
Band4	20MHz	16QAM	20175	50RB#0	20.46	1.40	21.86	30.00
Band4	20MHz	16QAM	20175	50RB#24	20.49	1.40	21.89	30.00
Band4	20MHz	16QAM	20175	50RB#49	20.48	1.40	21.88	30.00
Band4	20MHz	16QAM	20175	100RB#0	20.45	1.40	21.85	30.00
Band4	20MHz	16QAM	20300	1RB#0	21.54	1.40	22.94	30.00
Band4	20MHz	16QAM	20300	1RB#49	21.6	1.40	23.00	30.00
Band4	20MHz	16QAM	20300	1RB#99	21.75	1.40	23.15	30.00
Band4	20MHz	16QAM	20300	50RB#0	20.4	1.40	21.80	30.00
Band4	20MHz	16QAM	20300	50RB#24	20.34	1.40	21.74	30.00
Band4	20MHz	16QAM	20300	50RB#49	20.39	1.40	21.79	30.00

Band4	20MHz	16QAM	20300	100RB#0	20.35	1.40	21.75	30.00
Band12	1.4MHz	QPSK	23017	1RB#0	22.4	-1.20	21.2	33.00
Band12	1.4MHz	QPSK	23017	1RB#2	22.59	-1.20	21.39	33.00
Band12	1.4MHz	QPSK	23017	1RB#5	22.44	-1.20	21.24	33.00
Band12	1.4MHz	QPSK	23017	3RB#0	21.38	-1.20	20.18	33.00
Band12	1.4MHz	QPSK	23017	3RB#1	21.43	-1.20	20.23	33.00
Band12	1.4MHz	QPSK	23017	3RB#2	21.39	-1.20	20.19	33.00
Band12	1.4MHz	QPSK	23017	6RB#0	21.37	-1.20	20.17	33.00
Band12	1.4MHz	QPSK	23095	1RB#0	22.37	-1.20	21.17	33.00
Band12	1.4MHz	QPSK	23095	1RB#2	22.29	-1.20	21.09	33.00
Band12	1.4MHz	QPSK	23095	1RB#5	22.45	-1.20	21.25	33.00
Band12	1.4MHz	QPSK	23095	3RB#0	21.45	-1.20	20.25	33.00
Band12	1.4MHz	QPSK	23095	3RB#1	21.46	-1.20	20.26	33.00
Band12	1.4MHz	QPSK	23095	3RB#2	21.56	-1.20	20.36	33.00
Band12	1.4MHz	QPSK	23095	6RB#0	21.38	-1.20	20.18	33.00
Band12	1.4MHz	QPSK	23173	1RB#0	22.57	-1.20	21.37	33.00
Band12	1.4MHz	QPSK	23173	1RB#2	22.56	-1.20	21.36	33.00
Band12	1.4MHz	QPSK	23173	1RB#5	22.47	-1.20	21.27	33.00
Band12	1.4MHz	QPSK	23173	3RB#0	21.48	-1.20	20.28	33.00
Band12	1.4MHz	QPSK	23173	3RB#1	21.5	-1.20	20.30	33.00
Band12	1.4MHz	QPSK	23173	3RB#2	21.51	-1.20	20.31	33.00
Band12	1.4MHz	QPSK	23173	6RB#0	21.44	-1.20	20.24	33.00
Band12	1.4MHz	16QAM	23017	1RB#0	21.46	-1.20	20.26	33.00
Band12	1.4MHz	16QAM	23017	1RB#2	21.6	-1.20	20.40	33.00
Band12	1.4MHz	16QAM	23017	1RB#5	21.49	-1.20	20.29	33.00
Band12	1.4MHz	16QAM	23017	3RB#0	20.37	-1.20	19.17	33.00
Band12	1.4MHz	16QAM	23017	3RB#1	20.26	-1.20	19.06	33.00
Band12	1.4MHz	16QAM	23017	3RB#2	20.32	-1.20	19.12	33.00
Band12	1.4MHz	16QAM	23017	6RB#0	20.32	-1.20	19.12	33.00
Band12	1.4MHz	16QAM	23095	1RB#0	21.46	-1.20	20.26	33.00
Band12	1.4MHz	16QAM	23095	1RB#2	21.57	-1.20	20.37	33.00

Band12	1.4MHz	16QAM	23095	1RB#5	21.56	-1.20	20.36	33.00
Band12	1.4MHz	16QAM	23095	3RB#0	20.44	-1.20	19.24	33.00
Band12	1.4MHz	16QAM	23095	3RB#1	20.41	-1.20	19.21	33.00
Band12	1.4MHz	16QAM	23095	3RB#2	20.48	-1.20	19.28	33.00
Band12	1.4MHz	16QAM	23095	6RB#0	20.46	-1.20	19.26	33.00
Band12	1.4MHz	16QAM	23173	1RB#0	21.65	-1.20	20.45	33.00
Band12	1.4MHz	16QAM	23173	1RB#2	21.51	-1.20	20.31	33.00
Band12	1.4MHz	16QAM	23173	1RB#5	21.49	-1.20	20.29	33.00
Band12	1.4MHz	16QAM	23173	3RB#0	20.52	-1.20	19.32	33.00
Band12	1.4MHz	16QAM	23173	3RB#1	20.42	-1.20	19.22	33.00
Band12	1.4MHz	16QAM	23173	3RB#2	20.56	-1.20	19.36	33.00
Band12	1.4MHz	16QAM	23173	6RB#0	20.37	-1.20	19.17	33.00
Band12	3MHz	QPSK	23025	1RB#0	22.6	-1.20	21.4	33.00
Band12	3MHz	QPSK	23025	1RB#7	22.5	-1.20	21.3	33.00
Band12	3MHz	QPSK	23025	1RB#14	22.58	-1.20	21.38	33.00
Band12	3MHz	QPSK	23025	8RB#0	21.35	-1.20	20.15	33.00
Band12	3MHz	QPSK	23025	8RB#4	21.37	-1.20	20.17	33.00
Band12	3MHz	QPSK	23025	8RB#7	21.38	-1.20	20.18	33.00
Band12	3MHz	QPSK	23025	15RB#0	21.31	-1.20	20.11	33.00
Band12	3MHz	QPSK	23095	1RB#0	22.53	-1.20	21.33	33.00
Band12	3MHz	QPSK	23095	1RB#7	22.54	-1.20	21.34	33.00
Band12	3MHz	QPSK	23095	1RB#14	22.48	-1.20	21.28	33.00
Band12	3MHz	QPSK	23095	8RB#0	21.51	-1.20	20.31	33.00
Band12	3MHz	QPSK	23095	8RB#4	21.48	-1.20	20.28	33.00
Band12	3MHz	QPSK	23095	8RB#7	21.49	-1.20	20.29	33.00
Band12	3MHz	QPSK	23095	15RB#0	21.38	-1.20	20.18	33.00
Band12	3MHz	QPSK	23165	1RB#0	22.7	-1.20	21.5	33.00
Band12	3MHz	QPSK	23165	1RB#7	22.74	-1.20	21.54	33.00
Band12	3MHz	QPSK	23165	1RB#14	22.58	-1.20	21.38	33.00
Band12	3MHz	QPSK	23165	8RB#0	21.55	-1.20	20.35	33.00
Band12	3MHz	QPSK	23165	8RB#4	21.52	-1.20	20.32	33.00
Band12	3MHz	QPSK	23165	8RB#7	21.51	-1.20	20.31	33.00
Band12	3MHz	QPSK	23165	15RB#0	21.44	-1.20	20.24	33.00
Band12	3MHz	16QAM	23025	1RB#0	21.56	-1.20	20.36	33.00
Band12	3MHz	16QAM	23025	1RB#7	21.64	-1.20	20.44	33.00

Band12	3MHz	16QAM	23025	1RB#14	21.56	-1.20	20.36	33.00
Band12	3MHz	16QAM	23025	8RB#0	20.5	-1.20	19.3	33.00
Band12	3MHz	16QAM	23025	8RB#4	20.48	-1.20	19.28	33.00
Band12	3MHz	16QAM	23025	8RB#7	20.35	-1.20	19.15	33.00
Band12	3MHz	16QAM	23025	15RB#0	20.34	-1.20	19.14	33.00
Band12	3MHz	16QAM	23095	1RB#0	21.61	-1.20	20.41	33.00
Band12	3MHz	16QAM	23095	1RB#7	21.69	-1.20	20.49	33.00
Band12	3MHz	16QAM	23095	1RB#14	21.65	-1.20	20.45	33.00
Band12	3MHz	16QAM	23095	8RB#0	20.61	-1.20	19.41	33.00
Band12	3MHz	16QAM	23095	8RB#4	20.54	-1.20	19.34	33.00
Band12	3MHz	16QAM	23095	8RB#7	20.7	-1.20	19.5	33.00
Band12	3MHz	16QAM	23095	15RB#0	20.59	-1.20	19.39	33.00
Band12	3MHz	16QAM	23165	1RB#0	21.57	-1.20	20.37	33.00
Band12	3MHz	16QAM	23165	1RB#7	21.6	-1.20	20.4	33.00
Band12	3MHz	16QAM	23165	1RB#14	21.55	-1.20	20.35	33.00
Band12	3MHz	16QAM	23165	8RB#0	20.47	-1.20	19.27	33.00
Band12	3MHz	16QAM	23165	8RB#4	20.58	-1.20	19.38	33.00
Band12	3MHz	16QAM	23165	8RB#7	20.51	-1.20	19.31	33.00
Band12	3MHz	16QAM	23165	15RB#0	20.4	-1.20	19.2	33.00
Band12	5MHz	QPSK	23035	1RB#0	22.64	-1.20	21.44	33.00
Band12	5MHz	QPSK	23035	1RB#12	22.67	-1.20	21.47	33.00
Band12	5MHz	QPSK	23035	1RB#24	22.65	-1.20	21.45	33.00
Band12	5MHz	QPSK	23035	12RB#0	21.58	-1.20	20.38	33.00
Band12	5MHz	QPSK	23035	12RB#6	21.52	-1.20	20.32	33.00
Band12	5MHz	QPSK	23035	12RB#11	21.49	-1.20	20.29	33.00
Band12	5MHz	QPSK	23035	25RB#0	21.43	-1.20	20.23	33.00
Band12	5MHz	QPSK	23095	1RB#0	22.58	-1.20	21.38	33.00
Band12	5MHz	QPSK	23095	1RB#12	22.51	-1.20	21.31	33.00
Band12	5MHz	QPSK	23095	1RB#24	22.78	-1.20	21.58	33.00
Band12	5MHz	QPSK	23095	12RB#0	21.6	-1.20	20.4	33.00
Band12	5MHz	QPSK	23095	12RB#6	21.57	-1.20	20.37	33.00
Band12	5MHz	QPSK	23095	12RB#11	21.56	-1.20	20.36	33.00

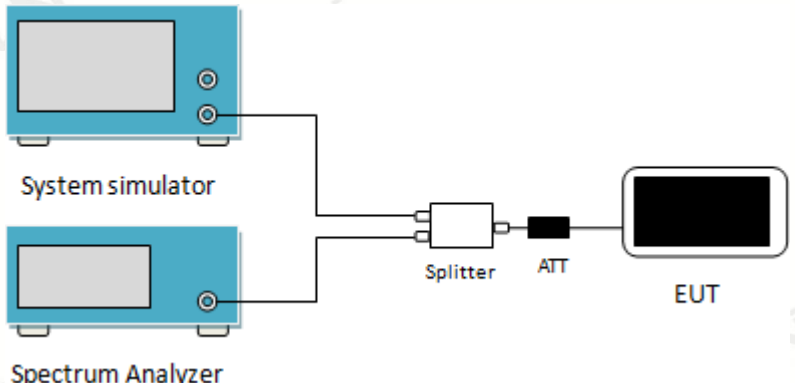
Band12	5MHz	QPSK	23095	25RB#0	21.4	-1.20	20.2	33.00
Band12	5MHz	QPSK	23155	1RB#0	22.77	-1.20	21.57	33.00
Band12	5MHz	QPSK	23155	1RB#12	22.54	-1.20	21.34	33.00
Band12	5MHz	QPSK	23155	1RB#24	22.6	-1.20	20.36	33.00
Band12	5MHz	QPSK	23155	12RB#0	21.48	-1.20	20.28	33.00
Band12	5MHz	QPSK	23155	12RB#6	21.53	-1.20	20.33	33.00
Band12	5MHz	QPSK	23155	12RB#11	21.58	-1.20	20.38	33.00
Band12	5MHz	QPSK	23155	25RB#0	21.43	-1.20	20.23	33.00
Band12	5MHz	16QAM	23035	1RB#0	21.52	-1.20	20.32	33.00
Band12	5MHz	16QAM	23035	1RB#12	21.74	-1.20	20.54	33.00
Band12	5MHz	16QAM	23035	1RB#24	21.69	-1.20	20.49	33.00
Band12	5MHz	16QAM	23035	12RB#0	20.41	-1.20	19.21	33.00
Band12	5MHz	16QAM	23035	12RB#6	20.55	-1.20	19.35	33.00
Band12	5MHz	16QAM	23035	12RB#11	20.62	-1.20	19.42	33.00
Band12	5MHz	16QAM	23035	25RB#0	20.43	-1.20	19.23	33.00
Band12	5MHz	16QAM	23095	1RB#0	21.67	-1.20	20.47	33.00
Band12	5MHz	16QAM	23095	1RB#12	21.82	-1.20	20.62	33.00
Band12	5MHz	16QAM	23095	1RB#24	21.77	-1.20	20.57	33.00
Band12	5MHz	16QAM	23095	12RB#0	20.49	-1.20	19.29	33.00
Band12	5MHz	16QAM	23095	12RB#6	20.48	-1.20	19.28	33.00
Band12	5MHz	16QAM	23095	12RB#11	20.56	-1.20	19.36	33.00
Band12	5MHz	16QAM	23095	25RB#0	20.42	-1.20	19.22	33.00
Band12	5MHz	16QAM	23155	1RB#0	21.65	-1.20	20.45	33.00
Band12	5MHz	16QAM	23155	1RB#12	21.55	-1.20	20.35	33.00
Band12	5MHz	16QAM	23155	1RB#24	21.53	-1.20	20.33	33.00
Band12	5MHz	16QAM	23155	12RB#0	20.56	-1.20	19.36	33.00
Band12	5MHz	16QAM	23155	12RB#6	20.51	-1.20	19.31	33.00
Band12	5MHz	16QAM	23155	12RB#11	20.47	-1.20	19.27	33.00
Band12	5MHz	16QAM	23155	25RB#0	20.31	-1.20	19.11	33.00
Band12	10MHz	QPSK	23060	1RB#0	22.57	-1.20	21.37	33.00
Band12	10MHz	QPSK	23060	1RB#24	22.57	-1.20	21.37	33.00
Band12	10MHz	QPSK	23060	1RB#49	22.62	-1.20	21.42	33.00
Band12	10MHz	QPSK	23060	25RB#0	21.59	-1.20	20.39	33.00
Band12	10MHz	QPSK	23060	25RB#12	21.61	-1.20	20.41	33.00
Band12	10MHz	QPSK	23060	25RB#24	21.61	-1.20	20.41	33.00
Band12	10MHz	QPSK	23060	50RB#0	21.47	-1.20	20.27	33.00



Band12	10MHz	QPSK	23095	1RB#0	22.57	-1.20	21.37	33.00
Band12	10MHz	QPSK	23095	1RB#24	22.56	-1.20	21.36	33.00
Band12	10MHz	QPSK	23095	1RB#49	22.76	-1.20	21.56	33.00
Band12	10MHz	QPSK	23095	25RB#0	21.54	-1.20	20.34	33.00
Band12	10MHz	QPSK	23095	25RB#12	21.64	-1.20	20.44	33.00
Band12	10MHz	QPSK	23095	25RB#24	21.63	-1.20	20.43	33.00
Band12	10MHz	QPSK	23095	50RB#0	21.58	-1.20	20.38	33.00
Band12	10MHz	QPSK	23130	1RB#0	22.46	-1.20	21.26	33.00
Band12	10MHz	QPSK	23130	1RB#24	22.56	-1.20	21.36	33.00
Band12	10MHz	QPSK	23130	1RB#49	22.59	-1.20	21.39	33.00
Band12	10MHz	QPSK	23130	25RB#0	21.74	-1.20	20.54	33.00
Band12	10MHz	QPSK	23130	25RB#12	21.79	-1.20	20.59	33.00
Band12	10MHz	QPSK	23130	25RB#24	21.78	-1.20	20.58	33.00
Band12	10MHz	QPSK	23130	50RB#0	21.69	-1.20	20.49	33.00
Band12	10MHz	16QAM	23060	1RB#0	21.68	-1.20	20.48	33.00
Band12	10MHz	16QAM	23060	1RB#24	21.63	-1.20	20.43	33.00
Band12	10MHz	16QAM	23060	1RB#49	21.77	-1.20	20.57	33.00
Band12	10MHz	16QAM	23060	25RB#0	20.52	-1.20	19.32	33.00
Band12	10MHz	16QAM	23060	25RB#12	20.53	-1.20	19.33	33.00
Band12	10MHz	16QAM	23060	25RB#24	20.6	-1.20	19.4	33.00
Band12	10MHz	16QAM	23060	50RB#0	20.41	-1.20	19.21	33.00
Band12	10MHz	16QAM	23095	1RB#0	21.51	-1.20	20.31	33.00
Band12	10MHz	16QAM	23095	1RB#24	21.86	-1.20	20.66	33.00
Band12	10MHz	16QAM	23095	1RB#49	21.8	-1.20	20.6	33.00
Band12	10MHz	16QAM	23095	25RB#0	20.42	-1.20	19.22	33.00
Band12	10MHz	16QAM	23095	25RB#12	20.66	-1.20	19.46	33.00
Band12	10MHz	16QAM	23095	25RB#24	20.47	-1.20	19.27	33.00
Band12	10MHz	16QAM	23095	50RB#0	20.33	-1.20	19.13	33.00
Band12	10MHz	16QAM	23130	1RB#0	21.83	-1.20	20.63	33.00
Band12	10MHz	16QAM	23130	1RB#24	21.71	-1.20	20.51	33.00
Band12	10MHz	16QAM	23130	1RB#49	21.79	-1.20	20.59	33.00
Band12	10MHz	16QAM	23130	25RB#0	20.55	-1.20	19.35	33.00
Band12	10MHz	16QAM	23130	25RB#12	20.48	-1.20	19.28	33.00

Band12	10MHz	16QAM	23130	25RB#24	20.49	-1.20	19.29	33.00
Band12	10MHz	16QAM	23130	50RB#0	20.32	-1.20	19.12	33.00

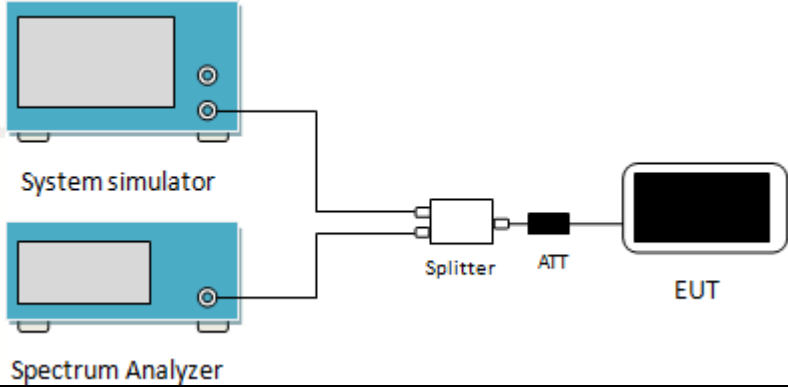
4 Peak-to-Average Power Ratio

Test Requirement:	Part 24.232 (d), Part 27.50(d)(5)
Limit:	The peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.
Test setup:	 <p>The diagram illustrates the test setup. On the left, there are two blue rectangular units labeled 'System simulator' and 'Spectrum Analyzer'. A cable connects the output of the 'System simulator' to a 'Splitter'. From the 'Splitter', one cable goes to the 'Spectrum Analyzer' and another goes to an 'ATT' (attenuator). The output of the 'ATT' is connected to the 'EUT' (Equipment Under Test), which is represented by a black rectangular box.</p>
Test Procedure:	<ol style="list-style-type: none"> 1 The RF output of the transceiver was connected to a spectrum analyzer through appropriate attenuation. 2 Set the CCDF option in spectrum analyzer, $RBW \geq OBW$, 3 Set the EUT working in highest power level, measured and recorded the 0.1% as PAPR level. 4 Repeat step 1~3 at other frequency and modulations.
Test Instruments:	Refer to section 2.5 for details
Test mode:	Refer to section 2.3 for details
Test results:	Passed

4.1 Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dB)	Limit(dB)	Verdict
Band2	20MHz	QPSK	18900	100RB#0	5.88	13	PASS
Band2	20MHz	16QAM	18900	100RB#0	6.55	13	PASS
Band4	20MHz	QPSK	20175	100RB#0	5.74	13	PASS
Band4	20MHz	16QAM	20175	100RB#0	6.51	13	PASS
Band12	10MHz	QPSK	23095	50RB#0	5.63	13	PASS
Band12	10MHz	16QAM	23095	50RB#0	6.45	13	PASS

5 Occupy Bandwidth

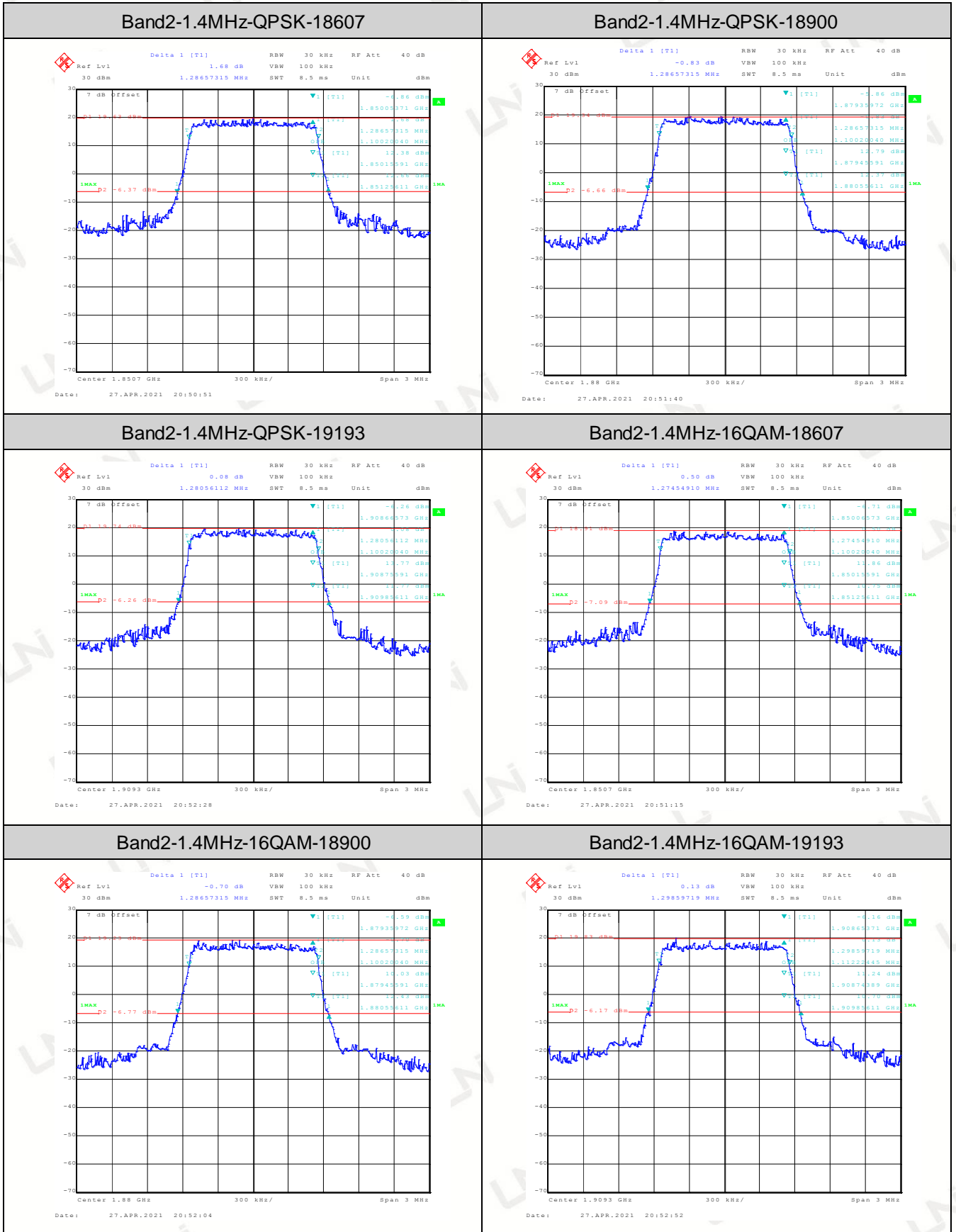
Test Requirement:	Part 22.917(b), Part 24.238(b), Part 27.53(g), Part 27.53(h),
Test Setup:	 <p>The diagram illustrates the test setup. On the left, there are two blue rectangular units labeled 'System simulator' and 'Spectrum Analyzer'. A cable connects the output of the 'System simulator' to a 'Splitter'. The 'Splitter' has two outputs: one goes to the 'Spectrum Analyzer' and the other goes to an 'ATT' (Attenuator). The output of the 'ATT' is connected to the 'EUT' (Equipment Under Test), which is represented by a black rectangular device.</p>
Test Procedure:	<ol style="list-style-type: none"> 1. The EUT's output RF connector was connected with a short cable to the spectrum analyzer 2. RBW was set to about 1% ~ 5% of emission BW, VBW= 3 times RBW. 3. -26dBc display line was placed on the screen (or 99% bandwidth), the occupied bandwidth is the delta frequency between the two points where the display line intersects the signal trace.
Test Instruments:	Refer to section 2.5 for details
Test mode:	Refer to section 2.3 for details
Test results:	Passed

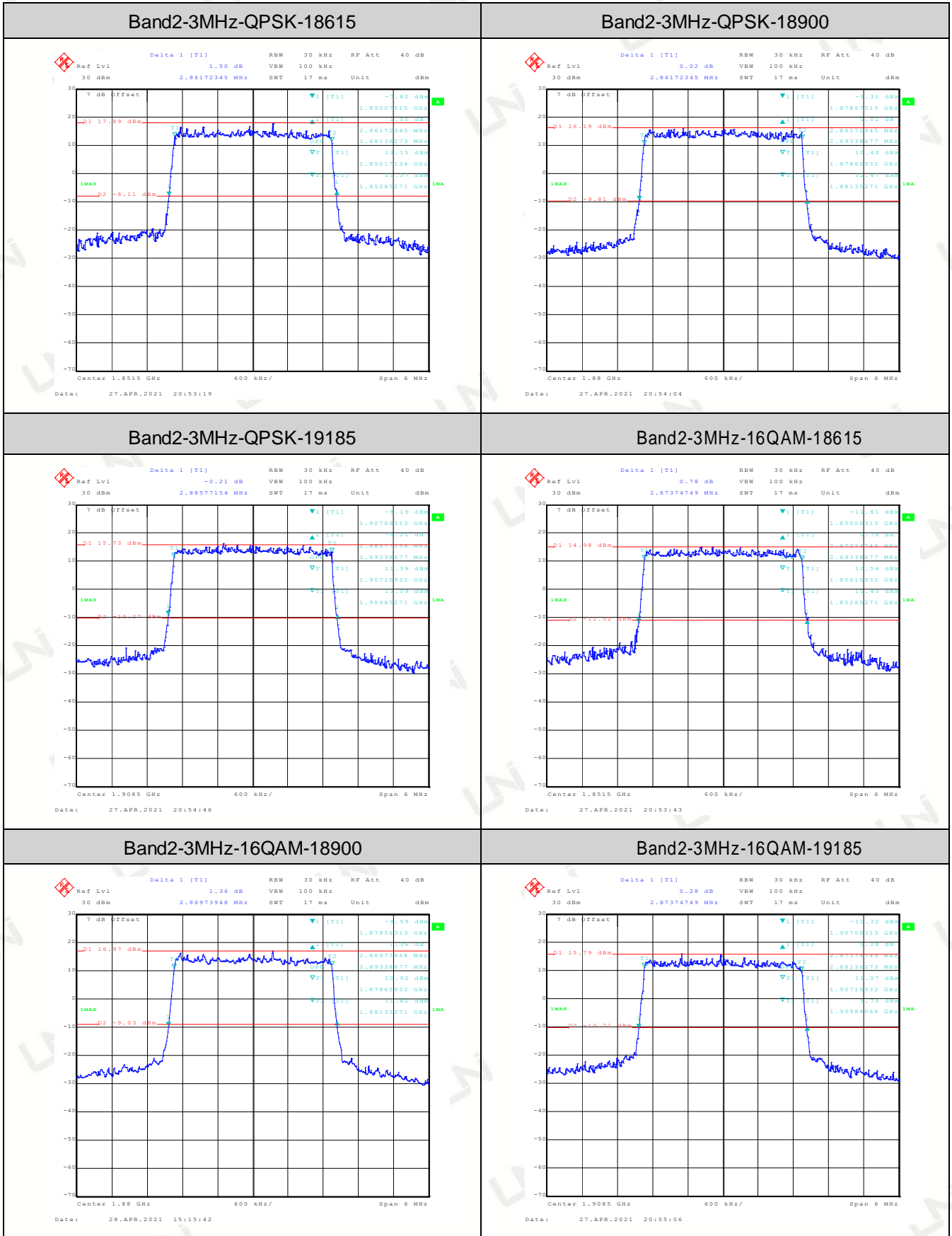
5.1 Test Result

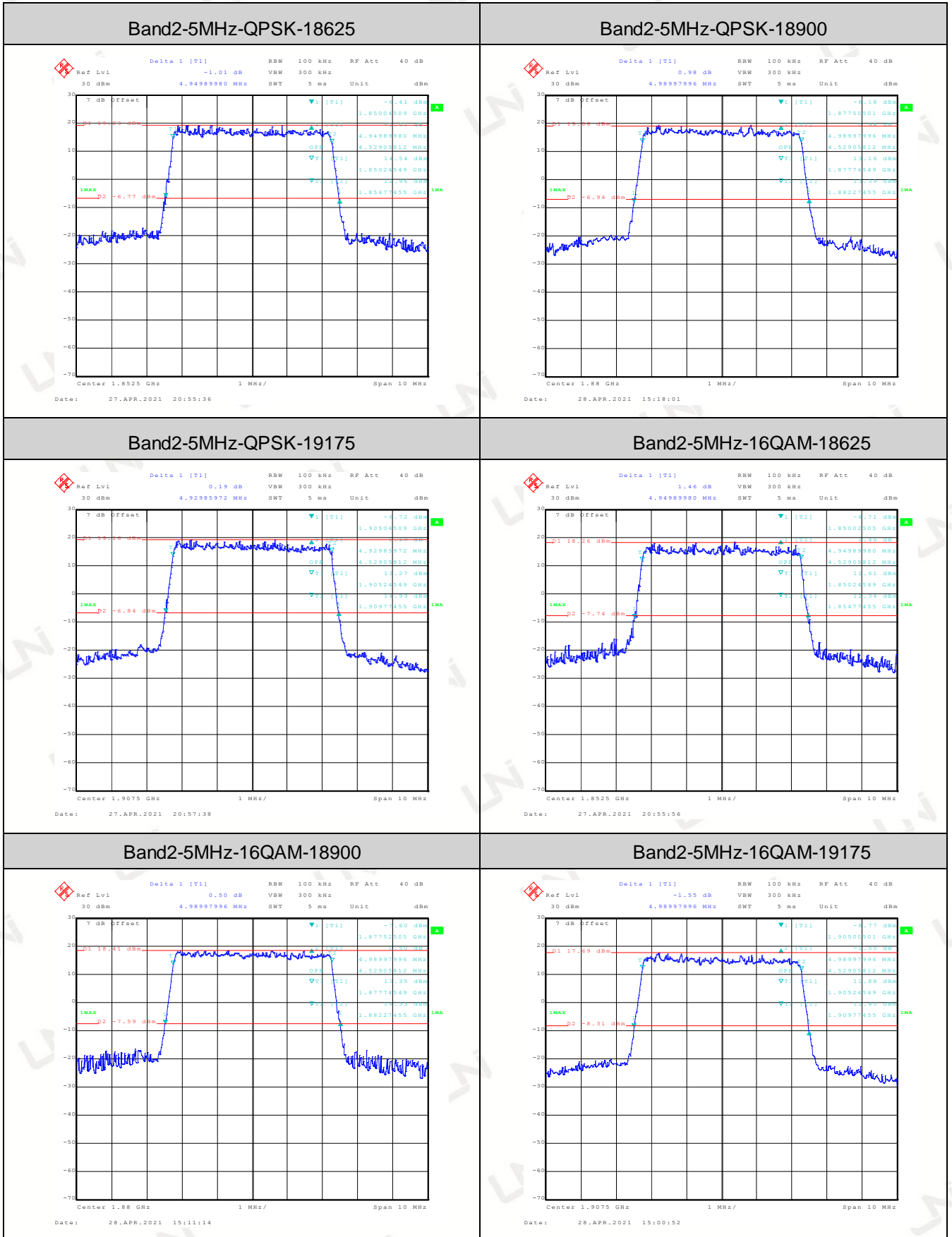
Band	Bandwidth	Modulation	Channel	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
Band2	1.4MHz	QPSK	18607	1.1002	1.287	PASS
Band2	1.4MHz	QPSK	18900	1.1002	1.287	PASS
Band2	1.4MHz	QPSK	19193	1.1002	1.281	PASS
Band2	1.4MHz	16QAM	18607	1.1002	1.275	PASS
Band2	1.4MHz	16QAM	18900	1.1002	1.287	PASS
Band2	1.4MHz	16QAM	19193	1.1122	1.299	PASS
Band2	3MHz	QPSK	18615	2.6813	2.862	PASS
Band2	3MHz	QPSK	18900	2.6934	2.862	PASS
Band2	3MHz	QPSK	19185	2.6934	2.886	PASS
Band2	3MHz	16QAM	18615	2.6934	2.074	PASS
Band2	3MHz	16QAM	18900	2.6934	2.870	PASS
Band2	3MHz	16QAM	19185	2.6814	2.874	PASS
Band2	5MHz	QPSK	18625	4.5291	4.950	PASS
Band2	5MHz	QPSK	18900	4.5291	4.990	PASS
Band2	5MHz	QPSK	19175	4.5291	4.930	PASS
Band2	5MHz	16QAM	18625	4.5291	4.950	PASS
Band2	5MHz	16QAM	18900	4.5291	4.990	PASS
Band2	5MHz	16QAM	19175	4.5291	5.990	PASS
Band2	10MHz	QPSK	18650	8.9780	9.619	PASS
Band2	10MHz	QPSK	18900	8.9780	9.619	PASS
Band2	10MHz	QPSK	19150	8.9780	9.579	PASS
Band2	10MHz	16QAM	18650	8.9780	9.539	PASS
Band2	10MHz	16QAM	18900	8.9780	9.499	PASS
Band2	10MHz	16QAM	19150	8.9780	9.659	PASS
Band2	15MHz	QPSK	18675	13.587	14.97	PASS
Band2	15MHz	QPSK	18900	13.527	14.67	PASS
Band2	15MHz	QPSK	19125	13.467	14.73	PASS
Band2	15MHz	16QAM	18675	13.587	14.79	PASS
Band2	15MHz	16QAM	18900	13.527	14.67	PASS
Band2	15MHz	16QAM	19125	13.527	14.61	PASS
Band2	20MHz	QPSK	18700	17.956	19.40	PASS

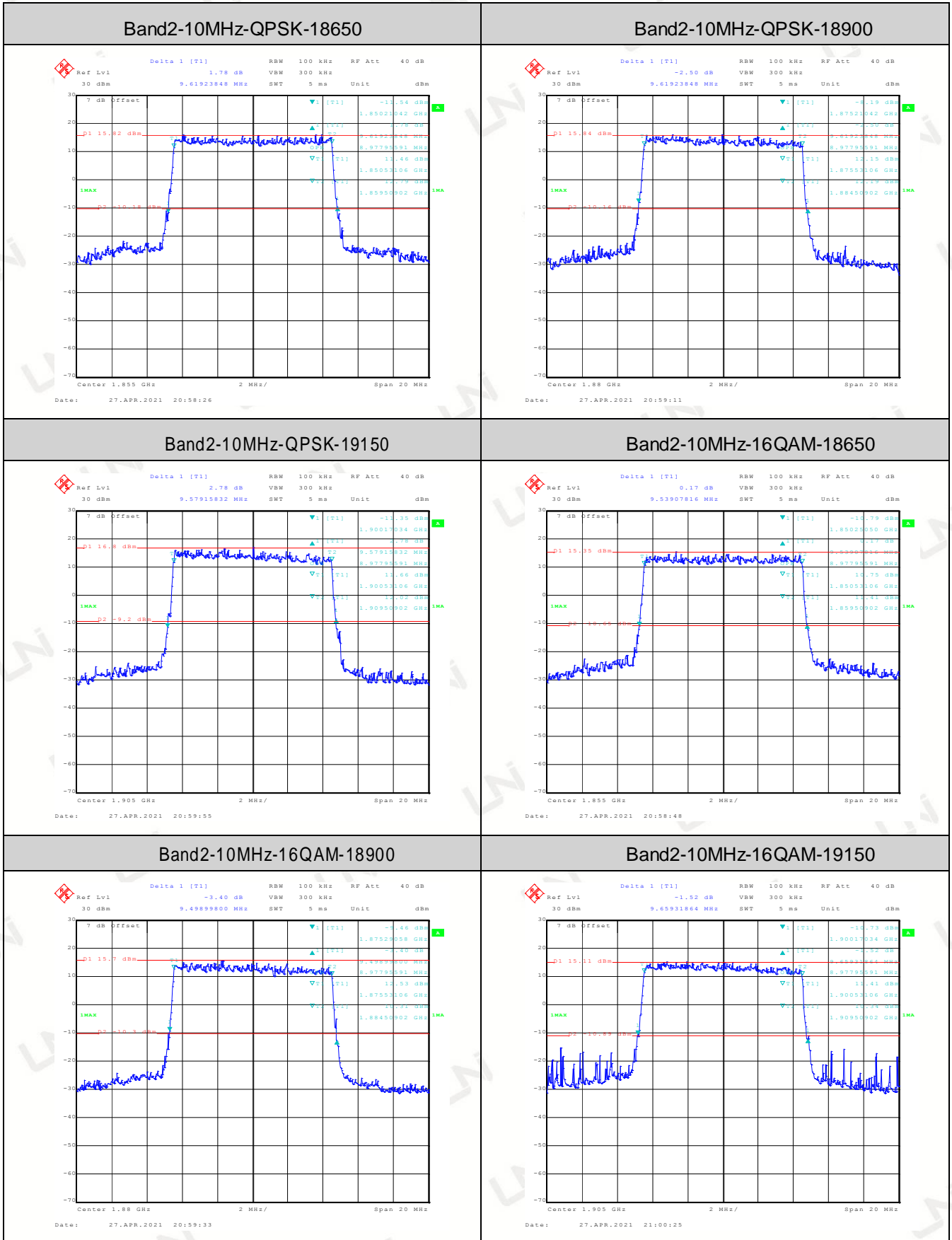
Band2	20MHz	QPSK	18900	17.956	19.24	PASS
Band2	20MHz	QPSK	19100	17.876	19.43	PASS
Band2	20MHz	16QAM	18700	18.036	19.40	PASS
Band2	20MHz	16QAM	18900	17.876	19.32	PASS
Band2	20MHz	16QAM	19100	17.876	19.32	PASS
Band4	1.4MHz	QPSK	19957	1.0942	1.281	PASS
Band4	1.4MHz	QPSK	20175	1.1002	1.305	PASS
Band4	1.4MHz	QPSK	20393	1.1002	1.287	PASS
Band4	1.4MHz	16QAM	19957	1.1062	1.323	PASS
Band4	1.4MHz	16QAM	20175	1.1002	1.299	PASS
Band4	1.4MHz	16QAM	20393	1.0942	1.287	PASS
Band4	3MHz	QPSK	19965	2.6934	2.862	PASS
Band4	3MHz	QPSK	20175	2.6934	2.874	PASS
Band4	3MHz	QPSK	20385	2.6934	2.874	PASS
Band4	3MHz	16QAM	19965	2.6814	2.886	PASS
Band4	3MHz	16QAM	20175	2.6934	2.874	PASS
Band4	3MHz	16QAM	20385	2.6814	2.874	PASS
Band4	5MHz	QPSK	19975	4.5291	4.990	PASS
Band4	5MHz	QPSK	20175	4.5090	4.950	PASS
Band4	5MHz	QPSK	20375	4.5090	4.930	PASS
Band4	5MHz	16QAM	19975	4.5090	4.890	PASS
Band4	5MHz	16QAM	20175	4.5090	4.970	PASS
Band4	5MHz	16QAM	20375	4.5090	5.010	PASS
Band4	10MHz	QPSK	20000	8.9980	9.659	PASS
Band4	10MHz	QPSK	20175	8.9780	9.539	PASS
Band4	10MHz	QPSK	20350	8.9780	9.579	PASS
Band4	10MHz	16QAM	20000	8.9379	9.539	PASS
Band4	10MHz	16QAM	20175	8.9780	9.579	PASS
Band4	10MHz	16QAM	20350	8.9780	9.699	PASS
Band4	15MHz	QPSK	20025	13.587	14.70	PASS
Band4	15MHz	QPSK	20175	13.467	14.61	PASS
Band4	15MHz	QPSK	20325	13.527	14.79	PASS
Band4	15MHz	16QAM	20025	13.467	14.79	PASS
Band4	15MHz	16QAM	20175	13.467	14.73	PASS
Band4	15MHz	16QAM	20325	13.527	14.85	PASS
Band4	20MHz	QPSK	20050	17.956	19.32	PASS

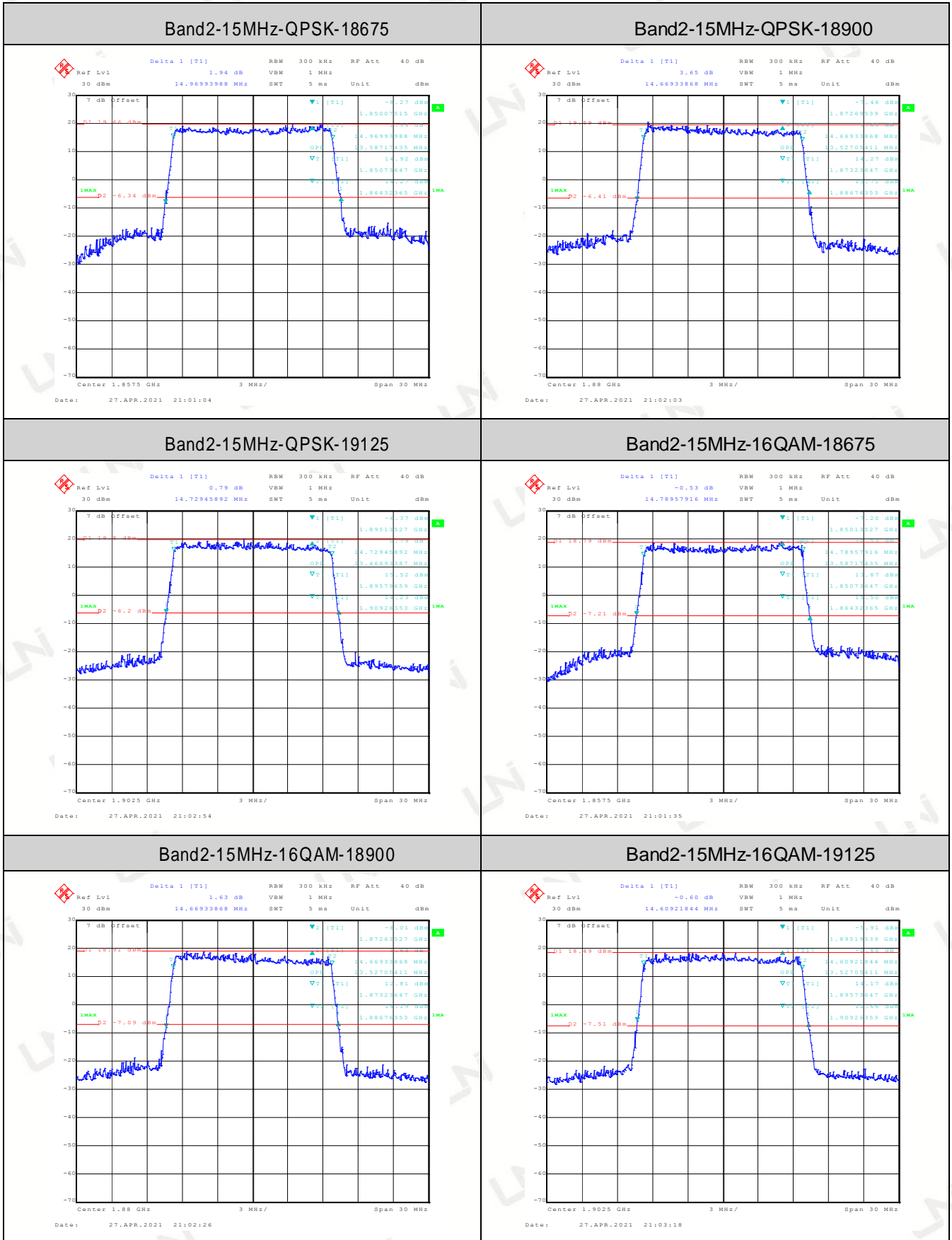
Band4	20MHz	QPSK	20175	17.956	19.24	PASS
Band4	20MHz	QPSK	20300	17.956	19.24	PASS
Band4	20MHz	16QAM	20050	18.036	19.48	PASS
Band4	20MHz	16QAM	20175	17.956	19.32	PASS
Band4	20MHz	16QAM	20300	17.956	19.40	PASS
Band12	1.4MHz	QPSK	23017	1.1002	1.299	PASS
Band12	1.4MHz	QPSK	23095	1.1002	1.311	PASS
Band12	1.4MHz	QPSK	23173	1.0942	1.275	PASS
Band12	1.4MHz	16QAM	23017	1.1122	1.305	PASS
Band12	1.4MHz	16QAM	23095	1.1002	1.341	PASS
Band12	1.4MHz	16QAM	23173	1.0942	1.287	PASS
Band12	3MHz	QPSK	23025	2.6934	2.874	PASS
Band12	3MHz	QPSK	23095	2.6814	2.886	PASS
Band12	3MHz	QPSK	23165	2.6814	2.874	PASS
Band12	3MHz	16QAM	23025	2.6693	2.874	PASS
Band12	3MHz	16QAM	23095	2.6933	3.106	PASS
Band12	3MHz	16QAM	23165	2.6814	2.874	PASS
Band12	5MHz	QPSK	23035	4.5491	5.391	PASS
Band12	5MHz	QPSK	23095	4.5491	5.170	PASS
Band12	5MHz	QPSK	23155	4.5491	5.130	PASS
Band12	5MHz	16QAM	23035	4.5291	5.110	PASS
Band12	5MHz	16QAM	23095	4.5491	5.170	PASS
Band12	5MHz	16QAM	23155	4.5491	5.170	PASS
Band12	10MHz	QPSK	23060	9.0180	9.900	PASS
Band12	10MHz	QPSK	23095	8.9780	9.940	PASS
Band12	10MHz	QPSK	23130	8.9780	9.940	PASS
Band12	10MHz	16QAM	23060	8.9780	9.780	PASS
Band12	10MHz	16QAM	23095	8.9780	9.860	PASS
Band12	10MHz	16QAM	23130	8.9780	9.780	PASS

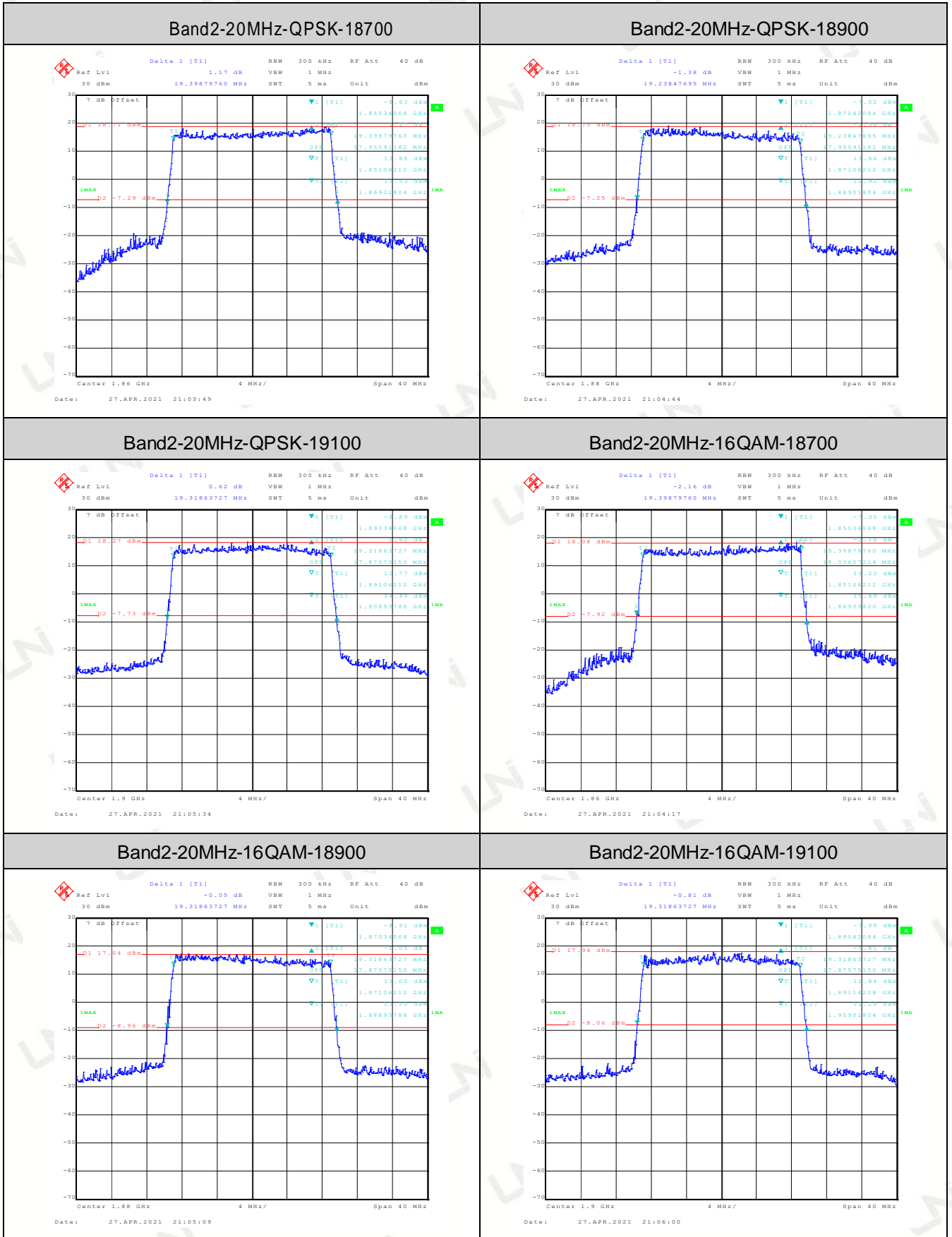


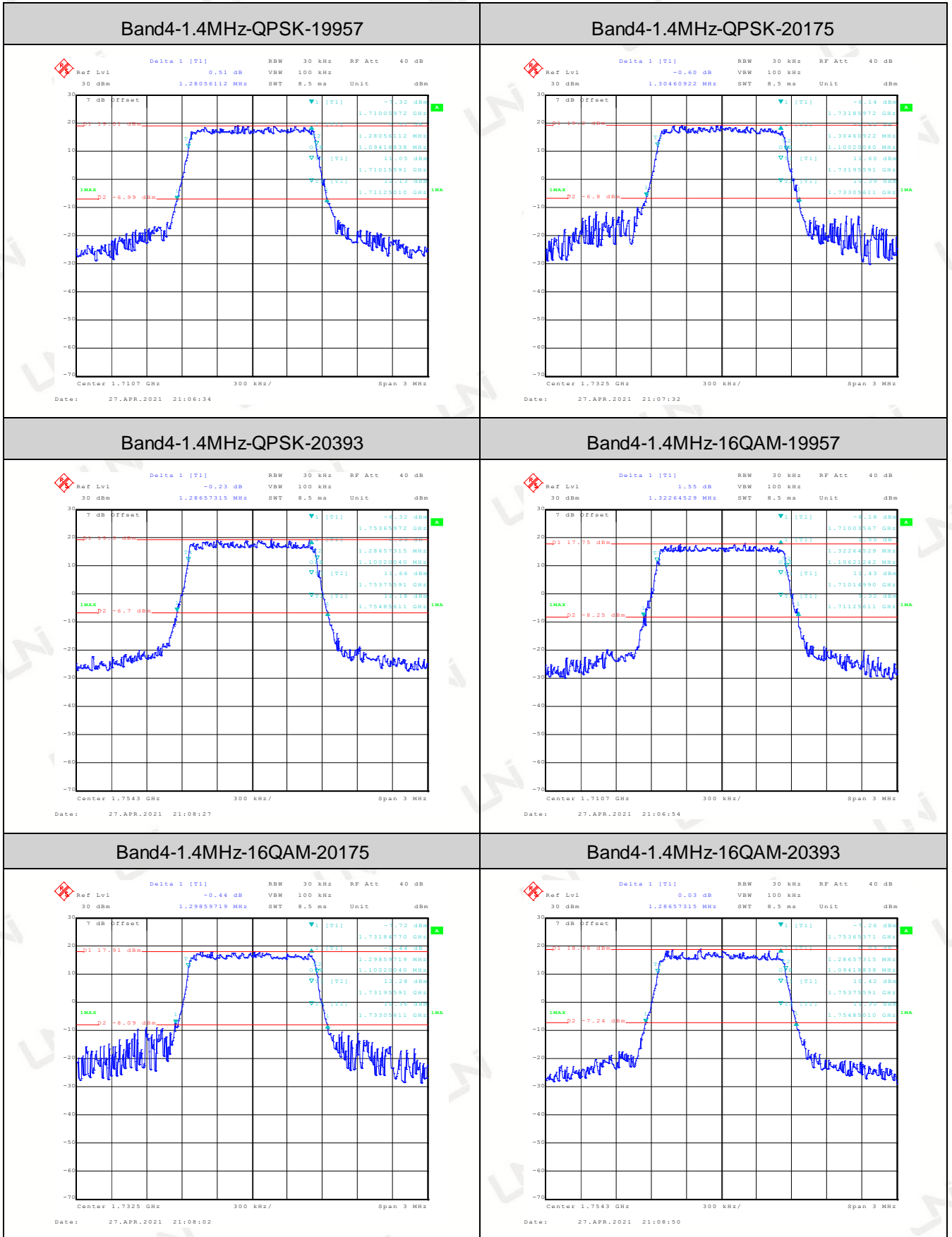


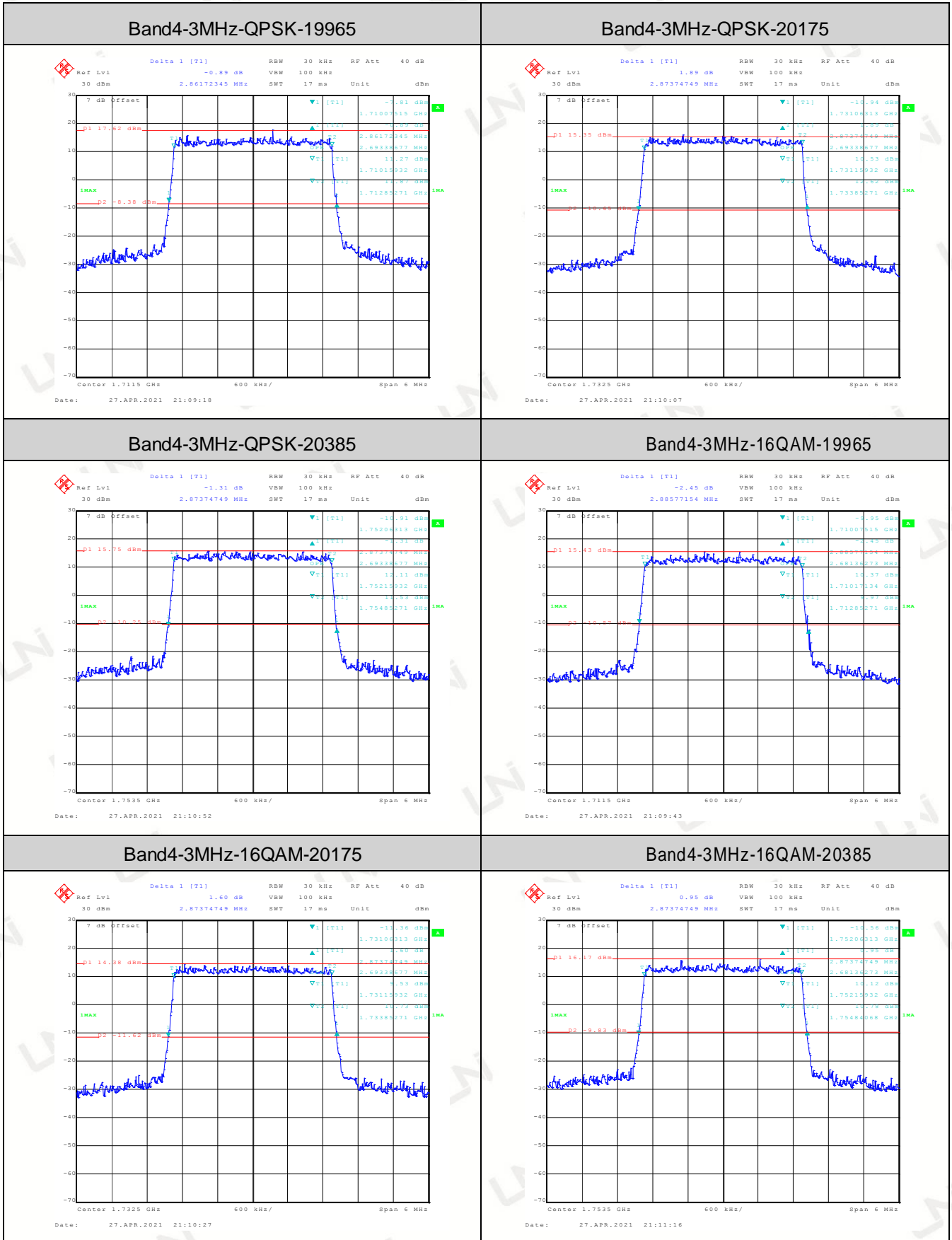


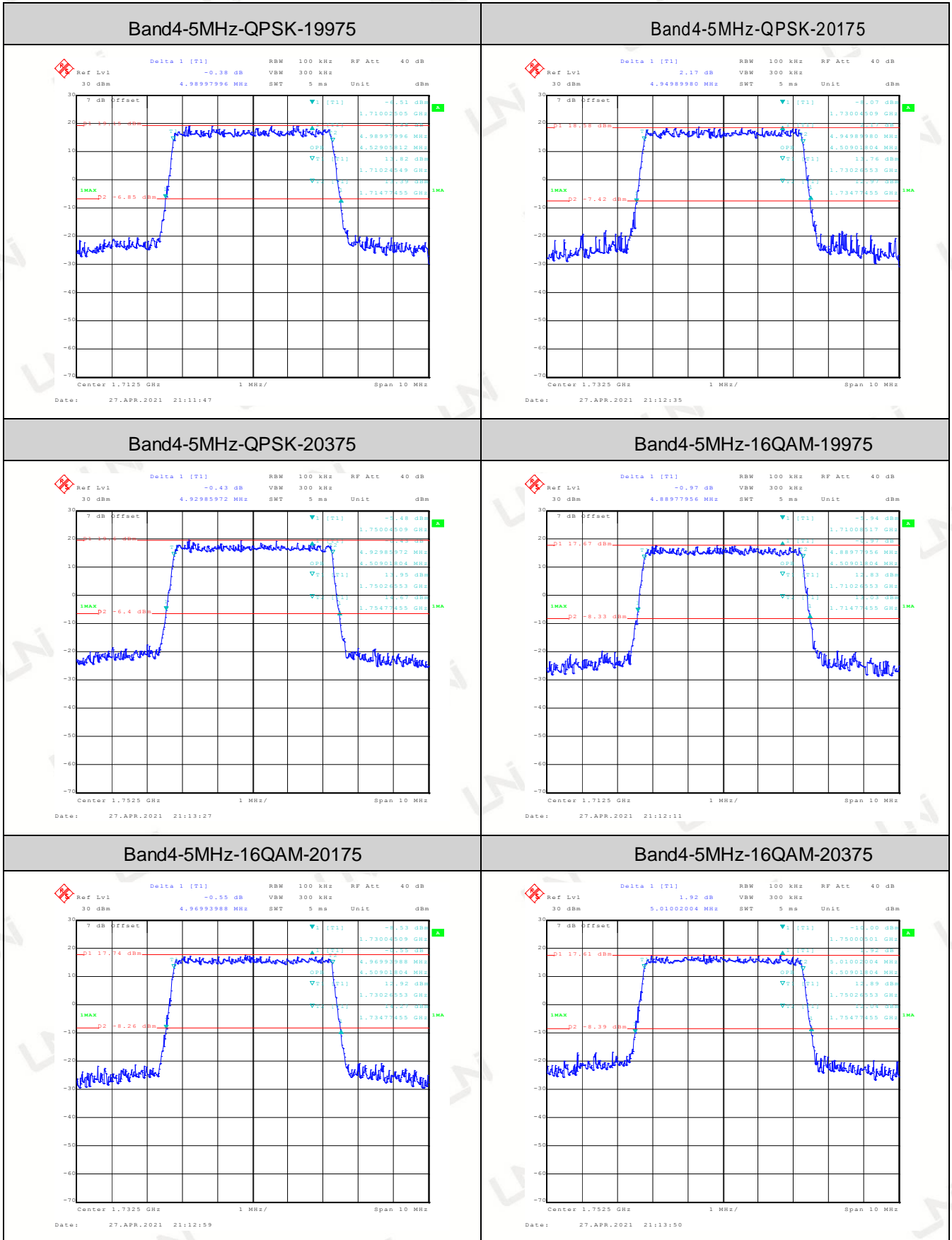


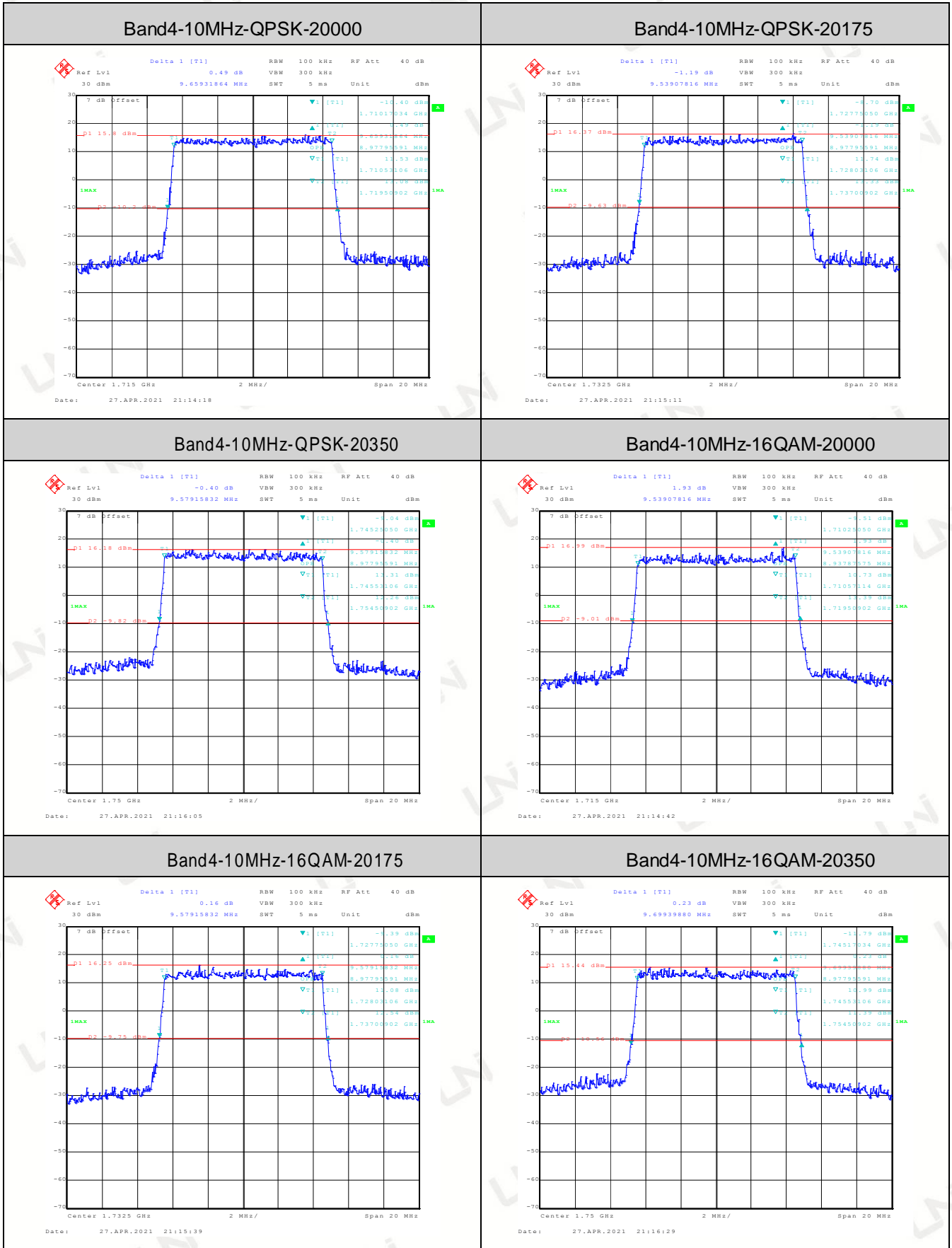


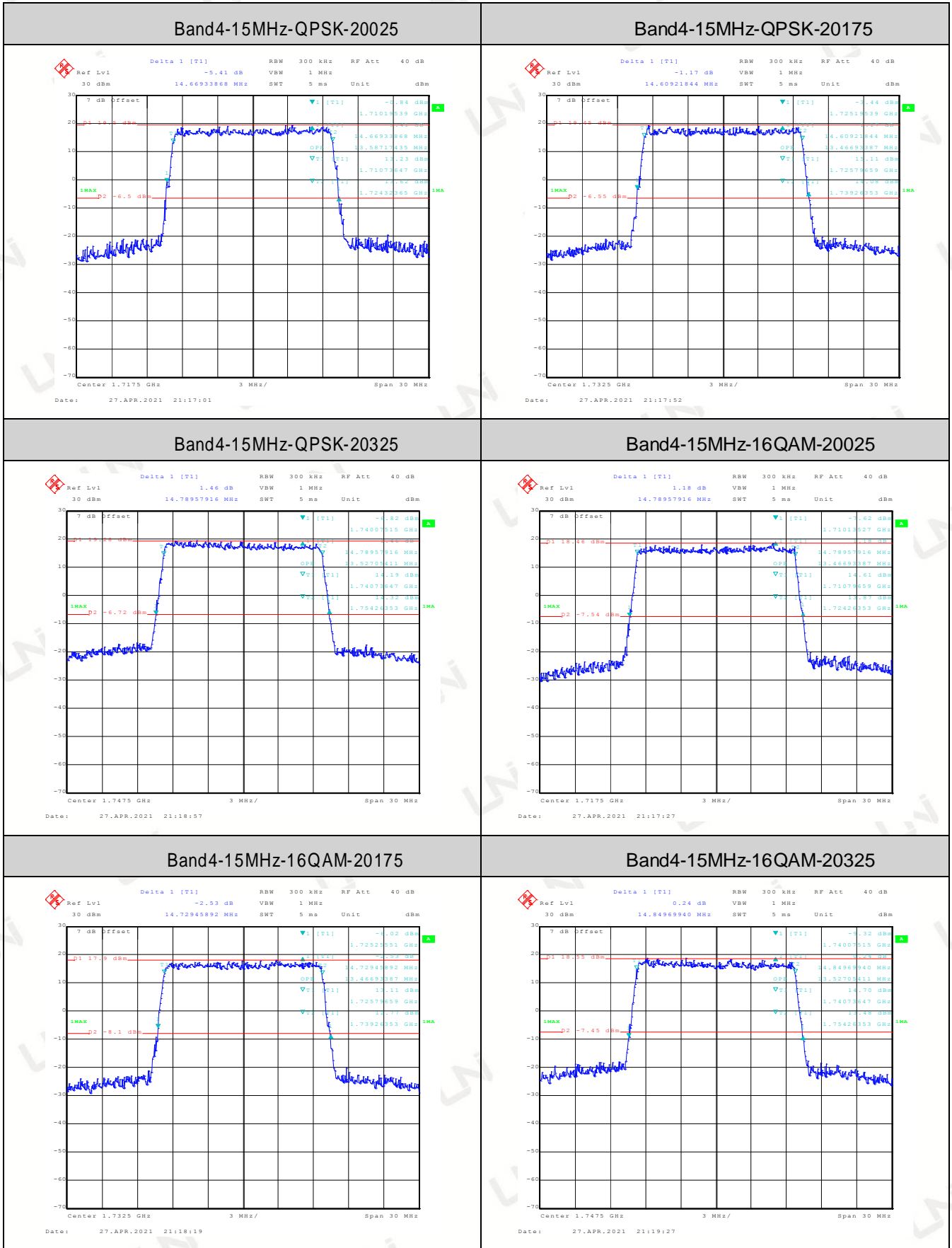


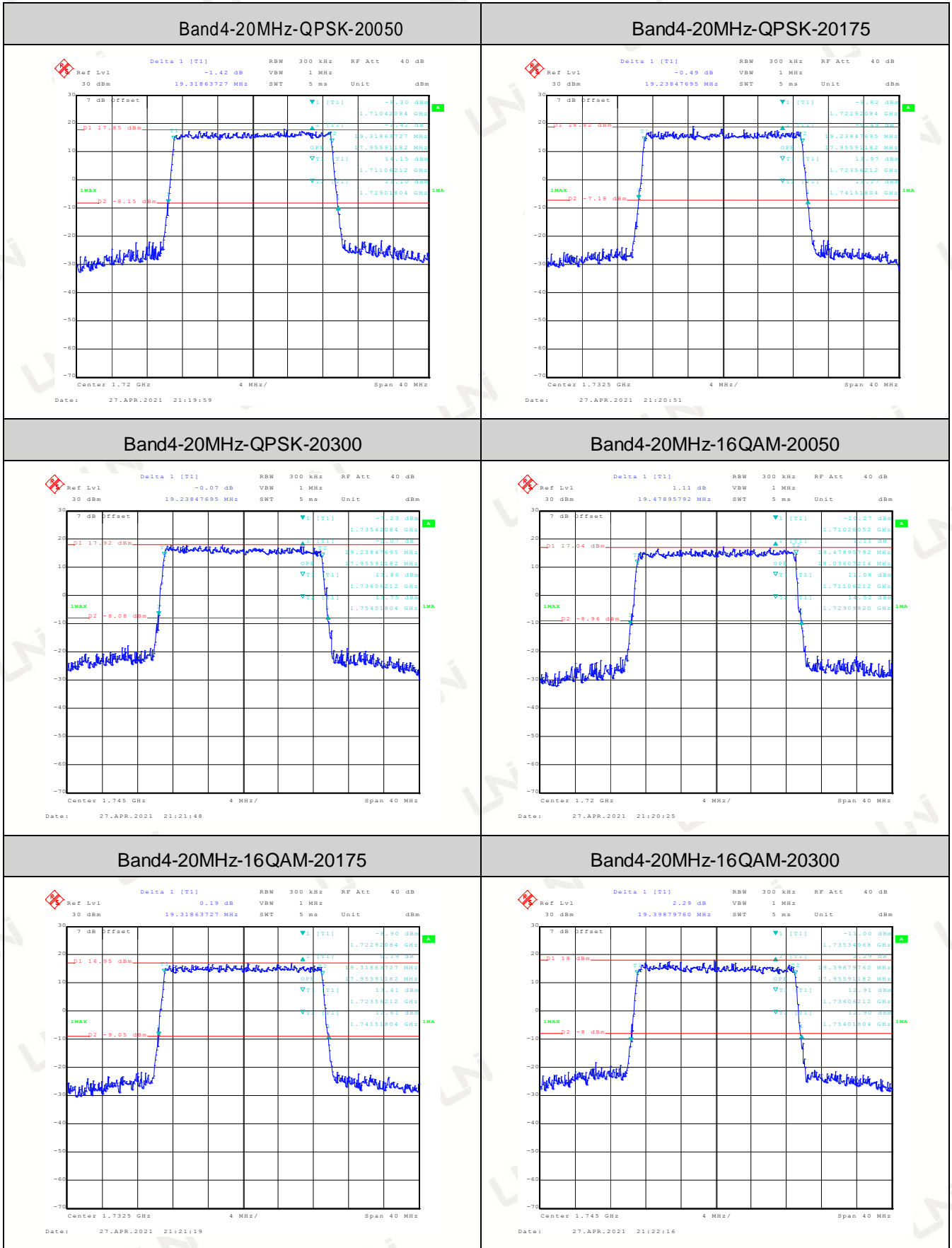


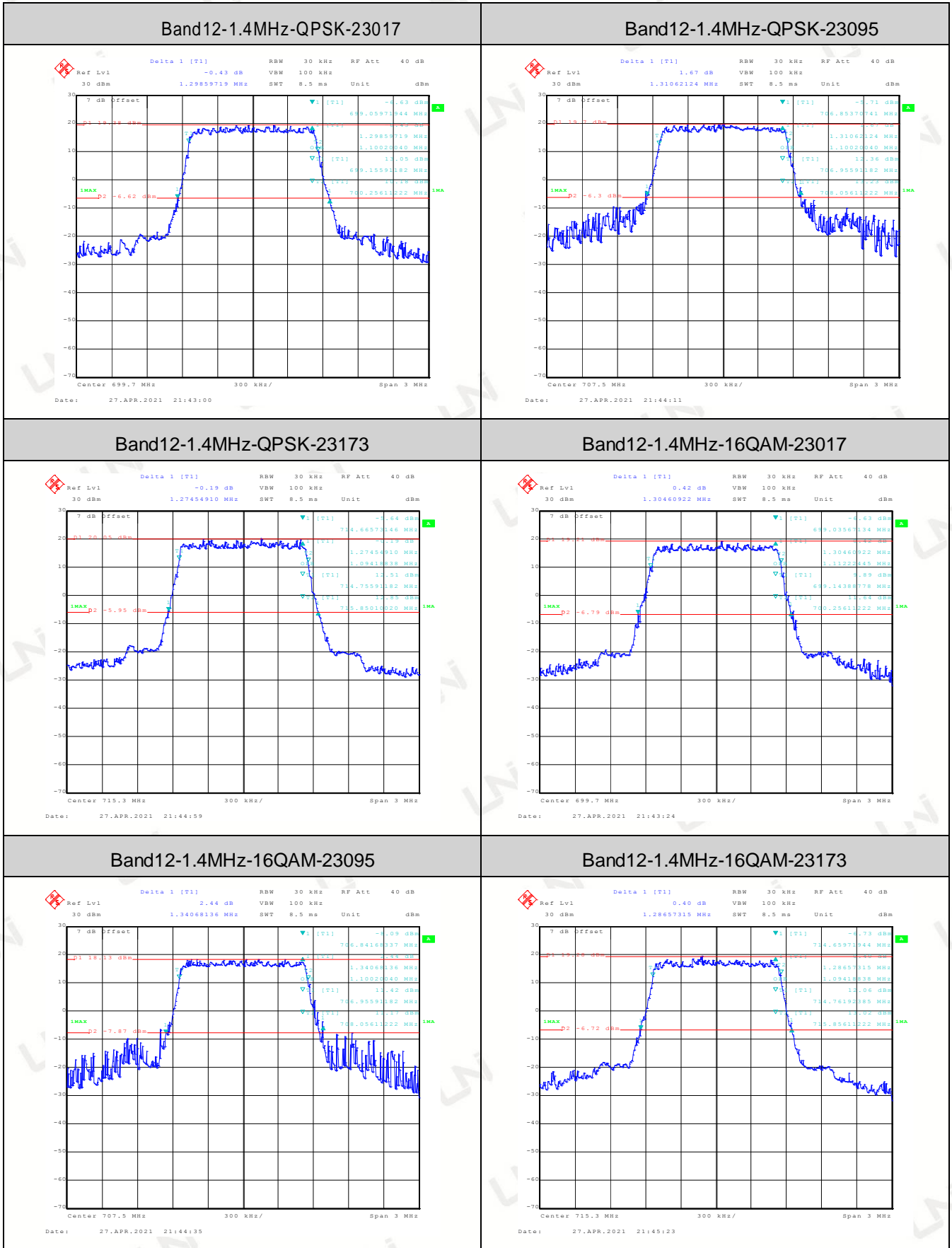


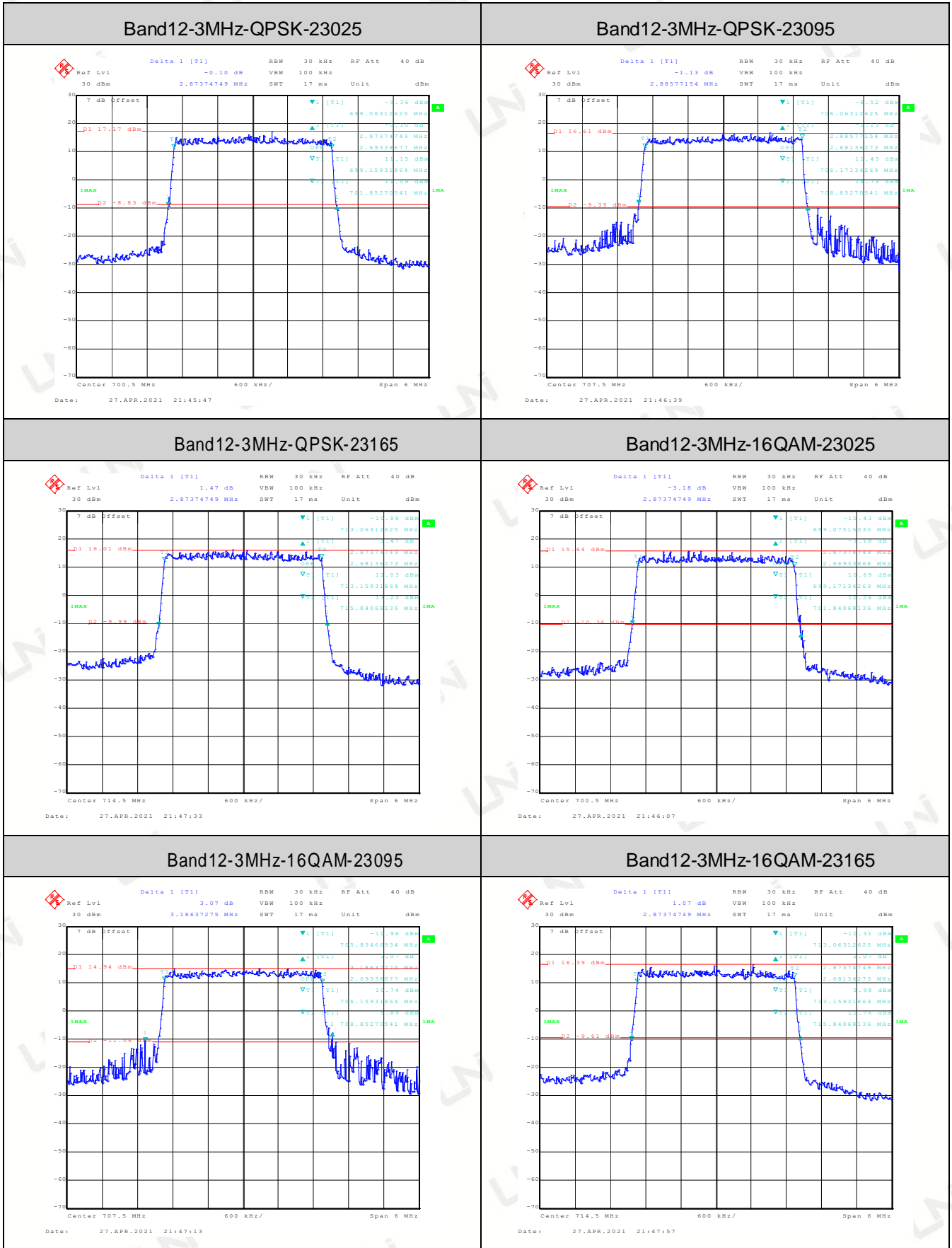


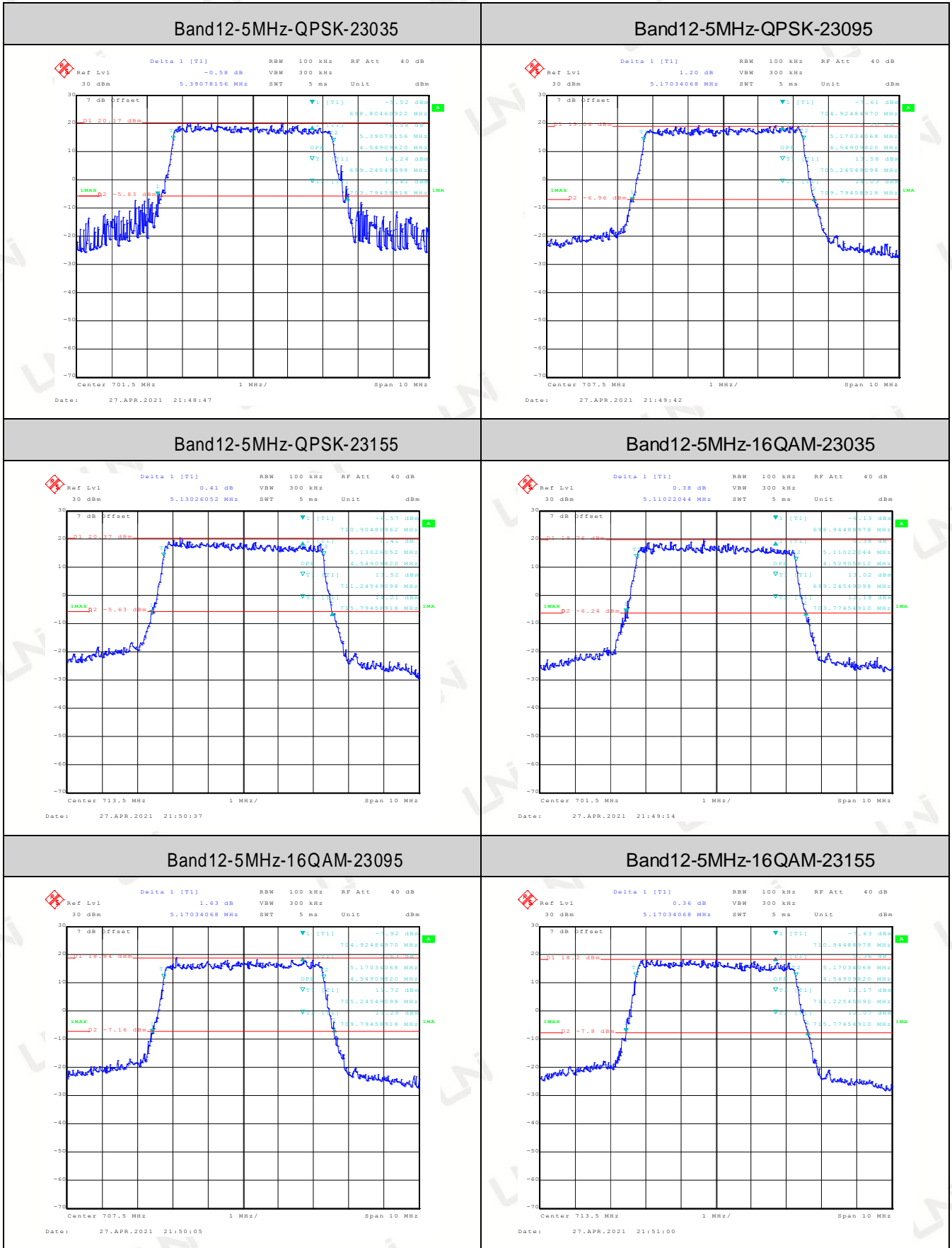


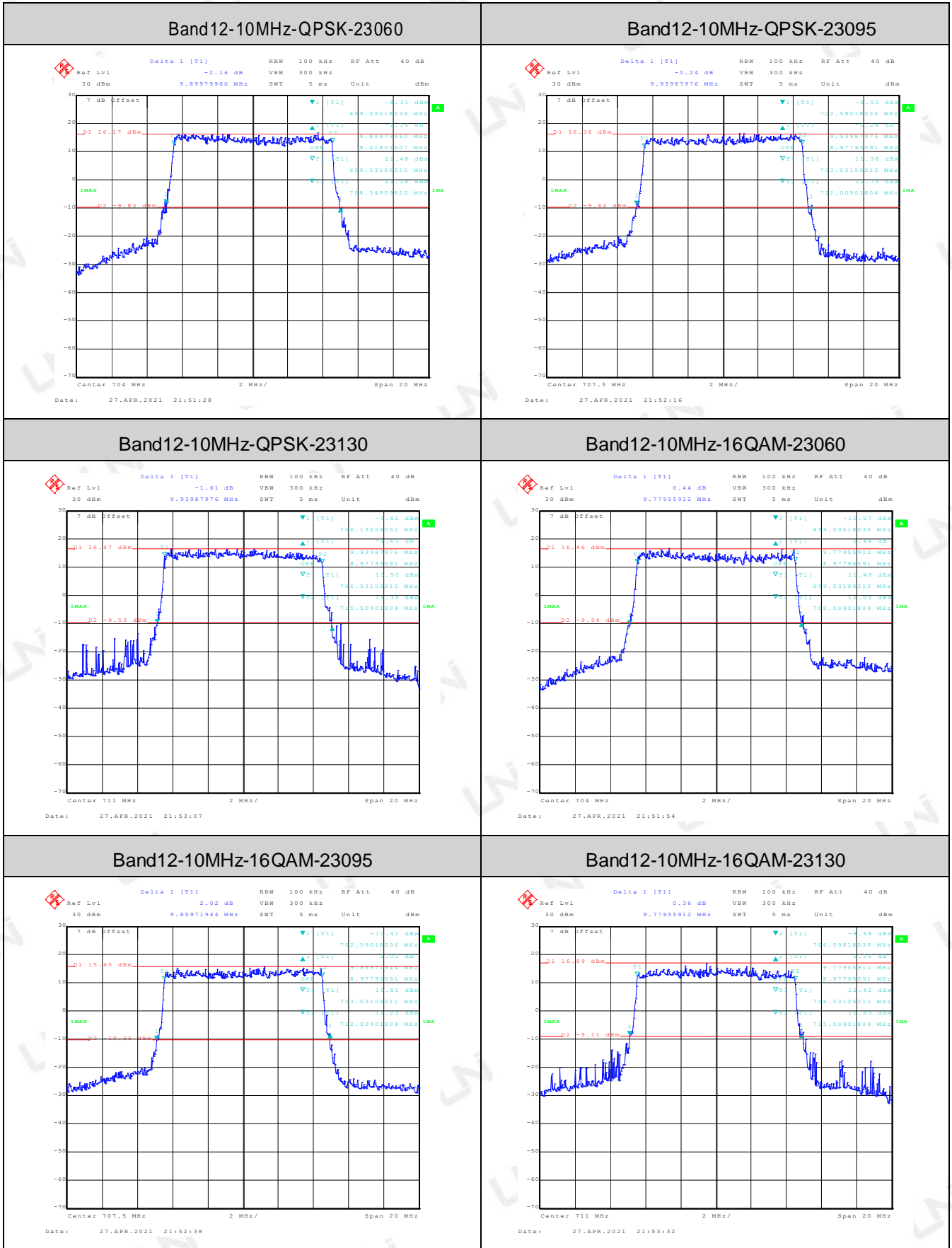








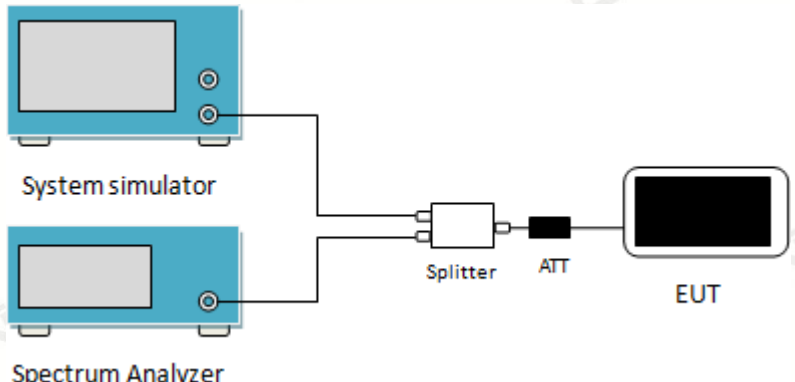




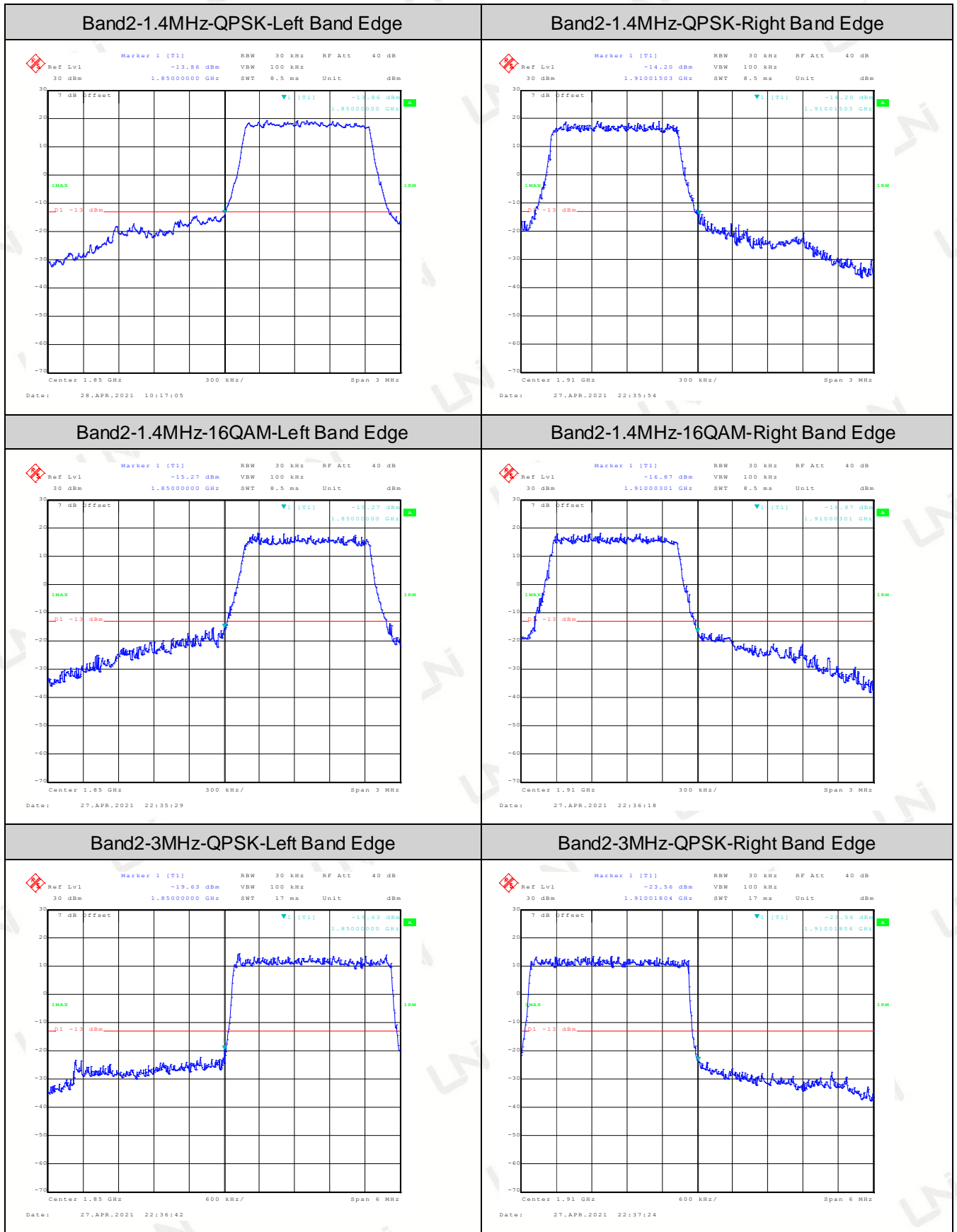
6 Modulation Characteristic

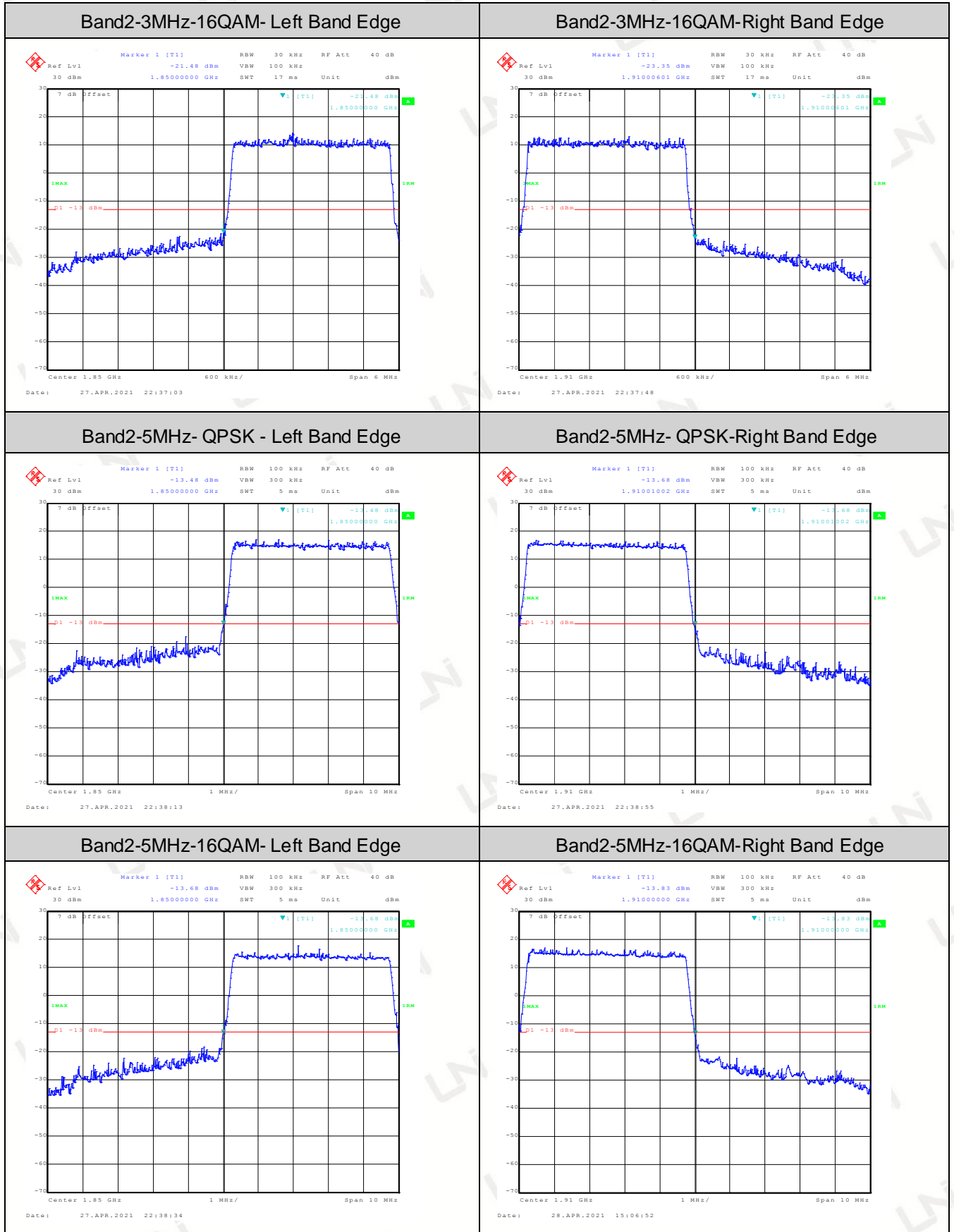
According to FCC § 2.1047(d), Part 22H & 24E there is no specific requirement for digital modulation, therefore modulation characteristic is not presented.

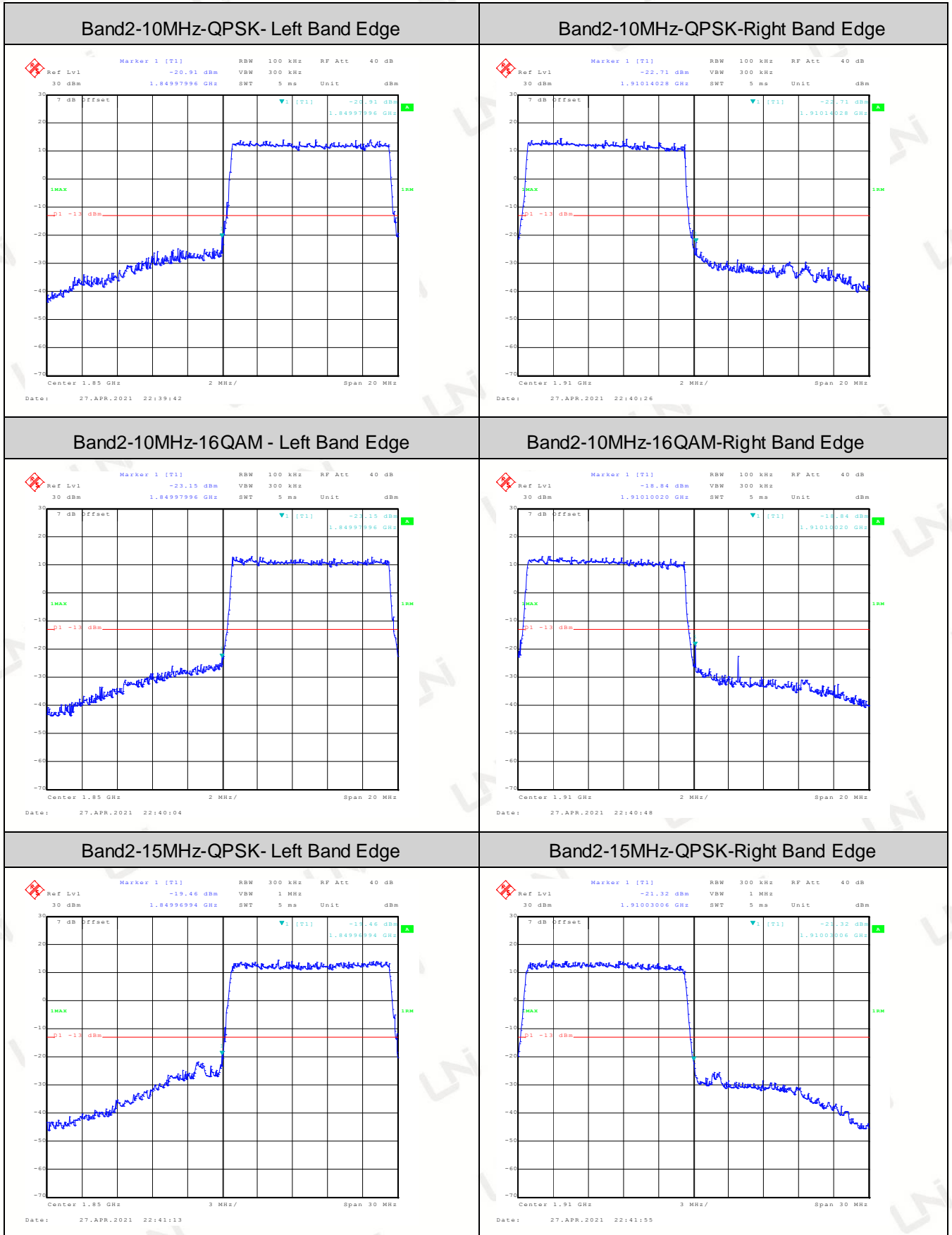
7 Out of band emission at antenna terminals

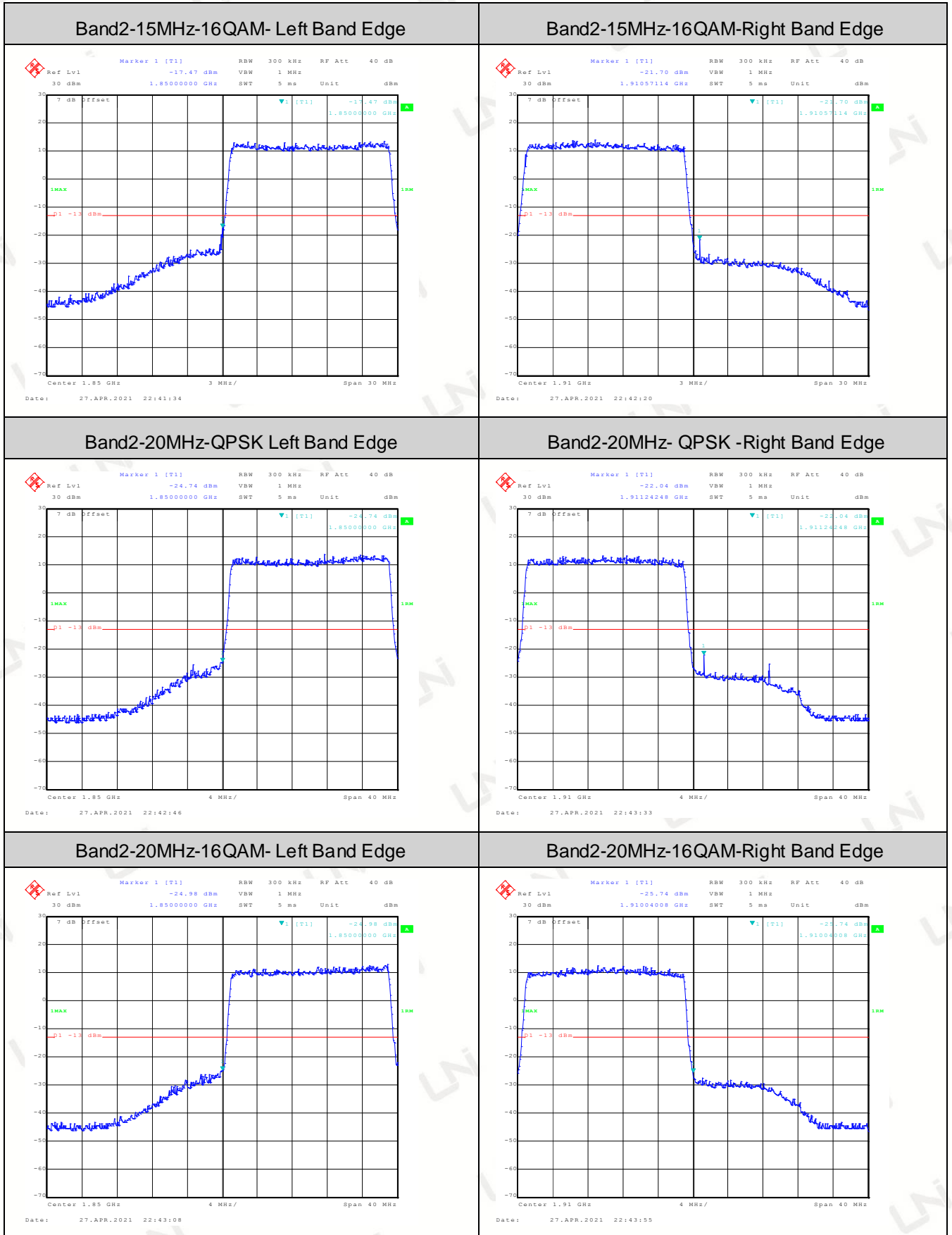
Test Requirement:	Part 22.917(a), Part 24.238 (a), part 27.53(g), part 27.53(h),
Limit:	LTE Band 2 & 4 & 12: The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least $43 + 10 \log_{10}(P)$ dB (-13 dBm).
Test setup:	 <p>The diagram illustrates the test setup. On the left, there are two blue equipment units: a 'System simulator' on top and a 'Spectrum Analyzer' on the bottom. A cable connects the output of the System simulator to a 'Splitter'. The other output of the Splitter goes to an 'ATT' (attenuator). The output of the ATT is connected to the antenna of the 'EUT' (Equipment Under Test), which is represented by a smartphone icon.</p>
Test Procedure:	<ol style="list-style-type: none"> 1 The RF output of the transceiver was connected to a spectrum analyzer through appropriate attenuation. 2 For the out of band: For Band 5 & 12 & 17 set the RBW=100 kHz, VBW=300 kHz and for Band 2 & 4 & 7 set the RBW=1 MHz, VBW=3 MHz when below 1 GHz, RBW =1 MHz, VBW=3 MHz when above 1 GHz, Start=30MHz, Stop= 10th harmonic. 3 Band Edge Requirements: In the 1 MHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least 1 percent of the emission bandwidth of the fundamental emission of the transmitter may be employed to measure the out of band Emissions.
Test Instruments:	Refer to section 2.5 for details
Test mode:	Refer to section 2.3 for details
Test results:	Passed
Remark:	Pre-scan all RB Size and offset, and found the RB Size and offset of worst case, so the report shows only the worst case test data.

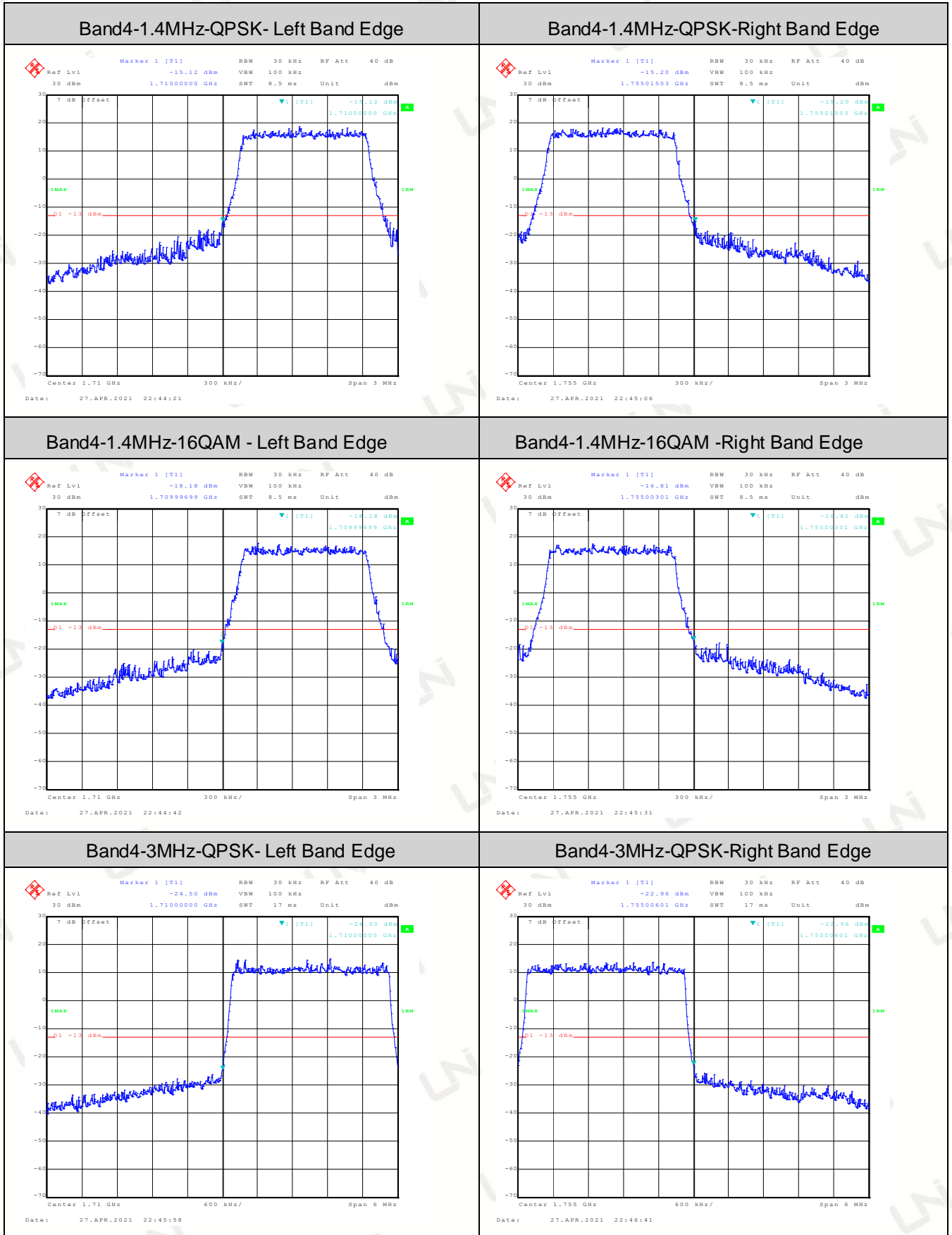
7.1 Test Result

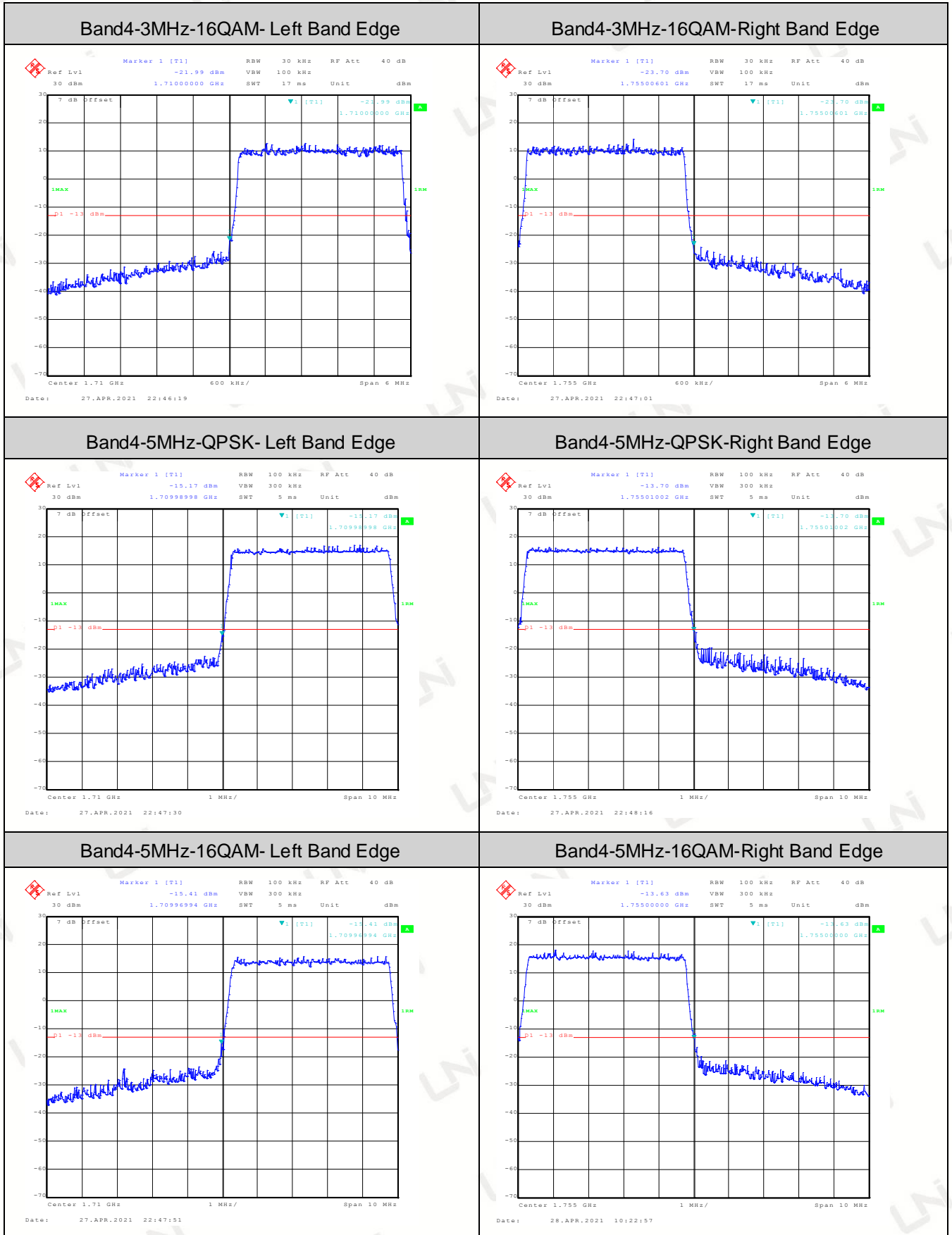


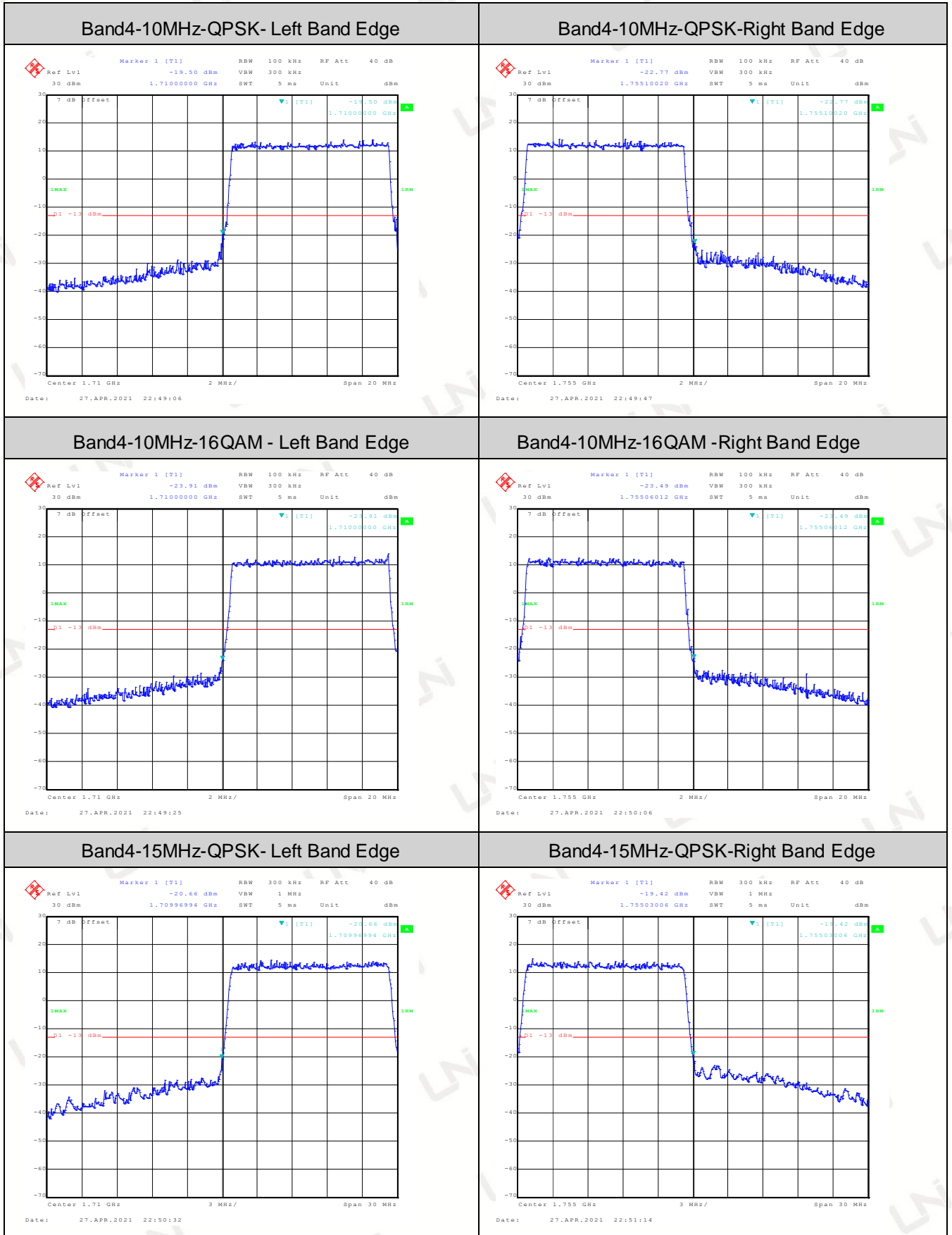


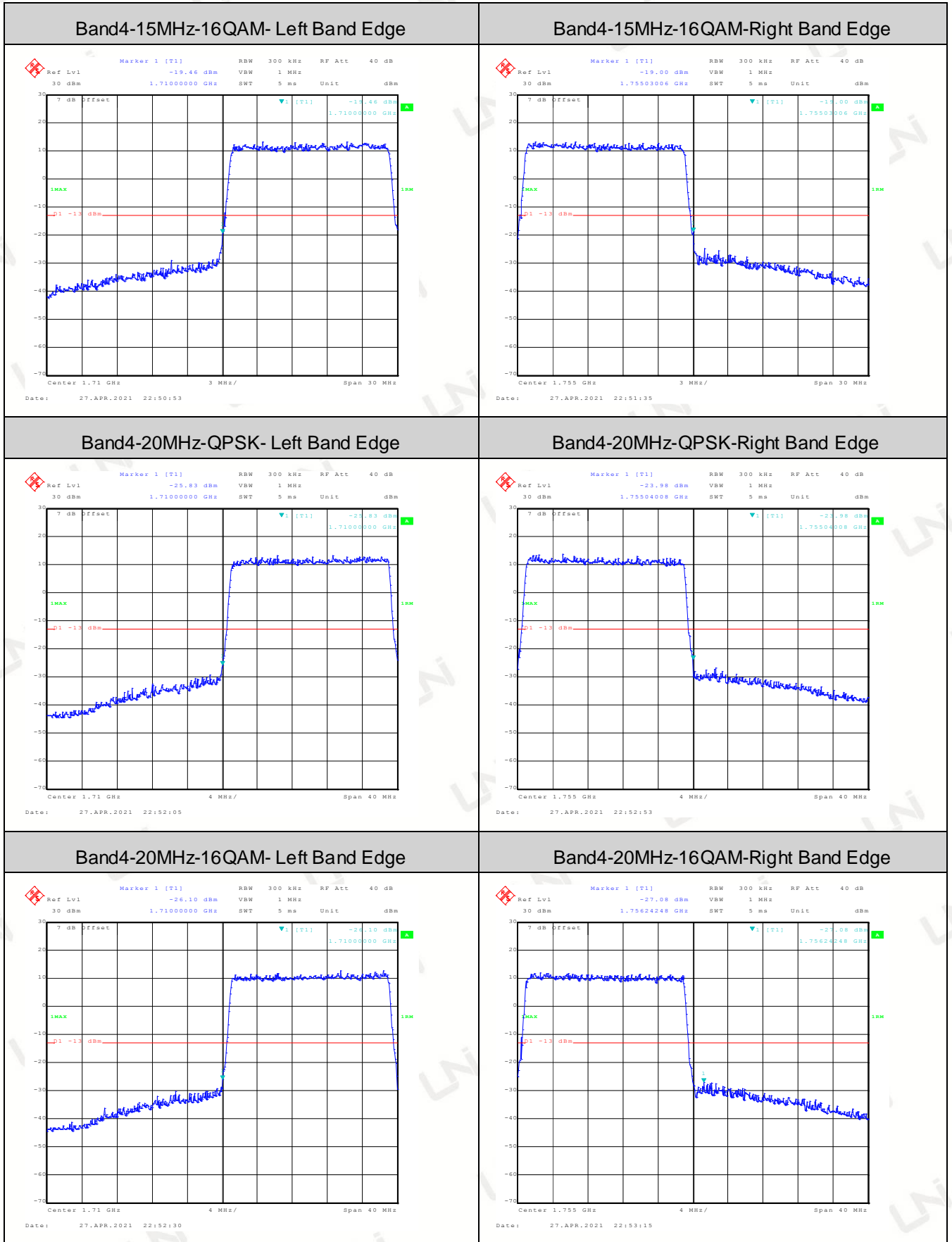


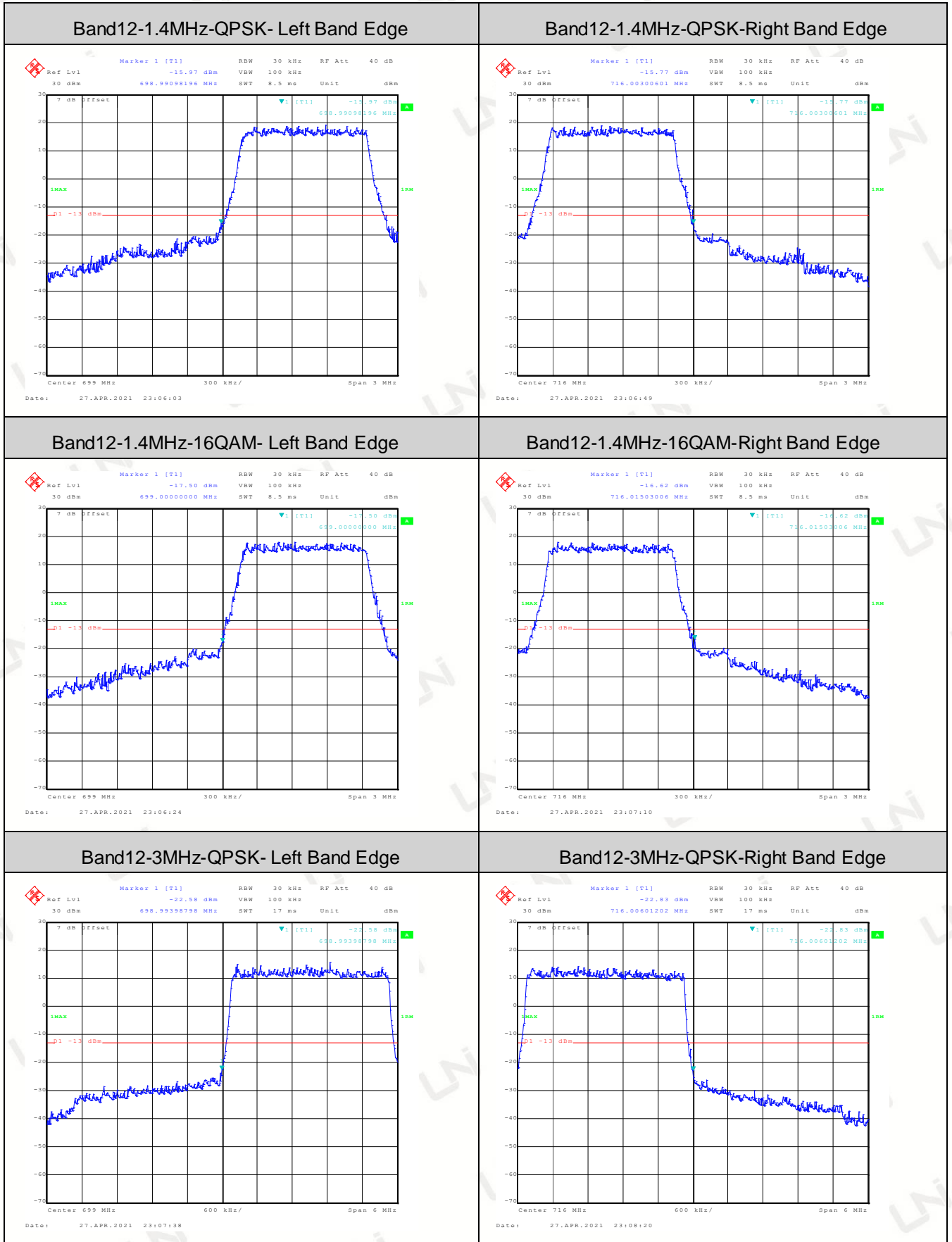


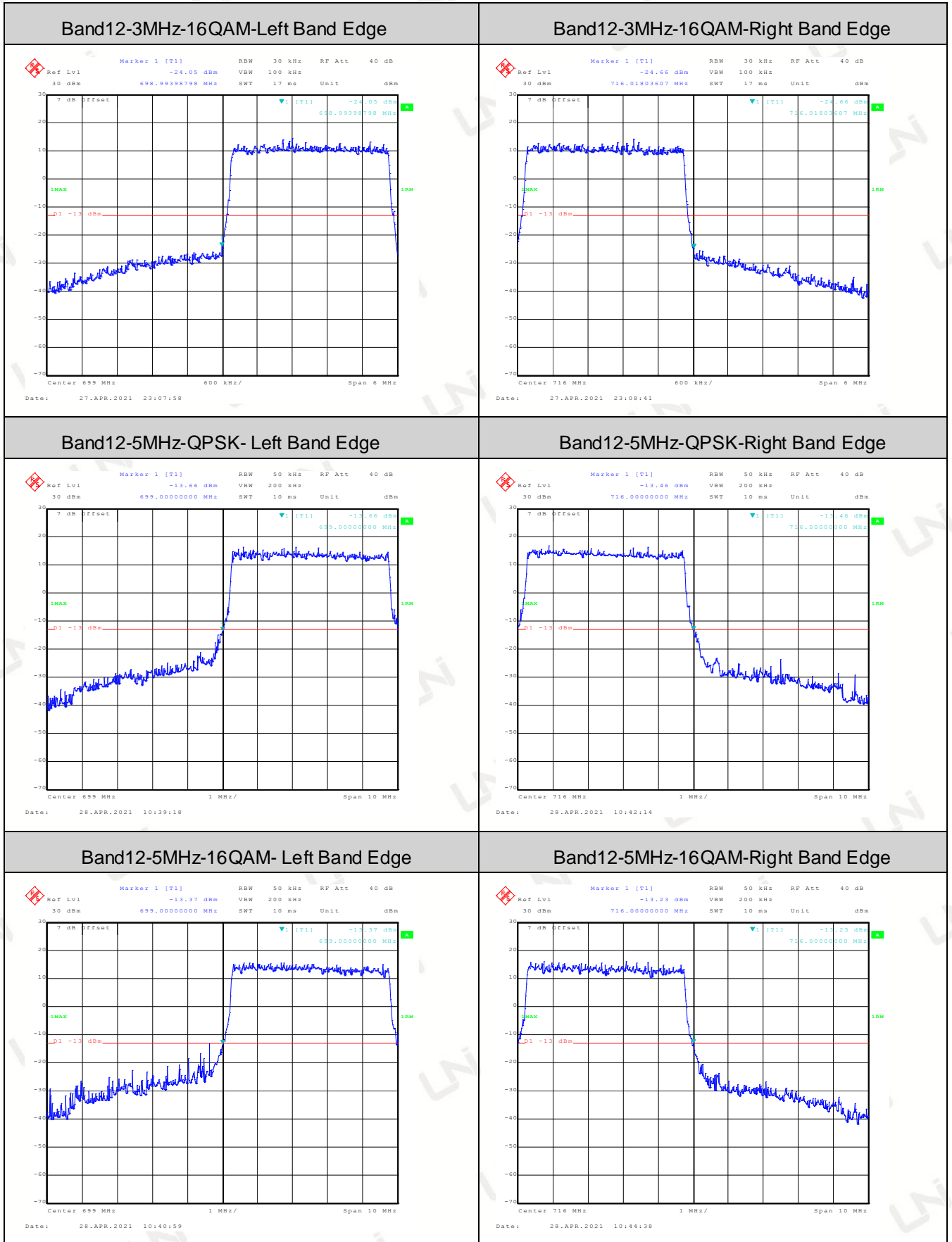


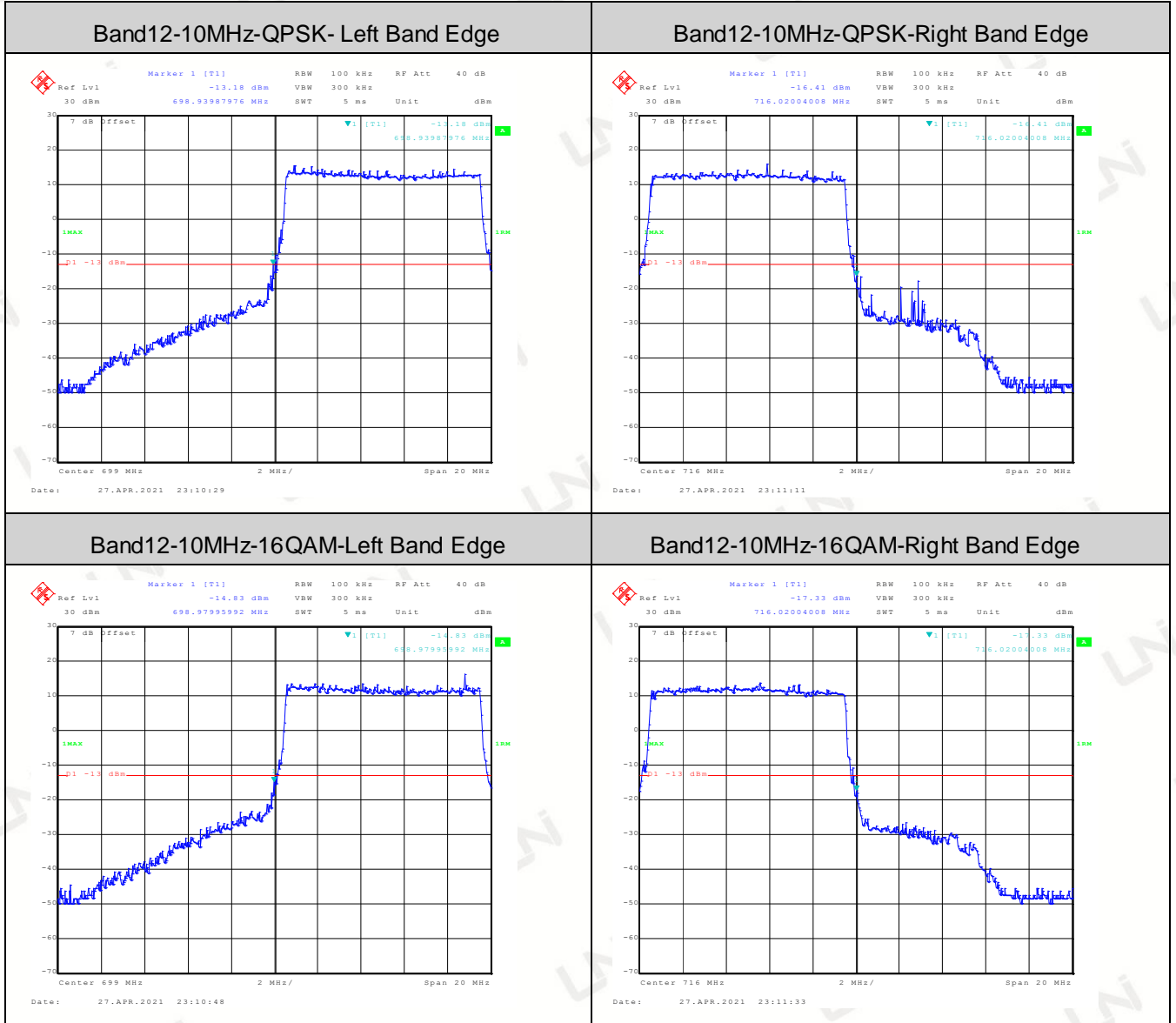




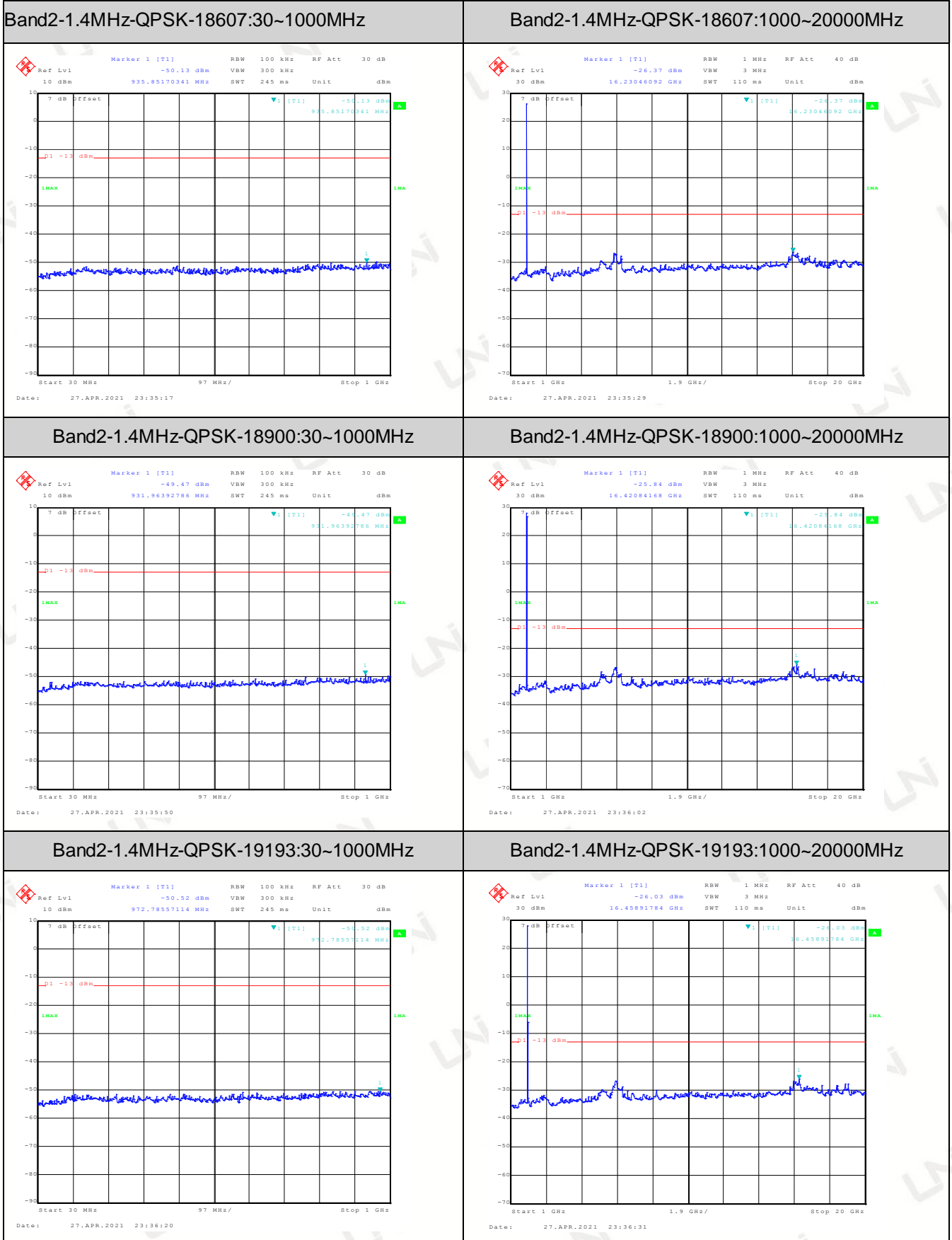


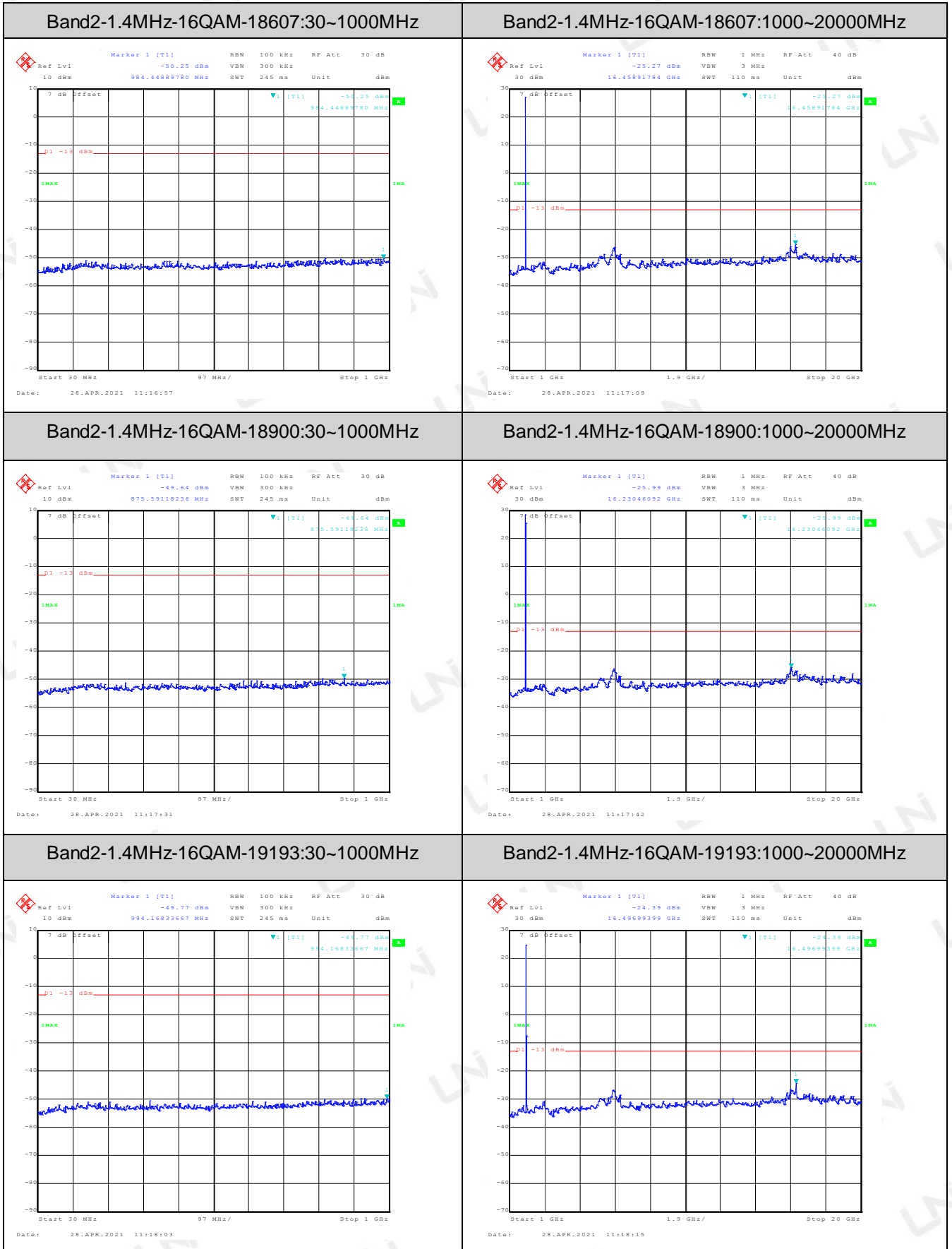


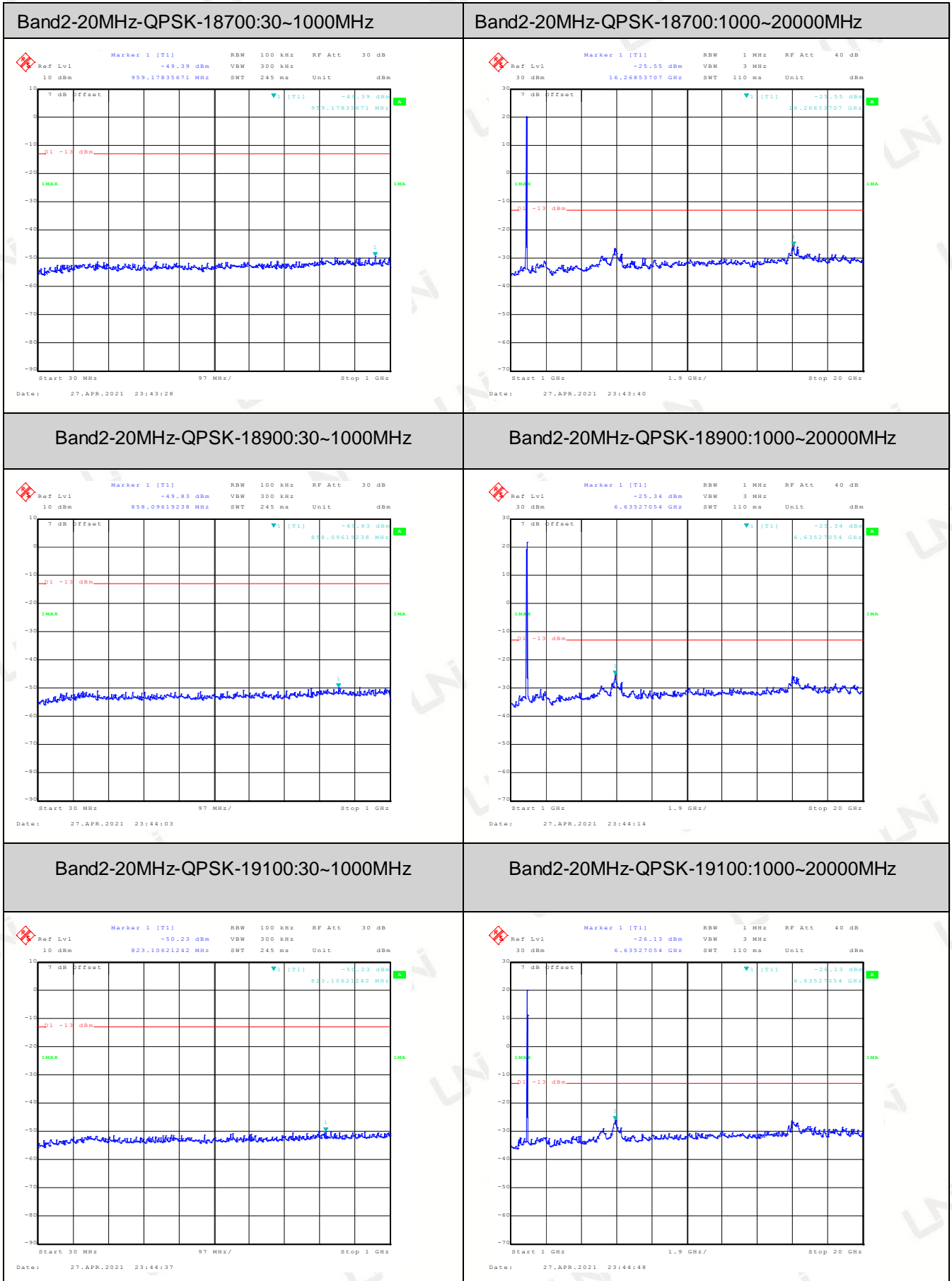


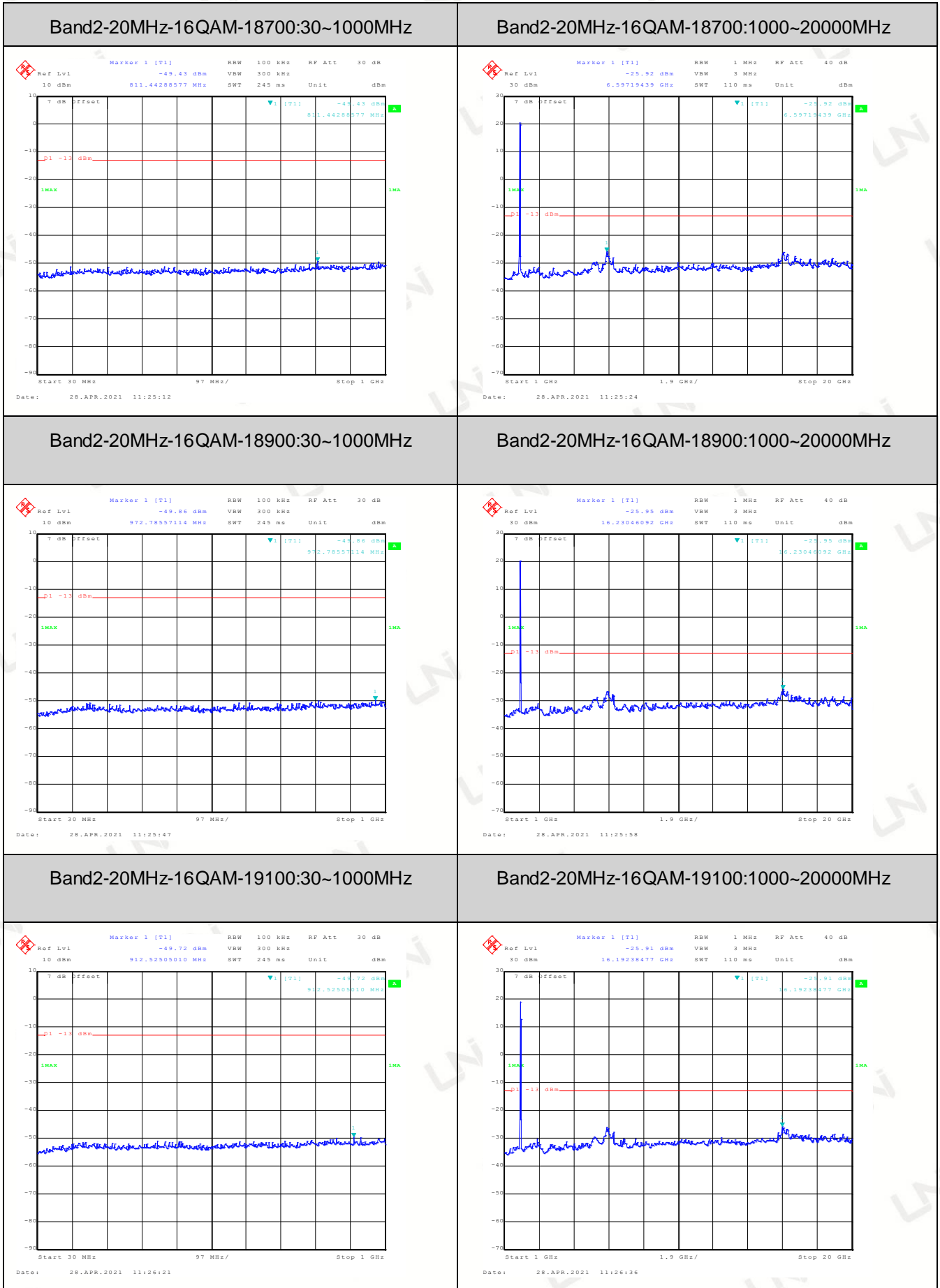


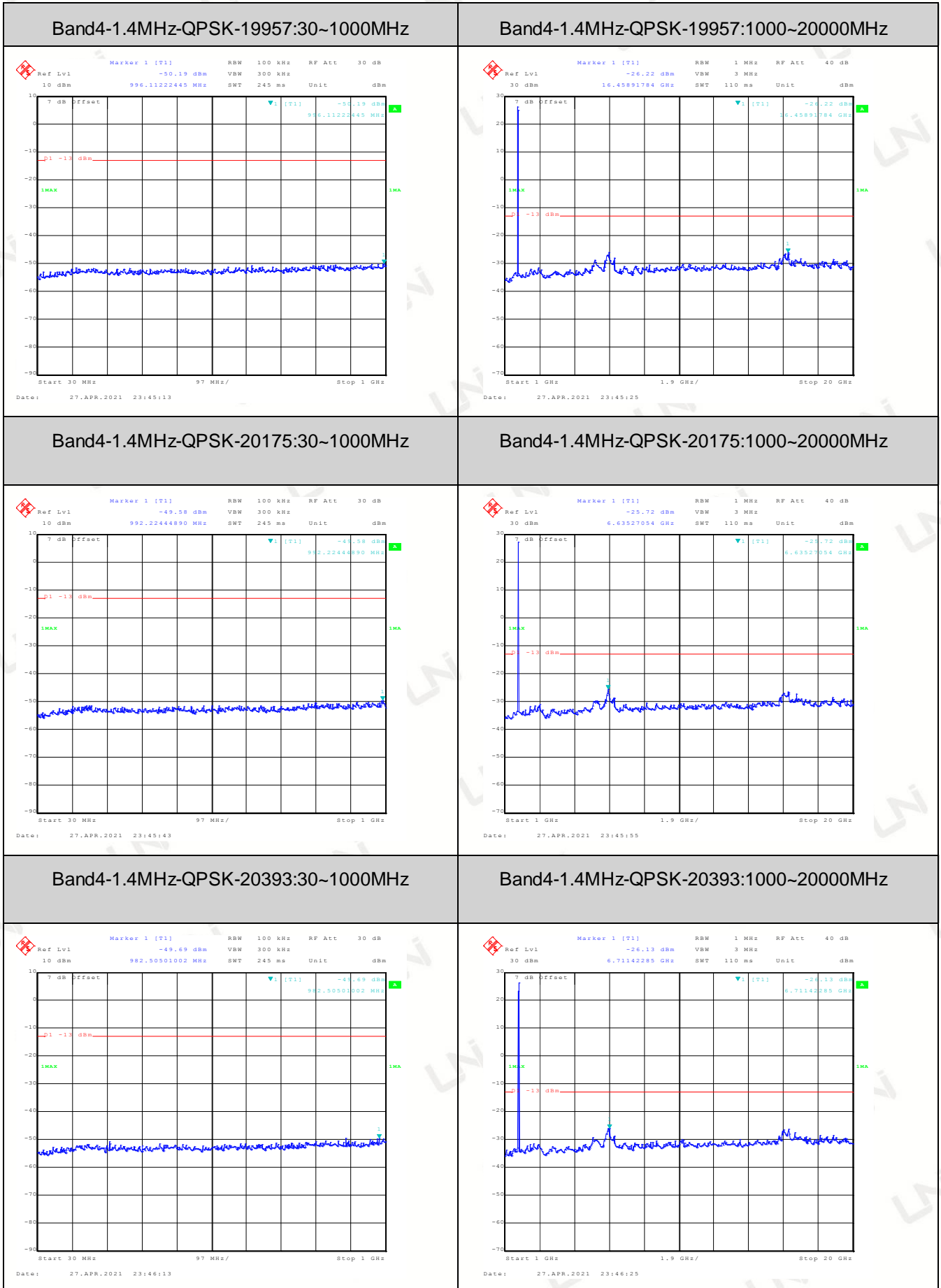
CONDUCTED SPURIOUS EMISSION

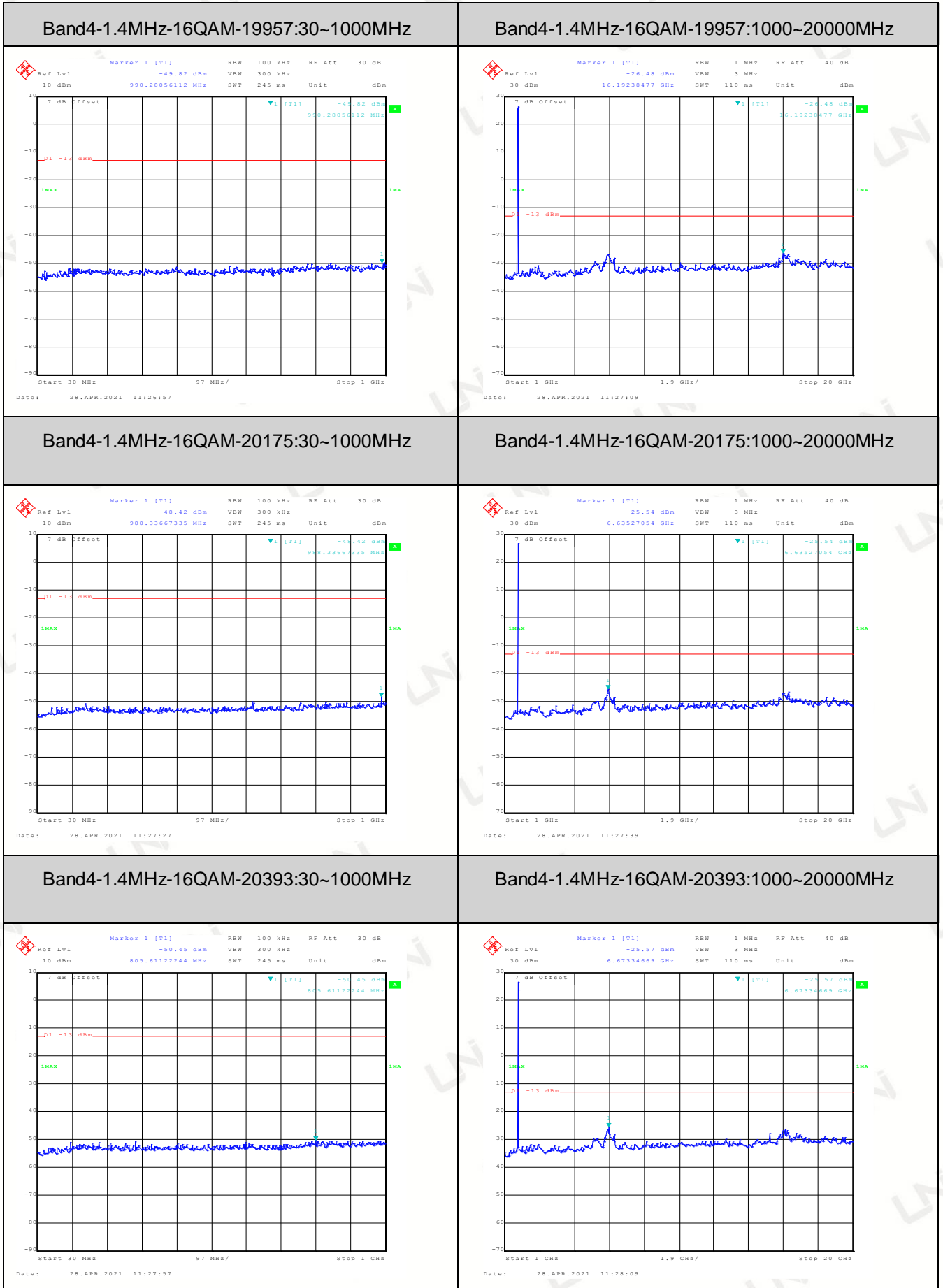


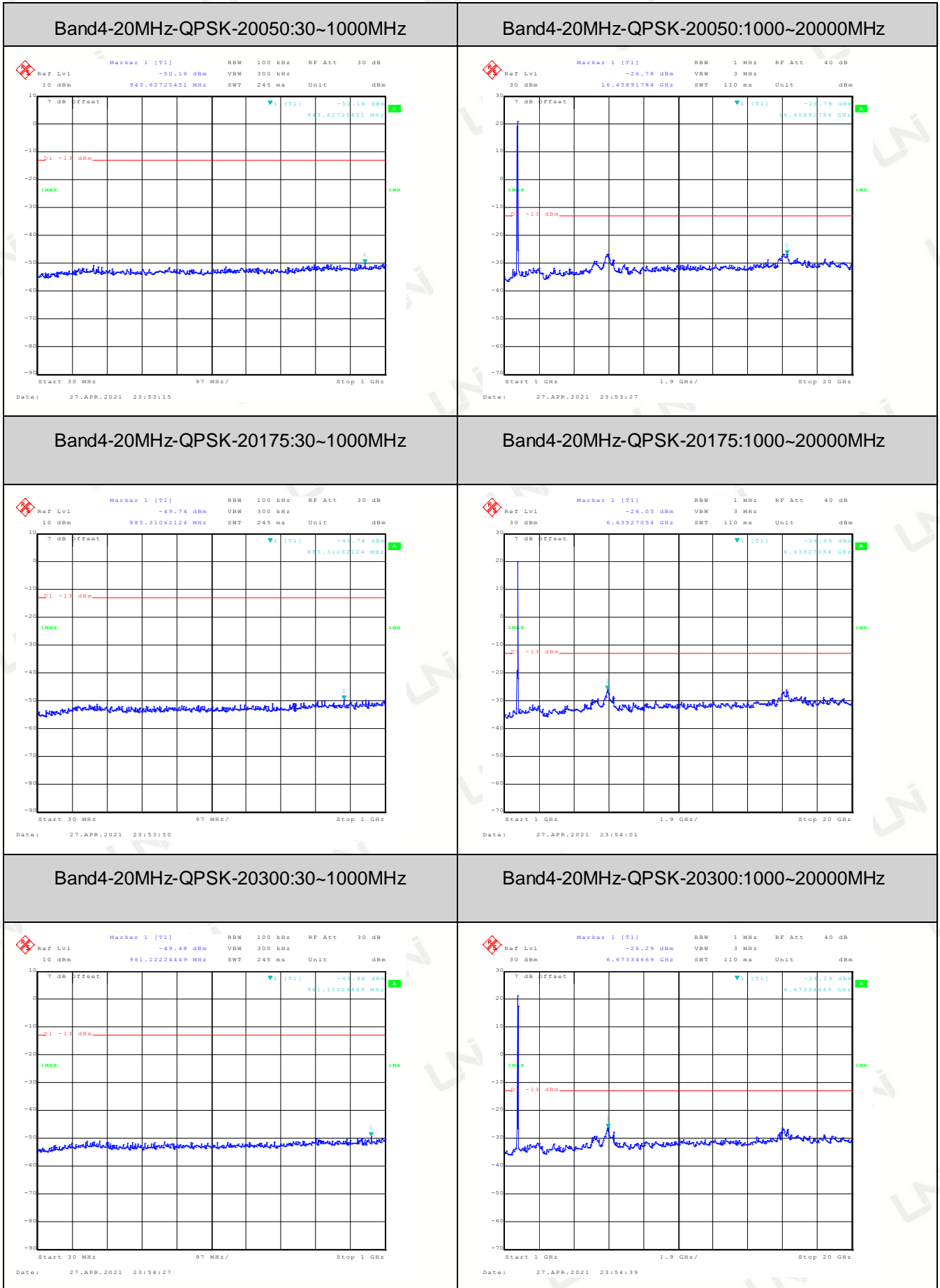


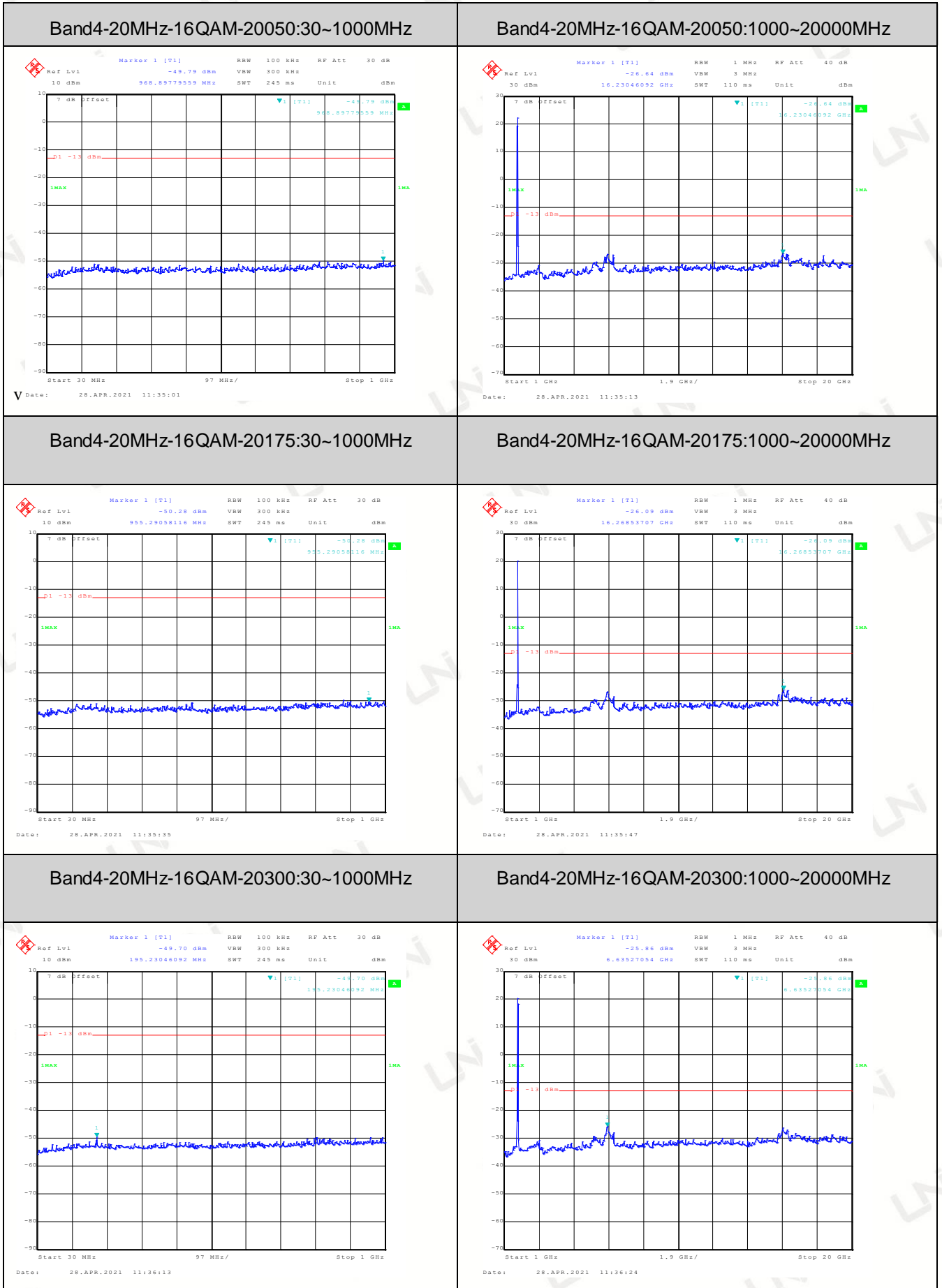


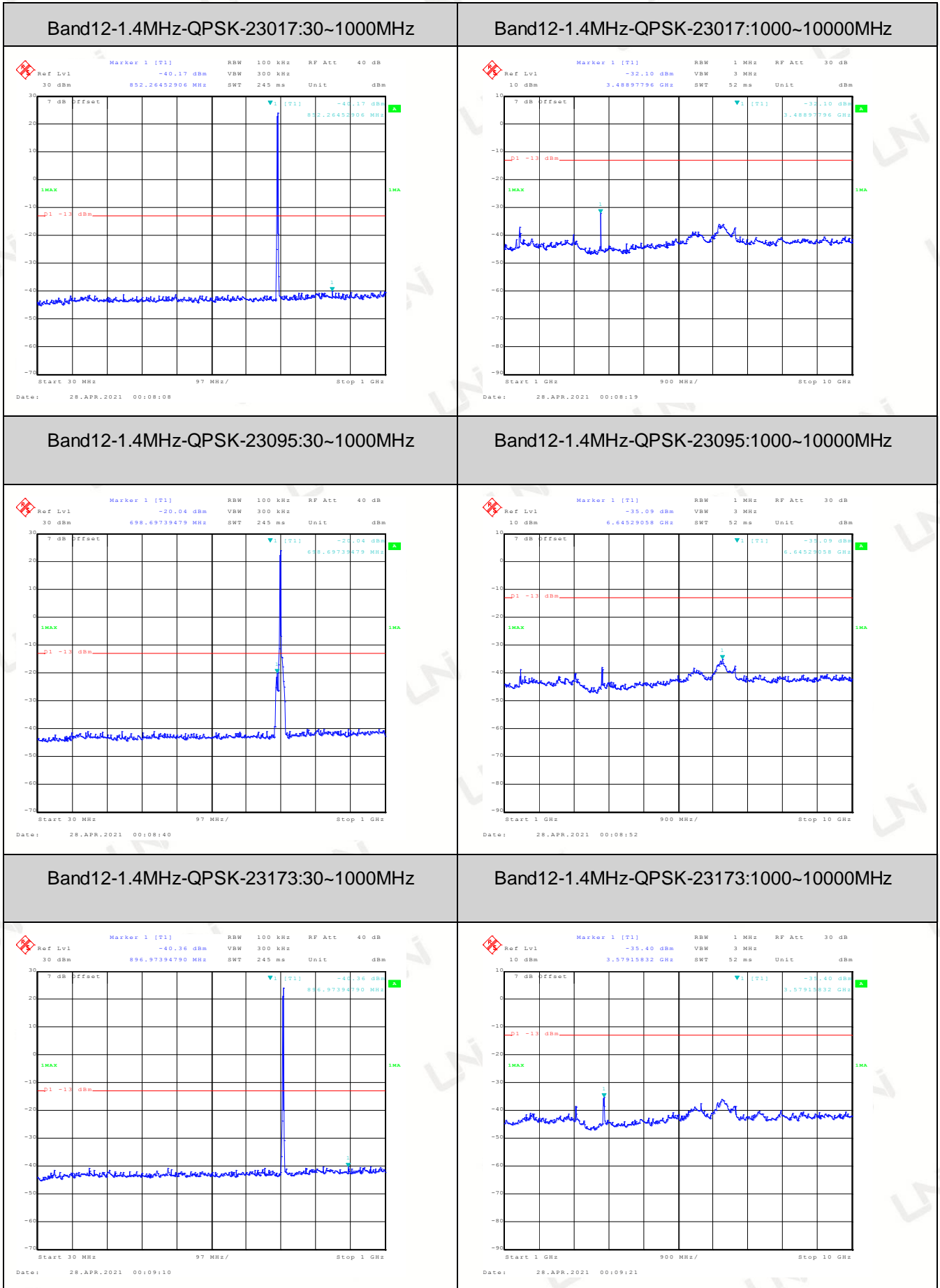


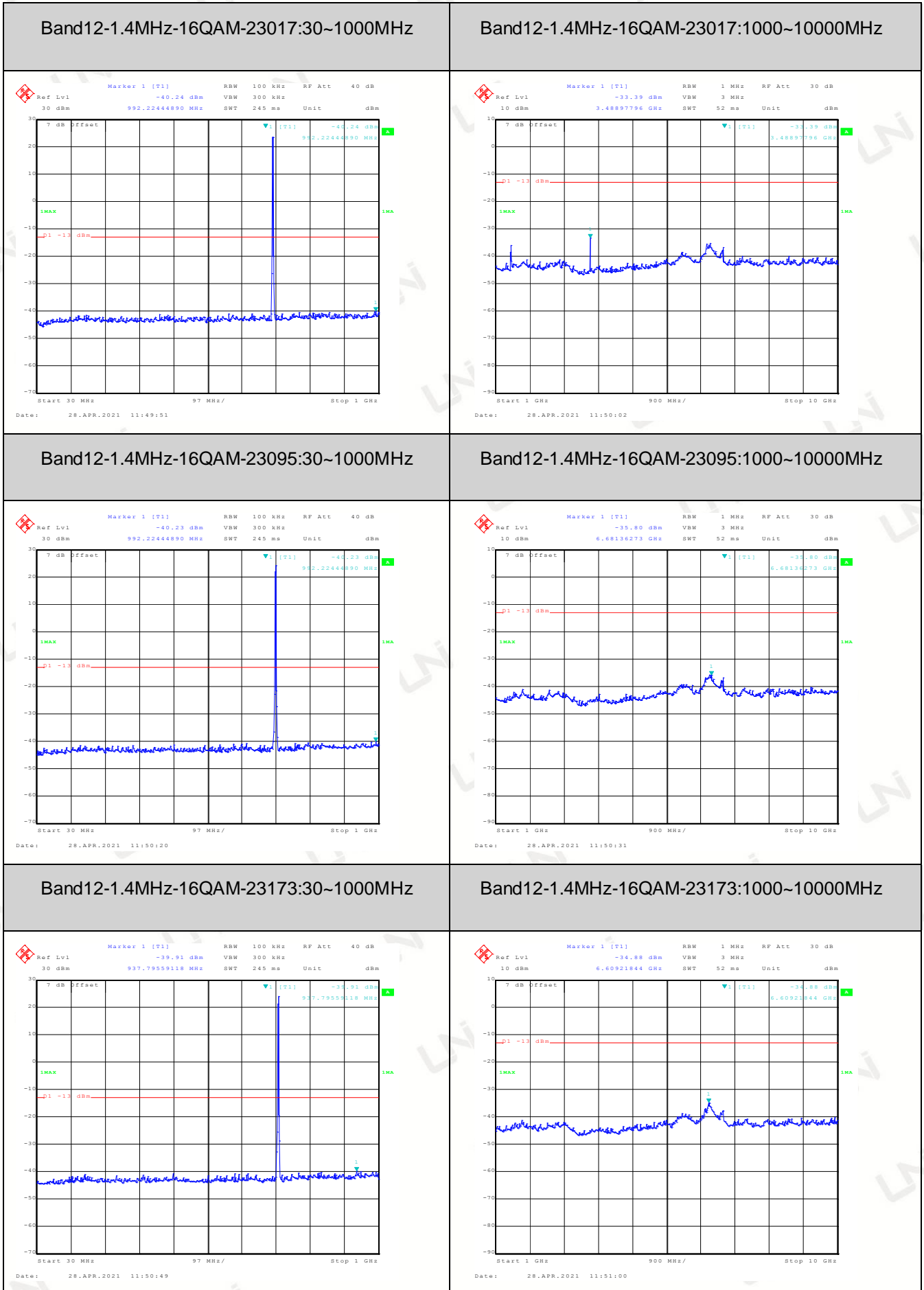


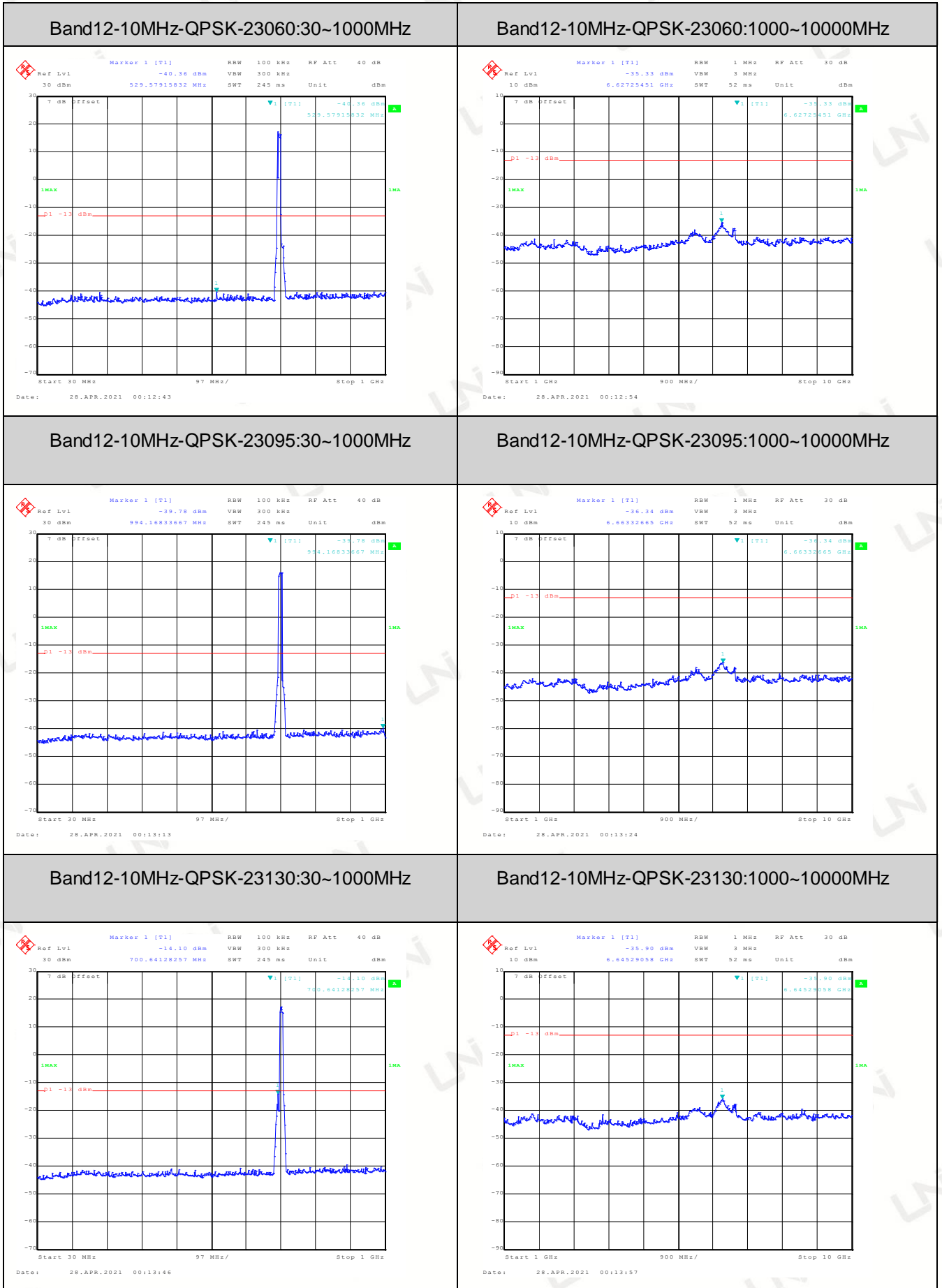


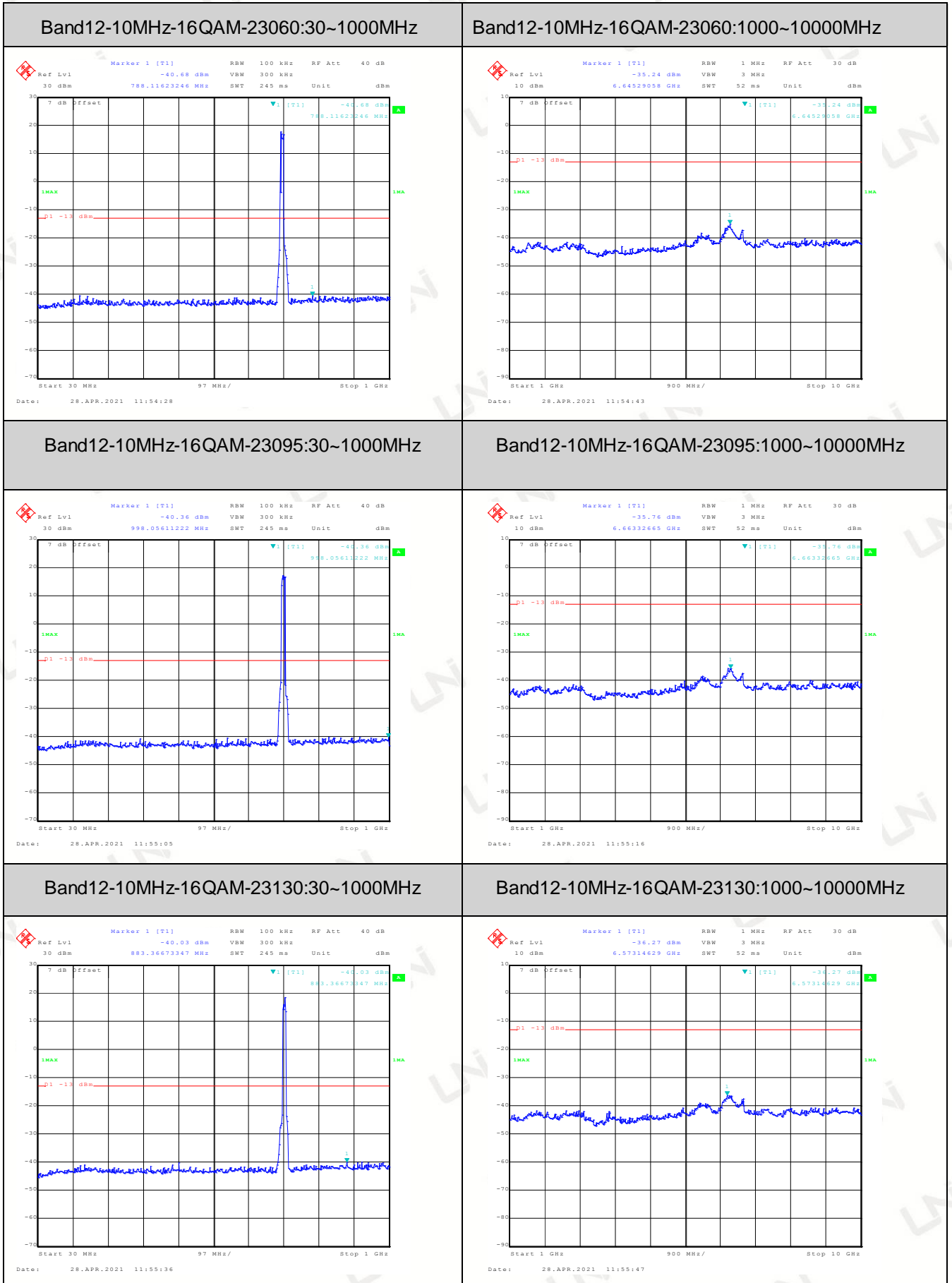




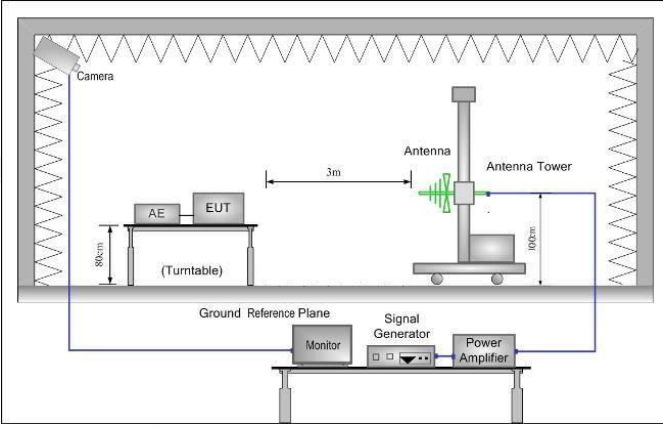
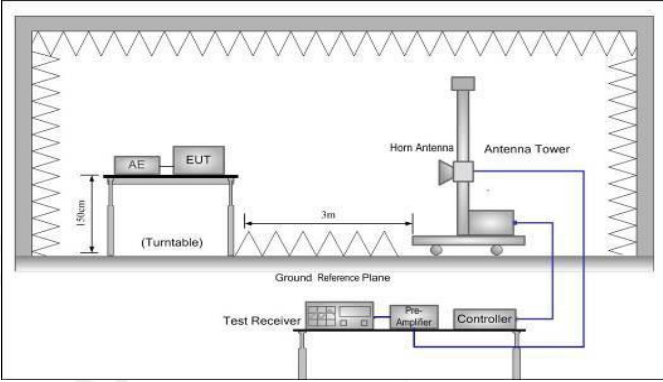








8 Field strength of spurious radiation measurement

<p>Test Requirement:</p>	<p>Part 22.917(a), Part 24.238 (a), Part 27.53(g), Part 27.53(m), Part 27.53(h)</p>
<p>Limit:</p>	<p>LTE Band 2 & 4 & 12: The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least $43 + 10 \log_{10}(P)$ dB (-13 dBm).</p>
<p>Test setup:</p>	<p>Below 1GHz</p>  <p>Above 1GHz</p> 
<p>Test Procedure:</p>	<ol style="list-style-type: none"> 1. The EUT was placed on the top of a rotating table 0.8m(below 1GHz)/1.5m(above 1GHz) above the ground at a 3 meter camber. The radiated emission at the fundamental frequency was measured at 3 m with a test antenna and EMI spectrum analyzer. 2. During the tests, the antenna height and the EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. This maximization process was repeated with the EUT positioned in each of its three orthogonal orientations. 3. The frequency range up to tenth harmonic was investigated for each of three fundamental frequency (low, middle and high channels). Once spurious emission was identified, the power of the emission was determined using the substitution method.

Test Procedure:	<p>4. The spurious emissions attenuation was calculated as the difference between radiated power at the fundamental frequency and the spurious emissions frequency.</p> $ERP / EIRP = S.G. \text{ output (dBm)} + \text{Antenna Gain(dB/dBi)} - \text{Cable Loss (dB)}$
Test Instruments:	Refer to section 2.5 for details
Test mode:	Refer to section 2.3 for details
Test results:	Passed

8.1 Test Result

LTE Band 2 part:

Band 2 (1.4MHz)						
Lowest channel						
Frequency (MHz)	Level at antenna terminals (dBm)	Factor (dB)	Spurious Emission level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
3701.40	-41.76	-6.03	-47.79	-13.00	34.79	Vertical
5552.10	-49.50	-0.80	-50.30	-13.00	37.30	Vertical
7402.00	-37.50	4.85	-32.65	-13.00	19.65	Vertical
3701.40	-42.45	-6.03	-48.48	-13.00	35.48	Horizontal
5552.10	-49.31	-0.80	-50.11	-13.00	37.11	Horizontal
7402.00	-36.49	4.85	-31.64	-13.00	18.64	Horizontal
Middle channel						
Frequency (MHz)	Level at antenna terminals (dBm)	Factor (dB)	Spurious Emission level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
3760.50	-41.30	-5.67	-46.97	-13.00	33.97	Vertical
5652.00	-49.16	0.13	-49.03	-13.00	36.03	Vertical
7520.00	-37.61	4.62	-32.99	-13.00	19.99	Vertical
3760.50	-42.50	-5.67	-48.17	-13.00	35.17	Horizontal
5652.00	-49.11	0.13	-48.98	-13.00	35.98	Horizontal
7520.00	-36.32	4.62	-31.70	-13.00	18.70	Horizontal
Highest channel						
Frequency (MHz)	Level at antenna terminals (dBm)	Factor (dB)	Spurious Emission level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
3816.60	-41.27	-5.12	-46.39	-13.00	33.39	Vertical
5724.90	-49.14	0.49	-48.65	-13.00	35.65	Vertical
7633.20	-37.27	5.16	-32.11	-13.00	19.11	Vertical
3816.60	-42.68	-5.12	-47.80	-13.00	34.80	Horizontal
5724.90	-48.84	0.49	-48.35	-13.00	35.35	Horizontal
7633.20	-36.62	5.16	-31.46	-13.00	18.46	Horizontal
<i>Remark:</i>						
<i>The emission levels of below 1 GHz are lower than the limit 20dB and not show in test report.</i>						

Band 2 (20MHz)						
Lowest channel						
Frequency (MHz)	Level at antenna terminals (dBm)	Factor (dB)	Spurious Emission level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
3720.00	-41.64	-5.94	-47.58	-13.00	34.58	Vertical
5580.00	-49.39	-0.52	-49.91	-13.00	36.91	Vertical
7440.00	-37.48	4.98	-32.50	-13.00	19.50	Vertical
3720.00	-42.22	-5.94	-48.16	-13.00	35.16	Horizontal
5580.00	-48.47	-0.52	-48.99	-13.00	35.99	Horizontal
7440.00	-36.22	4.98	-31.24	-13.00	18.24	Horizontal
Middle channel						
Frequency (MHz)	Level at antenna terminals (dBm)	Factor (dB)	Spurious Emission level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
3760.00	-41.68	-5.67	-47.35	-13.00	34.35	Vertical
5640.00	-49.15	0.13	-49.02	-13.00	36.02	Vertical
7520.00	-37.34	4.62	-32.72	-13.00	19.72	Vertical
3760.00	-41.78	-5.67	-47.45	-13.00	34.45	Horizontal
5640.00	-48.14	0.13	-48.01	-13.00	35.01	Horizontal
7520.00	-36.32	4.62	-31.70	-13.00	18.70	Horizontal
Highest channel						
Frequency (MHz)	Level at antenna terminals (dBm)	Factor (dB)	Spurious Emission level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
3800.00	-42.18	-5.05	-47.23	-13.00	34.23	Vertical
5700.00	-49.11	0.35	-48.76	-13.00	35.76	Vertical
7600.00	-37.64	5.01	-32.63	-13.00	19.63	Vertical
3800.00	-41.66	-5.05	-46.71	-13.00	33.71	Horizontal
5700.00	-48.21	0.35	-47.86	-13.00	34.86	Horizontal
7600.00	-35.95	5.01	-30.94	-13.00	17.94	Horizontal
<p><i>Remark:</i></p> <p><i>The emission levels of below 1 GHz are lower than the limit 20dB and not show in test report.</i></p>						

LTE Band 4 part:

Band 4 (1.4MHz)						
Lowest channel						
Frequency (MHz)	Level at antenna terminals (dBm)	Factor (dB)	Spurious Emission level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
3421.40	-46.68	-7.52	-54.20	-13.00	41.20	Vertical
5132.10	-48.91	-1.45	-50.36	-13.00	37.36	Vertical
6842.80	-38.19	3.48	-34.71	-13.00	21.71	Vertical
3421.40	-43.77	-7.52	-51.29	-13.00	38.29	Horizontal
5132.10	-44.47	-1.45	-45.92	-13.00	32.92	Horizontal
6842.80	-39.54	3.48	-36.06	-13.00	23.06	Horizontal
Middle channel						
Frequency (MHz)	Level at antenna terminals (dBm)	Factor (dB)	Spurious Emission level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
3468.00	-47.09	-7.25	-54.34	-13.00	41.34	Vertical
5203.50	-48.70	-1.06	-49.76	-13.00	36.76	Vertical
6930.00	-38.62	3.97	-34.65	-13.00	21.65	Vertical
3468.00	-43.41	-7.25	-50.66	-13.00	37.66	Horizontal
5203.50	-44.19	-1.06	-45.25	-13.00	32.25	Horizontal
6930.00	-39.54	3.97	-35.57	-13.00	22.57	Horizontal
Highest channel						
Frequency (MHz)	Level at antenna terminals (dBm)	Factor (dB)	Spurious Emission level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
3508.60	-46.45	-6.98	-53.43	-13.00	40.43	Vertical
5262.90	-49.12	-0.84	-49.96	-13.00	36.96	Vertical
7017.20	-38.27	3.10	-35.17	-13.00	22.17	Vertical
3508.60	-44.06	-6.98	-51.04	-13.00	38.04	Horizontal
5262.90	-44.72	-0.84	-45.56	-13.00	32.56	Horizontal
7017.20	-39.46	3.10	-36.36	-13.00	23.36	Horizontal
<i>Remark:</i>						
<i>The emission levels of below 1 GHz are lower than the limit 20dB and not show in test report.</i>						

Band 4 (20MHz)						
Lowest channel						
Frequency (MHz)	Level at antenna terminals (dBm)	Factor (dB)	Spurious Emission level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
3440.00	-46.66	-7.39	-54.05	-13.00	41.05	Vertical
5160.00	-49.44	-1.22	-50.66	-13.00	37.66	Vertical
6880.00	-37.98	3.66	-34.32	-13.00	21.32	Vertical
3440.00	-44.01	-7.39	-51.40	-13.00	38.40	Horizontal
5160.00	-44.70	-1.22	-45.92	-13.00	32.92	Horizontal
6880.00	-39.38	3.66	-35.72	-13.00	22.72	Horizontal
Middle channel						
Frequency (MHz)	Level at antenna terminals (dBm)	Factor (dB)	Spurious Emission level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
3465.00	-46.59	-7.25	-53.84	-13.00	40.84	Vertical
5197.50	-49.81	-1.06	-50.87	-13.00	37.87	Vertical
6930.00	-37.55	3.97	-33.58	-13.00	20.58	Vertical
3465.00	-43.96	-7.25	-51.21	-13.00	38.21	Horizontal
5197.50	-44.63	-1.06	-45.69	-13.00	32.69	Horizontal
6930.00	-38.94	3.97	-34.97	-13.00	21.97	Horizontal
Highest channel						
Frequency (MHz)	Level at antenna terminals (dBm)	Factor (dB)	Spurious Emission level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
3490.00	-46.29	-6.98	-53.27	-13.00	40.27	Vertical
5235.00	-50.24	-0.84	-51.08	-13.00	38.08	Vertical
6980.00	-37.08	3.10	-33.98	-13.00	20.98	Vertical
3490.00	-43.47	-6.98	-50.45	-13.00	37.45	Horizontal
5235.00	-44.19	-0.84	-45.03	-13.00	32.03	Horizontal
6980.00	-38.79	3.10	-35.69	-13.00	22.69	Horizontal
<p><i>Remark:</i></p> <p><i>The emission levels of below 1 GHz are lower than the limit 20dB and not show in test report.</i></p>						

LTE Band 12 part:

Band 12 (1.4MHz)						
Lowest channel						
Frequency (MHz)	Level at antenna terminals (dBm)	Factor (dB)	Spurious Emission level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
1399.40	-37.53	-12.40	-49.93	-13.00	36.93	Vertical
2099.10	-29.62	-9.29	-38.91	-13.00	25.91	Vertical
2798.80	-48.14	-9.48	-57.62	-13.00	44.62	Vertical
1399.40	-41.52	-12.40	-53.92	-13.00	40.92	Horizontal
2099.10	-32.70	-9.29	-41.99	-13.00	28.99	Horizontal
2798.80	-41.45	-9.48	-50.93	-13.00	37.93	Horizontal
Middle channel						
Frequency (MHz)	Level at antenna terminals (dBm)	Factor (dB)	Spurious Emission level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
1399.50	-37.85	-12.08	-49.93	-13.00	36.93	Vertical
2104.50	-29.55	-9.05	-38.60	-13.00	25.60	Vertical
2856.50	-48.11	-9.41	-57.52	-13.00	44.52	Vertical
1399.50	-41.29	-12.08	-53.37	-13.00	40.37	Horizontal
2104.50	-32.22	-9.05	-41.27	-13.00	28.27	Horizontal
2833.00	-41.34	-9.41	-50.75	-13.00	37.75	Horizontal
Highest channel						
Frequency (MHz)	Level at antenna terminals (dBm)	Factor (dB)	Spurious Emission level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
1430.60	-37.86	-11.86	-49.72	-13.00	36.72	Vertical
2145.90	-29.95	-8.93	-38.88	-13.00	25.88	Vertical
2861.20	-48.14	-9.12	-57.26	-13.00	44.26	Vertical
1430.60	-41.11	-11.86	-52.97	-13.00	39.97	Horizontal
2145.90	-32.26	-8.93	-41.19	-13.00	28.19	Horizontal
2861.20	-41.60	-9.12	-50.72	-13.00	37.72	Horizontal
<i>Remark:</i>						
<i>The emission levels of below 1 GHz are lower than the limit 20dB and not show in test report.</i>						

Band 12 (1.4MHz)						
Lowest channel						
Frequency (MHz)	Level at antenna terminals (dBm)	Factor (dB)	Spurious Emission level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
1399.40	-37.53	-12.40	-49.93	-13.00	36.93	Vertical
2099.10	-29.62	-9.29	-38.91	-13.00	25.91	Vertical
2798.80	-48.14	-9.48	-57.62	-13.00	44.62	Vertical
1399.40	-41.52	-12.40	-53.92	-13.00	40.92	Horizontal
2099.10	-32.70	-9.29	-41.99	-13.00	28.99	Horizontal
2798.80	-41.45	-9.48	-50.93	-13.00	37.93	Horizontal
Middle channel						
Frequency (MHz)	Level at antenna terminals (dBm)	Factor (dB)	Spurious Emission level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
1399.50	-37.85	-12.08	-49.93	-13.00	36.93	Vertical
2104.50	-29.55	-9.05	-38.60	-13.00	25.60	Vertical
2856.50	-48.11	-9.41	-57.52	-13.00	44.52	Vertical
1399.50	-41.29	-12.08	-53.37	-13.00	40.37	Horizontal
2104.50	-32.22	-9.05	-41.27	-13.00	28.27	Horizontal
2833.00	-41.34	-9.41	-50.75	-13.00	37.75	Horizontal
Highest channel						
Frequency (MHz)	Level at antenna terminals (dBm)	Factor (dB)	Spurious Emission level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
1430.60	-37.86	-11.86	-49.72	-13.00	36.72	Vertical
2145.90	-29.95	-8.93	-38.88	-13.00	25.88	Vertical
2861.20	-48.14	-9.12	-57.26	-13.00	44.26	Vertical
1430.60	-41.11	-11.86	-52.97	-13.00	39.97	Horizontal
2145.90	-32.26	-8.93	-41.19	-13.00	28.19	Horizontal
2861.20	-41.60	-9.12	-50.72	-13.00	37.72	Horizontal
<i>Remark:</i>						
<i>The emission levels of below 1 GHz are lower than the limit 20dB and not show in test report.</i>						

9 Frequency stability V.S. Temperature measurement

Test Requirement:	Part 22.355, Part 24.235, Part 27.54, Part 2.1055(a)(1)(b)
Limit:	±2.5 ppm for Band 5 Within authorized band for Band 2 & 4 & 12 & 17 & 66
Test setup:	<p>The diagram illustrates the test setup. A Power Source is connected to a Divider. The Divider has two outputs: one connected to a feed-through attenuator labeled 'SS' and another to a feed-through attenuator labeled 'SA'. The output of the 'SA' attenuator is connected to the EUT (Equipment Under Test), which is housed inside a Temperature & Humidity Chamber. The Power Source is also connected to the EUT via a red line, representing an external DC power supply.</p>
Test procedure:	<ol style="list-style-type: none"> 1. The equipment under test was connected to an external DC power supply and input rated voltage. 2. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. 3. The EUT was placed inside the temperature chamber. 4. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 25°C operating frequency as reference frequency. 5. Turn EUT off and set the chamber temperature to -30°C. After the temperature stabilized for approximately 30 minutes recorded the frequency. 6. Repeat step measure with 10°C increased per stage until the highest temperature of +50°C reached
Test Instruments:	Refer to section 2.5 for details
Test mode:	Refer to section 2.3 for details
Test results:	Passed

9.1 Test Result

LTE Band 2 part:

Reference Frequency: LTE Band 2 (10MHz) Middle channel=18900 Frequency=1880.0MHz					
Temperature					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
6.0	-30	-46.18	-0.024564	Within authorized band for Band 2	Pass
	-20	-31.83	-0.016931		
	-10	-37.94	-0.020181		
	0	-10.30	-0.005479		
	10	9.86	0.005245		
	20	-12.13	-0.006452		
	30	-10.36	-0.005511		
	40	-15.71	-0.008356		
	50	-31.44	-0.016723		
16QAM					
6.0	-30	12.07	0.006420	Within authorized band for Band 2	Pass
	-20	14.03	0.007463		
	-10	33.60	0.017872		
	0	29.38	0.015628		
	10	-6.09	-0.003239		
	20	-11.54	-0.006138		
	30	11.00	0.005851		
	40	9.31	0.004952		
	50	24.56	0.013064		

Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	5.4	-11.22	-0.005968	Within authorized band for Band 2	Pass
	6.0	44.47	0.023654		
	6.6	-51.34	-0.027309		
16QAM					
25	5.4	33.45	0.017793	Within authorized band for Band 2	Pass
	6.0	-6.57	-0.003495		
	6.6	34.22	0.018202		

Note: Only the worst case shown in the report.

LTE Band 4 part:

Reference Frequency: LTE Band 4(10MHz) Middle channel=20175 Frequency=1732.5MHz					
Temperature					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
6.0	-30	-17.44	-0.010066	Within authorized band for Band 4	Pass
	-20	-33.70	-0.019452		
	-10	24.38	0.014072		
	0	13.46	0.007769		
	10	16.95	0.009784		
	20	4.05	0.002338		
	30	7.24	0.004179		
	40	3.33	0.001922		
	50	11.86	0.006846		

16QAM					
6.0	-30	40.73	0.023509	Within authorized band for Band 4	Pass
	-20	49.15	0.028369		
	-10	-14.45	-0.008341		
	0	-8.71	-0.005027		
	10	-3.30	-0.001905		
	20	8.31	0.004797		
	30	18.58	0.010724		
	40	18.22	0.010517		
	50	29.58	0.017074		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	5.4	30.08	0.017362	Within authorized band for Band 4	Pass
	6.0	36.59	0.021120		
	6.6	7.98	0.004606		
16QAM					
25	5.4	18.11	0.010453	Within authorized band for Band 4	Pass
	6.0	9.30	0.005368		
	6.6	26.32	0.015192		
<i>Note: Only the worst case shown in the report.</i>					

LTE Band 12 part:

Reference Frequency: LTE Band 12(10MHz) Middle channel=23095 Frequency=707.5MHz					
Temperature					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
6.0	-30	5.12	0.007237	Within authorized band for Band 12	Pass
	-20	13.32	0.018827		
	-10	15.94	0.022530		
	0	20.66	0.029201		
	10	22.24	0.031435		
	20	30.83	0.043576		
	30	30.20	0.042686		
	40	35.79	0.050587		
	50	37.06	0.052382		
16QAM					
6.0	-30	37.64	0.053201	Within authorized band for Band 12	Pass
	-20	-6.24	-0.008820		
	-10	7.57	0.010700		
	0	17.61	0.024890		
	10	23.60	0.033357		
	20	30.08	0.042516		
	30	33.42	0.047237		
	40	39.04	0.055180		
	50	42.41	0.059943		

Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	5.4	38.52	0.054445	Within authorized band for Band 12	Pass
	6.0	24.85	0.035124		
	6.6	49.94	0.070587		
16QAM					
25	5.4	51.90	0.073357	Within authorized band for Band 12	Pass
	6.0	39.95	0.056466		
	6.6	24.62	0.034799		
<i>Note: Only the worst case shown in the report.</i>					

10 Frequency stability V.S. Voltage measurement

Test Requirement:	Part 22.355, Part 24.235, Part 27.54, Part 2.1055(d)(2)
Limit:	±2.5 ppm for Band 5 Within authorized band for Band 2 & 4 & 12 & 17 & 66
Test setup:	
Test procedure:	<ol style="list-style-type: none"> 1. Set chamber temperature to 25°C . Use a variable DC power source to power the EUT and set the voltage to rated voltage. 2. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and recorded the frequency. 3. Reduce the input voltage to specify extreme voltage variation (+/- 15%) and endpoint, record the maximum frequency change.
Test Instruments:	Refer to section 2.5 for details
Test mode:	Refer to section 2.3 for details
Test results:	Passed

10.1 Test Result

Refer to 9.1

11 PHOTO OF TEST

11.1 RADIATED EMISSION



End of Report