



Band Edge

Test Result

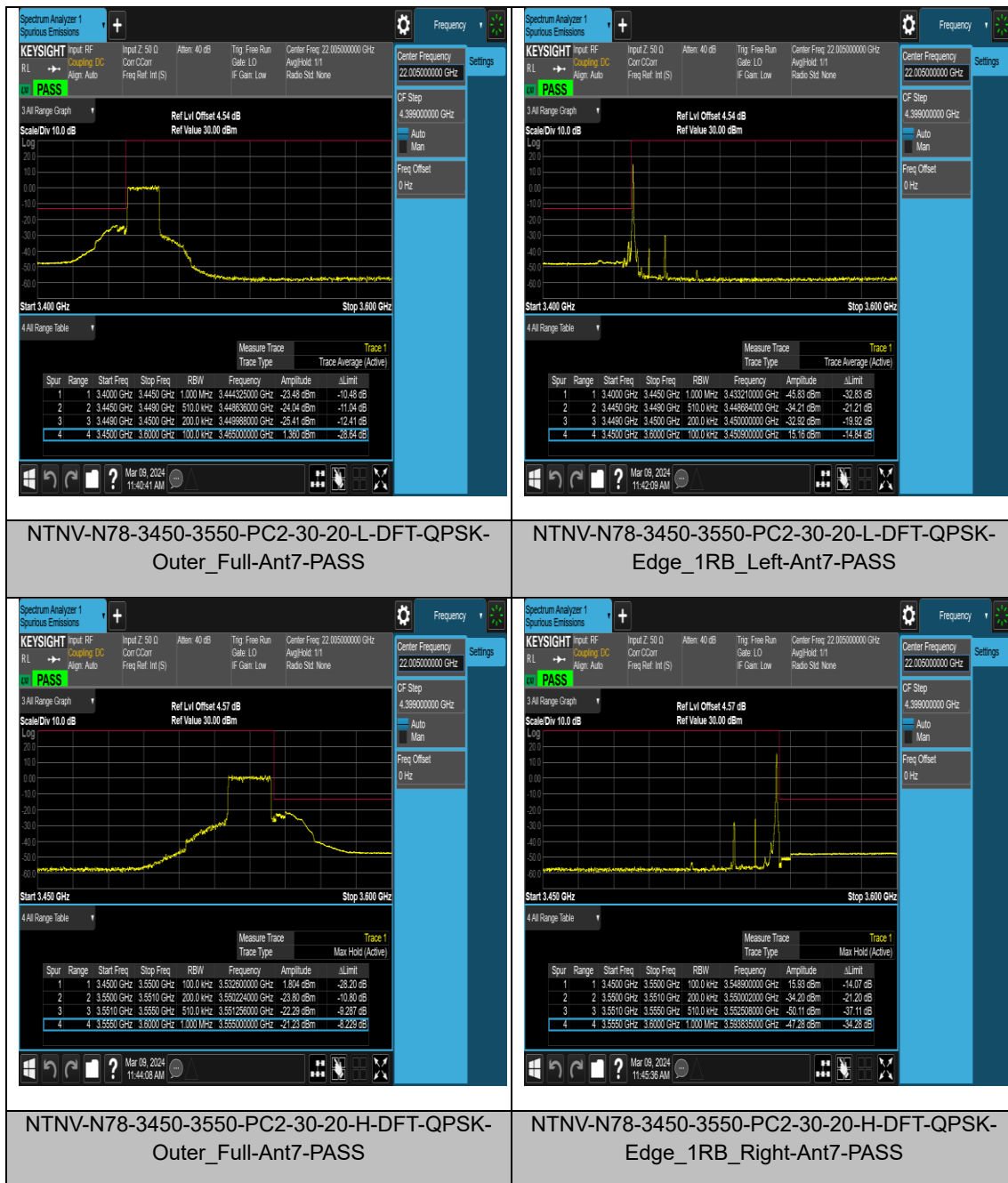
Band	SCS	Bandwidth	Modulation	Channel	RB Config	Result	Verdict
N78-3450-3550	30	20	DFT-QPSK	L	Outer_Full	-23.48	PASS
N78-3450-3550	30	20	DFT-QPSK	L	Edge_1RB_Left	-32.92	PASS
N78-3450-3550	30	20	DFT-QPSK	H	Outer_Full	-21.23	PASS
N78-3450-3550	30	20	DFT-QPSK	H	Edge_1RB_Right	-34.20	PASS
N78-3450-3550	30	60	DFT-QPSK	L	Outer_Full	-27.84	PASS
N78-3450-3550	30	60	DFT-QPSK	L	Edge_1RB_Left	-32.25	PASS
N78-3450-3550	30	60	DFT-QPSK	H	Outer_Full	-27.42	PASS
N78-3450-3550	30	60	DFT-QPSK	H	Edge_1RB_Right	-32.45	PASS
N78-3450-3550	30	100	DFT-QPSK	M	Outer_Full	-33.45	PASS
N78-3450-3550	30	100	DFT-QPSK	M	Edge_1RB_Left	-34.13	PASS
N78-3450-3550	30	100	DFT-QPSK	M	Edge_1RB_Right	-33.16	PASS



BUREAU
VERITAS

Reference No.: W7L-231218W001RF11

Test Graphs



BV 7Layers Communications Technology
(Shenzhen) Co., Ltd

Room B37, Warehouse A5, No.3 Chiwan 4th Road,
Zhaoshang Street, Nanshan District Shenzhen,
Guangdong, People's Republic of China

Tel: +86 755 8869 6566

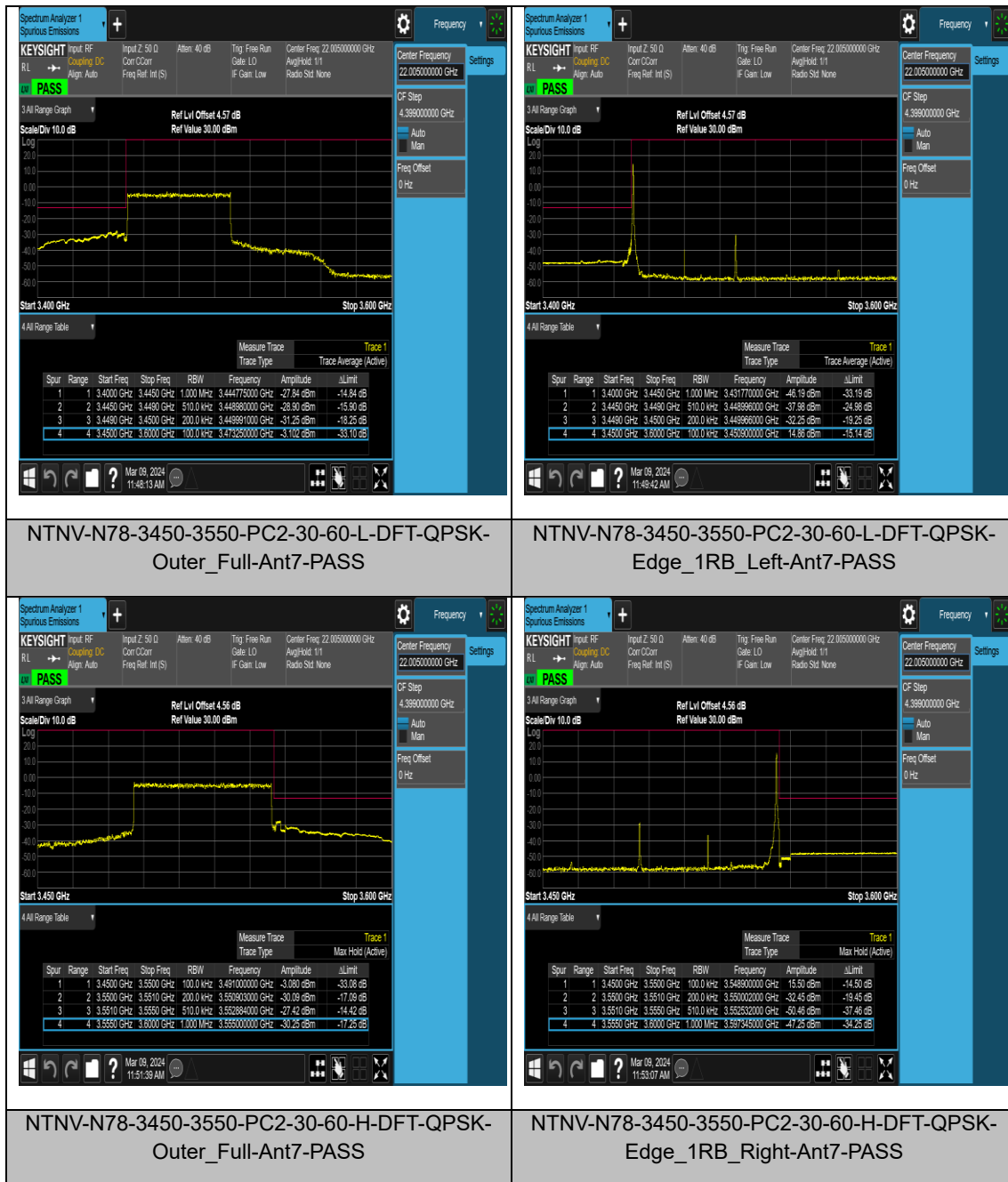
Fax: +86 755 8869 6577

Email: customerservice.sw@bureauveritas.com



BUREAU
VERITAS

Reference No.: W7L-231218W001RF11



BV 7Layers Communications Technology
(Shenzhen) Co., Ltd

Room B37, Warehouse A5, No.3 Chiwan 4th Road,
Zhaoshang Street, Nanshan District Shenzhen,
Guangdong, People's Republic of China

Tel: +86 755 8869 6566

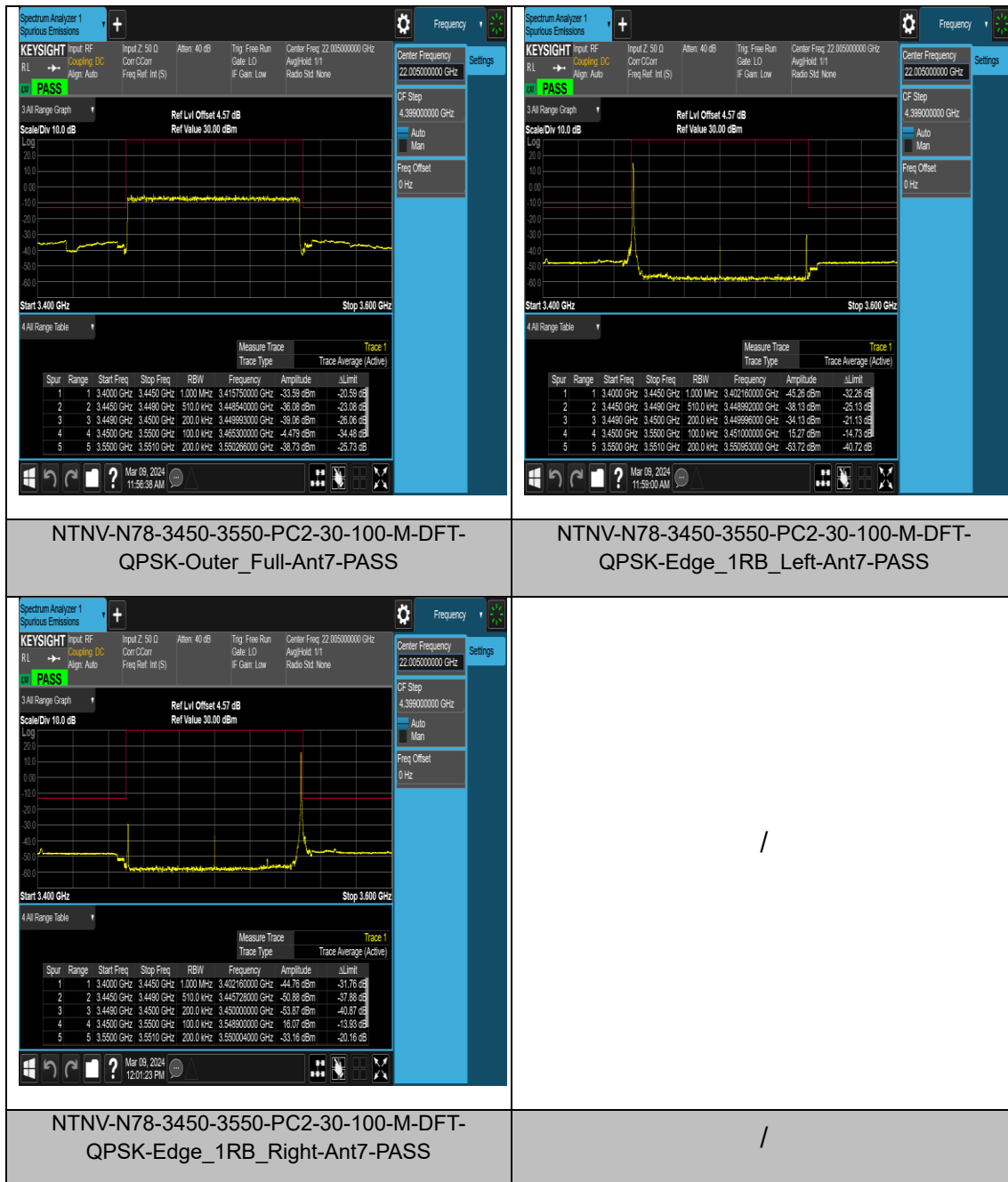
Fax: +86 755 8869 6577

Email: customerservice.sw@bureauveritas.com



BUREAU
VERITAS

Reference No.: W7L-231218W001RF11



BV 7Layers Communications Technology
(Shenzhen) Co., Ltd

Room B37, Warehouse A5, No.3 Chiwan 4th Road,
Zhaoshang Street, Nanshan District Shenzhen,
Guangdong, People's Republic of China

Tel: +86 755 8869 6566

Fax: +86 755 8869 6577

Email: customerservice.sw@bureauveritas.com



Conducted Spurious Emission

Test Result

Band	SCS	Bandwidth	Modulation	Channel	RB Config	StartFreq	StopFreq	Result	Limit	Verdict
N78-3450-3550	30	20	DFT-QPSK	L	Edge_1RB_Left	30	1000	-48.50	-13	PASS
N78-3450-3550	30	20	DFT-QPSK	L	Edge_1RB_Left	1000	40000	-24.13	-13	PASS
N78-3450-3550	30	20	DFT-QPSK	M	Edge_1RB_Left	30	1000	-48.59	-13	PASS
N78-3450-3550	30	20	DFT-QPSK	M	Edge_1RB_Left	1000	40000	-23.88	-13	PASS
N78-3450-3550	30	20	DFT-QPSK	H	Edge_1RB_Left	30	1000	-48.65	-13	PASS
N78-3450-3550	30	20	DFT-QPSK	H	Edge_1RB_Left	1000	40000	-23.88	-13	PASS
N78-3450-3550	30	60	DFT-QPSK	L	Edge_1RB_Left	30	1000	-48.58	-13	PASS
N78-3450-3550	30	60	DFT-QPSK	L	Edge_1RB_Left	1000	40000	-24.06	-13	PASS
N78-3450-3550	30	60	DFT-QPSK	M	Edge_1RB_Left	30	1000	-48.43	-13	PASS
N78-3450-3550	30	60	DFT-QPSK	M	Edge_1RB_Left	1000	40000	-23.91	-13	PASS
N78-3450-3550	30	60	DFT-QPSK	H	Edge_1RB_Left	30	1000	-48.61	-13	PASS



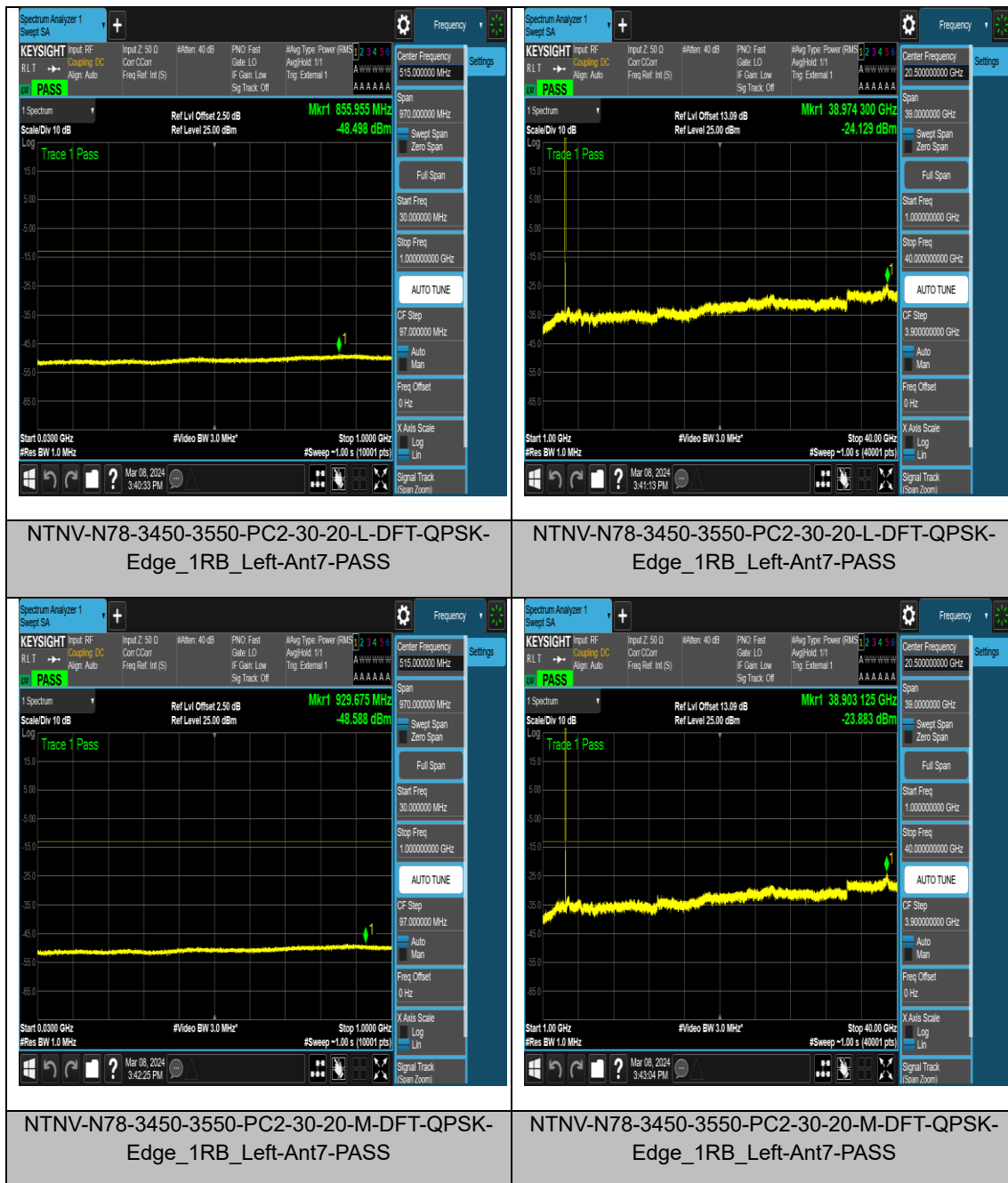
N78-3450-3550	30	60	DFT-QPSK	H	Edge_1RB_Left	1000	40000	-23.83	-13	PASS
N78-3450-3550	30	100	DFT-QPSK	M	Edge_1RB_Left	30	1000	-48.62	-13	PASS
N78-3450-3550	30	100	DFT-QPSK	M	Edge_1RB_Left	1000	40000	-24.11	-13	PASS



BUREAU
VERITAS

Reference No.: W7L-231218W001RF11

Test Graphs



BV 7Layers Communications Technology
(Shenzhen) Co., Ltd

Room B37, Warehouse A5, No.3 Chiwan 4th Road,
Zhaoshang Street, Nanshan District Shenzhen,
Guangdong, People's Republic of China

Tel: +86 755 8869 6566

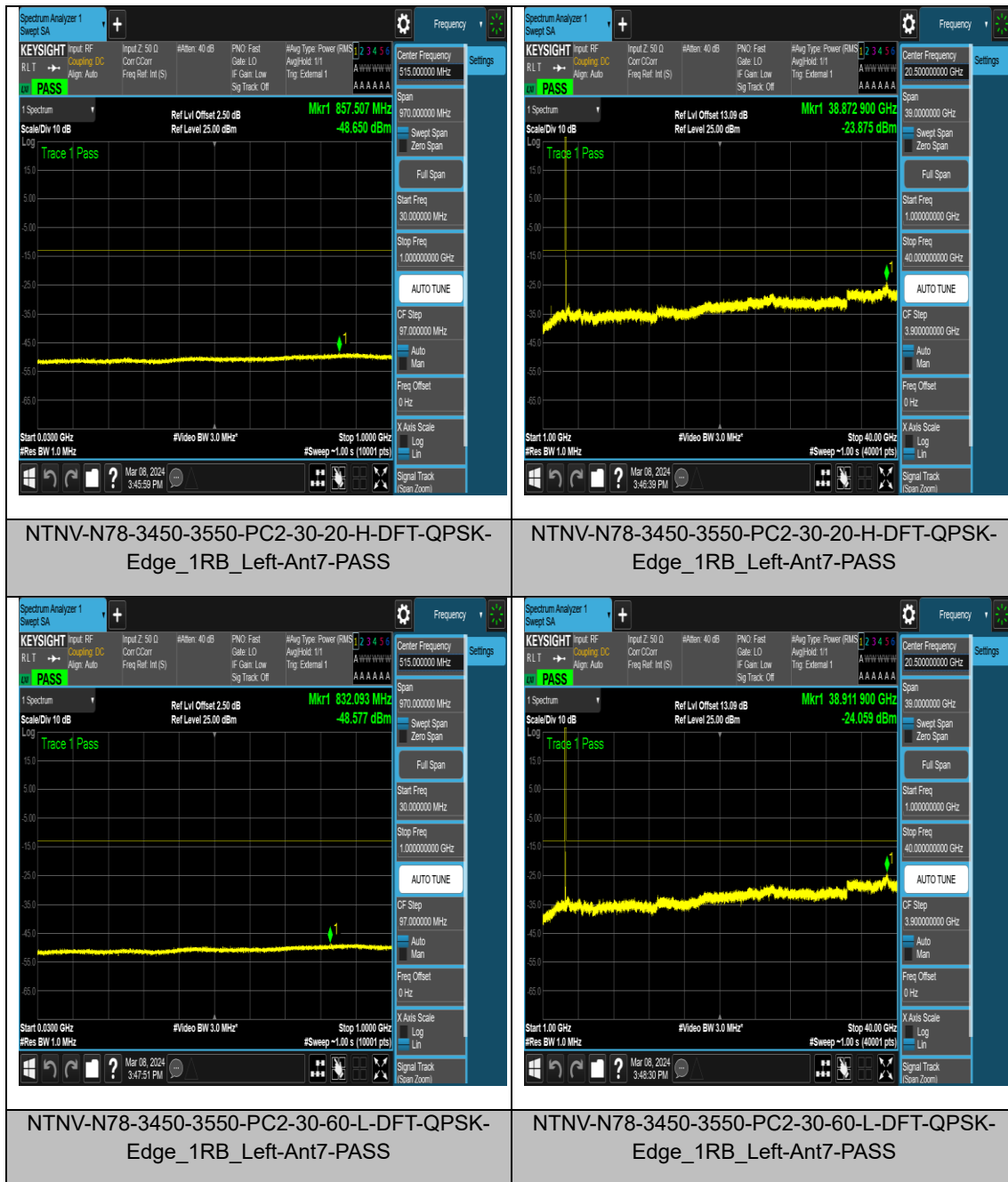
Fax: +86 755 8869 6577

Email: customerservice.sw@bureauveritas.com



BUREAU
VERITAS

Reference No.: W7L-231218W001RF11



BV 7Layers Communications Technology
(Shenzhen) Co., Ltd

Room B37, Warehouse A5, No.3 Chiwan 4th Road,
Zhaoshang Street, Nanshan District Shenzhen,
Guangdong, People's Republic of China

Tel: +86 755 8869 6566

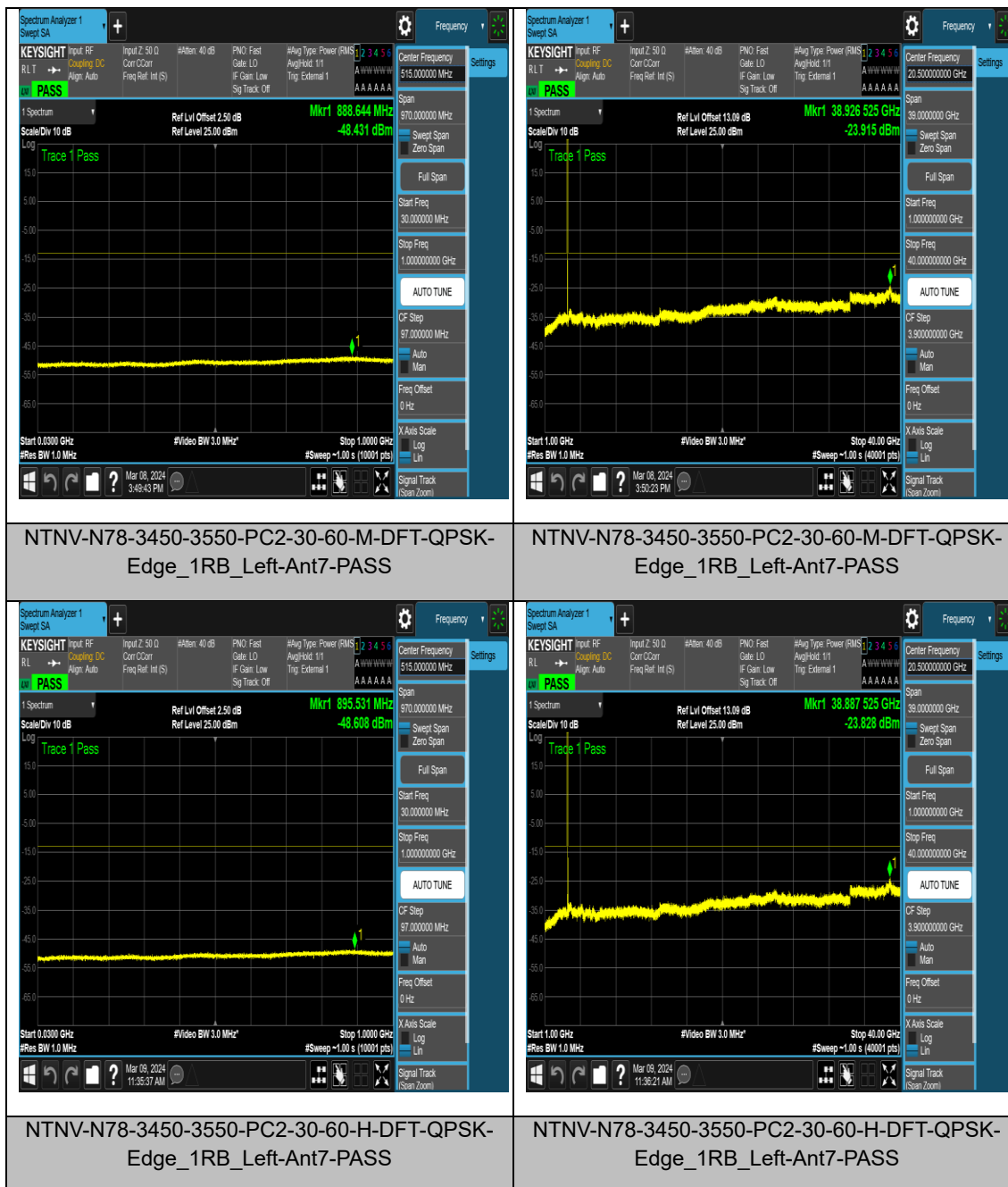
Fax: +86 755 8869 6577

Email: customerservice.sw@bureauveritas.com



BUREAU
VERITAS

Reference No.: W7L-231218W001RF11



BV 7Layers Communications Technology
(Shenzhen) Co., Ltd

Room B37, Warehouse A5, No.3 Chiwan 4th Road,
Zhaoshang Street, Nanshan District Shenzhen,
Guangdong, People's Republic of China

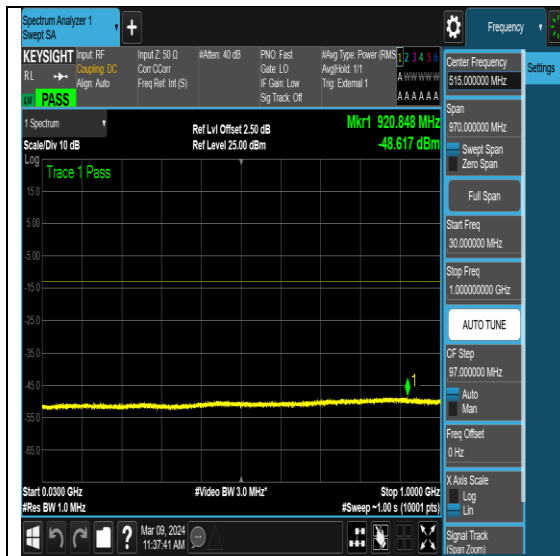
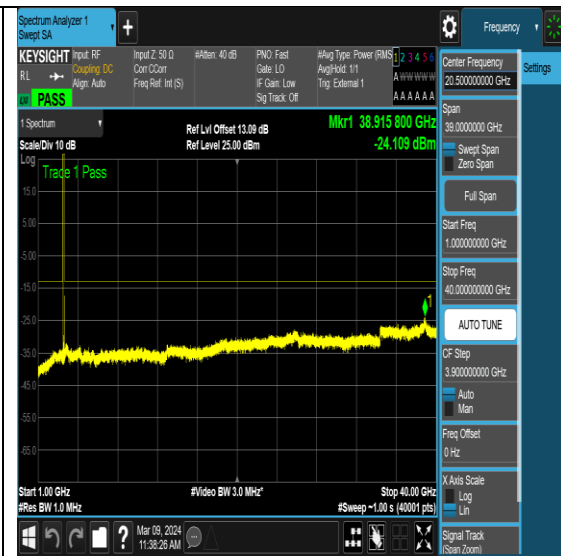
Tel: +86 755 8869 6566

Fax: +86 755 8869 6577

Email: customerservice.sw@bureauveritas.com



Reference No.: W7L-231218W001RF11

NTNV-N78-3450-3550-PC2-30-100-M-DFT-
QPSK-Edge_1RB_Left-Ant7-PASSNTNV-N78-3450-3550-PC2-30-100-M-DFT-
QPSK-Edge_1RB_Left-Ant7-PASS

BV 7Layers Communications Technology
(Shenzhen) Co., Ltd

Room B37, Warehouse A5, No.3 Chiwan 4th Road,
Zhaoshang Street, Nanshan District Shenzhen,
Guangdong, People's Republic of China

Tel: +86 755 8869 6566

Fax: +86 755 8869 6577

Email: customerservice.sw@bureauveritas.com



Frequency Stability

Test Result

Voltage										
Band	SCS	Bandwidth	Modulation	Channel	RB Config	Voltage	Temperature	Deviation (Hz)	Deviation (ppm)	Verdict
N78-3450-3550	30	20	DFT-QPSK	L	Outer_Full	VL	NT	4.000000	0.001156	PASS
N78-3450-3550	30	20	DFT-QPSK	L	Outer_Full	VN	NT	13.000000	0.003757	PASS
N78-3450-3550	30	20	DFT-QPSK	L	Outer_Full	VH	NT	6.000000	0.001734	PASS
N78-3450-3550	30	20	DFT-QPSK	L	Outer_Full	NV	-30	1.000000	0.000289	PASS
N78-3450-3550	30	20	DFT-QPSK	L	Outer_Full	NV	-20	3.000000	0.000867	PASS
N78-3450-3550	30	20	DFT-QPSK	L	Outer_Full	NV	-10	2.000000	0.000578	PASS
N78-3450-3550	30	20	DFT-QPSK	L	Outer_Full	NV	0	18.000000	0.005202	PASS
N78-3450-3550	30	20	DFT-QPSK	L	Outer_Full	NV	10	5.000000	0.001445	PASS
N78-3450-3550	30	20	DFT-QPSK	L	Outer_Full	NV	20	19.000000	0.005491	PASS
N78-3450-3550	30	20	DFT-QPSK	L	Outer_Full	NV	30	1.000000	0.000289	PASS



BUREAU
VERITAS

Reference No.: W7L-231218W001RF11

N78-3450-3550	30	20	DFT-QPSK	L	Outer_Full	NV	40	7.000000	0.002023	PASS
N78-3450-3550	30	20	DFT-QPSK	L	Outer_Full	NV	50	19.000000	0.005491	PASS
N78-3450-3550	30	20	DFT-QPSK	M	Outer_Full	VL	NT	16.000000	0.004571	PASS
N78-3450-3550	30	20	DFT-QPSK	M	Outer_Full	VN	NT	18.000000	0.005143	PASS
N78-3450-3550	30	20	DFT-QPSK	M	Outer_Full	VH	NT	2.000000	0.000571	PASS
N78-3450-3550	30	20	DFT-QPSK	M	Outer_Full	NV	-30	11.000000	0.003143	PASS
N78-3450-3550	30	20	DFT-QPSK	M	Outer_Full	NV	-20	13.000000	0.003714	PASS
N78-3450-3550	30	20	DFT-QPSK	M	Outer_Full	NV	-10	16.000000	0.004571	PASS
N78-3450-3550	30	20	DFT-QPSK	M	Outer_Full	NV	0	18.000000	0.005143	PASS
N78-3450-3550	30	20	DFT-QPSK	M	Outer_Full	NV	10	14.000000	0.004000	PASS
N78-3450-3550	30	20	DFT-QPSK	M	Outer_Full	NV	20	9.000000	0.002571	PASS
N78-3450-3550	30	20	DFT-QPSK	M	Outer_Full	NV	30	11.000000	0.003143	PASS
N78-3450-3550	30	20	DFT-QPSK	M	Outer_Full	NV	40	13.000000	0.003714	PASS

BV 7Layers Communications Technology
(Shenzhen) Co., Ltd

Room B37, Warehouse A5, No.3 Chiwan 4th Road,
Zhaoshang Street, Nanshan District Shenzhen,
Guangdong, People's Republic of China

Tel: +86 755 8869 6566

Fax: +86 755 8869 6577

Email: customerservice.sw@bureauveritas.com



BUREAU
VERITAS

Reference No.: W7L-231218W001RF11

N78-3450-3550	30	20	DFT-QPSK	M	Outer_Full	NV	50	16.000000	0.004571	PASS
N78-3450-3550	30	20	DFT-QPSK	H	Outer_Full	VL	NT	8.000000	0.002260	PASS
N78-3450-3550	30	20	DFT-QPSK	H	Outer_Full	VN	NT	10.000000	0.002825	PASS
N78-3450-3550	30	20	DFT-QPSK	H	Outer_Full	VH	NT	3.000000	0.000847	PASS
N78-3450-3550	30	20	DFT-QPSK	H	Outer_Full	NV	-30	9.000000	0.002542	PASS
N78-3450-3550	30	20	DFT-QPSK	H	Outer_Full	NV	-20	19.000000	0.005367	PASS
N78-3450-3550	30	20	DFT-QPSK	H	Outer_Full	NV	-10	13.000000	0.003672	PASS
N78-3450-3550	30	20	DFT-QPSK	H	Outer_Full	NV	0	12.000000	0.003390	PASS
N78-3450-3550	30	20	DFT-QPSK	H	Outer_Full	NV	10	14.000000	0.003955	PASS
N78-3450-3550	30	20	DFT-QPSK	H	Outer_Full	NV	20	16.000000	0.004520	PASS
N78-3450-3550	30	20	DFT-QPSK	H	Outer_Full	NV	30	3.000000	0.000847	PASS
N78-3450-3550	30	20	DFT-QPSK	H	Outer_Full	NV	40	3.000000	0.000847	PASS
N78-3450-3550	30	20	DFT-QPSK	H	Outer_Full	NV	50	5.000000	0.001412	PASS

BV 7Layers Communications Technology
(Shenzhen) Co., Ltd

Room B37, Warehouse A5, No.3 Chiwan 4th Road,
Zhaoshang Street, Nanshan District Shenzhen,
Guangdong, People's Republic of China

Tel: +86 755 8869 6566

Fax: +86 755 8869 6577

Email: customerservice.sw@bureauveritas.com



N77_UL_MIMO-3700-3980

Peak-to-Average Ratio(CCDF)

Test Result-Ant7

Band	SCS	Bandwidth	Modulation	Channel	RB Config	Result	Limit	Verdict
N77-3700-3980	30	20	CP-QPSK	L	Outer_Full	7.40	≤13	PASS
N77-3700-3980	30	20	CP-QPSK	L	Edge_1RB_Left	7.40	≤13	PASS
N77-3700-3980	30	20	CP-QPSK	M	Outer_Full	6.91	≤13	PASS
N77-3700-3980	30	20	CP-QPSK	M	Edge_1RB_Left	6.91	≤13	PASS
N77-3700-3980	30	20	CP-QPSK	H	Outer_Full	8.00	≤13	PASS
N77-3700-3980	30	20	CP-QPSK	H	Edge_1RB_Left	7.04	≤13	PASS

Test Result-Ant1

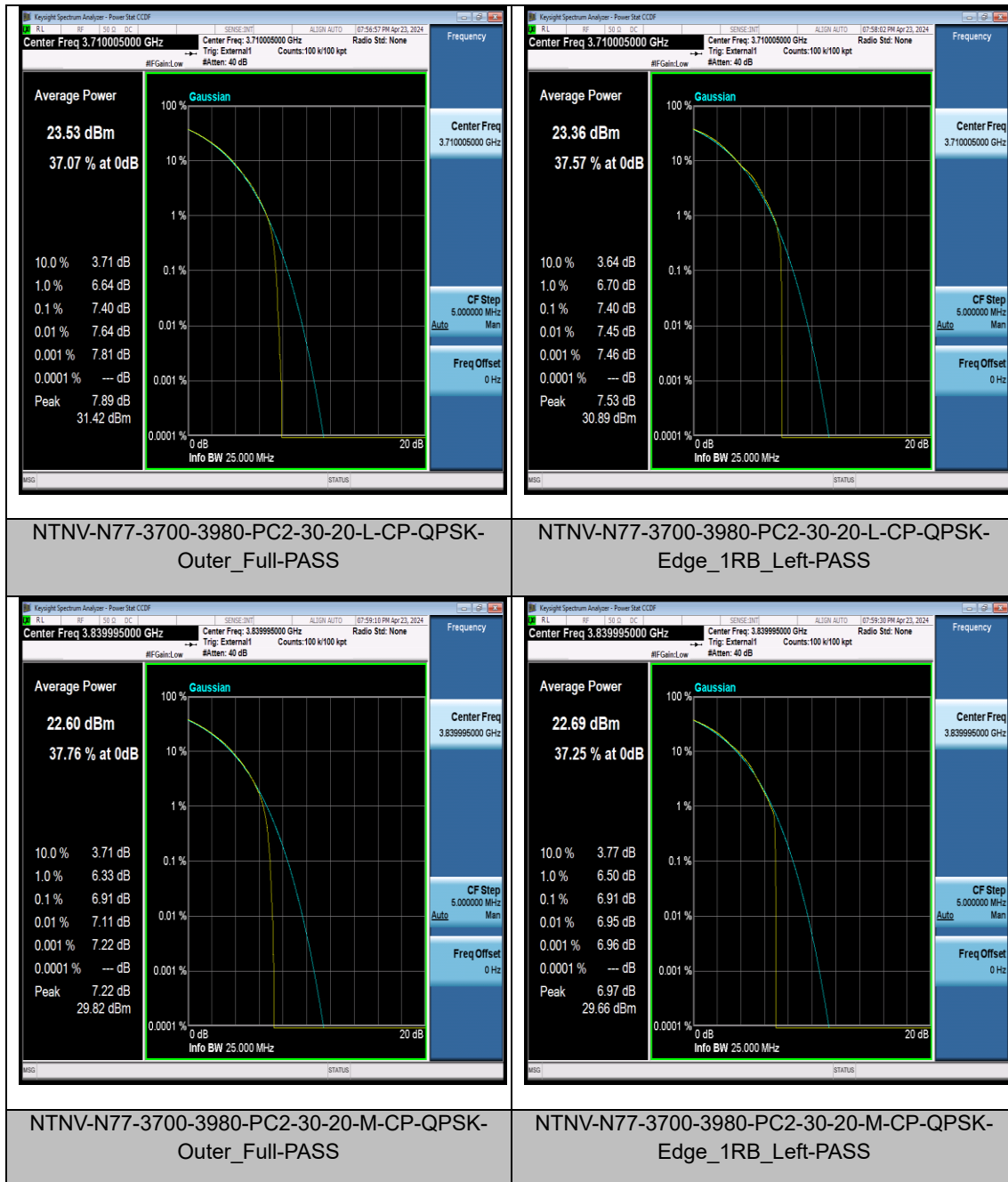
Band	SCS	Bandwidth	Modulation	Channel	RB Config	Result	Limit	Verdict
N77-3700-3980	30	20	CP-QPSK	L	Outer_Full	8.11	≤13	PASS
N77-3700-3980	30	20	CP-QPSK	L	Edge_1RB_Left	6.40	≤13	PASS
N77-3700-3980	30	20	CP-QPSK	M	Outer_Full	7.78	≤13	PASS
N77-3700-3980	30	20	CP-QPSK	M	Edge_1RB_Left	6.08	≤13	PASS
N77-3700-3980	30	20	CP-QPSK	H	Outer_Full	7.85	≤13	PASS
N77-3700-3980	30	20	CP-QPSK	H	Edge_1RB_Left	6.57	≤13	PASS



BUREAU
VERITAS

Reference No.: W7L-231218W001RF11

Test Graphs-Ant7



BV 7Layers Communications Technology
(Shenzhen) Co., Ltd

Room B37, Warehouse A5, No.3 Chiwan 4th Road,
Zhaoshang Street, Nanshan District Shenzhen,
Guangdong, People's Republic of China

Tel: +86 755 8869 6566

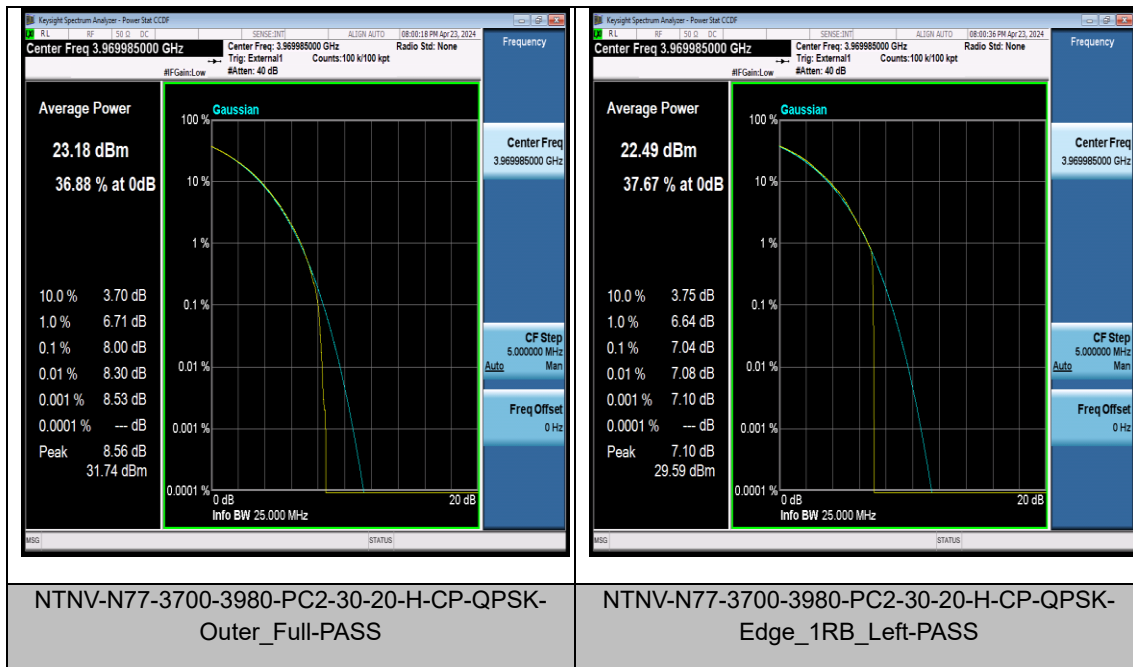
Fax: +86 755 8869 6577

Email: customerservice.sw@bureauveritas.com

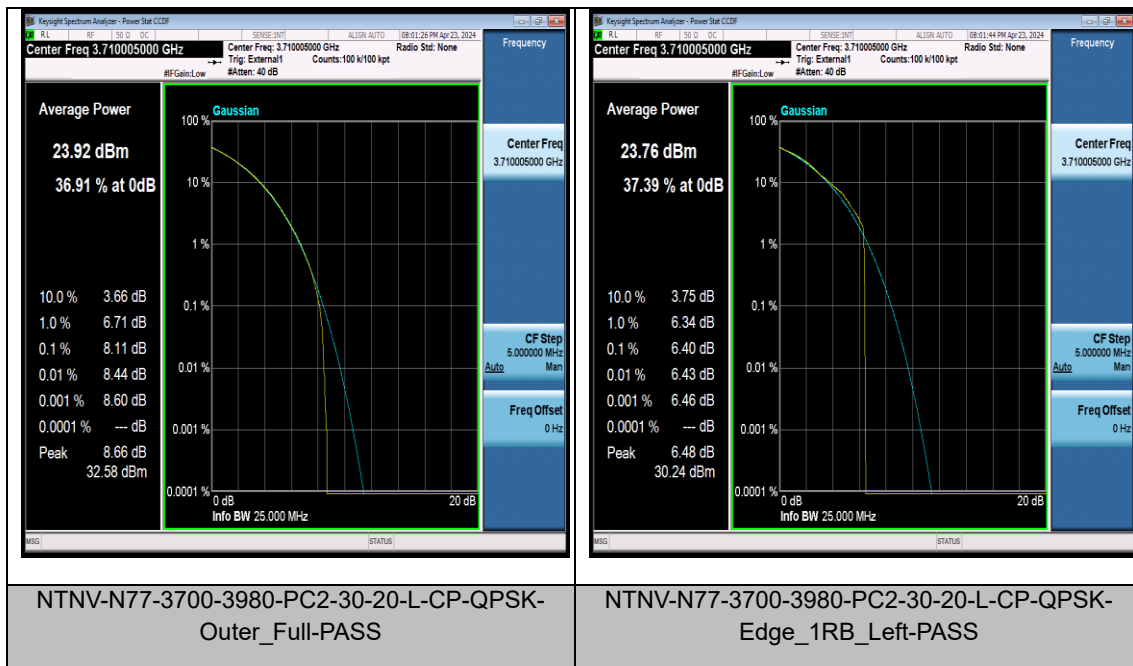


BUREAU
VERITAS

Reference No.: W7L-231218W001RF11



Test Graphs-Ant1



BV 7Layers Communications Technology
(Shenzhen) Co., Ltd

Room B37, Warehouse A5, No.3 Chiwan 4th Road,
Zhaoshang Street, Nanshan District Shenzhen,
Guangdong, People's Republic of China

Tel: +86 755 8869 6566

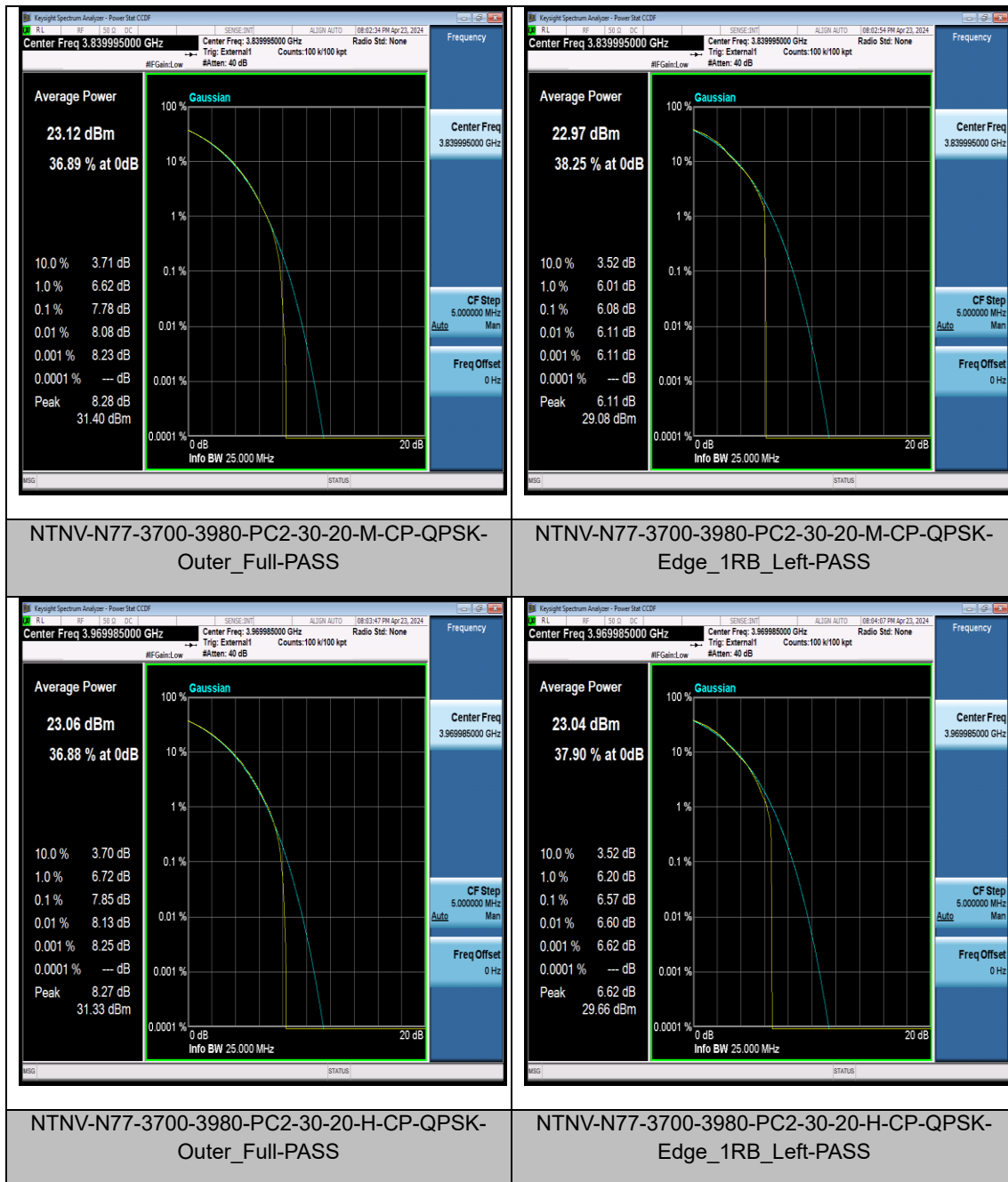
Fax: +86 755 8869 6577

Email: customerservice.sw@bureauveritas.com



BUREAU
VERITAS

Reference No.: W7L-231218W001RF11



BV 7Layers Communications Technology
(Shenzhen) Co., Ltd

Room B37, Warehouse A5, No.3 Chiwan 4th Road,
Zhaoshang Street, Nanshan District Shenzhen,
Guangdong, People's Republic of China

Tel: +86 755 8869 6566

Fax: +86 755 8869 6577

Email: customerservice.sw@bureauveritas.com



26dB Bandwidth and Occupied Bandwidth

Test Result-Ant7

Band	SCS	Bandwidth	Modulation	Channel	RB Config	Result (99%)	Result (26dB)	Verdict
N77-3700-3980	30	20	CP-QPSK	M	Outer_Full	18.224	19.71	PASS
N77-3700-3980	30	20	CP-16QAM	M	Outer_Full	18.254	19.79	PASS
N77-3700-3980	30	20	CP-64QAM	M	Outer_Full	18.210	19.57	PASS
N77-3700-3980	30	20	CP-256QAM	M	Outer_Full	18.239	19.74	PASS
N77-3700-3980	30	30	CP-QPSK	M	Outer_Full	27.847	29.50	PASS
N77-3700-3980	30	30	CP-16QAM	M	Outer_Full	27.856	29.68	PASS
N77-3700-3980	30	30	CP-64QAM	M	Outer_Full	27.858	29.59	PASS
N77-3700-3980	30	30	CP-256QAM	M	Outer_Full	27.838	29.39	PASS
N77-3700-3980	30	40	CP-QPSK	M	Outer_Full	37.778	39.60	PASS
N77-3700-3980	30	40	CP-16QAM	M	Outer_Full	37.791	39.68	PASS
N77-3700-3980	30	40	CP-64QAM	M	Outer_Full	37.862	39.74	PASS
N77-3700-3980	30	40	CP-256QAM	M	Outer_Full	37.822	39.47	PASS
N77-3700-3980	30	60	CP-QPSK	M	Outer_Full	57.817	60.39	PASS
N77-3700-3980	30	60	CP-16QAM	M	Outer_Full	57.827	60.16	PASS
N77-3700-3980	30	60	CP-64QAM	M	Outer_Full	57.793	60.14	PASS



N77-3700-3980	30	60	CP-256QAM	M	Outer_Full	57.786	60.27	PASS
N77-3700-3980	30	80	CP-QPSK	M	Outer_Full	77.334	80.36	PASS
N77-3700-3980	30	80	CP-16QAM	M	Outer_Full	77.326	80.30	PASS
N77-3700-3980	30	80	CP-64QAM	M	Outer_Full	77.273	80.22	PASS
N77-3700-3980	30	80	CP-256QAM	M	Outer_Full	77.265	80.15	PASS
N77-3700-3980	30	100	CP-QPSK	M	Outer_Full	97.316	100.6	PASS
N77-3700-3980	30	100	CP-16QAM	M	Outer_Full	97.300	100.4	PASS
N77-3700-3980	30	100	CP-64QAM	M	Outer_Full	97.299	100.5	PASS
N77-3700-3980	30	100	CP-256QAM	M	Outer_Full	97.270	100.8	PASS

Test Result-Ant1

Band	SCS	Bandwidth	Modulation	Channel	RB Config	Result (99%)	Result (26dB)	Verdict
N77-3700-3980	30	20	CP-QPSK	M	Outer_Full	18.195	19.45	PASS
N77-3700-3980	30	20	CP-16QAM	M	Outer_Full	18.160	19.38	PASS
N77-3700-3980	30	20	CP-64QAM	M	Outer_Full	18.186	19.49	PASS
N77-3700-3980	30	20	CP-256QAM	M	Outer_Full	18.192	19.41	PASS
N77-3700-3980	30	30	CP-QPSK	M	Outer_Full	27.877	29.41	PASS



N77-3700-3980	30	30	CP-16QAM	M	Outer_Full	27.845	29.38	PASS
N77-3700-3980	30	30	CP-64QAM	M	Outer_Full	27.868	29.61	PASS
N77-3700-3980	30	30	CP-256QAM	M	Outer_Full	27.796	29.28	PASS
N77-3700-3980	30	40	CP-QPSK	M	Outer_Full	37.795	39.47	PASS
N77-3700-3980	30	40	CP-16QAM	M	Outer_Full	37.821	39.62	PASS
N77-3700-3980	30	40	CP-64QAM	M	Outer_Full	37.731	39.55	PASS
N77-3700-3980	30	40	CP-256QAM	M	Outer_Full	37.809	39.66	PASS
N77-3700-3980	30	60	CP-QPSK	M	Outer_Full	57.762	60.32	PASS
N77-3700-3980	30	60	CP-16QAM	M	Outer_Full	57.826	60.46	PASS
N77-3700-3980	30	60	CP-64QAM	M	Outer_Full	57.841	60.15	PASS
N77-3700-3980	30	60	CP-256QAM	M	Outer_Full	57.748	60.46	PASS
N77-3700-3980	30	80	CP-QPSK	M	Outer_Full	77.449	80.32	PASS
N77-3700-3980	30	80	CP-16QAM	M	Outer_Full	77.250	80.09	PASS



N77-3700-3980	30	80	CP-64QAM	M	Outer_Full	77.330	80.29	PASS
N77-3700-3980	30	80	CP-256QAM	M	Outer_Full	77.296	80.15	PASS
N77-3700-3980	30	100	CP-QPSK	M	Outer_Full	97.239	101.2	PASS
N77-3700-3980	30	100	CP-16QAM	M	Outer_Full	97.486	100.6	PASS
N77-3700-3980	30	100	CP-64QAM	M	Outer_Full	97.409	100.5	PASS
N77-3700-3980	30	100	CP-256QAM	M	Outer_Full	97.433	100.6	PASS